7450 Ethernet Service Switch
7750 Service Router
7950 Extensible Routing System
Virtualized Service Router

Release 26.3.R1

Classic CLI Command Reference Guide

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Table of contents

1 Getting started....6
2 Classic CLI overview....13
3 Command Trees....46
4 3 Commands....460
5 a Commands – Part I....468
6 a Commands – Part II....697
7 a Commands – Part III....941
8 b Commands....1165
9 c Commands – Part I....1377
10 c Commands – Part II....1583
11 d Commands – Part I....1796
12 d Commands – Part II....2011
13 d Commands – Part III....2213
14 e Commands – Part I....2363
15 e Commands – Part II....2520
16 e Commands – Part III....2665
17 f Commands....2814
18 g Commands....3107

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19 h Commands....3256
20 i Commands – Part I....3494
21 i Commands – Part II....3685
22 i Commands – Part III....3882
23 j Commands....4076
24 k Commands....4081
25 l Commands – Part I....4122
26 l Commands – Part II....4297
27 l Commands – Part III....4473
28 m Commands – Part I....4619
29 m Commands – Part II....4866
30 m Commands – Part III....5122
31 n Commands....5381
32 o Commands....5554
33 p Commands – Part I....5704
34 p Commands – Part II....5928
35 p Commands – Part III....6153
36 p Commands – Part IV....6373
37 q Commands....6602

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38 r Commands – Part I....6743
39 r Commands – Part II....6937
40 r Commands – Part III....7143
41 s Commands – Part I....7354
42 s Commands – Part II....7579
43 s Commands – Part III....7875
44 s Commands – Part IV....8119
45 s Commands – Part V....8309
46 t Commands – Part I....8469
47 t Commands – Part II....8614
48 t Commands – Part III....8747
49 u Commands....8885
50 v Commands....9053
51 w Commands....9251
52 x Commands....9315
53 y Commands....9326
54 z Commands....9327

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1 Getting started

This guide contains command descriptions for the classic SR OS CLI commands that are used to manage the SR OS.

See the *7250 IXR, 7450 ESS, 7705 SAR Gen 2, 7750 SR, 7950 XRS, and VSR Acronyms Reference Guide* for expansions of acronyms used in this guide.

In this guide, the term CLI refers to the classic CLI unless otherwise specified.

This guide does not include **clear**, **monitor**, **show**, or **tools** commands. These commands are documented in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Clear, Monitor, Show, and Tools CLI Command Reference Guide*.

Note:
This guide generically covers Release 26.*x*.R*x* content and may contain some content that will be released in later maintenance loads. In addition, some SR OS features are platform-specific and may not be available or visible on all platforms. See the *SR OS R26.x.Rx Software Release Notes*, part number 3HE 29176 000*x* TQZZA, for information about the supported features and applicable platforms in each load of the Release 26.*x*.R*x* software.

The full set of CLI commands supported by the SR OS is documented in three related guides that are listed in the following table.

Table 1: Documentation for SR OS CLI commands

Guide title	Classic CLI commands	MD-CLI commands
7450 ESS, 7750 SR, 7950 XRS, and VSR Clear, Monitor, Show, and Tools CLI Command Reference Guide	All **clear**, **monitor**, **show**, and **tools** commands	All **clear**, **monitor**, **show**, and **tools** commands
7450 ESS, 7750 SR, 7950 XRS, and VSR Classic CLI Command Reference Guide	All other commands	—
7450 ESS, 7750 SR, 7950 XRS, and VSR MD-CLI Command Reference Guide	—	All other commands

1.1 Platforms and terminology

Note:
Unless explicitly noted otherwise, this guide uses the terminology defined in the following table to collectively designate the specified platforms.

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Table 2: Platforms and terminology

Platform	Collective platform designation
7450 ESS-7	All
7450 ESS-12	
7750 SR-1	
7750 SR-1-24D	
7750 SR-1-46S	
7750 SR-1-48D	
7750 SR-1-92S	
7750 SR-1x-48D	
7750 SR-1x-92S	
7750 SR-7	
7750 SR-12	
7750 SR-12e	
7750 SR-a4	
7750 SR-a8	
7750 SR-1e	
7750 SR-2e	
7750 SR-3e	
7750 SR-1s	
7750 SR-1se	
7750 SR-2s	
7750 SR-2se	
7750 SR-7s	
7750 SR-14s	
7950 XRS-20	
7950 XRS-20e	
7950 XRS-40	
VSR	
VSR-NRC	
7450 ESS-7	7450 ESS

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Platform	Collective platform designation
7450 ESS-12	
7750 SR-1	7750 SR
7750 SR-1-24D	
7750 SR-1-46S	
7750 SR-1-48D	
7750 SR-1-92S	
7750 SR-1x-48D	
7750 SR-1x-92S	
7750 SR-7	
7750 SR-12	
7750 SR-12e	
7750 SR-1-24D	7750 SR-1 (FP5)
7750 SR-1-46S	
7750 SR-1-48D	
7750 SR-1-92S	
7750 SR-1x-48D	
7750 SR-1x-92S	
7750 SR-7	7750 SR-7/12/12e
7750 SR-12	
7750 SR-12e	
7750 SR-7	7750 SR-7/12
7750 SR-12	
7750 SR-a4	7750 SR-a
7750 SR-a8	
7750 SR-1e	7750 SR-e
7750 SR-2e	
7750 SR-3e	
7750 SR-1s	7750 SR-s
7750 SR-1se	
7750 SR-2s	

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Platform	Collective platform designation
7750 SR-2se	
7750 SR-7s	
7750 SR-14s	
7950 XRS-20	7950 XRS
7950 XRS-20e	
7950 XRS-40	
VSR	VSR
VSR-NRC	

1.2 Command tree

The SR OS CLI command tree is a hierarchical inverted tree. The highest level is the root level. Below this level are other tree levels with the major command groups; for example, **configuration** commands and **admin** commands are levels below root.

In the tree, you can click a command to link directly to the command description.

Note: Commands that are listed in the tree but are not linked to an associated description are available on one or more platforms but are not currently described in the guide.

1.3 Command descriptions

Command descriptions are listed in alphabetical order by command name.

The following figure shows an example of a command description.

Figure 1: Command description example

aa-sub-study

Syntax as-sub-study *study-type*

Context [Tree] (config>app-assure>group>statistics aa-sub-study)

Full Context configure application-assurance group statistics aa-sub-study

Description This command enables the context to configure accounting and statistics collection parameters per application assurance special study subscribers.

Parameters *study-type* — Specifies special study protocol subscriber stats.

Values application, protocol

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The following table describes the fields that may be shown for a command. Not all fields are applicable for all commands.

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Table 3: Command description fields

Field	Description
Command Name	Name of the command
Syntax	Command syntax required to execute the command. See Table 4: Command syntax symbols for information about syntax symbols.
Context	Path to the command as it is displayed in the CLI prompt. Clicking on [Tree] links to the command in the CLI tree.
Full Context	Complete contextual path to perform the command
Description	Description of the command functionality and any restrictions
Default	Command default value
Parameters	Descriptions of command parameters
Values	Values allowed for the parameter
Default	Parameter default value
Platforms	Hardware platforms on which the command is available. See Platforms and terminology for more information about the platforms. **Note**: Some SR OS features are platform-specific and therefore may not be available or visible on all platforms. See the *SR OS R26.x.Rx Software Release Notes*, part number 3HE 29176 000*x* TQZZA, for information about platform support.

Note: All options for enumerated types and numerical ranges are listed in the command descriptions; however, not all options or ranges are valid on all platforms.

1.4 Navigational aids

The following aids help you navigate the guide and find specific commands.

1.4.1 Context path

In the CLI tree section, the complete contextual path to the first command on the page is displayed at the top of the page, as shown in the following figure.

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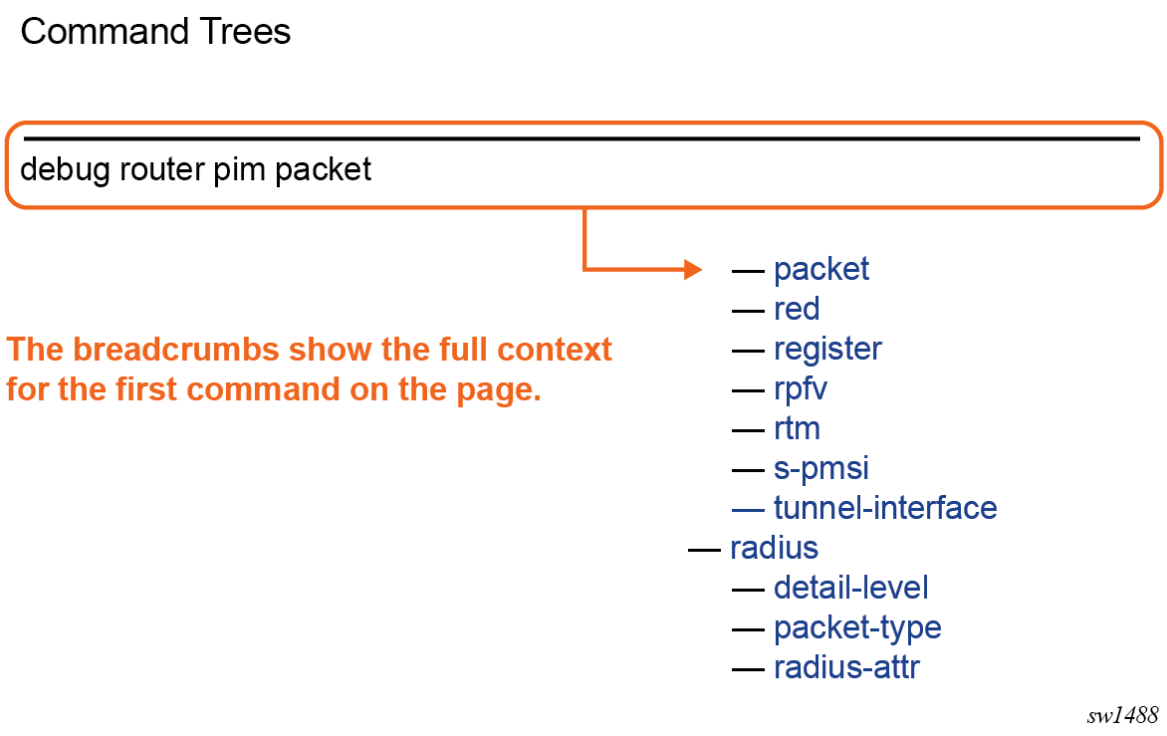
Figure 2: Command tree navigation



1.4.2 Search tips

Use the following search tips to easily find information about a specific command using a search function:

- Enter the command name in the search input field.
- To optimize your search, specify one or more levels of the contextual path before the command name.

Note: The Full Context section in each command description shows the full path to the command, as described in Command descriptions.

- Do not include variables in the search phrase.

For example, to search for the **configure router mpls lsp entropy-label** command, entering "**lsp entropy-label**" is more efficient than "**entropy-label**" and limits the number of search results. Using "**lsp <lsp-name> entropy-label**" does not return any results.

Caution: Using a combination of hyphenated terms with other terms within the same quoted search phrase (for example, searching for "**cert-profile entry send-chain**") may produce inaccurate search results in WebHelp

1.4.3 Linking to the tree

Clicking on [Tree] in a command description context links directly to the command in the CLI tree. The following figure shows the [Tree] element.

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Figure 3: Link to CLI tree

aa-sub-study

Syntax as-sub-study *study-type*

Context [Tree] (config>app-assure>group>statistics aa-sub-study)

Full Context configure application-assurance group statistics aa-sub-study

Description This command enables the context to configure accounting and statistics collection parameters per application assurance special study subscribers.

Parameters *study-type* — Specifies special study protocol subscriber stats.

Values application, protocol

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2 Classic CLI overview

In this chapter, "CLI" refers to the classic CLI unless otherwise specified.

2.1 CLI structure

The SR OS CLI is a command-driven interface accessible through the console, Telnet, or secure shell (SSH). The CLI can be used for the configuration and management of routers.

The SR OS CLI command tree is a hierarchical inverted tree. The operational root level is the highest level of this tree. When the user enters a CLI session, the user is in the operational root context. Below this level are other tree levels for the major command groups; for example, **configure** commands and **show** commands are levels below the operational root level.

The CLI is organized so that related commands with the same scope are at the same level or in the same context. Sublevels or subcontexts have related commands with a more refined scope.

Note: The CLI engine used to execute scripts is the primary CLI engine configured with **config**>**system**>**management-interface**>**cli**>**cli-engine** {[**classic-cli**] [**md-cli**]}.

2.2 Navigating in the CLI

The following table describes command syntax symbols used in this guide.

Table 4: Command syntax symbols

Symbol	Description
|	A vertical line indicates that only one of the parameters within the brackets or braces can be selected.
[ ]	Brackets indicate optional parameters.
{ }	Braces indicate that one of the parameters must be selected.
[{ }]	Braces within square brackets indicate that the parameters are optional, but if one is selected, the information within the braces is required.
Bold	**Bold** indicates commands and keywords.
Italic	*Italics* indicates that you must enter text for the parameter.

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2.2.1 CLI contexts

Use the CLI to access, configure, and manage Nokia routers. CLI commands are entered at the command line prompt. Access to specific CLI commands is controlled by the permissions set by your system administrator. Entering a CLI command makes navigation possible from one command context (or level) to another.

When the user enters a CLI session, the user is in the operational root context. Navigate to another level by entering the name of successively lower contexts. For example, at the command prompt (#), enter **configure** or **config**. See Command completion for alternative syntax for the same command. The active context displays in the command prompt.

```
A:cses-E11# config
A:cses-E11>config#
```

In a CLI context, enter commands at that context level by entering the text. Press <Enter> to move to a lower context. The user can also include commands from lower context at one context level as long as the command and parameter syntax is correct.

The following example shows two methods to navigate to a service SDP ingress level.

Method 1:

```
A:cses-E11# configure service epipe 6 spoke-sdp 2:6 ingress
*A:cses-E11>config>service>epipe>spoke-sdp>ingress#
```

Method 2:

```
A:cses-E11>config# service
A:cses-E11>config>service# epipe 6
*A:cses-E11>config>service>epipe# spoke-sdp 2:6
*A:cses-E11>config>service>epipe>spoke-sdp# ingress
*A:cses-E11>config>service>epipe>spoke-sdp>ingress#
```

The CLI returns an error message if the syntax is incorrect. For example, if the user enters **rooter** for the **root** command, it would result in an error.

```
*A:cses-E11>config# rooter
Error: Bad command.
```

The command parameter is the means by which a value is passed to the command processing program. The user must enter the value according to the syntax rules and, where applicable, the defined range. In the previous example, "6" and "2:6" are the parameter values that the user must enter to execute the command. The value "6" is the value for the Epipe service identifier parameter. For the value "2:6", "2" is the value for the SDP identifier parameter and "6" is the value for the virtual circuit identifier.

2.2.2 Operational root and global commands

The commands in the following table are available at the operational root level of the CLI hierarchy. For the command descriptions, see the respective command sections in this guide. For descriptions of the **clear**, **monitor**, **show**, and **tools** commands, see the *7450 ESS, 7750 SR, 7950 XRS, and VSR Clear, Monitor, Show, and Tools CLI Command Reference Guide*.

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Table 5: Operational root commands

Command	Description
admin	Enters the administrative context for system operations
bof	Enters the context to configure the boot options file
clear	Clears statistics or resets the operational state
configure	Enters the configuration context
[**no**] **debug**	Enters the context to enable or disable debugging and specify debug options
environment	Enters the environment configuration context
file	Enters the context for file system commands
help	Displays help in the CLI
monitor	Enters the context to monitor statistics
password	Enters the context to change the user CLI login password
show	Shows operational information
tools	Enters the tools context for troubleshooting and debugging

Global commands are commands that can be entered at any level in the CLI hierarchy. To display the list of all system global commands, enter **help globals** in the CLI.

The global commands are listed in the following table. For the command descriptions, see the respective command sections in this guide.

Table 6: Global commands

Command	Description
back	Navigates to the parent context
candidate	Enters the context to configure candidate parameters
echo	Echoes the text that is typed in. The primary use is to display messages to the screen within an exec file.
enable-admin	Enables the user to become a system administrator
exec	Executes the contents of a text file as if they were CLI commands entered at the console
exit	Returns to the previous higher context
help	Displays help in the CLI

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Command	Description
history	Displays a list of the most recently entered commands
logout	Terminates the CLI session
mrinfo	Requests multicast router information
mstat	Traces a multicast path from a source to a receiver and displays multicast packet rate and loss information (IGMP-based)
mstat2	Traces a multicast path from a source to a receiver and displays multicast packet rate and loss information (UDP-based)
mtrace	Traces a multicast path from a source to a receiver (IGMP-based)
mtrace2	Traces a multicast path from a source to a receiver (UDP-based)
oam	Provides OAM test suite options. See the *7450 ESS, 7750 SR, 7950 XRS, and VSR OAM and Diagnostics Guide*.
ping	Verifies the reachability of a remote host
pwc	Displays the present or previous working context of the CLI session
sleep	Causes the console session to pause operation (sleep) for 1 s or for the specified number of seconds. The primary use is to introduce a pause in the execution of an exec file.
ssh	Opens a secure shell connection to a host
telnet	Connects to a host using Telnet
traceroute	Determines the route to a destination address
tree	Displays a list of all commands at the current level and all sublevels
write	Sends a console message to a specific user or to all users with active console sessions

2.2.3 CLI environment commands

The CLI **environment** commands listed in the following table are found in the **environment** context of the operational root of the CLI tree. These commands control session preferences for a single CLI session. For more information on the commands, see the respective command sections in this guide.

Table 7: CLI environment commands

Command	Description
alias	Enables the substitution of a command line by an alias
create	Enables or disables the use of a create parameter check

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Command	Description
kernel	Enables or disables the **kernel** and **vmhost** commands
more	Enables the CLI output to be displayed one screen at a time, awaiting user input to continue
reduced-prompt	Configures the maximum number of higher-level CLI context nodes to display by name in the CLI prompt for the current CLI session
saved-ind-prompt	Enables or disables the configuration saved indicator in the prompt
shell	Enables or disables the **shell** command
suggest-internal-objects	Enables the suggestion of internally created objects while auto-completing
terminal	Configures the terminal screen length for the current CLI session
time-display	Specifies whether time should be displayed in local time or UTC
time-stamp	Specifies whether the timestamp should be displayed before the prompt

2.3 Getting help in the CLI

The **help** system commands and the **?** key display different types of help in the CLI. The following table lists the help commands.

Table 8: Online help commands

Command	Description
help	Describes the help system
help globals	Displays information about global commands
help edit	Displays information about all editing keystrokes
help special-characters	Displays information about all special characters that can be entered at the command prompt
?	Displays context-sensitive help information and displays a full list of options and commands available from the current context When entered at the root context, displays a full list of top-level contexts and global commands
command ? *command parameter* ? *command* **keyword** ?	Displays the available syntax options for the command, lists the associated parameters and keywords, and lists all commands available from the *command* context

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Command	Description
string?	Lists all commands available in the current context that start with *string*
command string? *command parameter string*? *command* **keyword** *string*?	Lists all commands, parameters, or keywords available in the *command* context that start with *string*
*string***Tab**	Completes a partial command name (auto-completion) or lists available commands that match *string*

The **tree** and **tree detail** system commands are useful when searching for a command in a lower-level context.

The following example shows a partial list of the **tree** and **tree detail** command outputs on a 7750 SR.

Example: tree and tree detail command outputs

```
*A:cses-E11>config# tree

+---router
| +---aggregate
| +---allow-icmp-redirect
| +---allow-icmp6-redirect
| +---autonomous-system
| +---bfd
| | +---abort
| | +---begin
| | +---bfd-template
| | | +---echo-receive
| | | +---multiplier
| | | +---receive-interval
| | | +---transmit-interval
| | | +---type
| | +---commit
| +---bgp
| | +---add-paths
| | | +---ipv4
| | | +---ipv6
| | | +---label-ipv4
| | | +---label-ipv6
| | | +---vpn-ipv4
| | | +---vpn-ipv6
| | +---advertise-external
| | +---advertise-inactive
| | +---aggregator-id-zero
| | +---auth-keychain
| | +---authentication-key
| | +---backup-path
| | +---best-path-selection
| | | +---always-compare-med
| | | +---as-path-ignore
| | | +---deterministic-med
| | | +---ignore-nh-metric
| | | +---ignore-router-id
| | +---bfd-enable
| | +---cluster

*A:cses-E11>config# tree detail
```


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```
...
+---router [<router-name>]
| +---no aggregate <ip-prefix/ip-prefix-length>
| | aggregate <ip-prefix/ip-prefix-length> [summary-only] [as-set]
[aggregator <as-number:ip-address>] [black-hole [generate-icmp]]
[community <comm-id>]
| | aggregate <ip-prefix/ip-prefix-length> [summary-only] [as-set]
[aggregator <as-number:ip-address>] [community <comm-id>] [indirect
<ip-address>]
| +---allow-icmp-redirect
| | no allow-icmp-redirect
| +---allow-icmp6-redirect
| | no allow-icmp6-redirect
| +---autonomous-system <autonomous-system>
| | no autonomous-system
| +---bfd
| | +---abort
| | +---begin
| | +---bfd-template <[32 chars max]>
| | | no bfd-template <[32 chars max]>
| | | +---echo-receive <milli-seconds>
| | | | no echo-receive
| | | +---multiplier <[3..20]>
| | | | no multiplier
| | | +---no receive-interval
| | | | receive-interval <milli-seconds>
| | | +---no transmit-interval
| | | | transmit-interval <milli-seconds>
| | | +---no type
| | | | type {cpm-np}
| | +---commit
| +---bgp
| | no bgp
| | +---add-paths
| | | no add-paths
| | | +---ipv4 send <send-limit>
| | | | ipv4 send <send-limit> receive [none]
| | | | no ipv4
| | | +---no ipv6
| | | | ipv6 send <send-limit>
| | | | ipv6 send <send-limit> receive [none]
| | |   +---label-ipv4 send <send-limit>
| | |   label-ipv4 send <send-limit> receive [none]
| | |   no label-ipv4
| | +---label-ipv6 send <send-limit>
| | |   label-ipv6 send <send-limit> receive [none]
| | |   no label-ipv6
| | | +---no vpn-ipv4
| | | | vpn-ipv4 send <send-limit>
| | | | vpn-ipv4 send <send-limit> receive [none]
| | | +---no vpn-ipv6
| | | | vpn-ipv6 send <send-limit>
| | | | vpn-ipv6 send <send-limit> receive [none]
| | +---advertise-external [ipv4] [ipv6] [label-ipv4] [label-ipv6]
| | | no advertise-external [ipv4] [ipv6] [label-ipv4] [label-ipv6]
| | +---advertise-inactive
| | | no advertise-inactive
| | +---aggregator-id-zero
| | | no aggregator-id-zero
| | +---auth-keychain <name>
| | +---authentication-key <authentication-key|hash-key> [hash|hash2|custom]
```


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2.4 The CLI command prompt

By default, the CLI command prompt indicates the device being accessed, the active CPM, and the current CLI context. For example, the prompt: **A:cses-E11>config>router>if#** indicates that the active CPM is CPM A, the user is on the device with the hostname **cses-E11**, and the current context **config**>**router**>**interface**. In the prompt, the separator used between contexts is the ">" symbol. The active CPM can be A or B on the 7750 SR, and A, B, C, or D on the 7950 XRS.

At the end of the prompt, there is either a pound sign (#) or a dollar sign ($). A "#" at the end of the prompt indicates the context is an existing context. A "$" at the end of the prompt indicates the context has been newly created. Contexts are newly created for logical entities when the user first navigates into the context.

Because there can be a large number of sublevels in the CLI, the **environment** command **reduced-prompt** *no of nodes in prompt* allows the user to control the number of levels displayed in the prompt.

WARNING: In CLI command configurations, allowed values in parameter strings are printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes ("). Double quotes within a string are not supported. Parameter strings input by the user must follow this format. This rule supersedes all related parameter descriptions found in this guide.

When changes are made to the configuration file, a "*" appears in the prompt string (*A:cses-E11), indicating that the changes have not been saved. When an **admin save** command is executed, the "*" disappears. This behavior is controlled by the **saved-ind-prompt** command in the **environment** context.

2.5 Displaying configuration contexts

The **info**, **info detail**, and **objective** commands display the configuration for the current level. The **info** command shows non-default configurations. The **info detail** command shows the entire configuration for the current level, including defaults. The **info objective** command provides an output objective that controls the configuration parameters to be displayed.

Example: info and info detail command outputs

The following example displays the output from the **info** command and the **info detail** command.

```
*A:cses-E11>config>router# interface system
*A:cses-E11>config>router>if# info
----------------------------------------------
            address 10.10.0.1/32
----------------------------------------------
*A:cses-E11>config>router>if#


*A:cses-E11>config>router>if# info detail
----------------------------------------------
            address 10.10.10.103/32 broadcast host-ones
            no description
            no arp-timeout
            no allow-directed-broadcasts
            tos-marking-state trusted
            no local-proxy-arp
            no proxy-arp
            icmp
```


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```
                mask-reply
                redirects 100 10
                unreachables 100 10
                ttl-expired 100 10
            exit
            no mac
            no cflowd
            no shutdown
-----------------------------------------------
*A:cses-E11>config>router>if#
```

2.6 exec Files

The **exec** command allows you to execute a text file of CLI commands as if it were typed at a console device.

The **exec** command and the associated exec files can be used to conveniently execute a number of commands that are always executed together in the same order. For example, an **exec** command can be used to define a set of commonly used standard command aliases.

The **echo** command can be used within an exec command file to display messages on screen while the file executes.

Arguments can be specified with the **exec** command. These arguments are passed in to be used inside the text file that includes the CLI commands. The passing of arguments with the **exec** command only works in the classic CLI. The passing of arguments with the **exec** command cannot be used in the MD-CLI.

For example, if the file `cf3/Test.txt` contains the following set of CLI commands:

```
echo $(1)
echo $(2)
echo $(3)
```

then executing the following commands:

 # exec cf3:/Test.txt -arguments var1=10 var2=20 var3=30

or

 # exec cf3:/Test.txt -arguments 10 20 30

produces the following output:

```
10
20
30
```

2.7 CLI script control

SR OS provides centralized script management for CLI scripts that are used by CRON and the Event Handling System (EHS). A set of script policies and script objects can be configured to control such things as:

- where scripts are located (local compact FTP server)
- where to store the output of the results

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- how long to keep historical script result records
- how long a script may run

If the scripts are located on local compact flash devices, the user must ensure that the scripts are on the compact flash devices of both CPMs so that operation of EHS continues as expected if a CPM switchover occurs.

Only one script can execute at a time. An SNMP table (smRunTable in the DISMAN-SCRIPT-MIB) is used as both an input queue of scripts waiting to be executed and for storage of records for completed scripts. If the input queue is full, the script request is discarded.

2.8 Entering CLI commands

The following sections outline the steps to entering CLI commands.

2.8.1 Command completion

The CLI supports both command abbreviation and command completion. If the keystrokes entered are enough to match a valid command, the CLI displays the remainder of the command syntax when **Tab** or **Spacebar** is pressed. When typing a command, **Tab** or **Spacebar** invokes auto-completion. If the keystrokes entered are sufficient to identity a specific command, auto-completion completes the command. If the letters are not sufficient to identify a specific command, pressing **Tab** or **Spacebar** displays commands matching the letters entered.

System commands are available in all CLI contexts.

2.8.2 Unordered and unnamed parameters

In a command context, the CLI accepts command parameters in any order as long as the command is formatted in the proper command keyword and parameter syntax. Command completion works as long as enough recognizable characters of the command are entered.

The following output shows the command syntax for **static-route-entry**.

```
*A:cses-E11>config>router# static-route-entry ?
 - no static-route-entry <ip-prefix/prefix-length> [mcast]
 - static-route-entry <ip-prefix/prefix-length> [mcast]

<ip-prefix/prefix-*> : ipv4-prefix    - a.b.c.d (host bits must be 0)
                       ipv4-prefix-le - [0..32]
                       ipv6-prefix    - x:x:x:x:x:x:x:x   (eight 16-bit pieces)
                                        x:x:x:x:x:x:d.d.d.d
                                        x - [0..FFFF]H
                                        d - [0..255]D
                       ipv6-prefix-le - [0..128]
<mcast>              : keyword - Indicates that static-route being configured
                       is used for mcast table only

 [no] backup-tag      - Create/Configure or Delete/Deconfigure backup tag for
                        static-route-entry
 [no] black-hole      + Create/Configure or Delete/Deconfigure blackhole
                        nexthop for static-route-entry
 [no] community       - Create/Configure or Delete/Deconfigure community for
```


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```
                        static-route-entry
[no] indirect         + Create/Configure or Delete/Deconfigure indirect
                        next-hop for static-route-entry
[no] next-hop         + Create/Configure or Delete/Deconfigure next-hop for
                        static-route-entry
[no] tag              - Create/Configure or Delete/Deconfigure tag for
                        static-route-entry
```

Some SR OS CLI commands have multiple unnamed parameters. For example, the **subrate** *csu-mode rate-step* command has both a *csu-mode* parameter and a *rate-step* parameter that do not have leading keywords. SR OS uses a best-match algorithm to select which parts of the user input are intended to be used for each unnamed parameter. This best-match algorithm depends on the specific command.

In some cases, it is not possible for the algorithm to be 100% accurate, and SR OS may assign an unintended value to a parameter when two unnamed parameters have similar constraints and syntax. For example, the **environment alias** *alias-name alias-command-name* command may reverse the *alias-name* and *alias-command-name* parameters if the first parameter entered is more than 80 characters.

2.8.3 Using editing keystrokes

When entering a command, special keystrokes allow for editing of the command. The following table lists the command editing keystrokes.

Table 9: Command editing keystrokes

Editing action	Keystrokes
Stop the current command	**Ctrl-C**
Delete current character	**Ctrl-D**
Delete text up to cursor	**Ctrl-U**
Delete text after cursor	**Ctrl-K**
Move to beginning of line	**Ctrl-A**
Move to end of line	**Ctrl-E**
Get prior command from history	**Ctrl-P**
Get next command from history	**Ctrl-N**
Move cursor left	**Ctrl-B**
Move cursor right	**Ctrl-F**
Move back one word	**Alt-B** or **Esc+B**
Move forward one word	**Alt-F** or **Esc+F**
Convert rest of word to uppercase	**Alt-C** or **Esc+C**
Convert rest of word to lowercase	**Alt-L** or **Esc+L**

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Editing action	Keystrokes
Delete remainder of word	**Alt-D** or **Esc+D**
Delete word up to cursor	**Ctrl-W**
Transpose current and previous character	**Ctrl-T**
Return to operational root. If using **Ctrl-Z** after a command, return to the operational root after executing the command (equivalent to pressing **Enter** after the command and **exit all** after the command has executed).	**Ctrl-Z**
Refresh input line	**Ctrl-L**

2.8.4 Entering absolute paths

CLI commands can be executed in any context by specifying the full path from the CLI root. To execute an out-of-context command, enter a forward slash (**/**) or backward slash (\) at the beginning of the command line. The commands are interpreted as absolute paths. Spaces between the slash and the first command return an error.

```
*A:cses-E11# configure router
*A:cses-E11>config>router# interface system address 10.2.3.4
*A:cses-E11>config>router# /admin save
*A:cses-E11>config>router# \clear router interface
*A:cses-E11>config>router#
```

The "**/**" or "****" cannot be used as an absolute path at the beginning of the command string of the **environment alias** command. The command may change the current context depending on whether it is a leaf command. This is the same behavior the CLI performs when CLI commands are entered individually; for example:

```
*A:cses-E11# admin
*A:cses-E11>admin# save
```

or

```
*A:cses-E11# admin save
*A:cses-E11#
```

An absolute path command behaves in the same way as manually entering a series of command line instructions and parameters.

For example, beginning in an IES context service ID 4 (IES 4):

```
config>service>ies> /clear card 1
```

behaves in the way same as the following series of commands:

```
config>service>ies>exit all
clear card 1
configure service ies 4 (returns you to your starting point)
```


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```
config>service>ies
```

If the command takes you to a different context, the following occurs:

```
config>service>ies>/configure service vpls 5 create
```

becomes:

```
config>service>ies>exit all
configure service vpls 5 create
config>service>vpls>
```

2.8.5 Displaying the command history

The CLI maintains a history of the most recently entered commands. The **history** command shows the most recently entered CLI commands.

```
*A:cses-E11# history
   1 environment terminal length 48
   2 environment no create
   3 show version
   4 configure port 1/1/1
   5 info
   6 \configure router isis
   7 \port 1/1/2
   8 con port 1/1/2
   9 \con port 1/1/2
  10 \configure router bgp
  11 info
  12 \configure system login-control
  13 info
  14 history
  15 show version
  16 history
*A:cses-E11# !3

A:cses-E11# show version
TiMOS-B-0.0.I2016 both/i386 Nokia 7450 ESS Copyright (c) 2000-2016 Nokia
All rights reserved. All use subject to applicable license agreements.
Built on Sun Oct 12 20:01:13 PDT 2008 by builder in /rel0.0/I2016/panos/main
A:cses-E11#
```

2.8.6 Entering numerical ranges

The SR OS CLI allows the use of a single numerical range as an argument in the command line. This range can be a set or a sequence of numbers, or a combination of both.

A set is a range of numerical values, from a minimum to a maximum, incremented by 1. For example:

```
configure service vpls [1..10] create customer 1
```

A sequence is a list of discrete integer elements, in any order. For example:

```
configure service vpls [1,2,3] no shutdown
```


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A sequence can contain sets as well as integer elements. For example:

```
configure service vpls [4..6,7,8..10] no shutdown
```

For example, it is possible to shut down ports 1 through 10 on an XMA/MDA 1 in chassis slot 1. A port can be denoted by "*slot*/*mda*/*port*", where *slot* is the slot number, *mda* is the XMA/MDA number and *port* is the port number. To shut down ports 1 through 10 on an XMA/MDA 1 in slot 1, the command is entered as follows:

```
configure port 1/1/[1..10] shutdown
```

Ctrl-C can be used to abort the execution of a range command.

CLI commands can contain ranges of hexadecimal values. This allows ranges to be used when working with data normally expressed in hexadecimal instead of decimal, such as IPv6 or MAC addresses. For example:

```
#config>service>vpls>sap$ static-mac aa:bb:[0x19..0x21]:dd:ee:ff create
#config>service>vpls>sap$ info
----------------------------------------------
                static-mac aa:bb:19:dd:ee:ff create
                static-mac aa:bb:1a:dd:ee:ff create
                static-mac aa:bb:1b:dd:ee:ff create
                static-mac aa:bb:1c:dd:ee:ff create
                static-mac aa:bb:1d:dd:ee:ff create
                static-mac aa:bb:1e:dd:ee:ff create
                static-mac aa:bb:1f:dd:ee:ff create
                static-mac aa:bb:20:dd:ee:ff create
                static-mac aa:bb:21:dd:ee:ff create
----------------------------------------------
```

A range can also be a reference to a previous range in the same command. This reference takes the form [$*x*], where *x* is an integer between 0 and 5. For example:

```
configure service vprn [11..20] router-id 10.20.[$0].1
```

This gives vprn 11 the router-id "10.20.11.1", vprn 12 the router-id "10.20.12.1", and so on.

Specifying a range in the CLI does have limitations. These limitations are summarized in the following table.

Table 10: CLI range use limitations

Limitation	Description
Up to 6 ranges (including references) with 20 range elements in each range may be specified in a single command, and they may not combine to more than 1000 iterations of the command.	For example, ports on two adapter cards can be shut down in one command by using two ranges: **configure port 1/[1..2]/[1..10]**
Ranges within quotation marks are interpreted literally.	In the CLI, enclosing a string in quotation marks ("*string*") causes the string to be treated literally and as a single parameter. For example, several commands in the CLI allow the configuration of a descriptive string. If the string is more than one word and includes spaces, it must be enclosed in quotation marks.

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Limitation	Description
	A range that is enclosed in quotes is also treated literally. For example, **configure router interface "A[1..10]" no shutdown** creates a single router interface with the name "A[1..10]". However, a command such as: **configure router interface A[1..10] no shutdown** creates 10 interfaces with names A1, A2 .. A10.
Command completion does not work when entering a range.	After entering a range in a CLI command, command and key completion, which normally occurs by pressing **Tab** or **Spacebar**, does not work. If the command line entered is correct and unambiguous, the command works properly; otherwise, an error is returned.

2.8.6.1 Using regular expressions in numerical ranges

The user can include a regular expression inside the numerical ranges of any **clear**, **config**, **show**, or **tools** CLI commands. The beginning and ending of the regular expression must be delimited with the "/" symbol.

SR OS performs the following steps:

- auto-completes the command to get all the possible names
- performs a match of the regular expression against all the names
- executes the command for the names for which the match was successful

Note: The order of execution is the same as the order in which the names are listed in the output display of the CLI **info** command or in the output display when you invoke the auto-complete function using **Tab**. If the execution of the command fails for one of the matching object names, the execution is aborted and the remaining matching object names are not processed.

For example, the following SR-TE LSP names are configured on the router:

```
*A:bkvm35# show router mpls sr-te-lsp
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                        To              Tun      Protect     Adm    Opr
                                                Id       Path
-------------------------------------------------------------------------------
sr-te-pce                       192.0.2.198     1        N/A         Up     Dwn
RENO194_DET190_LSP1_Profile10   192.0.2.190     2        N/A         Up     Dwn
RENO194_DET190_LSP3             192.0.2.190     3        N/A         Up     Dwn
RENO194_ATL224_LSP1             192.0.2.224     4        N/A         Up     Dwn
-------------------------------------------------------------------------------
LSPs : 4
===============================================================================
```


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The following command displays the subset of all SR-TE LSPs with names that include the expression "LSP":

show router mpls sr-te-lsp [/LSP/]

The SR OS expands this command into the following individual commands:

show router mpls sr-te-lsp RENO194_DET190_LSP1_Profile10

show router mpls sr-te-lsp RENO194_DET190_LSP3

show router mpls sr-te-lsp RENO194_ATL224_LSP1

The output of the three **show** commands is displayed in the following example:

```
*A:bkvm35# show router mpls sr-te-lsp [/LSP/]
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
RENO194_DET190_LSP1_Profile10       192.0.2.190     2       N/A       Up   Dwn
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
RENO194_DET190_LSP3                 192.0.2.190     3       N/A       Up   Dwn
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
RENO194_ATL224_LSP1                 192.0.2.224     4       N/A       Up   Dwn
-------------------------------------------------------------------------------
```

2.8.6.1.1 Regular expression symbols in a regular expression match operation

The user can use all the regular expression symbols listed in Table 12: Regular expression symbols and Table 13: Character class expressions inside the regular expression to match.

For example, the user can list all LSP names that begin with the string "RENO194_" followed by the string "ATL" as follows:

```
*A:bkvm35# show router mpls sr-te-lsp [/^RENO194_\['ATL'\]/]
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                        To              Tun      Protect     Adm    Opr
                                                Id       Path
-------------------------------------------------------------------------------
RENO194_ATL224_LSP1             38.120.48.224   4        N/A         Up     Dwn
-------------------------------------------------------------------------------
```


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```
LSPs : 1
===============================================================================
```

Note: The following conventions are used in the previous example.

- Use the character "^", which matches the start of the string, directly inside the regular expression to indicate a match at the start of the string. However, if you want to match it as a character, enter it as "\\^".
- Use the range delimiter with the escape symbol in front "\[" inside the regular expression because the range delimiter encloses the regular expression.

The following table summarizes special rules governing the use of some of the regular expression symbols inside a regular expression match operation. Any symbol from Table 12: Regular expression symbols or Table 13: Character class expressions that is not listed in Table 11: Rules governing regular expression symbols can be used directly inside a regular expression match operation.

Table 11: Rules governing regular expression symbols

String	Description
?	[/\?/] if using as a regular expression and [/\\\?/] if using to match the character ?
[ ]	[/\[\]/] if using as a regular expression and [/\\\[\\\]/] if using to match the characters []
$	[/$/] if using as a regular expression and [/\\$/] if using to match the character $
\	[/\\\\/] if using to match the character \
/	[/\/] if using to match the character /
'	[/\'/] if using to match the character '
*	[/*/] if using to match the character *
.	[/\./] if using as a regular expression and [/\\\./] if using to match the character .
+	[/\\+/] if using to match the character +
,	[/\,/] if using to match the character ,
^	[/\\^/] if using to match the character ^
(	[/\\(/] if using to match the character (
)	[/\\)/] if using to match the character)
space	[/\ /] if using to match the character space

The SR OS does not support the combination of a partial string with a regular expression match operation.

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For example, if the operator wants to display the SR-TE LSP names that begin with the string "RENO194_ATL", if part of the string is entered directly and the rest of the string is entered inside a regular expression, the command returns no match. The following example demonstrates the incorrect syntax:

```
*A:bkvm35# show router mpls sr-te-lsp RENO194_[/ATL/]
```

To obtain a match, the entire string must be inside the regular expression. The following example demonstrates the correct syntax for finding a match:

```
*A:bkvm35# show router mpls sr-te-lsp [/^RENO194_ATL/]
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                        To              Tun      Protect     Adm    Opr
                                                Id       Path
-------------------------------------------------------------------------------
RENO194_ATL224_LSP1             38.120.48.224   4        N/A         Up     Dwn
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
```

2.8.7 Using the | match output modifier

The **| match** output modifier searches for a character string or pattern. When using the **| match** output modifier, the variables and attributes must be spelled correctly. The attributes follow the output modifier and must come before the expression or pattern. The following are examples of how to use the **| match** output modifier to complete different tasks:

- Task: Capture all the lines that include "echo" and redirect the output to a file on the compact flash:

  admin display-config | match "echo" > cf1:\test\echo_list.txt
- Task: Display all the lines that do not include "echo":

  admin display-config | match invert-match "echo"
- Task: Display the first match of "vpls" in the configuration file:

  admin display-config | match max-count 1 "vpls"
- Task: Display everything in the configuration after finding the first instance of "interface":

  admin display-config | match post-lines 999999 interface
- Task: Display a count of the total number of lines of output instead of displaying the output itself:

  admin display-config | match interface | count

Command syntax:

match *pattern* **context** {**parents** | **children** | **all**} [**ignore-case**] [**max-count** *lines-count*] [**expression**]

match *pattern* [**ignore-case**] [**invert-match**] [**pre-lines** *pre-lines*] [**post-lines** *lines-count*] [**max-count** *lines-count*] [**expression**]

where:

```
pattern         string or regular expression
context         keyword:  display context associated with the matching line
parents         keyword:  display parent context information
children        keyword:  display child context information
```


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```
all             keyword:  display both parent and child context information
ignore-case     keyword
max-count       keyword:  display only a specific number of instances of matching
                          lines
lines-count     1 — 2147483647
expression      keyword:  pattern is interpreted as a regular expression
invert-match    keyword
pre-lines       keyword:  display some lines prior to the matching line
pre-lines       0 — 100
post-lines      keyword:  display some lines after the matching line
lines-count     1 — 2147483647
```

For example:

```
A:Dut-C# show log log-id 98 | match ignore-case "sdp bind"
"Status of SDP Bind 101:1002 in service 1001 (customer 1) changed to admin=up oper=u
p flags="
"Processing of a SDP state change event is finished and the status of all affected S
DP Bindings on SDP 101 has been updated."


A:Dut-C# show log log-id 98 | match max-count 1 "service 1001"
"Status of service 1001 (customer 1) changed to administrative state: up,
operational state: up"

A:Dut-C# admin display-config | match post-lines 5 max-
count 2 expression "OSPF.*Config"
echo "OSPFv2 Configuration"
#--------------------------------------------------
        ospf
            timers
                spf-wait 1000 1000 1000
            exit
echo "OSPFv2 (Inst: 1) Configuration"
#--------------------------------------------------
        ospf 1
            asbr
            router-id 10.0.0.1
            export "testall"
*A:Dut# admin display-config | match debug_mirror
            profile "debug_mirror"


*A:Dut# admin display-config | match context parent debug_mirror
#--------------------------------------------------
    system
        security
            profile "debug_mirror"


*A:Dut# admin display-config | match context all debug_mirror
#--------------------------------------------------
    system
        security
            profile "debug_mirror"
                default-action deny-all
                entry 10
                exit


*A:Dut# show log event-control | match ignore-case pre-lines 10 SyncStatus
L  2016 tmnxLogOnlyEventThrottled        MA  gen          0          0
MCPATH:
```


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```
   2005 tmnxMcPathSrcGrpBlackHole        MI  thr          0          0
   2006 tmnxMcPathSrcGrpBlackHoleCleared MI  thr          0          0
   2007 tmnxMcPathAvailBwLimitExceeded   MI  thr          0          0
   2008 tmnxMcPathAvailBwLimitCleared    MI  thr          0          0
MC_REDUNDANCY:
   2001 tmnxMcRedundancyPeerStateChanged WA  gen          0          0
   2002 tmnxMcRedundancyMismatchDetected WA  gen          0          0
   2003 tmnxMcRedundancyMismatchResolved WA  gen          0          0
   2004 tmnxMcPeerSyncStatusChanged      WA  gen          0          0
```

The following table describes regular expression symbols and their interpretation (similar to what is used for route policy regexp matching). Table 13: Character class expressions describes character class expressions.

Table 12: Regular expression symbols

String	Description
.	Matches any single character
[ ]	Matches a single character that is contained within the brackets [abc] matches "a", "b", or "c" [a-z] matches any lowercase letter [A-Z] matches any uppercase letter [0-9] matches any number
[^]	Matches a single character that is not contained within the brackets [^abc] matches any character other than "a", "b", or "c" [^a-z] matches any single character that is not a lowercase letter
^	Matches the start of the line (or any line, when applied in multiline mode)
$	Matches the end of the line (or any line, when applied in multiline mode)
()	Defines a "marked subexpression" Every matched instance will be available to the next command as a variable
*	A single character expression followed by "*" matches zero or more copies of the expression
{m,n}	Matches least *m* and at most *n* repetitions of the term
{m}	Matches exactly *m* repetitions of the term
{m,}	Matches *m* or more repetitions of the term
?	The preceding item is optional and matched at most once
+	The preceding item is matched one or more times

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String	Description
-	Used between start and end of a range
\	An escape character to indicate that the following character is a match criteria and not a grouping delimiter

Table 13: Character class expressions

Character class	Characters matched[1]	Description
[:alnum:]	'ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789'	Alphanumeric characters
[:alpha:]	'ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz'	Alphabetic characters
[:blank:]	' \t'	**Spacebar** and **Tab**
[:cntrl:]	'\007\b\t\n\v\f\r\1\2\3\4\5\6\16\17\20 \21\ 22\23\24\25\26\27\30 \31\32\33\34\35\ 36\37\177'	Control characters
[:digit:]	'0123456789'	Digits
[:graph:]	'ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 !\"#$%&'()*+,-./:;<=>?@[\\ ]^_`{|}~'	Visible characters
[:lower:]	'abcdefghijklmnopqrstuvwxyz'	Lowercase letters
[:print:]	'ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789!\"#$%&'()*+,-./:;<=>?@[\\]^_ `{|}~ '	Visible characters and the Space character
[:punct:]	'!\"#$%&'()*+,-./:;<=>?@[\\]^_`{|}~'	Punctuation characters
[:space:]	'\t\n\v\f\r '	Whitespace (blank) characters
[:upper:]	'ABCDEFGHIJKLMNOPQRSTUVWXYZ'	Uppercase letters
[:xdigit:]	'0123456789ABCDEFabcdef'	Hexadecimal digits

Character class expressions must be enclosed within brackets. The expression [[:digit:]] is treated as a regular expression containing the character class "digit", while [:digit:] is treated as a regular expression matching ":", "d", "i", "g", or "t".

[1] Characters matching the character class are delimited by single quotation marks (').

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2.8.8 Using the | count output modifier

The **| count** output modifier displays a count of the number of lines that would have otherwise been displayed. The **| count** output modifier is particularly useful when used in conjunction with the **| match** output modifier in order to count the number of output lines that match a specified pattern.

The following example shows usage of the **| count** output modifier.

Example: Using the | count output modifier

```
*A:dut-c# show service service-using vprn

===============================================================================
Services [vprn]
===============================================================================
ServiceId    Type      Adm  Opr  CustomerId Service Name
-------------------------------------------------------------------------------
1            VPRN      Down Down 1
44           VPRN      Up   Up   1
100          VPRN      Down Down 1
102          VPRN      Up   Up   1
235          VPRN      Down Down 1
1000         VPRN      Down Down 1000
-------------------------------------------------------------------------------
Matching Services : 6
-------------------------------------------------------------------------------
===============================================================================
*A:dut-c# show service service-using vprn | match Down | count
Count: 4 lines
*A:dut-c#
```

2.8.9 Using the | reverse-dns output modifier

The **| reverse-dns** output modifier performs a reverse DNS lookup on any IPv4 or IPv6 address in the input. The result of the lookup is inserted as the next line in the output on each line where an IP address is identified. If no match is found, no additional output is printed. If the output line is more than 80 characters, the line is truncated.

The following example shows usage of the **| reverse-dns** output modifier.

Example: Using the | reverse-dns output modifier

```
A:node-2# ping 10.184.216.34 | reverse-dns
PING 10.184.216.34 56 data bytes
(10.184.216.34) www.example.com
64 bytes from 10.184.216.34: icmp_seq=1 ttl=61 time=82.4ms.
64 bytes from 10.184.216.34: icmp_seq=2 ttl=61 time=82.5ms.
64 bytes from 10.184.216.34: icmp_seq=3 ttl=61 time=82.4ms.
64 bytes from 10.184.216.34: icmp_seq=4 ttl=61 time=82.3ms.
64 bytes from 10.184.216.34: icmp_seq=5 ttl=61 time=82.2ms.
---- 10.184.216.34 PING Statistics ----
(10.184.216.34) www.example.com
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min = 82.2ms, avg = 82.4ms, max = 82.5ms, stddev = 0.122ms
```


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2.8.10 Redirecting output to a file

SR OS supports output redirection (>), which allows the operator to store the output of a CLI command as a local or remote file.

For example:

```
ping 10.0.0.1 > cf3:/ping/result.txt
```

In some cases, only part of the output might be desirable. The **| match** and output redirection commands can be combined. For example, the following command matches lines with the expression "time.[[:digit:]]+" and redirects the output to the file `cf3:/ping/time.txt`.

```
ping 10.0.0.1 | match expression "time.[[:digit:]]+" > cf3:/ping/time.txt
```

2.9 Configuration rollback

The Configuration Rollback feature provides the ability to undo configurations and revert to previous router configuration states while minimizing impacts to services.

This feature gives the operator better control and visibility over the router configurations and reduces operational risk while increasing flexibility and providing powerful recovery options.

Configuration Rollback is useful in cases where configuration changes are made but the operator later decides not to keep the changes (for example, experimentation or when problems are identified in the configuration during actual network operation).

The advantages of this feature include the following.

- Changes made to the router configuration are performed with minimal impact on services being provided by the SR because the router does not need to be rebooted.
- There is no impact in areas of the configuration that did not change.

With the rollback feature, the operator can smoothly revert to previous configurations.

Configuration parameters that are changed or items that the changed configuration have dependencies on are removed (revert to default) and the previous values are restored, which may briefly impact services in changed areas).

A history of changes is preserved using checkpoint IDs, which allow rollback to different points, as well as examination of changes made, as shown in the following figure.

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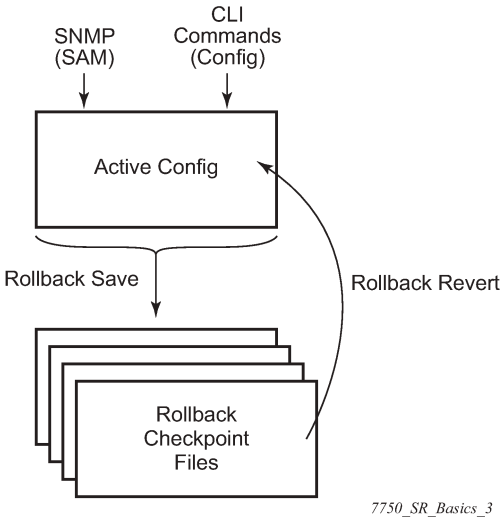
Figure 4: Rollback operation



2.9.1 Feature behavior

The following list describes detailed behavior of the rollback feature, including the applicable CLI commands.

- The user can create a rollback checkpoint and later revert to this checkpoint with minimal impact to services.

```
admin>rollback# save [comment comment-string]
```

```
comment-string: a comment associated with the checkpoint, maximum 255 characters
```

- Rollback checkpoints include all current operationally active configurations:
  - changes from direct CLI commands in the configuration branch
  - SNMP sets
- Rollback checkpoints do not include BOF configurations. The BOF file and BOF configuration are not part of a rollback save or rollback. A rollback does not change the BOF configuration. The BOF contains basic information for the node and does not change frequently; changes are mostly made during initial commissioning of the node.
- A rollback save feature can be automatically executed (for example, scheduled monthly) using the CRON facility of SR OS.
- The latest rollback checkpoint file uses the suffix ".rb". The next latest rollback checkpoint file has the suffix ".rb.1", the next oldest has the suffix "rb.2", and so on.

  file-url.rb <--- latest rollback file

  file-url.rb.1

  …

  file-url.rb.9 <--- oldest rollback file

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- When a **rollback save** is executed, the system shifts the file suffix of all the previous checkpoints by 1 (new ID = old ID + 1). If there are already as many checkpoint files as the maximum number supported, the last checkpoint file is deleted.
- The maximum number of rollback checkpoints is configurable and defaults to 10, which includes the latest file and files 1 through 9.
- The locations and names of the rollback checkpoint files are configurable to be local (on the compact flash) or remote. The *file-url* must contain a path/directory and filename with no suffix. The .rb suffix for rollback checkpoint files is automatically appended to the rollback checkpoint files.

```
config>system>rollback# rollback-location file-url
```

- There is no default rollback location. If a rollback location is not specified, or it is cleared using **no rollback-location**, and a **rollback save** is attempted, the **rollback save** fails and returns an error message.
- The entire set of rollback checkpoint files can be copied from the active CPM CF to the standby CPM CF. This synchronization is done using the following command:

```
admin>redundancy# rollback-sync
```

- The operator can enable an automatic synchronization of rollback checkpoint files between the active CPM and standby CPM. When this automatic synchronization is enabled, a **rollback save** causes the new checkpoint file to be saved to both the active and standby CPMs. The suffixes of the old checkpoint files on both active and standby CPMs are incremented.

  Automatic synchronization only causes the new checkpoint file to be copied to both CFs. The older checkpoint files are not automatically copied from active to standby but can be copied manually with **admin redundancy rollback-sync**.
- The **config**>**redundancy**>**synchronize** {**boot-env** | **config**} and **admin**>**redundancy**>**synchronize** {**boot-env** | **config**} commands do not apply to rollback checkpoint files. These commands do not manually or automatically synchronize rollback checkpoint files. The dedicated **rollback-sync** commands must be used to synchronize rollback checkpoint files.
- Rollback files can be deleted using a dedicated rollback checkpoint deletion command.

```
admin>rollback# delete {latest-rb | checkpoint-id}
```

  - Deleting a rollback checkpoint causes the suffixes to be adjusted (decremented) for all checkpoints older that the one that was deleted in order to close the "hole" in the list of checkpoint files and create room to create another checkpoint.
  - If **config**>**redundancy**>**rollback-sync** is enabled, a **rollback delete** also deletes the equivalent checkpoint on the standby CF and shuffles the suffixes on the standby CF.
  - If an operator manually deletes a rollback checkpoint file using **file delete**, the suffixes of the checkpoint files are not shuffled, nor is the equivalent checkpoint file deleted from the standby CF. This manual deletion creates a "hole" in the checkpoint file list until enough new checkpoints have been created to roll the "hole" off the end of the list.
- The following figure shows how a configuration is rolled back to a previous configuration (a saved rollback checkpoint). The previous configuration is loaded and takes operational effect.

```
admin>rollback# revert [latest-rb | checkpoint-id]
```


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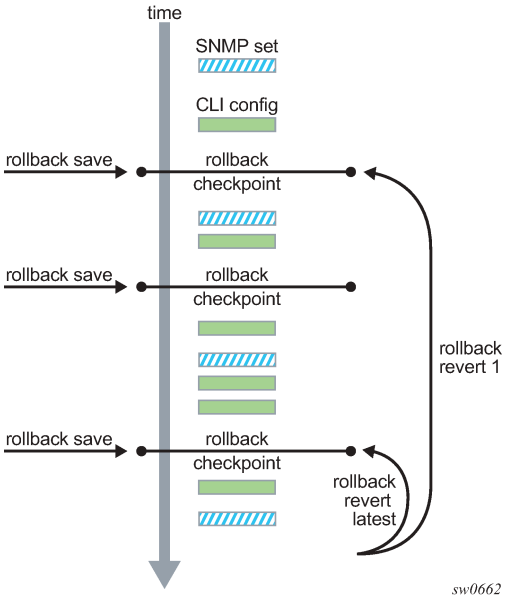
Figure 5: Configuration rollback



- A rollback revert does not affect the currently stored rollback checkpoint files; files are not deleted or renumbered. This means that if an operator issues the command **rollback revert 3** and then issues the **rollback save** command, the resulting rollback checkpoint files *file-url*.rb and *file-url*.rb.4 contain the same rollback state/configuration.
- The **boot-good-exec** or **boot-bad-exec** command is not automatically executed after a rollback.
- Impacts to the running services are minimized during a rollback.
  - There is no impact in areas of the configuration that did not change.
  - Configuration parameters that are changed or items that the changed configuration has dependencies on are removed (revert to default) and the previous values are restored, which may briefly impact services. The following is an example of service impact.

    If changing neighbor 1 of an MC-APS port, the port must be configured as **no neighbor** and then configured as neighbor 2. Moving through the **no neighbor** intermediate state requires the working and protection circuits to be torn down and rebuilt. This impacts the 7450 ESS and 7750 SR.
- A rollback undoes any SNMP sets or direct CLI configuration commands that occur after the creation of the last checkpoint.
- When a node is processing a **rollback revert**, both CLI commands from other users and SNMP commands continue to be processed. The only commands that are blocked during a **rollback revert** are other rollback commands, including **revert**, **save**, and **compare**. Only one **rollback** command can be executing at a time on a node.
- Commands are available to view and compare the various rollback checkpoints to current operating and candidate configurations.
- Rollback checkpoint files are not guaranteed to be in any particular format. They are not interchangeable with normal configuration files or executable scripts. A normal configuration file from an **admin save** cannot be renamed as a rollback checkpoint and then referenced for a **rollback revert**

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operation. Only rollback checkpoint files generated with **rollback save** can be used for rollback revert operations.

- If a hardware change is made after a **rollback save**, then:
  - a rollback can be executed as long as the hardware change was an addition of hardware to the node (for example, a new card or IOM was installed into a previously empty slot)
  - a rollback is not guaranteed to work if hardware was removed or changed (for example, an XCM/IOM was removed, or an XMA/MDA was swapped for a different XMA/MDA type)
- Rollback across a change to the following parameters is not supported:
  - **chassis-mode**
  - **configure isa application-assurance-group minimum-isa-generation**
- Rollback is supported even after an **admin reboot** is performed or the primary configuration in the BOF is changed and an **admin reboot** is performed. The **admin reboot** command does not "break the chain" for rollback.
- Lawful intercept configuration under the **config>li** branch is not affected by a rollback or rescue. LI configuration is not saved in the rollback checkpoint or rescue file, and a rollback revert does not affect any configuration under the **config>li** branch.
- Any configuration or state change performed under the debug branch of the CLI is not saved in the rollback checkpoint file or impacted by a rollback.
- Rollbacks to a checkpoint created in a more recent release are not supported (for example, a node running in 9.0r5 cannot roll back to a checkpoint created in 9.0r7).
- The following list captures some side effects and specific behaviors of a rollback revert. Some of these side effects are not related purely to configuration, that is, in the CLI configuration branch, and may have interactions with tools commands, RADIUS, and so on.
  - SAA jobs that are running when a rollback revert is initiated, and need configuration changes due to the rollback, are stopped. If the SAA job is a continuous type, then it is restarted as part of the rollback revert after the configuration changes have been applied (just as if the operator had typed **no shutdown** for the continuous SAA job). Non-continuous SAA jobs that were modified by the rollback would need to be manually restarted if they need to be run again.
  - If **max-nbr-mac-addr** is reduced as part of the revert and the number of MAC addresses in the forwarding database is greater than the **max-nbr-mac-addr**, the rollback is aborted before any actions are taken and an informative error message is provided. The operator must take actions to remove the MAC addresses if they wish to proceed with the rollback.
  - If active subscribers or subscriber hosts or DHCP lease states are present, some associated configuration changes may be blocked, just as those same changes would be blocked if an operator tried to make them using CLI.
  - When trying to delete an SLA profile being used by active subscriber hosts, or trying to change a NAT policy in a subscriber profile, if certain configuration changes associated with the hosts or lease states are required as part of the rollback but those changes are blocked, then for each blocked configuration item a warning is printed, that particular configuration item is not changed, and the rollback continues. This is supported on the 7450 ESS and 7750 SR.
  - After a multi-chassis peer shutdown or if configuration changes have been made that affect the contents of the distributed database (for example, synchronization tag creation or deletion), further configuration changes related to that peer may be temporarily refused. The duration of the temporary configuration freeze depends on the size of the distributed database. A rollback

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attempting to make those refused configuration changes fails and an error message is provided to the CLI user.

– If a **force-switchover** command (for example, **tools perform service id 1 endpoint "x" force-switchover spoke-sdp-fec 1**) has been applied to a **spoke-sdp-fec** of a dynamic multi-segment pseudowire, and a rollback revert needs to change the admin state of the **spoke-sdp-fec** (for example, to modify **spoke-sdp-fec** parameters that may be dependent on the admin state), the rollback revert automatically removes the **force-switchover** and the node reverts to whatever is the best spoke SDP in the redundant set.

– Rollback impacts the configuration state of the router, and as with normal operator CLI or SNMP configuration changes, additional actions or steps may need to occur before certain configuration changes take operational effect.

Configuration changes that require a manual **shutdown** and then **no shutdown** in order to take operational effect also need this manual **shutdown**/**no shutdown** in order to take operational effect after a rollback if the rollback changes those configuration items. Some examples include the following.

- Changes to autonomous system or confederation values require a BGP **shutdown**/**no shutdown** command.
- Changes to VPRN **max-routes** require a **shutdown**/**no shutdown** command on the VPRN service.
- Changes to OSPF or IS-IS **export-limit** require a **shutdown**/**no shutdown** command on OSPF or IS-IS.
- For configuration changes to an MSAP policy that normally require a **tools perform subscriber-mgmt eval-msap** command to take operational effect on subscribers that are already active, if a rollback changes the MSAP policy configuration, the operator must run the **eval-msap** tools command to have the changes applied to the active subscribers.

– Any uncommitted changes (for example, the **begin** command was entered and some changes were made, but the **commit** command was never entered) in the following areas are lost or cleared when a rollback revert is initiated:

- **config>app-assure>group policy**
- **config**>**router**>**policy-options**
- **config**>**system**>**sync-if-timing**

- Some **card** and **mda** commands require a reboot, removal, or rebuild of an entire card or XMA/MDA. When these commands need to be executed as part of a rollback, the impacted cards and MDAs are listed in a warning and the operator is prompted with a single y/n prompt to proceed. This prompt will not occur for a rollback initiated via SNMP or if the operator uses the **now** keyword with the **rollback revert** command. Some examples of **card** and **mda** commands that may cause a prompt are:
  – **config**>**card**>**card-type**
  – **config**>**card**>**mda**
  – **config**>**card**>**mda**>**mda-type**
- Although the use of the **Ctrl-C** key combination is not recommended during a rollback revert, it is supported via CLI or SNMP. Interrupting a rollback revert may leave the router in a state that is not necessarily between the old active configuration and the rollback checkpoint, as the rollback processing may have been in the middle of tearing things down or rebuilding configurations. A strong warning is issued in this case to indicate that the operator must examine the configuration and potentially issue another rollback revert to return to a known and coherent configuration.

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- An HA CPM switchover during a rollback revert causes the rollback operation to abort. The newly active CPM has an indeterminate configuration. When an HA switchover occurs during a rollback or within a few seconds of a rollback completing, the operator is advised to repeat the rollback revert operation to the same checkpoint.
- A rollback revert operation does not check authorization of each command that is applied during the revert. Permission to execute the revert operation, that is, authorization to execute the **admin rollback revert** command, should only be given to users who are allowed to initiate a rollback revert. It is generally recommended that only system administrators be allowed access to the file system where the rollback files are stored so that they cannot be manually edited.

2.9.2 Rollback and SNMP

The SR OS has SNMP support for rollback status and control. See the TIMETRA-SYSTEM-MIB for details (for example, items such as tmnxSysRollbackStarted).

When the router is doing a rollback revert, SNMP managers see a tmnxSysRollbackStarted trap, then a rapid set of "config change" traps, and then finally, the tmnxSysRollbackStatusChange trap.

During the period when a router is processing a rollback revert, both CLI commands from other users and SNMP commands continue to be processed.

2.9.3 Rescue configuration

A special rescue configuration checkpoint can be created that an operator can revert to at any time. The rescue configuration has its own keyword (**rescue**) and does not use the same rolling suffix indices as the normal rollback checkpoints. This allows the operator to easily return to the rescue configuration state without having to consider a checkpoint index, and ensures that the rescue checkpoint is always available and does not roll off the bottom of the list of checkpoints.

The operator should define a basic rescue configuration that is known to work and give appropriate management access to the node.

The location and filename of the rescue file are configurable. The SR OS appends the .rc suffix to the specified rescue filename.

2.9.4 Operational guidelines

The following points offer some operational guidance on the use of rollback.

- The **admin save** and **admin rollback save** commands should be performed periodically.
- The **admin save** command can be used to back up a complete configuration file that can be used during router reboot, with the following considerations:
  - used with a reboot as a last resort
  - performed after any major hardware changes or major service changes
  - performed after any software upgrade
- The **admin rollback save** command can be used to create a rollback checkpoint as follows:
  - to be used for intermediate checkpoints that can be recovered with minimal impact to services
  - to be performed each time a moderate number of configuration changes have been made

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  - to be performed after any hardware changes
  - to be performed after any software upgrade
  - to be scheduled with CRON (for example, once every one or two weeks)
- A new **admin rollback save rescue** must be created when hardware is changed.
- Rollback checkpoint files are not editable, or compatible or interchangeable with configuration files generated with **admin save**.
- The repeated use of the **admin rollback save**, **admin rollback delete**, and **admin rollback revert** commands over the course of weeks or months is not recommended without also executing an occasional **admin save**. In a serious situation, use one of the saved configurations as the primary configuration for an **admin reboot**.
- For a software upgrade, it is recommended that a rollback checkpoint be created using **admin rollback save** in addition to saving the configuration with **admin save**, after an upgrade has been performed and the system is operating as expected. This ensures that a good checkpoint that is fully compatible with the new release is available at a point shortly after the upgrade.
- An operator can create a set of rollback checkpoints to support busy or quiet days or weekends or weekdays and use CRON to shift between them.
- It is beneficial to create a rollback checkpoint before a rollback revert is initiated, especially if significant configuration changes have been applied since the last checkpoint was created. If the rollback is especially significant, that is, there are a lot of major changes, it is also a good practice to perform an **admin save** in case a full reboot is required to recover from an issue.
- A rollback failure may occur in some limited cases where the node needs a long time to complete one of the resulting configuration changes. If a rollback (for example, **rollback revert 5**) fails during execution, it should be attempted again. The second attempt typically completes the remaining configuration changes required to fully revert to the desired checkpoint.
- When a new backup CPM is commissioned, the user executes the **admin redundancy rollback-sync** command to copy the entire set of rollback files from the active CPM CF to the new standby CPM CF. If the operator wants the system to automatically copy new rollback checkpoints to both CFs whenever a new checkpoint is created, the **configure redundancy rollback-sync** command should be enabled.
- An HA CPM switchover during a rollback revert causes the rollback operation to abort. The newly active CPM has an indeterminate configuration. A log event is created in this case to warn the operator. When an HA switchover occurs during a rollback or within a few seconds of a rollback completing, the operator is advised to repeat the rollback revert operation to the same checkpoint.
- A rollback checkpoint stores the rollback location and the **local-max-checkpoint** and **remote-max-checkpoint** values, and it is possible that a rollback revert operation may change those values. If an operator changes the **local-max-checkpoint** or **remote-max-checkpoint** values, it is recommended that all the existing checkpoints be deleted to prevent a subsequent rollback revert from changing the maximum values to any of the previous values.
- If a warning prompt (**y/n**) is displayed when a rollback revert is initiated, it is highly recommended that the operator respond **no** to the warning prompt the first time, save a rollback checkpoint before attempting this rollback revert, execute the revert again, and respond **yes**. If the rollback encounters problems, a revert to the saved checkpoint can be used to return to the initial configuration state.

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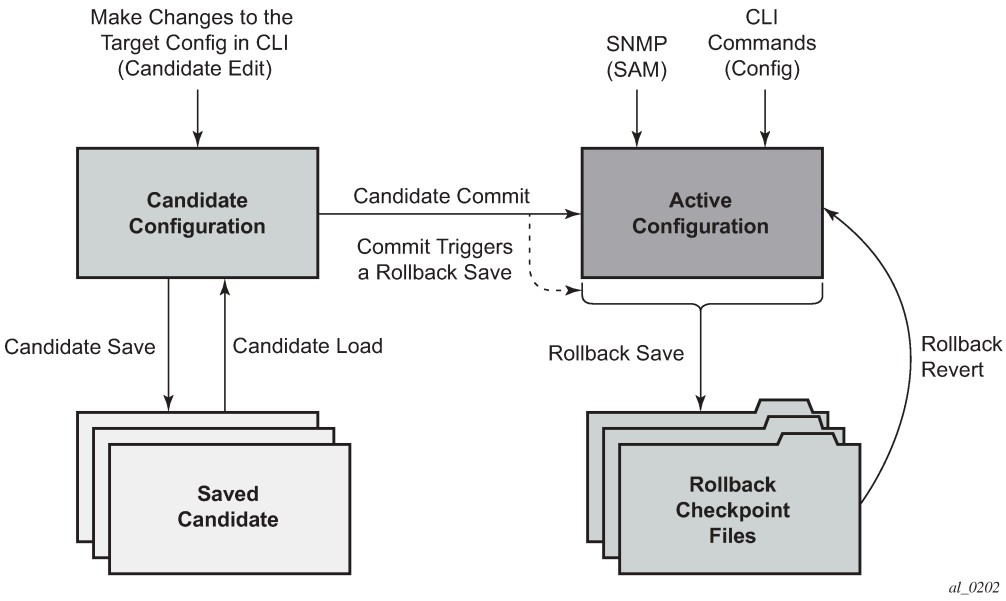
2.10 Transactional configuration

Transactional configuration allows an operator to edit a candidate configuration (a set of configuration changes) without causing operational changes in the router (the active or operational configuration). When the candidate configuration is complete, the operator can explicitly commit the changes to make the entire new configuration become active.

Transactional configuration gives the operator better control and visibility over their router configurations and reduces operational risk while increasing flexibility.

The transactional configuration and configuration rollback functions combine to provide the operational model depicted in the following figure.

Figure 6: Router configuration with rollback and transactions



2.10.1 Basic operation

In order to edit the candidate configuration, the operator must first enter the candidate edit mode (edit-cfg) with the **candidate>edit** command. The operator can enter and quit the configuration mode as many times as they wish before finally committing the candidate configuration.

In edit-cfg mode, the operator builds a set of candidate configuration changes using the same CLI tree as the standard line-by-line, non-transactional configuration. Tab completion and keyword syntax checking is available.

Just as there is a single operational active configuration that can be modified simultaneously by multiple users in the SR OS, there is also a single global candidate configuration instance. All users make changes in the same global candidate configuration, and a **commit** operation by any user commits the changes made by all users.

Users can exclusively create a candidate configuration by blocking other users and sessions of the same user from entering edit-cfg mode by specifying the **exclusive** parameter. The

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config>system>management-interface>cli>classic-cli>allow-immediate command can be used to enforce the use of candidate configuration, instead of allowing immediate line-by-line configuration changes.

If a **commit** operation is successful, all of the candidate changes take operational effect and the candidate is cleared. If there is an error in the processing of the commit, or a **commit confirmed** is not confirmed and an auto-revert occurs, the router returns to a configuration state with none of the candidate changes applied. The operator can then continue editing the candidate and try a commit later.

All commands in the candidate configuration must be in the correct order for a commit to be successful. Configuration that depends on other candidate objects must be placed after those objects in the candidate. A set of candidate editing commands (**copy**, **insert**, and so on) are available to correct and reorder the candidate configuration.

The edit-cfg mode is primarily intended for building a candidate configuration while navigating the **configure** branch of the CLI. Many CLI commands in branches other than **configure** are supported while in edit-cfg mode, but access to some CLI branches and commands are blocked, including:

- **exec** command
- **enable-admin** command
- **enable-dynamic-services-config** command
- **admin** branch
- **bof** branch
- **debug** branch
- **tools** branch

The candidate configuration can be saved to a file and subsequently loaded into a candidate configuration. A saved candidate is similar to, but not the same as, an SR OS configuration file generated with an **admin save** command. The saved candidate cannot be used in general as a configuration file and may not **exec** without failures.

There is no SNMP access to the candidate configuration and no SNMP management of candidates, although any configuration changes made using transactional configuration are reported via the standard SR OS SNMP change traps and basic candidate status information is available via SNMP.

A commit may fail for a number of reasons, including:

- **misordering**

  The candidate configuration has changes that are not in the correct order, that is, an object is referred to before it is actually created

- **invalid options and combinations**

  Although many syntax errors are eliminated during the candidate editing process, the candidate configuration may contain combinations of configurations and options that are not valid and are rejected when the SR OS attempts to have them take operational effect

- **out of resources**

  The application of the candidate may exhaust system resources, such as queue resources

Error messages are provided for commit failures to help the operator take the necessary actions to correct the candidate.

Standard line-by-line, non-transactional CLI and SNMP commands are not blocked during the creation or editing of a candidate or the processing of a commit. These commands take immediate operational effect when **Enter** is pressed.

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2.10.2 Transactions and rollback

By default, the SR OS automatically creates a new rollback checkpoint after a **commit** operation. The rollback checkpoint includes the new configuration changes made by the commit. An optional **no-checkpoint** keyword can be used to prevent the auto-creation of a rollback checkpoint after a commit. If the commit fails, no new rollback checkpoint is created.

When the **commit confirmed** option is used, a rollback checkpoint is created after the processing of the commit and exists whether the commit is automatically reverted or not.

Transactional configuration relies on the rollback mechanism to operate. Any commands and configurations that are not supported in a rollback revert are also not supported in edit-cfg mode; for example, changes to **chassis-mode**.

2.10.3 Authorization

Authorization works transparently in edit-cfg mode and no unique or new local profile or TACACS+ permissions rules are required other than allowing access to the **candidate** branch. For example, if an operator has permission to access the **configure filter** context, they automatically also have access to the **configure filter** context when in edit-cfg mode.

If the operator's profile allows access to the candidate **load** and **save** commands, the operations load and save only those items that the user is authorized to access.

The candidate view only displays the items that the user is authorized to access.

The candidate editing commands (such as adding lines, removing lines, and delete operations) only allow operations on items that the user is authorized to access.

The candidate **commit** and **discard** commands, along with **admin rollback revert**, operate on the entire candidate and impact all items; authorization does not apply.

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3 Command Trees

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3.1 admin Commands

```
- admin
    - application-assurance
        - group
            - url-list
        - upgrade
    - certificate
        - clear-ocsp-cache
        - cmpv2
            - cert-request
            - clear-request
            - initial-registration
            - key-update
            - poll
            - show-request
        - convert-file
        - crl-update
        - display
        - est
            - cacert
            - enroll
            - renew
        - export
        - gen-keypair
        - gen-local-cert-req
        - import
        - reload
        - secure-nd-export
        - secure-nd-import
        - update-cert
    - clear
        - lockout
        - password-history
    - compare
    - debug-save
    - disconnect
    - display-config
    - enable-tech
    - ipsec
        - display-key
        - transport-mode
            - display-key
    - isa
        - application-assurance-group
            - isa
                - load-balance
    - nat
        - save-deterministic-script
    - reboot
    - redundancy
        - force-switchover
        - rollback-sync
        - synchronize
    - reset-policy-exclusive
    - rollback
        - compare
        - delete
        - revert
        - save
        - view
```


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admin satellite

```
        - satellite
            - eth-sat
                - reboot
                - sync-boot-env
                - tech-support
        - save
        - set-time
        - system
            - license
                - activate
                - clear
                - validate
            - security
                - hash-control
                    - custom-hash
                - image-digital-signature-validate
                - secure-boot
                    - activate
                    - revoke-key
                    - update-key
                    - validate
                - system-password
            - telemetry
                - grpc
                    - subscription
        - tech-support
        - view
```


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3.2 bof Commands

```
- bof
    - address
    - auto-boot
    - autoconfigure
        - ipv4
            - dhcp
        - ipv6
            - dhcp
    - autonegotiate
    - console-speed
    - dns-domain
    - duplex
    - encrypt
    - encryption-key
    - ess-system-type
    - fips-140
    - ip-mtu
    - li-local-save
    - li-separate
    - license-file
    - password
    - persist
    - primary-config
    - primary-dns
    - primary-image
    - save
    - secondary-config
    - secondary-dns
    - secondary-image
    - speed
    - static-route
    - system-base-mac
    - system-profile
    - tertiary-config
    - tertiary-dns
    - tertiary-image
    - wait
```


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3.3 candidate Commands

```
- candidate
    - commit
    - confirm
    - copy
    - delete
    - discard
    - edit
    - goto
    - insert
    - load
    - quit
    - redo
    - replace
    - save
    - undo
    - view
```


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3.4 configure Commands

```
– configure
```


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3.4.1 configure aaa Commands

```
- aaa
    - acct-on-off-group
        - description
    - diameter
        - node
            - connection-timer
            - description
            - ipv6-source-address
            - peer
                - address
                - connection-timer
                - default-peer
                - preference
                - route
                    - preference
                - shutdown
                - watchdog-timer
            - python-policy
            - router
            - source-address
    - isa-radius-policy
        - acct-include-attributes
            - acct-delay-time
            - acct-trigger-reason
            - called-station-id
            - calling-station-id
            - circuit-id
            - class
            - credit-control-quota
            - dhcp-options
            - dhcp-vendor-class-id
            - dhcp6-options
            - frame-counters
            - framed-ip-addr
            - framed-ip-netmask
            - framed-ipv6-prefix
            - hardware-timestamp
            - inside-service-id
            - ipv6-address
            - mac-address
            - millisecond-event-timestamp
            - multi-session-id
            - nas-identifier
            - nas-ip-address
            - nas-ipv6-address
            - nas-port
            - nas-port-id
            - nas-port-type
            - nat-subscriber-string
            - octet-counters
            - outside-ip
            - outside-service-id
            - port-forward-logging
            - port-range-block
            - port-time
            - release-reason
            - remote-id
            - session-time
            - subscriber-data
            - subscriber-id
```


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config aaa isa-radius-plcy acct-include-attributes ue-creation-type

```
                - ue-creation-type
                - user-name
                - wifi-rssi
                - wifi-ssid-vlan
                - wlan-custom-user-group
                - xconnect-tunnel-home-address
                - xconnect-tunnel-local-ipv6-address
                - xconnect-tunnel-remote-ipv6-address
                - xconnect-tunnel-service
                - xconnect-tunnel-type
            - acct-update-triggers
                - address-state
                - soft-quota-exhausted
            - auth-include-attributes
                - called-station-id
                - calling-station-id
                - circuit-id
                - dhcp-options
                - dhcp-vendor-class-id
                - dhcp6-options
                - framed-ip-addr
                - ipv6-address
                - mac-address
                - nas-identifier
                - nas-ip-address
                - nas-ipv6-address
                - nas-port
                - nas-port-id
                - nas-port-type
                - remote-id
                - wifi-ssid-vlan
                - xconnect-tunnel-home-address
            - description
            - nas-ip-address-origin
            - password
            - periodic-update
            - python-policy
            - servers
                - access-algorithm
                - ipv6
                    - mtu
                    - source-prefix
                - retry
                - router
                - server
                    - accounting
                    - authentication
                    - coa
                    - ip-address
                    - secret
                    - shutdown
                - source-address-range
                - timeout
            - user-name-format
        - l2tp-accounting-policy
            - accounting-type
            - acct-tunnel-connection-fmt
            - description
            - include-radius-attribute
                - calling-station-id
                - nas-identifier
                - nas-port
                - nas-port-id
                - nas-port-type
```


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config aaa l2tp-acct-plcy include-radius-attribute radius-accounting-server

```
                - radius-accounting-server
            - radius-accounting-server
                - access-algorithm
                - retry
                - router
                - server
                - source-address
                - timeout
            - radius-server-policy
            - request-script-policy
        - radius-coa-port
        - radius-script-policy
            - action-on-fail
            - description
            - primary
                - script-url
                - shutdown
            - secondary
                - script-url
                - shutdown
        - radius-server-policy
            - accept-script-policy
            - acct-on-off
            - acct-request-script-policy
            - auth-request-script-policy
            - buffering
            - description
            - python-policy
            - request-script-policy
            - servers
                - access-algorithm
                - buffering
                    - acct-interim
                    - acct-start
                    - acct-stop
                - disable-stickiness
                - health-check
                    - down-timeout
                    - test-account
                        - interval
                        - password
                        - shutdown
                        - user-name
                - hold-down-time
                - ipv6-source-address
                - retry
                - router
                - server
                - source-address
                - timeout
        - route-downloader
            - base-user-name
            - default-metric
            - default-tag
            - description
            - download-interval
            - max-routes
            - password
            - radius-server-policy
            - retry-interval
            - shutdown
        - wpp
            - portal-groups
                - portal-group
```


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config aaa wpp portal-groups portal-group description

```
                        - description
                        - portal
                        - shutdown
                - system-name
```


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3.4.2 configure anysec Commands

```
- anysec
    - mka-over-ip
        - mka-udp-port
    - mpls
        - security-termination-policies
            - policy
                - flex-algo-id
                - igp-instance-id
                - local-address
                - protocol
                - rx-must-be-encrypted
                - shutdown
        - service-encryption
            - encryption-group
                - ca-name
                - encryption-label
                - peer
                    - shutdown
                - security-termination-policy
                - shutdown
                - shutdown
        - tunnel-encryption
            - encryption-group
                - allow-entropy-label
                - ca-name
                - encryption-label
                - peer
                    - shutdown
                - peer-tunnel-attributes
                    - flex-algo-id
                    - igp-instance-id
                    - protocol
                - security-termination-policy
                - shutdown
    - reserved-label-block
```


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3.4.3 configure application-assurance Commands

```
        – application-assurance
            – aarp
                – description
                – master-selection-mode
                – peer
                – peer-endpoint
                – priority
                – shutdown
            – bit-rate-high-wmark
            – bit-rate-low-wmark
            – cflowd
                – field
            – datapath-cpu-high-wmark
            – datapath-cpu-low-wmark
            – flow-attribute
                – attribute
            – flow-setup-high-wmark
            – flow-setup-low-wmark
            – flow-table-high-wmark
            – flow-table-low-wmark
            – group
                – aa-sub-congestion-detection
                    – rtt-threshold
                    – rtt-threshold-rat
                    – rtt-threshold-tolerance
                    – shutdown
                – aa-sub-remote
                – access-network-location
                    – source
                        – rtt-threshold
                        – rtt-threshold-rat
                        – rtt-threshold-tolerance
                – aqp-initial-lookup
                – certificate-profile
                    – certificate
                    – description
                    – shutdown
                – cflowd
                    – collector
                        – description
                        – shutdown
                    – comprehensive
                        – app-group
                        – application
                        – flow-rate
                        – flow-rate2
                        – shutdown
                        – template
                            – dynamic-fields
                                – field
                                – shutdown
                            – field-selection
                    – direct-export
                        – collector
                            – address
                                – shutdown
                            – description
                        – vlan-id
                    – export-override
                        – prefix
```


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configure application-assurance group cflowd obfuscation

```
                    - obfuscation
                        - aes-128-encryption
                        - aes-256-encryption
                    - shutdown
                    - system-name
                    - tcp-performance
                        - app-group
                        - application
                        - flow-rate
                        - flow-rate2
                        - shutdown
                        - template
                            - dynamic-fields
                                - field
                                - shutdown
                            - field-selection
                    - template-retransmit
                    - volume
                        - rate
                        - shutdown
                        - template
                            - dynamic-fields
                                - field
                                - shutdown
                            - field-selection
                - description
                - dns-enrich
                    - description
                    - gateway
                    - option
                    - packet-size-limit
                    - shutdown
                - dns-ip-cache
                    - description
                    - dns-match
                        - domain
                        - server-address
                    - ip-cache
                        - high-wmark
                        - low-wmark
                        - size
                        - static-address
                    - shutdown
                - event-log
                    - buffer-type
                    - max-entries
                    - shutdown
                    - syslog
                        - address
                        - description
                        - facility
                        - port
                        - severity
                        - vlan-id
                - gtp
                    - event-log
                    - gtp-filter
                        - description
                        - event-log
                        - gtp-in-gtp
                        - gtp-tunnel-database
                            - default-tunnel-endpoint-limit
                            - validate-gtp-tunnels
                            - validate-sequence-number
```


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config app-assure group gtp gtp-fltr gtp-tunnel-database validate-source-ip-addr

```
                        - validate-source-ip-addr
                    - imsi-apn-filter
                        - default-action
                        - entry
                            - action
                            - apn
                            - mcc-mnc-prefix
                            - src-gsn
                    - max-payload-length
                    - message-type
                        - default-action
                        - entry
                    - message-type-gtpv2
                        - default-action
                        - entry
                - gtpc-inspection
                - mode
                - shutdown
            - http-enrich
                - description
                - field
                    - aes-initialization-vector
                    - anti-spoof
                    - calling-line-id
                    - encode
                    - md5-salt
                    - name
                    - static-string
                - rat-enrichment
                    - rat-type
                - shutdown
            - http-error-redirect
                - description
                - error-code
                - http-host
                - participant-id
                - shutdown
                - template
            - http-match-all-requests
            - http-notification
                - description
                - interval
                - script-url
                - shutdown
                - template
            - http-redirect
                - captive-redirect
                    - vlan-id
                - description
                - redirect-https
                - redirect-url
                - shutdown
                - tcp-client-reset
                - template
            - http-x-online-host
            - ip-identification-assist
                - passive-dns
                    - monitor
                    - trusted-server
                        - comment
                - positive-app-id
                    - enable
                - shutdown
            - ip-identification-contribute
```


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config app-assure group ip-prefix-list

```
            - ip-prefix-list
                - description
                - prefix
            - policer
                - action
                - adaptation-rule
                - cbs
                - congestion-override
                    - cbs
                    - cir
                    - mbs
                    - pir
                - congestion-override-stage2
                    - cbs
                    - cir
                    - mbs
                    - pir
                - description
                - flow-count
                - gtp-traffic
                - mbs
                - rate
                - rate-percentage
                - rate-percentage-stage2
                - tod-override
                    - cbs
                    - description
                    - flow-count
                    - mbs
                    - rate
                    - shutdown
                    - time-range
            - policy
                - abort
                - app-filter
                    - entry
                        - application
                        - description
                        - expression
                        - flow-setup-direction
                        - http-match-all-requests
                        - http-port
                        - ip-identification-assist
                        - ip-protocol-num
                        - network-address
                        - protocol
                        - server-address
                        - server-port
                        - shutdown
                - app-group
                    - charging-group
                    - description
                    - export-id
                - app-profile
                    - aa-sub-distribute-traffic-by-ip
                    - aa-sub-suppressible
                    - capacity-cost
                    - characteristic
                    - description
                    - divert
                - app-qos-policy
                    - entry
                        - action
                            - abandon-tcp-optimization
```


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config app-assure group policy aqp entry action bandwidth-policer

```
                        - bandwidth-policer
                        - dns-enrich
                        - dns-ip-cache
                        - drop
                        - error-drop
                        - flow-count-limit
                        - flow-rate-limit
                        - fragment-drop
                        - gtp-filter
                        - http-enrich
                        - http-error-redirect
                        - http-notification
                        - http-redirect
                        - mirror-source
                        - overload-drop
                        - remark
                            - dscp
                            - ecn
                            - fc
                            - priority
                        - sctp-filter
                        - session-filter
                        - tcp-mss-adjust
                        - tcp-validate
                        - tls-enrich
                        - url-filter
                    - description
                    - match
                        - aa-sub
                        - aa-sub-tethering-state
                        - app-group
                        - application
                        - characteristic
                        - charging-group
                        - dscp
                        - dst-ip
                        - dst-port
                        - flow-attribute
                            - confidence
                        - ip-protocol-num
                        - src-ip
                        - src-port
                        - traffic-direction
                    - shutdown
                - app-service-options
                    - characteristic
                        - default-value
                        - value
                - application
                    - app-group
                    - charging-group
                        - export-id
                    - description
                    - export-id
                - begin
                - charging-filter
                    - entry
                        - charging-group
                        - description
                        - match
                            - app-group
                            - application
                            - flow-attribute
                                - confidence
```


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config app-assure group policy chrg-fltr entry match tethered-flow

```
                        - tethered-flow
                    - shutdown
            - charging-group
                - description
                - export-id
                - notify-start-stop
            - commit
            - custom-protocol
                - description
                - expression
                - shutdown
            - default-charging-group
            - default-tethered-charging-group
        - policy-override
            - policy
                - characteristic
        - port-list
            - description
            - port
        - sctp-filter
            - description
            - event-log
            - ppid
                - default-action
                - entry
            - ppid-range
        - session-filter
            - default-action
            - description
            - entry
                - action
                    - http-redirect
                - description
                - match
                    - dns-ip-cache
                    - dscp
                    - dst-ip
                    - dst-port
                    - ip-protocol-num
                    - src-ip
                    - src-port
        - shallow-inspection
        - statistics
            - aa-admit-deny
                - accounting-policy
                - collect-stats
                - gtp-filter-stats
                - policer-stats
                - policer-stats-resources
                - sctp-filter-stats
                - session-filter-stats
                - tcp-validate-stats
            - aa-partition
                - accounting-policy
                - collect-stats
                - tethering-summary
                - traffic-type
            - aa-sub
                - accounting-policy
                - aggregate-stats
                - app-group
                - application
                - charging-group
                - collect-stats
```


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config app-assure group statistics aa-sub description

```
                    - description
                    - exclude-tcp-retrans
                    - max-throughput-stats
                    - protocol
                    - radius-accounting-policy
                    - usage-monitoring
                - aa-sub-study
                    - aa-sub
                    - accounting-policy
                    - collect-stats
                - app-group
                    - accounting-policy
                    - collect-stats
                - application
                    - accounting-policy
                    - collect-stats
                - protocol
                    - accounting-policy
                    - collect-stats
                    - shutdown
                - threshold-crossing-alert
                    - error-drop
                        - high-wmark
                    - fragment-drop-all
                        - high-wmark
                    - fragment-drop-out-of-order
                        - high-wmark
                    - gtp-filter
                        - default-gtp-tunnel-endpoint-limit
                            - high-wmark
                        - gtp-in-gtp
                            - high-wmark
                        - imsi-apn-filter
                            - default-action
                                - high-wmark
                            - entry
                                - high-wmark
                        - max-payload-length
                            - high-wmark
                        - message-type
                            - default-action
                                - high-wmark
                            - entry
                                - high-wmark
                            - header-sanity
                                - high-wmark
                        - message-type-gtpv2
                            - default-action
                                - high-wmark
                            - entry
                                - high-wmark
                        - missing-mandatory-ie
                            - high-wmark
                        - tunnel-endpoint-limit
                            - high-wmark
                        - tunnel-resource-limit
                            - high-wmark
                        - validate-gtp-tunnels
                            - high-wmark
                        - validate-sequence-number
                            - high-wmark
                        - validate-src-ip-addr
                            - high-wmark
                    - gtp-sanity-drop
```


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config app-assure group statistics tca gtp-sanity-drop high-wmark

```
                        - high-wmark
                    - overload-drop
                        - high-wmark
                    - policer
                        - high-wmark
                    - sctp-filter
                        - packet-sanity
                            - high-wmark
                        - ppid
                            - default-action
                                - high-wmark
                            - entry
                                - high-wmark
                        - ppid-range
                            - high-wmark
                    - session-filter
                        - default-action
                            - high-wmark
                        - entry
                            - high-wmark
                    - tcp-validate
                        - high-wmark
            - tcp-optimizer
                - dack-timeout
                - description
                - high-cpu-backoff
                - init-cwnd-size
                - init-ss-threshold
                - network-rtt-threshold
                - tcp-stack
            - tcp-validate
                - description
                - event-log
                - strict
            - template
            - tethering-detection
                - shutdown
                - single-device
                    - expected-ttl
                    - invert-match
                - ttl-monitoring
                    - tcp-protocols
                    - udp-protocols
            - transit-ip-policy
                - def-app-profile
                - description
                - detect-seen-ip
                - dhcp
                    - shutdown
                - diameter
                    - application-policy
                    - shutdown
                - ipv6-address-prefix-length
                - radius
                    - authentication-policy
                    - seen-ip-radius-acct-policy
                    - shutdown
                - static-aa-sub
                    - ip
                - sub-ident-policy
                - transit-auto-create
                    - inactivity-mon
                    - inactivity-monitor
                    - shutdown
```


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config app-assure group transit-prefix-policy

```
            - transit-prefix-policy
                - description
                - entry
                    - aa-sub
                    - match
                        - aa-sub-ip
                        - network-ip
                - static-aa-sub
            - url-filter
                - apply-function-specific-behavior
                - default-action
                - description
                - http-redirect
                - http-request-filtering
                - icap
                    - custom-x-header
                    - default-action
                    - http-redirect
                    - server
                        - description
                        - shutdown
                    - vlan-id
                - local-filtering
                    - allow-list
                    - default-action
                    - deny-list
                        - default-action
                        - http-redirect
                - shutdown
                - web-service
                    - classification-overrides
                        - entry
                    - classifier
                    - default-action
                    - default-profile
                    - dns-server
                    - fqdn
                    - http-redirect
                    - profile
                        - category
                        - description
                    - vlan-id
            - url-list
                - decrypt-key
                - description
                - expression-match
                - file
                - shutdown
                - size
            - wap1x
                - shutdown
        - http-enrich
            - field
        - http-error-redirect
            - error-code
            - template
        - http-notification
            - template
        - http-redirect
            - template
        - packet-rate-high-wmark
        - packet-rate-low-wmark
        - protocol
            - shutdown
```


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config app-assure radius-accounting-policy

```
            - radius-accounting-policy
                - description
                - interim-update-interval
                - radius-accounting-server
                    - access-algorithm
                    - retry
                    - router
                    - server
                    - source-address
                    - timeout
                - significant-change
```


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3.4.4 configure bfd Commands

```
        - bfd
            - seamless-bfd
                - reflector
                    - description
                    - discriminator
                    - local-state
                    - shutdown
```


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3.4.5 configure bmp Commands

```
        - bmp
            - collector
                - connection
                    - ipv4-address
                    - ipv6-address
                - shutdown
            - shutdown
            - station
                - connection
                    - connect-retry
                    - local-address
                    - router
                    - station-address
                    - tcp-keepalive
                        - keep-count
                        - keep-idle
                        - keep-interval
                        - shutdown
                - description
                - family
                - initiation-message
                - report-local-routes
                - shutdown
                - stats-report-interval
```


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3.4.6 configure call-trace Commands

```
        - call-trace
            - buffering
            - location
                - disable
                - size-limit
            - max-files-number
            - primary-cf
            - trace-profile
                - applications
                - debug-output
                - description
                - events
                - live-output
                - size-limit
                - time-limit
```


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3.4.7 configure card Commands

```
- card
    - card-type
    - fail-on-error
    - filter-profile
    - fp
        - egress
            - hs-fixed-high-thresh-delta
            - hs-pool-policy
            - wred-queue-control
                - buffer-allocation
                - resv-cbs
                - shutdown
                - slope-policy
        - fp-resource-policy
        - hi-bw-mcast-src
        - ingress
            - access
                - queue-group
                    - accounting-policy
                    - collect-stats
                    - description
                    - policer-control-override
                        - max-rate
                        - priority-mbs-thresholds
                            - min-thresh-separation
                            - priority
                                - mbs-contribution
                    - policer-control-policy
                    - policer-override
                        - policer
                            - cbs
                            - mbs
                            - packet-byte-offset
                            - rate
                            - stat-mode
            - dist-cpu-protection
                - dynamic-enforcement-policer-pool
            - mcast-path-management
                - bandwidth-policy
                - shutdown
            - network
                - pool
                    - amber-alarm-threshold
                    - monitor-pool-depth
                        - alarm-thresholds
                            - reserved-pool-in-use
                            - shared-pool-in-use
                            - total-pool-in-use
                        - enable
                    - red-alarm-threshold
                    - resv-cbs
                    - slope-policy
                - queue-group
                    - accounting-policy
                    - collect-stats
                    - description
                    - policer-control-override
                        - max-rate
                        - priority-mbs-thresholds
                            - min-thresh-separation
```


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config card fp ingress network queue-group policer-control-override priority-mbs-thresholds priority

```
                                - priority
                                    - mbs-contribution
                        - policer-control-policy
                        - policer-override
                            - policer
                                - cbs
                                - mbs
                                - packet-byte-offset
                                - rate
                                - stat-mode
                    - queue-policy
                - policy-accounting
                    - classes
                    - policers
            - ingress-buffer-allocation
            - init-extract-prio-mode
            - stable-pool-sizing
        - mda
            - access
                - egress
                - ingress
            - egress-xpl
                - threshold
                - window
            - event
                - action
            - fail-on-error
            - flex
                - client
                - description
                - group-number
                - hold-time
                - member
                    - report-alarms
                    - report-alarms-phy
                - report-alarms
                - shutdown
            - ingress-xpl
                - threshold
                - window
            - mac-mode
            - mda-type
            - network
                - egress
                - ingress
            - power-priority-level
            - reset-on-recoverable-error
            - shutdown
            - sync-e
            - upgrade
            - xconnect
                - mac
                    - description
                    - loopback
                        - bandwidth
                        - description
        - power-save
        - reset-on-recoverable-error
        - shutdown
        - upgrade
        - virtual-scheduler-adjustment
            - internal-scheduler-weight-mode
            - rate-calc-min-int
            - sched-run-min-int
```


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config card virt-sched-adj slow-queue-threshold

```
            - slow-queue-threshold
            - task-scheduling-int
            - workload-performance
                - manual
                    - control
                    - shutdown
        - xiom
            - fail-on-error
            - mda
                - flex
                    - client
                    - description
                    - group-number
                    - member
                        - report-alarms
                        - report-alarms-phy
                    - report-alarms
                    - shutdown
                - mac-mode
                - mda-type
                - power-priority-level
                - shutdown
                - sync-e
                - xconnect
                    - mac
                        - description
                        - loopback
                            - bandwidth
                            - description
            - reset-on-recoverable-error
            - shutdown
            - upgrade
            - xiom-type
```


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3.4.8 configure cflowd Commands

```
- cflowd
    - active-flow-timeout
    - analyze-gre-payload
    - analyze-l2tp-traffic
    - analyze-srv6-payload
    - analyze-v4overv6-traffic
    - cache-size
    - collector
        - aggregation
            - as-matrix
            - destination-prefix
            - protocol-port
            - raw
            - source-destination-prefix
            - source-prefix
        - autonomous-system-type
        - description
        - export-filter
            - family
                - ipv4
                - ipv6
                - l2-ip
                - mcast-ipv4
                - mcast-ipv6
                - mpls
                - non-ip
            - interface-list
                - router
                - service
                    - ies
                    - vprn
            - router
        - router
        - shutdown
        - template-set
    - enhanced-distribution
    - export-mode
    - inactive-flow-timeout
    - inband-collector-export-only
    - overflow
    - rate
    - sample-profile
        - export-ie315
        - metering-process
        - sample-rate
        - slice-selection
    - shutdown
    - template-retransmit
    - use-vrtr-if-index
```


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3.4.9 configure connection-profile-vlan Commands

```
        – connection-profile-vlan
            – description
            – vlan-range
```


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3.4.10 configure esa Commands

```
        - esa
            - crc-monitor
                - sd-threshold
                - sf-threshold
                - window-size
            - description
            - host-port
            - shutdown
            - vm
                - cores
                - description
                - host-port
                - memory
                - shutdown
                - vm-type
```


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3.4.11 configure eth-cfm Commands

```
- eth-cfm
    - default-domain
        - bridge-identifier
            - id-permission
            - mhf-creation
            - mip-ltr-priority
    - domain
        - association
            - auto-mep-discovery
            - bridge-identifier
                - id-permission
                - mhf-creation
                - mip-ltr-priority
                - vlan
            - ccm-hold-time
            - ccm-interval
            - facility-id-permission
            - remote-mepid
    - md-auto-id
        - ma-index-range
        - md-index-range
    - redundancy
        - mc-lag
            - propagate-hold-time
            - standby-mep-shutdown
    - slm
        - inactivity-timer
    - system
        - grace-tx-enable
        - named-display
        - sender-id
```


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3.4.12 configure eth-ring Commands

```
- eth-ring
    - ccm-hold-time
    - compatible-version
    - description
    - guard-time
    - node-id
    - path
        - description
        - eth-cfm
            - mep
                - alarm-notification
                    - fng-alarm-time
                    - fng-reset-time
                - ccm-enable
                - ccm-ltm-priority
                - ccm-padding-size
                - control-mep
                - description
                - eth-test-enable
                    - bit-error-threshold
                    - test-pattern
                - grace
                    - eth-ed
                        - max-rx-defect-window
                        - priority
                        - rx-eth-ed
                        - tx-eth-ed
                    - eth-vsm-grace
                        - rx-eth-vsm-grace
                        - tx-eth-vsm-grace
                - low-priority-defect
                - mac-address
                - one-way-delay-threshold
                - shutdown
        - rpl-end
        - shutdown
    - revert-time
    - rpl-node
    - shutdown
    - sub-ring
        - interconnect
            - propagate-topology-change
```


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3.4.13 configure eth-tunnel Commands

```
- eth-tunnel
    - ccm-hold-time
    - description
    - ethernet
        - encap-type
        - mac
    - lag-emulation
        - access
            - adapt-qos
            - per-fp-ing-queuing
        - path-threshold
    - mac
    - path
        - control-tag
        - description
        - eth-cfm
            - mep
                - alarm-notification
                    - fng-alarm-time
                    - fng-reset-time
                - ccm-enable
                - ccm-ltm-priority
                - ccm-padding-size
                - control-mep
                - description
                - eth-test-enable
                    - bit-error-threshold
                    - test-pattern
                - grace
                    - eth-ed
                        - max-rx-defect-window
                        - priority
                        - rx-eth-ed
                        - tx-eth-ed
                    - eth-vsm-grace
                        - rx-eth-vsm-grace
                        - tx-eth-vsm-grace
                - low-priority-defect
                - mac-address
                - one-way-delay-threshold
                - shutdown
        - member
        - precedence
        - shutdown
    - protection-type
    - revert-time
    - shutdown
```


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3.4.14 configure filter Commands

```
        – filter
            – copy
                – ip-filter
                – ipv6-filter
                – mac-filter
            – dhcp-filter
                – default-action
                – description
                – entry
                    – action
                    – option
            – dhcp6-filter
                – default-action
                – description
                – entry
                    – action
                    – option
            – gre-tunnel-template
                – description
                – ipv4
                    – destination-address
                    – gre-key
                    – skip-ttl-decrement
                    – source-address
                – ipv6
                    – destination-address
                    – gre-key
                    – skip-hop-decrement
                    – source-address
            – ip-exception
                – description
                – entry
                    – description
                    – match
                        – dst-ip
                        – dst-port
                        – icmp-code
                        – icmp-type
                        – src-ip
                        – src-port
                – filter-name
                – renum
                – scope
            – ip-filter
                – chain-to-system-filter
                – default-action
                – description
                – embed-filter
                – entry
                    – action
                        – drop
                        – drop-extracted-traffic
                        – extended-action
                            – remark
                        – fc
                        – forward
                        – forward-when
                        – gtp-local-breakout
                        – http-redirect
                        – ignore-match
```


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config filter ip-filter entry action l2-aware-nat-bypass

```
                        - l2-aware-nat-bypass
                        - nat
                        - rate-limit
                        - reassemble
                        - remark
                        - tcp-mss-adjust
                    - description
                    - egress-pbr
                    - filter-sample
                    - interface-disable-sample
                    - log
                    - match
                        - destination-class
                        - dscp
                        - dst-ip
                        - dst-port
                        - fragment
                        - icmp-code
                        - icmp-type
                        - ip
                        - ip-option
                        - multiple-option
                        - option-present
                        - packet-length
                        - port
                        - src-ip
                        - src-mac
                        - src-port
                        - src-route-option
                        - tcp-ack
                        - tcp-cwr
                        - tcp-ece
                        - tcp-established
                        - tcp-fin
                        - tcp-ns
                        - tcp-psh
                        - tcp-rst
                        - tcp-syn
                        - tcp-urg
                        - ttl
                    - pbr-down-action-override
                    - sample-profile
                    - sticky-dest
                - group-inserted-entries
                - renum
                - scope
                - shared-policer
                - shared-radius-filter-wmark
                - sub-insert-credit-control
                - sub-insert-radius
                - sub-insert-shared-pccrule
                - sub-insert-shared-radius
                - sub-insert-wmark
                - type
            - ipv6-exception
                - description
                - entry
                    - description
                    - match
                        - dst-ip
                        - dst-port
                        - icmp-code
                        - icmp-type
                        - port
```


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config filter ipv6-exception entry match src-ip

```
                    - src-ip
                    - src-port
            - renum
        - ipv6-filter
            - chain-to-system-filter
            - default-action
            - description
            - embed-filter
            - entry
                - action
                    - drop
                    - drop-extracted-traffic
                    - extended-action
                        - remark
                    - fc
                    - forward
                    - forward-when
                    - http-redirect
                    - ignore-match
                    - nat
                    - rate-limit
                    - remark
                    - tcp-mss-adjust
                - description
                - egress-pbr
                - filter-sample
                - interface-disable-sample
                - log
                - match
                    - ah-ext-hdr
                    - destination-class
                    - dscp
                    - dst-ip
                    - dst-port
                    - esp-ext-hdr
                    - flow-label
                    - fragment
                    - hop-by-hop-opt
                    - hop-limit
                    - icmp-code
                    - icmp-type
                    - ip
                    - packet-length
                    - port
                    - routing-type0
                    - routing-type4
                    - src-ip
                    - src-mac
                    - src-port
                    - tcp-ack
                    - tcp-cwr
                    - tcp-ece
                    - tcp-established
                    - tcp-fin
                    - tcp-ns
                    - tcp-psh
                    - tcp-rst
                    - tcp-syn
                    - tcp-urg
                - pbr-down-action-override
                - sample-profile
                - sticky-dest
            - group-inserted-entries
            - renum
```


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config filter ipv6-filter scope

```
            - scope
            - shared-policer
            - shared-radius-filter-wmark
            - sub-insert-credit-control
            - sub-insert-radius
            - sub-insert-shared-pccrule
            - sub-insert-shared-radius
            - sub-insert-wmark
            - type
        - log
            - description
            - destination
            - shutdown
            - summary
                - shutdown
                - summary-crit
            - wrap-around
        - mac-filter
            - default-action
            - description
            - entry
                - action
                    - drop
                    - forward
                    - http-redirect
                    - ignore-match
                    - rate-limit
                - description
                - log
                - match
                    - dot1p
                    - dsap
                    - dst-mac
                    - etype
                    - inner-tag
                    - isid
                    - outer-tag
                    - snap-oui
                    - snap-pid
                    - src-mac
                    - ssap
                - pbr-down-action-override
                - sticky-dest
            - renum
            - scope
            - type
        - match-list
            - ip-packet-length-list
                - description
                - packet-length
            - ip-prefix-list
                - apply-path
                    - bgp-peers
                    - interfaces
                - description
                - prefix
                - prefix-exclude
            - ipv6-packet-length-list
                - description
                - packet-length
            - ipv6-prefix-list
                - apply-path
                    - bgp-peers
                    - interfaces
```


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config filter match-list ipv6-prefix-list description

```
                - description
                - prefix
                - prefix-exclude
            - port-list
                - description
                - port
            - protocol-list
                - description
                - protocol
        - md-auto-id
            - filter-id-range
        - policer
            - description
            - mbs
            - pir
            - pps-pir
            - scope
        - redirect-policy
            - description
            - destination
                - description
                - ping-test
                    - drop-count
                    - interval
                    - source-address
                    - timeout
                - priority
                - shutdown
                - unicast-rt-test
            - notify-dest-change
            - router
            - shutdown
            - sticky-dest
        - redirect-policy-binding
            - binding-operator
            - redirect-policy
        - system-filter
            - ip
            - ipv6
```


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3.4.15 configure fwd-path-ext Commands

```
        - fwd-path-ext
            - fpe
                - description
                - map-t
                - multi-path
                - multi-path-list
                    - path
                - mvpn-umh-rate-monitoring
                - path
                - pw-port-extension
                    - interface-a
                        - qos
                    - interface-b
                        - qos
                - srv6
                    - interface-a
                        - qos
                    - interface-b
                        - mtu
                        - qos
                - sub-mgmt-extensions
                - vxlan
            - sdp-id-range
```


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3.4.16 configure group-encryption Commands

```
        - group-encryption
            - encryption-keygroup
                - active-outbound-sa
                - description
                - esp-auth-algorithm
                - esp-encryption-algorithm
                - keygroup-name
                - security-association
            - group-encryption-label
```


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3.4.17 configure ipsec Commands

```
        – ipsec
            – cert-profile
                – entry
                    – cert
                    – compare-chain-include
                    – key
                    – rsa-signature
                    – send-chain
                        – ca-profile
                – shutdown
            – client-db
                – client
                    – action
                    – client-identification
                        – idi
                        – peer-ip-prefix
                    – client-name
                    – credential
                        – pre-shared-key
                    – description
                    – local-address-assignment
                        – ipv4
                            – address-source
                        – ipv6
                            – address-source
                    – private-interface
                    – private-service
                    – shutdown
                    – ts-negotiation
                    – tunnel-template
                – description
                – match-list
                    – idi
                    – peer-ip-prefix
                – shutdown
            – ike-policy
                – auth-method
                – auto-eap-method
                – auto-eap-own-method
                – description
                – dpd
                – ike-mode
                – ike-transform
                – ike-version
                – ikev1-ph1-responder-delete-notify
                – ikev2-fragment
                – ipsec-lifetime
                – limit-init-exchange
                – lockout
                – match-peer-id-to-cert
                – nat-traversal
                – own-auth-method
                – pfs
                – ppk-required
                – relay-unsolicited-cfg-attribute
                    – internal-ip4-address
                    – internal-ip4-dns
                    – internal-ip4-netmask
                    – internal-ip6-address
                    – internal-ip6-dns
```


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config ipsec ike-policy send-idr-after-eap-success

```
            - send-idr-after-eap-success
        - ike-transform
            - dh-group
            - ike-auth-algorithm
            - ike-encryption-algorithm
            - ike-prf-algorithm
            - isakmp-lifetime
        - ipsec-transform
            - esp-auth-algorithm
            - esp-encryption-algorithm
            - extended-sequence-number
            - ipsec-lifetime
            - pfs-dh-group
        - ipsec-transport-mode-profile
            - description
            - dynamic-keying
                - auto-establish
                - cert
                    - cert-profile
                    - default-result
                    - primary
                    - status-verify
                        - default-result
                        - primary
                    - trust-anchor-profile
                - ike-policy
                - local-id
                - ppk
                - pre-shared-key
                - transform
            - max-history-esp-key-records
            - max-history-ike-key-records
            - replay-window
        - ppk-list
            - ppk-id
        - radius-accounting-policy
            - include-radius-attribute
                - acct-stats
                - called-station-id
                - calling-station-id
                - framed-ip-addr
                - framed-ipv6-prefix
                - nas-identifier
                - nas-ip-addr
                - nas-port-id
            - radius-server-policy
            - update-interval
        - radius-authentication-policy
            - include-radius-attribute
                - called-station-id
                - calling-station-id
                - client-cert-subject-key-id
                - nas-identifier
                - nas-ip-addr
                - nas-port-id
            - password
            - radius-server-policy
        - show-ipsec-keys
        - static-sa
            - authentication
            - description
            - direction
            - protocol
            - spi
```


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config ipsec trust-anchor-profile

```
            - trust-anchor-profile
                - trust-anchor
            - ts-list
                - local
                    - entry
                        - address
                        - protocol
                - remote
                    - entry
                        - address
                        - protocol
            - tunnel-template
                - clear-df-bit
                - copy-traffic-class-upon-decapsulation
                - description
                - encapsulated-ip-mtu
                - icmp-generation
                    - frag-required
                        - interval
                        - message-count
                - icmp6-generation
                    - pkt-too-big
                        - interval
                        - message-count
                - ip-mtu
                - pmtu-discovery-aging
                - ppk-list
                - private-tcp-mss-adjust
                - propagate-pmtu-v4
                - propagate-pmtu-v6
                - public-tcp-mss-adjust
                - replay-window
                - reverse-route
                    - metric
                    - preference
                - sp-reverse-route
                - transform
```


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3.4.18 configure isa Commands

```
        – isa
            – application-assurance-group
                – aa-sub-distribute-traffic-by-ip
                – backup
                – description
                – divert-fc
                – fail-to-open
                – flow-attribute
                – http-enrich-max-pkt
                – isa-capacity-cost-high-threshold
                – isa-capacity-cost-low-threshold
                – isa-overload-cut-through
                – minimum-isa-generation
                – oper-group
                – overload-sub-quarantine
                    – shutdown
                – primary
                – qos
                    – egress
                        – from-subscriber
                            – pool
                                – resv-cbs
                                – slope-policy
                            – port-scheduler-policy
                            – queue-policy
                            – wa-shared-high-wmark
                            – wa-shared-low-wmark
                        – to-subscriber
                            – pool
                                – resv-cbs
                                – slope-policy
                            – port-scheduler-policy
                            – queue-policy
                            – wa-shared-high-wmark
                            – wa-shared-low-wmark
                – shared-resources
                    – gtp-tunnel-database
                    – tcp-adv-func
                    – web-service-url-filter
                – shutdown
                – statistics
                    – performance
                        – accounting-policy
                        – collect-stats
                – transit-prefix-ipv4-entries
                – transit-prefix-ipv6-entries
                – vm-traffic-distribution-by-ip
                – vm-traffic-distribution-by-teid
            – lns-group
                – description
                – esa-vm
                – mda
                – port-policy
                – shutdown
            – map-t-group
                – description
                – esa-vm
                – fragments-per-packet
                – shutdown
            – nat-group
```


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config isa nat-group active-mda-limit

```
            - active-mda-limit
            - description
            - esa-vm
            - failed-mda-limit
            - icmpv6-reply-on-filtering-and-unknown-sessions
            - inter-chassis-redundancy
                - flow-timeout-on-switchover
                - ip-mtu
                - keepalive
                - local-ip-range-start
                - monitor-oper-group
                - monitor-port
                - preferred
                - remote-ip-range-start
                - replication-threshold
                - router
                - sync
            - log
                - periodic-update
            - mda
            - monitor-oper-group
            - oper-group
            - radius-accounting-policy
            - redundancy
            - scaling-profile
            - session-limits
                - reserved
                - upnp-mappings
                - watermarks
            - shutdown
            - suppress-lsn-events
            - suppress-lsn-sub-blks-free
        - tunnel-group
            - active-mda-number
            - backup
            - description
            - esa-vm
            - ipsec-responder-only
            - mda
            - member-pool
            - multi-active
            - primary
            - reassembly
            - shutdown
            - spi-range-index
            - stats-collection
                - isa-dp-cpu-usage
            - strict-esp-seq-number-ordering
        - tunnel-member-pool
            - description
            - esa-vm
            - high-availability
            - mda
        - video-group
            - analyzer
            - description
            - esa-vm
            - fcc-server
            - local-rt-server
            - primary
            - resv-ret
            - shutdown
            - stream-selection
            - watermark
```


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config isa video-group watermark bandwidth

```
                - bandwidth
                    - fcc
                    - ret
                    - total
                - session
                    - fcc
                    - ret
                    - total
        - wlan-gw-group
            - active-iom-limit
            - active-mda-limit
            - description
            - distributed-sub-mgmt
                - isa-aa-group
                - isa-aa-oversubscription-factor
            - esa-vm
            - fwa-checksum-assist
            - iom
            - mda
            - nat
                - log
                    - periodic-update
                - lsn
                - radius-accounting-policy
                - session-limits
                    - reserved
                    - upnp-mappings
                    - watermarks
                - suppress-lsn-events
                - suppress-lsn-sub-blks-free
            - port-policy
            - scaling-profile
            - shutdown
            - tunnel-port-policy
            - watermarks
                - mark
```


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3.4.19 configure lag Commands

```
        - lag
            - access
                - adapt-qos
                - bandwidth
                - booking-factor
                - per-fp-egr-queuing
                - per-fp-ing-queuing
                - per-fp-sap-instance
            - adaptive-load-balancing
            - bfd
                - disable-soft-reset-extension
                - family
                    - bfd-on-distributing-only
                    - local-ip-address
                    - max-admin-down-time
                    - max-setup-time
                    - multiplier
                    - receive-interval
                    - remote-ip-address
                    - shutdown
                    - transmit-interval
            - description
            - dynamic-cost
            - encap-type
            - eth-cfm
                - mep
                    - ais-enable
                        - client-meg-level
                        - interface-support-enable
                        - interval
                        - low-priority-defect
                        - priority
                    - alarm-notification
                        - fng-alarm-time
                        - fng-reset-time
                    - bit-error-threshold
                    - ccm-enable
                    - ccm-ltm-priority
                    - ccm-padding-size
                    - ccm-tlv-ignore
                    - collect-lmm-stats
                    - csf-enable
                        - multiplier
                    - description
                    - eth-test-enable
                        - bit-error-threshold
                        - test-pattern
                    - facility-fault
                    - grace
                        - eth-ed
                            - max-rx-defect-window
                            - priority
                            - rx-eth-ed
                            - tx-eth-ed
                        - eth-vsm-grace
                            - rx-eth-vsm-grace
                            - tx-eth-vsm-grace
                    - low-priority-defect
                    - mac-address
                    - one-way-delay-threshold
```


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config lag eth-cfm mep shutdown

```
                - shutdown
            - hash-weight-threshold
            - hold-time
            - lacp
            - lacp-fallback
            - lacp-mux-control
            - lacp-xmit-interval
            - lacp-xmit-stdby
            - link-map-profile
                - description
                - failure-mode
                - link
            - lldp-member-template
                - dest-mac
                    - admin-status
                    - notification
                    - port-id-subtype
                    - tunnel-nearest-bridge
                    - tunnel-nearest-customer
                    - tunnel-nearest-non-tpmr
                    - tx-mgmt-address
                    - tx-tlvs
            - mac
            - mode
            - monitor-oper-group
            - oper-group
            - per-link-hash
            - port
            - port-threshold
            - port-type
            - ptp-timestamping
                - ipv4-address
                - ipv6-address
                - shutdown
            - selection-criteria
            - shutdown
            - standby-signaling
```


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3.4.20 configure li Commands

```
- li
    - li-filter
        - li-ip-filter
            - description
            - entry
                - description
                - match
                    - dst-ip
                    - dst-port
                    - fragment
                    - src-ip
                    - src-port
        - li-ipv6-filter
            - description
            - entry
                - description
                - match
                    - dst-ip
                    - dst-port
                    - src-ip
                    - src-port
        - li-mac-filter
            - description
            - entry
                - description
                - match
                    - dst-mac
                    - outer-tag
                    - sap
                    - src-mac
    - li-filter-associations
        - li-ip-filter
            - ip-filter
            - ip-filter-name
        - li-ipv6-filter
            - ipv6-filter
            - ipv6-filter-name
        - li-mac-filter
            - mac-filter
            - mac-filter-name
    - li-filter-block-reservation
        - li-reserved-block
            - description
            - ip-filter
            - ip-filter-name
            - ipv6-filter
            - ipv6-filter-name
            - mac-filter
            - mac-filter-name
            - start-entry
    - li-filter-lock-state
    - li-source
        - ip-filter
        - ipv6-filter
        - li-ip-filter
        - li-ipv6-filter
        - li-mac-filter
        - mac-filter
        - nat
            - classic-lsn-sub
```


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config li li-source nat classic-lsn-sub intercept-id

```
                    - intercept-id
                    - session-id
                - dslite-lsn-sub
                    - intercept-id
                    - session-id
                - ethernet-header
                    - intercept-id
                    - session-id
                - l2-aware-sub
                    - intercept-id
                    - session-id
                - nat64-lsn-sub
                    - intercept-id
                    - session-id
            - port
            - sap
            - shutdown
            - subscriber
            - wlan-gw
                - dsm-subscriber
                    - intercept-id
                    - session-id
                - intercept-id
                - session-id
        - log
            - log-id
                - description
                - filter
                - from
                - netconf-stream
                - shutdown
                - time-format
                - to
        - mirror-dest-reservation
        - mirror-dest-template
            - layer-3-encap
                - direction-bit
                - ip-src
                - router
                - udp-dst
                - udp-src
        - radius
            - mirror-dest-template
        - save
        - sci
            - pfcp-li-shared-key
        - use-outside-ip-address
        - x-interfaces
            - correlation-id
                - ipoe
                - pppoe
            - ine-identifier
            - lics
                - lic
                    - address
                    - authentication
                        - password
                        - private-ki
                        - sequence-group
                    - description
                    - lic-identifier
                    - port
                    - router
            - shutdown
```


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config li x-interfaces user-db

```
                - user-db
                - x1
                    - address
                    - peer
                    - port
                    - timeouts
                        - message-timeout
                - x2
                    - address
                    - peer
                    - timeouts
                        - keep-alive
                        - request
                - x3
                    - address-range
                    - alarms
                        - cpu-alarm
                        - memory-alarm
                        - throughput-alarm
                    - li-group
                    - peers
                        - peer
                    - session-limit
                    - timeouts
                        - keep-alive
                        - request
                        - target-retry-wait
```


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3.4.21 configure log Commands

```
- log
    - accounting-policy
        - align
        - collection-interval
        - custom-record
            - aa-specific
                - aa-sub-attributes
                    - all
                    - app-profile
                    - app-service-options
                - aa-sub-counters
                    - all
                    - long-duration-flow-count
                    - medium-duration-flow-count
                    - short-duration-flow-count
                    - total-flow-duration
                    - total-flows-completed-count
                - from-aa-sub-counters
                    - all
                    - flows-active-count
                    - flows-admitted-count
                    - flows-denied-count
                    - forwarding-class
                    - max-throughput-octet-count
                    - max-throughput-packet-count
                    - max-throughput-timestamp
                    - octets-admitted-count
                    - octets-denied-count
                    - packets-admitted-count
                    - packets-denied-count
                - to-aa-sub-counters
                    - all
                    - flows-active-count
                    - flows-admitted-count
                    - flows-denied-count
                    - forwarding-class
                    - max-throughput-octet-count
                    - max-throughput-packet-count
                    - max-throughput-timestamp
                    - octets-admitted-count
                    - octets-denied-count
                    - packets-admitted-count
                    - packets-denied-count
            - policer
                - e-counters
                    - exceed-profile-octets-discarded-count
                    - exceed-profile-octets-forwarded-count
                    - exceed-profile-octets-offered-count
                    - exceed-profile-packets-discarded-count
                    - exceed-profile-packets-forwarded-count
                    - exceed-profile-packets-offered-count
                    - in-plus-profile-octets-discarded-count
                    - in-plus-profile-octets-forwarded-count
                    - in-plus-profile-octets-offered-count
                    - in-plus-profile-packets-discarded-count
                    - in-plus-profile-packets-forwarded-count
                    - in-plus-profile-packets-offered-count
                    - in-profile-octets-discarded-count
                    - in-profile-octets-forwarded-count
                    - in-profile-octets-offered-count
```


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config log acct-policy cr policer e-counters in-profile-packets-discarded-count

```
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - in-profile-packets-offered-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-octets-offered-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                        - out-profile-packets-offered-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                    - i-counters
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-octets-offered-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - in-profile-packets-offered-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-octets-offered-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                        - out-profile-packets-offered-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                - queue
                    - e-counters
                        - all
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                    - i-counters
                        - all
                        - all-octets-offered-count
                        - all-packets-offered-count
                        - high-octets-discarded-count
                        - high-octets-offered-count
                        - high-packets-discarded-count
                        - high-packets-offered-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-forwarded-count
                        - low-octets-discarded-count
                        - low-octets-offered-count
                        - low-packets-discarded-count
                        - low-packets-offered-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-forwarded-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                - ref-aa-specific-counter
                - ref-policer
                    - e-counters
                        - exceed-profile-octets-discarded-count
                        - exceed-profile-octets-forwarded-count
                        - exceed-profile-octets-offered-count
                        - exceed-profile-packets-discarded-count
                        - exceed-profile-packets-forwarded-count
                        - exceed-profile-packets-offered-count
```


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config log acct-policy cr ref-policer e-counters in-plus-profile-octets-discarded-count

```
                        - in-plus-profile-octets-discarded-count
                        - in-plus-profile-octets-forwarded-count
                        - in-plus-profile-octets-offered-count
                        - in-plus-profile-packets-discarded-count
                        - in-plus-profile-packets-forwarded-count
                        - in-plus-profile-packets-offered-count
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-octets-offered-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - in-profile-packets-offered-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-octets-offered-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                        - out-profile-packets-offered-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                    - i-counters
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-octets-offered-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - in-profile-packets-offered-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-octets-offered-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                        - out-profile-packets-offered-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                - ref-queue
                    - e-counters
                        - all
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                    - i-counters
                        - all
                        - all-octets-offered-count
                        - all-packets-offered-count
                        - high-octets-discarded-count
                        - high-octets-offered-count
                        - high-packets-discarded-count
                        - high-packets-offered-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-forwarded-count
                        - low-octets-discarded-count
                        - low-octets-offered-count
                        - low-packets-discarded-count
                        - low-packets-offered-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-forwarded-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
```


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config log acct-policy cr significant-change

```
                - significant-change
            - default
            - description
            - include-system-info
            - record
            - shutdown
            - to
        - app-route-notifications
            - cold-start-wait
            - route-recovery-wait
        - encryption-key
        - event-control
        - event-damping
        - event-handling
            - handler
                - action-list
                    - entry
                        - description
                        - min-delay
                        - script-policy
                        - shutdown
                - description
                - shutdown
        - event-trigger
            - event
                - description
                - shutdown
                - trigger-entry
                    - debounce
                    - description
                    - event-handler
                    - log-filter
                    - shutdown
        - file-id
            - description
            - location
            - rollover
        - file-storage-control
            - accounting-files-total-size
            - log-files-total-size
        - filter
            - default-action
            - description
            - entry
                - action
                - description
                - match
                    - application
                    - message
                    - number
                    - router
                    - severity
                    - subject
        - log-id
            - description
            - filter
            - from
            - netconf-stream
            - python-policy
            - shutdown
            - time-format
            - to
        - route-preference
        - services-all-events
```


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config log services-all-events service

```
            - service
        - snmp-trap-group
            - description
            - trap-target
        - syslog
            - address
            - description
            - facility
            - hostname
            - level
            - log-prefix
            - port
            - timestamp-format
            - tls-client-profile
        - throttle-rate
```


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3.4.22 configure macsec Commands

```
        - macsec
            - connectivity-association
                - anysec
                - cipher-suite
                - clear-tag-mode
                - delay-protection
                - description
                - encryption-offset
                - macsec-encrypt
                - mka-hello-interval
                - mka-key-server-priority
                - replay-protection
                - replay-window-size
                - shutdown
                - static-cak
                    - active-psk
                    - pre-shared-key
                        - cak
                        - ckn
                    - primary-keychain
            - mac-policy
                - dest-mac-address
```


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3.4.23 configure mcast-management Commands

```
- mcast-management
    - bandwidth-policy
        - admin-bw-threshold
        - description
        - falling-percent-reset
        - mcast-pool
        - t2-paths
            - primary-path
                - queue-parameters
                    - cbs
                    - drop-tail
                        - low
                            - percent-reduction-from-mbs
                    - mbs
            - secondary-path
                - number-paths
                - queue-parameters
                    - cbs
                    - drop-tail
                        - low
                            - percent-reduction-from-mbs
                    - mbs
    - chassis-level
        - mmrp-impm-override
        - per-mcast-plane-capacity
            - mcast-capacity
            - redundant-mcast-capacity
            - total-capacity
        - round-robin-inactive-records
    - mcast-reporting-dest
        - description
        - dest-ip-addr
        - max-tx-delay
        - shutdown
        - udp-dst-port
    - multicast-info-policy
        - bundle
            - admin-bw
            - bw-activity
            - channel
                - admin-bw
                - bw-activity
                - explicit-sf-path
                - keepalive-override
                - preference
                - primary-tunnel-interface
                - source-override
                    - admin-bw
                    - bw-activity
                    - explicit-sf-path
                    - keepalive-override
                    - preference
                    - primary-tunnel-interface
                    - video
                        - analyzer
                            - alarms
                                - cc-error
                                - non-vid-pid-absent
                                - pat-repetition
                                - pat-syntax
```


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configure mcast-management multicast-info-policy bundle channel source-override video analyzer description

```
                                    - pcr-repetition
                                    - pid-pmt-unref
                                    - pmt-repetition
                                    - pmt-syntax
                                    - report-alarm
                                    - tei-set
                                    - ts-sync-loss
                                    - vid-pid-absent
                                - description
                            - description
                            - fcc-channel-type
                            - fcc-min-duration
                            - fcc-server
                            - local-fcc-port
                            - local-rt-port
                            - local-rt-server
                            - reorder-audio
                            - rt-buffer-size
                            - rt-server
                            - stream-selection
                            - stream-selection-buffer
                            - video-group
                        - video
                            - analyzer
                                - alarms
                                    - cc-error
                                    - non-vid-pid-absent
                                    - pat-repetition
                                    - pat-syntax
                                    - pcr-repetition
                                    - pid-pmt-unref
                                    - pmt-repetition
                                    - pmt-syntax
                                    - report-alarm
                                    - tei-set
                                    - ts-sync-loss
                                    - vid-pid-absent
                                - description
                            - description
                            - fcc-channel-type
                            - fcc-min-duration
                            - fcc-server
                            - local-fcc-port
                            - local-rt-port
                            - local-rt-server
                            - reorder-audio
                            - rt-buffer-size
                            - rt-server
                            - stream-selection
                            - stream-selection-buffer
                            - video-group
                    - cong-priority-threshold
                    - description
                    - ecmp-opt-threshold
                    - explicit-sf-path
                    - keepalive-override
                    - preference
                    - primary-tunnel-interface
                        - bw-activity
                        - explicit-sf-path
                    - video
                        - analyzer
                            - alarms
                                - cc-error
```


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config mcast-mgmt mcast-info-plcy bundle video analyzer alarms non-vid-pid-absent

```
                            - non-vid-pid-absent
                            - pat-repetition
                            - pat-syntax
                            - pcr-repetition
                            - pid-pmt-unref
                            - pmt-repetition
                            - pmt-syntax
                            - report-alarm
                            - tei-set
                            - ts-sync-loss
                            - vid-pid-absent
                        - description
                    - description
                    - fcc-channel-type
                    - fcc-min-duration
                    - fcc-server
                    - local-fcc-port
                    - local-rt-port
                    - local-rt-server
                    - reorder-audio
                    - rt-buffer-size
                    - rt-server
                    - source-port
                    - stream-selection
                    - stream-selection-buffer
                    - video-group
                - description
                - video-policy
                    - video-interface
                        - extended-unicast
                        - fcc-session-timeout
                        - hd
                            - dent-threshold
                            - fcc-burst
                            - fcc-server
                            - local-rt-server
                            - mc-handover
                            - rt-rate
                        - max-igmp-latency
                        - max-sessions
                        - pip
                            - dent-threshold
                            - fcc-burst
                            - fcc-server
                            - local-rt-server
                            - mc-handover
                            - rt-rate
                        - ret-session-timeout
                        - rt-payload-type
                        - rt-rate
                        - sd
                            - dent-threshold
                            - fcc-burst
                            - fcc-server
                            - local-rt-server
                            - mc-handover
                            - rt-rate
                        - subscriber-bw-limit
```


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3.4.24 configure mirror Commands

```
        - mirror
            - global-sampling-rate
            - mirror-dest
                - description
                - encap
                    - layer-3-encap
                        - direction-bit
                        - gateway
                            - ip
                            - udp
                        - router
                - endpoint
                    - description
                    - revert-time
                - fc
                - pcap
                    - file-url
                    - router
                - per-lag-hashing
                - remote-source
                    - far-end
                    - spoke-sdp
                        - control-channel-status
                            - acknowledgment
                            - refresh-timer
                            - request-timer
                            - shutdown
                        - control-word
                        - egress
                            - vc-label
                        - ingress
                            - l2tpv3
                                - cookie
                            - vc-label
                        - pw-path-id
                            - agi
                            - saii-type2
                            - taii-type2
                        - shutdown
                - sampling-rate
                - sap
                    - cem
                        - packet
                        - rtp-header
                    - egress
                        - ip-mirror
                            - sa-mac
                        - qos
                    - endpoint
                - shutdown
                - slice-size
                - spoke-sdp
                    - control-channel-status
                        - acknowledgment
                        - refresh-timer
                        - request-timer
                        - shutdown
                    - control-word
                    - egress
                        - l2tpv3
```


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config mirror mirror-dest spoke-sdp egress l2tpv3 cookie

```
                        - cookie
                    - shutdown
                    - vc-label
                - ingress
                    - l2tpv3
                    - vc-label
                - precedence
                - pw-path-id
                    - agi
                    - saii-type2
                    - taii-type2
                - shutdown
            - use-global-sampling-rate
        - mirror-source
            - ip-filter
            - ipv6-filter
            - mac-filter
            - port
            - sap
            - shutdown
            - subscriber
```


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3.4.25 configure oam-pm Commands

```
- oam-pm
    - bin-group
        - bin-type
            - bin
                - lower-bound
            - delay-event
            - delay-event-exclusion
            - exclude-from-avg
        - description
        - shutdown
    - session
        - bin-group
        - description
        - ethernet
            - dest-mac
            - dmm
                - data-tlv-size
                - delay-template
                - interval
                - shutdown
                - test-duration
            - lmm
                - availability
                    - flr-threshold
                    - hli-force-count
                    - shutdown
                    - timing
                - enable-fc-collection
                - interval
                - loss-events
                    - avg-flr-event
                    - chli-event
                    - hli-event
                    - unavailability-event
                    - undet-availability-event
                    - undet-unavailability-event
                - shutdown
                - test-duration
            - priority
            - remote-mepid
            - slm
                - data-tlv-size
                - flr-threshold
                - hli-force-count
                - loss-events
                    - avg-flr-event
                    - chli-event
                    - hli-event
                    - unavailability-event
                    - undet-availability-event
                    - undet-unavailability-event
                - shutdown
                - test-duration
                - timing
            - source
        - ip
            - allow-egress-remark-dscp
            - dest-udp-port
            - destination
            - do-not-fragment
```


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config oam-pm session ip dscp

```
                    - dscp
                    - fc
                    - forwarding
                    - pattern
                    - profile
                    - router
                    - router-instance
                    - source
                    - source-udp-port
                    - ttl
                    - tunnel
                        - mpls
                            - rsvp-te
                                - lsp
                            - rsvp-te-auto
                                - from
                                - lsp-template
                                - to
                            - sr-isis
                                - flex-algo
                                - igp-instance
                                - prefix
                            - sr-ospf
                                - flex-algo
                                - igp-instance
                                - prefix
                            - sr-ospf3
                                - igp-instance
                                - prefix
                            - sr-policy
                                - color
                                - endpoint
                                - segment-list
                            - sr-te
                                - lsp
                    - twamp-light
                        - allow-ipv6-udp-checksum-zero
                        - delay-template
                        - interval
                        - loss
                            - flr-threshold
                            - hli-force-count
                            - timing
                        - loss-events
                            - avg-flr-event
                            - chli-event
                            - hli-event
                            - unavailability-event
                            - undet-availability-event
                            - undet-unavailability-event
                        - pad-size
                        - pad-tlv-size
                        - record-stats
                        - session-sender-type
                        - shutdown
                        - test-duration
                        - timestamp-format
                - meas-interval
                    - accounting-policy
                    - boundary-type
                    - clock-offset
                    - event-mon
                        - delay-events
                        - loss-events
```


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configure oam-pm session meas-interval event-mon shutdown

```
                    - shutdown
                - intervals-stored
                    - shutdown
            - mpls
                - dm
                    - delay-template
                    - interval
                    - pad-tlv-size
                    - reflect-pad
                    - shutdown
                    - test-duration
                - dscp
                - fc
                - lsp
                    - mpls-tp-static
                        - lsp
                    - rsvp
                        - lsp
                        - udp-return-object
                    - rsvp-auto
                        - from
                        - lsp-template
                        - to
                        - udp-return-object
                - pattern
                - profile
                - ttl
        - streaming
            - delay-template
                - description
                - fd-avg
                - ifdv-avg
                - sample-window
                - shutdown
                - window-integrity
```


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3.4.26 configure port Commands

```
        - port
            - access
                - egress
                    - pool
                        - amber-alarm-threshold
                        - monitor-pool-depth
                            - alarm-thresholds
                                - reserved-pool-in-use
                                - shared-pool-in-use
                                - total-pool-in-use
                            - enable
                        - red-alarm-threshold
                        - resv-cbs
                        - slope-policy
                - ingress
                    - pool
                        - amber-alarm-threshold
                        - monitor-pool-depth
                            - alarm-thresholds
                                - reserved-pool-in-use
                                - shared-pool-in-use
                                - total-pool-in-use
                            - enable
                        - red-alarm-threshold
                        - resv-cbs
                        - slope-policy
            - aps
                - advertise-interval
                - hold-time
                - mode-annexb
                - neighbor
                - protect-circuit
                - revert-time
                - switching-mode
                - working-circuit
                - wtr-annexb
            - connector
                - breakout
                - rs-fec-mode
            - ddm-events
            - description
            - dist-cpu-protection
            - dwdm
                - coherent
                    - compatibility
                    - cpr-window-size
                    - dispersion
                    - mode
                    - report-alarms
                    - rx-los-reaction
                    - rx-los-thresh
                    - sweep
                    - target-power
                - frequency
            - ethernet
                - access
                    - bandwidth
                    - booking-factor
                    - egress
                        - description
```


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config port ethernet access egr queue-group

```
                    - queue-group
                        - accounting-policy
                        - agg-rate
                            - adaptation-rule
                            - burst-limit
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - collect-stats
                        - description
                        - host-match
                        - hs-turbo
                        - queue-overrides
                            - queue
                                - adaptation-rule
                                - burst-limit
                                - cbs
                                - drop-tail
                                    - low
                                        - percent-reduction-from-mbs
                                - mbs
                                - monitor-queue-depth
                                - parent
                                - percent-rate
                                - rate
                        - scheduler-override
                            - scheduler
                                - parent
                                - rate
                        - scheduler-policy
                    - vport
                        - agg-rate
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - agg-rate-limit
                        - description
                        - egress-rate-modify
                        - host-match
                        - hw-agg-shaper-scheduler-policy
                        - lag-per-link-hash
                        - limit-unused-bandwidth
                        - mon-hw-agg-shaper-sch
                        - mon-port-sch
                        - port-scheduler-policy
                        - scheduler-policy
                - ingress
                    - queue-group
                        - accounting-policy
                        - collect-stats
                        - description
                        - queue-overrides
                            - queue
                                - adaptation-rule
                                - cbs
                                - drop-tail
                                    - low
                                        - percent-reduction-from-mbs
                                - mbs
                                - monitor-queue-depth
                                - rate
                        - scheduler-override
                            - scheduler
                                - parent
```


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config port ethernet access ing qgrp sched-override scheduler rate

```
                                - rate
                        - scheduler-policy
                - accounting-policy
                - autonegotiate
                - collect-stats
                - crc-monitor
                    - sd-threshold
                    - sf-threshold
                    - window-size
                - dampening
                    - half-life
                    - shutdown
                    - suppress-threshold
                - discard-rx-pause-frames
                - dot1q-etype
                - dot1x
                    - macsec
                        - exclude-mac-policy
                        - exclude-protocol
                        - rx-must-be-encrypted
                        - sub-port
                            - ca-name
                            - eapol-destination-address
                            - encap-match
                            - max-peer
                            - shutdown
                    - max-auth-req
                    - per-host-authentication
                        - allowed-source-macs
                            - mac-address
                        - authenticator-init
                        - shutdown
                    - port-control
                    - quiet-period
                    - radius-plcy
                    - radius-server-policy
                    - re-auth-period
                    - re-authentication
                    - server-timeout
                    - shutdown
                    - supplicant-timeout
                    - transmit-period
                    - tunnel-dot1q
                    - tunnel-qinq
                    - tunneling
                - down-on-internal-error
                - down-when-looped
                    - keep-alive
                    - retry-timeout
                    - shutdown
                    - tunneling
                    - use-broadcast-address
                - duplex
                - efm-oam
                    - accept-remote-loopback
                    - discovery
                        - advertise-capabilities
                            - link-monitoring
                    - dying-gasp-tx-on-reset
                    - grace-tx-enable
                    - grace-vendor-oui
                    - hold-time
                    - ignore-efm-state
                    - link-monitoring
```


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config port ethernet efm-oam link-monitoring errored-frame

```
                    - errored-frame
                        - event-notification
                        - sd-threshold
                        - sf-threshold
                        - shutdown
                        - window
                    - errored-frame-period
                        - event-notification
                        - sd-threshold
                        - sf-threshold
                        - shutdown
                        - window
                    - errored-frame-seconds
                        - event-notification
                        - sd-threshold
                        - sf-threshold
                        - shutdown
                        - window
                    - errored-symbols
                        - event-notification
                        - sd-threshold
                        - sf-threshold
                        - shutdown
                        - window
                    - local-sf-action
                        - event-notification-burst
                        - info-notification
                            - critical-event
                            - dying-gasp
                        - local-port-action
                    - shutdown
                - mode
                - peer-rdi-rx
                    - critical-event
                    - dying-gasp
                    - event-notification
                    - link-fault
                - remote-lb-fwd-non-efm-frames
                - shutdown
                - transmit-interval
                - trigger-fault
                - tunneling
            - egress
                - hs-port-pool-policy
                - hs-scheduler-overrides
                    - group
                    - max-rate
                    - scheduling-class
                - hs-scheduler-policy
                - hs-secondary-shaper
                    - aggregate
                        - low-burst-max-class
                        - rate
                    - class
                        - rate
                    - description
                - hw-agg-shaper-scheduler-policy
                - mon-hw-agg-shaper-sch
                    - scheduler-policy
            - egress-rate
            - egress-scheduler-override
                - level
                - max-rate
            - egress-scheduler-policy
```


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config port ethernet elmi

```
                - elmi
                    - mode
                    - n393
                    - t391
                    - t392
                - encap-type
                - eth-bn-egress-rate-changes
                - eth-cfm
                    - mep
                        - ais-enable
                            - client-meg-level
                            - interface-support-enable
                            - interval
                            - low-priority-defect
                            - priority
                        - alarm-notification
                            - fng-alarm-time
                            - fng-reset-time
                        - ccm-enable
                        - ccm-ltm-priority
                        - ccm-padding-size
                        - ccm-tlv-ignore
                        - collect-lmm-stats
                        - csf-enable
                            - multiplier
                        - description
                        - eth-bn
                            - receive
                            - rx-update-pacing
                        - eth-test-enable
                            - bit-error-threshold
                            - test-pattern
                        - facility-fault
                        - grace
                            - eth-ed
                                - max-rx-defect-window
                                - priority
                                - rx-eth-ed
                                - tx-eth-ed
                            - eth-vsm-grace
                                - rx-eth-vsm-grace
                                - tx-eth-vsm-grace
                        - low-priority-defect
                        - mac-address
                        - one-way-delay-threshold
                        - shutdown
                - hold-time
                        - scheduler-policy
                - ingress-rate
                - lacp-tunnel
                - lldp
                    - dest-mac
                        - admin-status
                        - notification
                        - port-id-subtype
                        - tunnel-nearest-bridge
                        - tunnel-nearest-customer
                        - tunnel-nearest-non-tpmr
                        - tx-mgmt-address
                        - tx-tlvs
                - load-balancing-algorithm
                - mac
                - min-frame-length
                - mode
```


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config port ethernet mon-port-sch

```
                - mon-port-sch
                - mtu
                - network
                    - accounting-policy
                    - collect-stats
                    - egress
                        - queue-group
                            - accounting-policy
                            - agg-rate
                                - adaptation-rule
                                - burst-limit
                                - limit-unused-bandwidth
                                - queue-frame-based-accounting
                                - rate
                            - collect-stats
                            - description
                            - hs-turbo
                            - policer-control-policy
                                - policer-control-policy
                            - queue-overrides
                                - queue
                                    - adaptation-rule
                                    - cbs
                                    - drop-tail
                                        - low
                                            - percent-reduction-from-mbs
                                    - mbs
                                    - monitor-queue-depth
                                    - percent-rate
                                    - rate
                            - scheduler-policy
                                - cbs
                                - rate
                    - egress-port-queue-overrides
                        - queue
                            - monitor-queue-depth
                    - queue-policy
                - pbb-etype
                - ptp-asymmetry
                - ptp-timestamping
                    - ipv4-address
                    - ipv6-address
                    - shutdown
                - ptp-tunnel
                - qinq-etype
                - report-alarm
                - rs-fec-mode
                - sflow
                - shutdown
                - single-fiber
                - speed
                - ssm
                    - code-type
                    - esmc-tunnel
                    - shutdown
                    - tx-dus
                    - tx-extended-ql-tlv
                - symbol-monitor
                    - sd-threshold
                    - sf-threshold
                    - shutdown
                    - window-size
                - tx-pause-frames
                - util-stats-interval
```


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config port ethernet xgig

```
            - xgig
        - gnss
            - antenna-cable-delay
            - constellation
            - elevation-mask-angle
        - hybrid-buffer-allocation
            - egr-weight
            - ing-weight
        - modify-buffer-allocation-rate
            - egr-percentage-of-rate
            - ing-percentage-of-rate
        - monitor-agg-egress-queue-stats
        - monitor-oper-group
        - network
            - egress
                - pool
                    - amber-alarm-threshold
                    - monitor-pool-depth
                        - alarm-thresholds
                            - reserved-pool-in-use
                            - shared-pool-in-use
                            - total-pool-in-use
                        - enable
                    - red-alarm-threshold
                    - resv-cbs
                    - slope-policy
        - oper-group
        - otu
            - async-mapping
            - fec
            - otu2-lan-data-rate
            - pm-tti
                - expected
                - mismatch-reaction
                - tx
            - psi-payload
                - expected
                - mismatch-reaction
                - tx
            - report-alarms
            - sd-threshold
            - sd-threshold-clear
            - sf-sd-method
            - sf-threshold
            - sf-threshold-clear
            - shutdown
            - sm-tti
                - expected
                - mismatch-reaction
                - tx
        - pxc-pxc-id.sub-port-id
        - shutdown
        - sonet-sdh
            - clock-source
            - framing
            - group
            - hold-time
            - loopback
            - path
                - crc
                - description
                - egress-scheduler-override
                    - level
                    - max-rate
```


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config port sonet-sdh path egress-scheduler-policy

```
                - egress-scheduler-policy
                - load-balancing-algorithm
                - mac
                - mode
                - mtu
                - network
                    - accounting-policy
                    - collect-stats
                    - queue-policy
                - payload
                - report-alarm
                - scramble
                - shutdown
                - signal-label
                - trace-string
            - report-alarm
            - section-trace
            - single-fiber
            - speed
            - suppress-lo-alarm
            - threshold
            - tx-dus
        - tdm
            - ds3
                - bert
                - bit-error-insertion
                - channelized
                - clock-source
                - crc
                - description
                - egress-scheduler-override
                    - level
                    - max-rate
                - egress-scheduler-policy
                - encap-type
                - feac-loop-respond
                - framing
                - idle-cycle-flag
                - load-balancing-algorithm
                - loopback
                - mac
                - mdl
                - mdl-transmit
                - mode
                - mtu
                - network
                    - accounting-policy
                    - collect-stats
                    - queue-policy
                - report-alarm
                - scramble
                - shutdown
                - subrate
            - e3
                - bert
                - bit-error-insertion
                - clock-source
                - crc
                - description
                - egress-scheduler-override
                    - level
                    - max-rate
                - egress-scheduler-policy
                - encap-type
```


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config port tdm e3 framing

```
                - framing
                - idle-cycle-flag
                - load-balancing-algorithm
                - loopback
                - mac
                - mode
                - mtu
                - network
                    - accounting-policy
                    - collect-stats
                    - queue-policy
                - report-alarm
                - scramble
                - shutdown
            - hold-time
            - length
        - transceiver
            - digital-coherent-optics
            - optical-line-system
                - egress-amplifier-gain
            - power-save
```


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3.4.27 configure port-policy Commands

```
        – port-policy
            – description
            – egress-scheduler-policy
```


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3.4.28 configure port-xc Commands

```
        - port-xc
            - pxc
                - description
                - port
                - shutdown
```


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3.4.29 configure pw-port Commands

```
        – pw-port
            – description
            – dot1q-etype
            – encap-type
            – oper-group
            – qinq-etype
```


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3.4.30 configure python Commands

```
        – python
            – python-policy
                – cache
                    – entry-size
                    – max-entries
                    – max-entry-lifetime
                    – mcs-peer
                    – minimum-lifetimes
                        – high-availability
                        – multi-chassis-redundancy
                        – persistence
                    – persistence
                    – shutdown
                – description
                – dhcp
                – dhcp6
                – diameter
                – gtpv1-c
                – gtpv2-c
                – pfcp
                – pppoe
                – radius
                – syslog
            – python-script
                – action-on-fail
                – description
                – primary-url
                – protection
                – run-as-user
                – secondary-url
                – shutdown
                – tertiary-url
```


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3.4.31 configure qos Commands

```
- qos
    - adv-config-policy
        - child-control
            - bandwidth-distribution
                - above-offered-allowance
                    - delta-consumed-agg-rate
                    - delta-consumed-higher-tier-rate
                    - unconsumed-agg-rate
                    - unconsumed-higher-tier-rate
                - above-offered-cap
                - enqueue-on-pir-zero
                - granularity
                - internal-scheduler-weight-mode
                - limit-pir-zero-drain
                - lub-init-min-pir
            - offered-measurement
                - add
                - avg-frame-overhead-mode
                - fast-start
                - fast-stop
                - granularity
                - high-rate-hold-time
                - max-decrement
                - time-average-factor
        - description
    - copy
        - adv-config-policy
        - hs-attachment-policy
        - hs-pool-policy
        - hs-port-pool-policy
        - hs-scheduler-policy
        - named-pool-policy
        - network
        - network-queue
        - policer-control-policy
        - port-scheduler-policy
        - post-policer-mapping
        - queue-group-egress
        - queue-group-ingress
        - sap-egress
        - sap-ingress
        - scheduler-policy
        - shared-queue
        - slope-policy
    - fp-resource-policy
        - aggregate-shapers
            - auto-creation
            - hw-agg-shapers
            - queue-sets
                - default-size
                    - queue-groups
                    - saps
                    - subscribers
                - size
            - reserved-non-shaper-queues
        - description
        - ports
            - hqos-mode
        - queues
            - ingress-percent-of-total
```


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config qos hs-attachment-policy

```
            - hs-attachment-policy
                - description
                - low-burst-max-class
                - queue
                - wrr-group
            - hs-pool-policy
                - description
                - mid-tier
                    - mid-pool
                        - allocation-percent
                        - parent-root-pool
                        - port-bw-oversub-factor
                        - slope-policy
                - root-tier
                    - root-pool
                        - allocation-weight
                        - slope-policy
                - system-reserve
            - hs-port-pool-policy
                - alt-port-class-pools
                    - class-pool
                        - allocation
                        - parent-mid-pool
                        - slope-policy
                - description
                - std-port-class-pools
                    - class-pool
                        - allocation
                        - parent-mid-pool
                        - slope-policy
            - hs-scheduler-policy
                - description
                - group
                - max-rate
                - scheduling-class
            - hw-agg-shaper-scheduler-policy
                - congestion-threshold
                - description
                - group
                - max-rate
                - monitor-threshold
                - sched-class
            - match-list
                - ip-prefix-list
                    - description
                    - prefix
                - ipv6-prefix-list
                    - description
                    - prefix
                - port-list
                    - description
                    - port
            - md-auto-id
                - qos-policy-id-range
            - network
                - description
                - egress
                    - dscp
                    - fc
                        - de-mark
                        - dot1p
                        - dot1p-in-profile
                        - dot1p-out-profile
                        - dscp-in-profile
```


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config qos network egress fc dscp-out-profile

```
                    - dscp-out-profile
                    - lsp-exp-in-profile
                    - lsp-exp-out-profile
                    - port-redirect-group
                - ip-criteria
                    - entry
                        - action
                        - description
                        - match
                            - dscp
                            - dst-ip
                            - dst-port
                            - fragment
                            - icmp-type
                            - src-ip
                            - src-port
                    - renum
                - ipv6-criteria
                    - entry
                        - action
                        - description
                        - match
                            - dscp
                            - dst-ip
                            - dst-port
                            - fragment
                            - icmp-type
                            - src-ip
                            - src-port
                    - renum
                - prec
                - remarking
            - ingress
                - default-action
                - dot1p
                - dscp
                - fc
                    - fp-redirect-group
                - ip-criteria
                    - entry
                        - action
                        - description
                        - match
                            - dscp
                            - dst-ip
                            - dst-port
                            - fragment
                            - src-ip
                            - src-port
                    - renum
                - ipv6-criteria
                    - entry
                        - action
                        - description
                        - match
                            - dscp
                            - dst-ip
                            - dst-port
                            - fragment
                            - src-ip
                            - src-port
                    - renum
                - ler-use-dscp
                - lsp-exp
```


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config qos network scope

```
            - scope
        - network-queue
            - description
            - fc
                - multicast-queue
                - queue
            - hs-attachment-policy
            - hs-wrr-group
                - adaptation-rule
                - hs-class-weight
                - rate
            - queue
                - adaptation-rule
                - avg-frame-overhead
                - cbs
                - drop-tail
                    - low
                        - percent-reduction-from-mbs
                - hs-alt-port-class-pool
                - hs-class-weight
                - hs-mbs
                - hs-wred-queue
                - hs-wrr-weight
                - mbs
                - port-parent
                - rate
        - policer-control-policy
            - description
            - root
                - max-percent-rate
                - max-rate
                - priority-mbs-thresholds
                    - min-thresh-separation
                    - priority
                        - mbs-contribution
                - profile-preferred
            - tier
                - arbiter
                    - description
                    - parent
                    - percent-rate
                    - rate
        - port-scheduler-policy
            - accounting-mode
            - description
            - dist-lag-rate-shared
            - group
                - monitor-threshold
                - percent-rate
                - rate
            - hqos-algorithm
            - level
            - max-rate
            - monitor-threshold
            - orphan-override
        - post-policer-mapping
            - description
            - fc
                - maps-to
        - queue-group-redirect-list
            - match
            - type
        - queue-group-templates
            - egress
```


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```
                - queue-group
                    - description
                    - fc
                        - queue
                    - hs-attachment-policy
                    - hs-wrr-group
                        - adaptation-rule
                        - hs-class-weight
                        - percent-rate
                        - rate
                    - hw-agg-shaper-queues
                    - policer
                        - adaptation-rule
                        - adv-config-policy
                        - cbs
                        - description
                        - enable-exceed-pir
                        - high-prio-only
                        - mbs
                        - packet-byte-offset
                        - parent
                        - percent-rate
                        - profile-capped
                        - rate
                        - stat-mode
                    - profile-capped
                    - queue
                        - adaptation-rule
                        - adv-config-policy
                        - agg-shaper-weight
                        - burst-limit
                        - cbs
                        - drop-tail
                            - exceed
                                - percent-reduction-from-mbs
                            - high
                                - percent-reduction-from-mbs
                            - highplus
                                - percent-reduction-from-mbs
                            - low
                                - percent-reduction-from-mbs
                        - dynamic-mbs
                        - fir-burst-limit
                        - hs-alt-port-class-pool
                        - hs-class-weight
                        - hs-wred-queue
                        - hs-wrr-weight
                        - mbs
                        - packet-byte-offset
                        - parent
                        - percent-rate
                        - port-parent
                        - queue-delay
                        - rate
                        - sched-class
                        - wred-queue
                    - queues-hqos-manageable
                    - sched-class-elevation
            - ingress
                - queue-group
                    - description
                    - policer
                        - adaptation-rule
                        - adv-config-policy
```


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config qos qgrps ing qgrp policer cbs

```
                        - cbs
                        - description
                        - high-prio-only
                        - mbs
                        - packet-byte-offset
                        - parent
                        - percent-rate
                        - profile-capped
                        - rate
                        - stat-mode
                    - profile-capped
                    - queue
                        - adaptation-rule
                        - adv-config-policy
                        - burst-limit
                        - cbs
                        - cir-non-profiling
                        - drop-tail
                            - low
                                - percent-reduction-from-mbs
                        - mbs
                        - packet-byte-offset
                        - parent
                        - percent-rate
                        - rate
            - sap-egress
                - description
                - dot1p
                - dscp
                - dynamic-policer
                    - cbs
                    - mbs
                    - packet-byte-offset
                    - parent
                    - range
                    - stat-mode
                - dynamic-queue
                    - cbs
                    - mbs
                    - packet-byte-offset
                    - parent
                    - port-parent
                    - range
                - ethernet-ctag
                - fc
                    - de-mark
                    - de-mark-inner
                    - de-mark-outer
                    - dot1p
                    - dot1p-inner
                    - dot1p-outer
                    - dscp
                    - policer
                    - prec
                    - queue
                - hs-attachment-policy
                - hs-wrr-group
                    - adaptation-rule
                    - hs-class-weight
                    - percent-rate
                    - rate
                - hw-agg-shaper-queues
                - ip-criteria
                    - entry
```


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config qos sap-egress ip-criteria entry action

```
                    - action
                    - description
                    - match
                        - dscp
                        - dst-ip
                        - dst-port
                        - fragment
                        - src-ip
                        - src-port
                - renum
            - ipv6-criteria
                - entry
                    - action
                    - description
                    - match
                        - dscp
                        - dst-ip
                        - dst-port
                        - src-ip
                        - src-port
                - renum
            - parent-location
            - policer
                - adaptation-rule
                - adv-config-policy
                - cbs
                - description
                - enable-dscp-prec-remarking
                - enable-exceed-pir
                - high-prio-only
                - mbs
                - packet-byte-offset
                - parent
                - percent-rate
                - port-parent
                - profile-capped
                - profile-out-preserve
                - rate
                - scheduler-parent
                - stat-mode
            - policers-hqos-manageable
            - post-policer-mapping
            - prec
            - queue
                - adaptation-rule
                - adv-config-policy
                - agg-shaper-weight
                - avg-frame-overhead
                - burst-limit
                - cbs
                - drop-tail
                    - exceed
                        - percent-reduction-from-mbs
                    - high
                        - percent-reduction-from-mbs
                    - highplus
                        - percent-reduction-from-mbs
                    - low
                        - percent-reduction-from-mbs
                - fir-burst-limit
                - hs-alt-port-class-pool
                - hs-class-weight
                - hs-wred-queue
                - hs-wrr-weight
```


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config qos sap-egress queue maximum-data-transmission

```
                    - maximum-data-transmission
                    - mbs
                    - packet-byte-offset
                    - parent
                    - percent-rate
                    - port-parent
                    - rate
                    - sched-class
                    - wred-queue
                - sched-class-elevation
                - scope
                - sub-insert-shared-pccrule
                - use-policer-result-marking-dot1p-inner
            - sap-ingress
                - default-fc
                - default-priority
                - description
                - dot1p
                - dscp
                - dynamic-policer
                    - cbs
                    - mbs
                    - packet-byte-offset
                    - parent
                    - range
                    - stat-mode
                - fc
                    - broadcast-policer
                    - broadcast-queue
                    - de-1-out-profile
                    - egress-fc
                    - in-remark
                    - multicast-policer
                    - multicast-queue
                    - out-remark
                    - policer
                    - profile
                    - queue
                    - unknown-policer
                    - unknown-queue
                - ip-criteria
                    - entry
                        - action
                        - description
                        - match
                            - dscp
                            - dst-ip
                            - dst-port
                            - fragment
                            - src-ip
                            - src-port
                            - vxlan-vni
                        - tag
                    - renum
                    - type
                - ipv6-criteria
                    - entry
                        - action
                        - description
                        - match
                            - dscp
                            - dst-ip
                            - dst-port
                            - fragment
```


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config qos sap-ingress ipv6-criteria entry match src-ip

```
                        - src-ip
                        - src-port
                        - vxlan-vni
                    - tag
                - renum
                - type
            - lsp-exp
            - mac-criteria
                - entry
                    - action
                    - description
                    - match
                        - dot1p
                        - dsap
                        - dst-mac
                        - etype
                        - inner-tag
                        - outer-tag
                        - snap-oui
                        - snap-pid
                        - src-mac
                        - ssap
                - renum
                - type
            - policer
                - adaptation-rule
                - adv-config-policy
                - cbs
                - description
                - high-prio-only
                - mbs
                - packet-byte-offset
                - parent
                - percent-rate
                - profile-capped
                - rate
                - scheduler-parent
                - stat-mode
            - policers-hqos-manageable
            - prec
            - queue
                - adaptation-rule
                - adv-config-policy
                - burst-limit
                - cbs
                - cir-non-profiling
                - drop-tail
                    - low
                        - percent-reduction-from-mbs
                - mbs
                - packet-byte-offset
                - parent
                - percent-rate
                - rate
            - scope
            - sub-insert-shared-pccrule
        - scheduler-policy
            - description
            - frame-based-accounting
            - tier
                - parent-location
                - scheduler
                    - description
                    - limit-unused-bandwidth
```


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config qos scheduler-policy tier scheduler parent

```
                    - parent
                    - percent-rate
                    - port-parent
                    - rate
          - shared-queue
              - description
              - fc
                  - broadcast-queue
                  - multicast-queue
                  - queue
                  - unknown-queue
              - queue
                  - cbs
                  - drop-tail
                      - low
                          - percent-reduction-from-mbs
                  - mbs
                  - rate
          - slope-policy
              - description
              - exceed-slope
                  - max-avg
                  - max-prob
                  - shutdown
                  - start-avg
              - high-slope
                  - max-avg
                  - max-prob
                  - shutdown
                  - start-avg
              - highplus-slope
                  - max-avg
                  - max-prob
                  - shutdown
                  - start-avg
              - low-slope
                  - max-avg
                  - max-prob
                  - shutdown
                  - start-avg
              - time-average-factor
```


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3.4.32 configure redundancy Commands

```
- redundancy
    - bgp-evpn-multi-homing
        - boot-timer
        - es-activation-timer
    - bgp-multi-homing
        - boot-timer
        - site-activation-timer
        - site-min-down-timer
    - cert-sync
    - mgmt-ethernet
    - multi-chassis
        - ipsec-domain
            - designated-role
            - priority
            - revertive
            - shutdown
            - tunnel-group
        - options
            - sub-mgmt
                - dhcp-leasetime-threshold
        - peer
            - authentication-key
            - description
            - mc-endpoint
                - bfd-enable
                - boot-timer
                - hold-on-neighbor-failure
                - keep-alive-interval
                - passive-mode
                - shutdown
                - system-priority
            - mc-ipsec
                - bfd-enable
                - discovery-interval
                - domain
                    - shutdown
                - hold-on-neighbor-failure
                - keep-alive-interval
                - tunnel-group
                    - peer-group
                    - priority
                    - shutdown
            - mc-lag
                - hold-on-neighbor-failure
                - keep-alive-interval
                - lag
                - shutdown
            - mc-ring
                - l3-ring
                    - in-band-control-path
                        - debounce
                        - dst-ip
                        - interface
                        - max-debounce-time
                        - service-id
                        - service-name
                    - ring-node
                        - connectivity-verify
                            - dst-ip
                            - interval
```


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config redundancy mc peer mcr l3-ring node cv service-id

```
                                - service-id
                                - service-name
                                - shutdown
                                - src-ip
                                - src-mac
                                - vlan
                            - shutdown
                            - srrp-instance
                        - ring
                            - in-band-control-path
                                - debounce
                                - dst-ip
                                - interface
                                - max-debounce-time
                                - service-id
                                - service-name
                            - path-b
                                - range
                            - path-excl
                                - range
                            - ring-node
                                - connectivity-verify
                                    - dst-ip
                                    - interval
                                    - service-id
                                    - service-name
                                    - shutdown
                                    - src-ip
                                    - src-mac
                                    - vlan
                            - shutdown
                        - shutdown
                                - interval
                                - service-name
                            - in-band-control-path
                                - debounce
                                - dst-ip
                                - interface
                                - max-debounce-time
                - peer-name
                - shutdown
                - source-address
                - sync
                    - diameter-node
                        - node
                    - igmp
                    - igmp-snooping
                    - ipsec
                    - l2tp
                    - local-dhcp-server
                    - mc-ring
                    - mld
                    - mld-snooping
                    - nat
                        - nat-group
                    - pim-snooping
                    - port
                        - range
                    - python
                    - sdp
                        - range
                    - shutdown
                    - srrp
                    - sub-host-trk
```


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config redundancy multi-chassis peer sync subscriber-mgmt

```
                    - subscriber-mgmt
                        - ipoe
                        - pppoe
                        - wlan-gw
                    - track-srrp-instances
                        - track-srrp
                            - l2tp-tunnel-id-range
                    - transport-encryption
                        - application
                    - tunnel-group
                - warm-standby
            - rollback-sync
            - srrp
                - auto-srrp-id-range
            - synchronize
```


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3.4.33 configure router Commands

```
        – router
```


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3.4.33.1 configure router admin-tags Commands

```
            - admin-tags
                - admin-tag
                - route-admin-tag-policy
                    - exclude
                    - include
```


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3.4.33.2 configure router aggregate Commands

```
            - aggregate
```


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3.4.33.3 configure router allow-bgp-to-igp-export Commands

```
            - allow-bgp-to-igp-export
```


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3.4.33.4 configure router allow-icmp-redirect Commands

```
            – allow-icmp-redirect
```


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3.4.33.5 configure router allow-icmp6-redirect Commands

```
            - allow-icmp6-redirect
```


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3.4.33.6 configure router autonomous-system Commands

```
            - autonomous-system
```


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3.4.33.7 configure router bfd Commands

```
            – bfd
                – abort
                – begin
                – bfd-template
                    – echo-receive
                    – multiplier
                    – receive-interval
                    – transmit-interval
                    – type
                – commit
                – seamless-bfd
                    – peer
                        – discriminator
```


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3.4.33.8 configure router bgp Commands

```
            - bgp
                - add-paths
                    - evpn
                    - ipv4
                    - ipv6
                    - label-ipv4
                    - label-ipv6
                    - mcast-vpn-ipv4
                    - mcast-vpn-ipv6
                    - mvpn-ipv4
                    - mvpn-ipv6
                    - vpn-ipv4
                    - vpn-ipv6
                - advertise-external
                - advertise-inactive
                - advertise-ipv6-next-hops
                - aggregator-id-zero
                - auth-keychain
                - authentication-key
                - backup-path
                - best-path-selection
                    - always-compare-med
                    - as-path-ignore
                    - compare-origin-validation-state
                    - d-path-length-ignore
                    - deterministic-med
                    - ebgp-ibgp-equal
                    - ignore-nh-metric
                    - ignore-router-id
                    - origin-invalid-unusable
                - bfd-enable
                - bfd-strict-mode
                    - advertise
                    - next-hop-reachability
                - bgp-tunnel-metric
                - bgp-tunnel-preference
                - block-prefix-sid
                - cluster
                - connect-retry
                - convergence
                    - family
                        - max-wait-to-advertise
                    - min-wait-to-advertise
                - damp-peer-oscillations
                - damping
                - def-recv-evpn-encap
                - default-label-preference
                - default-preference
                - description
                - disable-4byte-asn
                - disable-client-reflect
                - disable-communities
                - disable-fast-external-failover
                - disable-route-table-install
                - dynamic-neighbor-limit
                - ebgp-default-reject-policy
                - egress-peer-engineering
                    - shutdown
                - enable-inter-as-vpn
                - enable-peer-tracking
```


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config router bgp enable-rr-vpn-forwarding

```
                - enable-rr-vpn-forwarding
                - enable-subconfed-vpn-forwarding
                - enforce-first-as
                - error-handling
                    - legacy-mode
                    - update-fault-tolerance
                - export
                - extended-nh-encoding
                - family
                - flowspec
                    - validate-dest-prefix
                    - validate-redirect-ip
                - graceful-restart
                    - enable-notification
                    - long-lived
                        - advertise-stale-to-all-neighbors
                        - advertised-stale-time
                        - family
                            - advertised-stale-time
                            - helper-override-stale-time
                        - forwarding-bits-set
                        - helper-override-restart-time
                        - helper-override-stale-time
                    - restart-time
                    - stale-routes-time
                - group
                    - add-paths
                        - evpn
                        - ipv4
                        - ipv6
                        - label-ipv4
                        - label-ipv6
                        - mcast-vpn-ipv4
                        - mcast-vpn-ipv6
                        - mvpn-ipv4
                        - mvpn-ipv6
                        - vpn-ipv4
                        - vpn-ipv6
                    - advertise-inactive
                    - advertise-ipv6-next-hops
                    - aggregator-id-zero
                    - aigp
                    - as-override
                    - auth-keychain
                    - authentication-key
                    - bfd-enable
                    - bfd-strict-mode
                        - advertise
                        - next-hop-reachability
                    - block-prefix-sid
                    - cluster
                    - connect-retry
                    - damp-peer-oscillations
                    - damping
                    - def-recv-evpn-encap
                    - default-label-preference
                    - default-preference
                    - default-route-target
                    - description
                    - disable-4byte-asn
                    - disable-capability-negotiation
                    - disable-client-reflect
                    - disable-communities
                    - disable-fast-external-failover
```


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config router bgp group dynamic-neighbor

```
                    - dynamic-neighbor
                        - interface
                            - allowed-peer-as
                            - max-sessions
                        - match
                            - prefix
                                - allowed-peer-as
                    - dynamic-neighbor-limit
                    - ebgp-default-reject-policy
                    - egress-engineering
                        - shutdown
                    - egress-peer-engineering-label-unicast
                    - enable-origin-validation
                    - enable-peer-tracking
                    - enforce-first-as
                    - error-handling
                        - update-fault-tolerance
                    - export
                    - extended-nh-encoding
                    - family
                    - graceful-restart
                        - enable-notification
                        - long-lived
                            - advertise-stale-to-all-neighbors
                            - advertised-stale-time
                            - family
                                - advertised-stale-time
                                - helper-override-stale-time
                            - forwarding-bits-set
                            - helper-override-restart-time
                            - helper-override-stale-time
                        - restart-time
                        - stale-routes-time
                    - hold-time
                    - import
                    - initial-send-delay-zero
                    - keepalive
                    - label-preference
                    - link-bandwidth
                        - accept-from-ebgp
                        - add-to-received-ebgp
                        - aggregate-used-paths
                        - send-to-ebgp
                    - local-address
                    - local-as
                    - local-preference
                    - loop-detect
                    - loop-detect-threshold
                    - med-out
                    - min-route-advertisement
                    - monitor
                        - route-monitoring
                        - shutdown
                        - station
                    - multihop
                    - multipath-eligible
                    - neighbor
                        - add-paths
                            - evpn
                            - ipv4
                            - ipv6
                            - label-ipv4
                            - label-ipv6
                            - mcast-vpn-ipv4
```


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config router bgp group neighbor add-paths mcast-vpn-ipv6

```
                        - mcast-vpn-ipv6
                        - mvpn-ipv4
                        - mvpn-ipv6
                        - vpn-ipv4
                        - vpn-ipv6
                    - advertise-inactive
                    - advertise-ipv6-next-hops
                    - advertise-ldp-prefix
                    - aggregator-id-zero
                    - aigp
                    - as-override
                    - auth-keychain
                    - authentication-key
                    - bfd-enable
                    - bfd-strict-mode
                        - advertise
                        - next-hop-reachability
                    - block-prefix-sid
                    - cluster
                    - connect-retry
                    - damp-peer-oscillations
                    - damping
                    - def-recv-evpn-encap
                    - default-label-preference
                    - default-preference
                    - default-route-target
                    - description
                    - disable-4byte-asn
                    - disable-capability-negotiation
                    - disable-client-reflect
                    - disable-communities
                    - disable-fast-external-failover
                    - ebgp-default-reject-policy
                    - egress-engineering
                        - shutdown
                    - egress-peer-engineering-label-unicast
                    - enable-origin-validation
                    - enable-peer-tracking
                    - enforce-first-as
                    - error-handling
                        - update-fault-tolerance
                    - export
                    - extended-nh-encoding
                    - family
                    - graceful-restart
                        - enable-notification
                        - long-lived
                            - advertise-stale-to-all-neighbors
                            - advertised-stale-time
                            - family
                                - advertised-stale-time
                                - helper-override-stale-time
                            - forwarding-bits-set
                            - helper-override-restart-time
                            - helper-override-stale-time
                        - restart-time
                        - stale-routes-time
                    - hold-time
                    - import
                    - initial-send-delay-zero
                    - keepalive
                    - l2vpn-cisco-interop
                    - label-preference
                    - link-bandwidth
```


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config router bgp group neighbor link-bandwidth accept-from-ebgp

```
                        - accept-from-ebgp
                        - add-to-received-ebgp
                        - aggregate-used-paths
                        - send-to-ebgp
                    - local-address
                    - local-as
                    - local-preference
                    - loop-detect
                    - loop-detect-threshold
                    - med-out
                    - min-route-advertisement
                    - monitor
                        - route-monitoring
                        - shutdown
                        - station
                    - multihop
                    - multipath-eligible
                    - next-hop-self
                    - next-hop-unchanged
                    - outbound-route-filtering
                        - extended-community
                            - accept-orf
                            - send-orf
                    - passive
                    - path-mtu-discovery
                    - peer-as
                    - preference
                    - prefix-limit
                    - remove-private
                    - segment-routing-v6
                        - route-advertisement
                            - drop-routes-with-srv6-tlvs
                            - family
                                - strip-srv6-tlvs
                    - selective-label-ipv4-install
                    - send-default
                    - shutdown
                    - split-horizon
                    - tcp-mss
                    - third-party-nexthop
                    - ttl-security
                    - type
                    - vpn-apply-export
                    - vpn-apply-import
                - next-hop-self
                - next-hop-unchanged
                - outbound-route-filtering
                    - extended-community
                        - accept-orf
                        - send-orf
                - passive
                - path-mtu-discovery
                - peer-as
                - preference
                - prefix-limit
                - remove-private
                - segment-routing-v6
                    - route-advertisement
                        - drop-routes-with-srv6-tlvs
                        - family
                            - strip-srv6-tlvs
                - selective-label-ipv4-install
                - send-default
                - shutdown
```


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config router bgp group split-horizon

```
                    - split-horizon
                    - tcp-mss
                    - third-party-nexthop
                    - ttl-security
                    - type
                    - vpn-apply-export
                    - vpn-apply-import
                - hold-time
                - ibgp-multipath
                - import
                - initial-send-delay-zero
                - keepalive
                - label-allocation
                    - label-ipv6
                        - disable-explicit-null
                    - vpn-ipv4
                        - mode
                    - vpn-ipv6
                        - mode
                - label-preference
                - link-state-export-enable
                - link-state-import-enable
                - local-as
                - local-preference
                - loop-detect
                - loop-detect-threshold
                - med-out
                - min-route-advertisement
                - monitor
                    - route-monitoring
                    - shutdown
                    - station
                - mp-bgp-keep
                - multi-path
                    - ipv4
                    - ipv6
                    - label-ipv4
                    - label-ipv6
                    - maximum-paths
                    - vpn-ipv4
                    - vpn-ipv6
                - multihop
                - mvpn-vrf-import-subtype-new
                - neighbor-trust
                - next-hop-resolution
                    - allow-unresolved-leaking
                    - labeled-routes
                        - allow-static
                        - rr-use-route-table
                        - transport-tunnel
                            - family
                                - allow-flex-algo-fallback
                                - enforce-strict-tunnel-tagging
                                - enforce-untagged-route
                                - resolution
                                - resolution-filter
                                    - bgp
                                    - ldp
                                    - mpls-fwd-policy
                                    - rib-api
                                    - rsvp
                                    - sr-isis
                                    - sr-ospf
                                    - sr-ospf3
```


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config router bgp next-hop-res lbl-routes transport-tunn family res-filter sr-policy

```
                                - sr-policy
                                - sr-te
                                - udp
                        - use-bgp-routes
                            - label-ipv6-explicit-null
                    - policy
                    - shortcut-tunnel
                        - family
                            - allow-flex-algo-fallback
                            - disallow-igp
                            - enforce-strict-tunnel-tagging
                            - enforce-untagged-route
                            - resolution
                            - resolution-filter
                                - bgp
                                - ldp
                                - mpls-fwd-policy
                                - rib-api
                                - rsvp
                                - sr-isis
                                - sr-ospf
                                - sr-ospf3
                                - sr-policy
                                - sr-te
                    - use-bgp-routes
                    - use-leaked-routes
                        - static
                    - vpn-family-policy
                    - weighted-ecmp
                - optimal-route-reflection
                    - location
                        - primary-ip-address
                        - primary-ipv6-address
                        - secondary-ip-address
                        - secondary-ipv6-address
                        - tertiary-ip-address
                        - tertiary-ipv6-address
                    - spf-wait
                - outbound-route-filtering
                    - extended-community
                        - accept-orf
                        - send-orf
                - override-tunnel-elc
                - path-mtu-discovery
                - peer-tracking-policy
                - preference
                - purge-timer
                - rapid-update
                - rapid-withdrawal
                - remove-private
                - rib-management
                    - ipv4
                        - leak-import
                        - route-table-import
                    - ipv6
                        - leak-import
                        - route-table-import
                    - label-ipv4
                        - leak-import
                        - route-table-import
                    - label-ipv6
                        - route-table-import
                - route-target-list
                - router-id
```


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config router bgp segment-routing

```
                - segment-routing
                    - prefix-sid-range
                    - shutdown
                - segment-routing-v6
                    - family
                        - add-srv6-tlvs
                        - ignore-received-srv6-tlvs
                        - resolution
                        - upa-trigger
                            - next-hop
                    - source-address
                - selective-label-ip
                - selective-label-ip-prioritization
                - selective-label-ipv4-install
                - send-default
                - shutdown
                - split-horizon
                - sr-policy-import
                - tcp-mss
                - third-party-nexthop
                - vpn-apply-export
                - vpn-apply-import
```


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3.4.33.9 configure router bier Commands

```
            - bier
                - bfd-enable
                - fast-reroute
                - service-reserved-label-block
                - shutdown
                - template
                    - shutdown
                    - sub-domain
                        - bfr-id
                        - mt
                        - prefix
```


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3.4.33.10 configure router class-forwarding Commands

```
            - class-forwarding
```


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3.4.33.11 configure router confederation Commands

```
            - confederation
```


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3.4.33.12 configure router description Commands

```
            – description
```


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3.4.33.13 configure router dhcp Commands

```
- dhcp
    - local-dhcp-server
        - description
        - failover
            - ignore-mclt-on-takeover
            - maximum-client-lead-time
            - partner-down-delay
            - peer
            - shutdown
            - startup-wait-time
        - force-renews
        - lease-hold-time
        - lease-hold-time-for
            - internal-lease-ipsec
            - solicited-release
        - pool
            - description
            - failover
                - ignore-mclt-on-takeover
                - maximum-client-lead-time
                - partner-down-delay
                - peer
                - shutdown
                - startup-wait-time
            - max-lease-time
            - min-lease-time
            - minimum-free
            - nak-non-matching-subnet
            - offer-time
            - options
                - custom-option
                - dns-server
                - domain-name
                - lease-rebind-time
                - lease-renew-time
                - lease-time
                - netbios-name-server
                - netbios-node-type
            - subnet
                - address-range
                - drain
                - exclude-addresses
                - maximum-declined
                - minimum-free
                - options
                    - custom-option
                    - default-router
                    - subnet-mask
        - shutdown
        - use-gi-address
        - use-pool-from-client
        - user-db
        - user-ident
                - ignore-mclt-on-takeover
                - maximum-client-lead-time
                - peer
                - startup-wait-time
```


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3.4.33.14 configure router dhcp6 Commands

```
- dhcp6
    - local-dhcp-server
        - allow-lease-query
        - defaults
            - options
                - custom-option
                - dns-server
                - domain-name
            - preferred-lifetime
            - rebind-timer
            - renew-timer
            - valid-lifetime
        - description
        - failover
            - ignore-mclt-on-takeover
            - maximum-client-lead-time
            - partner-down-delay
            - peer
            - shutdown
            - startup-wait-time
        - ignore-rapid-commit
        - interface-id-mapping
        - lease-hold-time
        - lease-hold-time-for
            - internal-lease-ipsec
            - solicited-release
        - pool
            - delegated-prefix-length
            - description
            - exclude-prefix
            - failover
                - ignore-mclt-on-takeover
                - maximum-client-lead-time
                - partner-down-delay
                - peer
                - shutdown
                - startup-wait-time
            - options
                - custom-option
                - dns-server
                - domain-name
            - prefix
                - drain
                - options
                    - custom-option
                    - dns-server
                    - domain-name
                - preferred-lifetime
                - rebind-timer
                - renew-timer
                - thresholds
                    - minimum-free
                        - depleted-event
                        - minimum
                - valid-lifetime
            - thresholds
                - minimum-free
                    - depleted-event
                    - minimum
        - server-id
```


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configure router dhcp6 local-dhcp-server shutdown

```
                    - shutdown
                    - use-link-address
                    - use-pool-from-client
                    - user-db
                    - user-ident
                            - ignore-mclt-on-takeover
                            - maximum-client-lead-time
                            - peer
                            - startup-wait-time
```


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3.4.33.15 configure router disable-selective-fib Commands

```
            - disable-selective-fib
```


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3.4.33.16 configure router dns Commands

```
            - dns
                - redirect-vprn
                    - service
```


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3.4.33.17 configure router ecmp Commands

```
            - ecmp
```


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3.4.33.18 configure router entropy-label Commands

```
            - entropy-label
```


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3.4.33.19 configure router evpn-neighbor-synchronization Commands

```
            - evpn-neighbor-synchronization
                - evi-route-target
                - retention-timer
                - route-distinguisher
                - route-tag
                - shutdown
                - shutdown
```


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3.4.33.20 configure router fib-priority Commands

```
            - fib-priority
```


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3.4.33.21 configure router fib-telemetry Commands

```
            - fib-telemetry
```


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3.4.33.22 configure router firewall Commands

```
            - firewall
                - domain
                    - dhcp6-server
                    - prefix
                        - description
                    - shutdown
```


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3.4.33.23 configure router flex-algo-class-forwarding Commands

```
            – flex-algo-class-forwarding
                – map
                    – algorithm
                – tunnel-set-size
```


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3.4.33.24 configure router flexible-algorithm-definitions Commands

```
            - flexible-algorithm-definitions
                - flex-algo
                    - description
                    - exclude
                        - admin-group
                    - flags-tlv
                    - include-all
                        - admin-group
                    - include-any
                        - admin-group
                    - metric-type
                    - priority
                    - shutdown
```


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3.4.33.25 configure router flowspec Commands

```
            - flowspec
                - filter-cam-type
                - ip-filter-max-size
                - ipv6-filter-max-size
```


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3.4.33.26 configure router gtm Commands

```
            - gtm
                - mvpn
                - provider-tunnel
                    - inclusive
                        - rsvp
                            - lsp-template
                            - shutdown
                    - selective
                        - data-delay-interval
                        - data-threshold
                        - maximum-p2mp-spmsi
                        - rsvp
                            - lsp-template
                            - shutdown
```


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3.4.33.27 configure router gtp Commands

```
            - gtp
                - s11
                    - interface
                        - apn-policy
                    - peer-profile-map
                        - address
                - upf-data-endpoint
                - uplink
                    - apn
                    - pdn-type
                    - peer-profile-map
                        - address
```


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3.4.33.28 configure router icmp-tunneling Commands

```
            - icmp-tunneling
```


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3.4.33.29 configure router if-attribute Commands

```
            - if-attribute
                - admin-group
                - srlg-group
```


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3.4.33.30 configure router igmp Commands

```
            - igmp
                - group-interface
                    - disable-router-alert-check
                    - import
                    - max-groups
                    - max-grp-sources
                    - max-sources
                    - mcac
                        - if-policy
                        - mc-constraints
                            - shutdown
                        - policy
                        - unconstrained-bw
                    - query-interval
                    - query-last-member-interval
                    - query-response-interval
                    - query-src-ip
                    - shutdown
                    - sub-hosts-only
                    - subnet-check
                    - version
                - grp-if-query-src-ip
                - interface
                    - disable-router-alert-check
                    - group-interface
                    - import
                    - max-groups
                    - max-grp-sources
                    - max-sources
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - shutdown
                            - use-lag-port-weight
                        - policy
                        - unconstrained-bw
                    - query-interval
                    - query-last-member-interval
                    - query-response-interval
                    - redundant-multicast
                    - shutdown
                    - ssm-translate
                        - grp-range
                            - source
                    - static
                        - group
                            - source
                            - starg
                    - subnet-check
                    - version
                - query-interval
                - query-last-member-interval
                - query-response-interval
                - robust-count
                - shutdown
                - ssm-translate
                    - grp-range
                        - source
```


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config router igmp tunnel-interface

```
                - tunnel-interface
                    - shutdown
                    - static
                        - group
                            - source
                            - starg
```


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3.4.33.31 configure router interface Commands

```
            - interface
                - address
                - allow-directed-broadcasts
                - arp-learn-unsolicited
                - arp-limit
                - arp-proactive-refresh
                - arp-retry-timer
                - arp-timeout
                - bfd
                - cflowd-parameters
                    - sampling
                - cpu-protection
                - description
                - dhcp
                    - description
                    - gi-address
                    - option
                        - action
                        - circuit-id
                        - client-mac-address
                        - remote-id
                        - vendor-specific-option
                            - client-mac-address
                            - pool-name
                            - port-id
                            - service-id
                            - string
                            - system-id
                    - python-policy
                    - relay-plain-bootp
                    - release-include-gi-address
                    - server
                    - shutdown
                    - trusted
                - dist-cpu-protection
                - egress
                    - filter
                - enable-ingress-stats
                - enable-mac-accounting
                - eth-cfm
                    - mep
                        - alarm-notification
                            - fng-alarm-time
                            - fng-reset-time
                        - ccm-enable
                        - ccm-ltm-priority
                        - ccm-padding-size
                        - ccm-tlv-ignore
                        - collect-lmm-fc-stats
                            - fc
                            - fc-in-profile
                        - collect-lmm-stats
                        - description
                        - eth-test-enable
                            - bit-error-threshold
                            - test-pattern
                        - facility-fault
                        - fng-alarm-time
                        - fng-reset-time
                        - grace
```


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config router if eth-cfm mep grace eth-ed

```
                        - eth-ed
                            - max-rx-defect-window
                            - priority
                            - rx-eth-ed
                            - tx-eth-ed
                        - eth-vsm-grace
                            - rx-eth-vsm-grace
                            - tx-eth-vsm-grace
                    - lbm-svc-act-responder
                    - low-priority-defect
                    - mac-address
                    - one-way-delay-threshold
                    - shutdown
            - external-reference
                - openconfig
                    - subinterface
            - gre-termination
            - group-encryption
                - encryption-keygroup
                - ip-exception
            - hold-time
                - down
                - up
            - icmp
                - mask-reply
                - param-problem
                - redirects
                - ttl-expired
                - unreachables
            - if-attribute
                - admin-group
                - delay
                    - delay-selection
                    - dynamic
                        - lag-ip-measurement
                            - lag-ip-measurement-template
                        - link-measurement
                            - lag-micro-sessions
                            - link-measurement-template
                        - twamp-light
                            - ipv4
                                - destination
                                - shutdown
                                - source
                            - ipv6
                                - destination
                                - shutdown
                                - source
                    - static
                - srlg-group
            - ingress
                - destination-class-lookup
                - filter
                - policy-accounting
            - ip-helper-address
            - ip-mtu
            - ipsec
                - ip-exception
                - ipsec-tunnel
                    - bfd-designate
                    - bfd-enable
                    - clear-df-bit
                    - copy-traffic-class-upon-decapsulation
                    - description
```


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config router if ipsec ipsec-tunnel dyn icmp6-generation

```
                        - icmp6-generation
                    - dynamic-keying
                        - auto-establish
                        - cert
                            - cert-profile
                            - status-verify
                                - default-result
                                - primary
                            - trust-anchor-profile
                        - ike-policy
                        - local-id
                        - ppk
                        - pre-shared-key
                        - transform
                    - encapsulated-ip-mtu
                    - icmp-generation
                        - frag-required
                            - interval
                            - message-count
                    - icmp6-generation
                        - pkt-too-big
                            - interval
                            - message-count
                    - ip-mtu
                    - local-gateway-address
                    - manual-keying
                        - max-history-ike-key-records
                        - security-association
                    - max-history-esp-key-records
                    - max-history-ike-key-records
                    - pmtu-discovery-aging
                    - private-tcp-mss-adjust
                    - propagate-pmtu-v4
                    - propagate-pmtu-v6
                    - public-tcp-mss-adjust
                    - remote-gateway-address
                    - replay-window
                    - security-policy
                    - shutdown
                - ipv6-exception
                - shutdown
                    - pkt-too-big
                        - interval
                        - message-count
            - ipv6
                - address
                - bfd
                - dad-disable
                - forward-ipv4-packets
                - gre-termination
                - icmp6
                    - packet-too-big
                    - param-problem
                    - redirects
                    - time-exceeded
                    - unreachables
                - link-local-address
                - local-dhcp-server
                - local-proxy-nd
                - nd-learn-unsolicited
                - nd-proactive-refresh
                - neighbor
                - neighbor-limit
                - proxy-nd-policy
```


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config router if ipv6 qos-route-lookup

```
                    - qos-route-lookup
                    - reachable-time
                    - secure-nd
                        - allow-unsecured-msgs
                        - link-local-modifier
                        - public-key-min-bits
                        - security-parameter
                        - shutdown
                    - stale-time
                    - tcp-mss
                    - urpf-check
                        - ignore-default
                        - mode
                    - vrrp
                        - backup
                        - bfd-enable
                        - init-delay
                        - mac
                        - master-int-inherit
                        - message-interval
                        - ntp-reply
                        - oper-group
                        - ping-reply
                        - policy
                        - preempt
                        - priority
                        - shutdown
                        - standby-forwarding
                        - telnet-reply
                        - traceroute-reply
                - lag-link-map-profile
                - lag-per-link-hash
                - ldp-sync-timer
                - load-balancing
                    - egr-ip-load-balancing
                    - flow-label-load-balancing
                    - lsr-load-balancing
                    - spi-load-balancing
                    - teid-load-balancing
                - local-dhcp-server
                - local-proxy-arp
                - loopback
                - mac
                - network-domain
                - port
                - proxy-arp-policy
                - ptp-hw-assist
                - qos
                - qos-route-lookup
                - remote-proxy-arp
                - secondary
                - shutdown
                - static-arp
                - strip-label
                - tcp-mss
                - tos-marking-state
                - unnumbered
                - untrusted
                - urpf-check
                    - ignore-default
                    - mode
                - urpf-selected-vprns
                - vas-if-type
                - vrrp
```


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config router if vrrp authentication-key

```
                    - authentication-key
                    - backup
                    - bfd-enable
                    - description
                    - init-delay
                    - mac
                    - master-int-inherit
                    - message-interval
                    - ntp-reply
                    - oper-group
                    - ping-reply
                    - policy
                    - preempt
                    - priority
                    - shutdown
                    - ssh-reply
                    - standby-forwarding
                    - telnet-reply
                    - traceroute-reply
```


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3.4.33.32 configure router ip-fast-reroute Commands

```
            - ip-fast-reroute
```


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3.4.33.33 configure router ipsec Commands

```
            - ipsec
                - multi-chassis-shunt-interface
                    - next-hop
                - multi-chassis-shunting-profile
                    - peer
                        - multi-chassis-shunt-interface
                - security-policy
                    - entry
                        - local-ip
                        - local-v6-ip
                        - remote-ip
                        - remote-v6-ip
```


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3.4.33.34 configure router ipv6 Commands

```
            - ipv6
                - reachable-time
                - stale-time
```


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3.4.33.35 configure router ipv6-te-router-id Commands

```
            - ipv6-te-router-id
```


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3.4.33.36 configure router isa-service-chaining Commands

```
            – isa-service-chaining
                – nat-group
                – vxlan-vtep-range
```


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3.4.33.37 configure router isis Commands

```
- isis
    - advertise-passive-only
    - advertise-router-capability
    - advertise-tunnel-link
    - all-l1isis
    - all-l2isis
    - area-id
    - auth-keychain
    - authentication-check
    - authentication-key
    - authentication-type
    - csnp-authentication
    - csnp-on-p2p
    - database-export
    - default-route-tag
    - disable-ldp-sync
    - entropy-label
        - override-tunnel-elc
    - export
    - export-limit
    - flexible-algorithms
        - advertise-admin-group
        - flex-algo
            - advertise
            - loopfree-alternates
            - micro-loop-avoidance
            - participate
        - shutdown
    - graceful-restart
        - helper-disable
    - hello-auth-keychain
    - hello-authentication
    - hello-padding
    - ignore-attached-bit
    - ignore-lsp-errors
    - ignore-narrow-metric
    - igp-shortcut
        - allow-sr-over-srte
        - shutdown
        - tunnel-next-hop
            - family
                - resolution
                - resolution-filter
                    - rsvp
                    - sr-te
                - sr-te
    - iid-tlv-enable
    - import
    - interface
        - adjacency-set
        - bfd-enable
        - conditional-advertise-prefix
        - csnp-interval
        - default-instance
        - delay-normalization
            - delay-tolerance-interval
            - minimum-delay
        - flex-algo
            - ipv4-node-sid
            - ipv6-node-sid
```


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```
                    - hello-auth-keychain
                    - hello-authentication
                    - hello-authentication-key
                    - hello-authentication-type
                    - hello-padding
                    - interface-type
                    - ipv4-adjacency-sid
                    - ipv4-multicast-disable
                    - ipv4-node-sid
                    - ipv6-adjacency-sid
                    - ipv6-multicast-disable
                    - ipv6-node-sid
                    - ipv6-unicast-disable
                    - level
                        - hello-auth-keychain
                        - hello-authentication-key
                        - hello-authentication-type
                        - hello-interval
                        - hello-multiplier
                        - hello-padding
                        - ipv4-multicast-metric
                        - ipv6-multicast-metric
                        - ipv6-unicast-metric
                            - hello-multiplier
                        - metric
                        - passive
                        - priority
                        - sd-offset
                        - sf-offset
                        - shutdown
                    - level-capability
                    - lfa-policy-map
                    - load-balancing-weight
                    - loopfree-alternate-exclude
                    - lsp-pacing-interval
                    - mesh-group
                    - passive
                    - retransmit-interval
                    - shutdown
                    - sid-protection
                    - tag
                - ipv4-multicast-routing
                - ipv4-routing
                - ipv6-multicast-routing
                - ipv6-routing
                - ldp-over-rsvp
                - level
                    - advertise-router-capability
                    - auth-keychain
                    - authentication-key
                    - authentication-type
                    - bier
                        - shutdown
                        - template
                    - csnp-authentication
                    - database-export-exclude
                    - default-ipv4-multicast-metric
                    - default-ipv6-multicast-metric
                    - default-ipv6-unicast-metric
                    - default-metric
                    - external-preference
                    - hello-auth-keychain
                    - hello-authentication
                    - hello-padding
```


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```
            - loopfree-alternate-exclude
            - lsp-mtu-size
            - preference
            - psnp-authentication
            - wide-metrics-only
        - level-capability
        - link-group
            - description
            - level
                - ipv4-multicast-metric-offset
                - ipv4-unicast-metric-offset
                - ipv6-multicast-metric-offset
                - ipv6-unicast-metric-offset
                - member
                - oper-members
                - revert-members
        - loopfree-alternates
            - augment-route-table
            - exclude
                - prefix-policy
            - multi-homed-prefix
                - preference
            - remote-lfa
                - node-protect
            - ti-lfa
                - node-protect
        - lsp-lifetime
        - lsp-minimum-remaining-lifetime
        - lsp-mtu-size
        - lsp-refresh-interval
        - mru-mismatch-detection
        - multi-part-tlv
            - neighbor
            - srlg
        - multi-topology
            - ipv4-multicast
            - ipv6-multicast
            - ipv6-unicast
        - multicast-import
        - overload
        - overload-export-external
        - overload-export-interlevel
        - overload-fib-error-notify-only
        - overload-include-locators
        - overload-on-boot
        - poi-tlv-enable
        - prefix-attributes-tlv
        - prefix-limit
        - prefix-unreachable
            - maximum-number-upas
            - process-received-upa
            - upa-lifetime
            - upa-metric
        - psnp-authentication
        - reference-bandwidth
        - rib-priority
        - router-id
        - segment-routing
            - adj-sid-hold
            - adjacency-set
                - family
                - parallel
                - sid
            - adjacency-sid
```


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config router isis segm-rtng adj-sid allocate-dual-sids

```
                    - allocate-dual-sids
                - class-forwarding
                - egress-statistics
                    - adj-set
                    - adj-sid
                    - node-sid
                - entropy-label
                - export-tunnel-table
                - ingress-statistics
                    - adj-set
                    - adj-sid
                    - node-sid
                - mapping-server
                    - shutdown
                    - sid-map
                - maximum-sid-depth
                    - override-bmi
                    - override-erld
                - micro-loop-avoidance
                - multi-topology
                - prefix-sid-range
                - shutdown
                - srlb
                - tunnel-mtu
                - tunnel-table-pref
            - segment-routing-v6
                - adj-sid-hold
                - flex-algo-class-forwarding
                - locator
                    - level
                        - metric
                    - level-capability
                    - multi-topology
                    - tag
                - micro-loop-avoidance
                - micro-segment-locator
                    - level
                        - metric
                    - level-capability
                    - multi-topology
                    - tag
                - shutdown
            - shutdown
            - standard-multi-instance
            - strict-adjacency-check
            - summary-address
            - suppress-attached-bit
            - system-id
            - timers
                - lsp-wait
                - spf-wait
            - traffic-engineering
            - traffic-engineering-options
                - advertise-delay
                - application-link-attributes
                    - legacy
                - ipv6
            - unicast-import-disable
```


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3.4.33.38 configure router l2tp Commands

```
            - l2tp
                - avp-hiding
                - calling-number-format
                - challenge
                - cisco-nas-port
                - destruct-timeout
                - df-bit-lac
                - eth-tunnel
                    - reconnect-timeout
                - exclude-avps
                - failover
                    - recovery-max-session-lifetime
                    - recovery-method
                    - recovery-time
                    - track-srrp
                - group
                    - avp-hiding
                    - challenge
                    - description
                    - destruct-timeout
                    - df-bit-lac
                    - eth-tunnel
                        - reconnect-timeout
                    - failover
                        - recovery-method
                        - recovery-time
                    - hello-interval
                    - idle-timeout
                    - l2tpv3
                        - cookie-length
                        - digest-type
                        - nonce-length
                        - password
                        - private-tcp-mss-adjust
                        - public-tcp-mss-adjust
                        - pw-cap-list
                        - rem-router-id
                        - track-password-change
                    - lns-group
                    - load-balance-method
                    - local-address
                    - local-name
                    - max-retries-estab
                    - max-retries-not-estab
                    - mlppp
                        - endpoint
                        - interleave
                        - max-fragment-delay
                        - max-links
                        - reassembly-timeout
                        - short-sequence-numbers
                        - shutdown
                    - password
                    - ppp
                        - authentication
                        - authentication-policy
                        - chap-challenge-length
                        - default-group-interface
                        - ipcp-subnet-negotiation
                        - keepalive
```


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config router l2tp group ppp lcp-force-ack-accm

```
                        - lcp-force-ack-accm
                        - lcp-ignore-magic-numbers
                        - mtu
                        - proxy-authentication
                        - proxy-lcp
                        - reject-disabled-ncp
                        - user-db
                    - radius-accounting-policy
                    - receive-window-size
                    - session-assign-method
                    - session-limit
                    - shutdown
                    - tunnel
                        - auto-establish
                        - avp-hiding
                        - challenge
                        - description
                        - destruct-timeout
                        - df-bit-lac
                        - failover
                            - recovery-method
                            - recovery-time
                        - hello-interval
                        - idle-timeout
                        - l2tpv3
                            - private-tcp-mss-adjust
                            - public-tcp-mss-adjust
                        - lns-group
                        - load-balance-method
                        - local-address
                        - local-name
                        - max-retries-estab
                        - max-retries-not-estab
                        - mlppp
                            - admin-state
                            - endpoint
                            - interleave
                            - max-fragment-delay
                            - max-links
                            - reassembly-timeout
                            - short-sequence-numbers
                        - password
                        - peer
                        - ppp
                            - authentication
                            - authentication-policy
                            - chap-challenge-length
                            - default-group-interface
                            - ipcp-subnet-negotiation
                            - keepalive
                            - lcp-force-ack-accm
                            - lcp-ignore-magic-numbers
                            - mtu
                            - proxy-authentication
                            - proxy-lcp
                            - reject-disabled-ncp
                            - user-db
                        - preference
                        - radius-accounting-policy
                        - receive-window-size
                        - remote-name
                        - session-limit
                        - shutdown
                - group-session-limit
```


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config router l2tp hello-interval

```
                - hello-interval
                - idle-timeout
                - ignore-avps
                - l2tpv3
                    - cookie-length
                    - digest-type
                    - nonce-length
                    - password
                    - private-tcp-mss-adjust
                    - public-tcp-mss-adjust
                    - transport-type
                - lac-fragmentation
                    - default-action
                    - fpe
                - local-address
                - local-name
                - max-retries-estab
                - max-retries-not-estab
                - next-attempt
                - password
                - peer-address-change-policy
                - radius-accounting-policy
                - receive-window-size
                - replace-result-code
                - rtm-debounce-time
                - session-assign-method
                - session-limit
                - shutdown
                - tunnel-selection-blacklist
                    - add-tunnel
                    - max-list-length
                    - max-time
                    - timeout-action
                - tunnel-session-limit
```


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3.4.33.39 configure router ldp Commands

```
            - ldp
                - aggregate-prefix-match
                    - prefix-exclude
                    - shutdown
                - class-forwarding
                - consider-system-ip-in-gep
                - egress-statistics
                    - fec-prefix
                        - accounting-policy
                        - collect-stats
                        - shutdown
                - entropy-label-capability
                - export
                - export-tunnel-table
                - fast-reroute
                - fec-originate
                - generate-basic-fec-only
                - graceful-restart
                    - maximum-recovery-time
                    - neighbor-liveness-time
                - implicit-null-label
                - import
                - import-mcast-policy
                - import-pmsi-routes
                    - evpn
                    - mvpn
                    - mvpn-no-export
                    - mvpn-no-export-community
                - import-tunnel-table
                - interface-parameters
                    - interface
                        - bfd-enable
                        - ipv4
                            - fec-type-capability
                                - p2mp-ipv4
                                - p2mp-ipv6
                                - prefix-ipv4
                                - prefix-ipv6
                            - hello
                            - keepalive
                            - local-lsr-id
                            - shutdown
                            - transport-address
                        - ipv6
                            - fec-type-capability
                                - p2mp-ipv4
                                - p2mp-ipv6
                                - prefix-ipv4
                                - prefix-ipv6
                            - hello
                            - keepalive
                            - local-lsr-id
                            - shutdown
                            - transport-address
                        - load-balancing-weight
                        - shutdown
                    - ipv4
                        - hello
                        - keepalive
                        - transport-address
```


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config router ldp if-params ipv6

```
                    - ipv6
                        - hello
                        - keepalive
                        - transport-address
                - label-withdrawal-delay
                - legacy-ipv4-lsr-interop
                - lsp-bfd
                    - bfd-enable
                    - bfd-template
                    - failure-action
                    - lsp-ping-interval
                    - priority
                    - source-address
                - max-ecmp-routes
                - mcast-upstream-asbr-frr
                - mcast-upstream-frr
                - mp-mbb-time
                - prefer-mcast-tunnel-in-tunnel
                - prefer-protocol-stitching
                - prefer-tunnel-in-tunnel
                - resolve-root-using
                - session-parameters
                    - peer
                        - adv-adj-addr-only
                        - adv-local-lsr-id
                        - community
                        - dod-label-distribution
                        - export-addresses
                        - export-prefixes
                        - fec-limit
                        - fec-type-capability
                            - p2mp
                            - p2mp-ipv4
                            - p2mp-ipv6
                            - prefix-ipv4
                            - prefix-ipv6
                        - fec129-cisco-interop
                        - import-prefixes
                        - pe-id-mac-flush-interop
                - shortcut-local-ttl-propagate
                - shortcut-transit-ttl-propagate
                - shutdown
                - targeted-session
                    - auto-rx
                        - ipv4
                            - shutdown
                            - tunneling
                    - auto-tx
                        - ipv4
                            - shutdown
                            - tunneling
                    - disable-targeted-session
                    - export-prefixes
                    - import-prefixes
                    - ipv4
                        - hello
                        - hello-reduction
                        - keepalive
                    - ipv6
                        - hello
                        - hello-reduction
                        - keepalive
                    - peer
                        - bfd-enable
```


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config router ldp targ-session peer hello

```
                    - hello
                    - hello-reduction
                    - keepalive
                    - local-lsr-id
                    - mcast-tunneling
                        - lsp
                    - shutdown
                    - tunneling
                        - lsp
                - peer-template
                    - adv-local-lsr-id
                    - bfd-enable
                    - community
                    - hello
                    - hello-reduction
                    - keepalive
                    - local-lsr-id
                    - mcast-tunneling
                    - shutdown
                    - tunneling
                - peer-template-map
                - resolve-v6-prefix-over-shortcut
            - tcp-session-parameters
                - auth-keychain
                - authentication-key
                - peer-transport
                    - auth-keychain
                    - authentication-key
                    - path-mtu-discovery
                    - ttl-security
            - tunnel-down-damp-time
            - tunnel-table-pref
            - weighted-ecmp
```


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3.4.33.40 configure router ldp-shortcut Commands

```
            - ldp-shortcut
```


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3.4.33.41 configure router leak-export Commands

```
            - leak-export
```


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3.4.33.42 configure router leak-export-limit Commands

```
            - leak-export-limit
```


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3.4.33.43 configure router lsp-bfd Commands

```
            - lsp-bfd
                - bfd-sessions
                - tail-end
                    - multiplier
                    - receive-interval
                    - transmit-interval
```


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3.4.33.44 configure router mc-maximum-routes Commands

```
            – mc-maximum-routes
```


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3.4.33.45 configure router mcac Commands

```
            - mcac
                - if-policy
                    - description
                    - shutdown
                    - unconstrained-bw
                - policy
                    - bundle
                        - bandwidth
                        - channel
                        - description
                        - mc-constraints
                            - lag-port-down
                            - level
                            - use-lag-port-weight
                        - shutdown
                        - source-specific-mcac
                    - default-action
                    - description
                    - source-specific-mcac
```


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3.4.33.46 configure router mld Commands

```
            - mld
                - group-interface
                    - disable-router-alert-check
                    - import
                    - max-groups
                    - max-grp-sources
                    - max-sources
                    - mcac
                        - if-policy
                        - mc-constraints
                            - shutdown
                        - policy
                        - unconstrained-bw
                    - policy
                    - query-interval
                    - query-last-listener-interval
                    - query-response-interval
                    - query-src-ip
                    - shutdown
                    - sub-hosts-only
                    - subnet-check
                    - version
                - grp-if-query-src-ip
                - interface
                    - disable-router-alert-check
                    - import
                    - max-groups
                    - max-grp-sources
                    - max-sources
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - shutdown
                            - use-lag-port-weight
                        - policy
                        - unconstrained-bw
                    - policy
                    - query-interval
                    - query-last-listener-interval
                    - query-response-interval
                    - shutdown
                    - ssm-translate
                        - grp-range
                            - source
                    - static
                        - group
                            - source
                            - starg
                    - version
                - query-interval
                - query-last-listener-interval
                - query-response-interval
                - robust-count
                - shutdown
                - ssm-translate
                    - grp-range
                        - source
```


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3.4.33.47 configure router mpls Commands

```
            - mpls
                - admin-group-frr
                - auto-bandwidth-multipliers
                - auto-lsp
                - aux-stats
                - bypass-resignal-timer
                - class-forwarding-policy
                    - default-set
                    - fc
                - cspf-on-loose-hop
                - dynamic-bypass
                - entropy-label
                - exponential-backoff-retry
                - forwarding-policies
                    - forwarding-policy
                        - binding-label
                        - egress-statistics
                            - shutdown
                        - endpoint
                        - ingress-statistics
                            - shutdown
                        - metric
                        - next-hop-group
                            - backup-next-hop
                                - next-hop
                                - pushed-labels
                            - load-balancing-weight
                            - primary-next-hop
                                - next-hop
                                - pushed-labels
                            - shutdown
                        - preference
                        - revert-timer
                        - shutdown
                        - tunnel-table-pref
                    - reserved-label-block
                    - shutdown
                - frr-object
                - hold-timer
                - ingress-statistics
                    - lsp
                        - accounting-policy
                        - collect-stats
                        - shutdown
                        - stat-mode
                    - p2mp-template-lsp
                        - accounting-policy
                        - collect-stats
                        - max-stats
                        - shutdown
                        - stat-mode
                    - p2p-template-lsp
                        - accounting-policy
                        - collect-stats
                        - max-stats
                        - shutdown
                        - stat-mode
                - interface
                    - admin-group
                    - label-map
```


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config router mpls if label-map pop

```
                    - pop
                    - shutdown
                    - swap
                - mpls-tp-mep
                    - ais-enable
                    - if-num
                    - if-num-validation
                - shutdown
                - srlg-group
                - te-metric
            - least-fill-min-thd
            - least-fill-reoptim-thd
            - logger-event-bundling
            - lsp
                - adaptive
                - admin-tag
                - adspec
                - auto-bandwidth
                    - adjust-down
                    - adjust-up
                    - fc
                    - max-bandwidth
                    - min-bandwidth
                    - monitor-bandwidth
                    - multipliers
                    - overflow-limit
                    - underflow-limit
                    - use-last-adj-bw
                - bfd
                    - bfd-enable
                    - bfd-template
                    - failure-action
                    - lsp-ping-interval
                    - return-path-label
                    - source-address
                    - wait-for-up-timer
                - bgp-shortcut
                - bgp-transport-tunnel
                - binding-sid
                - class-forwarding
                    - forwarding-set
                - class-type
                - dest-global-id
                - dest-tunnel-number
                    - max-stats
                - egress-statistics
                    - accounting-policy
                    - collect-stats
                    - shutdown
                    - stat-mode
                - entropy-label
                - exclude
                - exclude-node
                - fallback-path-computation-method
                - fast-reroute
                    - hop-limit
                    - node-protect
                    - propagate-admin-group
                - from
                - hop-limit
                - igp-shortcut
                - include
                - ingress-statistics
                    - accounting-policy
```


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config router mpls lsp ingr-stats collect-stats

```
                        - collect-stats
                        - shutdown
                        - stat-mode
                    - label-stack-reduction
                    - ldp-over-rsvp
                    - least-fill
                    - load-balancing-weight
                    - local-sr-protection
                    - lsp-self-ping
                    - main-ct-retry-limit
                    - max-sr-labels
                    - metric
                    - metric-type
                    - override-tunnel-elc
                    - p2mp-id
                    - path-computation-method
                    - path-profile
                    - pce-associations
                        - diversity
                        - policy
                    - pce-control
                    - pce-report
                    - primary
                        - adaptive
                        - backup-class-type
                        - bandwidth
                        - bfd
                            - bfd-enable
                            - bfd-template
                            - lsp-ping-interval
                            - return-path-label
                            - source-address
                            - wait-for-up-timer
                        - class-type
                        - delay-metric-limit
                        - exclude
                        - hop-limit
                        - include
                        - priority
                        - record
                        - record-label
                        - shutdown
                    - primary-p2mp-instance
                        - adaptive
                        - bandwidth
                        - exclude
                        - hop-limit
                        - include
                        - priority
                        - record
                        - record-label
                        - s2l-path
                            - shutdown
                        - shutdown
                    - propagate-admin-group
                    - protect-tp-path
                        - in-label
                        - lsp-num
                        - mep
                            - bfd-enable
                            - bfd-trap-suppression
                            - dsmap
                            - oam-template
                            - protection-template
```


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configure router mpls lsp protect-tp-path mep shutdown

```
                        - shutdown
                    - out-label
                    - shutdown
                - retry-limit
                - retry-timer
                - revert-timer
                - rsvp-resv-style
                - secondary
                    - adaptive
                    - bandwidth
                    - bfd
                        - bfd-enable
                        - bfd-template
                        - lsp-ping-interval
                        - return-path-label
                        - source-address
                        - wait-for-up-timer
                    - class-type
                    - delay-metric-limit
                    - exclude
                    - hop-limit
                    - include
                    - path-preference
                    - priority
                    - record
                    - record-label
                    - shutdown
                    - srlg
                    - standby
                - shutdown
                - soft-preemption
                - to
                            - dsmap
                            - dsmap
                - vprn-auto-bind
                - working-tp-path
                    - in-label
                    - lsp-num
                    - mep
                        - bfd-enable
                        - bfd-trap-suppression
                        - dsmap
                        - oam-template
                        - shutdown
                    - out-label
                    - shutdown
            - lsp-bsid-block
            - lsp-container
                - initial-member-lsp-bw
                - initial-member-lsps
                - max-member-lsps
                - member-lsp-template
                - min-member-lsps
                - optimization
                    - ad-hoc
                    - max-avg-rate
                    - min-avg-rate
                    - optimization-timer
                - shutdown
                - suffix
                - to
            - lsp-history
                - shutdown
            - lsp-init-retry-timeout
```


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config router mpls lsp-self-ping

```
            - lsp-self-ping
                - interval
                - rsvp-te
                - timeout
                - timeout-action
            - lsp-template
                - adaptive
                - admin-tag
                - adspec
                - auto-bandwidth
                    - adjust-down
                    - adjust-up
                    - fc
                    - max-bandwidth
                    - min-bandwidth
                    - monitor-bandwidth
                    - multipliers
                    - overflow-limit
                    - underflow-limit
                - backup-class-type
                - bandwidth
                - bfd
                    - bfd-enable
                    - bfd-template
                    - failure-action
                    - lsp-ping-interval
                    - return-path-label
                    - source-address
                    - wait-for-up-timer
                - bgp-shortcut
                - bgp-transport-tunnel
                - binding-sid
                - class-forwarding
                    - forwarding-set
                - class-type
                - default-path
                - delay-metric-limit
                    - max-stats
                - egress-statistics
                    - accounting-policy
                    - collect-stats
                    - shutdown
                    - stat-mode
                - entropy-label
                - exclude
                - fallback-path-computation-method
                - family
                - fast-reroute
                    - hop-limit
                    - node-protect
                    - propagate-admin-group
                - from
                - hop-limit
                - igp-shortcut
                - include
                - label-stack-reduction
                - ldp-over-rsvp
                - least-fill
                - load-balancing-weight
                - local-sr-protection
                - lsp-self-ping
                - main-ct-retry-limit
                - max-sr-labels
                - metric
```


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config router mpls lsp-template metric-type

```
                    - metric-type
                    - override-tunnel-elc
                    - path-computation-method
                    - path-profile
                    - pce-associations
                        - diversity
                        - policy
                    - pce-control
                    - pce-report
                    - priority
                    - propagate-admin-group
                    - record
                    - record-label
                    - retry-limit
                    - retry-timer
                    - shutdown
                    - soft-preemption
                    - vprn-auto-bind
                - max-bypass-associations
                - max-bypass-plr-associations
                - mbb-prefer-current-hops
                - mpls-tp
                    - global-id
                    - node-id
                    - oam-template
                        - bfd-template
                        - hold-time-down
                        - hold-time-up
                    - protection-template
                        - rapid-psc-timer
                        - revertive
                        - slow-psc-timer
                        - wait-to-restore
                    - shutdown
                    - tp-tunnel-id-range
                    - transit-path
                        - forward-path
                            - in-label
                            - mip
                                - dsmap
                        - path-id
                        - reverse-path
                            - in-label
                            - mip
                                - dsmap
                        - shutdown
                - p2mp-resignal-timer
                - p2mp-s2l-fast-retry
                - p2mp-ttl-propagate
                - p2p-active-path-fast-retry
                - path
                    - hop
                    - shutdown
                - pce-initiated-lsp
                    - sr-te
                        - shutdown
                - pce-report
                - resignal-on-igp-event
                - resignal-on-igp-overload
                - resignal-timer
                - retry-on-igp-overload
                - secondary-fast-retry-timer
                - shortcut-local-ttl-propagate
                - shortcut-transit-ttl-propagate
```


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config router mpls shutdown

```
                - shutdown
                - sr-te-resignal
                    - resignal-on-igp-event
                    - resignal-on-igp-overload
                    - resignal-timer
                - srlg-database
                    - router-id
                        - interface
                        - shutdown
                - srlg-frr
                - static-lsp
                    - metric
                    - push
                    - shutdown
                    - to
                - static-lsp-fast-retry
                - strict-ero-nhop-direct-resolution
                - tunnel-table-pref
                    - rsvp-te
                    - sr-te
                - user-srlg-db
```


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3.4.33.48 configure router mpls-labels Commands

```
            - mpls-labels
                - bgp-labels-hold-timer
                - reserved-label-block
                    - start-label
                - sr-labels
                - static-label-range
```


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3.4.33.49 configure router msdp Commands

```
            - msdp
                - active-source-limit
                - data-encapsulation
                - export
                - group
                    - active-source-limit
                    - export
                    - import
                    - local-address
                    - mode
                    - peer
                        - active-source-limit
                        - authentication-key
                        - default-peer
                        - export
                        - import
                        - local-address
                        - receive-msdp-msg-rate
                        - shutdown
                    - receive-msdp-msg-rate
                    - shutdown
                - import
                - local-address
                - peer
                    - active-source-limit
                    - authentication-key
                    - default-peer
                    - export
                    - import
                    - local-address
                    - receive-msdp-msg-rate
                    - shutdown
                - receive-msdp-msg-rate
                - rpf-table
                - sa-timeout
                - shutdown
                - source
                    - active-source-limit
```


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3.4.33.50 configure router mss-adjust-group Commands

```
            - mss-adjust-group
```


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3.4.33.51 configure router mtrace2 Commands

```
            - mtrace2
                - shutdown
                - udp-port
```


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3.4.33.52 configure router multicast-info-policy Commands

```
            - multicast-info-policy
```


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3.4.33.53 configure router nat Commands

```
            - nat
                - inside
                    - address
                    - classic-lsn-max-subscriber-limit
                    - destination-prefix
                    - deterministic
                        - address-map
                            - outside-range
                            - shutdown
                        - prefix-map
                            - map
                            - shutdown
                    - dnat-only
                        - source-prefix-list
                        - dslite-max-subscriber-limit
                    - dslite-max-subscriber-limit
                    - dual-stack-lite
                        - address
                            - ip-fragmentation
                            - min-first-fragment-size-rx
                            - reassembly
                            - tunnel-mtu
                        - shutdown
                        - subscriber-prefix-length
                    - l2-aware
                        - address
                        - force-unique-ip-addresses
                    - nat-import
                    - nat-policy
                    - nat64
                        - drop-zero-ipv4-checksum
                        - ignore-tos
                        - insert-ipv6-fragment-header
                        - ip-fragmentation
                        - ipv6-mtu
                        - prefix
                        - set-tos
                        - shutdown
                        - subscriber-prefix-length
                    - nat66
                        - destination-prefix
                        - hash-prefix-length
                        - shutdown
                        - subscriber-prefix-length
                    - redundancy
                        - peer
                        - peer6
                        - steering-route
                            - shutdown
                    - source-prefix
                    - source-prefix-list
                    - spf-policy
                        - nat-policy
                    - subscriber-identification
                        - attribute
                        - description
                        - drop-unidentified-traffic
                        - radius-proxy-server
                        - shutdown
                    - traffic-identification
```


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config router nat inside traffic-identification source-prefix-only

```
                    - source-prefix-only
            - map
                - map-domain
            - outside
                - domain
                    - prefix
                        - description
                    - shutdown
                - downstream-ip-filter
                - downstream-ipv6-filter
                - mtu
                - pool
                    - address-pooling
                    - address-range
                        - description
                        - drain
                        - exclude
                        - shutdown
                    - default-host
                    - description
                    - deterministic
                        - extended-port-block-watermarks
                        - port-reservation
                    - external-assignment
                    - flexible-port-allocation
                        - free-port-limit
                    - icmp-echo-reply
                    - mode
                    - monitor-oper-group
                    - port-block-extensions
                        - extended-port-block-watermarks
                        - ports
                        - subscriber-watermarks
                    - port-forwarding-dyn-block-reservation
                    - port-forwarding-range
                    - port-reservation
                    - redundancy
                        - export
                        - follow
                        - monitor
                        - shutdown
                    - shutdown
                    - subscriber-limit
                    - watermarks
                - route-limit
                - upstream-ip-filter
                - upstream-ipv6-filter
```


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3.4.33.54 configure router network-domains Commands

```
            - network-domains
                - network-domain
                    - description
```


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3.4.33.55 configure router origin-validation Commands

```
            - origin-validation
                - rpki-session
                    - connect-retry
                    - description
                    - local-address
                    - port
                    - refresh-time
                    - shutdown
                    - stale-time
                - static-entry
```


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3.4.33.56 configure router ospf Commands

```
            - ospf
                - advertise-router-capability
                - advertise-tunnel-link
                - area
                    - advertise-router-capability
                    - area-range
                    - bier
                        - shutdown
                        - template
                    - blackhole-aggregate
                    - database-export-exclude
                    - export
                    - import
                    - interface
                        - adjacency-set
                        - adjacency-sid
                        - advertise-router-capability
                        - advertise-subnet
                        - auth-keychain
                        - authentication-key
                        - authentication-type
                        - bfd-enable
                        - conditional-advertise-prefix
                        - dead-interval
                        - delay-normalization
                            - delay-tolerance-interval
                            - minimum-delay
                        - flex-algo
                            - node-sid
                        - hello-interval
                        - interface-type
                        - lfa-policy-map
                        - load-balancing-weight
                        - loopfree-alternate-exclude
                        - lsa-filter-out
                        - message-digest-key
                        - metric
                        - mtu
                        - neighbor
                        - node-sid
                        - passive
                        - poll-interval
                        - priority
                        - retransmit-interval
                        - rib-priority
                        - shutdown
                        - sid-protection
                        - transit-delay
                    - loopfree-alternate-exclude
                    - nssa
                        - area-range
                        - originate-default-route
                        - redistribute-external
                        - summaries
                    - stub
                        - default-metric
                        - summaries
                    - virtual-link
                        - auth-keychain
                        - authentication-key
```


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config router ospf area virtual-link authentication-type

```
                    - authentication-type
                    - dead-interval
                    - hello-interval
                    - message-digest-key
                    - retransmit-interval
                    - shutdown
                    - transit-delay
                - asbr
                - compatible-rfc1583
                - database-export
                - disable-ldp-sync
                - entropy-label
                    - override-tunnel-elc
                - export
                - export-limit
                - external-db-overflow
                - external-preference
                - flexible-algorithms
                    - advertise-admin-group
                    - flex-algo
                        - advertise
                        - loopfree-alternates
                        - micro-loop-avoidance
                        - participate
                    - shutdown
                - graceful-restart
                    - helper-disable
                    - helper-resync-timeout
                    - protocol
                    - strict-lsa-checking
                - igp-shortcut
                    - allow-sr-over-srte
                    - shutdown
                    - tunnel-next-hop
                        - family
                            - resolution
                            - resolution-filter
                                - rsvp
                                - sr-te
                            - sr-te
                - import
                - ldp-over-rsvp
                - loopfree-alternate-exclude
                - loopfree-alternates
                    - augment-route-table
                    - exclude
                        - prefix-policy
                    - multi-homed-prefix
                        - preference
                    - remote-lfa
                        - node-protect
                    - ti-lfa
                        - node-protect
                - multi-instance
                - multicast-import
                - multicast-import-policy
                - overload
                - overload-include-ext-1
                - overload-include-ext-2
                - overload-include-stub
                - overload-on-boot
                - preference
                - reference-bandwidth
                - rib-priority
```


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config router ospf router-id

```
                - router-id
                - rtr-adv-lsa-limit
                - segment-routing
                    - adj-sid-hold
                    - adjacency-set
                        - parallel
                        - sid
                    - adjacency-sid
                        - allocate-dual-sids
                    - backup-node-sid
                    - class-forwarding
                    - egress-statistics
                        - adj-set
                        - adj-sid
                        - node-sid
                    - entropy-label
                    - export-tunnel-table
                    - ingress-statistics
                        - adj-set
                        - adj-sid
                        - node-sid
                    - mapping-server
                        - shutdown
                        - sid-map
                    - maximum-sid-depth
                        - override-bmi
                        - override-erld
                    - micro-loop-avoidance
                    - prefix-sid-range
                    - shutdown
                    - srlb
                    - tunnel-mtu
                    - tunnel-table-pref
                - shutdown
                - timers
                    - incremental-spf-wait
                    - lsa-accumulate
                    - lsa-arrival
                    - lsa-generate
                    - redistribute-delay
                    - spf-wait
                - traffic-engineering
                - traffic-engineering-options
                    - advertise-delay
                    - sr-te
                - unicast-import-disable
```


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3.4.33.57 configure router ospf3 Commands

```
            - ospf3
                - advertise-router-capability
                - area
                    - advertise-router-capability
                    - area-range
                    - blackhole-aggregate
                    - database-export-exclude
                    - export
                    - extended-lsa
                    - import
                    - interface
                        - advertise-router-capability
                        - authentication
                        - bfd-enable
                        - conditional-advertise-prefix
                        - dead-interval
                        - hello-interval
                        - interface-type
                        - lfa-policy-map
                        - load-balancing-weight
                        - loopfree-alternate-exclude
                        - lsa-filter-out
                        - metric
                        - mtu
                        - neighbor
                        - node-sid
                        - passive
                        - poll-interval
                        - priority
                        - retransmit-interval
                        - rib-priority
                        - shutdown
                        - sid-protection
                        - transit-delay
                    - key-rollover-interval
                    - loopfree-alternate-exclude
                    - nssa
                        - area-range
                        - originate-default-route
                        - redistribute-external
                        - summaries
                    - stub
                        - default-metric
                        - summaries
                    - virtual-link
                        - authentication
                        - dead-interval
                        - hello-interval
                        - retransmit-interval
                        - shutdown
                        - transit-delay
                - asbr
                - database-export
                - disable-ldp-sync
                - export
                - export-limit
                - extended-lsa
                - external-db-overflow
                - external-preference
                - graceful-restart
```


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config router ospf3 graceful-restart helper-disable

```
            - helper-disable
            - strict-lsa-checking
        - igp-shortcut
            - shutdown
            - tunnel-next-hop
                - family
                    - resolution
                    - resolution-filter
                        - rsvp
                        - sr-te
                    - sr-te
        - import
        - loopfree-alternate-exclude
        - loopfree-alternates
            - exclude
                - prefix-policy
            - remote-lfa
                - node-protect
            - ti-lfa
                - node-protect
        - multicast-import
        - overload
        - overload-include-ext-1
        - overload-include-ext-2
        - overload-include-stub
        - overload-on-boot
        - preference
        - reference-bandwidth
        - rib-priority
        - router-id
        - rtr-adv-lsa-limit
        - segment-routing
            - adj-sid-hold
            - adjacency-sid
                - allocate-dual-sids
            - egress-statistics
                - adj-sid
                - node-sid
            - ingress-statistics
                - adj-sid
                - node-sid
            - prefix-sid-range
            - shutdown
            - tunnel-mtu
            - tunnel-table-pref
        - shutdown
        - timers
            - incremental-spf-wait
            - lsa-accumulate
            - lsa-arrival
            - lsa-generate
            - redistribute-delay
            - spf-wait
        - unicast-import-disable
```


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3.4.33.58 configure router p2mp-sr-tree Commands

```
            - p2mp-sr-tree
                - bfd-enable
                - p2mp-policy
                    - candidate-path
                        - active-instance
                        - path-instances
                            - index
                        - preference
                        - shutdown
                    - root-address
                    - shutdown
                    - tree-id
                - replication-segment
                    - instance-id
                    - root-address
                    - segment-routing-mpls
                        - downstream-nodes
                            - next-hop-address
                            - next-hop-interface-name
                            - protect-nexthop-id
                            - replication-sid
                            - shutdown
                        - incoming-sid
                        - sid-action
                    - segment-routing-v6
                        - downstream-nodes
                            - replication-sid
                            - shutdown
                        - incoming-sid
                            - locator
                        - role
                    - shutdown
                    - tree-id
                - reserved-lbl-block
                - shutdown
```


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3.4.33.59 configure router pcep Commands

```
            - pcep
                - pcc
                    - capability-advertisement
                        - multi-path
                        - sr-policy
                    - dead-timer
                    - keepalive
                    - local-address
                    - local-address-ipv6
                    - max-srte-pce-init-lsps
                    - pce-associations
                        - diversity
                            - association-id
                            - association-source
                            - disjointness-reference
                            - disjointness-type
                            - diversity-type
                        - policy
                            - association-id
                            - association-source
                    - peer
                        - auth-keychain
                        - route-preference
                        - shutdown
                        - tls-client-profile
                        - tls-wait-timer
                    - redelegation-timer
                    - report-path-constraints
                    - shutdown
                    - state-timer
                    - unknown-message-rate
                - pce
                    - auth-keychain
                    - capability-advertisement
                        - multi-path
                        - sr-policy
                    - dead-timer
                    - keepalive
                    - local-address
                    - local-address-ipv6
                    - shutdown
                    - tls-server-profile
                    - tls-wait-timer
                    - unknown-message-rate
```


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3.4.33.60 configure router pcp-server Commands

```
            - pcp-server
                - server
                    - description
                    - dual-stack-lite-address
                    - fwd-inside-router
                    - interface
                    - pcp-server-policy
                    - shutdown
```


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3.4.33.61 configure router pim Commands

```
            - pim
                - apply-to
                - enable-mdt-spt
                - gtm
                    - auto-discovery
                - import
                - interface
                    - assert-period
                    - bfd-enable
                    - bier-signaling
                    - bsm-check-rtr-alert
                    - hello-interval
                    - hello-multiplier
                    - improved-assert
                    - instant-prune-echo
                    - ipv4-multicast-disable
                    - ipv6-multicast-disable
                    - max-groups
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - shutdown
                            - use-lag-port-weight
                        - policy
                        - unconstrained-bw
                    - monitor-oper-group
                    - multicast-senders
                    - p2mp-ldp-tree-join
                    - policy
                    - priority
                    - shutdown
                    - sticky-dr
                    - three-way-hello
                    - tracking-support
                - ipv4-multicast-disable
                - ipv6-multicast-disable
                - lag-usage-optimization
                - mc-ecmp-balance
                - mc-ecmp-balance-hold
                - mc-ecmp-hashing-enabled
                - multicast-fast-failover
                - multicast6-fast-failover
                - non-dr-attract-traffic
                - pim-ssm-scaling
                - rp
                    - anycast
                        - rp-set-peer
                    - auto-rp-discovery
                    - bootstrap-export
                    - bootstrap-import
                    - bsr-candidate
                        - address
                        - hash-mask-len
                        - priority
                        - shutdown
                    - ipv6
                        - anycast
                            - rp-set-peer
```


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config router pim rp ipv6 bsr-candidate

```
                    - bsr-candidate
                        - address
                        - hash-mask-len
                        - priority
                        - shutdown
                    - embedded-rp
                        - group-range
                        - shutdown
                    - rp-candidate
                        - address
                        - group-range
                        - holdtime
                        - priority
                        - shutdown
                    - static
                        - address
                            - group-prefix
                            - override
                - rp-candidate
                    - address
                    - group-range
                    - holdtime
                    - priority
                    - shutdown
                - static
                    - address
                        - group-prefix
                        - override
            - rpf-table
            - rpf6-table
            - rpfv
            - shutdown
            - source-address
                - register-message
            - spt-switchover-threshold
            - ssm-assert-compatible-mode
            - ssm-default-range-disable
            - ssm-groups
                - group-range
            - tunnel-interface
```


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3.4.33.62 configure router policy-acct-template Commands

```
            - policy-acct-template
                - destination-class
                    - policer
                - policer
                    - max-burst-size
                    - peak-rate
                - source-class
```


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3.4.33.63 configure router policy-options Commands

```
            - policy-options
                - abort
                - as-path
                    - expression
                - as-path-group
                    - entry
                - begin
                - commit
                - community
                    - expression
                    - members
                - damping
                    - half-life
                    - max-suppress
                    - reuse
                    - suppress
                - exclusive-lock-time
                - extended-community-set
                    - member
                - global-variables
                    - name
                - policy-statement
                    - default-action
                        - add-paths-send-limit
                        - admin-tag-policy
                        - advertise-label
                        - aigp-metric
                        - as-path
                        - as-path-prepend
                        - bgp-high-priority
                        - bgp-leak
                        - bgp-med
                        - bgp-tunnel-metric
                        - community
                        - create-mpls-tunnel
                        - create-udp-tunnel
                        - damping
                        - dest-class
                        - disable-route-table-install
                        - egress-statistics
                        - flex-algo
                        - ingress-statistics
                        - install-backup-path
                        - local-preference
                        - metric
                        - multicast-redirection
                        - nat-policy
                        - next-hop
                        - next-hop-self
                        - origin
                        - origin-validation-state
                        - preference
                        - resolve-static
                        - source-class
                        - sr-label-index
                        - sr-maintenance-policy
                        - sr-return-path-bfd-label
                        - srv6-locator
                        - srv6-micro-segment-locator
                        - srv6-return-path-bfd-sid
```


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config router policy-options policy-statement default-action sticky-ecmp

```
                    - sticky-ecmp
                    - tag
                    - type
                - description
                - entry
                    - action
                        - add-paths-send-limit
                        - admin-tag-policy
                        - advertise-label
                        - aigp-metric
                        - as-path
                        - as-path-prepend
                        - bgp-high-priority
                        - bgp-leak
                        - bgp-med
                        - bgp-tunnel-metric
                        - community
                        - create-mpls-tunnel
                        - create-udp-tunnel
                        - damping
                        - dest-class
                        - disable-route-table-install
                        - egress-statistics
                        - fc
                        - flex-algo
                        - ingress-statistics
                        - install-backup-path
                        - local-preference
                        - metric
                        - multicast-redirection
                        - nat-policy
                        - next-hop
                        - next-hop-self
                        - origin
                        - origin-validation-state
                        - policy
                        - preference
                        - resolve-static
                        - source-class
                        - sr-label-index
                        - sr-maintenance-policy
                        - sr-return-path-bfd-label
                        - srv6-locator
                        - srv6-micro-segment-locator
                        - srv6-return-path-bfd-sid
                        - sticky-ecmp
                        - tag
                        - type
                    - add-paths-send-limit
                    - conditional-expression
                        - route-exists
                    - description
                    - dest-class
                    - from
                        - aggregate-contributor
                        - area
                        - as-path
                        - as-path-group
                        - as-path-length
                        - cluster-id
                        - color
                        - community
                        - community-count
                        - distinguisher
```


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config router policy-options policy-statement entry from endpoint

```
                        - endpoint
                        - evpn-type
                        - extended-community-set
                        - extended-community-set
                        - extended-community-set-options
                        - external
                        - family
                        - flow-spec-dest
                        - flow-spec-source
                        - group-address
                        - host-ip
                        - interface
                        - interface-subnets
                        - level
                        - local-preference
                        - metric
                        - mvpn-type
                        - neighbor
                        - next-hop
                        - origin
                        - origin-validation-state
                        - path-type
                        - policy
                        - policy-variables
                            - name
                        - prefix-list
                        - prefix-list-override
                        - protocol
                        - route-distinguisher-list
                        - source-address
                        - srv6-sid-prefix
                        - srv6-tlv
                        - state
                        - tag
                        - type
                    - local-preference
                    - to
                        - level
                        - neighbor
                        - prefix-list
                        - protocol
                        - preference
                - renumber
            - prefix-list
                - prefix
            - route-distinguisher-list
                - rd-entry
```


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3.4.33.64 configure router policy-reference-checks Commands

```
            – policy-reference-checks
```


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3.4.33.65 configure router radius-proxy Commands

```
            - radius-proxy
                    - shutdown
                - server
                    - attribute-matching
                        - entry
                        - type
                    - cache
                        - key
                        - shutdown
                        - timeout
                        - track-accounting
                        - track-authentication
                        - track-delete-hold-time
                    - default-accounting-server-policy
                    - default-authentication-server-policy
                    - description
                    - insert-message-authenticator
                    - interface
                    - load-balance-key
                    - python-policy
                    - require-message-authenticator
                    - secret
                    - send-accounting-response
                    - shutdown
                    - wlan-gw
                        - add-attributes
                            - proxy-source-ip-address
                        - address
                        - ipv6-address
```


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3.4.33.66 configure router radius-server Commands

```
            - radius-server
                - server
                    - accept-coa
                    - acct-port
                    - auth-port
                    - coa-script-policy
                    - description
                    - insert-message-authenticator
                    - pending-requests-limit
                    - python-policy
                    - require-message-authenticator
```


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3.4.33.67 configure router reassembly-group Commands

```
            - reassembly-group
```


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3.4.33.68 configure router rib-api Commands

```
            - rib-api
                - mpls
                    - reserved-label-block
                    - shutdown
```


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3.4.33.69 configure router rip Commands

```
            - rip
                - authentication-key
                - authentication-type
                - bfd-enable
                - check-zero
                - description
                - export
                - export-limit
                - group
                    - authentication-key
                    - authentication-type
                    - bfd-enable
                    - check-zero
                    - description
                    - export
                    - import
                    - message-size
                    - metric-in
                    - metric-out
                    - neighbor
                        - authentication-key
                        - authentication-type
                        - bfd-enable
                        - check-zero
                        - description
                        - export
                        - import
                        - message-size
                        - metric-in
                        - metric-out
                        - preference
                        - receive
                        - send
                        - shutdown
                        - split-horizon
                        - timers
                        - unicast-address
                    - preference
                    - receive
                    - send
                    - shutdown
                    - split-horizon
                    - timers
                - import
                - message-size
                - metric-in
                - metric-out
                - preference
                - receive
                - send
                - shutdown
                - split-horizon
                - timers
```


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3.4.33.70 configure router ripng Commands

```
            - ripng
                - bfd-enable
                - check-zero
                - description
                - export
                - export-limit
                - group
                    - bfd-enable
                    - check-zero
                    - description
                    - export
                    - import
                    - message-size
                    - metric-in
                    - metric-out
                    - neighbor
                        - bfd-enable
                        - check-zero
                        - description
                        - export
                        - import
                        - message-size
                        - metric-in
                        - metric-out
                        - preference
                        - receive
                        - send
                        - shutdown
                        - split-horizon
                        - timers
                        - unicast-address
                    - preference
                    - receive
                    - send
                    - shutdown
                    - split-horizon
                    - timers
                - import
                - message-size
                - metric-in
                - metric-out
                - preference
                - receive
                - send
                - shutdown
                - split-horizon
                - timers
```


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3.4.33.71 configure router route-next-hop-policy Commands

```
            - route-next-hop-policy
                - abort
                - begin
                - commit
                - template
                    - description
                    - exclude-group
                    - include-group
                    - nh-type
                    - protection-type
                    - srlg-enable
```


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3.4.33.72 configure router router-advertisement Commands

```
            - router-advertisement
                - dns-options
                    - rdnss-lifetime
                    - server
                - interface
                    - current-hop-limit
                    - dns-options
                        - include-dns
                        - rdnss-lifetime
                        - server
                    - managed-configuration
                    - max-advertisement-interval
                    - min-advertisement-interval
                    - mtu
                    - nd-router-preference
                    - other-stateful-configuration
                    - prefix
                        - autonomous
                        - on-link
                        - preferred-lifetime
                        - valid-lifetime
                    - reachable-time
                    - retransmit-time
                    - router-lifetime
                    - shutdown
                    - use-virtual-mac
```


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3.4.33.73 configure router router-id Commands

```
            - router-id
```


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3.4.33.74 configure router rsvp Commands

```
            - rsvp
                - authentication-over-bypass
                - dbw-accounting
                    - dbw-multiplier
                    - down-threshold
                    - sample-interval
                    - sample-multiplier
                    - up-threshold
                - diffserv-te
                    - class-type-bw
                    - fc
                    - te-class
                - entropy-label-capability
                - gr-helper-time
                - graceful-shutdown
                - implicit-null-label
                - interface
                    - auth-keychain
                    - authentication-key
                    - bfd-enable
                    - class-type-bw
                    - dbw-down-threshold
                    - dbw-multiplier
                    - dbw-up-threshold
                    - gr-helper
                    - graceful-shutdown
                    - hello-interval
                    - implicit-null-label
                    - refresh-reduction
                        - reliable-delivery
                    - shutdown
                    - subscription
                    - te-down-threshold
                    - te-up-threshold
                - keep-multiplier
                - msg-pacing
                    - max-burst
                    - period
                - node-id-in-rro
                - p2mp-merge-point-abort-timer
                - p2mp-s2l-fast-retry
                - p2p-merge-point-abort-timer
                - preemption-timer
                - rapid-retransmit-time
                - rapid-retry-limit
                - refresh-reduction-over-bypass
                - refresh-time
                - shutdown
                - te-down-threshold
                - te-threshold-update
                    - on-cac-failure
                    - update-timer
                - te-up-threshold
```


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3.4.33.75 configure router segment-routing Commands

```
- segment-routing
    - maintenance-policy
        - bfd-enable
        - bfd-template
        - hold-down-timer
        - mode
        - return-path-label
        - revert-timer
        - shutdown
        - threshold
    - segment-routing-v6
        - base-routing-instance
            - locator
                - function
                    - end
                        - srh-mode
                    - end-dt4
                    - end-dt46
                    - end-dt6
                    - end-x
                        - interface
                        - protection
                        - srh-mode
                    - end-x-auto-allocate
            - micro-segment-locator
                - function
                    - ua
                        - interface
                        - protection
                        - srh-mode
                    - ua-auto-allocate
                    - udt4
                    - udt46
                    - udt6
        - locator
            - algorithm
            - argument-length
            - block-length
            - function-length
            - label-block
            - prefix
                - ip-prefix
            - shutdown
            - static-function
                - label-block
                - max-entries
            - termination-fpe
        - micro-segment
            - argument-length
            - block
                - label-block
                - prefix
                    - ip-prefix
                - shutdown
                - static-function
                    - max-entries
                - termination-fpe
            - block-length
            - global-sid-entries
            - sid-length
```


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config router segment-routing srv6 micro-segment-locator

```
                    - micro-segment-locator
                        - algorithm
                        - block
                        - shutdown
                        - un
                            - srh-mode
                            - value
                    - origination-fpe
                    - source-address
                - sr-mpls
                    - prefix-sids
                        - flex-algo
                            - ipv4-sid
                            - ipv6-sid
                        - ipv4-sid
                        - ipv6-sid
                        - node-sid
                - sr-policies
                    - egress-statistics
                        - accounting-policy
                        - collect-stats
                        - shutdown
                    - ingress-statistics
                        - shutdown
                    - reserved-label-block
                    - shutdown
                    - static-policy
                        - binding-sid
                        - color
                        - distinguisher
                        - endpoint
                        - head-end
                        - maintenance-policy
                        - pce-report
                        - preference
                        - segment-list
                            - segment
                                - behavior-and-structure
                                - mpls-label
                                - srv6-sid
                            - shutdown
                            - weight
                        - segment-routing-v6
                            - binding-sid
                                - ip-address
                                - locator
                                - micro-segment-locator
                            - return-path-bfd-sid
                        - shutdown
                        - type
```


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3.4.33.76 configure router sgt-qos Commands

```
            - sgt-qos
                - application
                - dscp
```


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3.4.33.77 configure router single-sfm-overload Commands

```
            - single-sfm-overload
```


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3.4.33.78 configure router static-route-entry Commands

```
            - static-route-entry
                - backup-tag
                - black-hole
                    - community
                    - description
                    - dynamic-bgp
                    - generate-icmp
                    - metric
                    - preference
                    - prefix-list
                    - shutdown
                    - tag
                - community
                - indirect
                    - community
                    - cpe-check
                        - drop-count
                        - interval
                        - log
                        - padding-size
                    - description
                    - destination-class
                    - forwarding-class
                        - priority
                    - metric
                    - preference
                    - prefix-list
                    - shutdown
                    - source-class
                    - tag
                    - tunnel-next-hop
                        - disallow-igp
                        - flex-algo
                        - resolution
                        - resolution-filter
                            - ldp
                            - mpls-fwd-policy
                            - rib-api
                            - rsvp-te
                                - lsp
                            - sr-isis
                            - sr-ospf
                            - sr-ospf3
                            - sr-te
                                - lsp
                - ipsec-tunnel
                    - community
                    - description
                    - metric
                    - preference
                    - shutdown
                    - tag
                - leak-destination
                    - router-instance
                - next-hop
                    - backup-next-hop
                        - address
                    - bfd-enable
                    - community
                    - cpe-check
```


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config router static-route-entry next-hop cpe-check drop-count

```
                        - drop-count
                        - interval
                        - log
                        - padding-size
                    - description
                    - destination-class
                    - forwarding-class
                        - priority
                    - ldp-sync
                    - load-balancing-weight
                    - metric
                    - preference
                    - prefix-list
                    - shutdown
                    - source-class
                    - tag
                    - validate-next-hop
                - tag
```


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3.4.33.79 configure router static-route-hold-down Commands

```
            - static-route-hold-down
```


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3.4.33.80 configure router subscriber-mgmt Commands

```
            - subscriber-mgmt
                - dhcpv4
                    - routed-subnet-transparent-forward
```


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3.4.33.81 configure router triggered-policy Commands

```
            - triggered-policy
```


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3.4.33.82 configure router ttl-propagate Commands

```
            - ttl-propagate
                - label-route-local
                - label-route-transit
                - lsr-label-route
                - sr-mpls-local
                - sr-mpls-transit
                - vprn-local
                - vprn-transit
```


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3.4.33.83 configure router tunnel-interface Commands

```
            - tunnel-interface
                - description
```


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3.4.33.84 configure router twamp-light Commands

```
            - twamp-light
                - reflector
                    - allow-ipv6-udp-checksum-zero
                    - description
                    - lag-ip-measurement
                    - prefix
                        - description
                    - shutdown
                    - type
```


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3.4.33.85 configure router vrgw Commands

```
            - vrgw
                - lanext
                    - description
                    - shutdown
                    - vxlan-port
                    - vxlan-vtep-range
                    - wlan-gw-group
```


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3.4.33.86 configure router weighted-ecmp Commands

```
            - weighted-ecmp
```


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3.4.33.87 configure router wlan-gw Commands

```
            - wlan-gw
                - distributed-sub-mgmt
                    - ipv6-tcp-mss-adjust
                - mobility-triggered-acct
                    - interim-update
                - xconnect
                    - shutdown
                    - tunnel-source-ip
                    - wlan-gw-group
```


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3.4.33.88 configure router wpp Commands

```
            - wpp
                - initial-sla-profile
                - portals
                    - portal
                        - ack-auth-retry-count
                        - ntf-logout-retry-count
                        - port-format
                        - retry-interval
                        - secret
                        - shutdown
                        - version
                - shutdown
```


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3.4.34 configure saa Commands

```
- saa
    - test
        - accounting-policy
        - continuous
        - description
        - jitter-event
        - latency-event
        - loss-event
        - probe-history
        - shutdown
        - trap-gen
            - probe-fail-enable
            - probe-fail-threshold
            - test-completion-enable
            - test-fail-enable
            - test-fail-threshold
        - type
            - cpe-ping
            - dns
            - eth-cfm-linktrace
            - eth-cfm-loopback
            - eth-cfm-two-way-delay
            - eth-cfm-two-way-slm
            - icmp-ping
            - icmp-trace
            - lsp-ping
            - lsp-trace
            - mac-ping
            - mac-trace
            - sdp-ping
            - vccv-ping
            - vccv-trace
            - vprn-ping
            - vprn-trace
        - type-multi-line
            - lsp-ping
                - fc
                - interval
                - profile
                - send-count
                - size
                - sr-policy
                    - fc
                    - interval
                    - path-destination
                    - profile
                    - segment-list
                    - send-count
                    - size
                    - src-ip-address
                    - timeout
                    - ttl
                - src-ip-address
                - timeout
                - ttl
            - lsp-trace
                - sr-policy
                    - downstream-map-tlv
                    - fc
                    - interval
```


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config saa test type-multi-line lsp-trace sr-policy max-fail

```
                                - max-fail
                                - path-destination
                                - probe-count
                                - profile
                                - segment-list
                                - size
                                - src-ip-address
                                - timeout
                                - ttl
```


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3.4.35 configure service Commands

```
        – service
```


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3.4.35.1 configure service cpipe Commands

```
- cpipe
    - description
    - endpoint
        - active-hold-delay
        - description
        - revert-time
    - sap
        - accounting-policy
        - cem
            - packet
            - report-alarm
            - rtp-header
        - collect-stats
        - description
        - dist-cpu-protection
        - egress
            - agg-rate
                - adaptation-rule
                - burst-limit
                - limit-unused-bandwidth
                - rate
            - policer-control-override
                - max-rate
                - priority-mbs-thresholds
                    - min-thresh-separation
                    - priority
                        - mbs-contribution
            - policer-control-policy
            - policer-override
                - policer
                    - cbs
                    - mbs
                    - packet-byte-offset
                    - percent-rate
                    - rate
                    - stat-mode
            - qos
            - queue-override
                - queue
                    - adaptation-rule
                    - avg-frame-overhead
                    - burst-limit
                    - cbs
                    - drop-tail
                        - low
                            - percent-reduction-from-mbs
                    - mbs
                    - monitor-queue-depth
                    - parent
                    - percent-rate
                    - rate
            - scheduler-override
                - scheduler
                    - parent
                    - rate
            - scheduler-policy
            - vport
        - ingress
            - criteria-overrides
                - ip-criteria
```


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config service cpipe sap ingress criteria-overrides ip-criteria activate-entry-tag

```
                        - activate-entry-tag
                    - ipv6-criteria
                        - activate-entry-tag
                - policer-control-override
                    - max-rate
                    - priority-mbs-thresholds
                        - min-thresh-separation
                        - priority
                            - mbs-contribution
                - policer-control-policy
                - policer-override
                    - policer
                        - cbs
                        - mbs
                        - packet-byte-offset
                        - percent-rate
                        - rate
                        - stat-mode
                - qos
                - queue-override
                    - queue
                        - adaptation-rule
                        - cbs
                        - drop-tail
                            - low
                                - percent-reduction-from-mbs
                        - mbs
                        - monitor-queue-depth
                        - parent
                        - percent-rate
                        - rate
                - scheduler-override
                    - scheduler
                        - parent
                        - rate
                - scheduler-policy
            - multi-service-site
            - shutdown
        - service-mtu
        - shutdown
        - spoke-sdp
            - bandwidth
            - bfd
                - bfd-enable
                - bfd-template
            - control-channel-status
                - acknowledgment
                - refresh-timer
                - request-timer
                - shutdown
            - control-word
            - description
            - egress
                - filter
                - qos
                - vc-label
            - ingress
                - filter
                - qos
                - vc-label
            - precedence
            - pw-path-id
                - agi
                - saii-type2
```


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config service cpipe spoke-sdp pw-path-id taii-type2

```
                        - taii-type2
                    - shutdown
```


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3.4.35.2 configure service customer Commands

```
            - customer
                - contact
                - description
                - multi-service-site
                    - assignment
                    - description
                    - egress
                        - agg-rate
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - policer-control-policy
                        - scheduler-override
                            - scheduler
                                - parent
                                - rate
                        - scheduler-policy
                    - ingress
                        - policer-control-policy
                        - scheduler-override
                            - scheduler
                                - parent
                                - rate
                        - scheduler-policy
                - phone
```


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3.4.35.3 configure service dynamic-services Commands

```
- dynamic-services
    - dynamic-services-policy
        - accounting-1
            - server-policy
            - stats-type
            - update-interval
            - update-interval-jitter
        - accounting-2
            - server-policy
            - stats-type
            - update-interval
            - update-interval-jitter
        - authentication
            - local-auth-db
            - password
            - server-policy
        - cli-user
        - description
        - sap-limit
        - script-policy
    - local-auth-db
        - description
        - shutdown
        - user-name
            - description
            - index
                - accounting
                    - stats-type
                    - update-interval
                - dynamic-services-policy
                - sap-id
                - script-parameters-1
                - script-parameters-2
                - script-parameters-3
                - script-parameters-4
            - shutdown
    - service-range
    - timers
        - setup-timeout
        - stats-type
```


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3.4.35.4 configure service epipe Commands

```
            - epipe
                - bgp
                    - adv-service-mtu
                    - pw-template-binding
                        - bfd-enable
                        - bfd-template
                    - route-distinguisher
                    - route-target
                    - vsi-export
                    - vsi-import
                - bgp-evpn
                    - evi
                    - local-attachment-circuit
                        - eth-tag
                        - srv6-instance
                        - vlan-signaled-flexible-cross-connect
                    - mpls
                        - auto-bind-tunnel
                            - allow-flex-algo-fallback
                            - ecmp
                            - enforce-strict-tunnel-tagging
                            - enforce-untagged-route
                            - resolution
                            - resolution-filter
                                - bgp
                                - ldp
                                - mpls-fwd-policy
                                - rib-api
                                - rsvp
                                - sr-isis
                                - sr-ospf
                                - sr-ospf3
                                - sr-policy
                                - sr-te
                                - udp
                            - weighted-ecmp
                        - control-word
                        - default-route-tag
                        - domain-id
                        - dynamic-egress-label-limit
                        - ecmp
                        - entropy-label
                        - evi-three-byte-auto-rt
                        - force-qinq-vc-forwarding
                        - force-vlan-vc-forwarding
                        - hash-label
                        - mh-mode
                        - oper-group
                        - route-next-hop
                        - send-tunnel-encap
                        - shutdown
                    - remote-attachment-circuit
                        - eth-tag
                    - segment-routing-v6
                        - default-route-tag
                        - domain-id
                        - ecmp
                        - evi-three-byte-auto-rt
                        - force-qinq-vc-forwarding
                        - force-vlan-vc-forwarding
```


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config service epipe bgp-evpn srv6 mh-mode

```
                    - mh-mode
                    - oper-group
                    - resolution
                    - route-next-hop
                    - shutdown
                    - source-address
                - vxlan
                    - default-route-tag
                    - ecmp
                    - evi-three-byte-auto-rt
                    - send-tunnel-encap
                    - shutdown
            - bgp-vpws
                - remote-ve-name
                    - ve-id
                - shutdown
                - ve-name
                    - ve-id
            - description
            - endpoint
                - active-hold-delay
                - description
                - revert-time
                - standby-signaling-master
                - standby-signaling-slave
            - eth-cfm
                - tunnel-fault
            - ignore-l2vpn-mtu-mismatch
            - load-balancing
                - lbl-eth-or-ip-l4-teid
                - per-service-hashing
            - nat-outside
                - shutdown
            - oper-group
            - pbb
                - force-qtag-forwarding
                - local-switching-service-state
                - tunnel
            - pw-port
                - down-on-peer-tldp-pw-status-faults
                - egress
                    - shaper
                        - int-dest-id
                        - vport
                - monitor-oper-group
                - oper-up-on-mhstandby
                - shutdown
            - sap
                - aarp
                - accounting-policy
                - app-profile
                - bandwidth
                - cem
                    - local-ecid
                    - packet
                    - remote-ecid
                    - remote-mac
                    - report-alarm
                    - rtp-header
                - cflowd
                - collect-stats
                - cpu-protection
                - description
                - dist-cpu-protection
```


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config service epipe sap egress

```
                    - egress
                        - agg-rate
                            - adaptation-rule
                            - burst-limit
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - filter
                        - latency-budget
                        - policer-control-override
                            - max-rate
                            - priority-mbs-thresholds
                                - min-thresh-separation
                                - priority
                                    - mbs-contribution
                        - policer-control-policy
                        - policer-override
                            - policer
                                - cbs
                                - mbs
                                - packet-byte-offset
                                - percent-rate
                                - rate
                                - stat-mode
                        - qinq-mark-top-only
                        - qos
                        - queue-override
                            - hs-secondary-shaper
                            - hs-wrr-group
                                - class-weight
                                - percent-rate
                                - rate
                            - queue
                                - adaptation-rule
                                - avg-frame-overhead
                                - burst-limit
                                - cbs
                                - drop-tail
                                    - low
                                        - percent-reduction-from-mbs
                                - hs-class-weight
                                - hs-wred-queue
                                - hs-wrr-weight
                                - mbs
                                - monitor-queue-depth
                                - parent
                                - percent-rate
                                - rate
                        - scheduler-override
                            - scheduler
                                - parent
                                - rate
                        - scheduler-policy
                        - vport
                    - eth-cfm
                        - ais-enable
                        - collect-lmm-fc-stats
                            - fc
                            - fc-in-profile
                        - collect-lmm-stats
                        - mep
                            - ais-enable
                                - client-meg-level
                                - interface-support-enable
```


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config service epipe sap eth-cfm mep ais-enable interval

```
                        - interval
                        - low-priority-defect
                        - priority
                    - alarm-notification
                        - fng-alarm-time
                        - fng-reset-time
                    - ccm-enable
                    - ccm-ltm-priority
                    - ccm-padding-size
                    - cfm-vlan-tag
                    - client-meg-level
                    - csf-enable
                        - multiplier
                    - description
                    - eth-test-enable
                        - bit-error-threshold
                        - test-pattern
                    - fault-propagation-enable
                    - grace
                        - eth-ed
                            - max-rx-defect-window
                            - priority
                            - rx-eth-ed
                            - tx-eth-ed
                        - eth-vsm-grace
                            - rx-eth-vsm-grace
                            - tx-eth-vsm-grace
                    - lbm-svc-act-responder
                    - low-priority-defect
                    - mac-address
                    - monitor-oper-group
                    - one-way-delay-threshold
                    - priority
                    - shutdown
                - mip
                - squelch-ingress-ctag-levels
                - squelch-ingress-levels
                - tunnel-fault
            - eth-tunnel
                - path
            - ethernet
                - llf
            - ignore-oper-down
            - ingress
                - aggregate-policer
                    - cbs
                    - mbs
                    - rate
                - criteria-overrides
                    - ip-criteria
                        - activate-entry-tag
                    - ipv6-criteria
                        - activate-entry-tag
                - filter
                - match-qinq-dot1p
                - policer-control-override
                    - max-rate
                    - priority-mbs-thresholds
                        - min-thresh-separation
                        - priority
                            - mbs-contribution
                - policer-control-policy
                - policer-override
                    - policer
```


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config service epipe sap ingress policer-over plcr cbs

```
                        - cbs
                        - mbs
                        - packet-byte-offset
                        - percent-rate
                        - rate
                        - stat-mode
                    - qinq-vlan-translation
                    - qos
                    - queue-override
                        - queue
                            - adaptation-rule
                            - cbs
                            - drop-tail
                                - low
                                    - percent-reduction-from-mbs
                            - mbs
                            - monitor-queue-depth
                            - parent
                            - percent-rate
                            - rate
                    - scheduler-override
                        - scheduler
                            - parent
                            - rate
                    - scheduler-policy
                    - vlan-translation
                - l2tpv3-session
                    - pw-type
                    - router
                    - shutdown
                    - vc-id
                - lag-link-map-profile
                - lag-per-link-hash
                - monitor-oper-group
                - multi-service-site
                - oper-group
                - ring-node
                - shutdown
                - transit-policy
            - segment-routing-v6
                - locator
                    - function
                        - end-dx2
                - micro-segment-locator
                    - function
                        - udx2
            - service-mtu
            - shutdown
            - site
                - boot-timer
                - sap
                - shutdown
                - site-activation-timer
                - site-id
                - site-min-down-timer
                - site-preference
            - spoke-sdp
                - aarp
                - accounting-policy
                - adv-service-mtu
                - anysec-encryption-group
                - app-profile
                - bandwidth
                - bfd
```


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config service epipe spoke-sdp bfd bfd-enable

```
                        - bfd-enable
                        - bfd-template
                        - failure-action
                        - wait-for-up-timer
                    - block-on-peer-fault
                    - collect-stats
                    - control-channel-status
                        - acknowledgment
                        - refresh-timer
                        - request-timer
                        - shutdown
                    - control-word
                    - cpu-protection
                    - description
                    - egress
                        - filter
                        - l2tpv3
                            - cookie
                        - qos
                        - vc-label
                    - entropy-label
                    - eth-cfm
                            - client-meg-level
                            - interval
                        - collect-lmm-fc-stats
                            - fc
                            - fc-in-profile
                        - collect-lmm-stats
                        - mep
                            - ais-enable
                                - client-meg-level
                                - interface-support-enable
                                - interval
                                - low-priority-defect
                                - priority
                            - alarm-notification
                                - fng-alarm-time
                                - fng-reset-time
                            - ccm-enable
                            - ccm-ltm-priority
                            - ccm-padding-size
                            - cfm-vlan-tag
                            - csf-enable
                                - multiplier
                            - description
                            - eth-test-enable
                                - bit-error-threshold
                                - test-pattern
                            - fault-propagation-enable
                            - grace
                                - eth-ed
                                    - max-rx-defect-window
                                    - priority
                                    - rx-eth-ed
                                    - tx-eth-ed
                                - eth-vsm-grace
                                    - rx-eth-vsm-grace
                                    - tx-eth-vsm-grace
                            - lbm-svc-act-responder
                            - low-priority-defect
                            - mac-address
                            - one-way-delay-threshold
                            - shutdown
                        - mip
```


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config service epipe spoke-sdp eth-cfm squelch-ingress-ctag-levels

```
                    - squelch-ingress-ctag-levels
                    - squelch-ingress-levels
                - force-qinq-vc-forwarding
                - force-vlan-vc-forwarding
                - hash-label
                - ingress
                    - filter
                    - l2tpv3
                        - cookie
                    - qos
                    - vc-label
                - monitor-oper-group
                - oper-group
                - precedence
                - pw-path-id
                    - agi
                    - saii-type2
                    - taii-type2
                - pw-status-signaling
                - shutdown
                - standby-signaling-slave
                - transit-policy
                - use-sdp-bmac
                - vlan-vc-tag
            - spoke-sdp-fec
                - auto-config
                - path
                - precedence
                - pw-template-bind
                - retry-count
                - retry-timer
                - saii-type2
                - shutdown
                - signaling
                - standby-signaling-slave
                - taii-type2
            - vxlan
                - egr-vtep
                    - oper-group
            - vxlan-src-vtep
```


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3.4.35.5 configure service ies Commands

```
            - ies
                - aa-interface
                    - address
                    - description
                    - ip-mtu
                    - sap
                        - description
                        - egress
                            - filter
                            - qos
                        - ingress
                            - qos
                        - shutdown
                    - shutdown
                - aarp-interface
                    - description
                    - ip-mtu
                    - shutdown
                    - spoke-sdp
                        - aarp
                        - description
                        - egress
                            - filter
                            - vc-label
                        - ingress
                            - filter
                            - vc-label
                        - shutdown
                - description
                - eth-cfm
                    - tunnel-fault
                - igmp-host-tracking
                    - expiry-time
                    - shutdown
                - interface
                    - address
                    - allow-directed-broadcasts
                    - arp-host-route
                        - populate
                    - arp-learn-unsolicited
                    - arp-limit
                    - arp-populate
                    - arp-populate-host-route
                    - arp-proactive-refresh
                    - arp-retry-timer
                    - arp-timeout
                    - authentication-policy
                    - bfd
                    - cflowd-parameters
                        - sampling
                    - cpu-protection
                    - description
                    - dhcp
                        - description
                        - gi-address
                        - lease-populate
                        - option
                            - action
                            - circuit-id
                            - remote-id
```


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config service ies if dhcp option vendor-specific-option

```
                        - vendor-specific-option
                            - client-mac-address
                            - pool-name
                            - sap-id
                            - service-id
                            - string
                            - system-id
                    - proxy-server
                        - emulated-server
                        - lease-time
                        - shutdown
                    - python-policy
                    - relay-plain-bootp
                    - relay-proxy
                    - release-include-gi-address
                    - server
                    - shutdown
                    - trusted
                    - use-arp
                - dhcp6
                - dynamic-tunnel-redundant-next-hop
                - enable-ingress-stats
                - enable-mac-accounting
                - hold-time
                    - down
                    - up
                - host-connectivity-verify
                - icmp
                    - mask-reply
                    - param-problem
                    - redirects
                    - ttl-expired
                    - unreachables
                - if-attribute
                    - admin-group
                    - srlg-group
                - ignore-default
                - ingress
                    - destination-class-lookup
                    - policy-accounting
                - ip-helper-address
                - ip-mtu
                - ipsec
                    - ip-exception
                    - ipsec-tunnel
                        - bfd-designate
                        - bfd-enable
                        - clear-df-bit
                        - copy-traffic-class-upon-decapsulation
                        - description
                        - dynamic-keying
                            - auto-establish
                            - cert
                                - cert-profile
                                - status-verify
                                    - default-result
                                    - primary
                                - trust-anchor-profile
                            - ike-policy
                            - local-id
                            - ppk
                            - pre-shared-key
                            - transform
                        - encapsulated-ip-mtu
```


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configure service ies interface ipsec ipsec-tunnel icmp-generation

```
                        - icmp-generation
                            - frag-required
                                - interval
                                - message-count
                        - icmp6-generation
                            - pkt-too-big
                                - interval
                                - message-count
                        - ip-mtu
                        - local-gateway-address
                        - manual-keying
                            - security-association
                        - max-history-esp-key-records
                        - max-history-ike-key-records
                        - pmtu-discovery-aging
                        - private-tcp-mss-adjust
                        - propagate-pmtu-v4
                        - propagate-pmtu-v6
                        - public-tcp-mss-adjust
                        - remote-gateway-address
                        - replay-window
                        - security-policy
                        - shutdown
                    - ipv6-exception
                    - shutdown
                - ipv6
                    - address
                    - bfd
                    - dad-disable
                    - dhcp6-relay
                        - allow-reconfigure-without-lease
                        - description
                        - lease-populate
                        - link-address
                        - neighbor-resolution
                        - option
                            - interface-id
                            - remote-id
                        - python-policy
                        - server
                        - shutdown
                        - source-address
                        - user-db
                    - dhcp6-server
                        - max-nbr-of-leases
                        - prefix-delegation
                            - prefix
                                - duid
                                - preferred-lifetime
                                - valid-lifetime
                            - shutdown
                    - forward-ipv4-packets
                    - icmp6
                        - packet-too-big
                        - param-problem
                        - redirects
                        - time-exceeded
                        - unreachables
                    - ignore-default
                    - link-local-address
                    - local-dhcp-server
                    - local-proxy-nd
                    - nd-host-route
                        - populate
```


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config service ies if ipv6 nd-learn-unsolicited

```
                - nd-learn-unsolicited
                - nd-populate-host-route
                - nd-proactive-refresh
                - nd-route-tag
                - neighbor
                - neighbor-limit
                - proxy-nd-policy
                - qos-route-lookup
                - reachable-time
                - secure-nd
                    - allow-unsecured-msgs
                    - link-local-modifier
                    - public-key-min-bits
                    - security-parameter
                    - shutdown
                - stale-time
                - tcp-mss
                - urpf-check
                    - ignore-default
                    - mode
                - vrrp
                    - backup
                    - bfd-enable
                    - init-delay
                    - mac
                    - master-int-inherit
                    - message-interval
                    - ntp-reply
                    - oper-group
                    - ping-reply
                    - policy
                    - preempt
                    - priority
                    - shutdown
                    - standby-forwarding
                    - telnet-reply
                    - traceroute-reply
            - load-balancing
                - egr-ip-load-balancing
                - flow-label-load-balancing
                - spi-load-balancing
                - teid-load-balancing
            - local-dhcp-server
            - local-proxy-arp
            - loopback
            - mac
            - monitor-oper-group
            - multi-chassis-shunting-profile
            - multicast-network-domain
            - ping-template
                - destination-address
                - shutdown
            - proxy-arp-policy
            - ptp-hw-assist
            - qos-route-lookup
            - remote-proxy-arp
            - sap
                - aarp
                - accounting-policy
                - anti-spoof
                - app-profile
                - bandwidth
                - calling-station-id
                - collect-stats
```


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config service ies if sap cpu-protection

```
                        - cpu-protection
                        - description
                        - dist-cpu-protection
                        - egress
                            - agg-rate
                                - adaptation-rule
                                - burst-limit
                                - limit-unused-bandwidth
                                - queue-frame-based-accounting
                                - rate
                            - filter
                            - latency-budget
                            - policer-control-override
                                - max-rate
                                - priority-mbs-thresholds
                                    - min-thresh-separation
                                    - priority
                                        - mbs-contribution
                            - policer-control-policy
                            - policer-override
                                - policer
                                    - cbs
                                    - mbs
                                    - packet-byte-offset
                                    - percent-rate
                                    - rate
                                    - stat-mode
                            - qinq-mark-top-only
                            - qos
                            - queue-group-redirect-list
                            - queue-override
                                - hs-secondary-shaper
                                - hs-wrr-group
                                    - class-weight
                                    - percent-rate
                                    - rate
                                - queue
                                    - adaptation-rule
                                    - avg-frame-overhead
                                    - burst-limit
                                    - cbs
                                    - drop-tail
                                        - low
                                            - percent-reduction-from-mbs
                                    - hs-class-weight
                                    - hs-wred-queue
                                    - hs-wrr-weight
                                    - mbs
                                    - monitor-queue-depth
                                    - parent
                                    - percent-rate
                                    - rate
                            - scheduler-override
                                - scheduler
                                    - parent
                                    - rate
                            - scheduler-policy
                            - vport
                        - eth-cfm
                            - collect-lmm-fc-stats
                                - fc
                                - fc-in-profile
                            - collect-lmm-stats
                            - mep
```


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configure service ies interface sap eth-cfm mep ais-enable

```
                        - ais-enable
                            - interface-support-enable
                        - alarm-notification
                            - fng-alarm-time
                            - fng-reset-time
                        - ccm-enable
                        - ccm-ltm-priority
                        - ccm-padding-size
                        - csf-enable
                            - multiplier
                        - description
                        - eth-test-enable
                            - bit-error-threshold
                            - test-pattern
                        - fault-propagation-enable
                        - grace
                            - eth-ed
                                - max-rx-defect-window
                                - priority
                                - rx-eth-ed
                                - tx-eth-ed
                            - eth-vsm-grace
                                - rx-eth-vsm-grace
                                - tx-eth-vsm-grace
                        - low-priority-defect
                        - mac-address
                        - monitor-oper-group
                        - one-way-delay-threshold
                        - shutdown
                    - shutdown
                    - squelch-ingress-levels
                    - tunnel-fault
                - fwd-wholesale
                    - pppoe
                    - reassembly
                - host-lockout-policy
                - host-shutdown
                - ingress
                    - aggregate-policer
                        - cbs
                        - mbs
                        - rate
                    - criteria-overrides
                        - ip-criteria
                            - activate-entry-tag
                        - ipv6-criteria
                            - activate-entry-tag
                    - filter
                    - flowspec
                    - match-qinq-dot1p
                    - policer-control-override
                        - max-rate
                        - priority-mbs-thresholds
                            - min-thresh-separation
                            - priority
                                - mbs-contribution
                    - policer-control-policy
                    - policer-override
                        - policer
                            - cbs
                            - mbs
                            - packet-byte-offset
                            - percent-rate
                            - rate
```


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config service ies if sap ingress policer-override plcr stat-mode

```
                        - stat-mode
                - qos
                - queue-group-redirect-list
                - queue-override
                    - queue
                        - adaptation-rule
                        - cbs
                        - drop-tail
                            - low
                                - percent-reduction-from-mbs
                        - mbs
                        - monitor-queue-depth
                        - parent
                        - percent-rate
                        - rate
                - scheduler-override
                    - scheduler
                        - parent
                        - rate
                - scheduler-policy
            - ip-tunnel
                - backup-remote-ip
                - clear-df-bit
                - delivery-service
                - description
                - dest-ip
                - dscp
                - encapsulated-ip-mtu
                - gre-header
                - icmp-generation
                    - frag-required
                        - interval
                        - message-count
                - icmp6-generation
                    - packet-too-big
                - ip-mtu
                - ipsec-transport-mode-profile
                - pmtu-discovery-aging
                - private-tcp-mss-adjust
                - propagate-pmtu-v4
                - propagate-pmtu-v6
                - public-tcp-mss-adjust
                - reassembly
                - remote-ip
                - shutdown
                - source
            - ipsec-gw
                - cert
                    - cert-profile
                    - status-verify
                        - default-result
                        - primary
                    - trust-anchor-profile
                - client-db
                - default-secure-service
                - default-tunnel-template
                - dhcp
                    - gi-address
                    - send-release
                    - server
                    - shutdown
                - dhcp6
                    - link-address
                    - send-release
```


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config service ies if sap ipsec-gw dhcp6 server

```
                        - server
                        - shutdown
                    - ike-policy
                    - local-address-assignment
                        - ipv4
                            - address-source
                        - ipv6
                            - address-source
                        - shutdown
                    - local-gateway-address
                    - local-id
                    - max-history-esp-key-records
                    - max-history-ike-key-records
                    - mixed-tunnel-mode
                    - pre-shared-key
                    - radius-accounting-policy
                    - radius-authentication-policy
                    - shutdown
                    - transform
                    - ts-negotiation
                - l2tpv3-session
                    - pw-type
                    - router
                    - shutdown
                    - vc-id
                - lag-link-map-profile
                - lag-per-link-hash
                    - one-way-delay-threshold
                - multi-service-site
                - shutdown
                - static-host
                    - ancp-string
                    - app-profile
                    - inter-dest-id
                    - shutdown
                    - sla-profile
                    - sub-profile
                    - subscriber
                    - subscriber-sap-id
                - sub-sla-mgmt
                    - def-sub-profile
                        - profiled-traffic-only
                    - single-sub-parameters
                - transit-policy
            - secondary
            - shcv-policy-ipv4
            - shcv-policy-ipv6
            - shutdown
            - spoke-sdp
                - aarp
                - accounting-policy
                - anysec-encryption-group
                - app-profile
                - bfd
                    - bfd-enable
                    - bfd-template
                    - failure-action
                    - wait-for-up-timer
                - collect-stats
                - control-channel-status
                    - acknowledgment
                    - refresh-timer
                    - request-timer
                    - shutdown
```


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```
                        - control-word
                        - cpu-protection
                        - description
                        - egress
                            - filter
                            - qos
                            - vc-label
                        - entropy-label
                        - eth-cfm
                            - ais-enable
                            - collect-lmm-fc-stats
                                - fc
                                - fc-in-profile
                            - collect-lmm-stats
                            - mep
                                - ais-enable
                                    - interface-support-enable
                                - alarm-notification
                                    - fng-alarm-time
                                    - fng-reset-time
                                - ccm-enable
                                - ccm-ltm-priority
                                - ccm-padding-size
                                - csf-enable
                                    - multiplier
                                - description
                                - eth-test-enable
                                    - bit-error-threshold
                                    - test-pattern
                                - fault-propagation-enable
                                - grace
                                    - eth-ed
                                        - max-rx-defect-window
                                        - priority
                                        - rx-eth-ed
                                        - tx-eth-ed
                                    - eth-vsm-grace
                                        - rx-eth-vsm-grace
                                        - tx-eth-vsm-grace
                                - low-priority-defect
                                - mac-address
                                - one-way-delay-threshold
                                - shutdown
                            - squelch-ingress-levels
                        - hash-label
                        - ingress
                            - filter
                            - flowspec
                            - qos
                            - vc-label
                        - pw-path-id
                            - agi
                            - saii-type2
                            - taii-type2
                        - shutdown
                        - transit-policy
                    - static-arp
                    - static-tunnel-redundant-next-hop
                    - tcp-mss
                    - tos-marking-state
                    - unnumbered
                    - urpf-check
                        - ignore-default
                        - mode
```


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config service ies if vas-if-type

```
                - vas-if-type
                - vpls
                    - egress
                        - reclassify-using-qos
                        - v4-routed-override-filter
                        - v6-routed-override-filter
                    - evpn
                        - arp
                            - advertise
                            - evpn-local-es
                                - entry-type
                                - retention-timer
                            - flood-garp-and-unknown-req
                            - learn-dynamic
                        - nd
                            - advertise
                            - evpn-local-es
                                - entry-type
                                - retention-timer
                            - learn-dynamic
                    - ingress
                        - v4-routed-override-filter
                        - v6-routed-override-filter
                - vrrp
                    - authentication-key
                    - backup
                    - bfd-enable
                    - init-delay
                    - mac
                    - master-int-inherit
                    - message-interval
                    - ntp-reply
                    - oper-group
                    - ping-reply
                    - policy
                    - preempt
                    - priority
                    - shutdown
                    - ssh-reply
                    - standby-forwarding
                    - telnet-reply
                    - traceroute-reply
            - ipsec
                - stale-time
            - multicast-info-policy
                    - filter
                    - filter
                        - ingress
            - redundant-interface
                - address
                - description
                - hold-time
                    - down
                    - up
                - ip-mtu
                - ipv6
                    - address
                - shutdown
                - spoke-sdp
                    - control-channel-status
                        - acknowledgment
                        - refresh-timer
                        - request-timer
                        - shutdown
```


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configure service ies redundant-interface spoke-sdp control-word

```
                    - control-word
                    - description
                    - egress
                        - filter
                        - vc-label
                    - ingress
                        - filter
                        - vc-label
                    - pw-path-id
                        - agi
                        - saii-type2
                        - taii-type2
                    - shutdown
                - rip
                    - group
                - sap
                    - anti-spoof
                        - scheduler-policy
                                - interface-support-enable
                        - scheduler-policy
                    - multi-service-site
                - shutdown
                                - interface-support-enable
                - subscriber-interface
                    - address
                    - allow-unmatching-subnets
                    - default-dns
                    - description
                    - dhcp
                        - client-applications
                        - description
                        - gi-address
                            - client-mac-address
                        - python-policy
                        - relay-proxy
                        - release-include-gi-address
                        - server
                        - shutdown
                        - vendor-specific-option
                        - virtual-subnet
                    - dhcp6
                    - export-host-routes
                    - group-interface
                        - arp-host
                            - host-limit
                            - min-auth-interval
                            - sap-host-limit
                            - shutdown
                        - arp-populate
                        - arp-timeout
                        - authentication-policy
                        - bonding-parameters
                        - brg
                            - authenticated-brg-only
                            - default-brg-profile
                            - shutdown
                        - cflowd-parameters
                            - sampling
                        - data-trigger
                            - accept-ipv6-link-local-address
                            - shutdown
                        - description
                        - dhcp
                            - client-applications
```


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config service ies sub-if grp-if dhcp description

```
                        - description
                        - filter
                        - gi-address
                        - lease-populate
                        - match-circuit-id
                        - offer-selection
                            - client-mac
                                - discover-delay
                            - discover-delay
                            - server
                                - discover-delay
                        - option
                            - action
                            - circuit-id
                            - remote-id
                            - vendor-specific-option
                                - client-mac-address
                                - pool-name
                                - sap-id
                                - service-id
                                - string
                                - system-id
                        - proxy-server
                            - emulated-server
                            - lease-time
                            - shutdown
                        - python-policy
                        - relay-proxy
                        - release-include-gi-address
                        - server
                        - shutdown
                        - trusted
                        - user-db
                    - dhcp6
                        - user-db
                    - diameter-application-policy
                    - diameter-auth-policy
                    - enable-ingress-stats
                    - gtp-parameters
                        - shutdown
                    - host-connectivity-verify
                    - host-limit
                    - icmp
                        - mask-reply
                        - param-problem
                        - redirects
                        - ttl-expired
                        - unreachables
                    - ignore-default
                    - ignore-df-bit
                    - ingress
                        - policy-accounting
                    - ip-mtu
                    - ipoe-linking
                        - gratuitous-rtr-adv
                        - shared-circuit-id
                        - shutdown
                    - ipoe-session
                        - description
                        - force-auth
                        - ipoe-session-policy
                        - min-auth-interval
                        - radius-session-timeout
                        - sap-session-limit
```


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```
                        - session-limit
                        - shutdown
                        - stateless-redundancy
                        - user-db
                    - ipv6
                        - allow-multiple-wan-addresses
                        - auto-reply
                            - neighbor-solicitation
                            - router-solicitation
                        - dhcp6
                            - allow-client-id-change
                            - filter
                            - option
                                - interface-id
                                - remote-id
                            - override-slaac
                            - pd-managed-route
                            - proxy-server
                                - client-applications
                                - preferred-lifetime
                                - rebind-timer
                                - renew-timer
                                - server-id
                                - shutdown
                                - valid-lifetime
                            - python-policy
                            - relay
                                - advertise-selection
                                    - client-mac
                                        - preference-option
                                            - value
                                        - solicit-delay
                                    - preference-option
                                        - value
                                    - server
                                        - preference-option
                                            - value
                                        - solicit-delay
                                    - solicit-delay
                                - allow-reconfigure-without-lease
                                - client-applications
                                - description
                                - lease-split
                                    - shutdown
                                    - valid-lifetime
                                - link-address
                                - server
                                - shutdown
                                - source-address
                            - snooping
                                - shutdown
                            - user-db
                            - user-ident
                        - force-mcast
                        - ignore-default
                        - include-dns
                        - ipoe-bridged-mode
                        - managed-configuration
                        - max-advertisement
                        - min-advertisement
                        - mtu
                        - nd
                            - dad-snooping
                            - neighbor-limit
```


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config service ies sub-if grp-if ipv6 other-stateful-configuration

```
                - other-stateful-configuration
                - prefix-options
                - qos-route-lookup
                - rdnss-lifetime
                - router-advertisements
                    - current-hop-limit
                    - dns-options
                        - include-dns
                        - rdnss-lifetime
                    - force-mcast
                    - managed-configuration
                    - max-advertisement
                    - min-advertisement
                    - mtu
                    - other-stateful-configuration
                    - prefix-options
                        - autonomous
                        - on-link
                        - preferred-lifetime
                        - valid-lifetime
                    - reachable-time
                    - retransmit-time
                    - router-lifetime
                    - shutdown
                - router-solicit
                    - inactivity-timer
                    - min-auth-interval
                    - shutdown
                    - user-db
                - urpf-check
                    - mode
            - local-address-assignment
                - client-application
                - default-pool
                - ipv6
                    - client-application
                    - server
                - server
                - shutdown
            - local-proxy-arp
            - mac
            - mask-reply
            - min-auth-interval
            - oper-up-while-empty
            - policy-control
            - pppoe
                - anti-spoof
                - description
                - dhcp-client
                    - client-id
                - policy
                - python-policy
                - sap-session-limit
                - session-limit
                - shutdown
                - user-db
            - proxy-arp-policy
            - qos-route-lookup
            - redundant-interface
            - remote-proxy-arp
            - sap
                - accounting-policy
                - anti-spoof
                - app-profile
```


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config service ies sub-if grp-if sap calling-station-id

```
                        - calling-station-id
                        - collect-stats
                        - cpu-protection
                        - default-host
                        - description
                        - dist-cpu-protection
                        - egress
                            - agg-rate
                                - adaptation-rule
                                - burst-limit
                                - limit-unused-bandwidth
                                - queue-frame-based-accounting
                                - rate
                            - filter
                            - latency-budget
                            - policer-control-policy
                            - qinq-mark-top-only
                            - qos
                            - queue-override
                                - queue
                            - scheduler-policy
                            - vport
                        - eth-cfm
                            - collect-lmm-fc-stats
                                - fc
                                - fc-in-profile
                            - collect-lmm-stats
                            - csf-enable
                                - multiplier
                            - mep
                                - ais-enable
                                    - interface-support-enable
                                    - interval
                                    - priority
                                - alarm-notification
                                    - fng-alarm-time
                                    - fng-reset-time
                                - ccm-enable
                                - ccm-ltm-priority
                                - ccm-padding-size
                                - csf-enable
                                    - multiplier
                                - description
                                - eth-test-enable
                                    - bit-error-threshold
                                    - test-pattern
                                - fault-propagation-enable
                                - grace
                                    - eth-ed
                                        - max-rx-defect-window
                                        - priority
                                        - rx-eth-ed
                                        - tx-eth-ed
                                    - eth-vsm-grace
                                        - rx-eth-vsm-grace
                                        - tx-eth-vsm-grace
                                - low-priority-defect
                                - mac-address
                                - multiplier
                                - one-way-delay-threshold
                                - shutdown
                            - squelch-ingress-levels
                            - tunnel-fault
                        - fwd-wholesale
```


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config service ies sub-if grp-if sap fwd-wholesale pppoe

```
                - pppoe
            - host-lockout-policy
            - host-shutdown
            - igmp-host-tracking
                - disable-router-alert-check
                - expiry-time
                - import
                - max-num-groups
                - max-num-grp-sources
                - max-num-sources
            - ingress
                - filter
                - match-qinq-dot1p
                - policer-control-policy
                - qos
                - scheduler-policy
            - lag-link-map-profile
            - lag-per-link-hash
            - monitor-oper-group
            - multi-service-site
            - oper-group
            - shutdown
            - static-host
                - ancp-string
                - app-profile
                - inter-dest-id
                - mac-linking
                - managed-routes
                    - route-entry
                        - cpe-check
                            - drop-count
                            - fail-action
                            - interval
                            - log
                            - padding-size
                            - source-ip-address
                            - timeout
                        - metric
                        - preference
                        - tag
                - retail-svc-id
                - rip-policy
                - shutdown
                - sla-profile
                - sub-profile
                - subscriber
                - subscriber-sap-id
            - static-host-mgmt
                - mac-learning-options
                    - data-triggered
                    - single-mac
            - sub-sla-mgmt
                - def-app-profile
                - def-inter-dest-id
                - def-sla-profile
                - def-sub-id
                - def-sub-profile
                - multi-sub-sap
                - shutdown
                - single-sub-parameters
                    - non-sub-traffic
                    - profiled-traffic-only
                - sub-ident-policy
        - sap-parameters
```


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config service ies sub-if grp-if sap-parameters anti-spoof

```
                        - anti-spoof
                        - description
                        - sub-sla-mgmt
                            - def-app-profile
                            - def-sla-profile
                            - def-sub-id
                            - def-sub-profile
                            - sub-ident-policy
                    - shared-circuit-id
                    - shcv-policy
                    - shcv-policy-ipv4
                    - shcv-policy-ipv6
                    - shutdown
                    - srrp
                        - bfd-enable
                        - description
                        - gw-mac
                        - keep-alive-interval
                        - message-path
                        - monitor-oper-group
                        - one-garp-per-sap
                        - oper-group
                        - policy
                        - preempt
                        - priority
                        - send-fib-population-packets
                        - shutdown
                    - srrp-enabled-routing
                    - suppress-aa-sub
                    - tos-marking-state
                    - urpf-check
                        - mode
                    - wlan-gw
                        - address
                        - description
                            - initial-lease-time
                        - egress
                            - agg-rate-limit
                            - hold-time
                            - qos
                            - scheduler-policy
                            - shape-multi-client-only
                            - shaping
                        - group-encryption
                            - encryption-keygroup
                        - gw-addresses
                            - address
                        - l2-access-points
                            - l2-ap
                                - encap-type
                                - epipe-sap-template
                                - shutdown
                        - l2-ap-auto-sub-id-fmt
                        - l2-ap-encap-type
                        - learn-ap-mac
                        - learn-l2tp-cookie
                        - max-lanext-bd
                        - mcs-peer
                        - mobility
                            - hold-time
                            - inter-vlan
                            - multi-tunnel-type
                            - trigger
                        - oper-down-on-group-degrade
```


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config service ies sub-if grp-if wlan-gw promiscuous-mode

```
                        - promiscuous-mode
                                    - description
                                        - description
                        - router
                        - shutdown
                        - tcp-mss-adjust
                        - tunnel-encaps
                            - learn-l2tp-cookie
                        - vlan-tag-ranges
                            - default-retail-svc-id
                            - range
                                - authenticate-on-dhcp
                                - authentication
                                    - authentication-policy
                                    - hold-time
                                    - local
                                        - coa-policy
                                        - default-ue-state
                                    - vlan-mismatch-timeout
                                - data-triggered-ue-creation
                                - dhcp
                                    - active-lease-time
                                    - initial-lease-time
                                    - l2-aware-ip-address
                                    - primary-dns
                                    - primary-nbns
                                    - secondary-dns
                                    - secondary-nbns
                                    - shutdown
                                - dhcp6
                                    - active-preferred-lifetime
                                    - active-valid-lifetime
                                    - initial-preferred-lifetime
                                    - initial-valid-lifetime
                                    - shutdown
                                - distributed-sub-mgmt
                                    - aa-url-parameter
                                    - accounting-policy
                                    - accounting-update-interval
                                    - captive-portal-api-url
                                    - collect-aa-acct-stats
                                    - def-app-profile
                                    - dsm-ip-filter
                                    - egress-policer
                                    - ingress-policer
                                    - one-time-redirect
                                    - send-unrestricted-portal-url
                                    - shutdown
                                    - soft-quota-exhausted-filter
                                    - volume-quota-direction
                                - dynamic-service
                                - extensions
                                    - extension
                                - http-redirect-policy
                                - idle-timeout
                                - l2-service
                                    - description
                                    - shutdown
                                - nat-policy
                                - retail-svc-id
                                - slaac
                                    - active-preferred-lifetime
                                    - active-valid-lifetime
                                    - initial-preferred-lifetime
```


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config service ies sub-if grp-if wlan-gw ranges range track-mobility

```
                                - initial-valid-lifetime
                                - shutdown
                            - track-mobility
                                - mac-format
                                - radius-proxy-cache
                            - vrgw
                                - brg
                                    - authenticated-brg-only
                                    - default-brg-profile
                                    - shutdown
                                - lanext
                                    - access
                                        - max-mac
                                        - multi-access
                                        - policer
                                    - assistive-address-resolution
                                    - bd-mac-prefix
                                    - mac-translation
                                    - network
                                        - max-mac
                                        - policer
                                        - shutdown
                                    - shutdown
                            - xconnect
                                - accounting-policy
                                - accounting-update-interval
                                - mobility-acct-updates
                                - shutdown
                        - wlan-gw-group
                    - wpp
                        - enable-triggered-hosts
                        - initial-app-profile
                        - initial-sla-profile
                        - initial-sub-profile
                        - lease-time
                        - portal
                        - portal-group
                        - restore-disconnected
                        - shutdown
                        - user-db
                - hold-time
                    - down
                    - up
                - ip-mtu
                - ipoe-linking
                    - gratuitous-rtr-adv
                - ipoe-session
                    - session-limit
                - ipv6
                    - address
                    - allow-multiple-wan-addresses
                    - allow-unmatching-prefixes
                    - allow-unmatching-subnets
                    - default-dns
                    - delegated-prefix-length
                    - dhcp6
                        - allow-client-id-change
                        - override-slaac
                        - pd-managed-route
                        - proxy-server
                            - client-applications
                            - preferred-lifetime
                            - rebind-timer
                            - renew-timer
```


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configure service ies subscriber-interface ipv6 dhcp6 proxy-server server-id

```
                        - server-id
                        - shutdown
                        - valid-lifetime
                    - python-policy
                    - relay
                        - client-applications
                        - description
                        - lease-split
                            - shutdown
                            - valid-lifetime
                        - link-address
                        - server
                        - shutdown
                        - source-address
                - ipoe-bridged-mode
                - link-local-address
                - router-advertisements
                    - current-hop-limit
                    - dns-options
                        - include-dns
                        - rdnss-lifetime
                    - force-mcast
                    - managed-configuration
                    - max-advertisement
                    - min-advertisement
                    - mtu
                    - other-stateful-configuration
                    - prefix-options
                        - autonomous
                        - on-link
                        - preferred-lifetime
                        - valid-lifetime
                    - reachable-time
                    - retransmit-time
                    - router-lifetime
                    - shutdown
                - router-solicit
                    - inactivity-timer
                    - include-dns
                    - rdnss-lifetime
                - subscriber-prefixes
                    - prefix
            - local-address-assignment
                - client-application
                - default-pool
                - ipv6
                    - client-application
                    - server
                - server
                - shutdown
            - pppoe
                - description
                - session-limit
            - shutdown
            - unnumbered
            - wlan-gw
                - pool-manager
                    - dhcpv6-client
                        - dhcpv4-nat
                            - link-addr
                            - pool-name
                            - shutdown
                        - ia-na
                            - link-addr
```


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config service ies sub-if wlan-gw pool-manager dhcp6-client ia-na pool-name

```
                                - pool-name
                                - shutdown
                            - lease-query
                            - server
                            - slaac
                                - link-addr
                                - pool-name
                                - shutdown
                            - source-ip
                        - watermarks
                        - wlan-gw-group
                    - redundancy
                        - export
                        - monitor
                        - shutdown
            - subscriber-mgmt
                - multi-chassis-shunt-id
                - up-resiliency
                    - monitor-oper-group
            - video-interface
                - accounting-policy
                - address
                - channel
                    - description
                    - scte35-action
                    - zone-channel
                - cpu-protection
                - description
                - multicast-service
                - output-format
                - shutdown
                - video-sap
                    - egress
                        - filter
                        - qos
                    - ingress
                        - filter
                        - qos
```


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3.4.35.6 configure service ipfix Commands

```
            - ipfix
                - ipfix-export-policy
                    - collector
                        - mtu
                        - shutdown
                        - source-address
                        - template-refresh-timeout
                    - description
                    - template-format
```


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3.4.35.7 configure service ipipe Commands

```
            - ipipe
                - ce-address-discovery
                - description
                - endpoint
                    - active-hold-delay
                    - description
                    - revert-time
                    - standby-signaling-master
                - eth-cfm
                    - tunnel-fault
                - sap
                    - accounting-policy
                    - app-profile
                    - bandwidth
                    - ce-address
                    - collect-stats
                    - cpu-protection
                    - description
                    - dist-cpu-protection
                    - egress
                        - agg-rate
                            - adaptation-rule
                            - burst-limit
                            - limit-unused-bandwidth
                            - rate
                        - filter
                        - policer-control-override
                            - max-rate
                            - priority-mbs-thresholds
                                - min-thresh-separation
                                - priority
                                    - mbs-contribution
                        - policer-control-policy
                        - policer-override
                            - policer
                                - cbs
                                - mbs
                                - packet-byte-offset
                                - percent-rate
                                - rate
                                - stat-mode
                        - qinq-mark-top-only
                        - qos
                        - queue-override
                            - hs-secondary-shaper
                            - hs-wrr-group
                                - class-weight
                                - percent-rate
                                - rate
                            - queue
                                - adaptation-rule
                                - avg-frame-overhead
                                - burst-limit
                                - cbs
                                - drop-tail
                                    - low
                                        - percent-reduction-from-mbs
                                - hs-class-weight
                                - hs-wred-queue
                                - hs-wrr-weight
```


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config service ipipe sap egress queue-override queue mbs

```
                        - mbs
                        - monitor-queue-depth
                        - parent
                        - percent-rate
                        - rate
                    - scheduler-override
                        - scheduler
                            - parent
                            - rate
                    - scheduler-policy
                    - vport
                - eth-cfm
                    - collect-lmm-fc-stats
                        - fc
                        - fc-in-profile
                    - collect-lmm-stats
                    - mep
                        - alarm-notification
                            - fng-alarm-time
                            - fng-reset-time
                        - ccm-enable
                        - ccm-ltm-priority
                        - ccm-padding-size
                        - description
                        - eth-test-enable
                            - bit-error-threshold
                            - test-pattern
                        - fault-propagation-enable
                        - grace
                            - eth-ed
                                - max-rx-defect-window
                                - priority
                                - rx-eth-ed
                                - tx-eth-ed
                            - eth-vsm-grace
                                - rx-eth-vsm-grace
                                - tx-eth-vsm-grace
                        - low-priority-defect
                        - mac-address
                        - one-way-delay-threshold
                        - shutdown
                    - squelch-ingress-levels
                    - tunnel-fault
                - eth-tunnel
                    - path
                - ingress
                    - criteria-overrides
                        - ip-criteria
                            - activate-entry-tag
                        - ipv6-criteria
                            - activate-entry-tag
                    - filter
                    - match-qinq-dot1p
                    - policer-control-override
                        - max-rate
                        - priority-mbs-thresholds
                            - min-thresh-separation
                            - priority
                                - mbs-contribution
                    - policer-control-policy
                    - policer-override
                        - policer
                            - cbs
                            - mbs
```


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config service ipipe sap ingress policer-over plcr packet-byte-offset

```
                            - packet-byte-offset
                            - percent-rate
                            - rate
                            - stat-mode
                    - qos
                    - queue-override
                        - queue
                            - adaptation-rule
                            - cbs
                            - drop-tail
                                - low
                                    - percent-reduction-from-mbs
                            - mbs
                            - monitor-queue-depth
                            - parent
                            - percent-rate
                            - rate
                    - scheduler-override
                        - scheduler
                            - parent
                            - rate
                    - scheduler-policy
                - lag-link-map-profile
                - lag-per-link-hash
                - mac
                - mac-refresh
                - multi-service-site
                - shutdown
                - transit-policy
                - use-broadcast-mac
            - service-mtu
            - shutdown
            - spoke-sdp
                - aarp
                - app-profile
                - bandwidth
                - bfd
                    - bfd-enable
                    - bfd-template
                - ce-address
                - control-word
                - description
                - egress
                    - filter
                    - qos
                    - vc-label
                - entropy-label
                - hash-label
                - ingress
                    - filter
                    - qos
                    - vc-label
                - precedence
                - shutdown
                - transit-policy
            - stack-capability-signaling
```


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3.4.35.8 configure service mac-list Commands

```
            - mac-list
                - description
                - mac
```


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3.4.35.9 configure service mac-notification Commands

```
            - mac-notification
                - count
                - interval
```


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3.4.35.10 configure service md-auto-id Commands

```
            - md-auto-id
                - customer-id-range
                - pw-template-id-range
                - service-id-range
```


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3.4.35.11 configure service mrp Commands

```
            - mrp
                - copy
                - mrp-policy
                    - default-action
                    - description
                    - entry
                        - action
                        - description
                        - match
                            - isid
                    - renum
                    - scope
```


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3.4.35.12 configure service nat Commands

```
            - nat
                - deterministic-script
                    - location
                - firewall-policy
                    - alg
                        - ftp
                        - rtsp
                        - sip
                    - description
                    - domain
                    - filtering
                    - l2-outside
                    - nat-domain
                    - port-forwarding-range
                    - port-limits
                        - forwarding
                    - priority-sessions
                        - fc
                    - reset-unknown-tcp
                    - session-limits
                        - max
                        - reserved
                        - watermarks
                    - tcp-mss-adjust
                    - timeouts
                        - icmp6-query
                        - sip
                        - tcp-established
                        - tcp-rst
                        - tcp-syn
                        - tcp-time-wait
                        - tcp-transitory
                        - udp
                        - udp-dns
                        - udp-initial
                        - unknown-protocol
                    - udp-inbound-refresh
                    - unknown-protocols
                        - protocol
                - map-domain
                    - description
                    - dmr-prefix
                    - fpe
                    - ip-fragmentation
                        - v6-frag-header
                    - ipv6-udp-checksum-recalculation
                    - map-t-group
                    - mapping-rule
                        - description
                        - ea-length
                        - enable-statistics
                        - ipv4-prefix
                        - psid-offset
                        - rule-prefix
                        - shutdown
                    - mtu
                    - shutdown
                    - tcp-mss-adjust
                - nat-classifier
                    - default-action
```


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config service nat nat-classifier default-dnat-ip-address

```
                - default-dnat-ip-address
                - description
                - entry
                    - action
                    - description
                    - match
                        - dst-port-range
                        - foreign-ip
            - nat-policy
                - alg
                    - ftp
                    - pptp
                    - rtsp
                    - sip
                - block-limit
                - description
                - dnat
                    - dnat-only
                    - nat-classifier
                - filtering
                - ipfix-export-policy
                - l2-outside
                - pool
                - port-forwarding-range
                - port-limits
                    - dynamic-ports
                    - forwarding
                    - reserved
                    - watermarks
                - priority-sessions
                    - fc
                - reset-unknown-tcp
                - session-limits
                    - max
                    - reserved
                    - watermarks
                - syslog-export-policy
                - tcp-mss-adjust
                - timeouts
                    - icmp-query
                    - sip
                    - subscriber-retention
                    - tcp-established
                    - tcp-rst
                    - tcp-syn
                    - tcp-time-wait
                    - tcp-transitory
                    - udp
                    - udp-dns
                    - udp-initial
                - udp-inbound-refresh
            - nat-prefix-list
                - prefix
            - pcp-server-policy
                - description
                - lifetime
                - max-description-size
                - opcode
                    - announce
                    - get
                    - map
                - option
                    - description
                    - next
```


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config service nat pcp-server-policy option port-reservation

```
                        - port-reservation
                        - port-set
                        - prefer-failure
                        - third-party
                    - reuse-ext-ip
                    - version
                - port-forwarding
                    - l2-aware
                    - lsn
                - syslog
                    - syslog-export-policy
                        - collector
                            - destination-port
                            - ipv4-source-address
                            - shutdown
                        - description
                        - facility
                        - include
                            - destination-ip
                            - foreign-ip
                            - foreign-port
                            - nat-policy-name
                            - sub-id
                        - log-prefix
                        - max-tx-delay
                        - mtu
                        - rate-limit
                        - severity-level
                - up-nat-policy
                    - alg
                        - ftp
                        - pptp
                        - rtsp
                        - sip
                    - block-limit
                    - default-host
                    - description
                    - filtering
                    - icmp-echo-reply
                    - ipfix-export-policy
                    - port-block-extensions
                        - ports
                        - watermarks
                    - port-limits
                        - reserved
                        - watermarks
                    - priority-sessions
                        - fc
                    - reset-unknown-tcp
                    - session-limits
                        - max
                        - reserved
                        - watermarks
                    - tcp-mss-adjust
                    - timeouts
                        - icmp-query
                        - sip
                        - subscriber-retention
                        - tcp-established
                        - tcp-rst
                        - tcp-syn
                        - tcp-time-wait
                        - tcp-transitory
                        - udp
```


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config service nat up-nat-policy timeouts udp-dns

```
                        - udp-dns
                        - udp-initial
                    - udp-inbound-refresh
                - watermarks
```


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3.4.35.13 configure service oper-group Commands

```
            - oper-group
                - bfd-enable
                - hold-time
                    - group
```


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3.4.35.14 configure service pbb Commands

```
            - pbb
                - leaf-source-bmac
                - mac-name
                - source-bmac
```


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3.4.35.15 configure service proxy-arp-nd Commands

```
            - proxy-arp-nd
                - mac-list
                    - mac
```


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3.4.35.16 configure service pw-routing Commands

```
            - pw-routing
                - boot-timer
                    - shutdown
                - local-prefix
                    - advertise-bgp
                - path
                    - hop
                    - shutdown
                - retry-count
                - retry-timer
                - spe-address
                - static-route
```


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3.4.35.17 configure service pw-template Commands

```
            - pw-template
                - accounting-policy
                - allow-fragmentation
                - auto-learn-mac-protect
                - block-on-peer-fault
                - collect-stats
                - controlword
                - description
                - disable-aging
                - disable-learning
                - discard-unknown-source
                - egress
                    - filter
                    - filter-name
                        - ip
                        - ipv6
                        - mac
                    - mfib-allowed-mda-destinations
                        - mda
                    - qos
                - encryption-keygroup
                - entropy-label
                - force-qinq-vc-forwarding
                - force-vlan-vc-forwarding
                - hash-label
                - igmp-snooping
                    - fast-leave
                    - import
                    - last-member-query-interval
                    - max-num-groups
                    - mcac
                        - policy
                    - query-interval
                    - query-response-interval
                    - robust-count
                    - send-queries
                    - version
                - ingress
                    - filter
                    - filter-name
                        - ip
                        - ipv6
                        - mac
                    - qos
                - l2pt-termination
                - limit-mac-move
                - mac-pinning
                - max-nbr-mac-addr
                - path-mtu
                - restrict-protected-src
                - sdp-exclude
                - sdp-include
                - split-horizon-group
                    - auto-learn-mac-protect
                    - description
                    - restrict-protected-src
                    - restrict-unprotected-dst
                - stp
                    - auto-edge
                    - edge-port
```


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config service pw-template stp link-type

```
                    - link-type
                    - path-cost
                    - priority
                    - root-guard
                    - shutdown
                - vc-type
                - vlan-vc-tag
```


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3.4.35.18 configure service sdp Commands

```
            - sdp
                - accounting-policy
                - adv-mtu-override
                - allow-fragmentation
                - bgp-tunnel
                - binding
                    - port
                    - pw-port
                        - adv-service-mtu
                        - control-word
                        - description
                        - egress
                            - shaper
                                - int-dest-id
                                - pw-sap-secondary-shaper
                                - vport
                            - vc-label
                        - entropy-label
                        - ingress
                            - vc-label
                        - monitor-oper-group
                        - shutdown
                        - vc-type
                        - vlan-vc-tag
                - booking-factor
                - class-forwarding
                    - enforce-diffserv-lsp-fc
                    - fc
                    - multicast-lsp
                    - shutdown
                - collect-stats
                - description
                - encryption-keygroup
                - far-end
                - keep-alive
                    - hello-time
                    - hold-down-time
                    - max-drop-count
                    - message-length
                    - shutdown
                    - timeout
                - ldp
                - local-end
                - lsp
                - metric
                - mixed-lsp-mode
                    - revert-time
                - network-domain
                - path-mtu
                - pbb-etype
                - sdp-group
                - shutdown
                - signaling
                - source-bmac-lsb
                - sr-isis
                - sr-ospf
                - sr-te-lsp
                - tunnel-far-end
                - vlan-vc-etype
```


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config service sdp weighted-ecmp

```
                - weighted-ecmp
```


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3.4.35.19 configure service sdp-group Commands

```
            - sdp-group
                - group-name
```


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3.4.35.20 configure service system Commands

```
            – system
                – bgp-auto-rd-range
                – bgp-evpn
                    – ad-per-es-route-target
                    – ad-per-evi-routes
                        – attribute-propagation
                        – bgp-path-selection
                        – d-path-ignore
                    – ethernet-segment
                        – ac-df-capability
                        – advertise-ifl-host-ad-routes
                        – auto-esi
                        – dot1q
                            – q-tag-range
                        – es-activation-timer
                        – es-orig-ip
                        – esi
                        – evi
                            – evi-range
                        – lag
                        – layer-3-neighbor-synchronization
                        – multi-homing
                        – network-interconnect-vxlan
                        – oper-group
                        – port
                        – pw-port
                        – qinq
                            – s-tag
                            – s-tag-range
                        – route-next-hop
                        – sdp
                        – service-carving
                            – manual
                                – evi
                                – isid
                                – preference
                                    – value
                            – mode
                        – service-id
                            – service-range
                        – shutdown
                        – source-bmac-lsb
                        – vc-id-range
                        – vprn-next-hop
                    – evpn-etree-leaf-label
                    – ip-prefix-routes
                        – interface-ful
                            – attribute-uniform-propagation
                            – bgp-path-selection
                        – interface-less
                            – vxlan-router-mac
                    – multicast-leave-sync-propagation
                    – route-distinguisher
                    – segment-routing-v6
                – fdb-table-size
                – gre-eth-bridged
                    – tunnel-termination
                – pw-port-list
                    – port
                – tunnel-dot1ad-etype
```


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config service system vpn-gre-source-ip

```
                - vpn-gre-source-ip
                - vxlan
                    - assisted-replication-ip
                    - tunnel-termination
```


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3.4.35.21 configure service template Commands

```
            - template
                - epipe-sap-template
                    - egress
                        - filter
                            - ip
                            - ipv6
                            - mac
                        - filter-name
                            - ip
                            - ipv6
                            - mac
                        - qos
                    - ingress
                        - filter
                            - ip
                            - ipv6
                            - mac
                        - filter-name
                            - ip
                            - ipv6
                            - mac
                        - qos
                - vpls-sap-template
                    - bpdu-translation
                    - collect-stats
                    - cpu-protection
                    - disable-aging
                    - disable-learning
                    - discard-unknown-source
                    - dist-cpu-protection
                    - egress
                        - agg-rate
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - filter
                        - filter-name
                            - ip
                            - ipv6
                            - mac
                        - policer-control-policy
                        - qinq-mark-top-only
                        - qos
                        - scheduler-policy
                    - eth-cfm
                        - mip
                        - squelch-ingress-ctag-levels
                        - squelch-ingress-levels
                    - ingress
                        - filter
                        - filter-name
                            - ip
                            - ipv6
                            - mac
                        - match-qinq-dot1p
                        - policer-control-policy
                        - qos
                        - scheduler-policy
                    - l2pt-termination
                    - limit-mac-move
```


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config service template vpls-sap-template mac-move-level

```
                - mac-move-level
                - max-nbr-mac-addr
                - stp
                    - auto-edge
                    - edge-port
                    - link-type
                    - path-cost
                    - priority
                    - root-guard
                    - shutdown
            - vpls-template
                - customer
                - disable-aging
                - disable-learning
                - discard-unknown
                - discard-unknown-source
                - fdb-table-high-wmark
                - fdb-table-low-wmark
                - fdb-table-size
                - load-balancing
                    - per-service-hashing
                    - spi-load-balancing
                    - teid-load-balancing
                - local-age
                - mac-move
                    - move-frequency
                    - number-retries
                    - primary-ports
                        - cumulative-factor
                    - retry-timeout
                    - secondary-ports
                        - cumulative-factor
                    - shutdown
                - remote-age
                - service-mtu
                - stp
                    - forward-delay
                    - hello-time
                    - hold-count
                    - max-age
                    - mode
                    - priority
                    - shutdown
                - temp-flooding
```


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3.4.35.22 configure service upnp Commands

```
            - upnp
                - upnp-policy
                    - description
                    - http-listening-port
                    - mapping-limit
                    - strict-mode
```


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3.4.35.23 configure service vpls Commands

```
            - vpls
                - allow-ip-int-bind
                    - evpn-mcast-gateway
                        - advertise
                        - dr-activation-timer
                        - non-dr-attract-traffic
                        - shutdown
                    - evpn-mpls-ecmp
                    - forward-ipv4-multicast-to-ip-int
                    - forward-ipv6-multicast-to-ip-int
                    - igmp-snooping
                        - mrouter-port
                    - ip-multicast-ecmp
                    - mld-snooping
                        - mrouter-port
                    - vxlan-ipv4-tep-ecmp
                - bgp
                    - adv-service-mtu
                    - pw-template-binding
                        - bfd-enable
                        - bfd-template
                        - monitor-oper-group
                        - oper-group
                    - route-distinguisher
                    - route-target
                    - vsi-export
                    - vsi-import
                - bgp-ad
                    - pw-template-binding
                        - bfd-enable
                        - bfd-template
                    - route-target
                    - shutdown
                    - vpls-id
                    - vsi-export
                    - vsi-id
                        - prefix
                        - vsi-import
                - bgp-evpn
                    - accept-ivpls-evpn-flush
                    - arp-nd-extended-community-advertisement
                    - arp-nd-only-with-fdb-advertisement
                    - cfm-mac-advertisement
                    - evi
                    - ignore-mtu-mismatch
                    - incl-mcast-l2-attributes-advertisement
                    - incl-mcast-orig-ip
                    - ingress-repl-inc-mcast-advertisement
                    - ip-route-advertisement
                    - ip-route-link-bandwidth
                        - advertise
                        - weighted-ecmp
                    - isid-route-target
                        - isid-range
                    - mac-advertisement
                    - mac-duplication
                        - black-hole-dup-mac
                        - detect
                        - retry
                        - trusted-mac-time
```


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config service vpls bgp-evpn mpls

```
                    - mpls
                        - auto-bind-tunnel
                            - allow-flex-algo-fallback
                            - ecmp
                            - enforce-strict-tunnel-tagging
                            - enforce-untagged-route
                            - resolution
                            - resolution-filter
                                - bgp
                                - ldp
                                - mpls-fwd-policy
                                - rib-api
                                - rsvp
                                - sr-isis
                                - sr-ospf
                                - sr-ospf3
                                - sr-policy
                                - sr-te
                                - udp
                            - weighted-ecmp
                        - control-word
                        - default-route-tag
                        - dynamic-egress-label-limit
                        - ecmp
                        - entropy-label
                        - evi-three-byte-auto-rt
                        - force-qinq-vc-forwarding
                        - force-vlan-vc-forwarding
                        - hash-label
                        - ingress-replication-bum-label
                        - mh-mode
                        - oper-group
                        - restrict-protected-src
                        - route-next-hop
                        - send-tunnel-encap
                        - shutdown
                        - split-horizon-group
                    - segment-routing-v6
                        - default-route-tag
                        - ecmp
                        - evi-three-byte-auto-rt
                        - force-qinq-vc-forwarding
                        - force-vlan-vc-forwarding
                        - mh-mode
                        - oper-group
                        - resolution
                        - restrict-protected-src
                        - route-next-hop
                        - shutdown
                        - source-address
                        - split-horizon-group
                    - sel-mcast-advertisement
                    - unknown-mac-route
                    - vlan-aware-bundle
                    - vxlan
                        - auto-disc-route-advertisement
                        - default-route-tag
                        - ecmp
                        - evi-three-byte-auto-rt
                        - mh-mode
                        - oper-group
                        - send-imet-ir-on-ndf
                        - send-tunnel-encap
                        - shutdown
```


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config service vpls bgp-vpls

```
            - bgp-vpls
                - max-ve-id
                - shutdown
                - ve-name
                    - ve-id
            - description
            - disable-aging
            - disable-learning
            - discard-unknown
            - endpoint
                - auto-learn-mac-protect
                - block-on-mesh-failure
                - description
                - ignore-standby-signaling
                - mac-pinning
                - max-nbr-mac-addr
                - mc-endpoint
                    - mc-ep-peer
                - restrict-protected-src
                - revert-time
                - static-mac
                - suppress-standby-signaling
            - eth-cfm
                - mep
                    - alarm-notification
                        - fng-alarm-time
                        - fng-reset-time
                    - ccm-enable
                    - ccm-ltm-priority
                    - ccm-padding-size
                    - cfm-vlan-tag
                    - description
                    - eth-test-enable
                        - bit-error-threshold
                        - test-pattern
                    - grace
                        - eth-ed
                            - max-rx-defect-window
                            - priority
                            - rx-eth-ed
                            - tx-eth-ed
                        - eth-vsm-grace
                            - rx-eth-vsm-grace
                            - tx-eth-vsm-grace
                    - low-priority-defect
                    - mac-address
                    - one-way-delay-threshold
                    - shutdown
                - tunnel-fault
            - eth-ring
            - eth-tunnel
            - fdb-table-high-wmark
            - fdb-table-low-wmark
            - fdb-table-size
            - gsmp
                - group
                    - ancp
                        - dynamic-topology-discover
                        - oam
                    - description
                    - hold-multiplier
                    - idle-filter
                    - keepalive
                    - neighbor
```


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config service vpls gsmp group neighbor description

```
                        - description
                        - local-address
                        - priority-marking
                        - shutdown
                    - persistency-database
                    - shutdown
                - hold-multiplier
                - idle-filter
                - persistency-database
                - shutdown
            - host-connectivity-verify
            - igmp-host-tracking
                - expiry-time
                - shutdown
            - igmp-snooping
                - evpn-proxy
                - mvr
                    - description
                    - group-policy
                    - shutdown
                - query-interval
                - query-src-ip
                - report-src-ip
                - robust-count
                - shutdown
                    - group
            - ignore-l2vpn-mtu-mismatch
            - interface
                - address
                - arp-timeout
                - description
                - hold-time
                    - down
                    - up
                - mac
                - shutdown
                - static-arp
                - static-mac
                - unnumbered
            - isid-policy
                - entry
                    - advertise-local
                    - range
                    - use-def-mcast
            - load-balancing
                - lbl-eth-or-ip-l4-teid
                - per-service-hashing
                - spi-load-balancing
                - teid-load-balancing
            - local-age
            - mac-move
                - move-frequency
                - number-retries
                - primary-ports
                    - cumulative-factor
                    - sap
                    - spoke-sdp
                - retry-timeout
                - secondary-ports
                    - cumulative-factor
                    - sap
                    - spoke-sdp
                - shutdown
            - mac-notification
```


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```
                    - count
                    - interval
                    - renotify
                    - shutdown
                - mac-protect
                    - mac
                - mac-subnet-length
                - mcast-ipv6-snooping-scope
                - mcr-default-gtw
                    - ip
                    - mac
                - mesh-sdp
                    - accounting-policy
                    - adv-service-mtu
                    - auto-learn-mac-protect
                    - bfd
                        - bfd-enable
                        - bfd-template
                    - collect-stats
                    - control-word
                    - cpu-protection
                    - description
                    - dhcp
                        - description
                        - snoop
                    - dhcp6
                    - egress
                        - filter
                        - mfib-allowed-mda-destinations
                            - mda
                        - qos
                        - vc-label
                    - entropy-label
                    - eth-cfm
                        - collect-lmm-fc-stats
                            - fc
                            - fc-in-profile
                        - collect-lmm-stats
                        - mep
                            - ais-enable
                                - client-meg-level
                                - interface-support-enable
                                - interval
                                - low-priority-defect
                                - priority
                            - alarm-notification
                                - fng-alarm-time
                                - fng-reset-time
                            - ccm-enable
                            - ccm-ltm-priority
                            - ccm-padding-size
                            - cfm-vlan-tag
                            - csf-enable
                                - multiplier
                            - description
                            - eth-test-enable
                                - bit-error-threshold
                                - test-pattern
                            - fault-propagation-enable
                            - grace
                                - eth-ed
                                    - max-rx-defect-window
                                    - priority
                                    - rx-eth-ed
```


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config service vpls mesh-sdp eth-cfm mep grace eth-ed tx-eth-ed

```
                            - tx-eth-ed
                        - eth-vsm-grace
                            - rx-eth-vsm-grace
                            - tx-eth-vsm-grace
                    - lbm-svc-act-responder
                    - low-priority-defect
                    - mac-address
                    - one-way-delay-threshold
                    - shutdown
                - mip
                - squelch-ingress-ctag-levels
                - squelch-ingress-levels
                - vmep-filter
            - fault-propagation-bmac
            - force-qinq-vc-forwarding
            - force-vlan-vc-forwarding
            - hash-label
            - igmp-snooping
                - disable-router-alert-check
                - fast-leave
                - import
                - last-member-query-interval
                - max-num-groups
                - max-num-grp-sources
                - max-num-sources
                - mcac
                    - if-policy
                    - policy
                    - unconstrained-bw
                - mrouter-port
                - query-interval
                - query-response-interval
                - robust-count
                - send-queries
                - static
                    - group
                        - source
                        - starg
                - version
            - ingress
                - filter
                - qos
                - vc-label
            - mac-pinning
                - ccm-enable
                - ccm-ltm-priority
            - mld-snooping
                - disable-router-alert-check
                - fast-leave
                - import
                - last-member-query-interval
                - max-num-groups
                - mcac
                    - if-policy
                    - policy
                    - unconstrained-bw
                - mrouter-port
                - query-interval
                - query-response-interval
                - robust-count
                - send-queries
                - static
                    - group
                        - source
```


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config service vpls mesh-sdp mld-snooping static group starg

```
                        - starg
                    - version
                - mrp
                    - join-time
                    - leave-all-time
                    - leave-time
                    - mrp-policy
                    - periodic-time
                    - periodic-timer
                - restrict-protected-src
                - shutdown
                    - mcac
                - static-mac
                - vlan-vc-tag
            - mfib-table-high-wmark
            - mfib-table-low-wmark
            - mfib-table-size
            - mld-snooping
                - evpn-proxy
                - mvr
                    - description
                    - group-policy
                    - shutdown
                - query-interval
                - query-src-ip
                - report-src-ip
                - robust-count
                - shutdown
            - mrp
                - flood-time
                - mmrp
                    - attribute-table-high-wmark
                    - attribute-table-low-wmark
                    - attribute-table-size
                    - end-station-only
                    - flood-time
                    - shutdown
                - mvrp
                    - attribute-table-high-wmark
                    - attribute-table-low-wmark
                    - attribute-table-size
                    - endstation-vid-group
                    - hold-time
                    - shutdown
                - shutdown
            - multicast-info-policy
            - pbb
                - backbone-vpls
                    - igmp-snooping
                        - mrouter-dest
                    - mld-snooping
                        - mrouter-dest
                    - restrict-protected-src
                    - sap
                        - igmp-snooping
                            - mrouter-port
                        - mld-snooping
                            - mrouter-port
                    - sdp
                        - igmp-snooping
                            - mrouter-port
                        - mld-snooping
                            - mrouter-port
                    - stp
```


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config service vpls pbb force-qtag-forwarding

```
                    - force-qtag-forwarding
                    - propagate-mac-flush-from-bvpls
                    - send-bvpls-evpn-flush
                    - send-bvpls-flush
                    - send-flush-on-bvpls-failure
                    - source-bmac
                    - use-es-bmac
                    - use-sap-bmac
                - pim-snooping
                    - group-policy
                    - hold-time
                    - ipv4-multicast-disable
                    - ipv6-multicast-disable
                    - mode
                - ppp-user-db
                - pppoe-user-db
                - propagate-mac-flush
                - provider-tunnel
                    - inclusive
                        - data-delay-interval
                        - mldp
                        - owner
                        - root-and-leaf
                        - rsvp
                            - lsp-template
                        - shutdown
                    - selective
                        - data-delay-interval
                        - data-threshold
                        - maximum-p2mp-spmsi
                        - mldp
                        - owner
                        - shutdown
                        - wildcard-spmsi
                - proxy-arp
                    - age-time
                    - dup-detect
                    - dynamic
                        - mac-list
                        - resolve
                        - sap
                    - dynamic-arp-populate
                    - evpn-route-tag
                    - garp-flood-evpn
                    - process-arp-probes
                    - received-garp-flood
                    - received-unknown-arp-request-flood
                    - restrict-non-configured-ip-address
                    - send-refresh
                    - shutdown
                    - static
                    - table-size
                    - unknown-arp-request-flood-evpn
                - proxy-nd
                    - age-time
                    - dup-detect
                    - dynamic
                        - mac-list
                        - resolve
                        - sap
                    - dynamic-nd-populate
                    - evpn-nd-advertise
                    - evpn-route-tag
                    - host-unsolicited-na-flood-evpn
```


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config service vpls proxy-nd process-dad-neighbor-solicitations

```
                    - process-dad-neighbor-solicitations
                    - received-host-unsolicited-na-flood
                    - received-router-unsolicited-na-flood
                    - received-unknown-ns-flood
                    - restrict-non-configured-ip-address
                    - router-unsolicited-na-flood-evpn
                    - send-refresh
                    - shutdown
                    - static
                    - table-size
                    - unknown-ns-flood-evpn
                - remote-age
                - restrict-unprotected-dst
                - sap
                    - accounting-policy
                    - allow-dot1q-msaps
                    - anti-spoof
                    - app-profile
                    - arp-host
                        - host-limit
                        - min-auth-interval
                        - shutdown
                    - arp-reply-agent
                    - authentication-policy
                    - auto-learn-mac-protect
                    - bandwidth
                    - bgp-vpls-mh-ve-id
                    - bpdu-translation
                    - calling-station-id
                    - cflowd
                    - collect-stats
                    - cpu-protection
                    - default-msap-policy
                    - description
                    - dhcp
                        - description
                        - lease-populate
                        - option
                            - action
                            - circuit-id
                            - remote-id
                            - vendor-specific-option
                                - client-mac-address
                                - sap-id
                                - service-id
                                - string
                                - system-id
                        - proxy-server
                            - emulated-server
                            - lease-time
                            - shutdown
                        - shutdown
                        - snoop
                    - dhcp-python-policy
                    - dhcp-user-db
                    - dhcp6
                        - description
                        - ldra
                            - interface-type
                            - options
                                - interface-id
                                - remote-id
                            - shutdown
                    - dhcp6-python-policy
```


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config service vpls sap dhcp6-user-db

```
                    - dhcp6-user-db
                    - diameter-application-policy
                    - diameter-auth-policy
                    - disable-aging
                    - disable-learning
                    - disable-send-bvpls-evpn-flush
                    - discard-unknown-source
                    - dist-cpu-protection
                    - dynamic-services
                        - dynamic-services-policy
                        - shutdown
                    - egress
                        - agg-rate
                            - adaptation-rule
                            - burst-limit
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - dest-mac-rewrite
                        - encap-defined-qos
                            - encap-group
                                - agg-rate
                                    - limit-unused-bandwidth
                                    - queue-frame-based-accounting
                                    - rate
                                - member
                                - qos
                                - scheduler-policy
                        - filter
                        - latency-budget
                        - policer-control-override
                            - max-rate
                            - priority-mbs-thresholds
                                - min-thresh-separation
                                - priority
                                    - mbs-contribution
                        - policer-control-policy
                        - policer-override
                            - policer
                                - cbs
                                - mbs
                                - packet-byte-offset
                                - percent-rate
                                - rate
                                - stat-mode
                        - qinq-mark-top-only
                        - qos
                        - queue-override
                            - hs-secondary-shaper
                            - hs-wrr-group
                                - class-weight
                                - percent-rate
                                - rate
                            - queue
                                - adaptation-rule
                                - avg-frame-overhead
                                - burst-limit
                                - cbs
                                - drop-tail
                                    - low
                                        - percent-reduction-from-mbs
                                - hs-class-weight
                                - hs-wred-queue
                                - hs-wrr-weight
```


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config service vpls sap egress queue-override queue mbs

```
                        - mbs
                        - monitor-queue-depth
                        - parent
                        - percent-rate
                        - rate
                    - scheduler-override
                        - scheduler
                            - parent
                            - rate
                    - scheduler-policy
                    - vport
                - eth-cfm
                    - collect-lmm-fc-stats
                        - fc
                        - fc-in-profile
                    - collect-lmm-stats
                    - mep
                        - ais-enable
                            - client-meg-level
                            - interface-support-enable
                            - interval
                            - low-priority-defect
                            - priority
                        - alarm-notification
                            - fng-alarm-time
                            - fng-reset-time
                        - ccm-enable
                        - ccm-ltm-priority
                        - ccm-padding-size
                        - cfm-vlan-tag
                        - csf-enable
                            - multiplier
                        - description
                        - eth-test-enable
                            - bit-error-threshold
                            - test-pattern
                        - fault-propagation-enable
                        - grace
                            - eth-ed
                                - max-rx-defect-window
                                - priority
                                - rx-eth-ed
                                - tx-eth-ed
                            - eth-vsm-grace
                                - rx-eth-vsm-grace
                                - tx-eth-vsm-grace
                        - lbm-svc-act-responder
                        - low-priority-defect
                        - mac-address
                        - monitor-oper-group
                        - one-way-delay-threshold
                        - shutdown
                    - mip
                    - squelch-ingress-ctag-levels
                    - squelch-ingress-levels
                    - tunnel-fault
                    - vmep-filter
                - eth-tunnel
                    - path
                - fault-propagation-bmac
                - force-l2pt-boundary
                - host-connectivity-verify
                - host-lockout-policy
                - host-shutdown
```


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config service vpls sap igmp-host-tracking

```
                    - igmp-host-tracking
                        - disable-router-alert-check
                        - expiry-time
                        - import
                        - max-num-groups
                        - max-num-grp-sources
                        - max-num-sources
                    - igmp-snooping
                        - disable-router-alert-check
                        - fast-leave
                        - import
                        - last-member-query-interval
                        - max-num-groups
                        - max-num-grp-sources
                        - max-num-sources
                        - mcac
                            - if-policy
                            - mc-constraints
                                - level
                                - number-down
                                - shutdown
                                - use-lag-port-weight
                            - policy
                            - unconstrained-bw
                        - mrouter-port
                        - mvr
                            - from-vpls
                            - group-policy
                            - to-sap
                        - query-interval
                        - query-response-interval
                        - robust-count
                        - send-queries
                        - static
                            - group
                                - source
                                - starg
                        - version
                    - ingress
                        - aggregate-policer
                            - cbs
                            - mbs
                            - rate
                        - criteria-overrides
                            - ip-criteria
                                - activate-entry-tag
                            - ipv6-criteria
                                - activate-entry-tag
                        - filter
                        - match-qinq-dot1p
                        - policer-control-override
                            - max-rate
                            - priority-mbs-thresholds
                                - min-thresh-separation
                                - priority
                                    - mbs-contribution
                        - policer-control-policy
                        - policer-override
                            - policer
                                - cbs
                                - mbs
                                - packet-byte-offset
                                - percent-rate
                                - rate
```


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config service vpls sap ingress policer-override plcr stat-mode

```
                        - stat-mode
                    - qinq-vlan-translation
                    - qos
                    - queue-override
                        - queue
                            - adaptation-rule
                            - cbs
                            - drop-tail
                                - low
                                    - percent-reduction-from-mbs
                            - mbs
                            - monitor-queue-depth
                            - parent
                            - percent-rate
                            - rate
                    - scheduler-override
                        - scheduler
                            - parent
                            - rate
                    - scheduler-policy
                    - vlan-translation
                - ipoe-session
                    - description
                    - ipoe-session-policy
                    - shutdown
                    - user-db
                - l2pt-termination
                - l2tpv3-session
                    - pw-type
                    - router
                    - shutdown
                    - vc-id
                - lag-link-map-profile
                - lag-per-link-hash
                - limit-mac-move
                - mac-pinning
                - managed-vlan-list
                    - default-sap
                    - range
                - max-nbr-mac-addr
                - mld-snooping
                    - disable-router-alert-check
                    - fast-leave
                    - import
                    - last-member-query-interval
                    - max-num-groups
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - shutdown
                            - use-lag-port-weight
                        - policy
                        - unconstrained-bw
                    - mrouter-port
                    - mvr
                        - from-vpls
                        - to-sap
                    - query-interval
                    - query-response-interval
                    - robust-count
                    - send-queries
                    - static
```


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config service vpls sap mld-snooping static group

```
                        - group
                            - source
                            - starg
                    - version
                - monitor-oper-group
                - mrp
                    - join-time
                    - leave-all-time
                    - leave-time
                    - mrp-policy
                    - mvrp
                        - endstation-vid-group
                        - shutdown
                    - periodic-time
                    - periodic-timer
                - msap-defaults
                    - group-interface
                    - policy
                    - service
                - multi-service-site
                - oper-group
                - pfcp
                    - association
                    - l2-access-id-alias
                    - up-resiliency
                        - monitor-oper-group
                - pim-snooping
                    - max-num-groups
                - pppoe
                    - intermediate-agent
                        - bbf-vendor-specific-tag
                            - circuit-id
                            - other-sub-tags
                            - remote-id
                        - mtu
                        - shutdown
                - pppoe-policy
                - pppoe-python-policy
                - pppoe-user-db
                - process-cpm-traffic-on-sap-down
                - restrict-protected-src
                - restrict-unprotected-dst
                - ring-node
                - rtr-solicit-user-db
                - shcv-policy-ipv4
                - shutdown
                - spb
                    - level
                        - hello-interval
                        - hello-multiplier
                        - metric
                    - lsp-pacing-interval
                    - retransmit-interval
                    - shutdown
                - static-host
                    - ancp-string
                    - app-profile
                    - inter-dest-id
                    - shutdown
                    - sla-profile
                    - sub-profile
                    - subscriber
                    - subscriber-sap-id
                - static-isid
```


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config service vpls sap static-isid range

```
                    - range
                - static-mac
                - stp
                    - auto-edge
                    - edge-port
                    - link-type
                    - mst-instance
                        - mst-path-cost
                        - mst-port-priority
                    - path-cost
                    - port-num
                    - priority
                    - root-guard
                    - shutdown
                - sub-sla-mgmt
                    - def-app-profile
                    - def-inter-dest-id
                    - def-sla-profile
                    - def-sub-id
                    - def-sub-profile
                    - mac-da-hashing
                    - multi-sub-sap
                    - shutdown
                    - single-sub-parameters
                        - non-sub-traffic
                        - profiled-traffic-only
                    - sub-ident-policy
                - track-srrp
                - transit-policy
                - trigger-packet
            - segment-routing-v6
                - locator
                    - function
                        - end-dt2m
                        - end-dt2u
                - micro-segment-locator
                    - function
                        - udt2m
                        - udt2u
            - selective-learned-fdb
            - send-flush-on-failure
            - service-mtu
            - shcv-policy-ipv4
            - shutdown
            - site
                - boot-timer
                - failed-threshold
                - mesh-sdp-binding
                - monitor-oper-group
                - sap
                - shutdown
                - site-activation-timer
                - site-id
                - site-min-down-timer
                - split-horizon-group
                - spoke-sdp
            - spb
                - level
                    - bridge-priority
                    - ect-algorithm
                    - forwarding-tree-topology
                    - shutdown
                - lsp-lifetime
                - lsp-refresh-interval
```


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```
                    - overload
                    - overload-on-boot
                    - shutdown
                    - timers
                        - lsp-wait
                        - spf-wait
                - spbm-control-vpls
                - split-horizon-group
                    - auto-learn-mac-protect
                    - description
                    - restrict-protected-src
                    - restrict-unprotected-dst
                - spoke-sdp
                    - accounting-policy
                    - adv-service-mtu
                    - app-profile
                    - auto-learn-mac-protect
                    - bfd
                        - bfd-enable
                        - bfd-template
                        - failure-action
                        - wait-for-up-timer
                    - block-on-mesh-failure
                    - bpdu-translation
                    - collect-stats
                    - control-channel-status
                        - acknowledgment
                        - refresh-timer
                        - request-timer
                        - shutdown
                    - control-word
                    - cpu-protection
                    - description
                    - dhcp
                        - description
                        - snoop
                    - dhcp6
                    - disable-aging
                    - disable-learning
                    - disable-send-bvpls-evpn-flush
                    - discard-unknown-source
                    - egress
                        - filter
                        - mfib-allowed-mda-destinations
                            - mda
                        - qos
                        - vc-label
                    - entropy-label
                    - eth-cfm
                        - collect-lmm-fc-stats
                            - fc
                            - fc-in-profile
                        - collect-lmm-stats
                        - mep
                            - ais-enable
                                - client-meg-level
                                - interface-support-enable
                                - interval
                                - low-priority-defect
                                - priority
                            - alarm-notification
                                - fng-alarm-time
                                - fng-reset-time
                            - ccm-enable
```


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config service vpls spoke-sdp eth-cfm mep ccm-ltm-priority

```
                        - ccm-ltm-priority
                        - ccm-padding-size
                        - cfm-vlan-tag
                        - csf-enable
                            - multiplier
                        - description
                        - eth-test-enable
                            - bit-error-threshold
                            - test-pattern
                        - fault-propagation-enable
                        - grace
                            - eth-ed
                                - max-rx-defect-window
                                - priority
                                - rx-eth-ed
                                - tx-eth-ed
                            - eth-vsm-grace
                                - rx-eth-vsm-grace
                                - tx-eth-vsm-grace
                        - lbm-svc-act-responder
                        - low-priority-defect
                        - mac-address
                        - one-way-delay-threshold
                        - shutdown
                    - mip
                    - squelch-ingress-ctag-levels
                    - squelch-ingress-levels
                    - vmep-filter
                - fault-propagation-bmac
                - force-qinq-vc-forwarding
                - force-vlan-vc-forwarding
                - hash-label
                - igmp-snooping
                    - disable-router-alert-check
                    - fast-leave
                    - import
                    - last-member-query-interval
                    - max-num-groups
                    - max-num-grp-sources
                    - max-num-sources
                    - mcac
                        - if-policy
                        - policy
                        - unconstrained-bw
                    - mrouter-port
                    - query-interval
                    - query-response-interval
                    - robust-count
                    - send-queries
                    - static
                        - group
                            - source
                            - starg
                    - version
                - ignore-standby-signaling
                - ingress
                    - filter
                    - qos
                    - vc-label
                - l2pt-termination
                - limit-mac-move
                - mac-pinning
                - max-nbr-mac-addr
                - mld-snooping
```


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config service vpls spoke-sdp mld-snooping disable-router-alert-check

```
                    - disable-router-alert-check
                    - fast-leave
                    - import
                    - last-member-query-interval
                    - max-num-groups
                    - mcac
                        - if-policy
                        - policy
                        - unconstrained-bw
                    - mrouter-port
                    - query-interval
                    - query-response-interval
                    - robust-count
                    - send-queries
                    - static
                        - group
                            - source
                            - starg
                    - version
                - monitor-oper-group
                - mrp
                    - join-time
                    - leave-all-time
                    - leave-time
                    - mrp-policy
                    - periodic-time
                    - periodic-timer
                - oper-group
                - pim-snooping
                    - max-num-groups
                - precedence
                - priority
                - pw-path-id
                    - agi
                    - saii-type2
                    - taii-type2
                - pw-status-signaling
                - restrict-protected-src
                - shutdown
                - spb
                    - level
                        - hello-interval
                        - hello-multiplier
                        - metric
                    - lsp-pacing-interval
                    - retransmit-interval
                    - shutdown
                - static-isid
                    - range
                - static-mac
                - stp
                    - auto-edge
                    - edge-port
                    - link-type
                    - path-cost
                    - port-num
                    - priority
                    - root-guard
                    - shutdown
                - transit-policy
                - vlan-vc-tag
            - static-mac
                - mac
            - stp
```


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config service vpls stp forward-delay

```
                    - forward-delay
                    - hello-time
                    - hold-count
                    - max-age
                    - mode
                    - mst-instance
                        - mst-priority
                        - vlan-range
                    - mst-max-hops
                    - mst-name
                    - mst-revision
                    - priority
                    - shutdown
                - temp-flooding
                - tunnel-elmi
                - vpls-group
                    - mvrp-control
                    - sap-template-binding
                    - service-range
                    - shutdown
                    - vpls-template-binding
                - vxlan
                    - assisted-replication
                    - disable-aging
                    - disable-learning
                    - discard-unknown-source
                    - egr-vtep
                    - igmp-snooping
                        - mrouter-port
                    - max-nbr-mac-addr
                    - mld-snooping
                        - mrouter-port
                    - network
                        - ingress
                            - qos
                    - restrict-protected-src
                    - rx-discard-on-ndf
                    - source-vtep-security
                - vxlan-src-vtep
                - wlan-gw
                    - description
                    - sap-template
                    - shutdown
                    - wlan-gw-group
```


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3.4.35.24 configure service vprn Commands

```
- vprn
    - aa-interface
        - address
        - description
        - ip-mtu
        - sap
            - description
            - egress
                - filter
                - qos
            - ingress
                - qos
            - shutdown
        - shutdown
    - aaa
        - remote-servers
            - radius
                - access-algorithm
                - accounting
                - accounting-port
                - authorization
                - interactive-authentication
                - port
                - retry
                - server
                - shutdown
                - timeout
                - use-default-template
            - tacplus
                - accounting
                - authorization
                - ignore-unknown-mandatory-vsas
                - interactive-authentication
                - priv-lvl-map
                    - priv-lvl
                - request-format
                    - access-operation-cmd
                - retry-timeout
                - server
                - service-request
                    - nokia-grpc-rpc-authorization
                    - nokia-netconf-base-op-authorization
                    - nokia-user
                    - nokia-user-profile
                - shutdown
                - timeout
                - use-default-template
    - aarp-interface
        - description
        - ip-mtu
        - shutdown
        - spoke-sdp
            - aarp
            - description
            - egress
                - filter
                - vc-label
            - ingress
                - filter
                - vc-label
```


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config service vprn aarp-interface spoke-sdp shutdown

```
                    - shutdown
                - aggregate
                - allow-export-bgp-vpn
                - auto-bind-tunnel
                    - allow-flex-algo-fallback
                    - ecmp
                    - enforce-strict-tunnel-tagging
                    - resolution
                    - resolution-filter
                        - bgp
                        - gre
                        - ldp
                        - mpls-fwd-policy
                        - rib-api
                        - rsvp
                        - sr-isis
                        - sr-ospf
                        - sr-ospf3
                        - sr-policy
                        - sr-te
                        - udp
                    - weighted-ecmp
                - autonomous-system
                - bgp
                    - advertise-inactive
                    - advertise-ipv6-next-hops
                    - aggregator-id-zero
                    - attribute-set
                        - remove
                    - auth-keychain
                    - authentication-key
                    - backup-path
                    - best-path-selection
                        - always-compare-med
                        - as-path-ignore
                        - compare-origin-validation-state
                        - deterministic-med
                        - ebgp-ibgp-equal
                        - ignore-nh-metric
                        - ignore-router-id
                        - origin-invalid-unusable
                    - bfd-enable
                    - bfd-strict-mode
                        - advertise
                        - next-hop-reachability
                    - cluster
                    - connect-retry
                    - convergence
                        - family
                            - max-wait-to-advertise
                        - min-wait-to-advertise
                    - damp-peer-oscillations
                    - damping
                    - default-label-preference
                    - default-preference
                    - description
                    - disable-4byte-asn
                    - disable-client-reflect
                    - disable-communities
                    - disable-fast-external-failover
                    - dynamic-neighbor-limit
                    - ebgp-default-reject-policy
                    - eibgp-loadbalance
                    - enable-peer-tracking
```


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config service vprn bgp enforce-first-as

```
                    - enforce-first-as
                    - error-handling
                        - legacy-mode
                        - update-fault-tolerance
                    - export
                    - extended-nh-encoding
                    - family
                    - flowspec
                        - validate-dest-prefix
                        - validate-redirect-ip
                    - graceful-restart
                        - enable-notification
                        - long-lived
                            - advertise-stale-to-all-neighbors
                            - advertised-stale-time
                            - family
                                - advertised-stale-time
                                - helper-override-stale-time
                            - forwarding-bits-set
                            - helper-override-restart-time
                            - helper-override-stale-time
                        - restart-time
                        - stale-routes-time
                    - group
                        - advertise-inactive
                        - advertise-ipv6-next-hops
                        - aggregator-id-zero
                        - as-override
                        - auth-keychain
                        - authentication-key
                        - bfd-enable
                        - bfd-strict-mode
                            - advertise
                            - next-hop-reachability
                        - cluster
                        - connect-retry
                        - damp-peer-oscillations
                        - damping
                        - default-label-preference
                        - default-preference
                        - description
                        - disable-4byte-asn
                        - disable-capability-negotiation
                        - disable-client-reflect
                        - disable-communities
                        - disable-fast-external-failover
                        - dynamic-neighbor
                            - interface
                                - allowed-peer-as
                                - max-sessions
                            - match
                                - prefix
                                    - allowed-peer-as
                        - dynamic-neighbor-limit
                        - ebgp-default-reject-policy
                        - enable-origin-validation
                        - enable-peer-tracking
                        - enforce-first-as
                        - error-handling
                            - update-fault-tolerance
                        - evpn-link-bandwidth
                            - add-to-received-bgp
                        - export
                        - extended-nh-encoding
```


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config service vprn bgp group family

```
                        - family
                        - graceful-restart
                            - enable-notification
                            - long-lived
                                - advertise-stale-to-all-neighbors
                                - advertised-stale-time
                                - family
                                    - advertised-stale-time
                                    - helper-override-stale-time
                                - forwarding-bits-set
                                - helper-override-restart-time
                                - helper-override-stale-time
                            - restart-time
                            - stale-routes-time
                        - hold-time
                        - import
                        - initial-send-delay-zero
                        - keepalive
                        - label-preference
                        - link-bandwidth
                            - accept-from-ebgp
                            - add-to-received-ebgp
                            - aggregate-used-paths
                            - send-to-ebgp
                        - local-address
                        - local-as
                        - local-preference
                        - loop-detect
                        - loop-detect-threshold
                        - med-out
                        - min-route-advertisement
                        - monitor
                            - route-monitoring
                            - shutdown
                            - station
                        - multihop
                        - multipath-eligible
                        - neighbor
                            - advertise-inactive
                            - advertise-ipv6-next-hops
                            - aggregator-id-zero
                            - as-override
                            - auth-keychain
                            - authentication-key
                            - bfd-enable
                            - bfd-strict-mode
                                - advertise
                                - next-hop-reachability
                            - cluster
                            - connect-retry
                            - damp-peer-oscillations
                            - damping
                            - default-label-preference
                            - default-preference
                            - description
                            - disable-4byte-asn
                            - disable-capability-negotiation
                            - disable-client-reflect
                            - disable-communities
                            - disable-fast-external-failover
                            - ebgp-default-reject-policy
                            - enable-origin-validation
                            - enable-peer-tracking
                            - enforce-first-as
```


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config service vprn bgp group neighbor error-handling

```
                        - error-handling
                            - update-fault-tolerance
                        - evpn-link-bandwidth
                            - add-to-received-bgp
                        - export
                        - extended-nh-encoding
                        - family
                        - graceful-restart
                            - enable-notification
                            - long-lived
                                - advertise-stale-to-all-neighbors
                                - advertised-stale-time
                                - family
                                    - advertised-stale-time
                                    - helper-override-stale-time
                                - forwarding-bits-set
                                - helper-override-restart-time
                                - helper-override-stale-time
                            - restart-time
                            - stale-routes-time
                        - hold-time
                        - import
                        - initial-send-delay-zero
                        - keepalive
                        - label-preference
                        - link-bandwidth
                            - accept-from-ebgp
                            - add-to-received-ebgp
                            - aggregate-used-paths
                            - send-to-ebgp
                        - local-address
                        - local-as
                        - local-preference
                        - loop-detect
                        - loop-detect-threshold
                        - med-out
                        - min-route-advertisement
                        - monitor
                            - route-monitoring
                            - shutdown
                            - station
                        - multihop
                        - multipath-eligible
                        - next-hop-self
                        - passive
                        - path-mtu-discovery
                        - peer-as
                        - preference
                        - prefix-limit
                        - remove-private
                        - send-default
                        - shutdown
                        - split-horizon
                        - tcp-mss
                        - third-party-nexthop
                        - ttl-security
                        - type
                        - updated-error-handling
                    - next-hop-self
                    - passive
                    - path-mtu-discovery
                    - peer-as
                    - preference
                    - prefix-limit
```


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config service vprn bgp group remove-private

```
                    - remove-private
                    - send-default
                    - shutdown
                    - split-horizon
                    - tcp-mss
                    - third-party-nexthop
                    - ttl-security
                    - type
                    - updated-error-handling
                - hold-time
                - ibgp-multipath
                - import
                - initial-send-delay-zero
                - keepalive
                - label-preference
                - local-as
                - local-preference
                - loop-detect
                - loop-detect-threshold
                - med-out
                - min-route-advertisement
                - monitor
                    - route-monitoring
                    - shutdown
                    - station
                - multi-path
                    - ipv4
                    - ipv6
                    - label-ipv4
                    - label-ipv6
                    - maximum-paths
                - multihop
                    - multipath-eligible
                - next-hop-resolution
                    - policy
                    - use-bgp-routes
                    - use-leaked-routes
                        - static
                - path-mtu-discovery
                - peer-tracking-policy
                - preference
                - rapid-update
                - rapid-withdrawal
                - remove-private
                - rib-management
                    - ipv4
                        - leak-import
                        - route-table-import
                    - ipv6
                        - leak-import
                        - route-table-import
                    - label-ipv4
                        - leak-import
                        - route-table-import
                    - label-ipv6
                        - leak-import
                - router-id
                - send-default
                - shutdown
                - split-horizon
                - tcp-mss
                - third-party-nexthop
            - bgp-evpn
                - mpls
```


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config service vprn bgp-evpn mpls anysec-encryption-group

```
                    - anysec-encryption-group
                    - auto-bind-tunnel
                        - allow-flex-algo-fallback
                        - ecmp
                        - enforce-strict-tunnel-tagging
                        - enforce-untagged-route
                        - resolution
                        - resolution-filter
                            - bgp
                            - ldp
                            - mpls-fwd-policy
                            - rib-api
                            - rsvp
                            - sr-isis
                            - sr-ospf
                            - sr-ospf3
                            - sr-policy
                            - sr-te
                            - udp
                        - weighted-ecmp
                    - default-route-tag
                    - domain-id
                    - dynamic-egress-label-limit
                    - evi
                    - evpn-link-bandwidth
                        - advertise
                        - weighted-ecmp
                    - gateway-ip
                        - advertise
                        - resolve
                    - route-distinguisher
                    - send-tunnel-encap
                    - shutdown
                    - vrf-export
                    - vrf-import
                    - vrf-target
                - segment-routing-v6
                    - default-route-tag
                    - domain-id
                    - evi
                    - evpn-link-bandwidth
                        - advertise
                        - weighted-ecmp
                    - resolution
                    - route-distinguisher
                    - shutdown
                    - source-address
                    - srv6-instance
                    - upa-trigger
                        - next-hop
                    - vrf-export
                    - vrf-import
                    - vrf-target
                - vxlan
                    - default-route-tag
                    - domain-id
                    - evi
                    - evpn-link-bandwidth
                        - advertise
                        - weighted-ecmp
                    - gateway-ip
                        - advertise
                        - resolve
                    - route-distinguisher
```


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config service vprn bgp-evpn vxlan shutdown

```
                    - shutdown
                    - vrf-export
                    - vrf-import
                    - vrf-target
                - bgp-ipvpn
                    - attribute-set
                        - export
                        - import
                    - mpls
                        - anysec-encryption-group
                        - auto-bind-tunnel
                            - allow-flex-algo-fallback
                            - ecmp
                            - enforce-strict-tunnel-tagging
                            - enforce-untagged-route
                            - resolution
                            - resolution-filter
                                - bgp
                                - gre
                                - ldp
                                - mpls-fwd-policy
                                - rib-api
                                - rsvp
                                - sr-isis
                                - sr-ospf
                                - sr-ospf3
                                - sr-policy
                                - sr-te
                                - udp
                            - static-blackhole-first
                            - weighted-ecmp
                        - domain-id
                        - dynamic-egress-label-limit
                        - route-distinguisher
                        - shutdown
                        - vrf-export
                        - vrf-import
                        - vrf-target
                    - segment-routing-v6
                        - default-route-tag
                        - domain-id
                        - flex-algo-class-forwarding
                        - resolution
                        - route-distinguisher
                        - shutdown
                        - source-address
                        - srv6-instance
                        - upa-trigger
                            - next-hop
                        - vrf-export
                        - vrf-import
                        - vrf-target
                        - default-route-tag
                - bgp-shared-queue
                - carrier-carrier-vpn
                - class-forwarding
                - confederation
                - d-path-length-ignore
                - description
                - dhcp
                    - interface
                    - local-dhcp-server
                        - description
                        - failover
```


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config service vprn dhcp server failover ignore-mclt-on-takeover

```
                        - ignore-mclt-on-takeover
                        - maximum-client-lead-time
                        - partner-down-delay
                        - peer
                        - shutdown
                        - startup-wait-time
                    - force-renews
                    - lease-hold-time
                    - lease-hold-time-for
                        - internal-lease-ipsec
                        - solicited-release
                    - pool
                        - description
                        - failover
                            - ignore-mclt-on-takeover
                            - maximum-client-lead-time
                            - partner-down-delay
                            - peer
                            - shutdown
                            - startup-wait-time
                        - max-lease-time
                        - min-lease-time
                        - minimum-free
                        - nak-non-matching-subnet
                        - offer-time
                        - options
                            - custom-option
                            - dns-server
                            - domain-name
                            - lease-rebind-time
                            - lease-renew-time
                            - lease-time
                            - netbios-name-server
                            - netbios-node-type
                        - subnet
                            - address-range
                            - drain
                            - exclude-addresses
                            - maximum-declined
                            - minimum-free
                            - options
                                - custom-option
                                - default-router
                                - subnet-mask
                    - shutdown
                    - use-gi-address
                    - use-pool-from-client
                    - user-db
                    - user-ident
                    - peer
                        - peer
            - dhcp6
                    - rebind-timer
                - interface
                - local-dhcp-server
                    - allow-lease-query
                    - defaults
                        - options
                            - custom-option
                            - dns-server
                            - domain-name
                        - preferred-lifetime
                        - rebind-timer
                        - renew-timer
```


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configure service vprn dhcp6 local-dhcp-server defaults valid-lifetime

```
                        - valid-lifetime
                    - description
                    - failover
                        - ignore-mclt-on-takeover
                        - maximum-client-lead-time
                        - partner-down-delay
                        - peer
                        - shutdown
                        - startup-wait-time
                    - ignore-rapid-commit
                    - interface-id-mapping
                    - lease-hold-time
                    - lease-hold-time-for
                        - internal-lease-ipsec
                        - solicited-release
                    - pool
                        - delegated-prefix-length
                        - description
                        - exclude-prefix
                        - failover
                            - ignore-mclt-on-takeover
                            - maximum-client-lead-time
                            - partner-down-delay
                            - peer
                            - shutdown
                            - startup-wait-time
                        - options
                            - custom-option
                            - dns-server
                            - domain-name
                        - prefix
                            - drain
                            - options
                                - custom-option
                                - dns-server
                                - domain-name
                            - preferred-lifetime
                            - rebind-timer
                            - renew-timer
                            - thresholds
                                - minimum-free
                                    - depleted-event
                                    - minimum
                            - valid-lifetime
                        - thresholds
                            - minimum-free
                                - depleted-event
                                - minimum
                    - server-id
                    - shutdown
                    - use-link-address
                    - use-pool-from-client
                    - user-db
                    - user-ident
                    - peer
                        - peer
                            - default-router
                - disable-selective-fib
                - dns
                    - default-domain
                    - ipv4-source-address
                    - ipv6-source-address
                    - primary-dns
                    - secondary-dns
```


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configure service vprn dns shutdown

```
            - shutdown
            - tertiary-dns
        - ecmp
        - ecmp-unequal-cost
        - enable-bgp-vpn-backup
        - encryption-keygroup
        - entropy-label
        - eth-cfm
            - tunnel-fault
        - evpn-neighbor-synchronization
            - evi-route-target
            - retention-timer
            - route-distinguisher
            - route-tag
            - shutdown
            - shutdown
        - export-inactive-bgp
        - export-inactive-bgp-enhanced
        - fib-priority
        - firewall
            - domain
                - dhcp6-server
                - prefix
                    - description
                - shutdown
        - flowspec
            - filter-cam-type
            - ip-filter-max-size
            - ipv6-filter-max-size
        - grt-lookup
            - enable-grt
                - allow-local-management
            - export-grt
            - export-limit
            - export-v6-limit
            - import-grt
        - gsmp
            - group
                - ancp
                    - dynamic-topology-discover
                    - oam
                - description
                - hold-multiplier
                - idle-filter
                - keepalive
                - neighbor
                    - description
                    - local-address
                    - priority-marking
                    - shutdown
                - persistency-database
                - shutdown
            - hold-multiplier
            - idle-filter
            - persistency-database
            - shutdown
        - gtp
            - s11
                - interface
                    - apn-policy
                - peer-profile-map
                    - address
            - upf-data-endpoint
            - uplink
```


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config service vprn gtp uplink apn

```
                    - apn
                    - pdn-type
                    - peer-profile-map
                        - address
                - hash-label
                - igmp
                    - group-interface
                        - disable-router-alert-check
                        - import
                        - max-groups
                        - max-grp-sources
                        - max-sources
                        - mcac
                            - if-policy
                            - mc-constraints
                                - shutdown
                            - policy
                            - unconstrained-bw
                        - query-interval
                        - query-last-member-interval
                        - query-response-interval
                        - query-src-ip
                        - shutdown
                        - sub-hosts-only
                        - subnet-check
                        - version
                    - grp-if-query-src-ip
                    - interface
                        - disable-router-alert-check
                        - import
                        - max-groups
                        - max-grp-sources
                        - max-sources
                        - mcac
                            - if-policy
                            - mc-constraints
                                - level
                                - number-down
                                - shutdown
                                - use-lag-port-weight
                            - policy
                            - shutdown
                            - unconstrained-bw
                        - query-interval
                        - query-last-member-interval
                        - query-response-interval
                        - redundant-multicast
                        - shutdown
                        - ssm-translate
                            - grp-range
                                - source
                        - static
                            - group
                                - source
                                - starg
                        - subnet-check
                        - version
                    - query-interval
                    - query-last-member-interval
                    - query-response-interval
                    - robust-count
                    - shutdown
                    - ssm-translate
                        - grp-range
```


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config service vprn igmp ssm-translate grp-range source

```
                - source
            - igmp-host-tracking
                - expiry-time
                - shutdown
            - ignore-nh-metric
            - interface
                - active-cpm-protocols
                - address
                - allow-directed-broadcasts
                - arp-host-route
                    - populate
                - arp-learn-unsolicited
                - arp-limit
                - arp-populate
                - arp-proactive-refresh
                - arp-retry-timer
                - arp-timeout
                - authentication-policy
                - bfd
                - cflowd-parameters
                    - sampling
                - clear-df-bit
                - cpu-protection
                - description
                - dhcp
                    - description
                    - gi-address
                    - lease-populate
                    - option
                        - action
                        - circuit-id
                        - remote-id
                        - snoop
                        - vendor-specific-option
                            - client-mac-address
                            - pool-name
                            - sap-id
                            - service-id
                            - string
                            - system-id
                    - proxy-server
                        - emulated-server
                        - lease-time
                        - shutdown
                    - python-policy
                    - relay-plain-bootp
                    - relay-proxy
                    - release-include-gi-address
                    - server
                    - shutdown
                    - trusted
                    - use-arp
                - dhcp6
                - dynamic-tunnel-redundant-next-hop
                - enable-ingress-stats
                - enable-mac-accounting
                - external-reference
                    - openconfig
                        - subinterface
                - flex-algo-cbf-lookup
                - hold-time
                    - down
                    - up
                - host-connectivity-verify
```


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config service vprn if icmp

```
                    - icmp
                        - mask-reply
                        - param-problem
                        - redirects
                        - ttl-expired
                        - unreachables
                    - if-attribute
                        - admin-group
                        - srlg-group
                    - ingress
                        - destination-class-lookup
                        - policy-accounting
                    - ip-helper-address
                    - ip-mtu
                        - public-tcp-mss-adjust
                    - ipsec
                        - ip-exception
                            - clear-df-bit
                        - ipsec-tunnel
                            - bfd-designate
                            - bfd-enable
                            - clear-df-bit
                            - copy-traffic-class-upon-decapsulation
                            - description
                            - dynamic-keying
                                - auto-establish
                                - cert
                                    - cert-profile
                                    - status-verify
                                        - default-result
                                        - primary
                                    - trust-anchor-profile
                                - ike-policy
                                - local-id
                                - ppk
                                - pre-shared-key
                                - transform
                            - encapsulated-ip-mtu
                            - icmp-generation
                                - frag-required
                                    - interval
                                    - message-count
                            - icmp6-generation
                                - pkt-too-big
                                    - interval
                                    - message-count
                            - ip-mtu
                            - local-gateway-address
                            - manual-keying
                                - security-association
                            - max-history-esp-key-records
                            - max-history-ike-key-records
                            - pmtu-discovery-aging
                            - private-tcp-mss-adjust
                            - propagate-pmtu-v4
                            - propagate-pmtu-v6
                            - public-tcp-mss-adjust
                            - remote-gateway-address
                            - replay-window
                            - security-policy
                            - shutdown
                        - ipv6-exception
                        - shutdown
                    - ipv6
```


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config service vprn if ipv6 address

```
                        - address
                        - bfd
                        - dad-disable
                        - dhcp6-relay
                            - allow-reconfigure-without-lease
                            - description
                            - lease-populate
                            - link-address
                            - neighbor-resolution
                            - option
                                - interface-id
                                - remote-id
                            - python-policy
                            - server
                            - shutdown
                            - source-address
                            - user-db
                        - dhcp6-server
                            - max-nbr-of-leases
                            - prefix-delegation
                                - prefix
                                    - duid
                                    - preferred-lifetime
                                    - valid-lifetime
                                - shutdown
                        - flex-algo-cbf-lookup
                        - forward-ipv4-packets
                        - icmp6
                            - packet-too-big
                            - param-problem
                            - redirects
                            - time-exceeded
                            - unreachables
                        - link-local-address
                        - local-dhcp-server
                        - local-proxy-nd
                        - nd-host-route
                            - populate
                        - nd-learn-unsolicited
                        - nd-proactive-refresh
                        - neighbor
                        - neighbor-limit
                        - proxy-nd-policy
                        - python-policy
                        - qos-route-lookup
                        - reachable-time
                        - secure-nd
                            - allow-unsecured-msgs
                            - link-local-modifier
                            - public-key-min-bits
                            - security-parameter
                            - shutdown
                        - stale-time
                        - tcp-mss
                        - urpf-check
                            - ignore-default
                            - mode
                        - vrrp
                            - backup
                            - bfd-enable
                            - init-delay
                            - mac
                            - master-int-inherit
                            - message-interval
```


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config service vprn if ipv6 vrrp ntp-reply

```
                        - ntp-reply
                        - oper-group
                        - ping-reply
                        - policy
                        - preempt
                        - priority
                        - shutdown
                        - standby-forwarding
                        - telnet-reply
                        - traceroute-reply
                - load-balancing
                    - egr-ip-load-balancing
                    - flow-label-load-balancing
                    - spi-load-balancing
                    - teid-load-balancing
                - local-dhcp-server
                - local-proxy-arp
                - loopback
                - mac
                - mask-reply
                - message-interval
                - monitor-oper-group
                - multi-chassis-shunting-profile
                        - egr-ip-load-balancing
                - ping-template
                    - destination-address
                    - shutdown
                - preempt
                - proxy-arp-policy
                - ptp-hw-assist
                - qos-route-lookup
                - redirects
                - remote-proxy-arp
                - sap
                    - aarp
                    - accounting-policy
                    - anti-spoof
                    - app-profile
                    - bandwidth
                    - calling-station-id
                    - collect-stats
                    - cpu-protection
                    - description
                    - dist-cpu-protection
                    - egress
                        - agg-rate
                            - adaptation-rule
                            - burst-limit
                            - limit-unused-bandwidth
                            - queue-frame-based-accounting
                            - rate
                        - filter
                        - latency-budget
                        - policer-control-override
                            - max-rate
                            - priority-mbs-thresholds
                                - min-thresh-separation
                                - priority
                                    - mbs-contribution
                        - policer-control-policy
                        - policer-override
                            - policer
                                - cbs
                                - mbs
```


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config service vprn if sap egress policer-override plcr packet-byte-offset

```
                                - packet-byte-offset
                                - percent-rate
                                - rate
                                - stat-mode
                            - qinq-mark-top-only
                            - qos
                            - queue-group-redirect-list
                            - queue-override
                                - burst-limit
                                - hs-secondary-shaper
                                - hs-wrr-group
                                    - class-weight
                                    - percent-rate
                                    - rate
                                - queue
                                    - adaptation-rule
                                    - avg-frame-overhead
                                    - burst-limit
                                    - cbs
                                    - drop-tail
                                        - low
                                            - percent-reduction-from-mbs
                                    - hs-class-weight
                                    - hs-wred-queue
                                    - hs-wrr-weight
                                    - mbs
                                    - monitor-queue-depth
                                    - parent
                                    - percent-rate
                                    - rate
                            - scheduler-override
                                - scheduler
                                    - parent
                                    - rate
                            - scheduler-policy
                            - vport
                        - eth-cfm
                            - collect-lmm-fc-stats
                                - fc
                                - fc-in-profile
                            - collect-lmm-stats
                            - mep
                                - ais-enable
                                    - interface-support-enable
                                - alarm-notification
                                    - fng-alarm-time
                                    - fng-reset-time
                                - bit-error-threshold
                                - ccm-enable
                                - ccm-ltm-priority
                                - ccm-padding-size
                                - csf-enable
                                    - multiplier
                                - description
                                - eth-test-enable
                                    - bit-error-threshold
                                    - test-pattern
                                - fault-propagation-enable
                                - grace
                                    - eth-ed
                                        - max-rx-defect-window
                                        - priority
                                        - rx-eth-ed
                                        - tx-eth-ed
```


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config service vprn if sap eth-cfm mep grace eth-vsm-grace

```
                        - eth-vsm-grace
                            - rx-eth-vsm-grace
                            - tx-eth-vsm-grace
                    - low-priority-defect
                    - mac
                    - mac-address
                    - monitor-oper-group
                    - one-way-delay-threshold
                    - shutdown
                - one-way-delay-threshold
                - squelch-ingress-levels
                - tunnel-fault
            - fwd-wholesale
                - pppoe
                - reassembly
            - host-lockout-policy
            - host-shutdown
            - ingress
                - aggregate-policer
                    - cbs
                    - mbs
                    - rate
                - criteria-overrides
                    - ip-criteria
                        - activate-entry-tag
                    - ipv6-criteria
                        - activate-entry-tag
                - filter
                - flowspec
                - match-qinq-dot1p
                - policer-control-override
                    - max-rate
                    - priority-mbs-thresholds
                        - min-thresh-separation
                        - priority
                            - mbs-contribution
                - policer-control-policy
                - policer-override
                    - policer
                        - cbs
                        - mbs
                        - packet-byte-offset
                        - percent-rate
                        - rate
                        - stat-mode
                - qos
                - queue-group-redirect-list
                - queue-override
                    - queue
                        - adaptation-rule
                        - cbs
                        - drop-tail
                            - low
                                - percent-reduction-from-mbs
                        - mbs
                        - monitor-queue-depth
                        - parent
                        - percent-rate
                        - rate
                - scheduler-override
                    - scheduler
                        - parent
                        - rate
                - scheduler-policy
```


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config service vprn if sap ip-tunnel

```
                        - ip-tunnel
                            - backup-remote-ip
                            - clear-df-bit
                            - delivery-service
                            - description
                            - dest-ip
                            - dscp
                            - encapsulated-ip-mtu
                            - gre-header
                            - icmp-generation
                                - frag-required
                                    - interval
                                    - message-count
                            - icmp6-generation
                                - packet-too-big
                            - ip-mtu
                            - ipsec-transport-mode-profile
                            - pmtu-discovery-aging
                            - private-tcp-mss-adjust
                            - propagate-pmtu-v4
                            - propagate-pmtu-v6
                            - public-tcp-mss-adjust
                            - reassembly
                            - remote-ip
                            - shutdown
                            - source
                        - ipsec-gw
                            - cert
                                - cert-profile
                                - status-verify
                                    - default-result
                                    - primary
                                - trust-anchor-profile
                            - client-db
                            - default-secure-service
                            - default-tunnel-template
                            - dhcp
                                - gi-address
                                - send-release
                                - server
                                - shutdown
                            - dhcp6
                                - link-address
                                - send-release
                                - server
                                - shutdown
                            - ike-policy
                            - local-address-assignment
                                - ipv4
                                    - address-source
                                - ipv6
                                    - address-source
                                - shutdown
                            - local-gateway-address
                            - local-id
                            - max-history-esp-key-records
                            - max-history-ike-key-records
                            - mixed-tunnel-mode
                            - pre-shared-key
                            - radius-accounting-policy
                            - radius-authentication-policy
                            - shutdown
                            - transform
                            - ts-negotiation
```


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config service vprn if sap ipsec-tunnel

```
                        - ipsec-tunnel
                            - bfd-designate
                            - bfd-enable
                                - trust-anchor-profile
                            - clear-df-bit
                            - copy-traffic-class-upon-decapsulation
                            - description
                            - dest-ip
                            - dynamic-keying
                                - auto-establish
                                - cert
                                    - cert-profile
                                    - status-verify
                                        - default-result
                                        - primary
                                    - trust-anchor-profile
                                - ike-policy
                                - local-id
                                - ppk
                                - pre-shared-key
                                - transform
                            - encapsulated-ip-mtu
                            - icmp-generation
                                - frag-required
                                    - interval
                                    - message-count
                            - icmp6-generation
                                - pkt-too-big
                                    - interval
                                    - message-count
                            - ip-mtu
                            - local-gateway-address
                            - manual-keying
                                - security-association
                            - max-history-esp-key-records
                            - max-history-ike-key-records
                            - pmtu-discovery-aging
                            - private-tcp-mss-adjust
                            - propagate-pmtu-v4
                            - propagate-pmtu-v6
                            - public-tcp-mss-adjust
                            - replay-window
                            - security-policy
                            - shutdown
                            - transform
                        - l2tpv3-session
                            - pw-type
                            - router
                            - shutdown
                            - vc-id
                        - lag-link-map-profile
                        - lag-per-link-hash
                        - multi-service-site
                        - scheduling-class
                        - shutdown
                        - static-host
                            - ancp-string
                            - app-profile
                            - inter-dest-id
                            - shutdown
                            - sla-profile
                            - sub-profile
                            - subscriber
                            - subscriber-sap-id
```


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config service vprn if sap sub-sla-mgmt

```
                    - sub-sla-mgmt
                        - profiled-traffic-only
                    - transit-policy
                - secondary
                - shcv-policy-ipv4
                - shcv-policy-ipv6
                - shutdown
                - spoke-sdp
                    - aarp
                    - accounting-policy
                    - anysec-encryption-group
                    - app-profile
                    - bfd
                        - bfd-enable
                        - bfd-template
                        - failure-action
                        - wait-for-up-timer
                    - collect-stats
                    - control-channel-status
                        - acknowledgment
                        - refresh-timer
                        - request-timer
                        - shutdown
                    - control-word
                    - cpu-protection
                    - description
                    - egress
                        - filter
                        - qos
                        - vc-label
                    - entropy-label
                    - eth-cfm
                        - ais-enable
                        - collect-lmm-fc-stats
                            - fc
                            - fc-in-profile
                        - collect-lmm-stats
                        - mep
                            - ais-enable
                                - interface-support-enable
                            - alarm-notification
                                - fng-alarm-time
                                - fng-reset-time
                            - bit-error-threshold
                            - ccm-enable
                            - ccm-ltm-priority
                            - ccm-padding-size
                            - csf-enable
                                - multiplier
                            - description
                            - eth-test-enable
                                - bit-error-threshold
                                - test-pattern
                            - fault-propagation-enable
                            - grace
                                - eth-ed
                                    - max-rx-defect-window
                                    - priority
                                    - rx-eth-ed
                                    - tx-eth-ed
                                - eth-vsm-grace
                                    - rx-eth-vsm-grace
                                    - tx-eth-vsm-grace
                            - low-priority-defect
```


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config service vprn if spoke-sdp eth-cfm mep mac-address

```
                        - mac-address
                        - one-way-delay-threshold
                        - shutdown
                    - one-way-delay-threshold
                    - squelch-ingress-levels
                - hash-label
                - ingress
                    - filter
                    - flowspec
                    - qos
                    - vc-label
                - pw-path-id
                    - agi
                    - saii-type2
                    - taii-type2
                - shutdown
                - transit-policy
            - static-arp
            - static-tunnel-redundant-next-hop
            - tcp-mss
            - tos-marking-state
            - unnumbered
            - urpf-check
                - ignore-default
                - mode
            - vas-if-type
            - vpls
                - egress
                    - reclassify-using-qos
                    - v4-routed-override-filter
                    - v6-routed-override-filter
                - evpn
                    - arp
                        - advertise
                        - evpn-local-es
                            - entry-type
                            - retention-timer
                        - flood-garp-and-unknown-req
                        - learn-dynamic
                    - nd
                        - advertise
                        - evpn-local-es
                            - entry-type
                            - retention-timer
                        - learn-dynamic
                - evpn-tunnel
                - ingress
                    - v4-routed-override-filter
                    - v6-routed-override-filter
            - vrrp
                - authentication-key
                - backup
                - bfd-enable
                - init-delay
                - mac
                - master-int-inherit
                - message-interval
                - ntp-reply
                - oper-group
                - ping-reply
                - policy
                - preempt
                - priority
                - shutdown
```


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config service vprn if vrrp ssh-reply

```
                    - ssh-reply
                    - standby-forwarding
                    - telnet-reply
                    - traceroute-reply
                - ip-mirror-interface
                    - description
                    - shutdown
                    - spoke-sdp
                        - description
                        - ingress
                            - filter
                            - vc-label
                        - shutdown
                - ipsec
                    - allow-reverse-route-override
                    - multi-chassis-shunt-interface
                        - next-hop
                    - multi-chassis-shunting-profile
                        - peer
                            - multi-chassis-shunt-interface
                    - overlapping-reverse-route
                    - security-policy
                        - entry
                            - local-ip
                            - local-v6-ip
                            - remote-ip
                            - remote-v6-ip
                - ipv6
                    - reachable-time
                    - stale-time
                - isis
                    - advertise-passive-only
                    - advertise-router-capability
                    - all-l1isis
                    - all-l2isis
                    - area-id
                    - auth-keychain
                    - authentication-check
                    - authentication-key
                    - authentication-type
                    - csnp-authentication
                    - csnp-on-p2p
                    - default-route-tag
                    - export
                    - export-limit
                    - graceful-restart
                        - helper-disable
                    - hello-authentication
                    - hello-padding
                    - ignore-attached-bit
                    - ignore-lsp-errors
                    - ignore-narrow-metric
                    - iid-tlv-enable
                    - import
                    - interface
                        - bfd-enable
                        - conditional-advertise-prefix
                        - csnp-interval
                        - default-instance
                        - hello-auth-keychain
                        - hello-authentication
                        - hello-authentication-key
                        - hello-authentication-type
                        - hello-padding
```


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config service vprn isis if interface-type

```
                    - interface-type
                    - ipv4-multicast-disable
                    - ipv6-unicast-disable
                    - level
                        - hello-auth-keychain
                        - hello-authentication-key
                        - hello-authentication-type
                        - hello-interval
                        - hello-multiplier
                        - hello-padding
                        - ipv4-multicast-metric
                        - ipv6-unicast-metric
                        - metric
                        - passive
                        - priority
                        - sd-offset
                        - sf-offset
                    - level-capability
                    - lfa-policy-map
                    - load-balancing-weight
                    - loopfree-alternate-exclude
                    - lsp-pacing-interval
                    - mesh-group
                    - passive
                    - retransmit-interval
                    - shutdown
                    - tag
                - ipv4-multicast-routing
                - ipv4-routing
                - ipv6-routing
                - level
                    - advertise-router-capability
                    - auth-keychain
                    - authentication-key
                    - authentication-type
                    - csnp-authentication
                    - default-ipv4-multicast-metric
                    - default-ipv6-multicast-metric
                    - default-ipv6-unicast-metric
                    - default-metric
                    - external-preference
                    - hello-authentication
                    - hello-padding
                    - loopfree-alternate-exclude
                    - lsp-mtu-size
                    - preference
                    - psnp-authentication
                    - wide-metrics-only
                - level-capability
                - link-group
                    - description
                    - level
                        - ipv4-multicast-metric-offset
                        - ipv4-unicast-metric-offset
                        - ipv6-unicast-metric-offset
                        - member
                        - oper-members
                        - revert-members
                - loopfree-alternates
                    - exclude
                        - prefix-policy
                - lsp-lifetime
                - lsp-minimum-remaining-lifetime
                - lsp-mtu-size
```


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config service vprn isis lsp-refresh-interval

```
                    - lsp-refresh-interval
                    - mru-mismatch-detection
                    - multi-part-tlv
                        - neighbor
                        - srlg
                    - multi-topology
                        - ipv4-multicast
                        - ipv6-unicast
                    - multicast-import
                    - overload
                    - overload-export-external
                    - overload-export-interlevel
                    - overload-fib-error-notify-only
                    - overload-on-boot
                    - poi-tlv-enable
                    - prefix-attributes-tlv
                    - prefix-limit
                    - psnp-authentication
                    - reference-bandwidth
                    - rib-priority
                    - router-id
                    - shutdown
                    - standard-multi-instance
                    - strict-adjacency-check
                    - summary-address
                    - suppress-attached-bit
                    - system-id
                    - timers
                        - lsp-wait
                        - spf-wait
                    - unicast-import-disable
                - l2tp
                    - avp-hiding
                    - calling-number-format
                    - challenge
                    - cisco-nas-port
                    - description
                    - destruct-timeout
                    - df-bit-lac
                    - eth-tunnel
                        - reconnect-timeout
                    - exclude-avps
                    - failover
                        - recovery-max-session-lifetime
                        - recovery-method
                        - recovery-time
                        - track-srrp
                    - group
                        - avp-hiding
                        - challenge
                        - description
                        - destruct-timeout
                        - df-bit-lac
                        - eth-tunnel
                            - reconnect-timeout
                        - failover
                            - recovery-method
                            - recovery-time
                        - hello-interval
                        - idle-timeout
                        - l2tpv3
                            - cookie-length
                            - digest-type
                            - nonce-length
```


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config service vprn l2tp group l2tpv3 password

```
            - password
            - private-tcp-mss-adjust
            - public-tcp-mss-adjust
            - pw-cap-list
            - rem-router-id
            - track-password-change
        - lns-group
        - load-balance-method
        - local-address
        - local-name
        - max-retries-estab
        - max-retries-not-estab
        - mlppp
            - endpoint
            - interleave
            - max-fragment-delay
            - max-links
            - reassembly-timeout
            - short-sequence-numbers
            - shutdown
        - password
        - ppp
            - authentication
            - authentication-policy
            - chap-challenge-length
            - default-group-interface
            - ipcp-subnet-negotiation
            - keepalive
            - lcp-force-ack-accm
            - lcp-ignore-magic-numbers
            - mtu
            - proxy-authentication
            - proxy-lcp
            - reject-disabled-ncp
            - user-db
        - radius-accounting-policy
        - receive-window-size
        - reconnect-timeout
        - session-assign-method
        - session-limit
        - shutdown
        - tunnel
            - auto-establish
            - avp-hiding
            - challenge
            - chap-challenge-length
            - description
            - destruct-timeout
            - df-bit-lac
            - failover
                - recovery-method
                - recovery-time
            - hello-interval
            - idle-timeout
            - l2tpv3
                - private-tcp-mss-adjust
                - public-tcp-mss-adjust
            - lns-group
            - load-balance-method
            - local-address
            - local-name
            - max-retries-estab
            - max-retries-not-estab
            - mlppp
```


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config service vprn l2tp group tunnel mlppp admin-state

```
                        - admin-state
                        - endpoint
                        - interleave
                        - max-fragment-delay
                        - max-links
                        - reassembly-timeout
                        - short-sequence-numbers
                    - password
                    - peer
                    - ppp
                        - authentication
                        - authentication-policy
                        - chap-challenge-length
                        - default-group-interface
                        - ipcp-subnet-negotiation
                        - keepalive
                        - lcp-force-ack-accm
                        - lcp-ignore-magic-numbers
                        - mtu
                        - proxy-authentication
                        - proxy-lcp
                        - reject-disabled-ncp
                        - user-db
                    - preference
                    - radius-accounting-policy
                    - receive-window-size
                    - remote-name
                    - session-limit
                    - shutdown
                - group-session-limit
                - hello-interval
                - idle-timeout
                - ignore-avps
                - l2tpv3
                    - cookie-length
                    - digest-type
                    - nonce-length
                    - password
                    - private-tcp-mss-adjust
                    - public-tcp-mss-adjust
                    - transport-type
                - lac-fragmentation
                    - default-action
                    - fpe
                - local-address
                - local-name
                - max-retries-estab
                - max-retries-not-estab
                - next-attempt
                - password
                - peer-address-change-policy
                - radius-accounting-policy
                - receive-window-size
                - reconnect-timeout
                - replace-result-code
                - rtm-debounce-time
                - session-assign-method
                - session-limit
                - shutdown
                    - shutdown
                - tunnel-selection-blacklist
                    - add-tunnel
                    - max-list-length
                    - max-time
```


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config service vprn l2tp tunnel-selection-blacklist timeout-action

```
                        - timeout-action
                    - tunnel-session-limit
                    - shutdown
                - label-mode
                - local-routes-domain-id
                - log
                    - filter
                        - default-action
                        - description
                        - entry
                            - action
                            - description
                            - match
                                - application
                                - message
                                - number
                                - severity
                                - subject
                    - log-id
                        - description
                        - filter
                        - from
                        - netconf-stream
                        - python-policy
                        - shutdown
                        - time-format
                        - to
                    - snmp-trap-group
                        - description
                        - trap-target
                    - syslog
                        - address
                        - description
                        - facility
                        - hostname
                        - level
                        - log-prefix
                        - port
                        - timestamp-format
                        - tls-client-profile
                - management
                    - allow-ftp
                    - allow-grpc
                    - allow-netconf
                    - allow-ssh
                    - allow-telnet
                    - allow-telnet6
                - maximum-ipv6-routes
                - maximum-routes
                - mc-maximum-routes
                - mld
                    - group-interface
                        - disable-router-alert-check
                        - import
                        - max-groups
                        - max-grp-sources
                        - max-sources
                        - mcac
                            - if-policy
                            - mc-constraints
                                - shutdown
                            - policy
                            - unconstrained-bw
                        - query-interval
```


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config service vprn mld group-interface query-last-listener-interval

```
                    - query-last-listener-interval
                    - query-response-interval
                    - query-src-ip
                    - shutdown
                    - sub-hosts-only
                    - subnet-check
                    - version
                - grp-if-query-src-ip
                - interface
                    - disable-router-alert-check
                    - import
                    - max-groups
                    - max-grp-sources
                    - max-sources
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - shutdown
                            - use-lag-port-weight
                        - policy
                        - unconstrained-bw
                    - query-interval
                    - query-last-listener-interval
                    - query-last-member-interval
                    - query-response-interval
                    - shutdown
                    - ssm-translate
                        - grp-range
                            - source
                    - static
                        - group
                            - source
                            - starg
                    - version
                - query-interval
                - query-last-listener-interval
                - query-last-member-interval
                - query-response-interval
                - robust-count
                - shutdown
                - ssm-translate
                    - grp-range
                        - source
            - msdp
                - active-source-limit
                - data-encapsulation
                - export
                - group
                    - active-source-limit
                    - export
                    - import
                    - local-address
                    - mode
                    - peer
                        - active-source-limit
                        - authentication-key
                        - default-peer
                        - export
                        - import
                        - local-address
                        - receive-msdp-msg-rate
                        - shutdown
```


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config service vprn msdp group receive-msdp-msg-rate

```
                        - receive-msdp-msg-rate
                        - shutdown
                    - import
                    - local-address
                    - peer
                        - active-source-limit
                        - authentication-key
                        - default-peer
                        - export
                        - import
                        - local-address
                        - receive-msdp-msg-rate
                        - shutdown
                    - receive-msdp-msg-rate
                    - rpf-table
                    - sa-timeout
                    - shutdown
                    - source
                        - active-source-limit
                - mss-adjust-group
                - mtrace2
                    - shutdown
                    - udp-port
                - multicast-info-policy
                - mvpn
                    - auto-discovery
                    - bier-next-protocol
                    - c-mcast-signaling
                    - intersite-shared
                    - mdt-type
                    - provider-tunnel
                        - inclusive
                            - bier
                                - pta-label-in-msb
                                - shutdown
                                - sub-domain
                            - bsr
                            - mldp
                                - shutdown
                            - p2mp-sr
                                - enable-bfd-leaf
                                - enable-bfd-root
                                - p2mp-policy-mpls
                                - shutdown
                                - static-policy-mpls
                                - static-policy-srv6
                            - pim
                                - hello-interval
                                - hello-multiplier
                                - improved-assert
                                - shutdown
                                - three-way-hello
                                - tracking-support
                            - rsvp
                                - enable-bfd-leaf
                                - enable-bfd-root
                                - lsp-template
                                - shutdown
                            - umh-rate-monitoring
                                - fpe
                                - revertive-timer
                                - traffic-threshold
                            - wildcard-spmsi
                        - selective
```


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config service vprn mvpn pt selective auto-discovery-disable

```
                        - auto-discovery-disable
                        - bier
                            - shutdown
                            - sub-domain
                        - data-delay-interval
                        - data-threshold
                        - enable-asm-mdt
                        - join-tlv-packing-disable
                        - maximum-p2mp-spmsi
                        - mldp
                            - shutdown
                        - multistream-spmsi
                            - group
                                - source
                            - lsp-template
                            - mdt-pim
                            - p2mp-policy-mpls
                            - shutdown
                            - static-policy-mpls
                            - static-policy-srv6
                        - p2mp-sr
                            - p2mp-policy-mpls
                            - shutdown
                            - static-policy-mpls
                            - static-policy-srv6
                        - pim-asm
                        - pim-ssm
                        - rsvp
                            - lsp-template
                            - shutdown
                        - umh-rate-monitoring
                            - group
                                - source
                                    - fpe
                                    - revertive-timer
                                    - traffic-threshold
                        - lsp-template
                                - shutdown
                    - red-source-list
                        - ipv6
                            - src-prefix
                        - src-prefix
                    - rpf-select
                        - core-mvpn
                            - group-prefix
                    - service-reserved-label
                    - umh-pe-backup
                        - umh-pe
                    - umh-selection
                    - vrf-export
                    - vrf-import
                    - vrf-target
                        - export
                        - import
                - nat
                    - dual-stack-lite
                    - inside
                        - classic-lsn-max-subscriber-limit
                        - destination-prefix
                        - deterministic
                            - address-map
                                - outside-range
                                - shutdown
                            - prefix-map
```


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configure service vprn nat inside deterministic prefix-map map

```
                        - map
                        - shutdown
                - dnat-only
                    - source-prefix-list
                - downstream-ip-filter
                        - ip-fragmentation
                - dslite-max-subscriber-limit
                - dual-stack-lite
                    - address
                        - ip-fragmentation
                        - min-first-fragment-size-rx
                        - reassembly
                        - tunnel-mtu
                    - shutdown
                    - subscriber-prefix-length
                - l2-aware
                    - address
                    - force-unique-ip-addresses
                - nat-import
                - nat-policy
                - nat64
                    - drop-zero-ipv4-checksum
                    - ignore-tos
                    - insert-ipv6-fragment-header
                    - ip-fragmentation
                    - ipv6-mtu
                    - prefix
                    - set-tos
                    - shutdown
                    - subscriber-prefix-length
                - nat66
                    - destination-prefix
                    - hash-prefix-length
                    - shutdown
                    - subscriber-prefix-length
                - redundancy
                    - peer
                    - peer6
                    - steering-route
                - source-prefix
                - source-prefix-list
                - spf-policy
                    - nat-policy
                - subscriber-identification
                    - attribute
                    - description
                    - drop-unidentified-traffic
                    - radius-proxy-server
                    - shutdown
                - traffic-identification
                    - source-prefix-only
            - map
                - map-domain
            - outside
                - domain
                    - prefix
                        - description
                    - shutdown
                - downstream-ip-filter
                - downstream-ipv6-filter
                - mtu
                - pool
                    - address-pooling
                    - address-range
```


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config service vprn nat outside pool address-range description

```
                        - description
                        - drain
                        - exclude
                        - shutdown
                    - default-host
                    - description
                    - deterministic
                        - extended-port-block-watermarks
                        - port-reservation
                    - external-assignment
                    - flexible-port-allocation
                        - free-port-limit
                    - icmp-echo-reply
                    - mode
                    - monitor-oper-group
                    - port-block-extensions
                        - extended-port-block-watermarks
                        - ports
                        - subscriber-watermarks
                    - port-forwarding-dyn-block-reservation
                    - port-forwarding-range
                    - port-reservation
                    - redundancy
                        - export
                        - follow
                        - monitor
                        - shutdown
                    - shutdown
                    - subscriber-limit
                    - watermarks
                - route-limit
                - upstream-ip-filter
                - upstream-ipv6-filter
        - network
            - ingress
                - filter
                - qos
                - urpf-check
        - network-interface
            - address
            - allow-directed-broadcasts
            - arp-retry-timer
            - arp-timeout
            - bfd
            - cflowd-parameters
                - sampling
            - cpu-protection
            - description
            - dist-cpu-protection
            - egress
                - filter
            - enable-ingress-stats
            - hold-time
                - down
                - up
            - icmp
                - mask-reply
                - param-problem
                - redirects
                - ttl-expired
                - unreachables
            - ingress
                - filter
            - ip-mtu
```


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config service vprn nw-if lag

```
                - lag
                - lag-link-map-profile
                - lag-per-link-hash
                - load-balancing
                    - egr-ip-load-balancing
                    - flow-label-load-balancing
                    - lsr-load-balancing
                    - spi-load-balancing
                    - teid-load-balancing
                - loopback
                - mac
                - port
                - qos
                - secondary
                - shutdown
                - static-arp
                - tcp-mss
                - tos-marking-state
                - urpf-check
                    - ignore-default
                    - mode
            - ntp
                - authenticate
                - authentication-check
                - authentication-key
                - authentication-keychain
                - broadcast
                - shutdown
                    - snoop
                        - shutdown
                - remote-proxy-arp
            - ospf
                - advertise-router-capability
                - area
                    - advertise-ne-profile
                    - advertise-router-capability
                    - area-range
                    - blackhole-aggregate
                    - export
                    - import
                    - interface
                        - advertise-router-capability
                        - advertise-subnet
                        - auth-keychain
                        - authentication-key
                        - authentication-type
                        - bfd-enable
                        - conditional-advertise-prefix
                        - dead-interval
                        - hello-interval
                        - interface-type
                        - lfa-policy-map
                        - load-balancing-weight
                        - loopfree-alternate-exclude
                        - lsa-filter-out
                        - message-digest-key
                        - metric
                        - mtu
                        - neighbor
                        - passive
                        - poll-interval
                        - priority
                        - retransmit-interval
                        - rib-priority
```


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config service vprn ospf area if shutdown

```
                        - shutdown
                        - transit-delay
                    - loopfree-alternate-exclude
                    - nssa
                        - area-range
                        - originate-default-route
                        - redistribute-external
                        - summaries
                    - sham-link
                        - auth-keychain
                        - authentication-key
                        - authentication-type
                        - dead-interval
                        - hello-interval
                        - message-digest-key
                        - metric
                        - retransmit-interval
                        - shutdown
                        - transit-delay
                    - stub
                        - default-metric
                        - summaries
                    - virtual-link
                        - auth-keychain
                        - authentication-key
                        - authentication-type
                        - dead-interval
                        - hello-interval
                        - message-digest-key
                        - retransmit-interval
                        - shutdown
                        - transit-delay
                - compatible-rfc1583
                - export
                - export-limit
                - external-db-overflow
                - external-preference
                - graceful-restart
                    - helper-disable
                    - helper-resync-timeout
                    - protocol
                    - strict-lsa-checking
                - ignore-dn-bit
                - import
                - loopfree-alternates
                    - exclude
                        - prefix-policy
                - multicast-import
                - overload
                - overload-include-ext-1
                - overload-include-ext-2
                - overload-include-stub
                - overload-on-boot
                - preference
                - reference-bandwidth
                - rib-priority
                - router-id
                - rtr-adv-lsa-limit
                - shutdown
                - super-backbone
                - suppress-dn-bit
                - timers
                    - incremental-spf-wait
                    - lsa-accumulate
```


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config service vprn ospf timers lsa-arrival

```
                        - lsa-arrival
                        - lsa-generate
                        - redistribute-delay
                        - spf-wait
                    - unicast-import-disable
                    - vpn-domain
                    - vpn-tag
                - ospf3
                    - advertise-router-capability
                    - area
                        - advertise-router-capability
                        - area-range
                        - blackhole-aggregate
                        - export
                        - import
                        - interface
                            - advertise-router-capability
                            - authentication
                            - bfd-enable
                            - conditional-advertise-prefix
                            - dead-interval
                            - hello-interval
                            - interface-type
                            - lfa-policy-map
                            - load-balancing-weight
                            - loopfree-alternate-exclude
                            - lsa-filter-out
                            - metric
                            - mtu
                            - neighbor
                            - passive
                            - poll-interval
                            - priority
                            - retransmit-interval
                            - rib-priority
                            - shutdown
                            - transit-delay
                        - key-rollover-interval
                        - loopfree-alternate-exclude
                        - nssa
                            - area-range
                            - originate-default-route
                            - redistribute-external
                            - summaries
                        - stub
                            - default-metric
                            - summaries
                        - virtual-link
                            - authentication
                            - dead-interval
                            - hello-interval
                            - retransmit-interval
                            - shutdown
                            - transit-delay
                    - export
                    - export-limit
                    - external-db-overflow
                    - external-preference
                    - graceful-restart
                        - helper-disable
                        - strict-lsa-checking
                    - ignore-dn-bit
                    - import
                    - loopfree-alternates
```


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config service vprn ospf3 loopfree-alternates exclude

```
                    - exclude
                        - prefix-policy
                - multicast-import
                - overload
                - overload-include-ext-1
                - overload-include-ext-2
                - overload-include-stub
                - overload-on-boot
                - preference
                - reference-bandwidth
                - rib-priority
                - router-id
                - rtr-adv-lsa-limit
                - shutdown
                - suppress-dn-bit
                - timers
                    - incremental-spf-wait
                    - lsa-accumulate
                    - lsa-arrival
                    - lsa-generate
                    - redistribute-delay
                    - spf-wait
                - unicast-import-disable
            - pcp-server
                - server
                    - description
                    - dual-stack-lite-address
                    - fwd-inside-router
                    - interface
                    - pcp-server-policy
                    - shutdown
            - pim
                - apply-bgp-nh-override
                - apply-to
                - grt-extranet
                    - group-prefix
                - import
                - interface
                    - assert-period
                    - bfd-enable
                    - bsm-check-rtr-alert
                    - hello-interval
                    - hello-multiplier
                    - improved-assert
                    - instant-prune-echo
                    - ipv4-multicast-disable
                    - ipv6-multicast-disable
                    - max-groups
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - shutdown
                            - use-lag-port-weight
                        - policy
                        - unconstrained-bw
                    - monitor-oper-group
                    - multicast-senders
                    - p2mp-ldp-tree-join
                    - priority
                    - shutdown
                    - sticky-dr
                    - three-way-hello
```


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config service vprn pim if tracking-support

```
                    - tracking-support
                - ipv4-multicast-disable
                - ipv6-multicast-disable
                - mc-ecmp-balance
                - mc-ecmp-balance-hold
                - mc-ecmp-hashing-enabled
                - mtu-over-head
                - non-dr-attract-traffic
                - rp
                    - anycast
                        - rp-set-peer
                    - auto-rp-discovery
                    - bootstrap-export
                    - bootstrap-import
                    - bsr-candidate
                        - address
                        - hash-mask-len
                        - priority
                        - shutdown
                    - ipv6
                        - anycast
                            - rp-set-peer
                        - bsr-candidate
                            - address
                            - hash-mask-len
                            - priority
                            - shutdown
                        - embedded-rp
                            - group-range
                            - shutdown
                        - rp-candidate
                            - address
                            - group-range
                            - holdtime
                            - priority
                            - shutdown
                        - static
                            - address
                                - group-prefix
                                - override
                            - group-prefix
                    - rp-candidate
                        - address
                        - group-range
                        - holdtime
                        - priority
                        - shutdown
                    - static
                        - address
                            - group-prefix
                            - override
                        - group-prefix
                        - override
                - rpf-table
                - rpf6-table
                - shutdown
                - source-address
                    - register-message
                - spt-switchover-threshold
                - ssm-assert-compatible-mode
                - ssm-default-range-disable
                - ssm-groups
                    - group-range
            - ptp
```


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config service vprn ptp peer

```
                    - peer
                        - local-priority
                        - log-sync-interval
                        - monitor-receiver
                        - not-master
                        - shutdown
                    - peer-limit
                    - shutdown
                - radius-proxy
                    - server
                        - attribute-matching
                            - entry
                            - type
                        - cache
                            - key
                            - shutdown
                            - timeout
                            - track-accounting
                            - track-authentication
                            - track-delete-hold-time
                        - default-accounting-server-policy
                        - default-authentication-server-policy
                        - description
                        - insert-message-authenticator
                        - interface
                        - load-balance-key
                        - python-policy
                        - require-message-authenticator
                        - secret
                        - send-accounting-response
                        - shutdown
                        - wlan-gw
                            - add-attributes
                                - proxy-source-ip-address
                            - address
                            - ipv6-address
                - radius-server
                    - server
                        - accept-coa
                        - acct-port
                        - auth-port
                        - coa-script-policy
                        - description
                        - insert-message-authenticator
                        - pending-requests-limit
                        - python-policy
                        - require-message-authenticator
                - reassembly-group
                - redundant-interface
                    - address
                    - description
                    - hold-time
                        - down
                        - up
                    - ip-mtu
                    - ipv6
                        - address
                    - shutdown
                    - spoke-sdp
                        - control-channel-status
                            - acknowledgment
                            - refresh-timer
                            - request-timer
                            - shutdown
```


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config service vprn red-if spoke-sdp control-word

```
                    - control-word
                    - description
                    - egress
                        - filter
                        - vc-label
                    - ingress
                        - filter
                        - vc-label
                    - pw-path-id
                        - agi
                        - saii-type2
                        - taii-type2
                    - shutdown
            - rip
                - authentication-key
                - authentication-type
                - bfd-enable
                - check-zero
                - description
                - export
                - export-limit
                - group
                    - authentication-key
                    - authentication-type
                    - bfd-enable
                    - check-zero
                    - description
                    - export
                    - import
                    - message-size
                    - metric-in
                    - metric-out
                    - neighbor
                        - authentication-key
                        - authentication-type
                        - bfd-enable
                        - check-zero
                        - description
                        - export
                        - import
                        - message-size
                        - metric-in
                        - metric-out
                        - preference
                        - receive
                        - send
                        - shutdown
                        - split-horizon
                        - timers
                        - unicast-address
                    - preference
                    - receive
                    - send
                    - shutdown
                    - split-horizon
                    - timers
                - import
                - message-size
                - metric-in
                - metric-out
                - preference
                - propagate-metric
                - receive
                - send
```


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config service vprn rip shutdown

```
                - shutdown
                - split-horizon
                - timers
            - ripng
                - bfd-enable
                - check-zero
                - description
                - export
                - export-limit
                - group
                    - bfd-enable
                    - check-zero
                    - description
                    - export
                    - import
                    - message-size
                    - metric-in
                    - metric-out
                    - neighbor
                        - bfd-enable
                        - check-zero
                        - description
                        - export
                        - import
                        - message-size
                        - metric-in
                        - metric-out
                        - preference
                        - receive
                        - send
                        - shutdown
                        - split-horizon
                        - timers
                        - unicast-address
                    - preference
                    - receive
                    - send
                    - shutdown
                    - split-horizon
                    - timers
                - import
                - message-size
                - metric-in
                - metric-out
                - preference
                - receive
                - send
                - shutdown
                - split-horizon
                - timers
            - route-distinguisher
                    - max-advertisement
                    - min-advertisement
                    - on-link
            - router-advertisement
                - dns-options
                    - rdnss-lifetime
                    - server
                - interface
                    - current-hop-limit
                    - dns-options
                        - include-dns
                        - rdnss-lifetime
                        - server
```


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config service vprn router-advert if managed-configuration

```
                - managed-configuration
                - max-advertisement-interval
                - min-advertisement-interval
                - mtu
                - nd-router-preference
                - other-stateful-configuration
                - prefix
                    - autonomous
                    - on-link
                    - preferred-lifetime
                    - valid-lifetime
                - reachable-time
                - retransmit-time
                - router-lifetime
                - shutdown
                - use-virtual-mac
            - router-id
            - sap
                - igmp-host-tracking
                    - expiry-time
                    - dest-ip
            - segment-routing-v6
                - locator
                    - function
                        - end-dt4
                        - end-dt46
                        - end-dt6
                - micro-segment-locator
                    - function
                        - udt4
                        - udt46
                        - udt6
                - force-renews
            - sgt-qos
                - application
                - dscp
            - shutdown
            - single-sfm-overload
            - snmp
                - access
                - community
            - source-address
                - application
                - application6
            - spoke-sdp
                - description
                - hash-label
            - ssm-groups
            - static-route-entry
                - backup-tag
                - black-hole
                    - community
                    - description
                    - generate-icmp
                    - metric
                    - preference
                    - prefix-list
                    - shutdown
                    - tag
                - community
                - follow
                    - description
                    - destination-class
                    - metric
```


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config service vprn static-route-entry follow preference

```
                    - preference
                    - shutdown
                    - source-class
                - grt
                    - description
                    - metric
                    - preference
                    - shutdown
                - indirect
                    - community
                    - cpe-check
                        - drop-count
                        - interval
                        - log
                        - padding-size
                    - description
                    - destination-class
                    - forwarding-class
                        - priority
                    - ldp-sync
                    - metric
                    - preference
                    - prefix-list
                    - shutdown
                    - source-class
                    - tag
                - ipsec-tunnel
                    - community
                    - description
                    - destination-class
                    - forwarding-class
                        - priority
                    - metric
                    - preference
                    - shutdown
                    - source-class
                    - tag
                - next-hop
                    - backup-next-hop
                        - address
                    - bfd-enable
                    - community
                    - cpe-check
                        - drop-count
                        - interval
                        - log
                        - padding-size
                    - description
                    - destination-class
                    - forwarding-class
                        - priority
                    - load-balancing-weight
                    - metric
                    - preference
                    - prefix-list
                    - shutdown
                    - source-class
                    - tag
                    - validate-next-hop
                - tag
            - static-route-hold-down
            - subscriber-interface
                - address
                - allow-unmatching-subnets
```


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configure service vprn subscriber-interface arp-host

```
                    - arp-host
                        - host-limit
                        - shutdown
                    - bfd
                    - default-dns
                    - description
                    - dhcp
                        - client-applications
                        - description
                        - gi-address
                        - lease-populate
                        - match-circuit-id
                        - offer-selection
                            - client-mac
                                - discover-delay
                            - discover-delay
                            - server
                                - discover-delay
                        - option
                            - vendor-specific-option
                                - client-mac-address
                                - sap-id
                                - service-id
                                - string
                                - system-id
                        - proxy-server
                            - emulated-server
                            - lease-time
                            - shutdown
                        - python-policy
                        - relay-proxy
                        - release-include-gi-address
                        - server
                        - shutdown
                        - virtual-subnet
                    - dhcp6
                    - export-host-routes
                    - group-interface
                        - arp-host
                            - description
                            - host-limit
                            - min-auth-interval
                            - sap-host-limit
                            - shutdown
                        - arp-populate
                        - arp-timeout
                        - authentication-policy
                        - bfd
                        - bonding-parameters
                        - brg
                            - authenticated-brg-only
                            - default-brg-profile
                            - shutdown
                        - cflowd-parameters
                            - sampling
                        - data-trigger
                            - accept-ipv6-link-local-address
                            - shutdown
                        - description
                        - dhcp
                            - client-applications
                            - description
                            - filter
                            - gi-address
```


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config service vprn sub-if grp-if dhcp lease-populate

```
                        - lease-populate
                        - match-circuit-id
                        - offer-selection
                            - client-mac
                                - discover-delay
                            - discover-delay
                            - server
                                - discover-delay
                        - option
                            - action
                            - circuit-id
                            - remote-id
                            - vendor-specific-option
                                - client-mac-address
                                - pool-name
                                - sap-id
                                - service-id
                                - string
                                - system-id
                        - proxy-server
                            - emulated-server
                            - lease-time
                            - shutdown
                        - python-policy
                        - relay-proxy
                        - release-include-gi-address
                        - server
                        - shutdown
                        - trusted
                        - user-db
                    - dhcp6
                        - user-db
                    - diameter-application-policy
                    - diameter-auth-policy
                    - enable-ingress-stats
                    - gtp-parameters
                        - shutdown
                    - host-connectivity-verify
                    - icmp
                        - mask-reply
                        - param-problem
                        - redirects
                        - ttl-expired
                        - unreachables
                    - ignore-default
                    - ignore-df-bit
                    - ingress
                        - policy-accounting
                    - ip-mtu
                    - ipoe-linking
                        - gratuitous-rtr-adv
                        - shared-circuit-id
                        - shutdown
                    - ipoe-session
                        - description
                        - force-auth
                        - ipoe-session-policy
                        - min-auth-interval
                        - radius-session-timeout
                        - sap-session-limit
                        - session-limit
                        - shutdown
                        - stateless-redundancy
                        - user-db
```


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config service vprn sub-if grp-if ipv6

```
- ipv6
    - allow-multiple-wan-addresses
    - auto-reply
        - neighbor-solicitation
        - router-solicitation
    - bfd
    - dhcp6
        - allow-client-id-change
        - filter
        - option
            - interface-id
            - remote-id
        - override-slaac
        - pd-managed-route
        - proxy-server
            - client-applications
            - emulated-server
            - preferred-lifetime
            - rebind-timer
            - renew-timer
            - server-id
            - shutdown
            - valid-lifetime
        - python-policy
        - relay
            - advertise-selection
                - client-mac
                    - preference-option
                        - value
                    - solicit-delay
                - preference-option
                    - value
                - server
                    - preference-option
                        - value
                    - solicit-delay
                - solicit-delay
            - allow-reconfigure-without-lease
            - client-applications
            - description
            - lease-split
                - shutdown
                - valid-lifetime
            - link-address
            - server
            - shutdown
            - source-address
        - snooping
            - shutdown
        - user-db
        - user-ident
    - force-mcast
    - include-dns
    - ipoe-bridged-mode
    - managed-configuration
    - max-advertisement
    - min-advertisement
    - mtu
    - nd
        - dad-snooping
        - neighbor-limit
    - option
    - other-stateful-configuration
    - prefix-options
```


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config service vprn sub-if grp-if ipv6 qos-route-lookup

```
                        - qos-route-lookup
                        - rdnss-lifetime
                        - router-advertisements
                            - current-hop-limit
                            - dns-options
                                - include-dns
                                - rdnss-lifetime
                            - force-mcast
                            - managed-configuration
                            - max-advertisement
                            - min-advertisement
                            - mtu
                            - other-stateful-configuration
                            - prefix-options
                                - autonomous
                                - on-link
                                - preferred-lifetime
                                - valid-lifetime
                            - reachable-time
                            - retransmit-time
                            - router-lifetime
                            - shutdown
                        - router-solicit
                            - inactivity-timer
                            - min-auth-interval
                            - shutdown
                            - user-db
                        - urpf-check
                            - mode
                    - local-address-assignment
                        - client-application
                        - default-pool
                        - ipv6
                            - client-application
                            - server
                        - server
                        - shutdown
                    - local-proxy-arp
                    - mac
                    - oper-up-while-empty
                    - policy-control
                    - pppoe
                        - anti-spoof
                        - description
                        - dhcp-client
                            - client-id
                        - policy
                        - python-policy
                        - sap-session-limit
                        - session-limit
                        - shutdown
                        - user-db
                    - proxy-arp-policy
                    - qos-route-lookup
                    - redundant-interface
                    - remote-proxy-arp
                    - sap
                        - accounting-policy
                        - anti-spoof
                        - app-profile
                        - calling-station-id
                        - collect-stats
                        - cpu-protection
                        - default-host
```


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```
                        - description
                        - dist-cpu-protection
                        - egress
                            - agg-rate
                                - adaptation-rule
                                - burst-limit
                                - limit-unused-bandwidth
                                - queue-frame-based-accounting
                                - rate
                            - filter
                            - latency-budget
                            - limit-unused-bandwidth
                            - policer-control-policy
                            - qinq-mark-top-only
                            - qos
                            - scheduler-policy
                            - vport
                        - eth-cfm
                            - ais-enable
                            - bit-error-threshold
                            - ccm-enable
                            - ccm-ltm-priority
                            - collect-lmm-fc-stats
                                - fc
                                - fc-in-profile
                            - collect-lmm-stats
                            - eth-test-enable
                                - test-pattern
                            - fault-propagation-enable
                            - low-priority-defect
                            - mac-address
                            - mep
                                - ais-enable
                                    - interface-support-enable
                                    - interval
                                    - priority
                                - alarm-notification
                                    - fng-alarm-time
                                    - fng-reset-time
                                - ccm-enable
                                - ccm-ltm-priority
                                - ccm-padding-size
                                - csf-enable
                                    - multiplier
                                - description
                                - eth-test-enable
                                    - bit-error-threshold
                                    - test-pattern
                                - fault-propagation-enable
                                - grace
                                    - eth-ed
                                        - max-rx-defect-window
                                        - priority
                                        - rx-eth-ed
                                        - tx-eth-ed
                                    - eth-vsm-grace
                                        - rx-eth-vsm-grace
                                        - tx-eth-vsm-grace
                                - low-priority-defect
                                - mac-address
                                - one-way-delay-threshold
                                - shutdown
                            - one-way-delay-threshold
                            - squelch-ingress-levels
```


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config service vprn sub-if grp-if sap eth-cfm tunnel-fault

```
                - tunnel-fault
            - fwd-wholesale
                - pppoe
            - host-lockout-policy
            - host-shutdown
            - igmp-host-tracking
                - disable-router-alert-check
                - expiry-time
                - import
                - max-num-groups
                - max-num-grp-sources
                - max-num-sources
            - ingress
                - filter
                - match-qinq-dot1p
                - policer-control-policy
                - qos
                - scheduler-policy
            - lag-link-map-profile
            - lag-per-link-hash
            - monitor-oper-group
            - multi-service-site
            - oper-group
            - shutdown
            - static-host
                - ancp-string
                - app-profile
                - inter-dest-id
                - mac-linking
                - managed-routes
                    - route-entry
                        - cpe-check
                            - drop-count
                            - fail-action
                            - interval
                            - log
                            - padding-size
                            - source-ip-address
                            - timeout
                        - metric
                        - preference
                        - tag
                - retail-svc-id
                - rip-policy
                - shutdown
                - sla-profile
                - sub-profile
                - subscriber
                - subscriber-sap-id
            - static-host-mgmt
                - mac-learning-options
                    - data-triggered
                    - single-mac
            - sub-sla-mgmt
                - def-app-profile
                - def-inter-dest-id
                - def-sla-profile
                - def-sub-id
                - def-sub-profile
                - description
                - multi-sub-sap
                - shutdown
                - single-sub-parameters
                    - non-sub-traffic
```


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config service vprn sub-if grp-if sap sub-sla-mgmt single-sub profiled-traffic-only

```
                        - profiled-traffic-only
                    - sub-ident-policy
            - sap-parameters
                - anti-spoof
                - description
                - sub-sla-mgmt
                    - def-app-profile
                    - def-sla-profile
                    - def-sub-id
                    - def-sub-profile
                    - sub-ident-policy
            - shared-circuit-id
            - shcv-policy
            - shcv-policy-ipv4
            - shcv-policy-ipv6
            - shutdown
            - srrp
                - bfd-enable
                - description
                - gw-mac
                - keep-alive-interval
                - message-path
                - monitor-oper-group
                - one-garp-per-sap
                - oper-group
                - policy
                - preempt
                - priority
                - send-fib-population-packets
                - shutdown
            - srrp-enabled-routing
            - suppress-aa-sub
            - tos-marking-state
            - urpf-check
                - mode
            - wlan-gw
                - address
                - description
                    - initial-lease-time
                - egress
                    - agg-rate-limit
                    - hold-time
                    - qos
                    - scheduler-policy
                    - shape-multi-client-only
                    - shaping
                - group-encryption
                    - encryption-keygroup
                - gw-addresses
                    - address
                - l2-access-points
                    - l2-ap
                        - encap-type
                        - epipe-sap-template
                        - shutdown
                - l2-ap-auto-sub-id-fmt
                - l2-ap-encap-type
                - learn-ap-mac
                - learn-l2tp-cookie
                - max-lanext-bd
                - mcs-peer
                - mobility
                    - hold-time
                    - inter-vlan
```


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config service vprn sub-if grp-if wlan-gw mobility multi-tunnel-type

```
            - multi-tunnel-type
            - trigger
        - oper-down-on-group-degrade
        - promiscuous-mode
        - router
        - shutdown
        - tcp-mss-adjust
        - tunnel-encaps
            - learn-l2tp-cookie
        - vlan-tag-ranges
            - default-retail-svc-id
            - range
                - authenticate-on-dhcp
                - authentication
                    - authentication-policy
                    - hold-time
                    - local
                        - coa-policy
                        - default-ue-state
                    - vlan-mismatch-timeout
                - data-triggered-ue-creation
                - dhcp
                    - active-lease-time
                    - initial-lease-time
                    - l2-aware-ip-address
                    - primary-dns
                    - primary-nbns
                    - secondary-dns
                    - secondary-nbns
                    - shutdown
                - dhcp6
                    - active-preferred-lifetime
                    - active-valid-lifetime
                    - initial-preferred-lifetime
                    - initial-valid-lifetime
                    - shutdown
                - distributed-sub-mgmt
                    - aa-url-parameter
                    - accounting-policy
                    - accounting-update-interval
                    - captive-portal-api-url
                    - collect-aa-acct-stats
                    - def-app-profile
                    - dsm-ip-filter
                    - egress-policer
                    - ingress-policer
                    - one-time-redirect
                    - send-unrestricted-portal-url
                    - shutdown
                    - soft-quota-exhausted-filter
                    - volume-quota-direction
                - dynamic-service
                - extensions
                    - extension
                - http-redirect-policy
                - idle-timeout
                - l2-service
                    - description
                    - shutdown
                - nat-policy
                - retail-svc-id
                - slaac
                    - active-preferred-lifetime
                    - active-valid-lifetime
```


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config service vprn sub-if grp-if wlan-gw ranges range track-mobility

```
                                - initial-preferred-lifetime
                                - initial-valid-lifetime
                                - shutdown
                            - track-mobility
                                - mac-format
                                - radius-proxy-cache
                            - vrgw
                                - brg
                                    - authenticated-brg-only
                                    - default-brg-profile
                                    - shutdown
                                - lanext
                                    - access
                                        - max-mac
                                        - multi-access
                                        - policer
                                    - assistive-address-resolution
                                    - bd-mac-prefix
                                    - mac-translation
                                    - network
                                        - max-mac
                                        - policer
                                        - shutdown
                                    - shutdown
                            - xconnect
                                - accounting-policy
                                - accounting-update-interval
                                - mobility-acct-updates
                                - shutdown
                        - wlan-gw-group
                    - wpp
                        - description
                        - enable-triggered-hosts
                        - initial-app-profile
                        - initial-sla-profile
                        - initial-sub-profile
                        - lease-time
                        - portal
                        - portal-group
                            - shutdown
                        - restore-disconnected
                        - shutdown
                        - user-db
                - hold-time
                    - down
                    - up
                - ip-mtu
                - ipoe-linking
                    - gratuitous-rtr-adv
                - ipoe-session
                    - session-limit
                - ipv6
                    - address
                    - allow-multiple-wan-addresses
                    - allow-unmatching-prefixes
                    - allow-unmatching-subnets
                    - bfd
                    - default-dns
                    - delegated-prefix-length
                    - dhcp6
                        - allow-client-id-change
                        - override-slaac
                        - pd-managed-route
                            - emulated-server
```


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configure service vprn subscriber-interface ipv6 dhcp6 proxy-server

```
                        - proxy-server
                            - client-applications
                            - preferred-lifetime
                            - rebind-timer
                            - renew-timer
                            - server-id
                            - shutdown
                            - valid-lifetime
                        - python-policy
                        - relay
                            - advertise-selection
                                - client-mac
                                    - preference-option
                                        - value
                                    - solicit-delay
                                - preference-option
                                    - value
                                - server
                                    - preference-option
                                        - value
                                    - solicit-delay
                                - solicit-delay
                            - client-applications
                            - description
                            - lease-split
                                - shutdown
                                - valid-lifetime
                            - link-address
                            - server
                            - shutdown
                            - source-address
                    - ipoe-bridged-mode
                    - link-local-address
                    - router-advertisements
                        - current-hop-limit
                        - dns-options
                            - include-dns
                            - rdnss-lifetime
                        - force-mcast
                        - managed-configuration
                        - max-advertisement
                        - min-advertisement
                        - mtu
                        - other-stateful-configuration
                        - prefix-options
                            - autonomous
                            - on-link
                            - preferred-lifetime
                            - valid-lifetime
                        - reachable-time
                        - retransmit-time
                        - router-lifetime
                        - shutdown
                    - router-solicit
                        - inactivity-timer
                        - include-dns
                        - rdnss-lifetime
                    - subscriber-prefixes
                        - prefix
                - local-address-assignment
                    - client-application
                    - default-pool
                    - ipv6
                        - client-application
```


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configure service vprn subscriber-interface local-address-assignment ipv6 server

```
                        - server
                    - server
                    - shutdown
                - pppoe
                    - description
                    - session-limit
                    - shutdown
                - private-retail-subnets
                - python-policy
                - shutdown
                - unnumbered
                - wlan-gw
                    - pool-manager
                        - dhcpv6-client
                            - dhcpv4-nat
                                - link-addr
                                - pool-name
                                - shutdown
                            - ia-na
                                - link-addr
                                - pool-name
                                - shutdown
                            - lease-query
                            - server
                            - slaac
                                - link-addr
                                - pool-name
                                - shutdown
                            - source-ip
                        - watermarks
                        - wlan-gw-group
                                - shutdown
                    - redundancy
                        - export
                        - monitor
                        - shutdown
            - subscriber-mgmt
                - dhcpv4
                    - routed-subnet-transparent-forward
                - multi-chassis-shunt-id
                - up-resiliency
                    - monitor-oper-group
            - ttl-propagate
                - local
                - transit
            - twamp-light
                - reflector
                    - allow-ipv6-udp-checksum-zero
                    - description
                    - prefix
                        - description
                    - shutdown
                    - type
            - type
            - video-interface
                - accounting-policy
                - address
                - channel
                    - description
                    - scte35-action
                    - zone-channel
                - cpu-protection
                - description
                - multicast-service
```


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```
                    - output-format
                    - shutdown
                    - video-sap
                        - egress
                            - filter
                            - qos
                        - ingress
                            - filter
                            - qos
                - vrf-export
                - vrf-import
                - vrf-target
                - vrgw
                    - lanext
                        - shutdown
                        - wlan-gw-group
                - vxlan
                    - instance
                        - network
                            - ingress
                                - qos
                        - source-vtep-security
                    - source-vtep
                    - tunnel-termination
                - weighted-ecmp
                - wlan-gw
                    - distributed-sub-mgmt
                        - ipv6-tcp-mss-adjust
                    - gtp
                    - mobility-triggered-acct
                        - interim-update
                    - xconnect
                        - shutdown
                        - tunnel-source-ip
                        - wlan-gw-group
                - wpp
                    - portals
                        - portal
                            - ack-auth-retry-count
                            - ntf-logout-retry-count
                            - port-format
                            - retry-interval
                            - secret
                            - shutdown
                            - version
                    - shutdown
```


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3.4.36 configure sflow Commands

```
        - sflow
            - egress-counter-map
            - ingress-counter-map
            - receiver
                - ip-addr-backup
                - ip-addr-primary
                - max-data-size
```


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3.4.37 configure sfm Commands

```
        - sfm
            - sfm-type
            - shutdown
```


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3.4.38 configure subscriber-mgmt Commands

```
- subscriber-mgmt
    - accu-stats-policy
        - description
        - entry
    - alternate-profile-threshold
    - ancp
        - ancp-policy
            - egress
                - rate-adjustment
                - rate-modify
                - rate-monitor
                - rate-reduction
            - ingress
                - rate-adjustment
                - rate-modify
                - rate-monitor
                - rate-reduction
            - port-down
                - disable-shcv
        - ancp-static-map
            - entry
    - authentication-origin
        - priority
    - authentication-policy
        - accept-authorization-change
        - accept-script-policy
        - coa-script-policy
        - description
        - fallback-action
        - gtp-user-name
        - include-radius-attribute
            - access-loop-options
            - acct-session-id
            - apn
            - called-station-id
            - calling-station-id
            - circuit-id
            - dhcp-options
            - dhcp-vendor-class-id
            - dhcp6-options
            - gprs-negotiated-qos-profile
            - imei
            - imsi
            - mac-address
            - msisdn
            - nas-identifier
            - nas-port
            - nas-port-id
            - nas-port-type
            - pppoe-service-name
            - rat-type
            - remote-id
            - sap-session-index
            - tunnel-server-attrs
            - uli
            - wifi-num-attached-ues
            - wifi-ssid-vlan
            - xconnect-tunnel-home-address
        - password
        - ppp-user-name
```


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config subscr-mgmt auth-plcy pppoe-access-method

```
            - pppoe-access-method
            - radius-authentication-server
                - access-algorithm
                - hold-down-time
                - retry
                - router
                - server
                - source-address
                - timeout
            - radius-server-policy
            - re-authentication
            - request-script-policy
            - send-acct-stop-on-fail
            - user-name-format
        - auto-sub-id-key
            - implicit-generation
            - ipoe-sub-id-key
            - ppp-sub-id-key
        - bgp-peering-policy
            - advertise-inactive
            - aggregator-id-zero
            - as-override
            - auth-keychain
            - authentication-key
            - bfd-enable
            - cluster
            - connect-retry
            - damping
            - description
            - disable-4byte-asn
            - disable-client-reflect
            - disable-communities
            - disable-fast-external-failover
            - export
            - family
                - ipv4
                - ipv6
            - hold-time
            - import
            - keepalive
            - local-address
            - local-as
            - local-preference
            - loop-detect
            - med-out
            - min-route-advertisement
            - multihop
            - next-hop-self
            - passive
            - peer-as
            - preference
            - prefix-limits
            - remove-private
            - ttl-security
            - type
        - category-map
            - activity-threshold
            - category
                - credit-type-override
                - default-credit
                - description
                - exhausted-credit-service-level
                    - egress-ip-filter-entries
                        - entry
```


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config subscr-mgmt cat-map category exh-lvl egr-ip entry action

```
                            - action
                            - description
                            - match
                                - dscp
                                - dst-port
                                - fragment
                                - icmp-code
                                - icmp-type
                                - ip-option
                                - multiple-option
                                - option-present
                                - src-ip
                                - src-port
                                - tcp-ack
                                - tcp-syn
                        - egress-ipv6-filter-entries
                            - entry
                                - action
                                - description
                                - match
                                    - dscp
                                    - dst-port
                                    - icmp-code
                                    - icmp-type
                                    - src-ip
                                    - src-port
                                    - tcp-ack
                                    - tcp-syn
                        - ingress-ip-filter-entries
                            - entry
                                - action
                                - description
                                - match
                                    - dscp
                                    - dst-ip
                                    - dst-port
                                    - fragment
                                    - icmp-code
                                    - icmp-type
                                    - ip-option
                                    - multiple-option
                                    - option-present
                                    - src-port
                                    - tcp-ack
                                    - tcp-syn
                        - ingress-ipv6-filter-entries
                            - entry
                                - action
                                - description
                                - match
                                    - dscp
                                    - dst-ip
                                    - dst-port
                                    - icmp-code
                                    - icmp-type
                                    - src-port
                                    - tcp-ack
                                    - tcp-syn
                            - pir
                        - out-of-credit-action-override
                        - policer
                        - queue
                        - rating-group
                    - credit-exhaust-threshold
```


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config subscr-mgmt cat-map credit-type

```
            - credit-type
            - description
            - gx-session-level-usage
        - credit-control-policy
            - credit-control-server
            - default-category-map
            - description
            - error-handling-action
            - out-of-credit-action
        - diameter-application-policy
            - application
            - description
            - diameter-node
            - gx
                - 3gpp-qos-mapping
                    - apn-ambr-dl
                    - apn-ambr-ul
                - avp-subscription-id
                - ccrt-replay
                    - interval
                    - max-lifetime
                    - shutdown
                - credit-mcs-interval
                - dest-realm-learning
                - features
                    - extended-bw
                - include-avp
                    - an-gw-address
                    - apn-ambr
                    - called-station-id
                    - calling-station-id
                    - ip-can-type
                    - logical-access-id
                    - nas-port
                    - nas-port-id
                    - nas-port-type
                    - pdn-connection-id
                    - physical-access-id
                    - rai
                    - rat-type
                    - sgsn-mcc-mnc
                    - supported-features
                    - user-equipment-info
                    - user-location-info
                - mac-format
                - report-ip-address-event
            - gy
                - avp-subscription-id
                - ccrt-replay
                    - interval
                    - max-lifetime
                    - shutdown
                - dest-realm-learning
                - extended-failure-handling
                    - interim-credit
                        - max-attempts
                        - reporting
                        - validity-time
                        - volume
                    - new-session-id
                    - shutdown
                - include-avp
                    - 3gpp-charging-characteristics
                    - 3gpp-charging-id
```


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config subscr-mgmt diam-appl-plcy gy include-avp 3gpp-ggsn-address

```
                    - 3gpp-ggsn-address
                    - 3gpp-ggsn-ipv6-address
                    - 3gpp-gprs-negotiated-qos-profile
                    - 3gpp-imsi
                    - 3gpp-nsapi
                    - 3gpp-rat-type
                    - 3gpp-selection-mode
                    - 3gpp-session-stop-indicator
                    - 3gpp-user-location-info
                    - address-avp
                    - called-station-id
                    - charging-rule-base-name
                    - ggsn-address
                    - pdp-context-type
                    - ps-information
                    - radius-user-name
                    - service-context-id
                    - user-equipment-info
                - mac-format
                - out-of-credit-reporting
                - vendor-support
            - nasreq
                - include-avp
                    - called-station-id
                    - calling-station-id
                    - circuit-id
                    - imei
                    - nas-port
                    - nas-port-id
                    - nas-port-type
                    - rat-type
                    - remote-id
                    - user-location-info
                - mac-format
                - password
                - user-name-format
                - user-name-operation
            - on-failure
            - tx-timer
        - explicit-subscriber-map
            - entry
        - group-interface-statistics
            - shutdown
        - group-interface-template
            - description
            - ip-mtu
            - ipv4
                - icmp
                    - mask-reply
                    - param-problem
                    - redirects
                    - ttl-expired
                    - unreachables
                - proxy-arp-policy
                - remote-proxy-arp
                - urpf-check
                    - mode
            - ipv6
                - urpf-check
                    - mode
            - trigger-packet
                - data
        - gtp
            - apn-policy
```


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config subscr-mgmt gtp apn-policy apn

```
                - apn
                    - ambr-qos-mapping
                        - downlink
                        - uplink
                    - defaults
                        - group-interface
                    - diameter-auth-policy
                    - radius-auth-policy
                    - skip-gtp-ipv4-alloc
                    - user-db
            - gtp-u-ipv6-checksum
            - max-held-sessions
            - peer-profile
                - change-reporting-action
                - charging-characteristics
                    - home
                    - roaming
                - description
                - end-marker-count
                - ggsn
                    - qos
                        - ambr
                        - arp
                        - down-link
                        - up-link
                - interface-type
                - ip-ttl
                - ipv4-mtu
                - keep-alive
                - message-retransmit
                - mme
                    - qos
                        - ambr
                        - arp
                        - down-link
                        - qci
                        - up-link
                - pgw
                    - qos
                        - ambr
                        - arp
                        - down-link
                        - qci
                        - up-link
                - protocol-configuration-options
                - python-policy
                - rat-type
                - report-wlan-location
                - session-hold-time
            - serving-network
        - host-lockout-policy
            - description
            - host-key
            - lockout-reset-time
            - lockout-time
            - max-lockout-hosts
            - description
        - host-tracking-policy
            - description
            - egress-rate-modify
        - http-redirect-policy
            - aa-url-parameter
            - application-assurance
            - description
```


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config subscr-mgmt http-rdr-plcy dst-port

```
            - dst-port
            - forward-entries
                - dst-ip
            - ignore-app-profile
            - portal-hold-time
            - url
        - idle-timeout-policy
            - action
            - activity-threshold
            - description
            - egress
                - policers
                    - all
                    - none
                    - policer
                - queues
                    - all
                    - none
                    - queue
            - ingress
                - policers
                    - all
                    - none
                    - policer
                - queues
                    - all
                    - none
                    - queue
            - timeout
        - igmp-policy
            - description
            - disable-router-alert-check
            - egress-rate-modify
            - fast-leave
            - import
            - max-num-groups
            - max-num-grp-sources
            - max-num-sources
            - mcast-reporting
                - mcast-reporting-dest
                - opt-reporting-fields
                - shutdown
            - per-host-replication
            - per-spi-replication
            - query-interval
            - query-last-member-interval
            - query-response-interval
            - redirection-policy
            - source
            - starg
            - static
                - group
                    - source
                    - starg
            - version
        - ipoe-session-policy
            - circuit-id-from-auth
            - description
            - session-key
            - session-timeout
        - isa-filter
            - default-action
            - description
            - entry
```


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config subscr-mgmt isa-filter entry action

```
                - action
                - description
                - match
                    - dst-ip
                    - dst-port
                    - src-ip
                    - src-port
            - ipv6
                - default-action
                - entry
                    - action
                    - description
                    - match
                        - dst-ip
                        - dst-port
                        - src-ip
                        - src-port
        - isa-policer
            - action
            - adaptation-rule
            - cbs
            - description
            - mbs
            - rate
        - isa-service-chaining
            - evpn
                - bgp
                    - route-distinguisher
                    - route-target
                - description
                - export
                    - gw-address-range
                    - ip-advertise-routes
                        - pool
                        - shutdown
                    - vxlan
                - shutdown
            - mac-prefix
            - vas-filter
                - description
                - entry
                    - action
                        - fail-action
                        - forward
                        - insert-nsh
                            - meta-data
                                - insert-subscriber-id
                                - opaque-data
                            - svc-path
                    - description
                    - match
                        - foreign-ip
                        - foreign-port
                        - protocol
                    - shutdown
                - shutdown
        - local-user-db
            - description
            - ipoe
                - host
                    - acct-policy
                    - address
                    - auth-domain-name
                    - auth-policy
```


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config subscr-mgmt loc-user-db ipoe host diameter-application-policy

```
                        - diameter-application-policy
                        - diameter-auth-policy
                        - gi-address
                        - host-identification
                            - circuit-id
                            - derived-id
                            - duid-en
                            - duid-ll-llt
                            - encap-tag-range
                            - encap-tag-separate-range
                            - ip-prefix
                            - mac
                            - option60
                            - remote-id
                            - sap-id
                            - service-id
                            - string
                            - system-id
                        - identification-strings
                            - ancp-string
                            - app-profile-string
                            - category-map-name
                            - inter-dest-id
                            - sla-profile-string
                            - spi-sharing-group-id
                            - sub-profile-string
                            - subscriber-id
                        - interface
                        - ipv6-address
                        - ipv6-delegated-prefix
                        - ipv6-delegated-prefix-length
                        - ipv6-delegated-prefix-pool
                        - ipv6-lease-times
                            - preferred-lifetime
                            - rebind-timer
                            - renew-timer
                            - valid-lifetime
                        - ipv6-slaac-prefix
                        - ipv6-slaac-prefix-pool
                        - ipv6-wan-address-pool
                        - link-address
                        - match-radius-proxy-cache
                            - fail-action
                            - mac-format
                            - match
                            - server
                        - mld-parameters
                            - import
                        - msap-defaults
                            - group-interface
                            - policy
                            - service
                        - options
                            - custom-option
                            - default-router
                            - dns-server
                            - domain-name
                            - lease-rebind-time
                            - lease-renew-time
                            - lease-time
                            - netbios-name-server
                            - netbios-node-type
                            - subnet-mask
                        - options6
```


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config subscr-mgmt loc-user-db ipoe host options6 boot-file-param

```
                        - boot-file-param
                        - boot-file-url
                        - dns-server
                    - retail-service-id
                    - rip-policy
                    - router-advertisement-policy
                    - server
                    - server6
                    - servers
                    - servers6
                    - shutdown
                    - to-client-options
                        - ipv4
                            - option
                        - ipv6
                            - option
                    - to-server-options
                        - ipv6
                            - option
                    - wpp
                        - initial-app-profile
                        - initial-sla-profile
                        - initial-sub-profile
                        - portal
                        - portal-group
                        - restore-disconnected
                - mask
                - match-list
            - ppp
                - host
                    - access-loop-encapsulation
                        - encap-offset
                        - rate-down
                    - access-loop-information
                        - circuit-id
                        - remote-id
                    - acct-policy
                    - address
                    - auth-policy
                    - diameter-application-policy
                    - diameter-auth-policy
                    - force-ipv6cp
                    - host-identification
                        - circuit-id
                        - derived-id
                        - encap-tag-range
                        - encap-tag-separate-range
                        - mac
                        - remote-id
                        - sap-id
                        - service-name
                        - username
                    - identification-strings
                        - ancp-string
                        - app-profile-string
                        - category-map-name
                        - inter-dest-id
                        - sla-profile-string
                        - spi-sharing-group-id
                        - sub-profile-string
                        - subscriber-id
                    - ignore-df-bit
                    - interface
                    - ipv6-address
```


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config subscr-mgmt loc-user-db ppp host ipv6-delegated-prefix

```
                    - ipv6-delegated-prefix
                    - ipv6-delegated-prefix-length
                    - ipv6-delegated-prefix-pool
                    - ipv6-lease-times
                        - preferred-lifetime
                        - rebind-timer
                        - renew-timer
                        - valid-lifetime
                    - ipv6-slaac-prefix
                    - ipv6-slaac-prefix-pool
                    - ipv6-wan-address-pool
                    - l2tp
                        - group
                        - lac-fragmentation
                    - mld-parameters
                        - import
                    - msap-defaults
                        - group-interface
                        - policy
                        - service
                    - options
                        - custom-option
                        - dns-server
                        - netbios-name-server
                    - options6
                        - dns-server
                    - padi-auth-policy
                    - pado-delay
                    - password
                    - ppp-policy-parameters
                        - keepalive
                        - max-sessions-per-mac
                    - pre-auth-policy
                    - retail-service-id
                    - rip-policy
                    - router-advertisement-policy
                    - shutdown
                    - steering-profile
                    - to-client-options
                        - ipv6
                            - option
                    - user-db
                - mask
                - match-list
        - shutdown
    - mld-policy
        - description
        - disable-router-alert-check
        - egress-rate-modify
        - fast-leave
        - import
        - max-num-groups
        - max-num-grp-sources
        - max-num-sources
        - per-host-replication
        - per-spi-replication
        - query-interval
        - query-last-listener-interval
        - query-response-interval
        - redirection-policy
        - static
            - group
                - source
                - starg
```


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config subscr-mgmt mld-policy version

```
            - version
        - msap-policy
            - cpu-protection
            - description
            - dist-cpu-protection
            - ies-vprn-only-sap-parameters
                - anti-spoof
                - egress
                    - qos
                - ingress
                    - qos
            - igmp-host-tracking
                - expiry-time
                - import
                - max-num-groups
                - max-num-grp-sources
                - max-num-sources
            - lag-link-map-profile
            - sticky-msaps
            - sub-sla-mgmt
                - def-app-profile
                - def-inter-dest-id
                - def-sla-profile
                - def-sub-id
                - def-sub-profile
                - multi-sub-sap
                - single-sub-parameters
                    - non-sub-traffic
                    - profiled-traffic-only
                - sub-ident-policy
            - vpls-only-sap-parameters
                - arp-host
                    - host-limit
                    - min-auth-interval
                - arp-reply-agent
                - dhcp
                    - lease-populate
                    - option
                        - action
                        - circuit-id
                        - remote-id
                        - vendor-specific-option
                            - client-mac-address
                            - sap-id
                            - service-id
                            - string
                            - system-id
                    - proxy-server
                        - emulated-server
                        - lease-time
                        - shutdown
                - egress
                    - qos
                - igmp-snooping
                    - fast-leave
                    - import
                    - last-member-query-interval
                    - max-num-groups
                    - mcac
                        - if-policy
                        - mc-constraints
                            - level
                            - number-down
                            - use-lag-port-weight
```


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config subscr-mgmt msap-policy vpls-only igmp-snp mcac policy

```
                        - policy
                        - unconstrained-bw
                    - mvr
                        - from-vpls
                    - query-interval
                    - query-response-interval
                    - robust-count
                    - send-queries
                    - version
                - ingress
                    - qos
                - mac-da-hashing
                - split-horizon-group
        - pfcp-association
            - bfd-expedited-path-down
            - default-calltrace-profile
            - description
            - heartbeat
                - interval
                - retries
                - timeout
            - interface
            - nat
                - nat-group
            - node-id
            - path-restoration-time
            - peer
            - peer-node-id
            - python-policy
            - release-timeout
            - shutdown
            - tx
                - retries
                - timeout
                - ttl
        - pim-policy
            - description
        - ppp-policy
            - default-pap-password
            - default-user-name
            - description
            - disable-cookies
            - force-ppp-mtu-gt-1492
            - ipcp-subnet-negotiation
            - keepalive
            - lcp-ignore-identifier
            - lcp-ignore-magic-numbers
            - max-sessions-per-cid
            - max-sessions-per-mac
            - mlppp
                - accept-mrru
                - endpoint
                - short-sequence-numbers
            - ncp-renegotiation
            - pado-ac-name
            - pado-delay
            - ppp-authentication
            - ppp-chap-challenge-length
            - ppp-initial-delay
            - ppp-mtu
            - ppp-options
                - custom-option
            - re-establish-session
            - reject-disabled-ncp
```


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config subscr-mgmt ppp-policy reply-on-padt

```
            - reply-on-padt
            - session-timeout
            - sid-allocation
            - unique-sid-per-sap
        - pppoe-client-policy
            - description
            - keepalive
            - mru
            - mtu
            - python-policy
            - restart-backoff
            - stack
        - radius-accounting-policy
            - acct-request-script-policy
            - acct-tunnel-connection-fmt
            - custom-record
                - queue
                    - e-counters
                        - all
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                    - i-counters
                        - all
                        - all-octets-offered-count
                        - all-packets-offered-count
                        - high-octets-discarded-count
                        - high-octets-offered-count
                        - high-packets-discarded-count
                        - high-packets-offered-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-forwarded-count
                        - low-octets-discarded-count
                        - low-octets-offered-count
                        - low-packets-discarded-count
                        - low-packets-offered-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-forwarded-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                - ref-queue
                    - e-counters
                        - all
                        - in-profile-octets-discarded-count
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-discarded-count
                        - in-profile-packets-forwarded-count
                        - out-profile-octets-discarded-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-discarded-count
                        - out-profile-packets-forwarded-count
                    - i-counters
                        - all
                        - all-octets-offered-count
                        - all-packets-offered-count
                        - high-octets-discarded-count
                        - high-octets-offered-count
                        - high-packets-discarded-count
                        - high-packets-offered-count
```


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config subscr-mgmt acct-plcy cr ref-queue i-count in-profile-octets-forwarded-count

```
                        - in-profile-octets-forwarded-count
                        - in-profile-packets-forwarded-count
                        - low-octets-discarded-count
                        - low-octets-offered-count
                        - low-packets-discarded-count
                        - low-packets-offered-count
                        - out-profile-octets-forwarded-count
                        - out-profile-packets-forwarded-count
                        - uncoloured-octets-offered-count
                        - uncoloured-packets-offered-count
                    - significant-change
                - delay-start-time
                - description
                - host-accounting
                - include-radius-attribute
                    - access-loop-options
                    - acct-authentic
                    - acct-delay-time
                    - alc-acct-triggered-reason
                    - alc-error-code
                    - all-authorized-session-addresses
                    - apn
                    - bearer-fteid
                    - bonding-active-connections
                    - bonding-id
                    - brg-num-active-sessions
                    - called-station-id
                    - calling-station-id
                    - circuit-id
                    - delegated-ipv6-prefix
                    - detailed-acct-attributes
                    - dhcp-vendor-class-id
                    - firewall-info
                    - framed-interface-id
                    - framed-ip-addr
                    - framed-ip-netmask
                    - framed-ipv6-prefix
                    - framed-ipv6-route
                    - framed-route
                    - imei
                    - imsi
                    - ipv6-address
                    - lac-fragmentation
                    - lanext-bridge-id
                    - lanext-device-type
                    - lanext-route-distinguisher
                    - lanext-route-target
                    - lanext-vni
                    - mac-address
                    - msisdn
                    - nas-identifier
                    - nas-port
                    - nas-port-id
                    - nas-port-type
                    - nat-port-range
                    - network-instance-id
                    - network-instance-name
                    - rat-type
                    - remote-id
                    - sla-profile
                    - spi-sharing-id
                    - std-acct-attributes
                    - steering-profile
                    - sub-profile
```


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config subscr-mgmt acct-plcy include-radius-attribute subscriber-id

```
                - subscriber-id
                - tunnel-client-attrs
                - tunnel-server-attrs
                - uli
                - user-name
                - v6-aggregate-stats
                - wifi-num-attached-ues
                - wifi-rssi
                - wifi-ssid-vlan
                - xconnect-tunnel-home-address
            - mcs-interval
            - queue-instance-accounting
            - radius-accounting-server
                - access-algorithm
                - retry
                - router
                - server
                - source-address
                - timeout
            - radius-server-policy
            - session-accounting
            - session-id-format
            - triggered-updates
                - gtp-change
                    - s1-release
                    - service-request
                    - teidc-change
                    - teidu-change
                    - uli-change
            - update-interval
            - update-interval-jitter
        - rip-policy
            - authentication-key
            - authentication-type
            - description
        - router-advertisement-policy
            - current-hop-limit
            - dns-options
                - include-dns
                - rdnss-lifetime
            - force-mcast
            - managed-configuration
            - max-advertisement
            - min-advertisement
            - mtu
            - other-stateful-configuration
            - prefix-options
                - stateful
                    - auto-lifetimes
                    - on-link
                    - preferred-lifetime
                    - valid-lifetime
                - stateless
                    - on-link
                    - preferred-lifetime
                    - valid-lifetime
            - reachable-time
            - retransmit-time
            - router-lifetime
        - sap-template
            - cpu-protection
            - description
            - dist-cpu-protection
            - hold-time
```


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config subscr-mgmt shcv-policy

```
            - shcv-policy
                - description
                - layer-3
                    - source-ip-origin
                    - unnumbered-source-ip
                - periodic
                    - action
                    - interval
                    - retry-count
                    - shutdown
                    - timeout
                - trigger
                    - retry-count
                    - shutdown
                    - timeout
                - vpls
                    - source-ip
                    - source-mac
            - sla-profile
                - aggregate-qos-stats
                    - egress
                        - policers
                        - queues
                - alternate-sla-profile
                - category-map
                    - category
                        - idle-timeout
                        - idle-timeout-action
                - control
                    - cups
                    - local
                - credit-control-policy
                - custom-statistics-group
                    - egress
                        - policers
                            - policer
                - def-instance-sharing
                - description
                - egress
                    - bonding-selection
                        - rate-thresholds
                        - weight
                    - hs-agg-rate-limit
                    - ip-filter
                    - ipv6-filter
                    - qos
                        - hs-queue-stat-mode
                        - hs-wrr-group
                            - hs-class-weight
                            - rate
                        - policer
                            - cbs
                            - mbs
                            - packet-byte-offset
                            - rate
                            - stat-mode
                        - queue
                            - avg-frame-overhead
                            - cbs
                            - high-prio-only
                            - hs-class-weight
                            - hs-wred-queue-policy
                            - hs-wrr-weight
                            - mbs
```


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config subscr-mgmt sla-prof egress qos queue rate

```
                        - rate
                        - stat-mode
                - qos-marking-from-sap
                - report-rate
                - scheduler-policy
                    - scheduler
                - use-ingress-l2tp-dscp
            - host-limits
                - ipv4-arp
                - ipv4-dhcp
                - ipv4-overall
                - ipv4-ppp
                - ipv6-overall
                - ipv6-pd-ipoe-dhcp
                - ipv6-pd-overall
                - ipv6-pd-ppp-dhcp
                - ipv6-wan-ipoe-dhcp
                - ipv6-wan-ipoe-slaac
                - ipv6-wan-overall
                - ipv6-wan-ppp-dhcp
                - ipv6-wan-ppp-slaac
                - lac-overall
                - overall
                - remove-oldest
            - idle-timeout-policy
            - ingress
                - ip-filter
                - ipv6-filter
                - qos
                    - policer
                        - cbs
                        - mbs
                        - packet-byte-offset
                        - rate
                        - stat-mode
                    - queue
                        - cbs
                        - high-prio-only
                        - mbs
                        - rate
                        - stat-mode
                - report-rate
            - one-time-http-redirection
            - pfcp-mappings
                - session-qer
                    - downlink-mbr-gbr
                    - uplink-mbr-gbr
            - session-limits
                - ipoe
                - l2tp-lns
                - l2tp-lts
                - l2tp-overall
                - overall
                - pppoe-lac
                - pppoe-local
                - pppoe-overall
        - steering-profile
            - access
            - description
            - network
        - sub-ident-policy
            - app-profile-map
                - entry
                - use-direct-map-as-default
```


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config subscr-mgmt sub-ident-pol description

```
                - description
                - primary
                    - script-url
                    - shutdown
                - secondary
                    - script-url
                    - shutdown
                - sla-profile-map
                    - entry
                    - use-direct-map-as-default
                - strings-from-option
                - sub-profile-map
                    - entry
                    - use-direct-map-as-default
                - tertiary
                    - script-url
                    - shutdown
            - sub-mcac-policy
                - description
                - shutdown
                - unconstrained-bw
            - sub-profile
                - accounting-policy
                - accu-stats-policy
                - alternate-sub-profile
                - ancp
                    - ancp-policy
                - collect-stats
                - control
                    - cups
                    - local
                - description
                - egress
                    - agg-rate-limit
                    - encap-offset
                    - hs-agg-rate-limit
                    - hs-low-burst-max-class
                    - lag-per-link-hash
                    - policer-control-policy
                        - max-rate
                        - priority-mbs-thresholds
                            - min-thresh-separation
                            - priority
                                - mbs-contribution
                    - scheduler-policy
                        - scheduler
                - firewall-policy
                - host-limits
                    - ipv4-arp
                    - ipv4-dhcp
                    - ipv4-overall
                    - ipv4-ppp
                    - ipv6-overall
                    - ipv6-pd-ipoe-dhcp
                    - ipv6-pd-overall
                    - ipv6-pd-ppp-dhcp
                    - ipv6-wan-ipoe-dhcp
                    - ipv6-wan-ipoe-slaac
                    - ipv6-wan-overall
                    - ipv6-wan-ppp-dhcp
                    - ipv6-wan-ppp-slaac
                    - lac-overall
                    - overall
                - host-tracking-policy
```


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config subscr-mgmt sub-prof hs-sla-mode

```
            - hs-sla-mode
            - igmp-policy
            - ingress
                - policer-control-policy
                    - max-rate
                    - priority-mbs-thresholds
                        - min-thresh-separation
                        - priority
                            - mbs-contribution
                - scheduler-policy
                    - scheduler
            - mld-policy
            - nat-access-mode
            - nat-allow-bypass
            - nat-policy
            - nat-prefix-list
            - pim-policy
            - preference
            - radius-accounting
                - policy
                - session-optimized-stop
            - secondary-shaper-hashing
            - session-limits
                - ipoe
                - l2tp-lns
                - l2tp-lts
                - l2tp-overall
                - overall
                - pppoe-lac
                - pppoe-local
                - pppoe-overall
            - sla-profile-map
                - entry
                - use-direct-map-as-default
            - sub-mcac-policy
            - upnp-policy
            - volume-stats-type
            - vport-hashing
        - subscriber-interface-statistics
            - shutdown
        - svlan-statistics
            - shutdown
        - system-behavior
            - legacy-dns-nbns
        - up-resiliency
            - fate-sharing-group-template
                - description
                - gratuitous-arp
                - path-restoration-state
                - redundant-interface
                - uplink-forwarding-while-standby
        - vrgw
            - brg
                - brg-profile
                    - connectivity-verification
                    - description
                    - dhcp-pool
                        - lease-time
                        - options
                            - custom-option
                        - standby-ip-lifetime
                        - subnet
                    - hold-time
                    - initial-hold-time
```


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config subscr-mgmt vrgw brg brg-profile radius-authentication

```
                    - radius-authentication
                        - password
                        - radius-server-policy
                    - radius-proxy-server
                    - radius-server-policy
                    - sla-profile-string
                    - sub-profile-string
                    - uplink-initial-wait
            - lanext
                - router-target-as-number
        - wlan-gw
            - distributed-sub-mgmt
            - tunnel-query
                - address-type
                - ap-mac-learn-failed
                - calculate-counts
                - custom-user-group
                - l2-inner-vlan
                - l2-outer-vlan
                - l2-sap
                - local-address
                - max-num-ue
                - min-num-ue
                - remote-address
                - router
                - type
                    - gre
                    - l2
                    - l2tp
                    - vxlan
                - ue-state
                    - dsm
                    - esm
                    - l2w
                    - migrant
                    - xcon
            - ue-query
                - address-type
                - bd
                - custom-user-group
                - dhcp6-address
                - ipv4-address
                - mac-address
                - slaac-prefix
                - soft-quota-exhausted
                - state
                    - already-signed-in
                    - authorized-only
                    - cross-connect
                    - data-triggered
                    - delete-pending
                    - dhcp-triggered
                    - dsm
                    - esm
                    - gtp-authorized
                    - ip-assigned
                    - ip-assigned-authorized
                    - l2
                    - portal
                - tunnel-local-address
                - tunnel-remote-address
                - tunnel-router
                - tunnel-type
                - vlan
```


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config subscr-mgmt wlan-gw ue-query wlan-gw-group

```
                        - wlan-gw-group
                    - virtual-chassis-identifier
```


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3.4.39 configure system Commands

```
- system
    - alarm-contact-in-power
    - alarm-contact-input
        - clear-alarm-msg
        - description
        - normal-state
        - shutdown
        - trigger-alarm-msg
    - alarms
        - max-cleared
        - shutdown
    - allow-boot-license-violations
    - boot-bad-exec
    - boot-good-exec
    - chassis-mode
    - clli-code
    - config-backup
    - congestion-management
    - contact
    - coordinates
    - cpm-http-redirect
        - optimized-mode
    - cron
        - schedule
            - count
            - day-of-month
            - description
            - end-time
            - hour
            - interval
            - minute
            - month
            - script-policy
            - shutdown
            - type
            - weekday
    - dhcp6
        - adv-noaddrs-global
    - dns
        - address-pref
        - dnssec
            - ad-validation
    - enable-icmp-vse
    - ethernet
        - efm-oam
            - dying-gasp-tx-on-reset
            - grace-tx-enable
        - new-qinq-untagged-sap
    - fan-control
        - cooling-profile
    - file-transmission-profile
        - http-version
        - ipv4-source-address
        - ipv6-source-address
        - redirection
        - retry
        - router
        - timeout
    - grpc
        - allow-unsecure-connection
```


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config system grpc delay-on-boot

```
            - delay-on-boot
            - gnmi
                - auto-config-save
                - proto-version
                - shutdown
            - gnoi
                - cert-mgmt
                    - shutdown
                - file
                    - shutdown
                - system
                    - shutdown
            - listening-port
            - max-msg-size
            - rib-api
                - purge-timeout
                - shutdown
            - shutdown
            - tcp-keepalive
                - idle-time
                - interval
                - retries
                - shutdown
            - tls-server-profile
        - grpc-tunnel
            - delay-on-boot
            - destination-group
                - allow-unsecure-connection
                - description
                - destination
                    - local-source-address
                    - originated-qos-marking
                    - router-instance
                - tcp-keepalive
                    - idle-time
                    - interval
                    - retries
                    - shutdown
                - tls-client-profile
            - tunnel
                - description
                - destination-group
                - handler
                    - port
                    - shutdown
                    - target-type
                - shutdown
                - target-name
        - ip
            - allow-qinq-network-interface
            - buffer-unresolved-packets
            - enforce-unique-if-index
            - forward-6in4
            - forward-ip-over-gre
            - ipv6-eh
            - mpls
                - label-stack-statistics-count
        - l2tp
            - non-multi-chassis-tunnel-id-range
        - lacp-system-priority
        - lldp
            - message-fast-tx
            - message-fast-tx-init
            - notification-interval
```


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config system lldp reinit-delay

```
            - reinit-delay
            - shutdown
            - tx-credit-max
            - tx-hold-multiplier
            - tx-interval
        - load-balancing
            - eler-enh-load-balancing
            - l2tp-load-balancing
            - l4-load-balancing
            - lsr-load-balancing
            - mc-enh-load-balancing
            - service-id-lag-hashing
            - system-ip-load-balancing
        - location
        - login-control
            - exponential-backoff
            - ftp
                - inbound-max-sessions
            - idle-timeout
            - login-banner
            - login-scripts
                - global
                - per-user
            - motd
            - pre-login-message
            - ssh
                - disable-graceful-shutdown
                - inbound-max-sessions
                - max-channels-per-connection
                - outbound-max-sessions
                - ttl-security
            - telnet
                - enable-graceful-shutdown
                - inbound-max-sessions
                - outbound-max-sessions
                - ttl-security
        - management-interface
            - cli
                - classic-cli
                    - allow-immediate
                - cli-engine
                - md-cli
                    - auto-config-save
                    - environment
                        - command-completion
                            - enter
                            - space
                            - tab
                        - commit-options
                            - comment
                            - confirm
                        - console
                            - length
                            - width
                        - history
                            - recall
                            - size
                        - info-output
                            - always-display
                                - admin-state
                        - message-severity-level
                            - cli
                        - more
                        - progress-indicator
```


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config system management-interface cli md-cli environment progress-indicator delay

```
                            - delay
                            - shutdown
                            - type
                        - prompt
                            - context
                            - newline
                            - timestamp
                            - uncommitted-changes-indicator
                        - time-display
                        - time-format
                - configuration-mode
                - operations
                    - global-timeouts
                        - asynchronous-execution
                        - asynchronous-retention
                        - synchronous-execution
                - schema-path
                - yang-modules
                    - nmda
                        - nmda-support
                    - nokia-combined-modules
                    - nokia-submodules
                    - openconfig-modules
            - monitor-filter-door
            - name
            - netconf
                - auto-config-save
                - call-home
                    - device-labels
                        - advertise-operating-system
                        - advertise-software-version
                        - advertise-system-name
                        - device-label
                    - netconf-client
                        - connection-type
                        - delay-on-boot
                        - description
                        - idle-timeout
                        - remote-port
                        - router-instance
                        - shutdown
                        - transport
                - capabilities
                    - candidate
                - listen
                    - delay-on-boot
                    - idle-timeout
                    - port
                    - shutdown
            - network-element-discovery
                - generate-traps
                - profile
                    - neid
                    - neip
                        - ipv4
                        - ipv6
                    - platform-type
                    - system-mac
                    - vendor-id
            - ospf-dynamic-hostnames
            - persistence
                - ancp
                    - description
                    - location
```


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config system persistence application-assurance

```
            - application-assurance
                - description
                - location
                - shutdown
            - dhcp-server
                - description
                - location
                - shutdown
                - shutdown
            - nat-port-forwarding
                - description
                - location
            - options
                - dhcp-leasetime-threshold
            - python-policy-cache
                - description
                - location
                - shutdown
            - subscriber-mgmt
                - description
                - location
                - shutdown
        - port-topology
            - port
        - power-management
            - mode
            - pcm
                - pcm-type
            - peq
                - input-power-mode
                - peq-type
                - shutdown
            - power-safety-alert
            - power-safety-level
            - power-save
                - low-power-fabric
                    - shutdown
        - power-shelf
            - description
            - power-module
                - power-module-type
                - shutdown
            - power-shelf-type
            - shutdown
        - power-supply
        - ptp
            - alternate-profile
                - domain
                - log-anno-interval
                - profile
                - shutdown
            - anno-rx-timeout
            - clock-type
            - domain
            - local-priority
            - log-anno-interval
            - max-steps-removed
            - network-type
            - peer
                - local-priority
                - log-sync-interval
                - monitor-receiver
                - not-master
                - shutdown
```


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```
            - peer-limit
            - port
                - address
                - alternate-profile
                - local-priority
                - log-delay-interval
                - log-sync-interval
                - master-only
                - monitor-receiver
                - monitor-sender
                - not-master
                - shutdown
            - priority1
            - priority2
            - profile
            - ptsf
                - monitor-ptsf-unusable
                    - shutdown
            - shutdown
            - tx-path-trace
            - tx-while-sync-uncertain
            - within-holdover-spec-timer
        - rollback
            - local-max-checkpoints
            - remote-max-checkpoints
            - rescue-location
            - rollback-location
        - satellite
            - eth-sat
                - client-down-delay
                - description
                - enable-console-access
                - event
                    - action
                - feature
                - mac-address
                - port-map
                - ptp-ip
                    - ipv4-address
                    - ipv6-address
                    - shutdown
                - ptp-tc
                - sat-type
                - shutdown
                - software-repository
                - sync-e
                - sync-if-timing
                    - ref1
                        - ql-override
                        - shutdown
                        - source-port
                    - ref2
                        - ql-override
                        - shutdown
                        - source-port
            - file-transfer
            - local-forward
                - description
                - sap
                    - description
                    - shutdown
                - shutdown
            - port-template
                - description
```


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config system satellite port-template port

```
                - port
                    - role
                    - uplink
                - shutdown
            - script-control
                - script
                    - description
                    - location
                    - shutdown
                - script-policy
                    - expire-time
                    - lifetime
                    - lock-override
                    - max-completed
                    - results
                    - script
                    - shutdown
            - security
                - cli-script
                    - authorization
                        - cron
                            - cli-user
                        - event-handler
                            - cli-user
                - cli-session-group
                    - combined-max-sessions
                    - description
                    - ssh-max-sessions
                    - telnet-max-sessions
                - console-login
                - copy
                - cpm-filter
                    - default-action
                    - ip-filter
                        - entry
                            - action
                            - description
                            - log
                            - match
                                - dscp
                                - dst-ip
                                - dst-port
                                - fragment
                                - icmp-code
                                - icmp-type
                                - ip-option
                                - multiple-option
                                - option-present
                                - port
                                - router
                                - src-ip
                                - src-port
                                - tcp-ack
                                - tcp-syn
                        - renum
                        - shutdown
                    - ipv6-filter
                        - entry
                            - action
                            - description
                            - log
                            - match
                                - dscp
                                - dst-ip
```


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cfg sys sec cpm ipv6-filter entry match dst-port

```
                        - dst-port
                        - flow-label
                        - fragment
                        - hop-by-hop-opt
                        - icmp-code
                        - icmp-type
                        - port
                        - router
                        - src-ip
                        - src-port
                        - tcp-ack
                        - tcp-syn
                - renum
                - shutdown
            - mac-filter
                - entry
                    - action
                    - description
                    - log
                    - match
                        - cfm-opcode
                        - dsap
                        - dst-mac
                        - etype
                        - src-mac
                        - ssap
                        - svc-id
                    - shutdown
                - renum
                - shutdown
        - cpm-queue
            - queue
                - cbs
                - mbs
                - rate
        - cpu-protection
            - ip-src-monitoring
                - included-protocols
                    - dhcp
                    - gtp
                    - icmp
                    - igmp
            - link-specific-rate
            - policy
                - alarm
                - description
                - eth-cfm
                    - entry
                - out-profile-rate
                - overall-rate
                - per-source-parameters
                    - ip-src-monitoring
                        - limit-dhcp-ci-addr-zero
                - per-source-rate
            - port-overall-rate
            - protocol-protection
        - dist-cpu-protection
            - policy
                - description
                - local-monitoring-policer
                    - description
                    - exceed-action
                    - log-events
                    - rate
```


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config sys security dist-cpu-protection policy protocol

```
                    - protocol
                        - dynamic-parameters
                            - detection-time
                            - exceed-action
                            - log-events
                            - rate
                        - enforcement
                    - static-policer
                        - description
                        - detection-time
                        - exceed-action
                        - log-events
                        - rate
            - dot1x
                - radius-plcy
                    - retry
                    - server
                    - shutdown
                    - source-address
                    - timeout
                - shutdown
            - ftp-server
            - keychain
                - description
                - direction
                    - bi
                        - entry
                            - begin-time
                            - description
                            - option
                            - shutdown
                            - tolerance
                    - uni
                        - receive
                            - entry
                                - begin-time
                                - description
                                - end-time
                                - shutdown
                                - tolerance
                        - send
                            - entry
                                - begin-time
                                - description
                                - shutdown
                - macsec
                    - entry
                        - begin-time
                        - shutdown
                        - tolerance
                - shutdown
                - tcp-option-number
                    - receive
                    - send
            - ldap
                - public-key-authentication
                - retry
                - route-preference
                - server
                    - address
                    - bind-authentication
                    - ldap-server
                    - search
                    - shutdown
```


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```
                    - tls-profile
                - shutdown
                - timeout
                - use-default-template
            - management
                - allow-ftp
                - allow-grpc
                - allow-netconf
                - allow-ssh
                - allow-telnet
                - allow-telnet6
            - management-access-filter
                - ip-filter
                    - default-action
                    - entry
                        - action
                        - description
                        - dst-port
                        - l4-src-port
                        - log
                        - protocol
                        - router
                        - src-ip
                        - src-port
                    - renum
                    - shutdown
                - ipv6-filter
                    - default-action
                    - entry
                        - action
                        - description
                        - dst-port
                        - flow-label
                        - l4-src-port
                        - log
                        - next-header
                        - router
                        - src-ip
                        - src-port
                    - renum
                    - shutdown
                - mac-filter
                    - default-action
                    - entry
                        - action
                        - description
                        - log
                        - match
                            - cfm-opcode
                            - dot1p
                            - dsap
                            - dst-mac
                            - etype
                            - snap-oui
                            - snap-pid
                            - src-mac
                            - ssap
                            - svc-id
                    - renum
                    - shutdown
            - management-interface
                - classic-cli
                    - read-algorithm
                    - write-algorithm
```


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config system security management-interface grpc

```
                    - grpc
                        - hash-algorithm
                        - tls-authentication
                            - default-user
                            - shutdown
                    - md-cli
                        - command-accounting-during-load
                        - hash-algorithm
                    - netconf
                        - hash-algorithm
                    - output-authorization
                        - md-interfaces
                        - telemetry-data
                        - telemetry-default-user
                - password
                    - admin-password
                    - aging
                    - attempts
                    - authentication-order
                    - complexity-rules
                        - allow-user-name
                        - credits
                        - disallow-sequence-keys
                        - minimum-classes
                        - minimum-length
                        - repeated-characters
                        - required
                    - dynsvc-password
                    - enable-admin-control
                        - tacplus-map-to-priv-lvl
                    - hashing
                    - health-check
                    - history-size
                    - minimum-age
                    - minimum-change
                - per-peer-queuing
                - pki
                    - ca-profile
                        - auto-crl-update
                            - crl-urls
                                - url-entry
                                    - file-transmission-profile
                                    - url
                            - periodic-update-interval
                            - pre-update-time
                            - retry-interval
                            - schedule-type
                            - shutdown
                        - cert-file
                        - cmpv2
                            - accept-unprotected-errormsg
                            - accept-unprotected-pkiconf
                            - always-set-sender-for-ir
                            - http-response-timeout
                            - http-version
                            - key-list
                                - key
                            - recipient
                            - response-signing-cert
                            - same-recipnonce-for-pollreq
                            - url
                        - crl-file
                        - description
                        - ocsp
```


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config system security pki ca-profile ocsp responder-url

```
                        - responder-url
                        - service
                        - transmission-profile
                    - revocation-check
                    - shutdown
                - certificate-auto-update
                    - cert
                        - key
                        - profile
                - certificate-display-format
                - certificate-expiration-warning
                - certificate-update-profile
                    - hash-algorithm
                    - key-generation
                    - protocol
                    - retry-interval
                    - schedule
                        - time
                - common-name-list
                    - cn
                    - common-name
                - crl-expiration-warning
                - dynamic-ca
                - est-profile
                    - check-id-kp-cmcra-only
                    - client-tls-profile
                    - http-auth
                    - request-path
                        - cacerts
                        - simpleenroll
                        - simplereenroll
                    - server
                    - transmission-profile
                - imported-format
                - maximum-cert-chain-depth
            - profile
                - cli-session-group
                - combined-max-sessions
                - default-action
                - entry
                    - action
                    - description
                    - match
                - grpc
                    - rpc-authorization
                        - gnmi-capabilities
                        - gnmi-get
                        - gnmi-set
                        - gnmi-subscribe
                        - gnoi-cert-mgmt-cangenerate
                        - gnoi-cert-mgmt-getcert
                        - gnoi-cert-mgmt-install
                        - gnoi-cert-mgmt-revoke
                        - gnoi-cert-mgmt-rotate
                        - gnoi-file-get
                        - gnoi-file-put
                        - gnoi-file-remove
                        - gnoi-file-stat
                        - gnoi-file-transfertoremote
                        - gnoi-system-cancelreboot
                        - gnoi-system-ping
                        - gnoi-system-reboot
                        - gnoi-system-rebootstatus
                        - gnoi-system-setpackage
```


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```
                        - gnoi-system-switchcontrolprocessor
                        - gnoi-system-time
                        - gnoi-system-traceroute
                        - rib-api-getversion
                        - rib-api-modify
                - li
                - netconf
                    - base-op-authorization
                        - action
                        - cancel-commit
                        - close-session
                        - commit
                        - copy-config
                        - create-subscription
                        - delete-config
                        - discard-changes
                        - edit-config
                        - get
                        - get-config
                        - get-data
                        - get-schema
                        - kill-session
                        - lock
                        - validate
                - renum
                - ssh-max-sessions
                - telnet-max-sessions
            - radius
                - access-algorithm
                - accounting
                - accounting-port
                - authorization
                - interactive-authentication
                - port
                - retry
                - route-preference
                - server
                - shutdown
                - timeout
                - use-default-template
            - snmp
                - access
                - attempts
                - community
                - src-access-list
                    - src-host
                - usm-community
                - view
                    - mask
            - source-address
                - application
                - application6
            - ssh
                - authentication-method
                    - client
                        - public-key-only
                    - server
                        - public-key-only
                - client-cipher-list
                    - cipher
                - client-host-key-list
                    - host-key
                - client-kex-list
                    - kex
```


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config system security ssh client-known-hosts

```
                - client-known-hosts
                    - host-key
                        - description
                        - host-name
                        - key-value
                - client-mac-list
                    - mac
                - key-re-exchange
                    - client
                        - mbytes
                        - minutes
                        - shutdown
                    - server
                        - mbytes
                        - minutes
                        - shutdown
                - listening-port
                - permit-empty-passwords
                - preserve-key
                - server-cipher-list
                    - cipher
                - server-host-key-list
                    - host-key
                - server-kex-list
                    - kex
                - server-mac-list
                    - mac
                - server-shutdown
            - tacplus
                - accounting
                - authorization
                - ignore-unknown-mandatory-vsas
                - interactive-authentication
                - priv-lvl-map
                    - priv-lvl
                - request-format
                    - access-operation-cmd
                - retry-timeout
                - route-preference
                - server
                - service-request
                    - nokia-grpc-rpc-authorization
                    - nokia-netconf-base-op-authorization
                    - nokia-user
                    - nokia-user-profile
                - shutdown
                - timeout
                - use-default-template
            - tech-support
                - ts-location
            - telnet
                - listening-port
            - telnet-server
            - telnet6-server
            - tls
                - cert-profile
                    - entry
                        - cert
                        - key
                        - send-chain
                            - ca-profile
                    - shutdown
                - client-cipher-list
                    - cipher
```


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config system security tls client-cipher-list tls13-cipher

```
                    - tls13-cipher
                - client-group-list
                    - tls13-group
                - client-signature-list
                    - tls13-signature
                - client-tls-profile
                    - cert-profile
                    - cipher-list
                    - group-list
                    - protocol-version
                    - shutdown
                    - signature-list
                    - status-verify
                        - default-result
                        - ee-revocation
                    - trust-anchor-profile
                - server-cipher-list
                    - cipher
                    - tls13-cipher
                - server-group-list
                    - tls13-group
                - server-signature-list
                    - tls13-signature
                - server-tls-profile
                    - authenticate-client
                        - cn-authentication
                        - trust-anchor-profile
                    - cert-profile
                    - cipher-list
                    - group-list
                    - protocol-version
                    - shutdown
                    - signature-list
                    - status-verify
                        - default-result
                        - ee-revocation
                    - tls-re-negotiate-timer
                - trust-anchor-profile
                    - trust-anchor
            - user
                - access
                - cli-engine
                - console
                    - cannot-change-password
                    - login-exec
                    - member
                    - new-password-at-login
                - home-directory
                - password
                - public-keys
                    - ecdsa
                        - ecdsa-key
                            - description
                            - key-value
                    - rsa
                        - rsa-key
                            - description
                            - key-value
                - restricted-to-home
                - save-when-restricted
                - snmp
                    - authentication
                    - group
                - ssh-authentication-method
```


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configure system security user ssh-authentication-method client

```
                    - client
                        - public-key-only
                    - server
                        - public-key-only
            - user-template
                - access
                - console
                    - login-exec
                - home-directory
                - profile
                - restricted-to-home
                - save-when-restricted
            - vprn-aaa-server
                - inband
                - outband
                - vprn
            - vprn-network-exceptions
        - selective-fib
        - snmp
            - engineID
            - general-port
            - max-bulk-duration
            - packet-size
            - shutdown
            - streaming
                - shutdown
            - transport
        - software-repository
            - description
            - primary-location
            - secondary-location
            - tertiary-location
        - switch-fabric
            - failure-recovery
                - shutdown
            - sfm-loss-threshold
        - switchover-exec
        - sync-if-timing
            - abort
            - begin
            - bits
                - input
                    - shutdown
                - interface-type
                - output
                    - line-length
                    - ql-minimum
                    - shutdown
                    - source
                    - squelch
                - ql-override
                - ssm-bit
            - commit
            - gnss
                - ql-override
                - shutdown
            - ptp
                - ql-override
                - shutdown
            - ql-minimum
            - ql-selection
            - ref-order
            - ref1
                - bits-interface-type
```


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config system sync-if-timing ref1 ql-override

```
                - ql-override
                - shutdown
                - source-port
            - ref2
                - bits-interface-type
                - ql-override
                - shutdown
                - source-port
            - revert
            - synce
                - ql-override
                - shutdown
            - wait-to-restore
        - telemetry
            - destination-group
                - allow-unsecure-connection
                - description
                - destination
                    - router-instance
                - tcp-keepalive
                    - idle-time
                    - interval
                    - retries
                    - shutdown
                - tls-client-profile
            - notification-bundling
                - max-msg-count
                - max-time-granularity
                - shutdown
            - persistent-subscriptions
                - delay-on-boot
                - subscription
                    - description
                    - destination-group
                    - encoding
                    - local-source-address
                    - mode
                    - originated-qos-marking
                    - sample-interval
                    - sensor-group
                    - shutdown
            - sensor-groups
                - sensor-group
                    - description
                    - path
        - thresholds
            - cflash-cap-alarm
            - cflash-cap-alarm-pct
            - cflash-cap-warn
            - cflash-cap-warn-pct
            - kb-memory-use-alarm
            - kb-memory-use-warn
            - memory-use-alarm
            - memory-use-warn
            - rmon
                - alarm
                - event
                - hc-alarm
        - time
            - dst-zone
                - end
                - offset
                - start
            - ntp
```


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config system time ntp authentication-check

```
                - authentication-check
                - authentication-key
                - authentication-keychain
                - broadcast
                - broadcastclient
                - multicast
                - multicastclient
                - ntp-server
                - peer
                - server
                - shutdown
            - prefer-local-time
            - sntp
                - broadcast-client
                - server-address
                - shutdown
            - zone
        - usb
            - shutdown
```


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3.4.40 configure test-oam Commands

```
        – test-oam
            – build-packet
                – header
                    – control-word
                    – dot1q
                        – prio-code-point
                        – tag-protocol-id
                        – vlan-id
                    – ethernet
                        – dst-mac-address
                        – src-mac-address
                    – gre
                    – gtp-user
                        – tunnel-endpoint-id
                    – ipsec-auth
                        – security-param-index
                    – ipv4
                        – dscp
                        – dst-ipv4-address
                        – more-fragments
                        – src-ipv4-address
                    – ipv6
                        – dscp
                        – dst-ipv6-address
                        – src-ipv6-address
                    – ipv6-fragment
                    – l2tp
                        – session-id
                        – tunnel-id
                    – mpls
                        – label
                        – traffic-class
                    – pbb
                        – i-sid
                        – tag-protocol-id
                    – tcp
                        – dst-tcp-port
                        – src-tcp-port
                    – udp
                        – dst-udp-port
                        – src-udp-port
            – icmp
                – ipv6
                    – length-field
                    – maximum-original-datagram
                – ping-template
                    – description
                    – dot1p
                    – dscp
                    – failure-threshold
                    – interval
                    – reactivation-failure-threshold
                    – reactivation-interval
                    – reactivation-threshold
                    – reactivation-timeout
                    – size
                    – timeout
                    – ttl
            – lag-ip-measurement
                – lag-ip-measurement-template
```


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config test-oam lag-meas template description

```
                - description
                - interval
                - sample-window
                    - multiplier
                - shutdown
                - twamp-light
                    - allow-egress-remark-dscp
                    - allow-ipv6-udp-checksum-zero
                    - dest-udp-port
                    - dscp
                    - fc
                    - profile
                    - session-sender-type
                    - src-udp-port
                    - timestamp-format
                    - ttl
        - ldp-treetrace
            - fc
            - path-discovery
                - interval
                - max-path
                - max-ttl
                - policy-statement
                - retry-count
                - timeout
            - path-probing
                - interval
                - retry-count
                - timeout
            - shutdown
        - link-measurement
            - measurement-template
                - aggregate-sample-window
                    - multiplier
                    - threshold
                        - absolute
                        - relative
                    - window-integrity
                - delay
                - description
                - interval
                - last-reported-delay-hold
                - reporting
                - sample-window
                    - multiplier
                    - threshold
                        - absolute
                        - relative
                    - window-integrity
                - shutdown
                - twamp-light
                    - allow-egress-remark-dscp
                    - allow-ipv6-udp-checksum-zero
                    - dest-udp-port
                    - dscp
                    - fc
                    - ipv6-destination-discovery
                        - discovery-interval
                        - discovery-timer
                        - shutdown
                        - update-interval
                    - pad-tlv-size
                    - profile
                    - return-path
```


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config test-oam link-meas template ret-path link

```
                        - link
                    - session-sender-type
                    - src-udp-port
                    - timestamp-format
                    - ttl
                - unidirectional-measurement
            - mpls-dm
                - shutdown
            - mpls-echo-request-downstream-map
            - mpls-time-stamp-format
            - service-activation-testhead
                - acceptance-criteria-template
                    - cir-threshold
                    - delay-threshold
                    - delay-var-threshold
                    - description
                    - loss-threshold
                    - loss-threshold-policing
                    - m-factor
                    - pir-threshold
                - frame-size-template
                    - size-a
                    - size-b
                    - size-c
                    - size-d
                    - size-e
                    - size-f
                    - size-g
                    - size-h
                    - size-u
                - service-test
                    - accounting-policy
                    - description
                    - service-stream
                        - acceptance-criteria-template
                        - description
                        - frame-mix
                            - frame-size-template
                            - sequence
                        - frame-payload
                            - data-pattern
                                - repeat
                            - ethernet
                                - c-tag
                                    - discard-eligible
                                    - dot1p
                                - dst-mac
                                - eth-cfm
                                    - source
                                - s-tag
                                    - discard-eligible
                                    - dot1p
                        - rate
                        - service-stream-completion-notification
                        - shutdown
                        - test-types
                            - cir
                            - cir-pir
                            - performance
                            - policing
                    - service-test-completion-notification
                    - shutdown
                    - stream-run-type
                    - test-duration
```


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config test-oam sath svc-test test-duration cir

```
                    - cir
                        - minutes
                        - seconds
                    - cir-pir
                        - minutes
                        - seconds
                    - performance
                        - hours
                        - minutes
                        - seconds
                    - policing
                        - minutes
                        - seconds
            - twamp
                - server
                    - allow-ipv6-udp-checksum-zero
                    - enforce-test-session-start-time
                    - inactivity-timeout
                    - max-conn-server
                    - max-sess-server
                    - prefix
                        - description
                        - max-conn-prefix
                        - max-sess-prefix
                        - shutdown
                    - shutdown
                - twamp-light
                    - inactivity-timeout
                    - source-udp-port-pools
                        - port
                            - pool-type
```


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3.4.41 configure vrrp Commands

```
- vrrp
    - policy
        - delta-in-use-limit
        - description
        - priority-event
            - host-unreachable
                - drop-count
                - hold-clear
                - hold-set
                - interval
                - padding-size
                - priority
                - timeout
            - lag-port-down
                - hold-clear
                - hold-set
                - number-down
                    - priority
                - weight-down
                    - priority
            - mc-ipsec-non-forwarding
                - hold-clear
                - hold-set
                - priority
            - port-down
                - hold-clear
                - hold-set
                - priority
            - route-unknown
                - hold-clear
                - hold-set
                - less-specific
                - next-hop
                - priority
                - protocol
        - shutdown
```


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3.5 debug Commands

```
- debug
    - aaa
        - radius-script-policy
            - script-all-info
            - script-compile-error
            - script-export-variables
            - script-output
            - script-output-on-error
            - script-runtime-error
    - anysec
        - encryption-group
        - peer
    - application-assurance
        - group
            - http-host-recorder
                - filter
                    - default-filter-action
                    - expression
                    - record
                - rate
                - shutdown
            - port-recorder
                - application
                - rate
                - shutdown
            - traffic-capture
                - match
                    - application
                    - client-ip
                    - client-port
                    - dst-ip
                    - dst-port
                    - ip-addr1
                    - ip-addr2
                    - ip-protocol-num
                    - port1
                    - port2
                    - server-ip
                    - server-port
                    - src-ip
                    - src-port
                - record
                    - cut-through-packets
                    - limit
                    - start
                - shutdown
    - call-trace
        - ipoe
            - trace
        - ppp
            - pppoe-trace
        - wlan-gw
            - ue
    - certificate
        - auto-cert-update
        - auto-crl-update
            - ca-profile
        - cmpv2
            - ca-profile
```


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debug certificate est-profile

```
            - est-profile
            - ocsp
                - ca-profile
        - diameter
            - application
                - on-error
                - policy
                    - on-error
                    - session-messages
            - node
                - on-error
                - peer
                    - on-error
                    - peer-to-peer
                - relayed-messages
        - dynamic-services
            - data-triggers
                - capture-sap
            - scripts
                - event
                    - cli
                    - errors
                    - executed-cmd
                    - state-change
                    - warnings
                - instance
                    - event
                        - cli
                        - errors
                        - executed-cmd
                        - state-change
                        - warnings
                - script
                    - event
                        - cli
                        - errors
                        - executed-cmd
                        - state-change
                        - warnings
        - eth-cfm
            - mep
                - packet
            - mip
                - packet
        - ethernet
            - elmi
        - gtp
            - event
            - imsi
            - packet
                - detail-level
                - mode
            - peer
        - ipsec
            - certificate
            - client-db
            - gateway
            - transport-mode
            - tunnel
        - l2tp
            - predictable-id-assignment
        - lag
        - macsec
            - port
```


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debug mcast-management

```
        - mcast-management
            - mcast-reporting-dest
                - detail-level
                - igmp
                - mode
        - mirror-source
            - ingress-label
            - ip-filter
            - ipv6-filter
            - isa-aa-group
            - mac-filter
            - port
            - sap
            - shutdown
            - subscriber
        - nat
            - classic-lsn-sub
            - dslite-lsn-sub
            - l2-aware-sub
            - nat-import
            - nat64-lsn-sub
        - oam
            - build-packet
                - packet
                    - field-override
                        - header
                            - dot1q
                                - prio-code-point
                                - tag-protocol-id
                                - vlan-id
                            - ethernet
                                - dst-mac-address
                                - src-mac-address
                            - gtp-user
                                - tunnel-endpoint-id
                            - ipsec-auth
                                - security-param-index
                            - ipv4
                                - dscp
                                - dst-ipv4-address
                                - more-fragments
                                - src-ipv4-address
                            - ipv6
                                - dscp
                                - dst-ipv6-address
                                - src-ipv6-address
                            - l2tp
                                - session-id
                                - tunnel-id
                            - mpls
                                - label
                                - traffic-class
                            - pbb
                                - i-sid
                                - tag-protocol-id
                            - tcp
                                - dst-tcp-port
                                - src-tcp-port
                            - udp
                                - dst-udp-port
                                - src-udp-port
                        - header-sequence
            - ldp-treetrace
            - lsp-ping-trace
```


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debug pcap

```
        - pcap
            - capture
        - python
            - python-script
                - script-all-info
                - script-compile-error
                - script-export-variables
                - script-output
                - script-output-on-error
                - script-runtime-error
        - radius
        - router
            - bgp
                - events
                - graceful-restart
                - keepalive
                - notification
                - open
                - outbound-route-filtering
                - packets
                - route-refresh
                - rtm
                - socket
                - timers
                - update
            - bier
                - db
                - fib
                - management
                - red
                - rtm
                - template
                - tunnel
            - bmp
                - events
                - packets
            - igmp
                - group-interface
                - host
                - interface
                - mcs
                - misc
                - packet
            - ip
                - arp
                - dhcp
                    - detail-level
                    - mode
                - dhcp6
                    - detail-level
                    - mode
                - event
                    - ipv6-error
                - icmp
                - icmp6
                - interface
                - neighbor
                - packet
                - route-table
                - tunnel-table
            - isis
                - adjacency
                - cspf
                - graceful-restart
```


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debug router isis interface

```
                - interface
                - leak
                - lsdb
                - misc
                - packet
                - rtm
                - spf
                - summary
                - tunnel-endpoint
            - l2tp
                - assignment-id
                    - event
                        - call-disconnect-notification
                        - finite-state-machine
                        - ppp
                        - recovery
                        - recovery-failed
                        - stop-control-connection-notification
                    - packet
                        - detail-level
                        - dhcp-client
                        - direction
                        - l2tp
                        - ppp
                - event
                    - call-disconnect-notification
                    - finite-state-machine
                    - lac-session-setup
                    - ppp
                    - recovery
                    - recovery-failed
                    - skipped-lns
                    - stop-control-connection-notification
                - group
                    - event
                        - call-disconnect-notification
                        - finite-state-machine
                        - lac-session-setup
                        - ppp
                        - recovery
                        - recovery-failed
                        - skipped-lns
                        - stop-control-connection-notification
                    - packet
                        - detail-level
                        - dhcp-client
                        - direction
                        - l2tp
                        - ppp
                - packet
                    - detail-level
                    - dhcp-client
                    - direction
                    - l2tp
                    - ppp
                - peer
                    - event
                        - call-disconnect-notification
                        - finite-state-machine
                        - ppp
                        - recovery
                        - recovery-failed
                        - stop-control-connection-notification
                    - packet
```


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debug router l2tp peer packet detail-level

```
                    - detail-level
                    - dhcp-client
                    - direction
                    - l2tp
                    - ppp
                - tunnel
                    - event
                        - call-disconnect-notification
                        - finite-state-machine
                        - ppp
                        - recovery
                        - recovery-failed
                        - stop-control-connection-notification
                    - packet
                        - detail-level
                        - dhcp-client
                        - direction
                        - l2tp
                        - ppp
            - ldp
                - interface
                    - event
                        - messages
                    - packet
                        - hello
                - peer
                    - event
                        - bindings
                        - messages
                    - packet
                        - hello
                        - init
                        - keepalive
                        - label
            - local-dhcp-server
                - detail-level
                - mode
            - mld
                - group-interface
                - host
                - interface
                - ipsec-interface
                - mcs
                - misc
                - packet
            - mpls
                - event
                    - all
                    - frr
                    - iom
                    - lsp-setup
                    - mbb
                    - misc
                    - pcc
                    - te
                    - xc
                - forwarding-policies
                    - binding-label
                    - endpoint
            - msdp
                - packet
                - pim
                - rtm
                - sa-db
```


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```
            - mtrace
                - misc
                - packet
            - mtrace2
                - misc
                - packet
            - ospf
                - area
                - area-range
                - cspf
                - graceful-restart
                - interface
                - leak
                - lsdb
                - misc
                - neighbor
                - nssa-range
                - packet
                - rsvp-shortcut
                - rtm
                - sham-neighbor
                - spf
                - tunnel-endpoint
                - virtual-neighbor
            - ospf3
                - area
                - area-range
                - graceful-restart
                - interface
                - leak
                - lsdb
                - misc
                - neighbor
                - nssa-range
                - packet
                - rtm
                - spf
                - tunnel-endpoint
                - virtual-neighbor
            - p2mp-sr-tree
                - db
                - iom
                - mgmt
                - p2mp-policy
                    - candidate-path
                - pcep
                - segment-routing-mpls
                    - replication-segment
                        - downstream-nodes
                        - next-hop
                - segment-routing-v6
                    - replication-segment
                        - downstream-nodes
                - tunnel
            - pcep
                - pcc
                    - all
                    - connection
                        - all
                        - cspf-te
                        - db
                        - error
                        - msg
                        - packet
```


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debug router pcep pcc conn red

```
                        - red
                        - task
                    - cspf-te
                    - db
                    - error
                    - msg
                    - packet
                    - red
                    - task
                - pce
                    - all
                    - connection
                        - all
                        - cspf-pkt
                        - cspf-te
                        - db
                        - error
                        - msg
                        - packet
                        - red
                        - task
                    - cspf-pkt
                    - cspf-te
                    - db
                    - error
                    - msg
                    - packet
                    - red
                    - task
            - pcp
                - pcp-server
                    - packet
                        - detail-level
                        - direction
            - pim
                - adjacency
                - all
                - assert
                - auto-rp
                - bgp
                - bier-inband
                - bsr
                - data
                - db
                - dynmldp
                - extranet
                - graft
                - interface
                - jp
                - mofrr
                - mrib
                - msg
                - mvpn-rtcache
                - packet
                - red
                - register
                - rpfv
                - rtm
                - s-pmsi
                - tunnel-interface
            - radius
                - detail-level
                - packet-type
                - radius-attr
```


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```
            - server-address
        - radius-proxy
            - server
                - client-address
                - detail-level
                - direction
                - dropped-only
                - packet-type
        - rib-api
            - label
            - tunnel
        - rip
            - auth
            - error
            - events
            - holddown
            - packets
            - requests
            - trigger
            - updates
        - ripng
            - error
            - events
            - holddown
            - packets
            - requests
            - trigger
            - updates
        - rpki-session
            - packet
                - all
                - cache-reset
                - cache-response
                - end-of-data
                - error-report
                - ipv4-prefix
                - ipv6-prefix
                - reset-query
                - serial-notify
                - serial-query
        - rsvp
            - event
                - all
                - auth
                - misc
                - nbr
                - path
                - resv
                - rr
                - te-threshold-update
            - packet
                - ack
                - all
                - bundle
                - hello
                - path
                - patherr
                - pathtear
                - resv
                - resverr
                - resvtear
                - srefresh
        - srrp
            - events
```


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debug router srrp packets

```
                - packets
            - vrrp
                - events
                - packets
            - wpp
                - packet
                    - detail-level
                - portal
                    - packet
                        - detail-level
        - service
            - id
                - arp-host
                    - ip
                    - mac
                    - mode
                    - sap
                - dhcp
                    - detail-level
                    - mac
                    - mode
                    - sap
                    - sdp
                - dhcp6
                    - detail-level
                    - mac
                    - mode
                    - sap
                - event-type
                - host-connectivity-verify
                    - ip
                    - mac
                    - sap
                - igmp-host-tracking
                    - detail-level
                    - host
                    - mode
                    - sap
                - igmp-snooping
                    - detail-level
                    - evpn-mpls
                    - mac
                    - mode
                    - sap
                    - sdp
                    - vxlan
                - mld-snooping
                    - detail-level
                    - evpn-mpls
                    - mac
                    - mode
                    - sap
                    - sdp
                    - vxlan
                - mrp
                    - all-events
                    - applicant-sm
                    - leave-all-sm
                    - mmrp-mac
                    - mrpdu
                    - mvrp-vlan
                    - periodic-sm
                    - registrant-sm
                    - sap
```


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debug service id mrp sdp

```
                    - sdp
                - one-time-http-redirection
                    - ip
                    - mac
                    - sap
                - pim-snooping
                    - adjacency
                    - all
                    - database
                    - jp
                    - mcs
                    - packet
                    - port
                    - red
                - ppp
                    - circuit-id
                    - event
                        - dhcp-client
                        - l2tp
                        - local-address-assignment
                        - ppp
                    - mac
                    - msap
                    - packet
                        - detail-level
                        - dhcp-client
                        - discovery
                        - mode
                        - ppp
                    - remote-id
                    - sap
                    - username
                - proxy-arp
                - proxy-nd
                - rtr-solicit
                    - mac
                    - mode
                    - sap
                - sap
                    - event-type
                - sdp
                    - event-type
                - spb
                    - adjacency
                    - interface
                    - l2db
                    - lsdb
                    - packet
                    - spf
                - stp
                    - all-events
                    - bpdu
                    - core-connectivity
                    - exception
                    - fsm-state-changes
                    - fsm-timers
                    - port-role
                    - port-state
                    - sap
                    - sdp
                - video-interface
                    - fcc-server
                    - packet-rx
                    - perfect-stream
```


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debug service id video-interface rt-server

```
                - rt-server
                - sg
        - sdp
            - event-type
    - snmp
    - subscriber-mgmt
        - authentication
        - local-user-db
            - detail
        - pfcp
            - packet
        - sub-ident-policy
            - script-all-info
            - script-compile-error
            - script-export-variables
            - script-output
            - script-output-on-error
            - script-runtime-error
        - vrgw
            - brg
                - pppoe-client
                    - brg-id
                        - detail-level
                        - direction
                        - discovery
                        - dropped-only
                        - ppp
    - sync-if-timing
        - force-reference
    - system
        - grpc
            - client
            - type
        - grpc-tunnel
            - tunnel
        - http-connections
        - management-interface
        - netconf
        - nsp-proxy
            - history
        - ntp
        - persistence
        - satellite
            - eth-sat
                - boot
                - sync-if-timing
                    - force-reference
    - upnp
        - l2-aware-sub
            - event
            - packet
    - wlan-gw
        - group
            - learn-ap-mac
            - statistic
            - ue
```


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3.6 environment Commands

```
- environment
    - alias
    - create
    - kernel
    - more
    - reduced-prompt
    - saved-ind-prompt
    - shell
    - suggest-internal-objects
    - terminal
        - length
        - width
    - time-display
    - time-stamp
```


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3.7 file Commands

```
- file
    - attrib
    - cd
    - checksum
    - copy
    - delete
    - dir
    - format
    - md
    - move
    - rd
    - repair
    - scp
    - secure-erase
    - shutdown
    - type
    - unzip
    - version
    - vi
```


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3.8 Global Commands

```
        - back
        - echo
        - enable-admin
        - enable-dynamic-services-config
        - exec
        - exit
        - help
        - history
        - info
        - logout
        - mrinfo
        - mstat
        - mstat2
        - mtrace
        - mtrace2
        - password
        - ping
        - pwc
        - sleep
        - ssh
        - telnet
        - traceroute
        - tree
        - write
```


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3.9 oam Commands

```
- oam
    - ancp
    - bier-ping
    - bier-trace
    - cpe-ping
    - dns
    - efm
    - eth-cfm
        - eth-test
        - linktrace
        - loopback
        - one-way-delay-test
        - two-way-delay-test
        - two-way-slm-test
    - find-egress
    - gtp-ping
    - host-connectivity-verify
    - ldp-treetrace
    - lsp-ping
        - bgp-label
        - ldp
        - prefix
        - rsvp-te
        - sr-isis
        - sr-ospf
        - sr-ospf3
        - sr-policy
        - sr-te
        - static
    - lsp-trace
        - bgp-label
        - ldp
        - prefix
        - rsvp-te
        - sr-isis
        - sr-ospf
        - sr-ospf3
        - sr-policy
        - sr-te
        - static
    - mac-ping
    - mac-populate
    - mac-purge
    - mac-trace
    - mfib-ping
    - oam-pm
    - p2mp-lsp-ping
    - p2mp-lsp-trace
    - saa
    - sdp-mtu
    - sdp-ping
    - service-activation-testhead
    - svc-ping
    - vccv-ping
    - vccv-trace
    - vprn-ping
    - vprn-trace
    - vxlan-ping
```


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4 3 Commands

4.1 3gpp-charging-id

3gpp-charging-id

Syntax

3gpp-charging-id {**auto** | **esm-info** | **id**}

no 3gpp-charging-id

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-charging-id)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-charging-id

Description

This command includes the 3GPP-Charging-Id AVP in all Diameter DCCA CCR messages. The value can be configured to contain a unique 32-bit identifier or ESM information.

The **no** form of this command removes the 3GPP-Charging-Id AVP from the Diameter DCCA CCR messages.

Default

3gpp-charging-id auto

Parameters

auto

When the vendor support is 3GPP, this parameter specifies the AVP value for the *subscriber-id*, *sap-id*, and *sla-profile*. The default parameter value selected is **auto**.

esm-info

Specifies the AVP value to *subscriber-id*, *sap-id*, and *sla-profile*.

id

Specifies the AVP value as a unique 32-bit identifier per Diameter Gy session.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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4.2 3gpp-ggsn-address

3gpp-ggsn-address

Syntax

[**no**] **3gpp-ggsn-address**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>include-avp 3gpp-ggsn-address)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-ggsn-address

Description

This command includes the 3GPP GGSN Address AVP in the Diameter Gy messages. The value is set to the source IPv4 address that is used for outgoing diameter messages.

The **no** form of this command disables the command.

Default

3gpp-ggsn-address

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.3 3gpp-ggsn-ipv6-address

3gpp-ggsn-ipv6-address

Syntax

3gpp-ggsn-ipv6-address

no 3gpp-ggsn-ipv6-address

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>include-avp 3gpp-ggsn-ipv6-address)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-ggsn-ipv6-address

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Description

This command includes the 3GPP GGSN IPv6 Address AVP in the Diameter Gy messages. The value is set to the source IPv6 address that is used for outgoing diameter messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.4 3gpp-gprs-negotiated-qos-profile

3gpp-gprs-negotiated-qos-profile

Syntax

[**no**] **3gpp-gprs-negotiated-qos-profile**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-gprs-negotiated-qos-profile)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-gprs-negotiated-qos-profile

Description

This command includes the 3GPP-GPRS-QoS-Negotiated-Profile AVP in all Diameter DCCA CCR messages. The value is the active SLA profile.

The **no** form of this command removes the 3GPP-GPRS-QoS-Negotiated-Profile AVP from the Diameter DCCA CCR messages.

Default

3gpp-gprs-negotiated-qos-profile

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.5 3gpp-imsi

3gpp-imsi

Syntax

3gpp-imsi {**circuit-id** | **imsi** | **subscriber-id**}

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no 3gpp-imsi

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-imsi)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-imsi

Description

This command includes the 3GPP-IMSI AVP in all Diameter DCCA CCR messages.

The **no** form of this command removes the 3GPP-IMSI AVP from the Diameter DCCA CCR messages.

Default

3gpp-imsi subscriber-id

Parameters

circuit-id

Specifies the circuit-id as DCCA IMSI AVP value.

subscriber-id

Specifies the subscriber-id as DCCA IMSI AVP value.

imsi

Specifies the IMSI as DCCA IMSI AVP value.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.6 3gpp-nsapi

3gpp-nsapi

Syntax

[**no**] **3gpp-nsapi**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-nsapi)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-nsapi

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Description

This command includes the 3GPP-NSAPI AVP in all Diameter DCCA CCR messages. The **3gpp-nsapi** avp value is created from a semi-colon separated concatenation of the system name, service ID, and SAP ID of the subscriber host or session.

The **no** form of this command removes the 3GPP-NSAPI AVP from the Diameter DCCA CCR messages.

Default

3gpp-nsapi

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.7 3gpp-qos-mapping

3gpp-qos-mapping

Syntax

3gpp-qos-mapping

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx 3gpp-qos-mapping)

Full Context

configure subscriber-mgmt diameter-application-policy gx 3gpp-qos-mapping

Description

This command enables the configuration of mapping certain 3GPP-specific QoS attributes to SR OS objects.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

4.8 3gpp-rat-type

3gpp-rat-type

Syntax

3gpp-rat-type *value*

no 3gpp-rat-type

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Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-rat-type)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-rat-type

Description

This command includes the 3GPP-RAT-Type AVP with the specified value in all Diameter DCCA CCR messages.

The **no** form of this command removes the 3GPP-RAT-Type AVP from the Diameter DCCA CCR messages.

Parameters

value

Specifies the 3GPP-RAT-Type AVP value to be included in Diameter DCCA CCR messages.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.9 3gpp-selection-mode

3gpp-selection-mode

Syntax

[**no**] **3gpp-selection-mode**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-selection-mode)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-selection-mode

Description

This command includes the 3GPP-Selection-Mode AVP in all Diameter DCCA CCR messages.

The **no** form of this command removes the 3GPP-Selection-Mode AVP from the Diameter DCCA CCR messages.

Default

3gpp-selection-mode

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.10 3gpp-session-stop-indicator

3gpp-session-stop-indicator

Syntax

[**no**] **3gpp-session-stop-indicator**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-session-stop-indicator)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-session-stop-indicator

Description

This command includes the 3GPP-Session-Stop-Indicator AVP in all Diameter DCCA CCR-Terminate messages.

The **no** form of this command removes the 3GPP-Session-Stop-Indicator AVP from the Diameter DCCA CCR-Terminate messages.

Default

3gpp-session-stop-indicator

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

4.11 3gpp-user-location-info

3gpp-user-location-info

Syntax

[**no**] **3gpp-user-location-info**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp 3gpp-user-location-info)

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Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp 3gpp-user-location-info

Description

This command, in case of ESM over GTP access, includes the 3GPP-User-Location-Info attribute. If **ps-information** is also enabled, this is grouped within the PS information AVP.

The **no** version of this command disables inclusion of the ULI AVP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5 a Commands – Part I

5.1 aa-admit-deny

aa-admit-deny

Syntax

aa-admit-deny

Context

[Tree] (config>app-assure>group>statistics aa-admit-deny)

Full Context

configure application-assurance group statistics aa-admit-deny

Description

Commands in this context configure admit-deny statistics generation.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.2 aa-interface

aa-interface

Syntax

aa-interface *aa-if-name* [**create**]

no aa-interface *aa-if-name*

Context

[Tree] (config>service>ies aa-interface)

[Tree] (config>service>vprn aa-interface)

Full Context

configure service ies aa-interface

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configure service vprn aa-interface

Description

This commands creates a new AA interface within an IES or VPRN service. It is used by the aa-isa to send/receive IPv4 traffic. In the context of ICAP url-filtering this interface is used by the ISA to establish ICAP TCP connections to the ICAP servers.

This interface supports /31 subnet only, and uses by default .1q encapsulation.

The system will automatically configure the ISA IP address based on the address configured by the operator under the aa-interface object (which represents the ISA sap facing interface on the ISA).

Parameters

aa-if-name

specifies the name of the AA Interface.

create

Keyword that specifies to create the interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.3 aa-specific

aa-specific

Syntax

[**no**] **aa-specific**

Context

[Tree] (config>log>acct-policy>cr aa-specific)

Full Context

configure log accounting-policy custom-record aa-specific

Description

Commands in this context configure information for this custom record.

The **no** form of this command excludes aa-specific attributes in the AA subscriber's custom record.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.4 aa-sub

aa-sub

Syntax

aa-sub esm {**eq** | **neq**} *sub-ident-string*

aa-sub esm-mac {**eq** | **neq**} *esm-mac-name*

aa-sub sap {**eq** | **neq**} *sap-id*

aa-sub spoke-sdp {**eq** | **neq**} *sdp-id:vc-id*

aa-sub transit {**eq** | **neq**} *transit-aasub-name*

no aa-sub

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match aa-sub)

Full Context

configure application-assurance group policy app-qos-policy entry match aa-sub

Description

This command specifies a Service Access Point (SAP) or an ESM subscriber as matching criteria.

The **no** form of this command removes the SAP or ESM matching criteria.

Parameters

eq

Specifies that the value configured and the value in the flow are equal.

neq

Specifies that the value configured differs from the value in the flow.

sub-ident-string

Specifies the name of an existing application assurance subscriber.

esm-mac-name

Specifies the name of an ESM-MAC subscriber.

sap-id

Specifies the SAP ID.

sap *sap-id*

Specifies the physical port identifier portion of the SAP definition.

sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 32767

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1 to 4294967295

transit-aasub-name

Specifies the name of a transit AA subscriber.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aa-sub

Syntax

aa-sub

Context

[Tree] (config>app-assure>group>statistics aa-sub)

Full Context

configure application-assurance group statistics aa-sub

Description

Commands in this context configure accounting and statistics collection parameters per application assurance subscribers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aa-sub

Syntax

[**no**] **aa-sub {esm** *sub-ident-string* **| sap** *sap-id* **| spoke-sdp** *sdp-id:vc-id* **| transit** *transit-aasub-name* **| esm-mac** *esm-mac-name* **}**

Context

[Tree] (config>app-assure>group>statistics>aa-sub-study aa-sub)

Full Context

configure application-assurance group statistics aa-sub-study aa-sub

Description

This command adds an existing subscriber identification to a group of special study subscribers (for example, subscribers for which per subscriber statistics and accounting records can be collected for protocols and applications of application assurance).

The **no** form of this command removes the subscriber from the special study subscribers.

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Up to 100 subscribers can be configured into the special study group for protocols and up to a 100 potentially different subscribers can be configured into the special study group for applications.

When adding a subscriber to the special study group, accounting records and statistics generation will commence immediately. When removing a subscriber from the group, special study statistics and accounting records for that subscriber in the current interval will be lost.

Parameters

sub-ident-string

Specifies the name of a subscriber ID. The subscriber does not need to be currently active. Any sub-ident-string will be accepted. When the subscriber becomes active, statistics generation will start automatically at that time.

sap-id

Specifies the physical port identifier portion of the SAP definition.

spoke-id sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 32767
1 to 4294967295

transit-aasub-name

Specifies an existing transit subscriber name string, up to 32 characters in length.

esm-mac-name

Specifies an existing ESM-MAC subscriber name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aa-sub

Syntax

aa-sub *transit-aasub-name*

no aa-sub

Context

[Tree] (config>app-assure>group>transit-prefix-policy>entry aa-sub)

Full Context

configure application-assurance group transit-prefix-policy entry aa-sub

Description

This command configures a transit prefix policy entry subscriber.

The **no** form of this command removes the transit subscriber name from the transit prefix policy configuration.

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Parameters

transit-aasub-name

specifies the name of the transit prefix AA subscriber up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.5 aa-sub-attributes

aa-sub-attributes

Syntax

aa-sub-attributes [**all**]

no aa-sub-attributes

Context

[Tree] (config>log>acct-policy>cr>aa aa-sub-attributes)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-attributes

Description

Commands in this context configure aa-specific attributes such as aa-sub-attributes and counters that will be available in the AA subscriber's custom record.

The **no** form of this command excludes aa specific attributes from the AA subscriber's custom record.

Parameters

all

Specifies all counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.6 aa-sub-congestion-detection

aa-sub-congestion-detection

Syntax

aa-sub-congestion-detection

Context

[Tree] (config>app-assure>group aa-sub-congestion-detection)

Full Context

configure application-assurance group aa-sub-congestion-detection

Description

Commands in this context configure Non-Location Based DEM (NLB-DEM) parameters.

Note:
NLB-DEM and Access-Network Location (ANL) DEM mode are mutually exclusive, and cannot operate simultaneously.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.7 aa-sub-counters

aa-sub-counters

Syntax

aa-sub-counters [**all**]

no aa-sub-counters

Context

[Tree] (config>log>acct-policy>cr>aa aa-sub-counters)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters

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Description

Commands in this context configure subscriber counter information. This command only applies to the 7750 SR.

The **no** form of this command excludes the aa-sub-counters attributes in the AA subscriber's custom record.

Parameters

all

Specifies all counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.8 aa-sub-distribute-traffic-by-ip

aa-sub-distribute-traffic-by-ip

Syntax

[**no**]**aa-sub-distribute-traffic-by-ip**

Context

[Tree] (config>app-assure>group>policy>app-profile aa-sub-distribute-traffic-by-ip)

Full Context

configure application-assurance group policy app-profile aa-sub-distribute-traffic-by-ip

Description

This command allows the application assurance (AA) to divert traffic on the parent SAP or spoke-SDP to multiple ISAs/ESAs based on the source IP address. This is useful when the bandwidth of a single SAP is larger than the capacity of a single ISA or ESA. This is only supported for auto-created transit IP subscribers.

The traffic is diverted when hashing is enabled at the AA group level and in the parent SAP application profile.

The **no** form of this command does not allow AA to divert traffic on the parent SAP or spoke-SDP to different ESAs in the AA group based on the source IP address.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

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aa-sub-distribute-traffic-by-ip

Syntax

[**no**]**aa-sub-distribute-traffic-by-ip**

Context

[Tree] (config>isa>aa-grp aa-sub-distribute-traffic-by-ip)

Full Context

configure isa application-assurance-group aa-sub-distribute-traffic-by-ip

Description

This command allows the application assurance (AA) to divert traffic on the parent SAP or spoke-SDP to multiple ISAs/ESAs based on the source IP address. This is useful when the bandwidth of a single SAP is larger than the capacity of a single ISA or ESA. This is only supported for auto-created transit IP subscribers.

The traffic is diverted when hashing is enabled at the AA group level and in the parent SAP application profile.

The **no** form of this command does not allow AA to divert traffic on the parent SAP or spoke-SDP to different ESAs in the AA group based on the source IP address.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

5.9 aa-sub-ip

aa-sub-ip

Syntax

aa-sub-ip *ip-address*[*/mask*]

no aa-sub-ip

Context

[Tree] (config>app-assure>group>transit-prefix-policy>entry>match aa-sub-ip)

Full Context

configure application-assurance group transit-prefix-policy entry match aa-sub-ip

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Description

This command configures a transit prefix subscriber ip address prefix. It is used when the site is on the local side, being the same side of the system as the parent SAP. The local aa-sub-ip addresses represent the src-IP in the from-SAP direction and dest-IP in the to-SAP direction.

The **no** form of this command deletes the aa-sub-ip address assigned from the entry configuration.

Default

no aa-sub-ip

Parameters

ip-address[/mask]

Specifies the address type of the subscriber address prefix associated with this transit prefix policy entry.

Values

ip-address[/*mask*] :	ipv4-address - a.b.c.d[/mask]
	mask - [1..32]
	ipv6-address - x:x:x:x:x:x:x:x/prefix-length
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D
	prefix-length [1..128]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.10 aa-sub-remote

aa-sub-remote

Syntax

[**no**] **aa-sub-remote**

Context

[Tree] (config>app-assure>group aa-sub-remote)

Full Context

configure application-assurance group aa-sub-remote

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Description

This command specifies whether or not the from subscriber and to subscriber traffic direction is reversed for this group-partition.

Default

no aa-sub-remote

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.11 aa-sub-study

aa-sub-study

Syntax

aa-sub-study *study-type*

Context

[Tree] (config>app-assure>group>statistics aa-sub-study)

Full Context

configure application-assurance group statistics aa-sub-study

Description

Commands in this context configure accounting and statistics collection parameters per application assurance special study subscribers.

Parameters

study-type

Specifies special study protocol subscriber stats.

Values application, protocol

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.12 aa-sub-suppressible

aa-sub-suppressible

Syntax

aa-sub-suppressible

no aa-sub-suppressible

Context

[Tree] (config>app-assure>group>policy>app-profile aa-sub-suppressible)

Full Context

configure application-assurance group policy app-profile aa-sub-suppressible

Description

This command configures an app-profile as "aa-sub-suppressible", this function is used in the context of an SRRP group interface. If an SRRP group interface is configured as "suppress-aa-sub" then subscribers with an app-profile configured as "aa-sub-suppressible" will not be diverted to Application Assurance.

The **no** form of this command restores the default behavior.

Default

no aa-sub-suppressible

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.13 aa-sub-tethering-state

aa-sub-tethering-state

Syntax

aa-sub-tethering-state {**detected** | **not-detected**}

no aa-sub-tethering-state

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match aa-sub-tethering-state)

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Full Context

configure application-assurance group policy app-qos-policy entry match aa-sub-tethering-state

Description

This command specifies the tethering state of the subscriber where the AQP match entry will be applied.

The tethering state match condition is meaningful when configured in non-default subscriber policy AQP. Default subscriber policy consists of those AQPs that include match criteria based on the subscriber's configuration. Tethering state match condition is also applicable in those AQPs that include matching criteria that are derived from actual subscriber's traffic.

The **no** form of this command removes detection of sub-tethering state from the configuration.

Default

no aa-sub-tethering-state

Parameters

detected

Specifies that the subscriber is in the tethering state.

not-detected

Specifies that the subscriber is not in the tethering state.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.14 aa-url-parameter

aa-url-parameter

Syntax

aa-url-parameter *url-param-string*

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm aa-url-parameter)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm aa-url-parameter)

[Tree] (config>subscr-mgmt>http-rdr-plcy aa-url-parameter)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt aa-url-parameter

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt aa-url-parameter

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configure subscriber-mgmt http-redirect-policy aa-url-parameter

Description

This command configures the AA URL parameter that is used for HTTP portal redirect.

Parameters

url-param-string

Specifies an AA URL parameter, up to 247 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.15 aaa

aaa

Syntax

aaa

Context

[Tree] (config aaa)

Full Context

configure aaa

Description

Commands in this context configure authentication, authorization, and accounting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

aaa

Syntax

aaa

Context

[Tree] (config>service>vprn aaa)

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Full Context

configure service vprn aaa

Description

Commands in this context configure AAA on the VPRN.

Platforms

All

5.16 aarp

aarp

Syntax

aarp *aarpId* **type** *type*

no aarp

Context

[Tree] (config>service>epipe>sap aarp)

[Tree] (config>service>epipe>spoke-sdp aarp)

Full Context

configure service epipe sap aarp

configure service epipe spoke-sdp aarp

Description

This command associates an AARP instance with a multi-homed SAP or spoke SDP. This instance uses the same AARP ID in the same node to provide traffic flow and packet asymmetry removal for a multi-homed SAP or spoke SDP.

The type specifies the role of this service point in the AARP: either, primary (dual-homed) or secondary (dual-homed-secondary). The AA service attributes (app-profile and transit-policy) of the primary are inherited by the secondary endpoints. All endpoints within an AARP must be of the same type (SAP or spoke), and all endpoints with an AARP must be within the same service.

The no form of this command removes the association between an AARP instance and a multi-homed SAP or spoke SDP.

Default

no aarp

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Parameters

aarpid

Specifies the AARP instance associated with this SAP. If not configured, no AARP instance is associated with this SAP.

Values 1 to 65535

type

Specifies the role of the SAP referenced by the AARP instance.

Values **dual-homed** — The primary dual-homed AA subscriber side service-point of an AARP instance; only supported for Epipe, IES, and VPRN SAP and spoke SDP.

dual-homed-secondary — One of the secondary dual-homed AA subscriber side service-points of an AARP instance; only supported for Epipe, IES, and VPRN SAP and spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp

Syntax

aarp *aarp-id* **type** {**subscriber-side-shunt** | **network-side-shunt**}

no aarp

Context

[Tree] (config>service>ipipe>spoke-sdp aarp)

Full Context

configure service ipipe spoke-sdp aarp

Description

This command associates an AARP instance to an Ipipe spoke SDP. This instance is paired with the same *aarp-id* in a peer node as part of a configuration to provide flow and packet asymmetry removal for traffic for a multi-homed SAP or spoke SDP. The **type** parameter specifies the role of this service point in the AARP instance.

The **no** form of this command removes the association.

Default

no aarp

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Parameters

aarp-id

An integer that identifies an AARP instance.

Values 1 to 65535

subscriber-side-shunt

Specifies that the AARP type is an inter-chassis shunt service for subscriber-side traffic.

network-side-shunt

Specifies that the AARP type is an inter-chassis shunt service for network-side traffic.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp

Syntax

aarp *aarp-id* **type** {**subscriber-side-shunt** | **network-side-shunt**}

no aarp

Context

[Tree] (config>service>ies>aarp-interface>spoke-sdp aarp)

Full Context

configure service ies aarp-interface spoke-sdp aarp

Description

This command associates an AARP instance to an AARP interface spoke SDP. This instance is paired with the same *aarp-id* in a peer node as part of a configuration to provide flow and packet asymmetry removal for traffic for a multi-homed SAP or spoke SDP. The **type** parameter specifies the role of this service point in the AARP instance.

The **no** form of this command removes the association.

Default

no aarp

Parameters

aarp-id

Specifies an integer that identifies an AARP instance.

Values 1 to 65535

subscriber-side-shunt

Specifies that the AARP type is an inter-chassis shunt service for subscriber-side traffic.

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network-side-shunt

Specifies that the AARP type is an inter-chassis shunt service for network-side traffic.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp

Syntax

aarp *aarpId* **type** *type*

no aarp

Context

[Tree] (config>service>ies>if>sap aarp)

[Tree] (config>service>ies>if>spoke-sdp aarp)

Full Context

configure service ies interface sap aarp

configure service ies interface spoke-sdp aarp

Description

This command associates an AARP instance with a multi-homed SAP or spoke SDP. This instance uses the same AARP ID in the same node or in a peer node (pre-configured) to provide traffic flow and packet asymmetry removal for a multi-homed SAP or spoke SDP.

The type specifies the role of this service point in the AARP: either, primary (dual-homed) or secondary (dual-homed-secondary). The AA service attributes (app-profile and transit-policy) of the primary are inherited by the secondary endpoints. All endpoints within an AARP must be of the same type (SAP or spoke), and all endpoints with an AARP must be within the same service.

The **no** form of this command removes the association between an AARP instance and a multi-homed SAP or spoke SDP.

Default

no aarp

Parameters

aarpId

Specifies the AARP instance associated with this SAP. If not configured, no AARP instance is associated with this SAP.

Values 1 to 65535

type

Specifies the role of the SAP referenced by the AARP instance.

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Values **dual-homed** — The primary dual-homed AA subscriber side service-point of an AARP instance; only supported for Epipe, IES, and VPRN SAP and spoke SDP.

dual-homed-secondary — One of the secondary dual-homed AA subscriber side service-points of an AARP instance; only supported for Epipe, IES, and VPRN SAP and spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp

Syntax

aarp *aarp-id* **type** {**subscriber-side-shunt** | **network-side-shunt**}

no aarp

Context

[Tree] (config>service>vprn>aarp-interface>spoke-sdp aarp)

Full Context

configure service vprn aarp-interface spoke-sdp aarp

Description

This command associates an AARP instance to an AARP interface spoke SDP. This instance is paired with the same *aarp-id* in a peer node as part of a configuration to provide flow and packet asymmetry removal for traffic for a multi-homed SAP or spoke SDP. The **type** parameter specifies the role of this service point in the AARP instance.

The **no** form of this command removes the association.

Default

no aarp

Parameters

aarp-id

An integer that identifies an AARP instance.

Values 1 to 65535

subscriber-side-shunt

Specifies that the AARP type is an inter-chassis shunt service for subscriber-side traffic.

network-side-shunt

Specifies that the AARP type is an inter-chassis shunt service for network-side traffic.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp

Syntax

aarp *aarpId* **type** *type*

no aarp

Context

[Tree] (config>service>vprn>if>sap aarp)

[Tree] (config>service>vprn>if>spoke-sdp aarp)

Full Context

configure service vprn interface sap aarp

configure service vprn interface spoke-sdp aarp

Description

This command associates an AARP instance with a multi-homed SAP or spoke SDP. This instance uses the same AARP ID in the same node or in a peer node (pre-configured) to provide traffic flow and packet asymmetry removal for a multi-homed SAP or spoke SDP.

The type specifies the role of this service point in the AARP: either, primary (dual-homed) or secondary (dual-homed-secondary). The AA service attributes (app-profile and transit-policy) of the primary are inherited by the secondary endpoints. All endpoints within an AARP must be of the same type (SAP or spoke), and all endpoints with an AARP must be within the same service.

The **no** form of this command removes the association between an AARP instance and a multi-homed SAP or spoke SDP.

Default

no aarp

Parameters

aarpId

Specifies the AARP instance associated with this SAP. If not configured, no AARP instance is associated with this SAP.

Values 1 to 65535

type

Specifies the role of the SAP referenced by the AARP instance.

Values **dual-homed** — The primary dual-homed AA subscriber side service-point of an AARP instance; only supported for Epipe, IES, and VPRN SAP and spoke SDP.

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dual-homed-secondary — One of the secondary dual-homed AA subscriber side service-points of an AARP instance; only supported for Epipe, IES, and VPRN SAP and spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp

Syntax

aarp *aarpId* [**create**]

no aarp *aarpId*

Context

[Tree] (config>application-assurance aarp)

Full Context

configure application-assurance aarp

Description

This command defines an Application Assurance Redundancy Protocol (AARP) instance. This instance is paired with the same *aarpId* in a peer node as part of a configuration to provide flow and packet asymmetry removal for traffic for a multi-homed SAP or spoke SDP.

The **no** form of this command removes the instance from the configuration.

Parameters

aarpid

An integer that identifies an AARP instance.

Values 1 to 65535

create

Keyword used to create the AARP instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.17 aarp-interface

aarp-interface

Syntax

aarp-interface *aarp-interface-name* [**create**]

no aarp-interface *aarp-interface-name*

Context

[Tree] (config>service>ies aarp-interface)

Full Context

configure service ies aarp-interface

Description

This command creates an AARP interface for connecting a service to a peer node AARP service. This instance is paired with the same AARP interface in a peer node as part of a configuration to provide flow and packet asymmetry removal for traffic for a multi-homed SAP or spoke SDP.

The **no** form of this command deletes the interface.

Default

no aarp-interface

Parameters

aarp-interface-name

Specifies a string of up to 32 characters identifying the interface.

create

Keyword used to create the AARP interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

aarp-interface

Syntax

aarp-interface *aarp-interface-name* [**create**]

no aarp-interface *aarp-interface-name*

Context

[Tree] (config>service>vprn aarp-interface)

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Full Context

configure service vprn aarp-interface

Description

This command creates an AARP interface for connecting a service to a peer node AARP service. This instance is paired with the same AARP interface in a peer node as part of a configuration to provide flow and packet asymmetry removal for traffic for a multi-homed SAP or spoke SDP.

The **no** form of this command deletes the interface.

Default

no aarp-interface

Parameters

aarp-interface-name

Specifies the AARP interface name.

create

Keyword used to create the AARP interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.18 abandon-tcp-optimization

abandon-tcp-optimization

Syntax

[**no**] **abandon-tcp-optimization**

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action abandon-tcp-optimization)

Full Context

configure application-assurance group policy app-qos-policy entry action abandon-tcp-optimization

Description

This command causes TCPO to stop for flows matching this AQP entry. The flows are counted as TCPO abandoned by policy flows.

The **no** form of this command removes abandon TCPO from actions on flows matching this AQP entry.

Default

no abandon-tcp-optimization

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.19 abort

abort

Syntax
abort

Context
[Tree] (config>app-assure>group>policy abort)

Full Context
configure application-assurance group policy abort

Description
This command ends the current editing session and aborts any changes entered during this policy editing session.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

abort

Syntax
abort

Context
[Tree] (config>router>bfd abort)

Full Context
configure router bfd abort

Description
This command discards the changes made to a BFD template during an active session.

Platforms
All

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abort

Syntax

abort

Context

[Tree] (config>router>route-next-hop-policy abort)

Full Context

configure router route-next-hop-policy abort

Description

This command discards the changes made to route next-hop templates during an active session.

Platforms

All

abort

Syntax

abort

Context

[Tree] (config>system>sync-if-timing abort)

Full Context

configure system sync-if-timing abort

Description

This command is required to discard changes that have been made to the synchronous interface timing configuration during a session.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

abort

Syntax

abort

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Context

[Tree] (config>router>policy-options abort)

Full Context

configure router policy-options abort

Description

This command is required to discard changes made to a route policy.

Platforms

All

5.20 above-offered-allowance

above-offered-allowance

Syntax

[**no**] **above-offered-allowance**

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution above-offered-allowance)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution above-offered-allowance

Description

Commands in this context edit the parameters that control the child's **above-offered-allowance** bandwidth. These parameters are only applicable when the port scheduler is configured to use the **above-offered-allowance-control** algorithm, otherwise they are ignored.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.21 above-offered-cap

above-offered-cap

Syntax

above-offered-cap {**percent** *percent-of-admin-pir* | **rate** *rate-in-kilobits-per-second*}

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no above-offered-cap

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution above-offered-cap)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution above-offered-cap

Description

This command is used to limit the operationally configured shaping or policing rate on the child associated with the policy. After the parent virtual scheduler or policer control policy determines the appropriate rate for a specific child, a separate operation decides the actual PIR that should be configured for that child. When the parent determines that the distributed rate is equal to or less than the child's offered rate, the configured operational PIR will be equal to that determined rate. But when the parent determines that the child's offered rate is less than the available bandwidth the child could consume, the operational PIR may be set to a value larger than the distributed bandwidth. This extra rate is not currently used by the child because the offered rate is less. The system provides this extra bandwidth in case the child's offered rate increases before the next sampling interval is complete, to mitigate the periodic nature of the child's operational PIR adjustments. The increase in the offered rate is not subtracted from the parent's remaining distribution bandwidth for lower priority children, only the determined rate is considered consumed by the parent virtual scheduler or policer control policy instance. The actual operationally configured PIR will never be greater than the child's administratively defined PIR.

This 'fair share' PIR configuration behavior may result in the sum of the children's PIRs exceeding the aggregate rate of the parent. If this behavior violates the downstream QoS requirements, the **above-offered-cap** command may be used to minimize or eliminate the increase in the child's configured PIR.

If the **above-offered-cap** command is used with a percent-based value, the increase is a function of the configured PIR value on the policer or queue. In this case, care should be taken that the child is either configured with an explicit PIR rate (other than max) or the child's administrative PIR is defined using the percent-rate command with the local parameter enabled if an explicit value is not needed. When a maximum PIR is in use on the child, the system attempts to interpret the maximum child forwarding rate. This rate could be very large if the child is associated with multiple ingress or egress ports.

If the child's administrative PIR is modified while a percent based above-offered-cap is in effect, the system automatically uses the new relative limit value the next time the child's operational PIR is distributed.

When this command is not specified or removed, the child's operational 'fair share' operational PIR may be configured up to the child's administrative PIR, based on the actual parental bandwidth available at the child's priority level.

The **no** form of this command is used to remove a fair share operational PIR rate increase limit from all child policers and queues associated with the policy.

Parameters

percent-of-admin-pir

When the percent qualifier is used, the following percent-of-admin-pir parameter specifies the percentage of the child's administrative PIR that is used as the fair share increase limit. The new operational PIR result is capped by the child's PIR. If a value of 0 or 0.00 is used, the system will disable the fair share increase function and only configure the actual distribution rate. If a value of 100 or 100.00 is used, the system will interpret this equivalent

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to executing the **no above-offered-cap** command and return the fair-share operation to the default behavior.

Values 0.00 to 100.00

rate-in-kilobits-per-second

When the rate qualifier is used, the rate-in-kilobits-per-second parameter specifies an explicit rate, in kb/s, that are used as the limit to the child's fair share increase to the operational PIR. The new operational PIR result is capped by the child's PIR. If a value of 0 is used, the system will disable the fair share increase function and only configure the actual distribution rate.

Values 0 to 100,000,000

Platforms

All

5.22 absolute

absolute

Syntax

absolute *microseconds*

no absolute

Context

[Tree] (config>test-oam>link-meas>template>asw>thr absolute)

[Tree] (config>test-oam>link-meas>template>sw>thr absolute)

Full Context

configure test-oam link-measurement measurement-template aggregate-sample-window threshold absolute

configure test-oam link-measurement measurement-template sample-window threshold absolute

Description

This command specifies the delta, in microseconds, that a new delay measurement must differ from the previously reported measurement to be reported directly to the routing engine.

The **no** form of this command reverts to the default value.

Default

absolute 0

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Parameters

microseconds

Specifies the difference, in microseconds.

A value of 0 (zero) indicates that the absolute threshold is not used for reporting.

Values 0 to 100000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.23 ac-df-capability

ac-df-capability

Syntax

ac-df-capability {**include** | **exclude**}

Context

[Tree] (config>service>system>bgp-evpn>eth-seg ac-df-capability)

Full Context

configure service system bgp-evpn ethernet-segment ac-df-capability

Description

This command configures the inclusion or exclusion of the Attachment Circuit-influenced (AC-Influenced) designated forwarder (DF) election capability (AC-DF) capability into the DF Election for the Ethernet Segment.

The SR OS supports the AC-DF capability, in accordance with RFC 8584. The **include** option is the default command setting. The AC-DF capability is enabled by default to support the EVPN auto-discovery per EVI/ES (AD per EVI/ES) routes for a specific PE, which ensures that the PE is included in the candidate DF election list.

Configuring the **exclude** option disables the AC-DF capability. When **ac-df-capability exclude** is configured on a specific Ethernet Segment (ES), the presence or absence of the AD per EVI/ES routes from the ES peers do not modify the candidate DF Election list for the ES. The **exclude** option is recommended in ESs that use an **oper-group** monitored by the access LAG to signal standby lacp or power-off.

All PE routers attached to the same ES must be configured consistently for the AC-DF capability.

Default

ac-df-capability include

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Parameters

include

Specifies that AC-DF capability is enabled.

exclude

Specifies that AC-DF capability is disabled.

Platforms

All

5.24 accept-authorization-change

accept-authorization-change

Syntax

[**no**] **accept-authorization-change**

Context

[Tree] (config>subscr-mgmt>auth-policy accept-authorization-change)

Full Context

configure subscriber-mgmt authentication-policy accept-authorization-change

Description

This command specifies whether or not the system should handle the CoA messages initiated by the RADIUS server, and provide for mid-session interval changes of policies applicable to subscriber hosts.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.25 accept-coa

accept-coa

Syntax

[**no**] **accept-coa**

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Context

[Tree] (config>router>radius-server>server accept-coa)

[Tree] (config>service>vprn>radius-server>server accept-coa)

Full Context

configure router radius-server server accept-coa

configure service vprn radius-server server accept-coa

Description

This command configures this server for Change of Authorization messages. The system will process the CoA request from the external server if configured with this command; otherwise the CoA request is dropped.

The **no** form of this command disables the command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.26 accept-from-ebgp

accept-from-ebgp

Syntax

accept-from-ebgp *family* [*family*]

no accept-from-ebgp

Context

[Tree] (config>service>vprn>bgp>group>link-bandwidth accept-from-ebgp)

[Tree] (config>service>vprn>bgp>group>neighbor>link-bandwidth accept-from-ebgp)

Full Context

configure service vprn bgp group link-bandwidth accept-from-ebgp

configure service vprn bgp group neighbor link-bandwidth accept-from-ebgp

Description

This command configures BGP to accept and use the link-bandwidth extended community attached to any route received from any EBGP peer in the scope of the command, as long as that route belongs to one of the listed address families.

The link-bandwidth extended community is encoded as a non-transitive type. This means that by default it should not be attached to any route advertised to an EBGP peer and it should be discarded when received in any route from an EBGP peer. This command overrides the standard behavior.

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Up to three families may be configured.

The **no** form of this command restores the default behavior of discarding the link-bandwidth extended community in any route received from an EBGP peer.

Default

no accept-from-ebgp

Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

Platforms

All

accept-from-ebgp

Syntax

accept-from-ebgp *family* [*family*]

no accept-from-ebgp

Context

[Tree] (config>router>bgp>group>link-bandwidth accept-from-ebgp)

[Tree] (config>router>bgp>group>neighbor>link-bandwidth accept-from-ebgp)

Full Context

configure router bgp group link-bandwidth accept-from-ebgp

configure router bgp group neighbor link-bandwidth accept-from-ebgp

Description

This command configures BGP to accept and use the link-bandwidth extended community attached to any route received from any EBGP peer in the scope of the command, as long as that route belongs to one of the listed address families.

The link-bandwidth extended community is encoded as a non-transitive type. This means that by default it should not be attached to any route advertised to an EBGP peer and it should be discarded when received in any route from an EBGP peer. This command overrides the standard behavior.

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Up to six families may be configured.

The **no** form of this command restores the default behavior of discarding the link-bandwidth extended community in any route received from an EBGP peer.

Default

no accept-from-ebgp

Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

vpn-ipv4 — Adds a link-bandwidth extended community to IPv4 VPN (SAFI 128) routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

label-ipv6 — Adds a link-bandwidth extended community to labeled-unicast IPv6 routes.

vpn-ipv6 — Adds a link-bandwidth extended community to IPv6 VPN (SAFI 128) routes.

Platforms

All

5.27 accept-ipv6-link-local-address

accept-ipv6-link-local-address

Syntax

[**no**] **accept-ipv6-link-local-address**

Context

[Tree] (config>service>ies>sub-if>grp-if>data-trigger accept-ipv6-link-local-address)

[Tree] (config>service>vprn>sub-if>grp-if>data-trigger accept-ipv6-link-local-address)

Full Context

configure service ies subscriber-interface group-interface data-trigger accept-ipv6-link-local-address

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configure service vprn subscriber-interface group-interface data-trigger accept-ipv6-link-local-address

Description

This command configures the system to authenticate the subscriber based on an IPv6 packet with a source IP Link Local Address (LLA). The trigger only occurs if the **anti-spoof** is type **nh-mac**. If the **anti-spoof** is not **nh-mac**, the packet with an IPv6 LLA is ignored.

The **no** form of this command removes the configuration.

Default

no accept-ipv6-link-local-address

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.28 accept-ivpls-evpn-flush

accept-ivpls-evpn-flush

Syntax

[**no**] **accept-ivpls-evpn-flush**

Context

[Tree] (config>service>vpls>bgp-evpn accept-ivpls-evpn-flush)

Full Context

configure service vpls bgp-evpn accept-ivpls-evpn-flush

Description

This command enables the system to accept non-zero Ethernet tag MAC routes and process them only for C-MAC flushing. This command can be changed on the fly without shutting down BGP-EVPN MPLS.

The **no** version of the command prevents the router from processing B-MAC/ISID routes for cmac-flush.

Default

no accept-ivpls-evpn-flush

Platforms

All

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5.29 accept-mrru

accept-mrru

Syntax

[**no**] **accept-mrru**

Context

[Tree] (config>subscr-mgmt>ppp-policy>mlppp accept-mrru)

Full Context

configure subscriber-mgmt ppp-policy mlppp accept-mrru

Description

This command is applicable only to LAC. MRRU option is an indication that the session is of MLPPPoX type. The 7750 SR LAC never initiates the MRRU option in LCP negotiation process. However, it responds to MRRU negotiation request by the client.

This command provides an option to specifically enable or disable negotiation of MLPPPoX on a capture SAP level or on a group interface level.

The **no** form of this command causes the MRRU option in LCP to not be negotiated by LAC.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

5.30 accept-orf

accept-orf

Syntax

[**no**] **accept-orf**

Context

[Tree] (config>router>bgp>outbound-route-filtering>extended-community accept-orf)

[Tree] (config>router>bgp>group>outbound-route-filtering>extended-community accept-orf)

[Tree] (config>router>bgp>group>neighbor>outbound-route-filtering>extended-community accept-orf)

Full Context

configure router bgp outbound-route-filtering extended-community accept-orf

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configure router bgp group outbound-route-filtering extended-community accept-orf

configure router bgp group neighbor outbound-route-filtering extended-community accept-orf

Description

This command instructs the router to negotiate the receive capability in the BGP ORF negotiation with a peer, and accept filters that the peer wants to send.

The **no** form of this command causes the router to remove the accept capability in the BGP ORF negotiation with a peer, and to clear any existing ORF filters that are currently in place.

Default

no accept-orf

Platforms

All

5.31 accept-remote-loopback

accept-remote-loopback

Syntax

[**no**] **accept-remote-loopback**

Context

[Tree] (config>port>ethernet>efm-oam accept-remote-loopback)

Full Context

configure port ethernet efm-oam accept-remote-loopback

Description

This command enables reactions to loopback control OAM PDUs from peers.

The **no** form of this command disables reactions to loopback control OAM PDUs.

Default

no accept-remote-loopback

Platforms

All

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5.32 accept-script-policy

accept-script-policy

Syntax

accept-script-policy *policy-name*

no accept-script-policy

Context

[Tree] (config>aaa>radius-srv-plcy accept-script-policy)

Full Context

configure aaa radius-server-policy accept-script-policy

Description

This command specifies the RADIUS script policy used to change the RADIUS attributes of the incoming Access-Accept messages.

Parameters

policy-name

Specifies the name of the Python script to modify Access-Accept messages, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

accept-script-policy

Syntax

accept-script-policy *policy-name*

no accept-script-policy

Context

[Tree] (config>subscr-mgmt>auth-policy accept-script-policy)

Full Context

configure subscriber-mgmt authentication-policy accept-script-policy

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Description

This command specifies the RADIUS script policy used to change the RADIUS attributes of the incoming Access-Accept messages.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the name of the Python script to modify Access-Accept messages, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.33 accept-unprotected-errormsg

accept-unprotected-errormsg

Syntax

[**no**] **accept-unprotected-errormsg**

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 accept-unprotected-errormsg)

Full Context

configure system security pki ca-profile cmpv2 accept-unprotected-errormsg

Description

This command enables the system to accept both protected and unprotected CMPv2 error message. Without this command, system will only accept protected error messages.

The **no** form of this command causes the system to only accept protected PKI confirmation message.

Default

no accept-unprotected-errormsg

Platforms

All

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5.34 accept-unprotected-pkiconf

accept-unprotected-pkiconf

Syntax

[**no**] **accept-unprotected-pkiconf**

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 accept-unprotected-pkiconf)

Full Context

configure system security pki ca-profile cmpv2 accept-unprotected-pkiconf

Description

This command enables the system to accept both protected and unprotected CMPv2 PKI confirmation messages. Without this command, the system will only accept protected PKI confirmation message.

The **no** form of this command causes the system to only accept protected PKI confirmation message.

Default

no accept-unprotected-pkiconf

Platforms

All

5.35 acceptance-criteria-template

acceptance-criteria-template

Syntax

acceptance-criteria-template *accept-crit-tmpl-name* [**create**]

no acceptance-criteria-template *accept-crit-tmpl-name*

Context

[Tree] (config>test-oam>sath acceptance-criteria-template)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template

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Description

Commands in this context configure the test acceptance criteria policy that the service test testhead OAM tool uses to determine the test result after test completion.

The **acceptance-criteria-template** "default" value is attached to every **service-stream** created under the **service-test** context for which no explicit acceptance criteria template policy is configured by the user.

The default acceptance criteria template is not user-configurable.

The default template does not set any thresholds and only reports the end-of-run values. The following are the default template settings:

- **no description**
- **no delay-var-threshold**
- **no delay-threshold**
- **no loss-threshold**
- **no loss-threshold-policing**
- **no cir-threshold**
- **no pir-threshold**
- **no m-factor**

The **no** form of this command removes the test acceptance criteria.

Default

acceptance-criteria-template default

Parameters

accept-crit-tmpl-name

Specifies the name, up to 64 characters, of the test acceptance criteria. This name is also used when starting the throughput test.

create

Mandatory keyword to instantiate the template.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

acceptance-criteria-template

Syntax

acceptance-criteria-template *accept-crit-tmpl-name*

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream acceptance-criteria-template)

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Full Context

configure test-oam service-activation-testhead service-test service-stream acceptance-criteria-template

Description

This command creates a link to an acceptance criteria template policy configured by the user for the specified service stream.

Assign the default **acceptance-criteria-template** "default" to remove the existing template in a service stream.

Default

acceptance-criteria-template default

Parameters

accept-crit-tmpl-name

Specifies the name, up to 64 characters, of a preconfigured acceptance criteria.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

5.36 access

access

Syntax

access router *router-instance*

access service *service-name*

no access

Context

[Tree] (config>subscr-mgmt>steering-profile access)

Full Context

configure subscriber-mgmt steering-profile access

Description

This command specifies a routing instance to be used as a network VAS router in the steering profile.

The **no** form of this command removes the router instance.

Parameters

router-instance

Specifies the router instance to be used as an access VAS router.

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Values	*router-instance*:	*router-name* | *vprn-svc-id*
	router-name:	"Base"
	vprn-svc-id:	1 to 2147483647

service-name

Specifies the service name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

access

Syntax

access

Context

[Tree] (config>port>ethernet access)

Full Context

configure port ethernet access

Description

This command configures Ethernet access port parameters.

Platforms

All

access

Syntax

[**no**] **access**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext access)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext access)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access

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configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access

Description

Commands in this context configure the access side of HLE for the VLAN range.

The **no** form of this command disables the vRGW parameters enabled in this context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

access

Syntax

access

Context

[Tree] (config>port access)

[Tree] (config>card>mda access)

Full Context

configure port access

configure card mda access

Description

This command enables the access context to configure egress and ingress pool policy parameters.

On the MDA level, access egress and ingress pools are only allocated on channelized MDAs.

Platforms

All

access

Syntax

access

Context

[Tree] (config>card>fp>ingress access)

Full Context

configure card fp ingress access

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Description
This CLI node contains the access forwarding-plane parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

access

Syntax
access

Context
[Tree] (config>lag access)

Full Context
configure lag access

Description
Commands in this context configure access parameters.

Platforms
All

access

Syntax
access

Context
[Tree] (config>eth-tunnel>lag-emulation access)

Full Context
configure eth-tunnel lag-emulation access

Description
Commands in this context configure eth-tunnel load sharing access parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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access

Syntax

[**no**] **access**

Context

[Tree] (config>service>vprn>snmp access)

Full Context

configure service vprn snmp access

Description

This command enables SNMP access using VPRN interface addresses. This command allows SNMP messages destined to the VPRN interface IP addresses for this VPRN (including VPRN interfaces that are bound to R-VPLS services) to be processed by the SNMP agent on the router. SNMP messages that arrive on VPRN interfaces but are destined to IP addresses in the Base routing context that can be accessed in the VPRN (for example, the router system address via grt leaking) do not require **snmp access** to be enabled but do require **allow-local-management** to be enabled.

Using an SNMP community defined inside the VPRN context (**configure service vprn snmp community**) allows access to a subset of the full SNMP data model. This subset can be seen in the output of **show system security view "vprn-view"**.

Using an SNMP community defined in the system context (**configure system security snmp community**) allows access to the full SNMP data model (unless otherwise restricted used SNMP views).

Alternatively, grt leaking and a Base routing IP address can be used (along with an SNMP community defined at the system context) to get access to the entire SNMP data model (see the **allow-local-management** command).

The Nokia NSP cannot discover or fully manage an SR OS router using an SNMP community defined inside the VPRN context. Full SNMP access requires using one of the approaches described above.

Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide* for detailed information about SNMP.

Platforms

All

access

Syntax

[**no**] **access** [**ftp**] [**snmp**] [**console**] [**li**] [**netconf**] [**grpc**] [**scp-sftp**] [**console-port-cli**] [**ssh-cli**] [**telnet-cli**]

Context

[Tree] (config>system>security>user access)

[Tree] (config>system>security>user-template access)

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Full Context

configure system security user access

configure system security user-template access

Description

This command configures user permissions for router management access methods.

To deny an existing access method, enter the **no** form of this command followed by the method to be denied; for example, **no access ftp** denies FTP access.

The **no** form of this command removes the user permission for all management access methods.

Default

no access

Parameters

ftp

Specifies FTP access.

snmp

Specifies SNMP access. This keyword is only configurable in the **configure system security user** context.

console

Specifies the console port CLI, SCP/SFTP, SSH CLI, and Telnet CLI access.

li

Specifies Lawful Intercept (LI) command access.

netconf

Specifies NETCONF access.

grpc

Specifies gRPC access.

scp-sftp

Specifies SCP/SFTP access.

console-port-cli

Specifies console port CLI access.

ssh-cli

Specifies SSH CLI access.

telnet-cli

Specifies Telnet CLI access.

Platforms

All

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access

Syntax

[**no**] **access group** *group-name* **security-model** *security-model* **security-level** *security-level* [**context** *context-name* [**prefix -match**]] [**read** *view-name-1*] [**write** *view-name-2*] [**notify** *view-name-3*]

Context

[Tree] (config>system>security>snmp access)

Full Context

configure system security snmp access

Description

This command creates an association between a user group, a security model, and the views that the user group can access. Access parameters must be configured unless security is limited to the preconfigured access groups and views for SNMPv1 and SNMPv2. An access group is defined by a unique combination of the group name, security model and security level.

Access groups are used by the usm-community command.

Access must be configured unless security is limited to SNMPv1/SNMPv2c with community strings. See the **community** command.

Default access group configurations cannot be modified or deleted.

To remove the user group with associated, security model(s), and security level(s), use:

no access group *group-name*

To remove a security model and security level combination from a group, use:

no access group *group-name* **security-model** {**snmpv1** | **snmpv2c** | **usm**} **security-level** {**no-auth-no-privacy** | **auth-no-privacy** | **privacy**}

Parameters

group-name

Specify a unique group name up to 32 characters.

security-model {snmpv1 | snmpv2c | usm}

Specifies the security model required to access the views configured in this node. A group can have multiple security models. For example, one view may only require SNMPv1/ SNMPv2c access while another view may require USM (SNMPv3) access rights.

security-level {no-auth-no-priv | auth-no-priv | privacy}

Specifies the required authentication and privacy levels to access the views configured in this node.

security-level no-auth-no-privacy

Specifies that no authentication and no privacy (encryption) is required. When configuring the user's authentication, select the **none** option.

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security-level auth-no-privacy

Specifies that authentication is required but privacy (encryption) is not required. When this option is configured, both the **group** and the **user** must be configured for authentication.

security-level privacy

Specifies that both authentication and privacy (encryption) is required. When this option is configured, both the **group** and the user must be configured for **authentication**. The user must also be configured for **privacy**.

context-name

Specifies a set of SNMP objects that are associated with the context-name.

The *context-name* is treated as either a full context-name string or a context name prefix depending on the keyword specified (**exact** or **prefix**).

prefix-match

Specifies the context name **prefix-match** keywords, **exact** or **prefix**. This parameter applies only to the 7750 SR.

The VPRN context names begin with a **vprn** prefix. The numerical value is associated with the service ID that the VPRN was created with and identifies the service in the service domain. For example, when a new VPRN service is created such as **config>service>vprn 2345 customer 1**, a VPRN with context name **vprn2345** is created.

The **exact** keyword specifies that an exact match between the context name and the prefix value is required. For example, when context **vprn2345 exact** is entered, matches for only **vprn2345** are considered.

The **prefix** keyword specifies that only a match between the prefix and the starting portion of context name is required. If only the **prefix** keyword is specified, simple wildcard processing is used. For example, when context **vprn prefix** is entered, all **vprn** contexts are matched.

Default **exact**

view-name-1

Specifies the SNMP view used to control which MIB objects can be accessed using a read (get) operation.

view-name-2

Specifies the SNMP view used to control which MIB objects can be accessed using a write (set) operation.

view-name-3

Specifies the SNMP view used to control which MIB objects can be accessed for notifications.

Values none

Platforms

All

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5.37 access-algorithm

access-algorithm

Syntax

access-algorithm {**direct** | **round-robin**}

no access-algorithm

Context

[Tree] (config>aaa>l2tp-acct-plcy>radius-acct-server access-algorithm)

Full Context

configure aaa l2tp-accounting-policy radius-accounting-server access-algorithm

Description

This command configures the algorithm used to select a RADIUS server from the configured RADIUS servers.

The **no** form of this command reverts to the default value.

Default

access-algorithm direct

Parameters

direct

Specifies that the first server is used as primary server for all requests, the second server if the first server is unreachable, and so on.

round-robin

Specifies that the first server is used for the first request, the second server for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

access-algorithm

Syntax

access-algorithm {**direct** | **round-robin**}

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Context

[Tree] (config>app-assure>rad-acct-plcy>server access-algorithm)

Full Context

configure application-assurance radius-accounting-policy radius-accounting-server access-algorithm

Description

This command configures the algorithm used to select a RADIUS server from the configured RADIUS servers.

Default

access-algorithm direct

Parameters

direct

Specifies that the first server is used as primary server for all requests, the second server if the first server is unreachable, and so on.

round-robin

Specifies that the first server is used for the first request, the second server for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

access-algorithm

Syntax

access-algorithm {**direct** | **round-robin**}

no access-algorithm

Context

[Tree] (config>subscr-mgmt>acct-plcy>server access-algorithm)

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server access-algorithm)

Full Context

configure subscriber-mgmt radius-accounting-policy radius-accounting-server access-algorithm

configure subscriber-mgmt authentication-policy radius-authentication-server access-algorithm

Description

This command configures the algorithm used to select a RADIUS server from the configured RADIUS servers.

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The **no** form of this command reverts to the default.

Parameters

direct

Specifies that the first server is used as primary server for all requests, the second server if the first server is unreachable, and so on.

round-robin

Specifies that the first server is used for the first request, the second server for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

access-algorithm

Syntax

access-algorithm {**direct** | **round-robin** | **hash-based**}

no access-algorithm

Context

[Tree] (config>aaa>radius-srv-plcy>servers access-algorithm)

Full Context

configure aaa radius-server-policy servers access-algorithm

Description

This command configures the algorithm used to select a RADIUS server from the configured RADIUS servers.

The **no** form of this command reverts to the default.

Default

access-algorithm direct

Parameters

direct

Specifies that the first server is used as primary server for all requests, the second server if the first server is unreachable, and so on.

round-robin

Specifies that the first server is used for the first request, the second server for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

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hash-based

Select a RADIUS server based on the calculated hash result of the configured **load-balance-key** under the **radius-proxy server** hierarchy. This parameter is only applicable for radius-proxy server scenarios and results in an unpredictable RADIUS server selection if used in other scenarios.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

access-algorithm

Syntax

access-algorithm {**direct** | **round-robin**}

no access-algorithm

Context

[Tree] (config>service>vprn>aaa>rmt-srv>radius access-algorithm)

[Tree] (config>system>security>radius access-algorithm)

Full Context

configure service vprn aaa remote-servers radius access-algorithm

configure system security radius access-algorithm

Description

This command configures the algorithm used to select a RADIUS server from the configured RADIUS servers.

The **no** form of this command reverts to the default.

Default

access-algorithm direct

Parameters

direct

Specifies that the first server is used as primary server for all requests, the second server if the first server is unreachable, and so on.

round-robin

Specifies that the first server is used for the first request, the second server for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

Platforms

All

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access-algorithm

Syntax

access-algorithm {**direct** | **round-robin** | **hash-based** | **direct-priority**}

no access-algorithm

Context

[Tree] (config>aaa>isa-radius-plcy>servers access-algorithm)

Full Context

configure aaa isa-radius-policy servers access-algorithm

Description

This command configures the algorithm used to select a RADIUS server from the configured RADIUS servers.

The **no** form of this command reverts to the default.

Default

access-algorithm direct

Parameters

direct

Specifies that the first server is used as primary server for all requests, the second server if the first server is unreachable, and so on.

round-robin

Specifies that the first server is used for the first request, the second server for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

hashed-based

Specifies that the selection is based on the hash-based procedures.

direct-priority

Specifies that the first server is used for all requests. If that server is not available, the second server is used, and so on. This method periodically probes and falls back to higher-priority servers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.38 access-loop-encapsulation

access-loop-encapsulation

Syntax

[**no**] **access-loop-encapsulation**

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host access-loop-encapsulation)

Full Context

configure subscriber-mgmt local-user-db ppp host access-loop-encapsulation

Description

Commands in this context configure access loop information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

5.39 access-loop-information

access-loop-information

Syntax

access-loop-information

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host access-loop-information)

Full Context

configure subscriber-mgmt local-user-db ppp host access-loop-information

Description

Commands in this context configure access loop information in the local user database.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5.40 access-loop-options

access-loop-options

Syntax

[**no**] **access-loop-options**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute access-loop-options)

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute access-loop-options)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute access-loop-options

configure subscriber-mgmt authentication-policy include-radius-attribute access-loop-options

Description

This command enables inclusion of access loop information: Broadband Forum (BBF) access loop characteristics, DSL line state and DSL type. The BBF access loop characteristics are returned as BBF specific RADIUS attributes where DSL line state and DSL type are returned as Nokia-specific RADIUS VSAs.

Information obtained via the ANCP protocol has precedence over information received in PPPoE Vendor Specific BBF tags or DHCP Vendor Specific BBF Options.

If ANCP is utilized and interim accounting update is enabled, any Port Up event from GSMP will initiate in an interim update. Port Up messages can include information such as an update on the current subscriber actual-upstream-speed. The next interim accounting message is from port up triggering point.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.41 access-network-location

access-network-location

Syntax

access-network-location

Context

[Tree] (config>app-assure>group access-network-location)

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Full Context

configure application-assurance group access-network-location

Description

Commands in this context configure parameters related to dynamic experience management, also known as Access Network Location (ANL).

These parameters include location source type congestion point and congestion detection parameters (such as roundtrip delay thresholds), if applicable.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.42 access-operation-cmd

access-operation-cmd

Syntax

[**no**] **access-operation-cmd** *access-operation*

Context

[Tree] (config>system>security>tacplus>request-format access-operation-cmd)

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus>req access-operation-cmd)

Full Context

configure system security tacplus request-format access-operation-cmd

configure service vprn aaa remote-servers tacplus request-format access-operation-cmd

Description

This command sends an operation argument in authorization requests.

In model-driven interfaces, this command configures the system to send the operation in the cmd argument, and the path in the cmd-args argument, in TACACS+ authorization requests. This command does not apply to authorization requests in classic interfaces.

The **no** form of this command removes the operation from the configuration.

Default

no access-operation-cmd

Parameters

access-operation

Specifies that an operation in the authorization request is sent.

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Values delete — Keyword that sends the operation "cmd=delete" and "cmd-args=path".

Platforms

All

5.43 accounting

accounting

Syntax

accounting {**1** | **2**} [**create**]

no accounting {**1** | **2**}

Context

[Tree] (config>service>dynsvc>ladb>user>idx accounting)

Full Context

configure service dynamic-services local-auth-db user-name index accounting

Description

This command creates a context for one of the two accounting destinations specified in the dynamic services policy. In this context, overrides of RADIUS accounting parameters can be specified.

The **no** form of this command removes the RADIUS accounting overrides context from the configuration.

Parameters

{1 | 2}

Indicates one of the two RADIUS accounting destinations.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

accounting

Syntax

[**no**] **accounting**

Context

[Tree] (config>system>security>radius accounting)

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[Tree] (config>service>vprn>aaa>rmt-srv>radius accounting)

Full Context

configure system security radius accounting

configure service vprn aaa remote-servers radius accounting

Description

This command enables RADIUS accounting.

The **no** form of this command disables RADIUS accounting.

Default

no accounting

Platforms

All

accounting

Syntax

accounting [**record-type** { **start-stop** | **stop-only**}]

no accounting

Context

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus accounting)

[Tree] (config>system>security>tacplus accounting)

Full Context

configure service vprn aaa remote-servers tacplus accounting

configure system security tacplus accounting

Description

This command configures the type of accounting record packet that is to be sent to the TACACS+ server. The **record-type** parameter indicates whether TACACS+ accounting start and stop packets be sent or just stop packets be sent.

Default

no accounting

Parameters

record-type start-stop

Specifies that a TACACS+ start packet is sent whenever the user executes a command and a TACACS+ stop packet when command execution is complete.

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record-type stop-only

Specifies that only a TACACS+ stop packet is sent whenever the command execution is complete.

Platforms

All

accounting

Syntax

accounting [**port** *udp-port*]

no accounting

Context

[Tree] (config>aaa>isa-radius-plcy>servers>server accounting)

Full Context

configure aaa isa-radius-policy servers server accounting

Description

This command configures accounting for this server.

Parameters

udp-port

Specifies the UDP port number on which to contact the RADIUS server for authentication.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.44 accounting-1

accounting-1

Syntax

accounting-1

Context

[Tree] (config>service>dynsvc>policy accounting-1)

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Full Context

configure service dynamic-services dynamic-services-policy accounting-1

Description

Commands in this context configure the first RADIUS accounting destination and corresponding RADIUS accounting parameters for dynamic data services.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.45 accounting-2

accounting-2

Syntax

accounting-2

Context

[Tree] (config>service>dynsvc>policy accounting-2)

Full Context

configure service dynamic-services dynamic-services-policy accounting-2

Description

Commands in this context configure the second RADIUS accounting destination and corresponding RADIUS accounting parameters for dynamic data services.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.46 accounting-files-total-size

accounting-files-total-size

Syntax

accounting-files-total-size *megabytes*

Context

[Tree] (config>log>storage accounting-files-total-size)

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Full Context

configure log file-storage-control accounting-files-total-size

Description

This command configures the limit for the total space that all accounting files can occupy on each storage device on the active CPM.

When this threshold is reached, new accounting files are no longer created in the `\act-collect` directory of the storage device until SR OS removes older accounting files from the `\act` directory and the occupancy is below the limit. Currently open, in-progress accounting files in the `\act-collect` directory are not affected by this limit and are completed.

When unconfigured, there is no specific limit for the total size of all accounting files.

Only accounting files in the `\act` directory with system generated names (including no file extension) are applicable toward the total size limit.

If a user manually adds or deletes accounting files from the `\act` directory, the size of the files is not taken into account for up to 1 hour.

The configured total size limit is not validated against the actual size of the installed storage devices. If the configured limit is larger than the installed compact flash (CF) device, the limit is never reached.

The **no** form of this command removes the total size limit for accounting files.

Default

no accounting-files-total-size

Parameters

megabytes

Specifies the total size limit for accounting files, in MB.

Values	50 to 4,194,304 MBytes (4 TBytes, 2^{22} MB)
Default	0

Platforms

All

5.47 accounting-mode

accounting-mode

Syntax

accounting-mode *accounting-mode*

no accounting-mode

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Context

[Tree] (config>qos>port-sched-plcy accounting-mode)

Full Context

configure qos port-scheduler-policy accounting-mode

Description

This command configures the accounting mode of the port scheduler policy.

The **no** form of this command reverts to the default accounting mode.

Default

accounting-mode default

Parameters

accounting-mode

Specifies the accounting mode for the port scheduler policy. In the **default** mode, the system counts below-CIR and above-CIR packets together. In the **separate-below-cir** mode, the system counts below-CIR packets separately from above-CIR packets. This applies only when the policer output is parented by different priority levels within the port scheduler policy.

Values default, separate-below-cir

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

5.48 accounting-policy

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>subscr-mgmt>sub-prof accounting-policy)

Full Context

configure subscriber-mgmt sub-profile accounting-policy

Description

This command specifies the policy to use to collect accounting statistics on this subscriber profile.

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A maximum of one accounting policy can be associated with a profile at one time. Accounting policies are configured in the **config>log** context.

The **no** form of this command removes the accounting policy association.

Parameters

acct-policy-id

Specifies the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>service>ies>if>sap accounting-policy)

[Tree] (config>service>vpls>sap accounting-policy)

[Tree] (config>service>vpls>mesh-sdp accounting-policy)

[Tree] (config>service>vprn>if>spoke-sdp accounting-policy)

[Tree] (config>service>ies>sub-if>grp-if>sap accounting-policy)

[Tree] (config>service>vprn>if>sap accounting-policy)

[Tree] (config>service>vpls>spoke-sdp accounting-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap accounting-policy)

Full Context

configure service ies interface sap accounting-policy

configure service vpls sap accounting-policy

configure service vpls mesh-sdp accounting-policy

configure service vprn interface spoke-sdp accounting-policy

configure service ies subscriber-interface group-interface sap accounting-policy

configure service vprn interface sap accounting-policy

configure service vpls spoke-sdp accounting-policy

configure service vprn subscriber-interface group-interface sap accounting-policy

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Description

This command creates the accounting policy context that can be applied to an interface SAP or interface SAP spoke SDP.

An accounting policy must be defined before it can be associated with a SAP or SDP.

If the *policy-id* does not exist, an error message is generated.

A maximum of one accounting policy can be associated with a SAP or SDP at one time. Accounting policies are configured in the **config>log** context.

The **no** form of this command removes the accounting policy association from the SAP or SDP, and the accounting policy reverts to the default.

Default

no accounting policy

Parameters

acct-policy-id

Specifies the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

Platforms

All

- configure service vpls sap accounting-policy
- configure service vpls mesh-sdp accounting-policy
- configure service vprn interface spoke-sdp accounting-policy
- configure service vprn interface sap accounting-policy
- configure service ies interface sap accounting-policy
- configure service vpls spoke-sdp accounting-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap accounting-policy
- configure service ies subscriber-interface group-interface sap accounting-policy

accounting-policy

Syntax

accounting-policy *isa-radius-policy-name*

no accounting-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range>xconnect accounting-policy)

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[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range>xconnect accounting-policy)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect accounting-policy

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect accounting-policy

Description

This command configures the ISA RADIUS accounting policy for the cross-connect.

The **no** form of this command removes the ISA RADIUS accounting policy from the cross-connect UE.

Parameters

isa-radius-policy-name

Specifies the identifier of the ISA RADIUS policy name, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

accounting-policy

Syntax

accounting-policy *policy-name*

no accounting-policy

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm accounting-policy)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm accounting-policy)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt accounting-policy

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt accounting-policy

Description

This command specifies the **isa-radius-policy** used for accounting messages originated from the ISAs in the **wlan-gw** group. The policy can specify up to five accounting servers and configuration-specific to these accounting servers. It also specifies configuration specific to RADIUS client on ISAs and RADIUS attributes to be included in accounting messages.

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Parameters

policy-name

Specifies the name of the account policy up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>card>fp>ingress>access>queue-group accounting-policy)

[Tree] (config>card>fp>ingress>network>queue-group accounting-policy)

Full Context

configure card fp ingress access queue-group accounting-policy

configure card fp ingress network queue-group accounting-policy

Description

This command configures an accounting policy that can apply to a queue-group on the forwarding plane.

An accounting policy must be configured before it can be associated to an interface. If the accounting *policy-id* does not exist, an error is returned.

Accounting policies associated with service billing can only be applied to SAPs. The accounting policy can be associated with an interface at a time.

The **no** form of this command removes the accounting policy association from the queue-group.

Default

No accounting policies are specified by default. You must explicitly specify a policy. If configured, the accounting policy configured as the default is used.

Parameters

acct-policy-id

Specifies the name of the accounting policy to use for the queue-group.

Values 1 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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accounting-policy

Syntax

accounting-policy *policy-id*

no accounting-policy

Context

[Tree] (config>port>tdm>e3>network accounting-policy)

[Tree] (config>port>tdm>ds3>network accounting-policy)

[Tree] (config>port>ethernet>network accounting-policy)

[Tree] (config>port>ethernet>access>egr>qgrp accounting-policy)

[Tree] (config>port>ethernet>network>egr>qgrp accounting-policy)

[Tree] (config>port>ethernet>access>ing>qgrp accounting-policy)

[Tree] (config>port>ethernet accounting-policy)

Full Context

configure port tdm e3 network accounting-policy

configure port tdm ds3 network accounting-policy

configure port ethernet network accounting-policy

configure port ethernet access egress queue-group accounting-policy

configure port ethernet network egress queue-group accounting-policy

configure port ethernet access ingress queue-group accounting-policy

configure port ethernet accounting-policy

Description

This command configures an accounting policy that can apply to an interface.

An accounting policy must be configured before it can be associated to an interface. If the accounting *policy-id* does not exist, an error is returned.

Accounting policies associated with service billing can only be applied to SAPs. Accounting policies associated with network ports can only be associated with interfaces. Only one accounting policy can be associated with an interface at a time.

The **no** form of this command removes the accounting policy association from the network interface, and the accounting policy reverts to the default.

Default

No accounting policies are specified by default. You must explicitly specify a policy. If configured, the accounting policy configured as the default is used.

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Parameters

policy-id

The accounting *policy-id* of an existing policy. Accounting policies record either service (access) or network information. A network accounting policy can only be associated with the network port configurations. Accounting policies are configured in the **configure log accounting-policy** context.

Values 1 to 99

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm e3 network accounting-policy
- configure port tdm ds3 network accounting-policy

All

- configure port ethernet network egress queue-group accounting-policy
- configure port ethernet access egress queue-group accounting-policy
- configure port ethernet access ingress queue-group accounting-policy
- configure port ethernet accounting-policy
- configure port ethernet network accounting-policy

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy [*acct-policy-id*]

Context

[Tree] (config>service>ipipe>sap accounting-policy)

[Tree] (config>service>epipe>spoke-sdp accounting-policy)

Full Context

configure service ipipe sap accounting-policy

configure service epipe spoke-sdp accounting-policy

Description

This command creates the accounting policy context that can be applied to a SAP.

An accounting policy must be defined before it can be associated with a SAP. If the *policy-id* does not exist, an error message is generated.

A maximum of one accounting policy can be associated with a SAP at one time. Accounting policies are configured in the **configure log** context.

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The **no** form of this command removes the accounting policy association from the SAP, and the accounting policy reverts to the default.

Default

no accounting policy

Parameters

acct-policy-id

Enter the accounting *policy-id* as configured in the **configure log accounting-policy** context.

Values 1 to 99

Platforms

All

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>service>ies>if>spoke-sdp accounting-policy)

Full Context

configure service ies interface spoke-sdp accounting-policy

Description

This command configures an accounting-policy.

Parameters

acct-policy-id

Specifies an accounting policy ID.

Values 1 to 99

Platforms

All

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accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>router>ldp>egr-stats>fec-pfx accounting-policy)

Full Context

configure router ldp egress-statistics fec-prefix accounting-policy

Description

This command associates an accounting policy to the MPLS instance.

An accounting policy must be defined before it can be associated else an error message is generated.

The **no** form of this command removes the accounting policy association.

Parameters

acct-policy-id

Enter the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

Platforms

All

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>router>mpls>ingr-stats>p2p-template-lsp accounting-policy)

[Tree] (config>router>mpls>ingr-stats>p2mp-template-lsp accounting-policy)

[Tree] (config>router>mpls>lsp-template>egr-stats accounting-policy)

[Tree] (config>router>mpls>lsp>egr-stats accounting-policy)

[Tree] (config>router>mpls>lsp>ingr-stats accounting-policy)

[Tree] (config>router>mpls>ingr-stats>lsp accounting-policy)

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Full Context

configure router mpls ingress-statistics p2p-template-lsp accounting-policy

configure router mpls ingress-statistics p2mp-template-lsp accounting-policy

configure router mpls lsp-template egress-statistics accounting-policy

configure router mpls lsp egress-statistics accounting-policy

configure router mpls lsp ingress-statistics accounting-policy

configure router mpls ingress-statistics lsp accounting-policy

Description

This command associates an accounting policy to the MPLS instance.

The config>router>mpls>ingr-stats>p2mp-template-lsp>accounting-policy command is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

An accounting policy must be defined before it can be associated else an error message is generated.

The **no** form of this command removes the accounting policy association.

Parameters

acct-policy-id

Specifies the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

Platforms

All

- configure router mpls ingress-statistics p2p-template-lsp accounting-policy
- configure router mpls lsp-template egress-statistics accounting-policy
- configure router mpls ingress-statistics lsp accounting-policy
- configure router mpls ingress-statistics p2mp-template-lsp accounting-policy
- configure router mpls lsp egress-statistics accounting-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure router mpls lsp ingress-statistics accounting-policy

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny accounting-policy)

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[Tree] (config>app-assure>group>statistics>aa-part accounting-policy)

[Tree] (config>isa>aa-grp>statistics>perform accounting-policy)

[Tree] (config>app-assure>group>statistics>aa-sub-study accounting-policy)

[Tree] (config>app-assure>group>statistics>app accounting-policy)

[Tree] (config>app-assure>group>statistics>aa-sub accounting-policy)

[Tree] (config>app-assure>group>statistics>app-grp accounting-policy)

[Tree] (config>app-assure>group>statistics>protocol accounting-policy)

Full Context

configure application-assurance group statistics aa-admit-deny accounting-policy

configure application-assurance group statistics aa-partition accounting-policy

configure isa application-assurance-group statistics performance accounting-policy

configure application-assurance group statistics aa-sub-study accounting-policy

configure application-assurance group statistics application accounting-policy

configure application-assurance group statistics aa-sub accounting-policy

configure application-assurance group statistics app-group accounting-policy

configure application-assurance group statistics protocol accounting-policy

Description

This command specifies the existing accounting policy to use for AA. Accounting policies are configured in the **config>log>accounting-policy** context.

Parameters

acct-policy-id

Specifies the existing accounting policy to use for applications.

Values 1 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>saa>test accounting-policy)

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Full Context

configure saa test accounting-policy

Description

This command associates an accounting policy to the SAA test. The accounting policy must already be defined before it can be associated otherwise an error message is generated.

A notification (trap) is issued whenever a test is completed or terminates.

The **no** form of this command removes the accounting policy association.

Parameters

acct-policy-id

Specifies the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

Platforms

All

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>oam-pm>session>meas-interval accounting-policy)

Full Context

configure oam-pm session meas-interval accounting-policy

Description

This optional command allows the operator to assign an accounting policy and the policy-id (configured under the **config>log>accounting-policy**) with a record-type of complete-pm. This runs the data collection process for completed measurement intervals in memory, file storage, and maintenance functions moving data from memory to flash. A single accounting policy can be applied to a measurement interval.

The **no** form of this command removes the accounting policy.

Parameters

acct-policy-id

Specifies the accounting policy to be applied to the measurement interval.

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Values 1 to 99

Platforms

All

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>service>sdp accounting-policy)

[Tree] (config>service>pw-template accounting-policy)

Full Context

configure service sdp accounting-policy

configure service pw-template accounting-policy

Description

This command creates the accounting policy context that can be applied to an SDP. An accounting policy must be defined before it can be associated with a SDP. If the *acct-policy-id* does not exist, an error message is generated.

A maximum of one accounting policy can be associated with a SDP at one time. Accounting policies are configured in the **config>log** context.

The **no** form of this command removes the accounting policy association from the SDP, and the accounting policy reverts to the default.

Default

no accounting-policy

Parameters

acct-policy-id

Specifies the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

Platforms

All

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accounting-policy

Syntax

accounting-policy *policy-id* [**interval** *minutes*]

no accounting-policy *policy-id*

Context

[Tree] (config>log accounting-policy)

Full Context

configure log accounting-policy

Description

This command creates an access or network accounting policy. An accounting policy defines the accounting records that are created.

Access accounting policies are policies that can be applied to one or more SAPs. Changes made to an existing policy, using any of the sub-commands, are applied immediately to all SAPs where this policy is applied.

If an accounting policy is not specified on a SAP, then accounting records are produced in accordance with the access policy designated as the **default**. If a default access policy is not specified, then no accounting records are collected other than the records for the accounting policies that are explicitly configured.

Only one policy can be regarded as the default access policy. If a policy is configured as the default policy, then a **no default** command must be used to allow the data that is currently being collected to be written before a new access default policy can be configured.

Network accounting policies are policies that can be applied to one or more network ports or SONET/SDH channels. Any changes made to an existing policy, using any of the sub-commands, will be applied immediately to all network ports or SONET/SDH channels where this policy is applied.

If no accounting policy is defined on a network port, accounting records will be produced in accordance with the default network policy as designated with the **default** command. If no network default policy is created, then no accounting records will be collected other than the records for the accounting policies explicitly configured. Default accounting policies cannot be explicitly applied. For example, for **accounting-policy 10**, if default is set, then that policy cannot be used:

```
A:node-2>config>service>vpls>spoke-sdp# accounting-policy 10
```

Only one policy can be regarded as the default network policy. If a policy is configured as the default policy, then a **no default** command must be used to allow the data that is currently being collected to be written before a new network default policy can be configured.

The **no** form of this command deletes the policy from the configuration. The accounting policy cannot be removed unless it is removed from all the SAPs, network ports or channels where the policy is applied.

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Parameters

policy-id

Specifies the policy ID that uniquely identifies the accounting policy, expressed as a decimal integer.

Values 1 to 99

Platforms

All

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (conf>router>segment-routing>sr-policies>egress-stats accounting-policy)

Full Context

configure router segment-routing sr-policies egress-statistics accounting-policy

Description

This command adds the accounting record type to the accounting policy that is forwarded to the configured accounting file. A record name can only be used in one accounting policy. To obtain a list of all record types that can be configured, use the show log accounting-records command.

To configure an accounting policy for access ports, select a service record. To change the record name to another service record, configure the new record name with this command.

When configuring an accounting policy for network ports, select a network record. To change the record name to another network record, configure the new record name with this command.

The **no** form of this command removes the accounting policy association from the egress statistics configuration.

Default

no accounting-policy

Parameters

acct-policy-id

Specifies the accounting *policy-id* as configured in the **config>log>accounting-policy** context.

Values 1 to 99

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Platforms

All

accounting-policy

Syntax

accounting-policy *acct-policy-id*

no accounting-policy

Context

[Tree] (config>test-oam>sath>svc-test accounting-policy)

Full Context

configure test-oam service-activation-testhead service-test accounting-policy

Description

This command creates a link to an accounting policy for the specified service test. The **record** of the accounting policy must be set to **complete-service-activation-test**.

The **no** form of this command removes the policy.

Default

no accounting-policy

Parameters

acct-policy-id

Specifies an identifier for the service test accounting policy.

Values 1 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

5.49 accounting-port

accounting-port

Syntax

accounting-port *port*

no accounting-port

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Context

[Tree] (config>system>security>radius accounting-port)

[Tree] (config>service>vprn>aaa>rmt-srv>radius accounting-port)

Full Context

configure system security radius accounting-port

configure service vprn aaa remote-servers radius accounting-port

Description

This command specifies a UDP port number on which to contact the RADIUS server for accounting requests.

Default

accounting-port 1813

Parameters

port

Specifies the UDP port number.

Values 1 to 65535

Platforms

All

5.50 accounting-type

accounting-type

Syntax

accounting-type [**session**] [**tunnel**]

no accounting-type

Context

[Tree] (config>aaa>l2tp-acct-plcy accounting-type)

Full Context

configure aaa l2tp-accounting-policy accounting-type

Description

This command specifies the accounting type for the L2TP tunnel accounting policy.

The **no** form of this command reverts to the default.

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Default

accounting-type session tunnel

Parameters

session

Enables tunnel level accounting, including:

Tunnel-Link-Start

Tunnel-Link-Stop

Tunnel-Link-Reject

tunnel

Enables link level accounting, including:

Tunnel-Start

Tunnel-Stop

Tunnel-Reject

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.51 accounting-update-interval

accounting-update-interval

Syntax

accounting-update-interval [*interval*]

no accounting-update-interval

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range>xconnect accounting-update-interval)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range>xconnect accounting-update-interval)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect accounting-update-interval

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect accounting-update-interval

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Description

This command configures the time interval between consecutive interim accounting update messages. If not configured, the system does not send interim accounting update messages.

The **no** form of this command removes the value from the cross-connect configuration.

Parameters

interval

Specifies the time interval between consecutive interim accounting update messages in minutes.

Values 5 to 259200

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

accounting-update-interval

Syntax

accounting-update-interval [*interval*]

no accounting-update-interval

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm accounting-update-interval)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm accounting-update-interval)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt accounting-update-interval

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt accounting-update-interval

Description

This command enables the interim accounting and specifies the interim accounting interval.

Parameters

interval

Specifies the interim accounting interval in minutes.

Values 5 to 259200

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.52 acct-authentic

acct-authentic

Syntax

[**no**] **acct-authentic**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute acct-authentic)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute acct-authentic

Description

This command enables the generation of the acct-authentic RADIUS attribute.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.53 acct-delay-time

acct-delay-time

Syntax

[**no**] **acct-delay-time**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute acct-delay-time)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute acct-delay-time

Description

This command enables the generation of the **acct-delay-time** RADIUS attribute.

The **no** form of this command reverts to the default.

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Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

acct-delay-time

Syntax
[**no**] **acct-delay-time**

Context
[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes acct-delay-time)

Full Context
configure aaa isa-radius-policy acct-include-attributes acct-delay-time

Description
This command enables the acct-delay-time.

Default
no acct-delay-time

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.54 acct-include-attributes

acct-include-attributes

Syntax
[**no**] **acct-include-attributes**

Context
[Tree] (config>aaa>isa-radius-plcy acct-include-attributes)

Full Context
configure aaa isa-radius-policy acct-include-attributes

Description
This command configures attributes to be included in RADIUS accounting messages.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.55 acct-interim

acct-interim

Syntax

acct-interim min *min-val* **max** *max-val* **lifetime** *lifetime*

no acct-interim

Context

[Tree] (config>aaa>radius-srv-plcy>servers>buffering acct-interim)

Full Context

configure aaa radius-server-policy servers buffering acct-interim

Description

This command enables RADIUS accounting interim update message buffering.

1. The message is stored in the buffer, a lifetime timer is started and the message is sent to the RADIUS server
2. If after retry*timeout seconds no RADIUS accounting response is received for the interim update then a new attempt to send the message is started after minimum[(min-val*2n), max-val] seconds.
3. Repeat step 2 until for one of the following:
   a. a RADIUS accounting response is received.
   b. the lifetime of the buffered message expires.
   c. a new RADIUS accounting interim-update or a RADIUS accounting stop for the same accounting session-id and radius-server-policy is stored in the buffer.
   d. the message is manually purged from the message buffer via a clear command.
4. The message is purged from the buffer.

The **no** form of this command disables RADIUS accounting interim update message buffering.

Parameters

min-val

Specifies the minimum interval in seconds between attempts to resend the RADIUS accounting interim update.

Values 1 to 3600

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max-val

Specifies the maximum interval in seconds between attempts to resend the RADIUS accounting interim update.

Values 1 to 3600

lifetime

Specifies the lifetime in hours.

Values 1 to 25

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.56 acct-on-off

acct-on-off

Syntax

acct-on-off

acct-on-off monitor-group *group-name*

acct-on-off oper-state-change [**group** *group-name*]

Context

[Tree] (config>aaa>radius-srv-plcy acct-on-off)

Full Context

configure aaa radius-server-policy acct-on-off

Description

This command controls the sending of Accounting-On and Accounting-Off messages and the acct-on-off oper-state of the radius-server-policy:

acct-on-off: enables the sending of Accounting-On and Accounting-Off messages for this radius-server-policy. The acct-on-off oper-state is always not blocked.

acct-on-off oper-state-change [group *group-name*]: enables the sending of Accounting-On and Accounting-Off messages for this radius-server-policy. The acct-on-off oper-state is function of the Accounting-response received for the Accounting-On and Accounting-Off. Optionally, sets the acct-on-off oper-state of the acct-on-off-group.

acct-on-off monitor-group *group-name*: no Accounting-On and Accounting-Off messages are sent for this radius-server-policy. The acct-on-off oper-state is inherited from the acct-on-off-group.

The **no** form of this command disables the sending of Accounting-On and Accounting-Off messages.

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Parameters

group-name

Specifies the name of an acct-on-off group up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.57 acct-on-off-group

acct-on-off-group

Syntax

acct-on-off-group *group-name* [**create**]

no acct-on-off-group *group-name*

Context

[Tree] (config>aaa acct-on-off-group)

Full Context

configure aaa acct-on-off-group

Description

This command creates an acct-on-off-group.

An acct-on-off-group can be referenced by:

- A single radius-server-policy as controller — The acct-on-off oper-state of the acct-on-off-group is set to the acct-on-off oper-state of the radius-server-policy.
- Multiple radius-server-policies as monitor — The acct-on-off oper-state of the radius-server-policy is inherited from the acct-on-off oper-state of the acct-on-off group.

The **no** form of this command deletes the acct-on-off-group.

Parameters

group-name

Specifies the name of an acct-on-off group up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5.58 acct-policy

acct-policy

Syntax

acct-policy *acct-policy-name* [**duplicate** *acct-policy-name*]

no acct-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host acct-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host acct-policy)

Full Context

configure subscriber-mgmt local-user-db ppp host acct-policy

configure subscriber-mgmt local-user-db ipoe host acct-policy

Description

This command specifies the accounting policy used for sending an Accounting Stop message to report RADIUS authentication failures of PPPoE sessions. A duplicate policy can be specified if a copy of the Accounting Stop message must be sent to another destination.

Reporting RADIUS authentication failures with an Accounting Stop message must be enabled in the RADIUS authentication policy ("send-acct-stop-on-fail").

A duplicate RADIUS accounting policy can be specified if the accounting stop resulting from a RADIUS authentication failure must also be sent to a second RADIUS destination.

The **no** form of this command reverts to the default.

Parameters

acct-policy-name

Specifies the name of a RADIUS accounting policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5.59 acct-port

acct-port

Syntax

acct-port *port*

no acct-port

Context

[Tree] (config>router>radius-server>server acct-port)

[Tree] (config>service>vprn>radius-server>server acct-port)

Full Context

configure router radius-server server acct-port

configure service vprn radius-server server acct-port

Description

This command specifies the UDP listening port for RADIUS accounting requests.

The **no** form of this command resets the UDP port to its default value (1813).

Default

acct-port 1813

Parameters

port

Specifies the UDP listening port for accounting requests of the external RADIUS server.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.60 acct-request-script-policy

acct-request-script-policy

Syntax

acct-request-script-policy *policy-name*

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no acct-request-script-policy

Context

[Tree] (config>subscr-mgmt>acct-plcy acct-request-script-policy)

Full Context

configure subscriber-mgmt radius-accounting-policy acct-request-script-policy

Description

This command configures the Python script policy to modify Accounting-Request messages.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the Python script policy to modify Accounting-Request messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

acct-request-script-policy

Syntax

acct-request-script-policy *policy-name*

no acct-request-script-policy

Context

[Tree] (config>aaa>radius-srv-plcy acct-request-script-policy)

Full Context

configure aaa radius-server-policy acct-request-script-policy

Description

This command specifies the name of the RADIUS script policy used to change the RADIUS attributes of the Accounting-Request messages.

Parameters

policy-name

Specifies the name of the Python script to modify Accounting-Request messages, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5.61 acct-session-id

acct-session-id

Syntax

acct-session-id [*session-id-type*]

no acct-session-id

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute acct-session-id)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute acct-session-id

Description

The **acct-session-id** attribute for each subscriber host is generated at the very beginning of the session initiation. This command will enable or disable sending this attribute to the RADIUS server in the Access-Request messages regardless of whether the accounting is enabled or not. The **acct-session-id** attribute can be used to address the subscriber hosts from the RADIUS server in the CoA Request.

The **acct-session-id** attribute is unique per subscriber host network wide. It is a 22 byte field comprised of the system MAC address along with the creation time and a sequence number in a hex format.

The **no** form of this command reverts to the default.

Default

no acct-session-id

Parameters

session-id-type

Specifies the format for the **acct-session-id** attribute used in RADIUS accounting requests.

Values host, session

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5.62 acct-stats

acct-stats

Syntax

[**no**] **acct-stats**

Context

[Tree] (config>ipsec>rad-acct-plcy>include acct-stats)

Full Context

configure ipsec radius-accounting-policy include-radius-attribute acct-stats

Description

This command enables the system to include accounting attributes in RADIUS acct-stop and interim-update packets.

The **no** form of this command disables the system from including accounting attributes in RADIUS acct-stop and interim-update packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.63 acct-stop

acct-stop

Syntax

acct-stop min *min-val* **max** *max-val* **lifetime** *lifetime*

no acct-stop

Context

[Tree] (config>aaa>radius-srv-plcy>servers>buffering acct-stop)

Full Context

configure aaa radius-server-policy servers buffering acct-stop

Description

This command enables RADIUS accounting stop message buffering.

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1. The message is stored in the buffer, a lifetime timer is started and the message is sent to the RADIUS server
2. If after retry*timeout seconds no RADIUS accounting response is received for the accounting stop, then a new attempt to send the message is started after minimum[(min-val*2n), max-val] seconds.
3. Repeat step 2 until one of the following events occurs:
   a. A RADIUS accounting response is received.
   b. The lifetime of the buffered message expires.
   c. The message is manually purged from the message buffer via a clear command.
4. The message is purged from the buffer.

The **no** form of this command disables RADIUS accounting stop message buffering.

Parameters

min-val

Specifies the minimum interval in seconds between attempts to resend the RADIUS accounting stop.

Values 1 to 3600

max-val

Specifies the maximum interval in seconds between attempts to resend the RADIUS accounting stop.

Values 1 to 3600

lifetime

Specifies the lifetime in hours.

Values 1 – 25

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.64 acct-trigger-reason

acct-trigger-reason

Syntax

[**no**] **acct-trigger-reason**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes acct-trigger-reason)

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Full Context
configure aaa isa-radius-policy acct-include-attributes acct-trigger-reason

Description
This command enables the acct-trigger-reason.

Default
no acct-trigger-reason

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.65 acct-tunnel-connection-fmt

acct-tunnel-connection-fmt

Syntax
acct-tunnel-connection-fmt *ascii-spec*

no acct-tunnel-connection-fmt

Context
[Tree] (config>aaa>l2tp-acct-plcy acct-tunnel-connection-fmt)

Full Context
configure aaa l2tp-accounting-policy acct-tunnel-connection-fmt

Description
This command configures the accounting tunnel connection ascii-specification.

Default
no acct-tunnel-connection-fmt

Parameters
ascii-spec

Specifies the ASCII specifications.

<*ascii-spec*>	<char-specification> <ascii-spec>
char-specification	<ascii-char> | <char-origin>
ascii-char	a printable ASCII character
char-origin	%<origin>

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origin	n | s | S | t | T | c | C	
	n	Call Serial Number
	s | S	Local (s) or Remote (S) Session Id
	t | T	Local (t) or Remote (T) Tunnel Id
	c | C	Local (c) or Remote (C) Connection Id

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

acct-tunnel-connection-fmt

Syntax

acct-tunnel-connection-fmt *ascii-spec*

no acct-tunnel-connection-fmt

Context

[Tree] (config>subscr-mgmt>acct-plcy acct-tunnel-connection-fmt)

Full Context

configure subscriber-mgmt radius-accounting-policy acct-tunnel-connection-fmt

Description

This command specifies the string that is sent in the accounting message.

Default

no acct-tunnel-connection-fmt

Parameters

ascii-spec

Specifies the accounting tunnel connection ASCII specification.

Values

asci-spec	<*char-specification*> <*ascii-spec*>
char-specification	<*ascii-char*> | <*char-origin*>
ascii-char	A printable ASCII character
char-origin	%<origin>
origin	n | s | S | t | T | c | C

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n	Call Serial Number
s | S	Local (s) or Remote (S) Session Id
t | T	Local (t) or Remote (T) Tunnel Id
c | C	Local (c) or Remote (C) Connection Id

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.66 acct-update-triggers

acct-update-triggers

Syntax

acct-update-triggers

Context

[Tree] (config>aaa>isa-radius-plcy acct-update-triggers)

Full Context

configure aaa isa-radius-policy acct-update-triggers

Description

Commands in this context enable or disable the sending of triggered interim-updates, with the exception of the following:

- After an update interval change, an interim update is always sent to indicate the start of the new interval.
- Mobility-triggered updates are configured in the (**service vprn <svc-id> | router**) **wlan-gw mobility-triggered-acct** context.
- NAT port block allocation depends on the inclusion of NAT-related attributes (port-range, outside-service, outside-ip).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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5.67 accu-stats-policy

accu-stats-policy

Syntax

accu-stats-policy *policy-name* [**create**]

no accu-stats-policy *policy-name*

Context

[Tree] (config>subscr-mgmt accu-stats-policy)

Full Context

configure subscriber-mgmt accu-stats-policy

Description

This command creates a storage policy for cumulative statistics for subscribers. The policy defines the specific direction for the policer or the queue to be stored and performs the following functions.

- The policy stores subscriber statistics even if the subscriber session has ended. The subscriber statistics can be viewed even if the subscriber is offline.
- When the subscriber session ends, the statistics are added to the past statistics stored in memory so that all previous session statistics are accumulated. The accumulated statistics are not persistent; they are only stored in memory and reset to zero when the chassis reboots.

The **no** form of this command deletes the policy only when it is no longer referenced by a subscriber profile.

Parameters

policy-name

Specifies the name for the policy, up to 32 characters.

create

Configures an entry for the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

accu-stats-policy

Syntax

accu-stats-policy *policy-name*

no accu-stats-policy

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Context

[Tree] (config>subscr-mgmt>sub-profile accu-stats-policy)

Full Context

configure subscriber-mgmt sub-profile accu-stats-policy

Description

This command associates an accumulated statistics policy with a subscriber profile.

The **no** form of this command removes the association of the accu-stats-policy from the subscriber profile. It is possible to remove the policy from the subscriber profile while the subscriber is still online, however, the statistics remain in memory and must be cleared manually, using the **clear subscriber-mgmt accu-stats active-subs no-accu-stats-policy** command.

Parameters

policy-name

Specifies the name of the accumulated statistics policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.68 ack

ack

Syntax

ack [**detail**]

no ack

Context

[Tree] (debug>router>rsvp>packet ack)

Full Context

debug router rsvp packet ack

Description

This command debugs ack events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about ack events.

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Platforms

All

5.69 ack-auth-retry-count

ack-auth-retry-count

Syntax

ack-auth-retry-count [*value*]

no ack-auth-retry-count

Context

[Tree] (config>service>vprn>wpp>portals>portal ack-auth-retry-count)

[Tree] (config>router>wpp>portals>portal ack-auth-retry-count)

Full Context

configure service vprn wpp portals portal ack-auth-retry-count

configure router wpp portals portal ack-auth-retry-count

Description

This command configures the number of retransmissions of an ACK_OUT message.

The **no** form of this command reverts to the default.

Default

ack-auth-retry-count 5

Parameters

value

Specifies the number of retransmissions of an ACK_OUT message.

Values 0 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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5.70 acknowledgment

acknowledgment

Syntax

[**no**] **acknowledgment**

Context

[Tree] (config>service>vpls>spoke-sdp>control-channel-status acknowledgment)

[Tree] (config>service>epipe>spoke-sdp>control-channel-status acknowledgment)

[Tree] (config>service>cpipe>spoke-sdp>control-channel-status acknowledgment)

Full Context

configure service vpls spoke-sdp control-channel-status acknowledgment

configure service epipe spoke-sdp control-channel-status acknowledgment

configure service cpipe spoke-sdp control-channel-status acknowledgment

Description

This command enables the acknowledgment of control channel status messages. By default, no acknowledgment packets are sent.

Platforms

All

- configure service epipe spoke-sdp control-channel-status acknowledgment
- configure service vpls spoke-sdp control-channel-status acknowledgment

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp control-channel-status acknowledgment

acknowledgment

Syntax

[**no**] **acknowledgment**

Context

[Tree] (config>service>ies>if>spoke-sdp>control-channel-status acknowledgment)

[Tree] (config>service>ies>red-if>spoke-sdp>control-channel-status acknowledgment)

Full Context

configure service ies interface spoke-sdp control-channel-status acknowledgment

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configure service ies redundant-interface spoke-sdp control-channel-status acknowledgment

Description

This command enables the acknowledgment of control channel status messages. By default, no acknowledgment packets are sent.

Default

no acknowledgment

Platforms

All

- configure service ies interface spoke-sdp control-channel-status acknowledgment

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies redundant-interface spoke-sdp control-channel-status acknowledgment

acknowledgment

Syntax

[**no**] **acknowledgment**

Context

[Tree] (config>service>vprn>if>spoke-sdp>control-channel-status acknowledgment)

[Tree] (config>service>vprn>red-if>spoke-sdp>control-channel-status acknowledgment)

Full Context

configure service vprn interface spoke-sdp control-channel-status acknowledgment

configure service vprn redundant-interface spoke-sdp control-channel-status acknowledgment

Description

This command enables the acknowledgment of control channel status messages. By default, no acknowledgment packets are sent.

Platforms

All

- configure service vprn interface spoke-sdp control-channel-status acknowledgment

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp control-channel-status acknowledgment

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acknowledgment

Syntax

[**no**] **acknowledgment**

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>control-channel-status acknowledgment)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>control-channel-status acknowledgment)

Full Context

configure mirror mirror-dest spoke-sdp control-channel-status acknowledgment

configure mirror mirror-dest remote-source spoke-sdp control-channel-status acknowledgment

Description

This command enables the acknowledgment of control channel status messages. By default, no acknowledgment packets are sent.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.71 action

action

Syntax

action bypass-host-creation

action drop

no action

Context

[Tree] (config>filter>dhcp-filter>entry action)

Full Context

configure filter dhcp-filter entry action

Description

This command specifies the action to take on DHCP host creation when the filter entry matches.

The **no** form of this command reverts to the default wherein the host creation proceeds as normal.

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Parameters

bypass-host-creation

Specifies that the host creation is bypassed.

drop

Specifies that the DHCP message is dropped.

Platforms

All

action

Syntax

action bypass-host-creation [**na**] [**pd**]

action bypass-host-authentication

action drop

no action

Context

[Tree] (config>filter>dhcp6-filter>entry action)

Full Context

configure filter dhcp6-filter entry action

Description

This command specifies the action to take on DHCP6 host creation when the filter entry matches.

The bypass action either bypasses both host authentication and ESM creation completely or bypasses host authentication and creation from a DHCPv6 solicit message. Bypassing the DHCPv6 solicit message can delay the host authentication and creation until the DHCPv6 request message.

The **no** form of this command removes the configured action.

Parameters

bypass-host-creation

Specifies that the host creation is bypassed.

Values **na** — Bypasses the DHCP6 NA hosts creation.

pd — Bypasses the DHCP6 PD hosts creation.

bypass-host-authentication

Specifies that the router bypasses host authentication for both the NA and PD hosts and should always be used with bypass host creation.

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Note: This filter rule is not supported for MSAP and IPoE sessions.

drop

Specifies that the DHCP6 message is dropped.

Platforms

All

action

Syntax

action {**accept** | **next-entry** | **next-policy** | **drop** | **reject**}

no action

Context

[Tree] (config>router>policy-options>policy-statement>entry action)

Full Context

configure router policy-options policy-statement entry action

Description

This command creates the context to configure actions to take for routes matching a route policy statement entry.

This command is required and must be entered for the entry to be active.

Any route policy entry without the **action** command will be considered incomplete and will be inactive.

The **no** form of this command deletes the action context from the entry.

Default

no action

Parameters

accept

Specifies that routes matching the entry match criteria will be accepted and propagated.

next-entry

Specifies that the actions specified would be made to the route attributes and then policy evaluation would continue with next policy entry (if any others are specified).

next-policy

Specifies that the actions specified would be made to the route attributes and then policy evaluation would continue with next route policy (if any others are specified).

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drop

Specifies that routes matching the entry match criteria should be rejected. This parameter provides a context for modifying route properties.

reject

Specifies that routes matching the entry match criteria should be rejected. This parameter does not provide a context for modifying route properties.

Platforms

All

action

Syntax

action *dhcp-action*

no action

Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option action)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option action)

[Tree] (config>service>vpls>sap>dhcp>option action)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option action)

[Tree] (config>service>vprn>if>dhcp>option action)

[Tree] (config>service>ies>if>dhcp>option action)

Full Context

configure service vprn subscriber-interface group-interface dhcp option action

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option action

configure service vpls sap dhcp option action

configure service ies subscriber-interface group-interface dhcp option action

configure service vprn interface dhcp option action

configure service ies interface dhcp option action

Description

This command configures the processing required when the SR OS receives a DHCP request that already has a Relay Agent Information Option (Option 82) field in the packet.

The **no** form of this command returns the system to the default value.

Default

action keep — Per RFC 3046, *DHCP Relay Agent Information Option*, section 2.1.1, *Reforwarded DHCP requests*. The default is to keep the existing information intact. The exception to this is if the giaddr of the

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received packet is the same as the ingress address on the router. In that case the packet is dropped and an error is logged.

Parameters

replace

In the upstream direction (from the user), the existing Option 82 field is replaced with the Option 82 field from the router. In the downstream direction (towards the user) the Option 82 field is stripped (in accordance with RFC 3046).

drop

Specifies that the packet is dropped, and an error is logged.

keep

Specifies that the existing information is kept in the packet and the router does not add any additional information. In the downstream direction the Option 82 field is not stripped and is sent on towards the client.

The behavior is slightly different in case of Vendor Specific Options (VSOs). When the keep parameter is specified, the router inserts its own VSO into the Option 82 field. This is only done when the incoming message has already an Option 82 field.

If no Option 82 field is present, the router will not create the Option 82 field. In this in that case, no VSO is added to the message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp option action
- configure service vprn subscriber-interface group-interface dhcp option action
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option action

All

- configure service ies interface dhcp option action
- configure service vpls sap dhcp option action
- configure service vprn interface dhcp option action

action

Syntax

action {**drop** | **forward**}

no action

Context

[Tree] (config>service>vprn>log>filter>entry action)

[Tree] (config>log>filter>entry action)

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Full Context

configure service vprn log filter entry action

configure log filter entry action

Description

This command specifies a drop or forward action associated with the filter entry. If neither **drop** nor **forward** is specified, the **default-action** will be used for traffic that conforms to the match criteria. This could be considered a No-Op filter entry used to explicitly exit a set of filter entries without modifying previous actions.

Multiple action statements entered will overwrite previous actions.

The **no** form of this command removes the specified **action** statement.

Default

Action specified by the **default-action** command will apply.

Parameters

drop

Specifies that packets matching the entry criteria will be dropped.

forward

Specifies that packets matching the entry criteria will be forwarded.

Platforms

All

action

Syntax

action *direction* [**create**]

no action *direction*

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry action)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action

Description

Commands in this context configure an action to be performed for traffic that matches a configured match criteria in the filter entry. The action can be configured as being applicable to upstream traffic, downstream traffic, or both.

The **no** form of this command removes the direction from the configuration.

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Parameters

direction

Specifies the direction for the action in a VAS filter entry.

Values upstream, downstream

create

Keyword used to create the action's direction. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action drop

action forward

action http-redirect *url* [**allow-override**]

no action

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry action)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry action)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry action)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry action)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry action

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry action

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry action

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry action

Description

This command configures the action for the filter entry.

The **no** form of this command reverts to the default.

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Default

action drop

Parameters

drop

Specifies to drop the packets matching the IP filter entry.

forward

Specifies to forward the packets matching the IP filter entry.

http-redirect *url* [allow-override]

Specifies the HTTP web address, up to 255 characters, that is sent to the user's browser for redirection.

Note:
This action is not supported for IPv6 filter entries.

The specified URL can be overridden by a Diameter Credit Control Server when the following conditions are met:

- a Final-Unit-Indication AVP is present in the Multiple-Services-Credit-Control AVP of a CCA message
- the Final-Unit-Action AVP is set to REDIRECT (1)
- a Redirect-Server AVP is included with the following:
  - the Redirect-Address-Type AVP set to URL (2)
  - the Redirect-Server-Address AVP containing the URL to use for this rating group (**category-map**)
- the out of credit action for the corresponding rating group is set to **change-service-level** using one of the following commands:
  - **configure>subscriber-mgmt>credit-control-policy** *policy-name*>**out-of-credit-action change-service-level**
  - **configure>subscriber-mgmt>category-map** *category-map-name* **category** *category-name*>**out-of-credit-action-override change-service-level**
- an IPv4 HTTP redirect action with **allow-override** is specified in the exhausted credit service level context for the corresponding rating group using the command **configure>subscriber-mgmt>category-map** *category-map-name* **category** *category-name*>**exhausted-credit-service-level>ingress-ip-filter-entries**> **entry** *entry-id*>**action http-redirect** *url* **allow-override**

In all other cases, the URL specified in the Redirect-Server-Address AVP is ignored and the configured URL is used. The URL received from the Credit Control Server is included in the output of **show>service>active-subscribers>credit-control**. The **allow-override** is ignored for RADIUS credit control.

The following variables can optionally be added in the configured URL (http-redirect url) and in the override URL from the Credit Control Server (Redirect-Server-Address AVP):

- $IP – Customer's IP address
- $MAC – Customer's MAC address

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- $URL – Original requested URL
- $SAP – Customer's SAP
- $SUB – Customer's subscriber identification string
- $CID – string that represents the circuit-id or interface-id of the subscriber host (hexadecimal format)
- $RID – string that represents the remote-id of the subscriber host (hexadecimal format)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action {**alarm** | **remove**}

no action

Context

[Tree] (config>subscr-mgmt>shcv-policy>periodic action)

Full Context

configure subscriber-mgmt shcv-policy periodic action

Description

This command configures the action to take when the periodic connectivity verification failed.

The **no** form of this command reverts to the default.

Default

action alarm

Parameters

alarm

Raises an alarm indicating that the host is disconnected.

remove

Raises an alarm and releases all allocated resources (addresses, prefixes, queues, table entries, and so on). Static hosts are removed.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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action

Syntax

action {**drop** | **forward** | **none**}

action http-redirect *rdr-url-string*

no action

Context

[Tree] (config>subscr-mgmt>isa-filter>entry action)

[Tree] (config>subscr-mgmt>isa-filter>ipv6>entry action)

Full Context

configure subscriber-mgmt isa-filter entry action

configure subscriber-mgmt isa-filter ipv6 entry action

Description

This command specifies what should happen to packets that do match this entry.

The **no** form of this command reverts to the default value.

Default

action none

Parameters

drop

Specifies to drop the packet.

forward

Specifies to forward the packet.

none

Specifies to ignore the entry and continue processing with subsequent entries.

rdr-url-string

Specifies the URL to which matching HTTP flows are redirected, up to 255 characters. The URL can be overridden by AAA. Non-HTTP packets are dropped. The URL supports the $URL, $MAC, and $IP variables. For other macro substitutions, the string is not modified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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action

Syntax

action {**permit-deny** | **priority-mark**}

no action

Context

[Tree] (config>subscr-mgmt>isa-policer action)

Full Context

configure subscriber-mgmt isa-policer action

Description

This command specifies what happens to packets that are in-profile and out-of-profile.

The **no** form of this command reverts to the default value.

Default

action permit-deny

Parameters

permit-deny

Drops all packets that are out of profile (they do not conform to the PIR).

priority-mark

Currently not supported. The policer will take no action.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action {**log-only** | **reset-mda** | **fail-mda**}

no action

Context

[Tree] (config>card>mda>event action)

Full Context

configure card mda event action

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Description

This command defines the action to be taken when a specific hardware error event is raised against the target mda.

Only one action can be enabled at a time. Entering a new action will override a previously defined action.

The **no** form of this command sets the action to the default value.

Default

action log-only

Parameters

log-only

Specifies to pass the log event to log management. No other action is taken.

reset-mda

Specifies to reset the mda.

fail-mda

Specifies to set the operational state of the mda to Failed. This Failed state will persist until the clear mda command is issued (reset) or the mda is removed and re-inserted (re-seat).

Platforms

All

action

Syntax

[**no**] **action**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization action)

Full Context

configure system security profile netconf base-op-authorization action

Description

This command enables the NETCONF <action> RPC.

The **no** form of this command disables the RPC.

Default

no action

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

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Platforms

All

action

Syntax

action {**priority-mark** | **permit-deny**| **monitor**}

Context

[Tree] (config>app-assure>group>policer action)

Full Context

configure application-assurance group policer action

Description

This command configures the action to be performed by single-bucket bandwidth policers for non-conformant traffic.

Dual bucket bandwidth policers cannot have their action configured and always mark traffic below CIR in profile, between CIR and PIR out of profile, and drop traffic above PIR. Flow policers always discard non-conformant traffic.

When multiple application assurance policers are configured against a single flow (including policers at both subscriber and system), the final action done to the flow/packet will be a logical OR of all policers actions. For example, if only of the policers requires the packet to be discarded, the packet will be dropped regardless of the action of the other policers.

Default

action permit-deny

Parameters

priority-mark

Non-conformant traffic will be marked out of profile and the conformant traffic will be marked in profile. The new marking will overwrite any previous IOM QoS marking done to a packet.

permit-deny

Non-conformant traffic will be dropped.

monitor

Records the duration and volume of non-conformant traffic. The non-conformant traffic is not dropped. This parameter is only applicable to single-rate flow-level policers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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action

Syntax

action

Context

[Tree] (config>app-assure>group>policy>aqp>entry action)

Full Context

configure application-assurance group policy app-qos-policy entry action

Description

Commands in this context configure AQP actions to be performed on flows that match the AQP entry's match criteria.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action {**permit** | **deny**} [**event-log** *event-log-name*]

action http-redirect *http-redirect-name* [**event-log** *event-log-name*]

action tcp-optimizer *tcp-optimizer-name*

action redirect [**dst-ip** *ip-address*] [**dst-port** *dst-port*] [**event-log** *event-log-name*]

Context

[Tree] (config>app-assure>group>sess-fltr>entry action)

Full Context

configure application-assurance group session-filter entry action

Description

This command configures the action for this entry.

Parameters

deny

Specifies that packets matching the criteria are denied.

permit

Specifies that packets matching the criteria are permitted.

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event-log-name

Specifies the event log name, up to 32 characters.

http-redirect-name

Specifies the HTTP redirect name, up to 32 characters.

tcp-optimizer

Specifies to use TCP Optimization (TCPO) on the matching flows. The TCPO policy referenced within this session filter entry is configured under the AA group. If the TCPO action is removed from a session-filter entry, the existing flows are not affected. However, no new TCP flows are optimized.

tcp-optimizer-name

Specifies the name of the TCPO policy, up to 32 characters.

redirect

Configures a session filter entry action to perform Layer 3 or Layer 4 redirect. For the matching flows, AA replaces the destination address (IP address or port) with the configured values. In the reverse direction (toward the subscriber), AA restores the original IP and port numbers (as the source IP and port fields).

If the redirect action is removed from a session filter, the existing redirected flows are not affected, and redirect still occurs. However, no redirect will be applied to newly-established flows.

ip-address

Specifies a valid unicast server IPv4 or IPv6 address to forward the traffic to.

dst-port

Specifies a valid TCP/UDP server destination port number.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action {**permit** | **deny**}

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>imsi-apn-fltr>entry action)

Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter entry action

Description

This command configures an action for the IMSI-APN filter entry.

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Default

action permit

Parameters

permit

Specifies to permit packets that do not match any message entries.

deny

Specifies to deny packets that do not match any message entries.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action {**dnat** | **forward**} [**ip-address** *ip-address*]

no action

Context

[Tree] (config>service>nat>nat-classifier>entry action)

Full Context

configure service nat nat-classifier entry action

Description

This command specifies the action to take for packets that match this nat-classifier entry. The **no** form of the command removes the specified action statement. By default, the entry is ignored (skipped). Consequently, the action from another matching entry is applied. If there are no other matching entries found, the default-action is applied.

Default

no action.

Parameters

dnat

Performs the DNAT function. The destination IP address of the packet traversing the router in the direction from inside to outside is replaced by the configured IP address. Destination port is not translated. In the opposite direction (from outside to inside), the source address in the returning packet is restored to the original value.

forward

Specifies that the forward action ensures that the packet is transparently passed through the nat-classifier.

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ip-address ***ip-address***

Specifies that the destination IP address replaces the original IP address in the packet traveling from inside to outside.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

[**no**] **action** [**secondary**]

Context

[Tree] (config>filter>mac-filter>entry action)

[Tree] (config>filter>ipv6-filter>entry action)

[Tree] (config>filter>ip-filter>entry action)

Full Context

configure filter mac-filter entry action

configure filter ipv6-filter entry action

configure filter ip-filter entry action

Description

Commands in this context configure a primary (no option specified) or secondary (**secondary** option specified) action to be performed on packets matching this filter entry. An ACL filter entry remains inactive (is not programmed in hardware) until a specific action is configured for that entry.

A primary action supports any filter entry action, a secondary action is used for redundancy and defines a redundant Layer 3 PBR action for an Layer 3 PBR primary action or a redundant L2 PBF action for a Layer 2 PBF primary action.

The **no** form of this command removes the specific action configured in the context of the action command. The primary action cannot be removed if a secondary action exists.

Default

no action

Parameters

secondary

Specifies a secondary action to be performed on packets matching this filter entry. A secondary action can only be configured if a primary action is configured.

Platforms

All

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action

Syntax

action [**fc** *fc-name*] [**priority** {**high** | **low**}] [**policer** *policer-id*]

no action

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry action)

[Tree] (config>qos>sap-ingress>mac-criteria>entry action)

[Tree] (config>qos>sap-ingress>ip-criteria>entry action)

Full Context

configure qos sap-ingress ipv6-criteria entry action

configure qos sap-ingress mac-criteria entry action

configure qos sap-ingress ip-criteria entry action

Description

This mandatory command associates the forwarding class or enqueuing priority with specific IP, IPv6, or MAC criteria entry ID. The action command supports setting the forwarding class parameter to a subclass. Packets that meet all match criteria within the entry have their forwarding class and enqueuing priority overridden based on the parameters included in the **action** parameters. When the forwarding class is not specified in the **action** command syntax, a matching packet preserves (or inherits) the existing forwarding class derived from earlier matches in the classification hierarchy. When the enqueuing priority is not specified in the action, a matching packet preserves (or inherits) the existing enqueuing priority derived from earlier matches in the classification hierarchy.

When a policer is specified in the action, a matching packet is directed to the configured policer instead of the policer/queue assigned to the forwarding class of the packet.

The **action** command must be executed for the match criteria to be added to the active list of entries. If the entry is designed to prevent more explicit (higher entry ID) entries from matching certain packets, the **fc** *fc-name* and **match** *protocol* fields should not be defined when executing action. This allows packets matching the entry to preserve the forwarding class and enqueuing priority derived from previous classification rules.

Each time action is executed on a specific entry ID, the previously entered values for **fc** *fc-name* and **priority** are overridden with the newly defined parameters or inherit previous matches when a parameter is omitted.

The **no** form of this command removes the entry from the active entry list. Removing an entry on a policy immediately removes the entry from all SAPs using the policy. All previous parameters for the action is lost.

If no action is specified, the action specified by the **default-fc** command will be used.

Parameters

fc *fc-name*

The value given for **fc** *fc-name* must be one of the predefined forwarding classes in the system. Specifying the **fc** *fc-name* is required. When a packet matches the rule, the

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forwarding class is only overridden when the **fc** *fc-name* parameter is defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

The *subclass-name* parameter is optional and used with the *fc-name* parameter to define a pre-existing subclass. The *fc-name* and *subclass-name* parameters must be separated by a period (.). If *subclass-name* does not exist in the context of *fc-name*, an error will occur. If *subclass-name* is removed using the **no fc** *fc-name.subclass-name* **force** command, the **default-fc** command will automatically drop the *subclass-name* and only use *fc-name* (the parent forwarding class for the subclass) as the forwarding class.

Values

fc: *class*[.*subclass*]

class: be, l2, af, l1, h2, ef, h1, nc

subclass: 29 characters max

Default Inherit (When **fc** *fc-name* is not defined, the rule preserves the previous forwarding class of the packet.)

priority

The **priority** parameter overrides the default enqueuing priority for all packets received on a SAP using this policy that match this rule. Specifying the priority (**high** or **low**) is optional. When a packet matches the rule, the enqueuing priority is only overridden when the priority parameter is defined on the rule. If the packet matches and priority is not explicitly defined in the rule, the enqueuing priority is inherited based on previous rule matches.

Default Inherit (When the **priority** (**high** or **low**) is not defined, the rule preserves the previous enqueuing priority of the packet)

high

The **high** parameter is used in conjunction with the **priority** parameter. Setting the **priority** enqueuing parameter to **high** for a packet increases the likelihood to enqueue the packet when the queue is congested. The enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the queue, the significance of the enqueuing priority is lost.

low

The **low** parameter is used in conjunction with the **priority** parameter. Setting the **priority** enqueuing parameter to **low** for a packet decreases the likelihood to enqueue the packet when the queue is congested. The enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Default Inherit

policer-id

A valid policer-id must be specified. The parameter policer-id references a policer-id that has already been created within the sap-ingress QoS policy.

Values 1 to 63

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Platforms

All

action

Syntax

action [**fc** *fc-name*] [**profile** {**in** | **out** | **exceed** | **inplus**}] [**policer** *policer-id*] [**port-redirect-group-queue**] [**queue** *queue-id*] [**use-fc-mapped-queue**]

no action

Context

[Tree] (config>qos>sap-egress>ip-criteria>entry action)

[Tree] (config>qos>sap-egress>ipv6-criteria>entry action)

Full Context

configure qos sap-egress ip-criteria entry action

configure qos sap-egress ipv6-criteria entry action

Description

This command defines the reclassification actions that should be performed on any packet matching the defined IP flow criteria within the entries match node. When defined under the **ip-criteria** context, the reclassification only applies to IPv4 packets. When defined under the **ipv6-criteria** context, the reclassification only applies to IPv6 packets.

If an egress packet on the SAP matches the specified IP flow entry, the forwarding class, or profile or egress queue accounting behavior may be overridden. By default, the forwarding class and profile of the packet is derived from ingress classification and profiling functions. Matching an IP flow reclassification entry will override all IP precedence- or DSCP-based reclassification rule actions when an explicit reclassification action is defined for the entry.

It is also possible to redirect the egress packet to a configured policer. The forwarding class or profile can also be optionally specified.

When an IP flow entry is first created, the entry will have no explicit behavior defined as the reclassification actions to be performed. In **show** and **info** commands, the entry will display no action as the specified reclassification action for the entry. When the entry is defined with no action, the entry will not be populated in the IP flow reclassification list used to evaluate packets egressing a SAP with the SAP egress policy defined. An IP flow reclassification entry is only added to the evaluation list when the action command for the entry is executed either with explicit reclassification entries or without any actions defined. Specifying action without any trailing reclassification actions allows packets matching the entry to exit the evaluation list without matching entries lower in the list. Executing no action on an entry removes the entry from the evaluation list and also removes any explicitly defined reclassification actions associated with the entry.

The **fc** keyword is optional. When specified, the egress classification rule will overwrite the forwarding class derived from ingress. The new forwarding class is used for egress remarking and queue mapping decisions.

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The **profile** keyword is optional. When specified, the egress classification rule will overwrite the profile of the packet derived from ingress. The new profile value is used for egress remarking and queue congestion behavior.

The **policer** keyword is optional. When specified, the egress packet will be redirected to the configured policer. Optional parameters allow the user to control how the forwarded policed traffic exits the egress port. By default, the policed forwarded traffic will use a queue in the egress port's policer-output-queue queue group; alternatively, a queue in an instance of a user-configured queue group can be used or a local SAP egress queue.

The **no** form of this command removes all reclassification actions from the IP flow reclassification entry and also removes the entry from the evaluation list. An entry removed from the evaluation list will not be matched to any packets egress a SAP associated with the SAP egress QoS policy.

Parameters

fc *fc-name*

The fc reclassification action is optional. When specified, packets matching the IP flow reclassification entry will be explicitly reclassified to the forwarding class specified as fc-name regardless of the ingress classification decision. The fc-name defined must be one of the eight forwarding classes supported by the system. To remove the forwarding class reclassification action for the IP flow entry, the action command must be re-executed without the fc reclassification action defined.

Values

fc	class	
	class	be, l2, af, l1, h2, ef, h1, nc

profile {in | out | exceed | inplus}

The profile reclassification action is optional. When specified, packets matching the IP flow reclassification entry will be explicitly reclassified to the configured profile regardless of the ingress profiling decision. To remove the profile reclassification action for the IP flow reclassification entry, the action command must be re-executed without the profile reclassification action defined.

in

The **in** parameter is mutually exclusive to the **exceed**, **inplus**, and **out** parameters following the profile reclassification action keyword. **In, exceed**, **inplus**, or **out** must be specified when the profile keyword is present. When **in** is specified, any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out

The **out** parameter is mutually exclusive to the **exceed**, **inplus**, and **in** parameters following the profile reclassification action keyword. **In, exceed**, **inplus**, or **out** must be specified when the profile keyword is present. When **out** is specified, any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

exceed

The **exceed** parameter is mutually exclusive to the **out**, **inplus**, and **in** parameters following the profile reclassification action keyword. **In, exceed**, **inplus**, or **out** must be specified when the profile keyword is present. When **exceed** is specified, any packets

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matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus

The **inplus** parameter is mutually exclusive to the **out**, **exceed**, and **in** parameters following the profile reclassification action keyword. **In, exceed**, **inplus**, or **out** must be specified when the profile keyword is present. When **inplus** is specified, any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

policer *policer-id*

When the action policer command is executed, a valid policer ID must be specified. The parameter policer ID references a policer ID that has already been created within the SAP egress QoS policy.

Values 1 to 63

port-redirect-group-queue queue *queue-id*

Used to override the forwarding class default egress queue destination to an egress port queue group. The specific egress queue group instance to use is specified at the time the QoS policy is applied to the SAP. Therefore, this parameter is only valid if SAP-based redirection is required. The queue parameter overrides the policer's default egress queue destination to a specified queue-id in the egress port queue group instance.

Values 1 to 8

queue *queue-id*

This parameter overrides the policer's default egress queue destination to a specified local SAP queue of that queue-id. A queue of ID queue-id must exist within the egress QoS policy.

Values 1 to 8

use-fc-mapped-queue

This parameter overrides the policer's default egress queue destination to the queue mapped by the traffic's forwarding class.

Platforms

All

action

Syntax

action [**fc** *fc-name* **profile** {**in** | **out** | **exceed** | **inplus**}] [**port-redirect-group** {**queue** *queue-id* | **policer** *policer-id* [**queue** *queue-id*]}]

Context

[Tree] (config>qos>network>egress>ip-criteria>entry action)

[Tree] (config>qos>network>egress>ipv6-criteria>entry action)

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Full Context

configure qos network egress ip-criteria entry action

configure qos network egress ipv6-criteria entry action

Description

This command defines the reclassification actions that are performed on any packet matching the defined IP flow criteria within the entry's matched node. When defined under the **ip-criteria** context, the reclassification only applies to IPv4 packets. When defined under the **ipv6-criteria** context, the reclassification only applies to IPv6 packets.

If an egress packet matches the specified IP flow entry, the forwarding class and profile may be overridden. By default, the forwarding class and profile of the packet are derived from ingress classification and profiling functions. Matching an IP flow reclassification entry will override all IP precedence-based or DSCP-based reclassification rule actions when an explicit reclassification action is defined for the entry.

When an IP flow entry is first created, the entry will have no explicit behavior defined as the reclassification actions to be performed. When the entry is defined with no action, the entry will not be populated in the IP flow reclassification list used to evaluate egress packets. An IP flow reclassification entry is only added to the evaluation list when the action command for the entry is executed.

The **fc** and **profile** keywords are optional. When specified, the egress classification rule will overwrite the forwarding class and profile derived from ingress. The new forwarding class and profile are used for egress remarking, queue mapping decisions, and queue congestion behavior.

The **port-redirect-group** keyword is optional. When specified, the egress packet will be redirected to the configured queue or policer in the specified egress network queue group. By default, the policed forwarded traffic will use the regular network queue to which the packet's forwarding class is mapped. Alternatively, a queue in the network egress queue group instance can be used for post-policed traffic by specifying a queue after the **policer** parameter. The **port-redirect-group** keyword requires that the network egress queue group instance is specified when this network QoS policy is applied to a network interface. The **port-redirect-group** is not supported on a 7750 SR-a4/a8.

The **no** form of this command removes all reclassification actions from the IP flow reclassification entry and also removes the entry from the evaluation list. An entry removed from the evaluation list will not be matched to any egress packets.

Default

no action

Parameters

fc *fc-name*

The fc reclassification action is optional. When specified, packets matching the IP flow reclassification entry will be explicitly reclassified to the forwarding class specified as *fc-name* regardless of the ingress classification decision. The *fc-name* defined must be one of the eight forwarding classes supported by the system. The profile reclassification action is mandatory when an **fc** is specified. To remove the forwarding class reclassification action for the IP flow entry, the action command must be re-executed without the fc reclassification action defined.

Values be, l2, af, l1, h2, ef, h1, nc

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profile {in | out | exceed | inplus}

The profile reclassification action is mandatory when an fc is specified, otherwise it is optional. When specified, packets matching the IP flow reclassification entry will be explicitly reclassified to the configured profile regardless of the ingress profiling decision. **In**, **exceed**, **inplus**, or **out** must be specified when the profile keyword is present. To remove the profile reclassification action for the IP flow reclassification entry, the action command must be re-executed without the profile reclassification action defined.

in

When specified, any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out

When specified, any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

exceed

When specified, any packets matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus

When specified, any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

queue *queue-id*

Used to override the forwarding class default egress queue destination to the specified network egress queue group instance queue. The specific egress queue group instance to use is specified at the time the QoS policy is applied to the network interface.

Values 1 to 8

policer *policer-id*

Specifies a valid policer ID that has already been created within the network egress queue group instance.

Values 1 to 16

queue *queue-id*

The queue following the configured policer overrides the default policed traffic egress queue destination to a specified queue in the network egress queue group instance.

Values 1 to 8

Platforms

All

action

Syntax

action fc *fc-name* **profile** {**in** | **out**}

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no action

Context

[Tree] (config>qos>network>ingress>ipv6-criteria>entry action)

[Tree] (config>qos>network>ingress>ip-criteria>entry action)

Full Context

configure qos network ingress ipv6-criteria entry action

configure qos network ingress ip-criteria entry action

Description

This command defines the reclassification actions that are performed on any packet matching the defined IP flow criteria within the entry's matched node. When defined under the **ip-criteria** context, the reclassification only applies to IPv4 packets. When defined under the **ipv6-criteria** context, the reclassification only applies to IPv6 packets.

If an ingress packet matches the specified IP flow entry, the forwarding class and profile may be overridden. By default, the forwarding class and profile of the packet are derived from ingress classification and profiling functions. Matching an IP flow reclassification entry will override all non-criteria reclassification rule actions when an explicit reclassification action is defined for the entry.

When an IP flow entry is first created, the entry will have no explicit behavior defined as the reclassification actions to be performed. When the entry is defined with no action, the entry will not be populated in the IP flow reclassification list used to evaluate ingress packets. An IP flow reclassification entry is only added to the evaluation list when the action command for the entry is executed.

The **no** form of this command removes all reclassification actions from the IP flow reclassification entry and also removes the entry from the evaluation list. An entry removed from the evaluation list will not be matched to any ingress packets.

Default

no action

Parameters

fc *fc-name*

The fc reclassification action is optional. When specified, packets matching the IP flow reclassification entry will be explicitly reclassified to the forwarding class specified as *fc-name* regardless of the ingress classification decision. The *fc-name* defined must be one of the eight forwarding classes supported by the system. The profile reclassification action is mandatory when an **fc** is specified. To remove the forwarding class reclassification action for the IP flow entry, the action command must be re-executed without the fc reclassification action defined.

Values be, l2, af, l1, h2, ef, h1, nc

profile {in | out}

The profile reclassification action is mandatory. Packets matching the IP flow reclassification entry will be explicitly reclassified to the configured profile regardless of other ingress profiling decisions. **In** or **out** must be specified when the profile keyword is

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present. To remove the profile reclassification action for the IP flow reclassification entry, the action command must be re-executed without the profile reclassification action defined.

in

When specified, any packets matching the reclassification rule will be treated as in-profile by the ingress forwarding plane.

out

When specified, any packets matching the reclassification rule will be treated as out-of-profile by the ingress forwarding plane.

Platforms

All

action

Syntax

action {**replace** | **drop** | **keep**}

no action

Context

[Tree] (config>router>if>dhcp>option action)

Full Context

configure router interface dhcp option action

Description

This command configures the processing required when the 7450 ESS, 7750 SR, 7950 XRS, and VSR router receives a DHCP request that already has a Relay Agent Information Option (Option 82) field in the packet.

The **no** form of this command returns the system to the default value.

Default

Per RFC 3046, *DHCP Relay Agent Information Option*, section 2.1.1, *Reforwarded DHCP requests*, the default is to keep the existing information intact. The exception to this is if the GI address of the received packet is the same as the ingress address on the router. In that case the packet is dropped and an error is logged.

Parameters

replace

In the upstream direction (from the user), the existing Option 82 field is replaced with the Option 82 field from the router. In the downstream direction (toward the user) the Option 82 field is stripped (in accordance with RFC 3046).

drop

The packet is dropped, and an error is logged.

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keep

The existing information is kept in the packet and the router does not add any additional information. In the downstream direction the Option 82 field is not stripped and is sent on toward the client.

The behavior is slightly different in case of Vendor Specific Options (VSOs). When the keep parameter is specified, the router will insert his own VSO into the Option 82 field. This will only be done when the incoming message has already an Option 82 field.

If no Option 82 field is present, the router will not create the Option 82 field. In this in that case, no VSO will be added to the message.

Platforms

All

action

Syntax

action {*action*}

no action

Context

[Tree] (config>serv>mrp>mrp-policy>entry action)

Full Context

configure service mrp mrp-policy entry action

Description

This command specifies the action to be applied to the MMRP attributes (Group B-MACs) whose ISIDs match the specified ISID criteria in the related entry.

The *action* keyword must be entered for the entry to be active. Any filter entry without the action keyword will be considered incomplete and will be inactive. If neither keyword is specified (no action is used), this is considered a No-Op policy entry used to explicitly set an entry inactive without modifying match criteria or removing the entry itself. Multiple action statements entered will overwrite previous actions parameters when defined. To remove a parameter, use the **no** form of the action command with the specified parameter.

The **no** form of the command removes the specified action statement. The entry is considered incomplete and hence rendered inactive without the action keyword.

Default

no action

Parameters

action

Specifies the action for the MRP policy entry.

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block

Specifies that the matching MMRP attributes will not be declared or registered on this SAP or SDP.

allow

Specifies that the matching MMRP attributes will be declared and registered on this SAP or SDP.

end-station

Specifies that an end-station emulation is present on this SAP or SDP for the MMRP attributes related with matching ISIDs. Equivalent action with the block keyword on that SAP or SDP. The attributes associated with the matching ISIDs are not declared or registered on the SAP or SDP. The matching attributes on the other hand are mapped as static MMRP entries on the SAP or SDP which implicitly instantiates in the data plane as a MFIB entry associated with that SAP or SDP for the related Group B-MAC. For the other SAPs/SDPs in the BVPLS with MRP enabled (no shutdown). This means that the permanent declaration of the matching attributes, as in the case when the IVPLS instances associated with these ISIDs were locally configured.

If an MRP policy has end-station action in one entry, the only default action allowed in the policy is block. Also no other actions are allowed to be configured in other entry configured under the policy.

This policy will apply even if the MRP is shutdown on the local SAP or SDP or for the whole BVPLS to allow for manual creation of MMRP entries in the data plane. Specifically the following rules apply:

- If **service vpls mrp shutdown** is executed, and the MMRP on all SAP or SDPs is shutdown, then MRP PDUs pass-through transparently.
- If **service vpls mrp no shutdown**, and the **endstation** statement (even with no ISID values in the related match statement) is used in an MRP policy applied to SAP or SDP, then no declaration is sent on SAP or SDP. The provisioned ISIDs in the match statement are registered on that SAP or SDP and are propagated on all the other MRP enabled endpoints.

Platforms

All

action

Syntax

action {**permit** | **deny** | **deny-host-unreachable**}

no action

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry action)

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry action)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry action)

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Full Context

configure system security management-access-filter ip-filter entry action

configure system security management-access-filter mac-filter entry action

configure system security management-access-filter ipv6-filter entry action

Description

This command creates the action associated with the management access filter match criteria entry.

The **action** keyword is required. If no **action** is defined, the filter is ignored. If multiple action statements are configured, the last one overwrites previous configured actions.

If the packet does not meet any of the match criteria the configured **default action** is applied.

Parameters

permit

Specifies that packets matching the configured criteria will be permitted.

deny

Specifies that packets matching the configured selection criteria will be denied and that a ICMP host unreachable message will not be issued.

deny-host-unreachable

Specifies that packets matching the configured selection criteria will be denied and that a host unreachable message will not be issued.

The **deny-host-unreachable** parameter only applies to ip-filter and ipv6-filter.

Platforms

All

action

Syntax

action [**accept** | **drop** | **queue** *queue-id*]

no action

Context

[Tree] (config>sys>security>cpm-filter>ipv6-filter>entry action)

[Tree] (config>sys>security>cpm-filter>mac-filter>entry action)

[Tree] (config>sys>security>cpm-filter>ip-filter>entry action)

Full Context

configure system security cpm-filter ipv6-filter entry action

configure system security cpm-filter mac-filter entry action

configure system security cpm-filter ip-filter entry action

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Description

This command specifies the action to take for packets that match this filter entry.

Default

action drop

Parameters

accept

Specifies packets matching the entry criteria will be forwarded.

drop

Specifies packets matching the entry criteria will be dropped.

queue *queue-id*

Specifies packets matching the entry criteria will be forward to the specified CPM hardware queue.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

action

Syntax

action {**permit** | **deny** | **read-only** | **none**}

Context

[Tree] (config>system>security>profile>entry action)

Full Context

configure system security profile entry action

Description

This command configures the action associated with the profile entry.

Parameters

permit

Specifies that commands matching the entry command match criteria is permitted.

deny

Specifies that commands matching the entry command match criteria are to be denied.

read-only

Specifies the commands matching the entry command match criteria is available with read-only access.

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none

Specifies that commands matching the entry command match criteria have no action and are evaluated in the next entry.

Platforms

All

action

Syntax

action {**accept** | **reject**}

Context

[Tree] (config>ipsec>client-db>client action)

Full Context

configure ipsec client-db client action

Description

This command configures the action for the IPsec client.

Default

action accept

Parameters

accept

Keyword to specify the IPsec client is accepted.

reject

Keyword to specify the IPsec client is rejected.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

action

Syntax

action {**shcv-check** | **terminate**}

no action

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy action)

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Full Context

configure subscriber-mgmt idle-timeout-policy action

Description

This command configures the action that is triggered after the idle timeout is reached. The action is performed for all hosts and sessions associated with the SLA profile instance.

The **no** form of this command reverts to the default value.

Default

action terminate

Parameters

shcv-check

Keyword used to verify host connectivity and terminate unresponsive subscriber sessions. For responsive subscriber sessions, the idle timeout period is reset. Applies to IPoE only. When selected for PPPoE, the triggered action corresponds to terminate.

terminate

Keyword used to delete the subscriber session from the system. For PPP sessions, a terminate request is sent. For IPoE sessions, a DHCP release to the server is sent.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.72 action-list

action-list

Syntax

action-list

Context

[Tree] (config>log>event-handling>handler action-list)

Full Context

configure log event-handling handler action-list

Description

Commands in this context configure the EHS handler action list.

Platforms

All

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5.73 action-on-fail

action-on-fail

Syntax

action-on-fail {**drop** | **passthrough**}

no action-on-fail

Context

[Tree] (config>python>py-script action-on-fail)

Full Context

configure python python-script action-on-fail

Description

This command specifies the action taken when Python fails to modify the given message.

The **no** form of this command reverts to the default.

Default

action-on-fail drop

Parameters

drop

Specifies that the packet will be dropped.

passthrough

Specifies that the packet that is sent out without any modifications.

Platforms

All

action-on-fail

Syntax

action-on-fail {**drop** | **passthrough**}

no action-on-fail

Context

[Tree] (config>aaa>radius-scr-plcy action-on-fail)

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Full Context

configure aaa radius-script-policy action-on-fail

Description

specifies the action taken when Python fails to modify the RADIUS message.

The **no** form of this command reverts to the default.

Default

action-on-fail drop

Parameters

drop

Specifies that the packet will be dropped.

passthrough

Specifies that the packet will be sent out without any modifications.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.74 activate

activate

Syntax

activate [*file-url*] [**now**]

Context

[Tree] (admin>system>license activate)

Full Context

admin system license activate

Description

This command performs an activation on the license file pointed to by the command line argument. The file is first validated as described in the **admin>system>license>validate** command and upon success, replaces the existing license attributes in the system with the information in the new license file.

The license attributes that are active on a system can be viewed with the **show>licensing>entitlements** command.

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Note:
If the CLM tool is being used for license management, it shall perform the validation and activation and there is no need to enter these commands manually.

Parameters

file-url

Specifies the file URL location to read the license file.

Values local-url, remote-url

Note:
IPv6 addresses apply only to 7750 SR and 7950 XRS.

now

If the **now** keyword is not present, the operator is prompted to confirm the activation. With the **now** keyword the license file is activated without the additional prompt.

Platforms

All

activate

Syntax

activate card *cpm-slot* **serial-number** *cpm-serial-number* **confirmation-code** *code*

Context

[Tree] (admin>system>security>secure-boot activate)

Full Context

admin system security secure-boot activate

Description

This command activates Secure Boot to enforce digital signature verification of the software on every boot.

After Secure Boot is activated on a CPM, the capability is permanently enabled and cannot be disabled.

Parameters

cpm-slot

Specifies the CPM slot.

Values A,B

cpm-serial-number

Specifies the CPM serial number, up to 256 characters.

code

Specifies the secure boot confirmation code, up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.75 activate-entry-tag

activate-entry-tag

Syntax

activate-entry-tag *activate-entry-tag*

no activate-entry-tag

Context

[Tree] (config>service>epipe>sap>ingress>criteria-overrides>ip-criteria activate-entry-tag)

[Tree] (config>service>cpipe>sap>ingress>criteria-overrides>ipv6-criteria activate-entry-tag)

[Tree] (config>service>vprn>if>sap>ingress>criteria-overrides>ip-criteria activate-entry-tag)

[Tree] (config>service>epipe>sap>ingress>criteria-overrides>ipv6-criteria activate-entry-tag)

[Tree] (config>service>ies>if>sap>ingress>criteria-overrides>ip-criteria activate-entry-tag)

[Tree] (config>service>cpipe>sap>ingress>criteria-overrides>ip-criteria activate-entry-tag)

[Tree] (config>service>ipipe>sap>ingress>criteria-overrides>ip-criteria activate-entry-tag)

[Tree] (config>service>ies>if>sap>ingress>criteria-overrides>ipv6-criteria activate-entry-tag)

[Tree] (config>service>vprn>if>sap>ingress>criteria-overrides>ipv6-criteria activate-entry-tag)

[Tree] (config>service>vpls>sap>ingress>criteria-overrides>ip-criteria activate-entry-tag)

[Tree] (config>service>ipipe>sap>ingress>criteria-overrides>ipv6-criteria activate-entry-tag)

[Tree] (config>service>vpls>sap>ingress>criteria-overrides>ipv6-criteria activate-entry-tag)

Full Context

configure service epipe sap ingress criteria-overrides ip-criteria activate-entry-tag

configure service cpipe sap ingress criteria-overrides ipv6-criteria activate-entry-tag

configure service vprn interface sap ingress criteria-overrides ip-criteria activate-entry-tag

configure service epipe sap ingress criteria-overrides ipv6-criteria activate-entry-tag

configure service ies interface sap ingress criteria-overrides ip-criteria activate-entry-tag

configure service cpipe sap ingress criteria-overrides ip-criteria activate-entry-tag

configure service ipipe sap ingress criteria-overrides ip-criteria activate-entry-tag

configure service ies interface sap ingress criteria-overrides ipv6-criteria activate-entry-tag

configure service vprn interface sap ingress criteria-overrides ipv6-criteria activate-entry-tag

configure service vpls sap ingress criteria-overrides ip-criteria activate-entry-tag

configure service ipipe sap ingress criteria-overrides ipv6-criteria activate-entry-tag

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configure service vpls sap ingress criteria-overrides ipv6-criteria activate-entry-tag

Description

This command activates the entry tag.

The **no** form of this command removes any existing entry tags from the SAP.

Parameters

activate-entry-tag

Specifies the tag identifier value for activation.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.76 active-cpm-protocols

active-cpm-protocols

Syntax

[**no**] **active-cpm-protocols**

Context

[Tree] (config>service>vprn>if active-cpm-protocols)

Full Context

configure service vprn interface active-cpm-protocols

Description

This command enables CPM protocols on this interface.

Platforms

All

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5.77 active-flow-timeout

active-flow-timeout

Syntax

active-flow-timeout *seconds*

no active-flow-timeout

Context

[Tree] (config>cflowd active-flow-timeout)

Full Context

configure cflowd active-flow-timeout

Description

This command configures the maximum amount of time before an active flow is aged out of the active cache. If an individual flow is active for the specified amount of time, the flow is aged out and a new flow is created on the next packet sampled for that flow.

Existing flows do not inherit the new **active-flow-timeout** value if this parameter is changed while **cflowd** is active. The **active-flow-timeout** value for a flow is set when the flow is first created in the active cache table and does not change dynamically.

The **no** form of this command resets the timeout back to the default value.

Default

active-flow-timeout 1800

Parameters

seconds

Specifies the value, in seconds, before an active flow is exported.

Values 30 to 36000

Platforms

All

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5.78 active-hold-delay

active-hold-delay

Syntax

active-hold-delay *active-hold-delay*

no active-hold-delay

Context

[Tree] (config>service>ipipe>endpoint active-hold-delay)

[Tree] (config>service>epipe>endpoint active-hold-delay)

[Tree] (config>service>cpipe>endpoint active-hold-delay)

Full Context

configure service ipipe endpoint active-hold-delay

configure service epipe endpoint active-hold-delay

configure service cpipe endpoint active-hold-delay

Description

This command specifies that the node will delay sending the change in the T-LDP status bits for the VLL endpoint when the MC-LAG transitions the LAG subgroup which hosts the SAP for this VLL endpoint from **active** to **standby** or when any object in the endpoint. For example, SAP, ICB, or regular spoke SDP, transitions from up to down operational state.

By default, when the MC-LAG transitioned the LAG subgroup which hosts the SAP for this VLL endpoint from **active** to **standby**, the node sends immediately new T-LDP status bits indicating the new value of "standby" over the spoke SDPs which are on the mate-endpoint of the VLL. The same applies when any object in the endpoint changes an operational state from up to down.

There is no delay applied to the VLL endpoint status bit advertisement when the MC-LAG transitions the LAG subgroup which hosts the SAP from **standby** to **active** or when any object in the endpoint transitions to an operationally up state.

Default

active-hold-delay 0

Parameters

active-hold-delay

Specifies the active hold delay in 100s of milliseconds.

A value of zero means that when the MC-LAG transitioned the LAG subgroup which hosts the SAP for this VLL endpoint from **active** to **standby,** the node sends immediately new T-LDP status bits indicating the new value of **standby** over the spoke SDPs which are on the

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mate-endpoint of the VLL. The same applies when any object in the endpoint changes an operational state from up to down.

Values 0 to 60

Platforms

All

- configure service epipe endpoint active-hold-delay
- configure service ipipe endpoint active-hold-delay

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe endpoint active-hold-delay

5.79 active-instance

active-instance

Syntax

active-instance *instance-id*

no active-instance

Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy>candidate-path active-instance)

Full Context

configure router p2mp-sr-tree p2mp-policy candidate-path active-instance

Description

This command configures the active instance of a P2MP candidate path for the P2MP SR tree as a primary or a secondary instance. Before configuring the active instance ID, the candidate path instance must be configured using the **configure router p2mp-sr-tree p2mp-policy candidate-path path-instances index instance** command.

The **no** form of this command removes the active instance.

Default

no active-instance

Parameters

instance-id

Specifies the active instance as primary (1) or secondary (2).

Values 1, 2

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Platforms

All

5.80 active-iom-limit

active-iom-limit

Syntax

active-iom-limit *number*

no active-iom-limit

Context

[Tree] (config>isa>wlan-gw-group active-iom-limit)

Full Context

configure isa wlan-gw-group active-iom-limit

Description

This command specifies the number of WLAN-GW IOMs used as active IOMs from the total number of configured WLAN-GW IOMs. If there are more configured IOM than active-iom-limit, then the remaining number of IOMs is designated as backup(s).

The **no** form of this command removes the number from the configuration.

Parameters

number

Specifies the number of IOMs in this WLAN Gateway ISA group that are intended for active use.

Values 1 to 3

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.81 active-lease-time

active-lease-time

Syntax

active-lease-time [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

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no active-lease-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp active-lease-time)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp active-lease-time)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp active-lease-time

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp active-lease-time

Description

This command configures the lease time for an authenticated user.

Default

active-lease-time min 10

Parameters

hours

Specifies the number of active lease time hours.

Values 1 to 1

minutes

Specifies the number of active lease time minutes.

Values 5 to 59

seconds

Specifies the number of active lease time seconds.

Values 1 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.82 active-mda-limit

active-mda-limit

Syntax

active-mda-limit *number*

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no active-mda-limit

Context

[Tree] (config>isa>wlan-gw-group active-mda-limit)

Full Context

configure isa wlan-gw-group active-mda-limit

Description

This command specifies how many ISAs may be in active use by the WLAN-GW group at the same time. If the maximum number of active ISAs is reached and more ISAs are added to the group, the new ISAs are considered to be in standby mode.

The **no** form of this command removes the limit on the maximum number of active ISAs.

Parameters

number

Specifies the number of WLAN-GW ISAs intended for active use.

Values 1 to 14

Platforms

7750 SR, 7750 SR-e, 7750 SR-s

active-mda-limit

Syntax

active-mda-limit *number*

no active-mda-limit

Context

[Tree] (config>isa>nat-group active-mda-limit)

Full Context

configure isa nat-group active-mda-limit

Description

This command configures the number of active ESA-VM or ISA members in a NAT group.

The system automatically selects which ESA-VMs or ISAs are active. In active/standby (A/S) redundancy mode, the correlation between ESA-VM or ISA members is direct, meaning each ESA-VM or ISA equates to one member. In active/active (A/A) redundancy mode, an individual ESA-VM or ISA may be associated with multiple members.

For A/S redundancy, any surplus ESA-VMs or ISAs beyond the configured active threshold automatically transition to standby. These standby units remain idle until an active unit fails, at which point a standby

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unit takes over, handling traffic from only one failed active unit. This setup allows for the configuration of multiple standby units to provide resilience against several concurrent failures.

In A/A redundancy, the combination of this command and the **failed-mda-limit** command guides the distribution of resources among ESA-VMs or ISAs, essentially defining how the members are structured.

In both A/S and A/A modes, the system strives to maintain the configured number of active members as outlined by the active MDA limit, drawing from the pool of available spare resources to compensate for any failures. If the actual number of active members drops below this limit because of a lack of available spares, the NAT group status changes to degraded. In this state, traffic intended for the missing ESA-VM or ISA members (up to the active MDA limit) is blackholed. In Layer 2-aware NAT this condition can be circumvented where traffic can bypass NAT altogether and be directly routed within the internal network that may have an alternate path to a backup NAT system. For additional details, see "L2-Aware bypass" in the *7450 ESS, 7750 SR, and VSR Multiservice Integrated Service Adapter and Extended Services Appliance Guide.*

The **no** form of this command removes the active MDA limit configuration.

Default

no active-mda-limit

Parameters

number

Specifies the active MDA limit.

Values 1 to 28

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.83 active-mda-number

active-mda-number

Syntax

active-mda-number *number*

no active-mda-number

Context

[Tree] (config>isa>tunnel-grp active-mda-number)

Full Context

configure isa tunnel-group active-mda-number

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Description

This command specifies the number of active MS-ISA within all configured MS-ISA in the tunnel-group with multi-active enabled. IPsec traffic will be load balanced across all active MS-ISAs. If the number of configured MS-ISA is greater than the active-mda-number then the delta number of MS-ISA will be backup.

Default

active-mda-number 1

Parameters

number

Specifies the number of active MDAs.

Values 1 to 16

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.84 active-outbound-sa

active-outbound-sa

Syntax

active-outbound-sa *spi*

no active-outbound-sa

Context

[Tree] (config>grp-encryp>encryp-keygrp active-outbound-sa)

Full Context

configure group-encryption encryption-keygroup active-outbound-sa

Description

This command specifies the Security Association, referenced by the Security Parameter Index (SPI), to use when performing encryption and authentication on NGE packets egressing the node for all services configured using this key group.

The **no** form of the command returns the parameter to its default value and is the same as removing this key group from all outbound direction key groups in all services configured with this key group (that is, all packets of services using this key group will egress the node in without being encrypted).

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Parameters

spi

Specifies the SPI to use for packets of services using this key group when egressing the node.

Values 1 to 127

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.85 active-preferred-lifetime

active-preferred-lifetime

Syntax

active-preferred-lifetime [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no active-preferred-lifetime

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>slaac active-preferred-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>slaac active-preferred-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 active-preferred-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 active-preferred-lifetime)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac active-preferred-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac active-preferred-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 active-preferred-lifetime

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 active-preferred-lifetime

Description

This command specifies the signaled preferred lifetime in DHCPv6 or SLAAC after full authentication. This is only applicable to DSM.

The **no** form of this command reverts to the default.

Default

active-preferred-lifetime min 10

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Parameters

hours

Specifies the number of active preferred lifetime hours.

Values 1 to 1

minutes

Specifies the number of active preferred lifetime minutes.

Values 5 to 59

seconds

Specifies the number of active preferred lifetime seconds.

Values 1 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.86 active-psk

active-psk

Syntax

active-psk *active-pre-shared-key*

no active-psk

Context

[Tree] (config>macsec>conn-assoc>static-cak active-psk)

Full Context

configure macsec connectivity-association static-cak active-psk

Description

This command specifies the active transmitting pre-shared-key. If two pre-shared-keys are configured, the arriving MACsec MKA can be decrypted via CAKs of both pre-shared keys; however, only the active-psk will be used for TX encryption of MKA PDUs.

Default

active-psk 1

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Parameters

active-pre-shared-key

Specifies the value of the pre-shared-key.

Values 1 or 2

Platforms

All

5.87 active-source-limit

active-source-limit

Syntax

active-source-limit *number*

no active-source-limit

Context

[Tree] (config>service>vprn>msdp>peer active-source-limit)

[Tree] (config>service>vprn>msdp>source active-source-limit)

[Tree] (config>service>vprn>msdp active-source-limit)

[Tree] (config>service>vprn>msdp>group>peer active-source-limit)

[Tree] (config>service>vprn>msdp>group active-source-limit)

Full Context

configure service vprn msdp peer active-source-limit

configure service vprn msdp source active-source-limit

configure service vprn msdp active-source-limit

configure service vprn msdp group peer active-source-limit

configure service vprn msdp group active-source-limit

Description

This option controls the maximum number of active source messages that will be accepted by Multicast Source Discovery Protocol (MSDP), effectively controlling the number of active sources that can be stored on the system.

The **no** form of this command reverts the number of source message limit to default operation.

Default

no active-source-limit

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Parameters

number

Defines how many active sources can be maintained by MSDP.

Values 0 to 1000000

Platforms

All

active-source-limit

Syntax

active-source-limit *number*

no active-source-limit

Context

[Tree] (config>router>msdp>group>peer active-source-limit)

[Tree] (config>router>msdp>peer active-source-limit)

[Tree] (config>router>msdp>source active-source-limit)

[Tree] (config>router>msdp active-source-limit)

[Tree] (config>router>msdp>group active-source-limit)

Full Context

configure router msdp group peer active-source-limit

configure router msdp peer active-source-limit

configure router msdp source active-source-limit

configure router msdp active-source-limit

configure router msdp group active-source-limit

Description

This command controls the maximum number of source-active (SA) messages that are accepted by MSDP, effectively controlling the number of active sources that can be stored on the system.

The **no** form of this command sets no limit on the number of active source records.

Default

no active-source-limit

Parameters

number

Specifies the number of active sources that can be maintained by MSDP.

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Values 0 to 1000000

Platforms

All

5.88 active-valid-lifetime

active-valid-lifetime

Syntax

active-valid-lifetime [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no active-valid-lifetime

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>slaac active-valid-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>slaac active-valid-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 active-valid-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 active-valid-lifetime)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac active-valid-lifetime

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac active-valid-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 active-valid-lifetime

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 active-valid-lifetime

Description

This command specifies the signaled valid lifetime in DHCPv6 or SLAAC after full authentication. This is only applicable to DSM.

The **no** form of this command reverts to the default.

Default

active-valid-lifetime min 10

Parameters

hours

Specifies the number of active-valid-lifetime hours.

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Values 1 to 1

minutes

Specifies the number of active-valid-lifetime minutes.

Values 5 to 59

seconds

Specifies the number of active-valid-lifetime seconds.

Values 1 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.89 activity-threshold

activity-threshold

Syntax

activity-threshold *kilobits-per-second*

no activity-threshold

Context

[Tree] (config>subscr-mgmt>cat-map activity-threshold)

Full Context

configure subscriber-mgmt category-map activity-threshold

Description

This command configures the threshold that is applied to determine whether or not there is activity. This is only valid for credit-type = time (not volume).

The **no** form of this command reverts to the default.

Parameters

kilobits-per-second

Specifies the activity threshold value, in kilobits per second.

Values 1 to 100000000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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activity-threshold

Syntax

activity-threshold *kilobits-per-second*

no activity-threshold

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy activity-threshold)

Full Context

configure subscriber-mgmt idle-timeout-policy activity-threshold

Description

This command configures the threshold applied to determine activity. For data rates below the activity threshold, the subscriber session is considered idle. The data rate is the aggregate rate of all monitored ingress and egress policers and queues.

The **no** form of this command removes the activity threshold.

Parameters

kilobits-per-second

Specifies the activity threshold value, in kilobits per second.

Values 1 to 100000000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.90 ad-hoc

ad-hoc

Syntax

[**no**] **ad-hoc**

Context

[Tree] (config>router>mpls>lsp-cont>opt ad-hoc)

Full Context

configure router mpls lsp-container optimization ad-hoc

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Description

This command configures support for ad hoc optimizations. When configured, an LSP container is notified if certain events occur that affect the overall bandwidth an LSP container provides.

The **no** form of this command reverts to the default value.

Default

no ad-hoc

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.91 ad-per-es-route-target

ad-per-es-route-target

Syntax

ad-per-es-route-target evi-rt

ad-per-es-route-target evi-rt-set route-distinguisher *ip-address* [**extended-evi-range**]

Context

[Tree] (config>service>system>bgp-evpn ad-per-es-route-target)

Full Context

configure service system bgp-evpn ad-per-es-route-target

Description

This command controls how Ethernet AD per-ES routes are generated.

The system can either send a separate Ethernet AD per-ES route per service, or an Ethernet AD per-ES route aggregating the route-targets for multiple services. While both alternatives can interoperate, RFC 7432 states that the EVPN Auto-Discovery per-ES route must be sent with a set of route-targets corresponding to all the EVIs defined on the Ethernet Segment. This command supports both options.

The default **ad-per-es-route-target evi-rt** option configures the system to send a separate AD per-ES route per service.

When enabled, the **evi-rt-set** option allows the aggregation of routes: a single AD per-ES route with the associated RD (ip-address:1) and a set of EVI route-targets are advertised (to a maximum of 128). When a significant number of EVIs are defined in the Ethernet Segment (hence the number of route-targets), the system sends more than one route. For example:

- AD per-ES route for evi-rt-set 1 will be sent with RD ip-address:1
- AD per-ES route for evi-rt-set 2 will be sent with RD ip-address:2

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Default

ad-per-es-route-target evi-rt

Parameters

evi-rt

Specifies the option to advertise a separate AD per-ES route per service.

evi-rt-set

Specifies the option to advertise a set of AD per-ES routes aggregating the route-targets for all the services in the Ethernet Segment.

ip-address

Specifies the ip-address part of the route-distinguisher being used in the evi-rt-set option.

extended-evi-range

Specifies that the system reserves the RD *comm-val* 1 to 65535 out of the type 1 RD that is used for AD per-ES routes.

Platforms

All

5.92 ad-per-evi-routes

ad-per-evi-routes

Syntax

ad-per-evi-routes

Context

[Tree] (config>service>system>bgp-evpn ad-per-evi-routes)

Full Context

configure service system bgp-evpn ad-per-evi-routes

Description

Commands in this context configure how Ethernet AD per-EVI routes are generated.

Default

ad-per-evi-routes

Platforms

All

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5.93 ad-validation

ad-validation

Syntax

ad-validation {**fall-through** | **drop**}

no ad-validation

Context

[Tree] (config>system>dns>dnssec ad-validation)

Full Context

configure system dns dnssec ad-validation

Description

This command enables validation of the presence of the AD-bit in responses from the DNS servers, and reports a warning to the SECURITY log if DNSSEC validation was not possible.

This command requires either the fall-through or drop parameters be configured. When the fall-through parameter is supplied, the system will allow DNS responses that do not pass DNSSEC validation to be accepted and logged. When the drop parameter is specified, the system will reject and log DNS responses that do not pass DNSSEC validation and the resolution will appear to fail.

Default

no ad-validation

Parameters

fall-through

Specifies that the DNSSEC validator should allow non-DNSSEC responses to fall-through to permit resolution in case of validation failure.

drop

Specifies that the DNSSEC validator should drop non-DNSSEC responses in case of validation failure.

Platforms

All

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5.94 adapt-qos

adapt-qos

Syntax

adapt-qos {**link** | **port-fair** | **distribute** [**include-egr-hash-cfg**]}

Context

[Tree] (config>lag>access adapt-qos)

Full Context

configure lag access adapt-qos

Description

This command specifies how the LAG SAP queue and virtual scheduler buffering and rate parameters are adapted over multiple active XMAs/MDAs. This command applies only to access LAGs.

Default

adapt-qos distribute

Parameters

link

Specifies that the LAG will create the SAP queues and virtual schedulers with the actual parameters on each LAG member port.

port-fair

Places the LAG instance into a mode that enforces QoS bandwidth constraints in the following manner:

- all egress QoS objects associated with the LAG instance are created on a per port basis
- bandwidth is distributed over these per port objects based on the proportion of the port's bandwidth relative to the total of all active ports bandwidth within the LAG
- the **include-egr-hash-cfg** behavior is automatically enabled allowing the system to detect objects that hash to a single egress link in the lag and enabling full bandwidth for that object on the appropriate port

distribute

Creates an additional internal virtual scheduler per IOM/XCM as parent of the configured SAP queues and virtual schedulers per LAG member port on that IOM/XCM. This internal virtual scheduler limits the total amount of egress bandwidth for all member ports on the IOM/XCM to the bandwidth specified in the egress qos policy.

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include-egr-hash-cfg

Specifies whether explicitly configured hashing should factor into the egress buffering and rate distribution.

When this parameter is configured, all SAPs on this LAG which have explicit hashing configured, the egress HQoS and HPol (including queues, policers, schedulers and arbiters) will receive 100% of the configured bandwidth (essentially operating in adapt-qos link mode). For any Multi-Service-Sites assigned to such a LAG, bandwidth will continue to be divided according to adapt-qos distribute mode.

A LAG instance that is currently in adapt-qos link mode may be placed at any time in port-fair mode. Similarly, a LAG instance that is currently in adapt-qos port-fair mode may be placed at any time in link mode. However, a LAG instance in adapt-qos distribute mode may not be placed into port-fair (or link) mode while QoS objects are associated with the LAG instance. To move from distribute to port-fair mode it is necessary to remove all QoS objects from the LAG instance.

Platforms

All

adapt-qos

Syntax

adapt-qos {**distribute** | **link** | **port-fair**}

no adapt-qos

Context

[Tree] (config>eth-tunnel>lag-emulation>access adapt-qos)

Full Context

configure eth-tunnel lag-emulation access adapt-qos

Description

This command specifies how the emulated LAG queue and virtual scheduler buffering and rate parameters are adapted over multiple active MDAs.

The **no** form of the command reverts to the default.

Parameters

distribute

Creates an additional internal virtual scheduler per line card as parent of the configured SAP queues and virtual schedulers per member path on that line card. This internal virtual scheduler limits the total amount of egress bandwidth for all member paths on the line card to that line card's share of the bandwidth specified in the egress qos policy. This mode is not supported together with an egress port scheduler or the use of egress queue groups.

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link

Specifies that the emulated LAG will create the SAP queues and virtual schedulers with the bandwidth specified in the egress QoS policy on each member path.

port-fair

Specifies that the emulated LAG will create the SAP queues and virtual schedulers on each member path based on the bandwidth specified in the egress QoS policy divided by the number of active paths.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.95 adaptation-rule

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]

no adaptation-rule

Context

[Tree] (config>qos>sap-egress>queue adaptation-rule)

Full Context

configure qos sap-egress queue adaptation-rule

Description

This command defines the method used by the system to derive the operational CIR and PIR settings when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

When a specific **adaptation-rule** is removed, the default constraints for **pir** and **cir** apply.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy.

Default

adaptation-rule pir closest cir closest

Parameters

pir

Defines the constraints enforced when adapting the queue's PIR. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **pir** parameter is not specified, the default constraint applies.

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Values **max** — Specifies that the operational PIR for the queue will be equal to or less than the requested rate.

min — Specifies that the operational PIR for the queue will be equal to or greater than the requested rate.

closest — Specifies that the operational PIR for the queue will be the rate closest to the requested rate.

cir

Defines the constraints enforced when adapting the queue's CIR defined. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

Values **max** — Specifies that the operational rate for the queue will be equal to or less than the requested rate.

min — Specifies that the operational rate for the queue will be equal to or greater than the requested rate.

closest — Specifies that the operational rate for the queue will be the rate closest to the requested rate.

Platforms

All

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]

Context

[Tree] (config>service>vpls>sap>ingress>queue-override>queue adaptation-rule)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue adaptation-rule)

[Tree] (config>service>vpls>sap>egress>queue-override>queue adaptation-rule)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue adaptation-rule)

Full Context

configure service vpls sap ingress queue-override queue adaptation-rule

configure service ies interface sap egress queue-override queue adaptation-rule

configure service vpls sap egress queue-override queue adaptation-rule

configure service ies interface sap ingress queue-override queue adaptation-rule

Description

This command overrides specific attributes of the specified queue’s adaptation rule parameters. The adaptation rule controls the method used by the system to derive the operational CIR and PIR settings

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when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the adaptation rule is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy. When a specific **adaptation-rule** is removed, the default constraints for **rate** and **cir** apply.

Default

no adaptation-rule

Parameters

pir

Specifies the constraints enforced when adapting the PIR rate defined within the **queue** *queue-id* **rate** command. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **rate** command is not specified, the default applies.

cir

Specifies the constraints enforced when adapting the CIR rate defined within the **queue** *queue-id* **rate** command. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

adaptation-rule

Specifies the CIR and PIR adaptation rules.

Values max — The **max** (maximum) option is mutually exclusive with the **min** and **closest** options. When **max** is defined, the operational PIR for the queue is equal to or less than the administrative rate specified using the **rate** command.

min — The **min** (minimum) option is mutually exclusive with the **max** and **closest** options. When **min** is defined, the operational PIR for the queue is equal to or greater than the administrative rate specified using the **rate** command.

closest — The **closest** parameter is mutually exclusive with the **min** and **max** parameter. When **closest** is defined, the operational PIR for the queue is the rate closest to the rate specified using the **rate** command.

Platforms

All

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adaptation-rule

Syntax

adaptation-rule pir *adaptation-rule* [**cir** *adaptation-rule*]

no adaptation-rule

Context

[Tree] (config>subscr-mgmt>isa-policer adaptation-rule)

Full Context

configure subscriber-mgmt isa-policer adaptation-rule

Description

For operational efficiency, the operational rate of a policer cannot take on every value in the configurable range. This configuration defines a rule that must be followed when mapping a configured rate to an operational rate.

The cir **adaptation-rule** can only be set on dual-bucket-bandwidth policers.

The **no** form of this command reverts to its default.

Default

adaptation-rule pir closest cir closest

Parameters

pir adaptation-rule

Configures the rules to compute the PIR operational rates.

Values **min** — Specifies that the operational rate must minimally be the configured rate. The first operational value bigger or equal to the configured rate is chosen.

max — Specifies that the operational rate may maximally be the configured rate. The first operational value smaller or equal to the configured rate is chosen.

closest — Chooses the operational value closest to the configured value, lower or higher.

cir *adaptation-rule*

Configures the rules to compute the CIR operational rates.

Values adaptation-rule

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** {**max** | **min** | **closest**}]

no adaptation-rule

Context

[Tree] (config>port>ethernet>access>ing>qgrp>qover>q adaptation-rule)

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q adaptation-rule)

[Tree] (config>port>ethernet>access>egr>qgrp>qover>q adaptation-rule)

Full Context

configure port ethernet access ingress queue-group queue-overrides queue adaptation-rule

configure port ethernet network egress queue-group queue-overrides queue adaptation-rule

configure port ethernet access egress queue-group queue-overrides queue adaptation-rule

Description

This command specifies the method used by the system to derive the operational CIR and PIR settings when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case the configuration of the adaptation rule is performed under the **hs-wrr-group** within the egress queue group template.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy. When a specific **adaptation-rule** is removed, the default constraints for **rate** and **cir** apply.

Default

adaptation-rule pir closest cir closest

Parameters

pir

Defines the constraints enforced when adapting the PIR rate defined within the **queue** *queue-id* **rate** command. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **rate** command is not specified, the default applies.

cir

Defines the constraints enforced when adapting the CIR rate defined within the **queue** *queue-id* **rate** command. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

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adaptation-rule

Specifies the adaptation rule to be used while computing the operational CIR or PIR value.

Values **max** — The **max** (maximum) option is mutually exclusive with the **min** and **closest** options. When **max** is defined, the operational PIR for the queue will be equal to or less than the administrative rate specified using the **rate** command.

min — The **min** (minimum) option is mutually exclusive with the **max** and **closest** options. When **min** is defined, the operational PIR for the queue will be equal to or greater than the administrative rate specified using the **rate** command.

closest — The **closest** parameter is mutually exclusive with the **min** and **max** parameter. When **closest** is defined, the operational PIR for the queue will be the rate closest to the rate specified using the **rate** command.

Platforms

All

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]

no adaption-rule

Context

[Tree] (config>service>epipe>sap>egress>queue-override>queue adaptation-rule)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue adaptation-rule)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue adaptation-rule)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue adaptation-rule)

Full Context

configure service epipe sap egress queue-override queue adaptation-rule

configure service epipe sap ingress queue-override queue adaptation-rule

configure service ipipe sap ingress queue-override queue adaptation-rule

configure service ipipe sap egress queue-override queue adaptation-rule

Description

This command can be used to override specific attributes of the specified queue's adaptation rule parameters. The adaptation rule controls the method used by the system to derive the operational CIR and PIR settings when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

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This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case the configuration of the adaptation rule is performed under the hs-wrr-group within the SAP egress QoS policy.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy. When a specific **adaptation-rule** is removed, the default constraints for **rate** and **cir** apply.

Default

no adaptation-rule

Parameters

pir

The **pir** parameter defines the constraints enforced when adapting the PIR rate defined within the **queue** *queue-id* **rate** command. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **rate** command is not specified, the default applies.

cir

The **cir** parameter defines the constraints enforced when adapting the CIR rate defined within the **queue** *queue-id* **rate** command. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

adaptation-rule

Specifies the criteria to use to compute the operational CIR and PIR values for this queue, while maintaining a minimum offset.

Values **max** — The **max** (maximum) keyword is mutually exclusive with the **min** and **closest** options. When **max** is defined, the operational PIR for the queue will be equal to or less than the administrative rate specified using the **rate** command.

min — The **min** (minimum) keyword is mutually exclusive with the **max** and **closest** options. When **min** is defined, the operational PIR for the queue will be equal to or greater than the administrative rate specified using the **rate** command.

closest — The **closest** parameter is mutually exclusive with the **min** and **max** parameter. When **closest** is defined, the operational PIR for the queue will be the rate closest to the rate specified using the **rate** command.

Platforms

All

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]

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no adaptation-rule

Context

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue adaptation-rule)

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue adaptation-rule)

Full Context

configure service vprn interface sap ingress queue-override queue adaptation-rule

configure service vprn interface sap egress queue-override queue adaptation-rule

Description

This command can be used to override specific attributes of the specified queue's adaptation rule parameters. The adaptation rule controls the method used by the system to derive the operational CIR and PIR settings when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the adaptation rule is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy. When a specific **adaptation-rule** is removed, the default constraints for **rate** and **cir** apply.

Default

no adaptation-rule

Parameters

pir

The **pir** parameter defines the constraints enforced when adapting the PIR rate defined within the **queue** *queue-id* **rate** command. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **rate** command is not specified, the default applies.

cir

The **cir** parameter defines the constraints enforced when adapting the CIR rate defined within the **queue** *queue-id* **rate** command. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

adaptation-rule

Specifies the criteria to use to compute the operational CIR and PIR values for this queue, while maintaining a minimum offset.

Values **max** — The **max** (maximum) keyword is mutually exclusive with the **min** and **closest** options. When **max** is defined, the operational PIR for the queue will be equal to or less than the administrative rate specified using the **rate** command.

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min — The **min** (minimum) keyword is mutually exclusive with the **max** and **closest** options. When **min** is defined, the operational PIR for the queue will be equal to or greater than the administrative rate specified using the **rate** command.

closest — The **closest** parameter is mutually exclusive with the **min** and **max** parameter. When **closest** is defined, the operational PIR for the queue will be the rate closest to the rate specified using the **rate** command.

Platforms

All

adaptation-rule

Syntax

adaptation-rule pir *adaptation-rule* [**cir** {*adaptation-rule*}]

no adaptation-rule

Context

[Tree] (config>app-assure>group>policer adaptation-rule)

Full Context

configure application-assurance group policer adaptation-rule

Description

This command defines the method used by the system to derive the operational CIR and PIR settings when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined option. To change the CIR adaptation rule only, the current PIR rule must be part of the command executed.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy. When a specific adaptation-rule is removed, the default constraints for rate and cir apply.

Default

adaptation-rule pir closest cir closest

Parameters

max

The operational PIR or CIR for the queue will be equal to or less than the administrative rate specified using the **rate** command.

min

The operational PIR or CIR for the queue will be equal to or greater than the administrative rate specified using the **rate** command.

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closest

The operational PIR or CIR for the queue will be the rate closest to the rate specified using the **rate** command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]

no adaptation-rule

Context

[Tree] (config>qos>sap-ingress>policer adaptation-rule)

[Tree] (config>qos>sap-egress>policer adaptation-rule)

Full Context

configure qos sap-ingress policer adaptation-rule

configure qos sap-egress policer adaptation-rule

Description

This command is used to define how the policer's configuration parameters are translated into the underlying hardware capabilities used to implement each policer instance. For instance, the configured rates for the policer need to be mapped to the timers and decrement granularity used by the hardware's leaky bucket functions that actually perform the traffic metering. If a rate is defined that cannot be exactly matched by the hardware, the adaptation-rule setting provides guidance for which hardware rate should be used.

The hardware also needs to adapt the given mbs and cbs values into the PIR bucket violate threshold (discard) and the CIR bucket exceed threshold (out-of-profile). The hardware may not have an exact threshold match that it can use. The system treats the mbs and cbs values as minimum threshold values.

The **no** form of this command is used to return the policer's metering and profiling hardware adaptation rules to closest.

Parameters

pir *adaptation-rule*

When the optional **pir** parameter is specified, the **max**, **min,** or **closest** keyword qualifier must follow.

Values max — Specifies that the metering rate defined for the policer is the maximum allowed rate. The system will choose a hardware supported rate that is closest but not exceeding the specified rate.

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min — Specifies that the metering rate defined for the policer is the minimum allowed rate. The system will choose a hardware supported rate that is closest but not lower than the specified rate.

closest — Specifies that the metering rate defined for the policer is the target rate. The system will choose a hardware supported rate that is closest to the specified rate.

Default closest

cir *adaptation-rule*

When the optional **cir** parameter is specified, the **max**, **min**, or **closest** keyword qualifier must follow.

Values max — Specifies that the profiling rate defined for the policer is the maximum allowed rate. The system will choose a hardware supported rate that is closest but not exceeding the specified rate.

min — Specifies that the profiling rate defined for the policer is the minimum allowed rate. The system will choose a hardware supported rate that is closest but not lower than the specified rate.

closest — Specifies that the profiling rate defined for the policer is the target rate. The system will choose a hardware supported rate that is closest to the specified rate.

Default closest

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*] [**cir** *adaptation-rule*] [**fir** {**max** | **min** | **closest**}]

no adaptation-rule

Context

[Tree] (config>qos>sap-ingress>queue adaptation-rule)

Full Context

configure qos sap-ingress queue adaptation-rule

Description

This command defines the method used by the system to derive the operational FIR, CIR and PIR settings when the queue is provisioned in hardware. For the FIR, CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

When a specific **adaptation-rule** is removed, the default constraints for **pir**, **cir** and **fir** apply.

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The **no** form of this command removes any explicitly defined constraints used to derive the operational FIR, CIR and PIR created by the application of the policy.

Default

adaptation-rule pir closest cir closest fir closest

Parameters

pir ***adaptation-rule***

Defines the constraints enforced when adapting the queue's PIR. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **pir** parameter is not specified, the default applies.

cir ***adaptation-rule***

Defines the constraints enforced when adapting the queue's CIR. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

fir

Defines the constraints enforced when adapting the queue's FIR. The **fir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **fir** parameter is not specified, the default constraint applies. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

max

Specifies that the operational rate for the queue will be equal to or less than the requested rate.

min

Specifies that the operational rate for the queue will be equal to or greater than the requested rate.

closest

Specifies that the operational rate for the queue will be the rate closest to the requested rate.

Platforms

All

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*]

no adaptation-rule

Context

[Tree] (config>qos>network-queue>hs-wrr-group adaptation-rule)

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Full Context

configure qos network-queue hs-wrr-group adaptation-rule

Description

This command specifies how the system should resolve differences between the specified scheduling limit derived from the WRR group's rate command and the actual operational rate obtainable in hardware. The **min**, **max**, and **closest** mutually exclusive keywords specify whether the next highest rate, next lowest rate, or closest rate should be selected by the system.

The **no** form of the command reverts to the default value.

Default

adaptation-rule pir closest

Parameters

adaptation-rule

Specifies the adaptation rule (**min**, **max**, or **closest**) to be used while computing the operational PIR value. The adaptation rule specifies the rules to compute the operational values while maintaining minimum offset. The **min**, **max**, and **closest** keywords are mutually exclusive.

Values min — When **min** is specified, the queue's rate parameter is treated as the minimum rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queues shaping rate is the closest possible value without going under the specified rate.

max — When **max** is specified, the queue's rate parameter is treated as the maximum rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queue's shaping rate is the closest possible value without going over the specified rate.

closest — When **closest** is specified, the queue's rate parameter is treated as the target rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queues shaping rate is the closest possible value and can be higher or lower than the specified rate.

Platforms

7750 SR-7/12/12e

adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*]

no adaptation-rule

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Context

[Tree] (config>qos>sap-egress>hs-wrr-group adaptation-rule)

Full Context

configure qos sap-egress hs-wrr-group adaptation-rule

Description

This command specifies how the system resolves differences between the specified scheduling limit derived from the WRR group's **rate** command and the actual operational rate obtainable in hardware. The mutually exclusive **min**, **max**, and **closest** keywords specify whether the next highest rate, next lowest, or closest rate should be selected by the system.

The **no** form of the command reverts to the default value.

Default

adaptation-rule pir closest

Parameters

pir

Defines the constraints enforced when adapting the PIR rate defined within the **queue** *queue-id* **rate** command. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **rate** command is not specified, the default applies.

adaptation-rule

Specifies the adaptation rule (**min**, **max**, or **closest**) to be used while computing the operational PIR value. The adaptation rule specifies the rules to compute the operational values while maintaining minimum offset. The **min**, **max**, and **closest** keywords are mutually exclusive.

Values **min** — When **min** is specified, the queue's rate parameter is treated as the minimum rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queues shaping rate is the closest possible value without going under the specified rate.

max — When **max** is specified, the queue's rate parameter is treated as the maximum rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queue's shaping rate is the closest possible value without going over the specified rate.

closest — When **closest** is specified, the queue's rate parameter is treated as the target rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queues shaping rate is the closest possible value and can be higher or lower than the specified rate.

Platforms

7750 SR-7/12/12e

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adaptation-rule

Syntax

adaptation-rule [**pir** *adaptation-rule*]

no adaptation-rule

Context

[Tree] (config>qos>qgrps>egr>qgrp>hs-wrr-group adaptation-rule)

Full Context

configure qos queue-group-templates egress queue-group hs-wrr-group adaptation-rule

Description

This command specifies how the system should resolve differences between the specified scheduling limit derived from the WRR group's rate command and the actual operational rate obtainable in hardware. The mutually exclusive **min**, **max**, and **closest** keywords specify whether the next highest rate, next lowest rate, or closest rate should be selected by the system.

The **no** form of the command reverts to the default value.

Default

adaptation-rule pir closest

Parameters

adaptation-rule

Specifies the adaptation rule (**min**, **max**, or **closest**) to be used while computing the operational PIR value. The adaptation rule specifies the rules to compute the operational values while maintaining minimum offset. The **min**, **max**, and **closest** keywords are mutually exclusive.

Values min — When **min** is specified, the queue's rate parameter is treated as the minimum rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queues shaping rate is the closest possible value without going under the specified rate.

max — When **max** is specified, the queue's rate parameter is treated as the maximum rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queue's shaping rate is the closest possible value without going over the specified rate.

closest — When **closest** is specified, the queue's rate parameter is treated as the target rate to shape the queue. The hardware chooses the appropriate timers and PIR leaky bucket behavior to ensure that the queues shaping rate is the closest possible value and can be higher or lower than the specified rate.

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Platforms

7750 SR-7/12/12e

adaptation-rule

Syntax

adaptation-rule [**pir** {**max** | **min** | **closest**}] [**cir** {**max** | **min** | **closest**}]

no adaptation-rule

Context

[Tree] (config>qos>queue-group-templates>egress>queue-group>policer adaptation-rule)

Full Context

configure qos queue-group-templates egress queue-group policer adaptation-rule

Description

This command defines the method used by the system to derive the operational CIR and PIR settings when the policer is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

When configured on an egress HSQ queue group queue, the **cir** keywords are ignored. This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the adaptation rule is performed under the **hs-wrr-group** within the egress queue group template.

When a specific **adaptation-rule** is removed, the default constraints for **pir** and **cir** apply.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy.

Default

adaptation-rule pir closest cir closest

Parameters

pir

Defines the constraints enforced when adapting the policer's PIR. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the policer. When the **pir** parameter is not specified, the default constraint applies.

cir

Defines the constraints enforced when adapting the policer's CIR. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the policer. When the **cir** parameter is not specified, the default constraint applies.

max

Specifies that the operational rate for the policer will be equal to or less than the requested rate.

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min

Specifies that the operational rate for the policer will be equal to or greater than the requested rate.

closest

Specifies that the operational rate for the policer will be the rate closest to the requested rate.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

adaptation-rule

Syntax

adaptation-rule [**pir** {**max** | **min** | **closest**}] [**cir** {**max** | **min** | **closest**}] [**fir** {**max** | **min** | **closest**}]

no adaptation-rule

Context

[Tree] (config>qos>queue-group-templates>ingress>queue-group>queue adaptation-rule)

Full Context

configure qos queue-group-templates ingress queue-group queue adaptation-rule

Description

This command defines the method used by the system to derive the operational FIR, CIR and PIR settings when the queue is provisioned in hardware. For the FIR, CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

When a specific **adaptation-rule** is removed, the default constraints for **pir**, **cir** and **fir** apply.

The **no** form of this command removes any explicitly defined constraints used to derive the operational FIR, CIR and PIR created by the application of the policy.

Default

adaptation-rule pir closest cir closest fir closest

Parameters

pir

Defines the constraints enforced when adapting the queue's PIR. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **pir** parameter is not specified, the default constraint applies.

cir

Defines the constraints enforced when adapting the queue's CIR. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

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fir

Defines the constraints enforced when adapting the queue's FIR. The **fir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **fir** parameter is not specified, the default constraint applies. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

max

Specifies that the operational rate for the queue will be equal to or less than the requested rate.

min

Specifies that the operational rate for the queue will be equal to or greater than the requested rate.

closest

Specifies that the operational rate for the queue will be the rate closest to the requested rate.

Platforms

All

adaptation-rule

Syntax

adaptation-rule [**pir** {**max** | **min** | **closest**}] [**cir** {**max** | **min** | **closest**}]

no adaptation-rule

Context

[Tree] (config>qos>queue-group-templates>egress>queue-group>queue adaptation-rule)

Full Context

configure qos queue-group-templates egress queue-group queue adaptation-rule

Description

This command defines the method used by the system to derive the operational CIR and PIR settings when the queue is provisioned in hardware. For the CIR and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

When configured on an egress HSQ queue group queue, the **cir** keywords are ignored. This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the adaptation rule is performed under the **hs-wrr-group** within the egress queue group template.

When a specific **adaptation-rule** is removed, the default constraints for **pir** and **cir** apply.

The **no** form of this command removes any explicitly defined constraints used to derive the operational CIR and PIR created by the application of the policy.

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Default

adaptation-rule pir closest cir closest

Parameters

pir

Defines the constraints enforced when adapting the queue's PIR. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **pir** parameter is not specified, the default applies.

cir

Defines the constraints enforced when adapting the queue's CIR defined. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

max

Specifies that the operational rate for the queue will be equal to or less than the requested rate.

min

Specifies that the operational rate for the queue will be equal to or greater than the requested rate.

closest

Specifies that the operational rate for the queue will be the rate closest to the requested rate.

Platforms

All

adaptation-rule

Syntax

adaptation-rule [**pir** {**max** | **min** | **closest**}] [**cir** {**max** | **min** | **closest**}] [**fir** {**max** | **min** | **closest**}]

no adaptation-rule

Context

[Tree] (config>qos>network-queue>queue adaptation-rule)

Full Context

configure qos network-queue queue adaptation-rule

Description

This command defines the method used by the system to derive the operational FIR, CIR, and PIR settings when the queue is provisioned in hardware. For the FIR, CIR, and PIR parameters individually, the system attempts to find the best operational rate depending on the defined constraint.

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When configured on an egress HSQ queue group queue, the **cir** keyword is ignored. This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **adaptation-rule** is performed under the **hs-wrr-group** within the network queue policy.

The **no** form of this command removes any explicitly defined constraints used to derive the operational FIR, CIR, and PIR created by the application of the policy. When a specific **adaptation-rule** is removed, the default constraints for **fir**, **cir**, and **pir** apply.

Default

adaptation-rule pir closest cir closest fir closest

Parameters

pir

Defines the constraints enforced when adapting the queue's PIR. The **pir** parameter requires a qualifier that defines the constraint used when deriving the operational PIR for the queue. When the **pir** parameter is not specified, the default applies.

cir

Defines the constraints enforced when adapting the queue's CIR. The **cir** parameter requires a qualifier that defines the constraint used when deriving the operational CIR for the queue. When the **cir** parameter is not specified, the default constraint applies.

fir

Defines the constraints enforced when adapting the queue's FIR. The **fir** parameter requires a qualifier that defines the constraint used when deriving the operational FIR for the queue. When the **fir** parameter is not specified, the default constraint applies. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

max

Specifies that the operational rate for the queue will be equal to or less than the requested rate.

min

Specifies that the operational rate for the queue will be equal to or greater than the administrative rate specified using the **rate** command.

closest

Specifies that the operational rate for the queue will be the rate closest to the requested rate.

Platforms

All

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5.96 adaptive

adaptive

Syntax

[**no**] **adaptive**

Context

[Tree] (config>router>mpls>lsp>secondary adaptive)

[Tree] (config>router>mpls>lsp-template adaptive)

[Tree] (config>router>mpls>lsp adaptive)

[Tree] (config>router>mpls>lsp>primary-p2mp-instance adaptive)

[Tree] (config>router>mpls>lsp>primary adaptive)

Full Context

configure router mpls lsp secondary adaptive

configure router mpls lsp-template adaptive

configure router mpls lsp adaptive

configure router mpls lsp primary-p2mp-instance adaptive

configure router mpls lsp primary adaptive

Description

This command enables the make-before-break functionality for an LSP or LSP path. When enabled for the LSP, make-before-break will be performed for primary path and all the secondary paths of the LSP.

The **config**>**router**>**mpls**>**lsp**>**primary-p2mp-instance**> **adaptive** command is not supported on the 7450 ESS.

Default

adaptive

Platforms

All

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5.97 adaptive-load-balancing

adaptive-load-balancing

Syntax

adaptive-load-balancing [**tolerance** *tolerance-value*] [**interval** *interval*] [**bandwidth-threshold** *percent*]

no adaptive-load-balancing

Context

[Tree] (config>lag adaptive-load-balancing)

Full Context

configure lag adaptive-load-balancing

Description

This command enables adaptive load balancing between LAG links. The tolerance value defines the percentage threshold between the most and the least used link in the LAG. If the tolerance value is exceeded, adaptive load balancing optimizes traffic distribution between LAG links. The bandwidth threshold defines the minimum bandwidth percentage of the most loaded LAG port egress. If the bandwidth threshold value is exceeded, adaptive load balancing optimization is performed.

The **no** form of this command disables adaptive load balancing.

Default

no adaptive-load-balancing

Parameters

tolerance-value

Specifies the allowed tolerance value expressed as a percentage.

Values 1 to 100

Default 20

interval

Specifies the statistics pooling interval value, in seconds, for the LAG ports.

Values 15, 30, 60, 120

Default 30

percent

Specifies the bandwidth threshold expressed as a percentage.

Values 0 to 100

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Default 10 on PXC LAG, 30 on other LAG types

Platforms

All

5.98 add

add

Syntax

add percent *percentage* [**min-only**] [**active-min-only**]

add rate *rate* [**min-only**] [**active-min-only**]

no add

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement add)

Full Context

configure qos adv-config-policy child-control offered-measurement add

Description

This command is used to increase the measured rate of the policer or queue associated with the policy. The offered rate (capped by the administrative PIR configured on the queue or policer) is usually used unaltered by the parent virtual scheduler. The add command allows this measured rate to be increased by the specified amount or by a percentage of the administrative PIR. The resulting rate will not exceed the administrative PIR.

The parent scheduler uses the modified measured rate as the available work load for the queue or policer in determining how much bandwidth the child should receive from the bandwidth distribution algorithm.

One example of when an increase in the measured offered rate may be desired is when a queue or policer is handling VoIP traffic. A characteristic of VoIP is the step nature in how traffic is used. Each call typically adds a certain maximum amount to the overall load. By using the add command, the bandwidth required for the next added call may be included in the current measured rate. This allows the virtual scheduler to allocate sufficient bandwidth to the queue or policer so that when the call is made the scheduling algorithm does not need to run to increase the bandwidth.

A side effect of increasing the measured offered rate is that if the extra bandwidth is allocated by the virtual scheduler, the available bandwidth to lower priority queues or policers is diminished even though the extra allocated bandwidth may not be in use. If this is the case, the effect will be seen as an underrun in the aggregate output of the virtual scheduler.

If the add command is used with a percent-based value, the increase is a function of the configured PIR value on the policer or queue. In this case, care should be taken that the child is either configured with an explicit PIR rate (other than max) or the child's administrative PIR is defined using the percent-rate command with the local parameter enabled if an explicit value is not desired. When a maximum PIR is in

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use on the child, the system attempts to interpret the maximum child forwarding rate. This rate could be very large if the child is associated with multiple ingress or egress ports.

Except for the overall cap on the offered input into the virtual scheduler, the child's administrative PIR has no effect on the calculated increase if an explicit rate is specified.

If the child's administrative PIR is modified while a percent based add is in effect, the system automatically uses the new relative increase value the next time the child's offered rate is determined.

When the add command is not specified or removed, the child's offered rate used by the child's virtual scheduler is not increased.

The **no** form of this command is used to remove an offered rate increase from all child policers and queues associated with the policy.

Parameters

percent-of-admin-pir

When the percent qualifier is used, this parameter specifies the percentage of the child's administrative PIR that should be added to the child's offered rate. The new offered rate result is capped by the child's PIR. If a value of 0 or 0.00 is used, the system interprets this equivalent to no add.

Values 1.00 to 100.00

rate-in-kilobits-per-second

When the rate qualifier is used, this parameter specifies an explicit rate, in kb/s, that should be added to the child's offered rate. The new offered rate result is capped by the child's PIR. If a rate increase of 0 is specified, the system interprets this equivalent to no add.

Values 0 to 100,000,000

min-only

This optional parameter is used to reinterpret the increase as a minimum offered rate. When this option is enabled, the system uses the specified increase as a minimum offered rate even for inactive queues or policers associated with the policy.

active-min-only

When this optional parameter is specified, the respective rate or percentage is treated as the minimum offered rate for a queue only when the queue has an actual non-zero offered rate. This is intended to limit the artificial increase in offered rate to queues that are currently active. When a queue's measured offered rate drops to zero, the system stops enforcing the minimum value.

Platforms

All

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5.99 add-attributes

add-attributes

Syntax

[**no**] **add-attributes**

Context

[Tree] (config>router>radius-proxy>server>wlan-gw add-attributes)

[Tree] (config>service>vprn>radius-proxy>server>wlan-gw add-attributes)

Full Context

configure router radius-proxy server wlan-gw add-attributes

configure service vprn radius-proxy server wlan-gw add-attributes

Description

Commands in this context define attributes added to proxied messages.

The **no** form of this command disables the context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

5.100 add-paths

add-paths

Syntax

[**no**] **add-paths**

Context

[Tree] (config>router>bgp add-paths)

[Tree] (config>router>bgp>group add-paths)

[Tree] (config>router>bgp>group>neighbor add-paths)

Full Context

configure router bgp add-paths

configure router bgp group add-paths

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configure router bgp group neighbor add-paths

Description

This command allows the add-paths node to be the configured for one or more families of the BGP instance, a group or a neighbor. The BGP add-paths capability allows the router to send and/or receive multiple paths per prefix to/from a peer. The add-paths command without additional parameters is equivalent to removing Add-Paths support for all address families, which causes sessions that previously negotiated the add-paths capability for one or more address families to go down and come back up without the add-paths capability.

The no form of this command (no add-paths) removes add-paths from the configuration of BGP, the group or the neighbor, causing sessions established using add-paths to go down and come back up without the add-paths capability.

Default

no add-paths

Platforms

All

5.101 add-paths-send-limit

add-paths-send-limit

Syntax

add-paths-send-limit *send-limit*

no add-paths-send-limit

Context

[Tree] (config>router>policy-options>policy-statement>default-action add-paths-send-limit)

[Tree] (config>router>policy-options>policy-statement>entry add-paths-send-limit)

Full Context

configure router policy-options policy-statement default-action add-paths-send-limit

configure router policy-options policy-statement entry add-paths-send-limit

Description

This command sets the *send-limit* to a specific value for all routes matched by the policy entry or default action. Add-paths allows a BGP router to send multiple paths for the same NLRI/prefix to a peer advertising the add-paths receive capability. The *send-limit* dictates the maximum number of paths that can be advertised.

The default *send-limit* is controlled by the instance, group or neighbor level configuration and applies to all prefixes in a particular address family. Using route policies allows the default send-limit to be overridden to

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use a larger or smaller maximum value on a per-prefix basis. For example, if, for most prefixes advertised to a peer, at most 1 path should be advertised but for a few exceptional prefixes up to 4 paths should be advertised, then the neighbor-level *send-limit* can be set to a value of 1 and the **add-paths-send-limit** in the policy entry that matches the exceptional routes can be set to a value of 4.

Default

no add-paths-send-limit

Parameters

send-limit

Specifies the maximum number of paths to advertise for matched routes to an Add-Paths peer. If the value is **multipaths**, then BGP advertises all of the used BGP multipaths for each matched route that is the best path for its prefix (NLRI). Add paths can be advertised only if the peer has signaled support for receiving multiple add paths.

Values 1 to 16, none, multipaths

Platforms

All

5.102 add-srv6-tlvs

add-srv6-tlvs

Syntax

add-srv6-tlvs locator *locator-name*

add-srv6-tlvs micro-segment-locator *ms-locator-name*

no add-srv6-tlvs

Context

[Tree] (config>router>bgp>srv6>family add-srv6-tlvs)

Full Context

configure router bgp segment-routing-v6 family add-srv6-tlvs

Description

This command adds a prefix SID attribute containing an SRv6 TLV to routes belonging to the family that are redistributed from another protocol into BGP. This command also adds a prefix SID attribute with SRv6 TLV to BGP routes received from other peers without the SRv6 TLV and that are propagated to other peers with **next-hop-self** applied.

The **no** form of this command reverts to the default value which does not append the SRv6 TLV.

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Default

no add-srv6-tlvs

Parameters

locator-name

Specifies an existing locator name, up to 64 characters.

ms-locator-name

Specifies a micro-segment locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

5.103 add-to-received-bgp

add-to-received-bgp

Syntax

add-to-received-bgp *weight*

no add-to-received-bgp

Context

[Tree] (config>service>vprn>bgp>group>evpn-link-bandwidth add-to-received-bgp)

[Tree] (config>service>vprn>bgp>group>neighbor>evpn-link-bandwidth add-to-received-bgp)

Full Context

configure service vprn bgp group evpn-link-bandwidth add-to-received-bgp

configure service vprn bgp group neighbor evpn-link-bandwidth add-to-received-bgp

Description

This command configures the weight value added to all BGP PE-CE routes for the purpose of weighted ECMP if EVPN-IFL and BGP PE-CE routes are combined into the same ECMP set.

For the load-balancing between EVPN-IFL and BGP PE-CE routes the **configure service vprn bgp eibgp-loadbalance** command must already be configured on the system.

The **no** form of this command disables the weight value added to all BGP PE-CE routes.

Default

no add-to-received-bgp

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Parameters

weight

Specifies the weight value added to all BGP PE-CE routes.

Values 1 to 128

Platforms

All

5.104 add-to-received-ebgp

add-to-received-ebgp

Syntax

add-to-received-ebgp *family* [*family*]

no add-to-received-ebgp

Context

[Tree] (config>service>vprn>bgp>group>link-bandwidth add-to-received-ebgp)

[Tree] (config>service>vprn>bgp>group>neighbor>link-bandwidth add-to-received-ebgp)

Full Context

configure service vprn bgp group link-bandwidth add-to-received-ebgp

configure service vprn bgp group neighbor link-bandwidth add-to-received-ebgp

Description

This command configures BGP to automatically add a link-bandwidth extended community to every route received from a directly connected (single-hop) EBGP peer within the scope of the command, as long as that route belongs to one of the listed address families.

The link-bandwidth extended community added by this command encodes the local-AS number of receiving BGP instance and the bandwidth of the interface to the directly connected EBGP peer.

Up to three families may be configured.

The **no** form of this command removes the link-bandwidth extended community added to received BGP routes.

Default

no add-to-received-ebgp

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Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

Platforms

All

add-to-received-ebgp

Syntax

add-to-received-ebgp *family* [*family*]

no add-to-received-ebgp

Context

[Tree] (config>router>bgp>group>neighbor>link-bandwidth add-to-received-ebgp)

[Tree] (config>router>bgp>group>link-bandwidth add-to-received-ebgp)

Full Context

configure router bgp group neighbor link-bandwidth add-to-received-ebgp

configure router bgp group link-bandwidth add-to-received-ebgp

Description

This command configures BGP to automatically add a link-bandwidth extended community to every route received from a directly connected (single-hop) EBGP peer within the scope of the command, as long as that route belongs to one of the listed address families.

The link-bandwidth extended community added by this command encodes the local-AS number of receiving BGP instance and the bandwidth of the interface to the directly connected EBGP peer.

Up to six families may be configured.

The **no** form of this command removes the link-bandwidth extended community added to received BGP routes.

Default

no add-to-received-ebgp

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Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

vpn-ipv4 — Adds a link-bandwidth extended community to IPv4 VPN (SAFI 128) routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

label-ipv6 — Adds a link-bandwidth extended community to labeled-unicast IPv6 routes.

vpn-ipv6 — Adds a link-bandwidth extended community to IPv6 VPN (SAFI 128) routes.

Platforms

All

5.105 add-tunnel

add-tunnel

Syntax

add-tunnel never

add-tunnel on *reason* [*reason*]

no add-tunnel

Context

[Tree] (config>service>vprn>l2tp>tunnel-selection-blacklist add-tunnel)

[Tree] (config>router>l2tp>tunnel-selection-blacklist add-tunnel)

Full Context

configure service vprn l2tp tunnel-selection-blacklist add-tunnel

configure router l2tp tunnel-selection-blacklist add-tunnel

Description

This command will force the tunnel to the denylist and render it unavailable for new sessions for the duration of preconfigured time. Peers are always forced to the denylist in case they time out (failure

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to receive response to control packets). In addition to time outs, certain events can be used to trigger placement of the tunnel on the denylist.

Default

add-tunnel never

Parameters

never

When specified, no tunnels will be placed on the denylist under any circumstance. This parameter will available to preserve backward compatibility.

reason

Specifies the return codes or events that determine which tunnels are added to the denylist. A maximum of eight reasons can be specified in a single statement.

Table 14: Return codes

Return code	Tunnels added to denylist
cdn-err-code	A tunnel is forced to the denylist if that CDN message with the Result Code 2 (Call disconnected for the reasons indicated in error code) is received.
cdn-inv-dest	A tunnel is forced to the denylist if that CDN message with the Result Codes 6 (Invalid destination) is received.
cdn-tmp-no-facilities	A tunnel is forced to the denylist if that CDN message with the Result Code 4 is received (Call failed due to lack of appropriate facilities being available - temporary condition) is received.
cdn-perm-no-facilities	A tunnel is forced to the denylist if that CDN message with the Result Codes 5 (Call failed due to lack of appropriate facilities being available - permanent condition) is received.
tx-cdn-not-established-in-time	A tunnel is forced to the denylist if that CDN message with the Result Code 10 (Call was not established within time allotted by LAC) is sent from the LAC to the LNS.
stop-ccn-err-code	A tunnel is forced to the denylist if that StopCCN message with the Result Code 2 (General error – Error Code indicates the problem) is sent or received.
stop-ccn-other	A tunnel is forced to the denylist if that StopCCN message with the following Result Codes is received: (1) General request to clear control connection (4) Requester is not authorized to establish a control channel (5) Protocol version not supported (6) Requester is being shutdown

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Return code	Tunnels added to denylist
	Or in the case that the StopCCN with the following result codes is transmitted: (4) Requester is not authorized to establish a control channel. (5) Protocol version not supported The receipt of the following Result Codes will never denylist a tunnel: (0) Reserved (3) Control channel already exist (7) Finite state machine error (8) Undefined Transmission of the following Result Codes will never denylist a tunnel: (1) General request to clear control connection (3) Control channel already exist (6) Requester is being shutdown (7) Finite state machine error
addr-change-timeout	A timed-out tunnel for which the peer IP address has changed mid-session (from the one that is provided initially during configuration) is forced to the denylist. In absence of this configuration option, only the configured peer for the tunnel is, but not the tunnel itself which now has a different peer address than the one initially configured.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

5.106 address

address

Syntax

address gi-address [**scope** *scope*]

address *ip-address*[*/prefix-length*]

address pool *pool-name* [**secondary-pool** *sec-pool-name*] [**delimiter** *delimiter*]

address use-pool-from-client [**delimiter** *delimiter*]

no address

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Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host address)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host address)

Full Context

configure subscriber-mgmt local-user-db ipoe host address

configure subscriber-mgmt local-user-db ppp host address

Description

This command configures how the IP address is defined for this host.

When the user database is used from a local DHCP server, then this command defines how to define the IP address the server offers to the DHCP-client.

When the user-db is used for PPPoE authentication, the **gi-address** parameter cannot be used. A fixed IP address causes PPPoE to use this IP address. If no IP address is specified, the PPPoE looks for IP address by other means (DHCP). If a pool name is given, this pool is sent in the DHCP request so it can be used in by the DHCP server to determine which address to give to the host.

The **no** form of this command causes no IP address to be assigned to this host. In a user database referred to from a local DHCP server, creating a host without address information causes the matching client never to get an IP address.

The **no** form of this command reverts to the default.

Parameters

gi-address

When specified, the gi-address of the DHCP message is taken to look for a subnet in the local DHCP server. The first available free address of the subnet is taken and "offered" to the host. When **local-user-db** is used for PPPoE authentication, this has the same result as **no address**.

ip-address

Specifies the fixed IP address to use for this host.

Values a.b.c.d

pool-name/sec-pool-name

Specifies the primary (and secondary) pool (in the local DHCP server), up to 32 characters, to look for an available address. The first available IP address from any subnet in the pool is used. When the local user database is used for PPPoE authentication, this causes the specified pool name to be sent to the DHCP server in a vendor-specific sub-option under Option 82.

use-pool-from-client

Use the pool-name in the Option 82 vendor-specific sub-option.

delimiter

Specifies a single ASCII character specifies the delimiter of separating primary and secondary pool names in option82 VSO.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address *ipv6-address/prefix-length* [**eui-64**] [**track-srrp** *srrp-instance*] [**modifier** *cga-modifier*] [**dad-disable**] [**primary-preference** *primary-preference*] [**tag** *tag-value*]

no address *ipv6-address/prefix-length*

Context

[Tree] (config>service>vprn>if>ipv6 address)

[Tree] (config>service>ies>if>ipv6 address)

Full Context

configure service vprn interface ipv6 address

configure service ies interface ipv6 address

Description

This command assigns an IPv6 address/subnet to the interface.

Up to 16 total primary and secondary IPv4 and IPv6 addresses can be assigned to network interfaces, and up to 256 to access interfaces.

Caution:
Configurations must not exceed 16 secondary IP addresses when IPsec, GRE, L2TPv3, or IP in IP protocols are active on an access interface.

The **no** form of this command removes the IPv6 address from the interface.

Default

no address

Parameters

ipv6-address/prefix-length

Specifies the IPv6 address on the interface.

Values	ipv6-address/prefix:	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
			x:x:x:x:x:x:d.d.d.d
			x [0 to FFFF]H
			d [0 to 255]D
	prefix-length		1 to 128

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eui-64

Keyword is specified, used to form a complete IPv6 address from the supplied prefix and 64-bit interface identifier. The 64-bit interface identifier is derived from the MAC address on Ethernet interfaces. For interfaces without a MAC address, for example, ATM interfaces, the Base MAC address of the chassis is used.

srrp-instance

Specifies the SRRP instance ID that this interface route needs to track.

Values 1 to 4294967295

cga-modifier

Specifies the modifier in 32 hexadecimal nibbles.

Values 0x0–0xFFFFFFFF

dad-disable

Disables DAD and sets the address to preferred, even if there is a duplicated address.

primary-preference

Specifies a *primary-preference* index to an IPv6 address of the interface to enforce the order in which the address is used by control plane protocols and applications which require a fixed address of the interface. These include LDP and Segment Routing.

When originating packets from this interface, the source IPv6 address follows the selection rules in RFC 6724 except for the specific cases where a fixed address is required. In the latter case, the IPv6 address with the lowest primary-preference index is selected. If the selected address is removed, the system selects the IPv6 address with the next lowest *primary-preference* index.

The system assigns the next available index value to any IPv6 address of the interface when configured without the *primary-preference* index value specified. The address index space is unique across all addresses of a given interface.

Values 1 to 4294967295

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

Platforms

All

address

Syntax

address *ipv6-address/prefix-length* [**pd**] [**wan-host**] [**track-srrp** *srrp-instance*] [**holdup-time** *milli-seconds*]

no address *ipv6-address/prefix-length*

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Context

[Tree] (config>service>ies>sub-if>ipv6 address)

[Tree] (config>service>vprn>sub-if>ipv6 address)

Full Context

configure service ies subscriber-interface ipv6 address

configure service vprn subscriber-interface ipv6 address

Description

This command assigns an IPv6 address/subnet to the subscriber interface.

SRRP and an IPv6 Global Unicast Address on a subscriber interface are mutual exclusive:

- **track-srrp** cannot be enabled on a subscriber interface ipv6 address
- when an ipv6 address is configured on a subscriber interface, SRRP cannot be enabled on its group interfaces

The **no** form of this command removes the IPv6 address from the interface.

Parameters

ipv6-address

Specifies the 128-bit IPv6 address.

Values 128-bit hexadecimal IPv6 address in compressed form

prefix-length

Specifies the length of any associated aggregate prefix.

Values 32 to 127

pd

Specifies that this aggregate is used by IPv6 ESM hosts for DHCPv6 prefix-delegation.

wan-host

Specifies that this aggregate is used by IPv6 ESM hosts for local addressing or by a routing gateway's WAN interface.

srrp-instance

Specifies the SRRP instance number.

Values 1 to 4294967295

milli-seconds

Specifies the time to wait, in milli-seconds, for the route before it accepts the new state attribute. This timer is used to prevent fluctuations in route advertisement caused by short lived SRRP instabilities, in the case that such condition arises.

Values 100 to 5000

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address *ip-prefix*/*ip-prefix-length* [**peer-profile** *profile-name*]

no address *ip-prefix*/*ip-prefix-length*

Context

[Tree] (config>service>vprn>gtp>s11>peer-profile-map address)

[Tree] (config>service>vprn>gtp>uplink>peer-profile-map address)

[Tree] (config>router>gtp>s11>peer-profile-map address)

[Tree] (config>router>gtp>uplink>peer-profile-map address)

Full Context

configure service vprn gtp s11 peer-profile-map address

configure service vprn gtp uplink peer-profile-map address

configure router gtp s11 peer-profile-map address

configure router gtp uplink peer-profile-map address

Description

This command configures a mapping of an IP address or subnet to a peer profile. If one peer profile is used for the entire router, it is possible to map the entire IPv4 subnet using 0.0.0.0/0.

If no match is found, the default or default S11 peer profile is used.

The **no** form of this command removes the peer profile mapping, affecting only the setup of new peers.

Parameters

ip-prefix/ip-prefix-length

Specifies the IP prefix and prefix length of the subnet.

Values	*ipv4-prefix*	a.b.c.d (host bits must be 0)
	ipv4-prefix-length	[0 to 32]
	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D
	ipv6-prefix-le	[0 to 128]

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profile-name

Specifies the GTP peer profile associated with the address prefix, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address [*ip-address* | *ipv6-address*]

no address

Context

[Tree] (config>aaa>diam>node>peer address)

Full Context

configure aaa diameter node peer address

Description

This command configures IPv4 or IPv6 address for a Diameter peer.

The **no** form of this command removes the IPv4 or IPv6 from the peer configuration.

Parameters

ip-address

Specifies the IPv4 address in the a.b.c.d form

ipv6-address

Specifies the IPv6 address in the form:

x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

where:

x - [0..FFFF]H

d - [0 to 255] D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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address

Syntax

address {*ip-address/mask* | *ip-address netmask*} [**broadcast {all-ones** | **host-ones}**] [**tag** *tag-value*] [**track-srrp** *srrp-instance*]

no address [*ip-address/mask* | *ip-address netmask*]

Context

[Tree] (config>service>vprn>nw-if address)

[Tree] (config>service>vprn>if address)

[Tree] (config>service>ies>if address)

Full Context

configure service vprn network-interface address

configure service vprn interface address

configure service ies interface address

Description

This command assigns an IP address, IP subnet, and broadcast address format to an IES IP router interface. Only one IP address can be associated with an IP interface. Use the **secondary** command to assign multiple addresses.

An IP address must be assigned to each IES or VPRN IP interface. An IP address and a mask are used together to create a local IP prefix. The defined IP prefix must be unique within the context of the routing instance. It cannot overlap with other existing IP prefixes defined as local subnets on other IP interfaces in the same routing context within the router.

The IP address for the interface can be entered in either CIDR (Classless Inter-Domain Routing) or traditional dotted-decimal notation. The show commands display CIDR notation and is stored in configuration files.

By default, no IP address or subnet association exists on an IP interface until it is explicitly created.

Table 15: Address Admin and Operational States

Address	Admin State	Oper State
No address	up	down
No address	down	down
1.1.1.1	up	up
1.1.1.1	down	down

The operational state is a read-only variable and the only controlling variables are the address and admin states. The address and admin states are independent and can be set independently. If an interface is

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in an administratively up state and an address is assigned, it becomes operationally up and the protocol interfaces and the MPLS LSPs associated with that IP interface are reinitialized.

The **no** form of this command removes the IP address assignment from the IP interface. When the **no address** command is entered, the interface becomes operationally down.

Default

no address

Parameters

ip-address

Specifies the IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that is used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

/

The forward slash is a parameter delimiter and separates the *ip-address* portion of the IP address from the mask that defines the scope of the local subnet. No spaces are allowed between the *ip-address*, the "*/*" and the *mask-length* parameter. If a forward slash is not immediately following the *ip-address*, a dotted decimal mask must follow the prefix.

mask-length

Specifies the subnet mask length when the IP prefix is specified in CIDR notation. When the IP prefix is specified in CIDR notation, a forward slash (/) separates the *ip-address* from the *mask-length* parameter. The mask length parameter indicates the number of bits used for the network portion of the IP address; the remainder of the IP address is used to determine the host portion of the IP address.

Note:
A mask length of 32 is reserved for loopback addresses (includes system addresses).

Default 0 to 31

mask

Specifies the subnet mask in dotted decimal notation. When the IP prefix is not specified in CIDR notation, a space separates the *ip-address* from a traditional dotted decimal mask. The *mask* parameter indicates the complete mask that is used in a logical 'AND' function to derive the local subnet of the IP address. Allowed values are dotted decimal addresses in the range 128.0.0.0 – 255.255.255.254.

Note:
A mask of 255.255.255.255 is reserved for system IP addresses.

broadcast

Overrides the default broadcast address used by the IP interface when sourcing IP broadcasts on the IP interface. If no broadcast format is specified for the IP address, the default value is **host-ones** which indicates a subnet broadcast address. Use this

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parameter to change the broadcast address to **all-ones** or revert back to a broadcast address of **host-ones**.

The broadcast format on an IP interface can be specified when the IP address is assigned or changed.

This parameter does not affect the type of broadcasts that can be received by the IP interface. A host sending either the local broadcast (**all-ones**) or the valid subnet broadcast address (**host-ones**) is received by the IP interface.

Default host-ones

all-ones

Specifies the broadcast address used by the IP interface for this IP address is 255.255.255.255, also known as the local broadcast.

host-ones

Specifies that the broadcast address used by the IP interface for this IP address is the subnet broadcast address. This is an IP address that corresponds to the local subnet described by the *ip-address* and the *mask-length* or *mask* with all the host bits set to binary one. This is the default broadcast address used by an IP interface.

The **broadcast** parameter within the **address** command does not have a negate feature, which is usually used to revert a parameter to the default value. To change the **broadcast** type to **host-ones** after being changed to **all-ones**, the **address** command must be executed with the **broadcast** parameter defined.

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

srrp-instance

Tracks the specified SRRP instance state on the IPv6 address.

Platforms

All

address

Syntax

address {*ip-address/mask* | *ip-address netmask*} [**remote-ip** *ip-address*]

no address

Context

[Tree] (config>service>vprn>red-if address)

Full Context

configure service vprn redundant-interface address

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Description

This command assigns an IP address mask or netmask and a remote IP address to the interface.

The **no** form of this command removes the values from the configuration.

Parameters

ip-address/mask

Assigns an IP address/IP subnet format to the interface.

ip-address netmask

Assigns an IP address netmask to the interface. Specifies a string of 0s and 1s that mask or screen out the network part of an IP address so that only the host computer part of the address remains.

remote-ip *ip-address*

Assigns a remote IP to the interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address *ip-address/mask* [*netmask*] [**gw-ip-address** *gw-ip-address*] [**populate-host-routes**] [**track-srrp** *srrp-instance*] [**holdup-time** *milli-seconds*]

no address *ip-address/mask* [*netmask*]

Context

[Tree] (config>service>ies>sub-if address)

[Tree] (config>service>vprn>sub-if address)

Full Context

configure service ies subscriber-interface address

configure service vprn subscriber-interface address

Description

This command configures the subscriber interface address along with additional parameters related to multi-chassis redundancy.

The **no** form of this command reverts to the default.

Parameters

ip-address

The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that is used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

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Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

/

The forward slash is a parameter delimiter and separates the *ip-address* portion of the IP address from the mask that defines the scope of the local subnet. No spaces are allowed between the *ip-address*, the "*/*" and the *mask-length* parameter. If a forward slash is not immediately following the *ip-address*, a dotted decimal mask must follow the prefix.

mask

The subnet mask in dotted decimal notation. When the IP prefix is not specified in CIDR notation, a space separates the *ip-address* from a traditional dotted decimal mask. The *mask* parameter indicates the complete mask that is used in a logical AND function to derive the local subnet of the IP address. Allowed values are dotted decimal addresses in the range 128.0.0.0 – 255.255.255.254.

Note:
A mask of 255.255.255.255 is reserved for system IP addresses.

netmask

The subnet mask in dotted decimal notation.

Values 0.0.0.0 - 255.255.255.255

gw-ip-address

Specifies a separate IP address within the subnet for SRRP routing purposes. This parameter must be followed by a valid IP interface that exists within the subscriber subnet created by the address command. The defined gateway IP address cannot currently exist as a subscriber host (static or dynamic). If the defined ip-address already exists as a subscriber host address, the address command will fail. The specified ip-address must be unique within the system.

The *gw-ip-address* parameter may be specified at any time. If the subscriber subnet was created previously, executing the **address** command with a *gw-ip-address* parameter will simply add the SRRP gateway IP address to the existing subnet.

If the **address** command is executed without the *gw-ip-address* parameter when the subscriber subnet is associated with an active SRRP instance, the address will fail. If the SRRP instance is inactive or removed, executing the **address** command without the *gw-ip-address* parameter removes the SRRP gateway IP address from the specified subscriber subnet.

If the **address** command is executed with a new GW address, all SRRP instances associated with the specified subscriber subnet is updated with the new SRRP gateway IP address.

populate-host-routes

Specifies to populate subscriber-host routes in local FDB. Storing them in FDB benefits topologies only where the external router advertises more specific routes than the one corresponding to locally configured subscriber-interface subnets.

milli-seconds

Specifies the time to wait, in milli-seconds, for the route before it accepts the new state attribute. This timer is used to prevent fluctuations in route advertisement caused by short lived SRRP instabilities, in the case that such condition arises.

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Values 100 to 5000

srrp-inst

Enables the subscriber interface route to track the SRRP state of the specified SRRP instance. The route updates its state attribute to reflect the *state* of SRRP instance:

- Master = srrp-master
- Any other = srrp-non-master

Routing policy can be applied towards the state attribute in order to customize the advertisement of the route. Only one SRRP instance can be tracked per subscriber interface route. Tracked SRRP instance can be part of the Fate Sharing Group. This command can be enabled at any time.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** [*ip-address* | *ipv6-address*]

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw address)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw address)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw address

configure service ies subscriber-interface group-interface wlan-gw address

Description

This command configures an IPv4 or IPv6 address of a WLAN Gateway.

The **no** form of this command removes the IPv4 or IPv6 address from the configuration.

Parameters

ip-address

Specifies up to four IPv4 addresses.

Values a.b.c.d

ipv6-address

Specifies up to six gateway IPv6 endpoint addresses.

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Values	ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D

ipv6-address

Specifies up to six IPv6 addresses.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address *ip-address* [/*mask*] [*netmask*]

no address

Context

[Tree] (config>service>vpls>interface address)

Full Context

configure service vpls interface address

Description

This command assigns an IP address, IP subnet, and broadcast address format to an IES IP router interface. Only one IP address can be associated with an IP interface.

An IP address must be assigned to each IES IP interface. An IP address and a mask are used together to create a local IP prefix. The defined IP prefix must be unique within the context of the routing instance. It cannot overlap with other existing IP prefixes defined as local subnets on other IP interfaces in the same routing context within the router.

The IP address for the interface can be entered in either CIDR (Classless Inter-Domain Routing) or traditional dotted decimal notation. The show commands display CIDR notation and is stored in configuration files.

By default, no IP address or subnet association exists on an IP interface until it is explicitly created.

Use the **no** form of this command to remove the IP address assignment from the IP interface. When the **no address** command is entered, the interface becomes operationally down.

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Table 16: Address Admin and Operational States

Address	Admin State	Oper State
No address	up	down
No address	down	down
1.1.1.1	up	up
1.1.1.1	down	down

The operational state is a read-only variable and the only controlling variables are the address and admin states. The address and admin states are independent and can be set independently. If an interface is in an administratively up state and an address is assigned, it becomes operationally up and the protocol interfaces and the MPLS LSPs associated with that IP interface will be reinitialized.

Parameters

ip-address

The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP netmask

The subnet mask in dotted decimal notation. When the IP prefix is not specified in CIDR notation, a space separates the *ip-address* from a traditional dotted decimal mask. The *mask* parameter indicates the complete mask that will be used in a logical 'AND' function to derive the local subnet of the IP address. Allowed values are dotted decimal addresses in the range 128.0.0.0 to 255.255.255.254. A mask of 255.255.255.255 is reserved for system IP addresses.

Platforms

All

address

Syntax

address {*ip-address/mask* | *ip-address netmask*} [**remote-ip** *ip-address*]

no address

Context

[Tree] (config>service>ies>redundant-interface address)

Full Context

configure service ies redundant-interface address

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Description

This command assigns an IP address mask or netmask and a remote IP address to the interface.

Parameters

ip-address/mask

Assigns an IP address/IP subnet format to the interface.

ip-address netmask

Specifies a string of 0s and 1s that mask or screen out the network part of an IP address so that only the host computer part of the address remains.

Assigns an IP address netmask to the interface.

remote-ip *ip-address*

Assigns a remote IP to the interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** *ipv6-address*

Context

[Tree] (config>service>vprn>nat>inside>dslite address)

Full Context

configure service vprn nat inside dual-stack-lite address

Description

This command configures a DS-Lite IPv6 address

The **no** form of this command removes the value from the configuration.

Parameters

ipv6-address

Specifies the IPv6 address on the interface.

Values	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** *ip-address*

Context

[Tree] (config>service>vprn>radius-proxy>server>wlan-gw address)

[Tree] (config>router>radius-proxy>server>wlan-gw address)

Full Context

configure service vprn radius-proxy server wlan-gw address

configure router radius-proxy server wlan-gw address

Description

This command configures the IPv4 address of the distributed RADIUS proxy server for use by the access points.

The **no** form of this command removes the address from the configuration.

Parameters

ip-address

Specifies the destination IPv4 address of the RADIUS proxy server.

Values ipv4-address a.b.c.d

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** *ip-address/mask*

Context

[Tree] (config>service>vprn>nat>inside>l2-aware address)

[Tree] (config>router>nat>inside>l2-aware address)

Full Context

configure service vprn nat inside l2-aware address

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configure router nat inside l2-aware address

Description

This command configures a Layer 2-aware NAT address. This address acts as a local address of the system. Hosts connected to the inside service are able to ARP for this address. To verify connectivity, a host can also ping the address. This address is typically used as next hop of the default route of a Layer 2-aware host. The given mask defines a Layer 2-aware subnet. The (inside) IP address used by a Layer 2-aware host must match one of the subnets defined here or it will be rejected.

Parameters

ip-address

Specifies the IP address in a.b.c.d format.

mask

Specifies the mask.

Values 16 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** *ip-address*

Context

[Tree] (config>service>vprn>pim>rp>rp-candidate address)

[Tree] (config>service>vprn>pim>rp>bsr-candidate address)

Full Context

configure service vprn pim rp rp-candidate address

configure service vprn pim rp bsr-candidate address

Description

This command configures a static bootstrap or rendezvous point (RP) as long as the source is not directly attached to this router.

Use the **no** form of this command to remove the static RP from the configuration.

Default

No IP address is specified.

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Parameters

ip-address

The static IP address of the RP. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values 1.0.0.0 to 223.255.255.255

Platforms

All

address

Syntax

[**no**] **address** *ipv6-address*

Context

[Tree] (config>service>vprn>pim>rp>ipv6>rp-candidate address)

[Tree] (config>service>vprn>pim>rp>ipv6>bsr-candidate address)

Full Context

configure service vprn pim rp ipv6 rp-candidate address

configure service vprn pim rp ipv6 bsr-candidate address

Description

This command configures a static bootstrap or rendezvous point (RP) as long as the source is not directly attached to this router.

Use the **no** form of this command to remove the static RP from the configuration.

Default

No IP address is specified.

Parameters

ipv6-address

The static IP address of the RP. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values

ipv6-address	: x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H

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d [0 to 255]D

Platforms

All

address

Syntax

[**no**] **address** *ip-address*

Context

[Tree] (config>service>vprn>pim>rp>static address)

Full Context

configure service vprn pim rp static address

Description

This command configures the static rendezvous point (RP) address.

The **no** form of this command removes the static RP entry from the configuration.

Platforms

All

address

Syntax

address *ip-address*

no address

Context

[Tree] (config>app-assure>group>evt-log>syslog address)

Full Context

configure application-assurance group event-log syslog address

Description

This command configures the target syslog host IP address.

Default

no address

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Parameters

ip-address

Specifies the IP address of the target syslog host, either IPv4 or IPv6.

Values ipv4-address a.b.c.d

ipv6-address x:x:x:x:x:x:x:x

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address {*ip-address/mask* | *ip-address netmask*}

no address [*ip-address/mask* | *ip-address netmask*]

Context

[Tree] (config>service>vprn>aa-interface address)

[Tree] (config>service>ies>aa-interface address)

Full Context

configure service vprn aa-interface address

configure service ies aa-interface address

Description

This command assigns an IP address to the interface.

Default

no address

Parameters

ip-address/mask

Specifies an IP address/IP subnet format to the interface.

ip-address netmask

Specifies a string of 0s and 1s that mask or screen out the network part of an IP address so that only the host computer part of the address remains.

create

Keyword that specifies to create the interface.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address prefix *ip-prefix/ip-prefix-len*

address from *begin-ip-address* **to** *end-ip-address*

no address

Context

[Tree] (config>ipsec>ts-list>local>entry address)

[Tree] (config>ipsec>ts-list>remote>entry address)

Full Context

configure ipsec ts-list local entry address

configure ipsec ts-list remote entry address

Description

This command specifies the address range in the IKEv2 traffic selector.

Default

no address

Parameters

ip-prefix/ip-prefix-len

Specifies the IP prefix and subnet mask.

begin-ip-address

Specifies the beginning address of the range for this entry.

end-ip-address

Specifies the ending address of the range for this entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** *ipv6-address*

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Context

[Tree] (config>router>nat>inside>dual-stack-lite address)

Full Context

configure router nat inside dual-stack-lite address

Description

This command configures a DS-Lite IPv6 address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

[**no**] **address** *ip-address/mask*

Context

[Tree] (config>router>nat>inside address)

Full Context

configure router nat inside address

Description

This command configures the IP address and mask of the subnet.

The **no** form of the command removes the IP address and prefix length from the configuration.

Parameters

ip-address/mask

Specifies the IP address and mask of the subnet.

Values

ip-address:	a.b.c.d
mask:	16 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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address

Syntax

[**no**] **address** *ip-address/mask*

Context

[Tree] (config>service>ies>video-interface address)

[Tree] (config>service>vprn>video-interface address)

Full Context

configure service ies video-interface address

configure service vprn video-interface address

Description

This command assigns an IP address to the video interface within the service. Video interface IP addresses are used by video service clients to direct requests for video server services. Up to 16 IP address/subnets can be defined. The addresses defined must all be distinct and cannot be contained within a previously defined address.

The **no** form of the command deletes the IP address/subnet from the video interface.

Parameters

ip-address

Specifies the IP address/subnet of the video interface in dotted decimal notation.

mask

Specifies the subnet mask length for the IP address expressed as an integer.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

address

Syntax

address *ip-address*

no address

Context

[Tree] (config>router>pim>rp>bsr-candidate address)

Full Context

configure router pim rp bsr-candidate address

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Description

This command configures the candidate BSR IP address. This address is for Bootstrap router election.

The **no** form of this command removes the IP address from the BSR candidate configuration.

Default

no address

Parameters

ip-address

Specifies the IP host address used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values 1.0.0.0 – 223.255.255.255

Platforms

All

address

Syntax

address *ipv6-address*

no address

Context

[Tree] (config>router>pim>rp>ipv6>bsr-candidate address)

Full Context

configure router pim rp ipv6 bsr-candidate address

Description

This command configures the candidate BSR IPv6 address. This address is for Bootstrap router election.

The **no** form of this command removes the IPv6 address from the BSR candidate configuration.

Default

no address

Parameters

ipv6-address

Specifies the IPv6 host address used by the interface within the subnet.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

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x - [0 to FFFF]H

d - [0 to 255]D

Platforms

All

address

Syntax

address *ipv6-address*

no address

Context

[Tree] (config>router>pim>rp>ipv6>rp-candidate address)

Full Context

configure router pim rp ipv6 rp-candidate address

Description

This command configures the local IPv6 RP address. This address is sent in the RP candidate advertisements to the bootstrap router.

The **no** form of this command removes the IPv6 address from the RP candidate configuration.

Default

no address

Parameters

ipv6-address

Specifies the IPv6 RP address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

prefix-length: 16 to 128

Platforms

All

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address

Syntax

address *ip-address*

no address

Context

[Tree] (config>router>pim>rp>rp-candidate address)

Full Context

configure router pim rp rp-candidate address

Description

This command configures the local RP address. This address is sent in the RP candidate advertisements to the bootstrap router.

The **no** form of this command removes the IP address from the RP candidate configuration.

Default

no address

Parameters

ip-address

Specifies the *ip-address.*

Values 1.0.0.0 – 223.255.255.255

Platforms

All

address

Syntax

address *ip-address*

no address

Context

[Tree] (config>router>pim>rp>ipv6>static address)

[Tree] (config>router>pim>rp>static address)

Full Context

configure router pim rp ipv6 static address

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configure router pim rp static address

Description

This command configures the Rendezvous Point (RP) address that should be used by the router for the range of multicast groups configured by the range command.

The **no** form of this command removes the IP address from the static configuration.

Parameters

ip-address

Specifies the static IP address of the RP. The *ip-address* portion of the **address** command specifies the IP host address that is used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values 1.0.0.0 – 223.255.255.255

Platforms

All

address

Syntax

address *ipv4-address*

no address

Context

[Tree] (config>li>x-interfaces>lics>lic address)

Full Context

configure li x-interfaces lics lic address

Description

This command configures the IP address of this LIC.

The **no** form of this command reverts to the default.

Parameters

ipv4-address

Specifies the IPv4 address of the LIC.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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address

Syntax

address *ipv4-address*

no address

Context

[Tree] (config>li>x-interfaces>x1 address)

Full Context

configure li x-interfaces x1 address

Description

This command configures the X1 interface IP address that must match an IP address configured on the router.

The **no** form of this command reverts to the default.

Parameters

ipv4-address

Specifies the IPv4 address of the LIC.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

address

Syntax

address *ipv4-address*

no address

Context

[Tree] (config>li>x-interfaces>x2 address)

Full Context

configure li x-interfaces x2 address

Description

This command configures the X2 interface IP address that must match an IP address configured on the router.

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The **no** form of this command reverts to the default.

Parameters

ipv4-address

Specifies the IPv4 address of the LIC.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

address

Syntax

address {*ip-address*/*mask* | *ip-address netmask*} [**broadcast** {**all-ones** | **host-ones**}] [**tag** *tag-value*] [**track-srrp** *srrp-instance*] [**gre-termination**]

no address

Context

[Tree] (config>router>if address)

Full Context

configure router interface address

Description

This command assigns an IP address, IP subnet, and broadcast address format to an IP interface. Only one IP address can be associated with an IP interface. Use the **secondary** command to assign additional addresses.

An IP address must be assigned to each IP interface. An IP address and a mask combine to create a local IP prefix. The defined IP prefix must be unique within the context of the routing instance. It cannot overlap with other existing IP prefixes defined as local subnets on other IP interfaces in the same routing context within the router.

From Release 19.10 onward, the overlap restriction is not applicable for host addresses configured on loopback interfaces. For example, a loopback interface addresses configured with a mask of 32 or netmask of 255.255.255.255 can overlap with other prefixes on other IP interfaces in the same routing context within the router.

The IP address for the interface can be entered in either CIDR or traditional dotted-decimal notation. **Show** commands display CIDR notation and are stored in configuration files.

By default, no IP address or subnet association exists on an IP interface until it is explicitly created.

The **no** form of this command removes the IP address assignment from the IP interface. Interface-specific configurations for MPLS are also removed. This will operationally stop any MPLS LSPs that explicitly reference that IP address. When a new IP address is configured, interface-specific configurations for MPLS need to be added. The IEEE 1588 port-based timestamping configured with **ptp-hw-assist** is also disabled.

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Default

no address

Parameters

ip-address

Specifies the IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values 1.0.0.0 to 223.255.255.255

/

The forward slash is a parameter delimiter that separates the *ip-address* portion of the IP address from the mask that defines the scope of the local subnet. No spaces are allowed between the *ip-address*, the "*/*", and the *mask* parameter. If a forward slash does not immediately follow the *ip-address*, a dotted decimal mask must follow the prefix.

mask

Specifies the subnet mask length when the IP prefix is specified in CIDR notation. When the IP prefix is specified in CIDR notation, a forward slash (/) separates the *ip-address* from the *mask* parameter. The *mask* parameter indicates the number of bits used for the network portion of the IP address; the remainder of the IP address is used to determine the host portion of the IP address. Allowed values are integers in the range 1— 32. A mask length of 32 is reserved for system IP addresses.

Values 1 to 32

netmask

Specifies the subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

broadcast

Optional parameter that overrides the default broadcast address used by the IP interface when sourcing IP broadcasts on the IP interface. If no broadcast format is specified for the IP address, the default value is **host-ones,** which indicates a subnet broadcast address. Use this parameter to change the broadcast address to **all-ones** or revert back to a broadcast address of **host-ones**.

The **broadcast** parameter within the **address** command does not have a negate feature, which is usually used to revert a parameter to the default value. To change the **broadcast** type to **host-ones** after being changed to **all-ones**, the **address** command must be executed with the **broadcast** parameter defined.

The broadcast format on an IP interface can be specified when the IP address is assigned or changed.

This parameter does not affect the type of broadcasts that can be received by the IP interface. A host sending either the local broadcast (**all-ones**) or the valid subnet broadcast address (**host-ones**) will be received by the IP interface.

Default host-ones

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Values all-ones, host-ones

all-ones

The **all-ones** keyword following the **broadcast** parameter specifies that the broadcast address used by the IP interface for this IP address will be 255.255.255.255, also known as the local broadcast.

host-ones

Specifies that the broadcast address used by the IP interface for this IP address will be the subnet broadcast address. This is an IP address that corresponds to the local subnet described by the *ip-address* and the *netmask* with all the host bits set to binary 1. This is the default broadcast address used by an IP interface.

srrp-instance

Specifies the SRRP instance ID that this interface route needs to track.

Values 1 to 4294967295

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

gre-termination

Optional keyword that allows GRE SDP tunnel packets to terminate on the router interface using the /31 value of the configured IP address. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Services Overview Guide* for information about using **gre-termination**.

Platforms

All

address

Syntax

address *ipv6-address/prefix-length* [**eui-64**] [**track-srrp** *srrp-instance*] [**modifier** *cga-modifier*] [**dad-disable**] [**primary-preference** *primary-preference*] [**tag** *tag-value*]

no address *ipv6-address/prefix-length*

Context

[Tree] (config>router>if>ipv6 address)

Full Context

configure router interface ipv6 address

Description

This command assigns an IPv6 address to the interface. Up to 16 total primary and secondary IPv4 and IPv6 addresses can be assigned to network interfaces, and up to 256 to access interfaces.

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Caution:
Configurations must not exceed 16 IPv6 addresses when IPsec, GRE, L2TPv3, or IP in IP protocols are active on an access interface.

A global IPv6 address, together with the *prefix-length*, creates a locally configured interface IPv6 prefix and subnet. The defined global IP prefix must be unique within the context of a routing instance. It cannot overlap with any other existing global IP prefix defined on another IP interface within the same routing context in the router.

This overlap restriction is not applicable for IPv6 host addresses configured on loopback interfaces. For example, an IPv6 loopback host address configured on a loopback interface may overlap with another prefix subnet configured on another IP interface within the same routing context.

Default

no address

Parameters

ipv6-address/prefix-length

Specifies the IPv6 address on the interface.

Values

ipv6-address/prefix-length:	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D
	prefix-length	1 to 128

eui-64

Keyword used to form a complete IPv6 address from the supplied prefix and 64-bit interface identifier. The 64-bit interface identifier is derived from the MAC address on Ethernet interfaces. For interfaces without a MAC address, for example, POS interfaces, the Base MAC address of the chassis should be used.

srrp-instance

Indicates the unique identifier of the tracked SRRP instance.

Values 1 to 4294967295

cga-modifier

Sets the modifier for cryptographically-assigned addresses.

Values 0x0..0xFFFFFFFF...(32 hex nibbles)

dad-disable

DKeyword that disables DAD and sets the address to preferred, even if there is a duplicated address.

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primary-preference

Specifies a *primary-preference* index to an IPv6 address of the interface to enforce the order in which the address is used by control plane protocols and applications which require a fixed address of the interface. These include LDP and Segment Routing.

When originating packets from this interface, the source IPv6 address follows the selection rules in RFC 6724 except for the specific cases where a fixed address is required. In the latter case, the IPv6 address with the lowest primary-preference index is selected. If the selected address is removed, the system selects the IPv6 address with the next lowest *primary-preference* index.

The system assigns the next available index value to any IPv6 address of the interface when configured without the *primary-preference* index value specified. The address index space is unique across all addresses of a given interface.

Values 1 to 4294967295

srrp

Tracks the specified SRRP instance state on the IPv6 address.

Values 1 to 4294967295

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

Platforms

All

address

Syntax

[**no**] **address** *ip-prefix/ip-prefix-length* [**active** | **standby** | **standby/A** | **standby/B** | **standby/C** | **standby/D**]

Context

[Tree] (bof address)

Full Context

bof address

Description

This command assigns an IP address to the management Ethernet port on a CPM. The IP addresses are applied by the boot loader and the running image. The active and standby IP addresses must be on the same subnet.

On all systems except the 7950 XRS-40, an address must be assigned with the **active** keyword and for systems with a redundant CPM an additional address may be assigned with the **standby** keyword.

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The active address is used by the active CPM whether its CPM A or CPM B and the standby address, if specified, is used by the standby CPM whether its CPM B or CPM A.

For the 7950 XRS-40, if the extension chassis shall boot from local compact flash then an active and standby address should be defined for use by the master chassis as defined above.

For the 7950 XRS-40, if the extension chassis shall boot from remote URL, then it is required to assign addresses to the management Ethernet ports for CPM C and CPM D. In this case, the BOF should be updated to have addresses defined using the **standby/A**, **standby/B**, **standby/C**, and **standby/D** keywords in addition to an address using the **active** keyword. With these keywords, CPM A shall always use the address defined using the **standby/A** address when CPM A is running as the standby CPM. Similarly, CPM B shall always use the address defined using the **standby/B** address when CPM B is running as the standby CPM. The active CPM of CPM A and CPM B shall use the address defined using the **active** keyword.

Deleting a BOF address entry is not allowed from a remote session.

Note that changing the active and standby addresses without reboot standby CPM may cause a boot-env sync to fail.

The **no** form of this command deletes the IP address from the CPM Ethernet port.

Parameters

ip-prefix/ip-prefix-length

Specifies the destination address of the aggregate route in dotted decimal notation.

Values

ipv4-prefix	*a.b.c.d* (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix	*x:x:x:x:x:x:x:x* (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
ipv6-prefix-length	0 to 128	

active | standby | standby/A | standby/B | standby/C | standby/D

specifies which CPM Ethernet address is being configured

Default active

Platforms

All

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address

Syntax

address {**01:1b:19:00:00:00**| **01:80:c2:00:00:0e**}

Context

[Tree] (config>system>ptp>port address)

Full Context

configure system ptp port address

Description

This command allows for the specification of the mac-address to be used for the destination MAC address of the transmitted ptp messages.

IEEE Std 1588-2008 Annex F defines two reserved addresses for 1588 messages. These are:

- **01-1B-19-00-00-00** — all except the peer delay mechanism messages
- **01-80-C2-00-00-0E** — peer delay mechanism messages

Both addresses are supported for reception independent of the address configured by this command.

The **no** form of this command sets the address to the default address.

Default

address 01-1B-19-00-00-00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

address

Syntax

address *ip-address*

no address

Context

[Tree] (config>log>syslog address)

[Tree] (config>service>vprn>log>syslog address)

Full Context

configure log syslog address

configure service vprn log syslog address

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Description

This command configures the IP address for a syslog target host.

This command is mandatory. If an address is not configured, syslog data cannot be forwarded to the syslog target host.

Only one address can be associated with a syslog ID. If multiple addresses are entered, the last address entered overwrites the previous address.

The same syslog target host can be used by multiple log IDs.

The **no** form of this command removes the syslog target host IP address.

Default

no address

Parameters

ip-address

Specifies the IP address of the syslog target host in dotted-decimal notation.

Values ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

fqdn — Fully Qualified Domain Name, up to 255 characters

Platforms

All

address

Syntax

address *ip-address* [**port** *port*]

no address

Context

[Tree] (config>system>security>ldap>server address)

Full Context

configure system security ldap server address

Description

This command configures the IPv4 or IPv6 address for the LDAP server.

The **no** version of this command removes the server address.

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Parameters

ip-address

The IP address of the LDAP server.

Values

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0..FFFF]H
	d: [0..255]D

port

Specifies the port ID. The port is the LDAP server listening port; by default it is 389 but if the listening port on LDAP server is changed, this command needs to be configured accordingly.

Values 1 to 65535

Default 389

Platforms

All

address

Syntax

address *ip-address*

no address

Context

[Tree] (config>service>vprn>static-route-entry>next-hop>backup-next-hop address)

[Tree] (config>router>static-route-entry>next-hop>backup-next-hop address)

Full Context

configure service vprn static-route-entry next-hop backup-next-hop address

configure router static-route-entry next-hop backup-next-hop address

Description

This command specifies the backup IP forwarding address that is used for static route Fast ReRoute (FRR). The configured address, if reachable, acts as pre-installed backup forwarding information that can be used when the primary IP next-hop suddenly fails.

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The configured backup next-hop IP address can be directly or indirectly connected (using an IGP or tunnel) to the node. The backup next-hop forwarding information or the Next-hop Label Forwarding Entry (NHLFE) tunnel forwarding information from the IP Routing Table Manager (RTM) is used to preconfigure an IP fast-reroute backup path.

One backup next-hop address can protect a single primary static route entry next-hop address without ECMP and it is only activated when the primary next-hop has no active ECMP.

The configured IP address can be either on the network or the access side.

By default, there is no backup next-hop address configured.

The **no** form of this command deletes the backup next-hop address entry.

Parameters

ip-address

Specifies the backup IP forwarding address.

Values	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0..FFFF]H
		d: [0..255]D

Platforms

All

address

Syntax

[**no**] **address** *ip-address* [*:port*]

Context

[Tree] (config>app-assure>group>cflowd>direct-export>collector address)

Full Context

configure application-assurance group cflowd direct-export collector address

Description

This command configures the Cflowd direct export collector remote address. Two addresses can be configured for each collector for redundancy. AA sends the same records to both at the same time.

The **no** form of this command removes the address from the configuration

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Parameters

ip-address

Specifies the IP address of the Cflowd direct export collector, in the a.b.c.d format.

port

Specifies the port of the Cflowd direct export collector.

Values 1 to 65535

Default 4739

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address

Syntax

address *ipv6-address/prefix-length* [**eui-64**] [**dad-disable**]

no address *ipv6-address/prefix-length*

Context

[Tree] (config>service>ies>red-if>ipv6 address)

[Tree] (config>service>vprn>red-if>ipv6 address)

Full Context

configure service ies redundant-interface ipv6 address

configure service vprn redundant-interface ipv6 address

Description

This command assigns an IPv6 address and prefix length to the redundant interface.

The IPv6 address for the redundant interface can only be configured if the spoke SDP of the redundant interface is set to VC type **ipipe**.

The **no** form of this command removes the IPv6 address from the redundant interface.

Parameters

ipv6-address/prefix-length

Specifies the IPv6 address on the redundant interface.

Values	ipv6-address/prefix:	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
			x:x:x:x:x:x:d.d.d.d
			x [0 to FFFF]H

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	d [0 to 255]D
prefix-length	4 to 128

eui-64

Keyword used to specify a complete IPv6 address from the supplied prefix and 64-bit interface identifier is formed. The 64-bit interface identifier is derived from the MAC address on Ethernet interfaces. For interfaces without a MAC address, for example ATM interfaces, the Base MAC address of the chassis is used.

dad-disable

Keyword used to disable DAD and set the address to preferred, even if there is a duplicated address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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6 a Commands – Part II

6.1 address-avp

address-avp

Syntax

[**no**] **address-avp**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp address-avp)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp address-avp

Description

This command includes the following subscriber host/session address/prefix AVPs in all Diameter DCCA CCR messages:

- [8] Framed-IP-Address
- [97] Framed-IPv6-Prefix
- [123] Delegated-IPv6-Prefix
- [6527-99] Alc-IPv6-Address

Note: Only the address/prefix of the subscriber host that triggered the creation of the Diameter Gy session is included.

The **no** form of this command removes the address AVPs from the Diameter DCCA CCR messages.

Default

address-avp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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6.2 address-map

address-map

Syntax

address-map *start-inside-ip-address* **to** *end-inside-ip-address* **subscriber-type** *nat-sub-type* **nat-policy** *nat-policy-name* [**create**]

no address-map *start-inside-ip-address* **to** *end-inside-ip-address* **subscriber-type** *nat-sub-type* **nat-policy** *nat-policy-name*

Context

[Tree] (config>router>nat>inside>deterministic address-map)

[Tree] (config>service>vprn>nat>inside>deterministic address-map)

Full Context

configure router nat inside deterministic address-map

configure service vprn nat inside deterministic address-map

Description

This command configures the mapping of the inside IP addresses of deterministic NAT44 subscribers to the outside IP addresses in a NAT pool. This mapping is applicable is applicable only to deterministic NAT44 with a single ESA-VM in a NAT-group. The number of subscribers per outside IP address is flexible and not restricted to a discrete range governed by the 2^n rule.

When configured, the **classic-lsn-max-subscriber-limit** command must be set to 1.

The **no** form of this command removes the configuration.

Parameters

start-inside-ip-address

Specifies the first IP address in the inside IP address range.

Values

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length	0 to 128

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end-inside-ip-address

Specifies the last IP address in the inside IP address range.

Values

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length	0 to 128

nat-sub-type

Specifies the NAT subscriber type.

Values classic-lsn-sub, dslite-lsn-sub

nat-policy-name

Specifies the NAT policy name, up to 32 characters, that is referencing a NAT pool.

Values classic-lsn-sub, dslite-lsn-sub

create

Keyword used to create the address mapping.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.3 address-pooling

address-pooling

Syntax

[no] address-pooling {paired | arbitrary}

Context

[Tree] (config>router>nat>outside>pool address-pooling)

Full Context

configure router nat outside pool address-pooling

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Description

This command configures address pooling to allocate outside ports for a NAT subscriber in relation to the outside IP address.

The behavior in NAT, as defined in RFC 7857, §4, allows the subscriber to be mapped to a single outside IP address and allows for outside ports always to be allocated from that same outside IP address. If this outside IP address becomes exhausted of ports, no new ports for the subscriber can be allocated. This behavior is called paired address pooling.

The alternative behavior is arbitrary address pooling, where a NAT subscriber is mapped to an alternate IP address when the current outside IP address runs out of ports. This way, the subscriber becomes associated with multiple outside IP addresses. While this results in better resource utilization in NAT, it may negatively affect the behavior of some applications.

Default

address-pooling paired

Parameters

paired

Specifies that the subscriber can allocate ports from a single outside IP address. When this IP address runs out of the ports, the subscriber is denied allocation of new ports.

arbitrary

Specifies that the subscriber can allocate ports from multiple outside IP addresses.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.4 address-pref

address-pref

Syntax

address-pref {**ipv4-only** | **ipv6-first**}

no address-pref

Context

[Tree] (config>system>dns address-pref)

Full Context

configure system dns address-pref

Description

This command configures the DNS address resolving order preference. By default, DNS names are queried for A-records only (address-preference is IPv4-only).

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If the address-preference is set to IPv6-first, the DNS server will be queried for AAAA-records (IPv6) first and if a successful replied is not received, then the DNS server is queried for A-records. IPv6 applies only to the 7750 SR and 7950 XRS.

Default

address-pref ipv4-only

Platforms

All

6.5 address-range

address-range

Syntax

no address-range *start-ip-address end-ip-address* [**failover** {**local** | **remote** | **access-driven**}]

no address-range *start-ip-address end-ip-address*

Context

[Tree] (config>router>dhcp>server>pool>subnet address-range)

Full Context

configure router dhcp local-dhcp-server pool subnet address-range

Description

This command configures a range of IP addresses to be served from the pool. All IP addresses between the start and end IP addresses are included (other than specific excluded addresses).

The **no** form of this command removes the address-range parameters from the configuration.

Parameters

start-ip-address

Specifies the start address of this range to include. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

end-ip-address

Specifies the end address of this range to include. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

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local

Specifies that the local DHCP server has the ownership of this dress range in a redundant setup under normal operation.

remote

Specifies that the remote DHCP server has the ownership of this address range in a redundant setup under normal operation.

access-driven

Specifies that the DHCP server failover system is in control by the access protection mechanisms (SRRP or MC-LAG).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

address-range

Syntax

address-range *start-ip-address end-ip-address* [**create**]

no address-range *start-ip-address end-ip-address*

Context

[Tree] (config>service>vprn>nat>outside>pool address-range)

[Tree] (config>router>nat>outside>pool address-range)

Full Context

configure service vprn nat outside pool address-range

configure router nat outside pool address-range

Description

This command configures a NAT address range.

Parameters

start-ip-address

Specifies the beginning IP address in a.b.c.d form.

end-ip-address

Specifies the ending IP address in a.b.c.d. form.

create

This parameter must be specified to create the address range instance

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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address-range

Syntax

address-range start *ipv4-address* **end** *ipv4-address*

no address-range

Context

[Tree] (config>li>x-interfaces>x3 address-range)

Full Context

configure li x-interfaces x3 address-range

Description

This command configures the range of IP addresses to use for the X3 interface. The number of addresses should correspond to the number of ISAs used for the x-interface application.

The **no** form of this command reverts to the default.

Parameters

ipv4-address

Specifies an IPv4 address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.6 address-source

address-source

Syntax

address-source router *router-instance* **dhcp-server** *local-dhcp4-svr-name* **pool** *dhcp4-server-pool* [**secondary-pool** *secondary-pool-name*]

address-source service-name *service-name* **dhcp-server** *local-dhcp4-svr-name* **pool** *dhcp4-server-pool* [**secondary-pool** *secondary-pool-name*]

address-source router *router-instance* **dhcp-server** *local-dhcp6-svr-name* **pool** *dhcp6-server-pool*

address-source service-name *service-name* **dhcp-server** *local-dhcp6-svr-name* **pool** *dhcp6-server-pool*

no address-source

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Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>lcl-addr-assign>ipv4 address-source)

[Tree] (config>service>ies>if>sap>ipsec-gw>lcl-addr-assign>ipv6 address-source)

[Tree] (config>service>ies>if>sap>ipsec-gw>lcl-addr-assign>ipv4 address-source)

[Tree] (config>service>vprn>if>sap>ipsec-gw>lcl-addr-assign>ipv6 address-source)

Full Context

configure service vprn interface sap ipsec-gw local-address-assignment ipv4 address-source

configure service ies interface sap ipsec-gw local-address-assignment ipv6 address-source

configure service ies interface sap ipsec-gw local-address-assignment ipv4 address-source

configure service vprn interface sap ipsec-gw local-address-assignment ipv6 address-source

Description

This command specifies the IPv4 or IPv6 source of the local address assignment for the IPsec gateway, which is a pool of a local DHCPv4 or DHCPv6 server. The system will assign an internal address to an IKEv2 remote-access client from the specified pool.

Beside the IP address, netmask and DNS server can also be returned. For IPv4, the netmask and DNS server address can be returned from the specified pool, as well as the IP address. The netmask returned to the IPsec client is derived from the subnet length from the **subnet** *x.x.x.x/m* **create** configuration, not the **subnet-mask** configuration in the subnet context. For IPv6, the DNS server address can be returned from the specified pool, as well as the IP address.

For IPv4, a secondary pool can be optionally specified. The secondary pool is used if the system is unable to assign addresses from the primary pool.

Default

no address-source

Parameters

router-instance

Specifies the router instance ID where the local DHCPv4 or DHCPv6 server is defined, up to 32 characters.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **address-source service-name** *service-name* variant can be used in all configuration modes.

service-name

Specifies the name of the service where the local DHCPv4 or DHCPv6 server is defined, up to 64 characters.

local-dhcp4-svr-name

Specifies the name of the local DHCPv4 server, up to 32 characters.

local-dhcp6-svr-name

Specifies the name of the local DHCv6 server, up to 32 characters.

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dhcp4-server-pool

The name of the pool defined in the specified DHCPv4 server, up to 32 characters.

dhcp6-server-pool

The name of the pool defined in the specified DHCPv6 server, up to 32 characters.

secondary-pool-name

The name of the secondary pool defined in the specified server, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address-source

Syntax

no address-source

address-source router *router-instance* **dhcp-server** *local-dhcp4-svr-name* **pool** *dhcp4-server-pool* [**secondary-pool** *dhcp4-server-pool*]

address-source service-name *service-name* **dhcp-server** *local-dhcp4-svr-name* **pool** *dhcp4-server-pool* [secondary-pool *dhcp4-server-pool*]

Context

[Tree] (config>ipsec>client-db>client>lcl-addr-assign>ipv4 address-source)

Full Context

configure ipsec client-db client local-address-assignment ipv4 address-source

Description

This command configures the DHCPv4 server and pool information.

The **no** form of this command removes the DHCPv4 server and pool information.

Default

no address-source

Parameters

router-instance

Specifies the router instance, up to 32 characters.

service-name

Specifies the service name, up to 64 characters.

local-dhcp4-svr-name

Specifies the local DHCPv4 server name, up to 32 characters.

dhcp4-server-pool

Specifies the DHCPv4 server pool name, up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

address-source

Syntax

no address-source

address-source router *router-instance* **dhcp-server** *local-dhcp6-svr-name* **pool** *dhcp6-server-pool*

address-source service-name *service-name* **dhcp-server** *local-dhcp6-svr-name* **pool** *dhcp6-server-pool*

Context

[Tree] (config>ipsec>client-db>client>lcl-addr-assign>ipv6 address-source)

Full Context

configure ipsec client-db client local-address-assignment ipv6 address-source

Description

This command configures the DHCPv6 server and pool information.

The **no** form of this command removes the DHCPv6 server and pool information.

Default

no address-source

Parameters

router-instance

Specifies the router instance, up to 32 characters.

service-name

Specifies the service name, up to 64 characters.

local-dhcp6-svr-name

Specifies the local DHCPv6 server name, up to 32 characters.

dhcp6-server-pool

Specifies the DHCPv6 server pool name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.7 address-state

address-state

Syntax

[**no**] **address-state**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-update-triggers address-state)

Full Context

configure aaa isa-radius-policy acct-update-triggers address-state

Description

If enabled, an interim-update will be sent for a DSM UE whenever a DHCP, SLAAC or DHCPv6 address gets allocated or freed.

Default

no address-state

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.8 address-type

address-type

Syntax

address-type {**ipv4** | **ipv6** | **not-specified**}

no address-type

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query address-type)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query address-type

Description

This command specifies the address type to match on tunnels.

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The **no** form of this command reverts to the default.

Default

address-type not-specified

Parameters

ipv4

Specifies the IPv4 address to match on tunnels.

ipv6

Specifies the IPv6 address to match on tunnels.

not-specified

Specifies that no address type matches on tunnels.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

address-type

Syntax

address-type {**ipv4** | **ipv6** | **ipv4-only** | **ipv6-only** | **ipv4v6** | **not-specified**}

no address-type

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query address-type)

Full Context

configure subscriber-mgmt wlan-gw ue-query address-type

Description

This command enables matching on UEs that have an address of the specified type.

The **no** form of this command reverts to the default.

Default

address-type not-specified

Parameters

ipv4

Specifies matching on UEs that have an IPv4 stack active.

ipv6

Specifies matching on UEs that have an IPv6 stack active.

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ipv4-only

Specifies matching on UEs that have only an IPv4 and no IPv6 stack active.

ipv6-only

Specifies matching on UEs that have only an IPv6 and no IPv4 stack active.

ipv4v6

Specifies matching on UEs that have both an IPv4 and IPv6 stack active.

not-specified

Specifies that no address type matches on UEs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.9 adj-set

adj-set

Syntax

[**no**] **adj-set**

Context

[Tree] (config>router>ospf>segm-rtng>egress-statistics adj-set)

[Tree] (config>router>ospf>segm-rtng>ingress-statistics adj-set)

[Tree] (config>router>isis>segm-rtng>egress-statistics adj-set)

[Tree] (config>router>isis>segm-rtng>ingress-statistics adj-set)

Full Context

configure router ospf segment-routing egress-statistics adj-set

configure router ospf segment-routing ingress-statistics adj-set

configure router isis segment-routing egress-statistics adj-set

configure router isis segment-routing ingress-statistics adj-set

Description

This command enables the allocation of statistic indices to each adjacency set. All adjacencies of a set share the same statistics index. If a statistics index is not available at allocation time, the allocation fails, then the system re-tries the allocation. The system generates a log on the first fail and a log on the final successful allocation.

The **no** form of this command disables the allocation of statistic indices to each adjacency set, releases the statistic indices, and clears the associated counters.

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Default

no adj-set

Platforms

All

6.10 adj-sid

adj-sid

Syntax

[**no**] **adj-sid**

Context

[Tree] (config>router>ospf>segm-rtng>ingress-statistics adj-sid)

[Tree] (config>router>ospf3>segm-rtng>egress-statistics adj-sid)

[Tree] (config>router>isis>segm-rtng>egress-statistics adj-sid)

[Tree] (config>router>ospf3>segm-rtng>ingress-statistics adj-sid)

[Tree] (config>router>ospf>segm-rtng>egress-statistics adj-sid)

[Tree] (config>router>isis>segm-rtng>ingress-statistics adj-sid)

Full Context

configure router ospf segment-routing ingress-statistics adj-sid

configure router ospf3 segment-routing egress-statistics adj-sid

configure router isis segment-routing egress-statistics adj-sid

configure router ospf3 segment-routing ingress-statistics adj-sid

configure router ospf segment-routing egress-statistics adj-sid

configure router isis segment-routing ingress-statistics adj-sid

Description

This command enables the allocation of statistic indices to each programmed NHLFE corresponding to Adjacency SIDs (local and received by means of IGP advertisement). All NHLFEs associated to a given SID share the same index. If a statistics index is not available at allocation time, the allocation fails, then the system re-tries the allocation. The system generates a log on the first fail and a log on the final successful allocation.

The **no** form of this command disables the allocation of statistic indices to each adjacency SID, releases the statistic indices, and clears the associated counters.

Default

no adj-sid

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Platforms

All

6.11 adj-sid-hold

adj-sid-hold

Syntax

adj-sid-hold *seconds*

no adj-sid-hold

Context

[Tree] (config>router>isis>segm-rtng adj-sid-hold)

Full Context

configure router isis segment-routing adj-sid-hold

Description

This command configures a timer to hold the ILM or LTN of an adjacency SID following a failure of the adjacency.

When an adjacency to a neighbor fails, the following procedures are followed for both the LFA protected SID and the LFA unprotected SID of this adjacency in SR-MPLS. An adjacency can have both types of SIDs assigned by configuration. An LFA protected adjacency SID is eligible for LFA protection, but the following procedures apply even if a LFA backup was not programmed at the time of the failure. An LFA unprotected adjacency SID is not eligible for LFA protection.

- IGP withdraws the advertisement of the link TLV as well as its adjacency SID sub-TLV.
- The adjacency SID hold timer starts.
- The LTN and ILM records of the adjacency are kept in the datapath for as long as the adjacency SID hold time is running. This allows packets to flow over the LFA backup path, when the adjacency is protected, and allows the ingress LER or PCE time to compute a new path of the SR-TE LSP after IGP converges.
- If the adjacency is restored while the adjacency SID hold timer is running, the timer is aborted, and the adjacency SID remains programmed in the datapath with the retained SID values. However, the backup NHLFE may change if a new LFA SPF runs while the adjacency SID hold timer running. An update to the backup NHLFE is performed immediately following the LFA SPF. In all cases, the adjacency keeps its assigned SID label value.
- If the adjacency SID hold timer expires before the adjacency is restored, the SID is deprogrammed from the datapath and the label returned into the common pool where it was drawn from. Users of the adjacency (for example, SR policy and SR-TE LSP) are also informed.

  When the adjacency is subsequently restored, it gets assigned its allocated static-label value or a new dynamic-label value.

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- A new PG-ID is assigned each time an adjacency comes back up. This PG-ID is used by the ILM and LTN of the adjacency SID and of all downstream node SIDs that resolve to a next hop over this adjacency.

The **no** form of this command reverts to the default value.

Default

adj-sid-hold 15

Parameters

seconds

Specifies the adjacency SID hold time, in seconds.

Values 1 to 1800

Platforms

All

adj-sid-hold

Syntax

adj-sid-hold *seconds*

no adj-sid-hold

Context

[Tree] (config>router>isis>srv6 adj-sid-hold)

Full Context

configure router isis segment-routing-v6 adj-sid-hold

Description

This command specifies the length of time the system holds the SRv6 adjacency route and tunnel entries programmed in datapath while the adjacency is down.

When an adjacency to a neighbor fails, the following procedures are followed for both the LFA protected SID and the LFA unprotected SID of this adjacency in SRv6. An adjacency can have both types of SIDs assigned by configuration. An LFA protected adjacency SID is eligible for LFA protection, but the following procedures apply even if a LFA backup was not programmed at the time of the failure. An LFA unprotected adjacency SID is not eligible for LFA protection.

- IGP withdraws the advertisement of the link TLV as well as its SRv6 End.X SID sub-TLV.
- The adjacency SID hold timer starts.
- The route table, FIB, and tunnel table entries are kept for as long as the adjacency SID hold timer is running. This allows packets to flow over the LFA backup path, when the adjacency is protected, and to allow the ingress LER or PCE time to compute a new path of a SRv6 policy after IGP converges.

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- If the adjacency is restored while the adjacency SID hold timer is running, the timer is aborted, and the adjacency SID remains programmed in the datapath with the retained SID values. However, the backup NHLFE may change if a new LFA SPF runs while the adjacency SID hold timer is running. An update to the backup NHLFE is performed immediately following the LFA SPF. In all cases, the adjacency keeps its assigned SID value.
- If the adjacency SID hold timer expires before the adjacency is restored, the SID is deprogrammed from the datapath and the SID value returned into the locator subnet where it was drawn from. Users of the adjacency (for example, SRv6 policy) are also informed.

  When the adjacency is subsequently restored, it gets assigned its allocated static SID value or a new dynamic SID value.
- A new PG-ID is assigned each time an adjacency comes back up. This PG-ID is used by tunnel of the local adjacency SID and of all remote locator routes that resolve to a next hop over this adjacency.

Note:
Each IS-IS instance runs a single timer per adjacency that IPv4 SR-MPLS, IPv6 SR-MPLS, and SRv6 adjacency SIDs share. When you enable both SR-MPLS and SRv6 in the IS-IS instance via the following commands, the system programs the higher of the two timer values for all SIDs on the adjacency.

```
configure router isis segment-routing
configure router isis segment-routing-v6
```

The **no** form of this command reverts to the default value.

Default

adj-sid-hold 15

Parameters

seconds

Specifies the adjacency SID hold time, in seconds.

Values 1 to 1800

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

adj-sid-hold

Syntax

adj-sid-hold *seconds*

no adj-sid-hold

Context

[Tree] (config>router>ospf>segm-rtng adj-sid-hold)

[Tree] (config>router>ospf3>segm-rtng adj-sid-hold)

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Full Context

configure router ospf segment-routing adj-sid-hold

configure router ospf3 segment-routing adj-sid-hold

Description

This command configures a timer to hold the ILM or LTN of an adjacency SID following a failure of the adjacency.

When an adjacency to a neighbor fails, the following procedures are followed for both the LFA protected SID and the LFA unprotected SID of this adjacency in SR-MPLS. An adjacency can have both types of SIDs assigned by configuration. An LFA protected adjacency SID is eligible for LFA protection, but the following procedures apply even if a LFA backup was not programmed at the time of the failure. An LFA unprotected adjacency SID is not eligible for LFA protection.

- IGP withdraws the advertisement of the link TLV as well as its adjacency SID sub-TLV.
- The adjacency SID hold timer starts.
- The LTN and ILM records of the adjacency are kept in the datapath for as long as the adjacency SID hold time is running. This allows packets to flow over the LFA backup path, when the adjacency is protected, and allows the ingress LER or PCE time to compute a new path of the SR-TE LSP after IGP converges.
- If the adjacency is restored while the adjacency SID hold timer is running, the timer is aborted, and the adjacency SID remains programmed in the datapath with the retained SID values. However, the backup NHLFE may change when a new LFA SPF is run while the adjacency SID hold timer running. An update to the backup NHLFE is performed immediately following the LFA SPF. In all cases, the adjacency keeps its assigned SID label value.
- If the adjacency SID hold timer expires before the adjacency is restored, the SID is deprogrammed from the datapath and the label returned into the common pool where it was drawn from. Users of the adjacency (for example, SR policy and SR-TE LSP) are also informed.

  When the adjacency is subsequently restored, it gets assigned its allocated static label value or a new dynamic label value.
- A new PG-ID is assigned each time an adjacency comes back up. This PG-ID is used by the ILM and LTN of the adjacency SID and of all downstream node SIDs that resolve to a next hop over this adjacency.

The **no** form of this command reverts to the default value.

Default

adj-sid-hold 15

Parameters

seconds

Specifies the adjacency SID hold time, in seconds.

Values 1 to 1800

Platforms

All

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6.12 adjacency

adjacency

Syntax

[**no**] **adjacency**

Context

[Tree] (debug>service>id>pim-snooping adjacency)

Full Context

debug service id pim-snooping adjacency

Description

This command enables or disables debugging for PIM adjacencies.

Platforms

All

adjacency

Syntax

[**no**] **adjacency**

Context

[Tree] (debug>router>pim adjacency)

Full Context

debug router pim adjacency

Description

This command enables debugging for PIM adjacencies.

The **no** form of this command disables debugging for PIM adjacencies.

Platforms

All

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adjacency

Syntax

[**no**] **adjacency** [*ip-int-name* | *ip-address* | *nbr-system-id*]

Context

[Tree] (debug>router>isis adjacency)

Full Context

debug router isis adjacency

Description

This command enables debugging for IS-IS adjacency.

The **no** form of the command disables debugging.

Parameters

ip-address

When specified, only adjacencies with the specified interface address are debugged.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ip-int-name

When specified, only adjacencies with the specified interface name are debugged.

nbr-system-id

When specified, only the adjacency with the specified ID is debugged.

Platforms

All

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6.13 adjacency-set

adjacency-set

Syntax

[**no**] **adjacency-set** *id*

Context

[Tree] (config>router>ospf>segm-rtng adjacency-set)

[Tree] (config>router>isis>segm-rtng adjacency-set)

Full Context

configure router ospf segment-routing adjacency-set

configure router isis segment-routing adjacency-set

Description

This command creates an adjacency set. An adjacency set consists of one or more adjacency SIDs originating on this node. The constituent adjacencies may terminate on different nodes.

The **no** form of this command removes the specified adjacency set.

Parameters

id

Specifies an unsigned integer representing the identifier of the adjacency set.

Values 1 to 4294967295

Platforms

All

adjacency-set

Syntax

[**no**] **adjacency-set** *id*

Context

[Tree] (config>router>ospf>area>interface adjacency-set)

[Tree] (config>router>isis>interface adjacency-set)

Full Context

configure router ospf area interface adjacency-set

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configure router isis interface adjacency-set

Description

This command associates an interface with an adjacency set. The adjacency set must have been defined under the IS-IS or OSPF segment-routing context.

The **no** form of this command removes the association.

Parameters

id

Specifies an unsigned integer representing the identifier of the adjacency set.

Values 1 to 4294967295

Platforms

All

6.14 adjacency-sid

adjacency-sid

Syntax

adjacency-sid label *value*

no adjacency-sid

Context

[Tree] (config>router>ospf>area>interface adjacency-sid)

Full Context

configure router ospf area interface adjacency-sid

Description

This command allows a static value to be assigned to an adjacency SID in OSPF segment routing.

The **label** option specifies that the value is assigned to an MPLS label.

The **no** form of this command removes the adjacency SID.

Parameters

label value

Specifies the value of adjacency SID label.

Values 18432 to 52428 | 1048575 (FP4 or FP5 only)

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Platforms

All

adjacency-sid

Syntax

adjacency-sid

Context

[Tree] (config>router>isis>segm-rtng adjacency-sid)

[Tree] (config>router>ospf>segm-rtng adjacency-sid)

[Tree] (config>router>ospf3>segm-rtng adjacency-sid)

Full Context

configure router isis segment-routing adjacency-sid

configure router ospf segment-routing adjacency-sid

configure router ospf3 segment-routing adjacency-sid

Description

Commands in this context configure two SR-MPLS adjacency SIDs per interface.

Platforms

All

6.15 adjust-down

adjust-down

Syntax

adjust-down *percent* [**bw** *rate-in-mbps*]

no adjust-down

Context

[Tree] (config>router>mpls>lsp>auto-bandwidth adjust-down)

[Tree] (config>router>mpls>lsp-template>auto-bandwidth adjust-down)

Full Context

configure router mpls lsp auto-bandwidth adjust-down

configure router mpls lsp-template auto-bandwidth adjust-down

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Description

This command configures the minimum threshold for decreasing the bandwidth of an LSP.

The **no** form of this command reverts to the default value.

Default

adjust-down 5 bw 0

Parameters

percent

Specifies the minimum difference between the current bandwidth reservation of the LSP and the (computed) maximum average data rate, expressed as a percentage of the current bandwidth reservation, for decreasing the bandwidth of an LSP.

Values 1 to 100

rate-in-mbps

Specifies the minimum difference between the current bandwidth reservation of the LSP and the (computed) maximum average data rate, expressed as an absolute bandwidth (Mb/s), for decreasing the bandwidth of an LSP.

Values 0 to 6400000

Platforms

All

6.16 adjust-up

adjust-up

Syntax

adjust-up *percent* [**bw** *rate-in-mbps*]

no adjust-up

Context

[Tree] (config>router>mpls>lsp>auto-bandwidth adjust-up)

[Tree] (config>router>mpls>lsp-template>auto-bandwidth adjust-up)

Full Context

configure router mpls lsp auto-bandwidth adjust-up

configure router mpls lsp-template auto-bandwidth adjust-up

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Description

This command configures the minimum threshold for increasing the bandwidth of an LSP.

The **no** form of this command reverts to the default value.

Default

adjust-up 5 bw 0

Parameters

percent

Specifies the minimum difference between the current bandwidth reservation of the LSP and the (computed) maximum average data rate, expressed as a percentage of the current bandwidth reservation, for increasing the bandwidth of the LSP.

Values 1 to 100

rate-in-mbps

Specifies the minimum difference between the current bandwidth reservation of the LSP and the (computed) maximum average data rate, expressed as an absolute bandwidth (Mb/s), for increasing the bandwidth of the LSP.

Values 0 to 6400000

Platforms

All

6.17 admin

admin

Syntax

admin

Context

[Tree] (admin)

Full Context

admin

Description

Commands in this context configure administrative system parameters. Only authorized users can execute the commands in the **admin** context.

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Platforms

All

6.18 admin-bw

admin-bw

Syntax

admin-bw *kbps*

no admin-bw

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>src-override admin-bw)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle admin-bw)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel admin-bw)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override admin-bw

configure mcast-management multicast-info-policy bundle admin-bw

configure mcast-management multicast-info-policy bundle channel admin-bw

Description

This command specifies an administrative bandwidth for multicast channels. The specified bandwidth rate can be used by the multicast ingress path manger, multicast CAC manager or multicast ECMP manager.

The *kbps* value is closely tied to the **bw-activity** command. When the bw-activity command is set to use-admin-bw, the multicast ingress path manager uses the configured administrative bandwidth value as the managed ingress bandwidth. The **admin-bw** value must be defined for the **bw-activity use-admin-bw** command to succeed. Once the bw-activity command is set to use the admin-bw value, the value cannot be set to 0 and the no admin-bw command fails. Setting the bw-activity command to dynamic (the default setting), breaks the association between the commands.

The **no** form of this command restores the default value for admin-bw. If the command is executed in the **channel** context, the channels administrative bandwidth value is set to null. If the command is executed in the **source-override** context, the source override administrative bandwidth value is set to null.

Parameters

kbps

Specifies the administrative bandwidth for multicast channels.

Values 1 to 40000000 kb/s

Bundle default: 0

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Channel default:	Null (undefined)
Source-override default:	Null (undefined)

Override sequence — The channel setting overrides the bundle setting. The source-override setting overrides the channel and bundle settings.

Platforms

All

6.19 admin-bw-threshold

admin-bw-threshold

Syntax

admin-bw-threshold *kilo-bits-per-second*

no admin-bw-threshold

Context

[Tree] (config>mcast-mgmt>bw-plcy admin-bw-threshold)

Full Context

configure mcast-management bandwidth-policy admin-bw-threshold

Description

This command defines at which bandwidth rate a multicast channel configured to use an administrative rate starts and stop using that rate as the in-use ingress bandwidth when managing ingress multicast paths. This parameter only applies to channels that are configured to use the admin-bw rate with the **bw-activity use-admin-bw** command (both are configured in the multicast-info-policy associated with the channel context).

To be effective, the **admin-bw-threshold** value must be less than the channels configured admin-bw. If the administrative bandwidth configured on the channel is less than the administrative bandwidth threshold defined in the bandwidth policy, the admin-bw value is ignored for ingress multicast path management and the system continually uses the dynamic ingress bandwidth associated with the channel. Since the value is defined in the bandwidth-policy and the channel admin-bw value is defined in the **multicast-info-policy**, it is not possible to pre-determine that a given administrative bandwidth value is less than an administrative bandwidth threshold. Since a typical administrative bandwidth threshold is set significantly lower than any administrative bandwidth values, this corner case is not expected to be prevalent. However, if the case does arise in a production environment, no ill behavior is expected as the threshold is simply a tuning parameter used to detect when the bandwidth associated with a channel has risen above any OAM or background type traffic.

While a channel that is configured to the **use-admin-bw** parameter (in the **bw-activity** command) current bandwidth is less than the admin-bw-threshold, the system treats the channel as a dynamic type channel.

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Once the threshold is crossed, the system immediately allocates the full admin-bw value to the channel and manages the ingress multicast path accordingly. If the bandwidth monitored on the channel rises above the admin-bw value, the system reverts to dynamic bandwidth management operation. If the bandwidth drops below the admin-bw value, but is above the **admin-bw-threshold**, the system uses the admin-bw value. If the bandwidth drops below the admin-bw-threshold, the system goes back to dynamic bandwidth management operation.

This command has no effect on multicast ECMP or egress CAC management operations.

The **no** form of this command reverts to the default, which is 10 kb/s.

Parameters

kilobits-per-second

Specifies the defines the rate at which channels configured to use administrative bandwidths change from dynamic bandwidth management to using the channels configured administrative bandwidth. The parameter is expressed as an integer value and represents multiples of 1,000 bits per second. A value of 3000 indicates 3,000,000 bits per second.

Values 1 to 40,000,000

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

6.20 admin-group

admin-group

Syntax

[**no**] **admin-group** *group-name* [*group-name*]

no admin-group

Context

[Tree] (config>router>mpls>interface admin-group)

[Tree] (config>service>ies>if>if-attribute admin-group)

[Tree] (config>router>if>if-attribute admin-group)

[Tree] (config>service>vprn>if>if-attribute admin-group)

Full Context

configure router mpls interface admin-group

configure service ies interface if-attribute admin-group

configure router interface if-attribute admin-group

configure service vprn interface if-attribute admin-group

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Description

This command configures the admin group membership of an interface. The user can apply admin groups to an IES, VPRN, network IP, or MPLS interface.

Each single operation of the **admin-group** command allows a maximum of five (5) groups to be specified at a time. However, a maximum of 32 groups can be added to a given interface through multiple operations. Once an admin group is bound to one or more interface, its value cannot be changed until all bindings are removed.

The configured **admin-group** membership will be applied in all levels or areas the interface is participating in. The same interface cannot have different memberships in different levels or areas.

Only the admin groups bound to an MPLS interface are advertised in TE link TLVs and sub-TLVs when the **traffic-engineering** option is enabled in IS-IS or OSPF. IES and VPRN interfaces do not have their attributes advertised in TE TLVs.

The **no** form of this command deletes one or more of the admin-group memberships of an interface. The user can also delete all memberships of an interface by not specifying a group name.

Default

no admin-group

Parameters

group-name

Specifies up to five groups, each up to 32 characters. The association of group name and value should be unique within an IP/MPLS domain. Each single operation of the **admin-group** command allows a maximum of 5 groups to be specified. However, a maximum of 32 groups can be added to a given interface through multiple operations.

Platforms

All

admin-group

Syntax

admin-group *group-name* **value** *group-value*

no admin-group *group-name*

Context

[Tree] (config>router>if-attribute admin-group)

Full Context

configure router if-attribute admin-group

Description

This command defines an Administrative Group (AG) that can be associated with an IP or MPLS interface.

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AGs, also known as affinity, are used to tag IP and MPLS interfaces that share a specific characteristic with the same identifier. For example, an AG identifier can represent:

- all links that connect to core routers
- all links that have a bandwidth higher than 10 Gb
- all links that are dedicated to a specific service

First configure locally on each router the name and identifier of each AG. A maximum of 32 AGs can be configured per system.

After configuring the router name and identifier, configure the AG membership of an interface. You can apply AGs to a IES, VPRN, network IP, or MPLS interface.

When applied to MPLS interfaces, the interfaces can be included or excluded in the LSP path definition by inferring the AG name. CSPF computes a path that satisfies the AG include and exclude constraints.

When applied to IES, VPRN, or network IP interfaces, the interfaces can be included or excluded in the route next-hop selection by inferring the AG name in a route next-hop policy template applied to an interface or a set of prefixes.

The following provisioning rules apply to the AG configuration. The system rejects the creation of an AG:

- if the name of the AG is the same as that of an existing group, even if the new AG group value is different from the existing group value
- if the AG reuses the same group value but with a different name from an existing group

Only the AGs bound to an MPLS interface are advertised area wide in TE link TLVs and sub-TLVs when the **traffic-engineering** option is enabled in IS-IS or OSPF. IES and VPRN interfaces do not have their attributes advertised in TE TLVs.

Parameters

group-name

Specifies the name of the group, up to 32 characters. The association of group name and value should be unique within an IP/MPLS domain

group-value

Specifies the integer value associated with the group. The association of group name and value should be unique within an IP or MPLS domain.

Values 0 to 31 – Specifies the value range to use with link LFA next-hop policies or is used as a link color (AG or EAG) with Segment Routing Flex-Algorithms.

32 to 255 – Specifies the value range to use when the EAG is used as a link color with Segment Routing Flex-Algorithms. This higher range fails if used for other applications, such as LFA next-hop policies.

Platforms

All

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admin-group

Syntax

admin-group *admin-group*

no admin-group *admin-group*

Context

[Tree] (config>router>fad>flex-algo>exclude admin-group)

Full Context

configure router flexible-algorithm-definitions flex-algo exclude admin-group

Description

This command configures an administrative group link that will be excluded from the topology graph of the flexible algorithm. If multiple administrative groups are configured, they are all excluded from the topology graph.

Administrative groups are attributes associated with a link. Frequently these administrative groups are described as link colors.

The **no** form of this command removes the admin-group from being excluded from the topology graph.

Default

no admin-group

Parameters

admin-group

Configures an administrative group link to exclude from the topology graph of the configured FAD.

Platforms

All

admin-group

Syntax

admin-group *admin-group*

no admin-group *admin-group*

Context

[Tree] (config>router>fad>flex-algo>include-all admin-group)

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Full Context

configure router flexible-algorithm-definitions flex-algo include-all admin-group

Description

This command configures an administrative group link that will be included in the topology graph of the defined FAD. If multiple administrative groups are configured, groups must be present in a link before the link is included in the flexible algorithm topology graph.

The **no** form of this command removes the specified *admin-group* from being included in the topology graph.

Default

no admin-group

Parameters

admin-group

Configures an administrative group to include in topology graph of the configured FAD.

Platforms

All

admin-group

Syntax

admin-group *admin-group*

no admin-group *admin-group*

Context

[Tree] (config>router>fad>flex-algo>include-any admin-group)

Full Context

configure router flexible-algorithm-definitions flex-algo include-any admin-group

Description

This command configures an administrative group link that will be included in the topology graph of the configured FAD. If multiple administrative groups are configured, at least one of the administrative groups must be present in a link before the link is included into the flexible algorithm topology graph.

The **no** form of this command removes the *admin-group* from being included in the topology graph.

Default

no admin-group

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Parameters

admin-group

Configures an administrative group to include in the topology graph of the configured FAD.

Platforms

All

6.21 admin-group-frr

admin-group-frr

Syntax

[**no**] **admin-group-frr**

Context

[Tree] (config>router>mpls admin-group-frr)

Full Context

configure router mpls admin-group-frr

Description

This command enables the use of the admin-group constraints in the association of a manual or dynamic bypass LSP with the primary LSP path at a Point-of-Local Repair (PLR) node.

When this command is enabled, each PLR node reads the admin-group constraints in the FAST_REROUTE object in the Path message of the LSP primary path. If the FAST_REROUTE object is not included in the Path message, then the PLR will read the admin-group constraints from the Session Attribute object in the Path message.

If the PLR is also the ingress LER for the LSP primary path, then it just uses the admin-group constraint from the LSP and/or path level configurations.

The PLR node then uses the admin-group constraints along with other constraints, such as hop-limit and SRLG, to select a manual or dynamic bypass among those that are already in use.

If none of the manual or dynamic bypass LSP satisfies the admin-group constraints, and/or the other constraints, the PLR node will request CSPF for a path that merges the closest to the protected link or node and that includes or excludes the specified admin-group IDs.

If the user changes the configuration of the above command, it will not have any effect on existing bypass associations. The change will only apply to new attempts to find a valid bypass.

The **no** form of this command disables the use of administrative group constraints on a FRR backup LSP at a PLR node.

Default

no frr-admin-group

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Platforms

All

6.22 admin-password

admin-password

Syntax

admin-password *password* [**hash** | **hash2**]

no admin-password

Context

[Tree] (config>system>security>password admin-password)

Full Context

configure system security password admin-password

Description

This command allows a user (with admin permissions) to configure a password that enables a user to become an administrator.

This password is valid only for one session. When enabled, no authorization to TACACS+ or RADIUS is performed and the user is locally regarded as an admin user.

This functionality can be enabled in two contexts:

config>system>security>password>admin-password

<global> enable-admin

If the admin-password is configured in the **config>system>security>password** context, then any user can enter the special mode by entering the **enable-admin** command.

enable-admin is in the default profile. By default, all users are given access to this command.

After the **enable-admin** command is entered, the user is prompted for a password. If the password matches, user is given unrestricted access to all the commands.

The minimum length of the password is determined by the **minimum-length** command. The complexity requirements for the password are determined by the **complexity** command.

Note:
The *password* argument of this command is not sent to the servers. This is consistent with other commands that configure secrets.

The usernames and passwords in the FTP and TFTP URLs will not be sent to the authorization or accounting servers when the **file>copy** *source-url dest-url* command is executed.

For example:

file copy ftp://test:secret@10.20.31.79/test/srcfile cf1:\destfile

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In this example, the username 'test' and password 'secret' will not be sent to the AAA servers (or to any logs). They will be replaced with "****".

The **no** form of this command removes the admin password from the configuration.

Note:
This command applies to a local user, in addition to users on RADIUS, TACACS, and LDAP.

Default

no admin-password

Parameters

password

Configures the password that enables a user to become a system administrator. The maximum length can be up to 56 characters if unhashed, 60 characters if hashed with bcrypt, from 87 to 92 characters if hashed with sha2-pbkdf2, 32 characters if the hash keyword is specified, or 54 characters if the hash2 keyword is specified. The unhashed cleartext password form should meet all the requirements that are defined by the **complexity** command.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form or hashed with bcrypt or PBKDF2. For security, all keys are stored in the configuration file in hashed form (using bcrypt or PBKDF2, depending on the hashing configuration parameter) or, for backward compatibility, can be stored in encrypted form with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form or hashed with bcrypt or PBKDF2. For security, all keys are stored in the configuration file in hashed form (using bcrypt or PBKDF2, depending on the hashing configuration parameter) or, for backward compatibility, can be stored in encrypted form with the **hash** or **hash2** parameter specified.

Platforms

All

6.23 admin-state

admin-state

Syntax

admin-state {**up** | **down**}

no admin-state

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Context

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp admin-state)

[Tree] (config>router>l2tp>group>tunnel>mlppp admin-state)

Full Context

configure service vprn l2tp group tunnel mlppp admin-state

configure router l2tp group tunnel mlppp admin-state

Description

This command enables MLPPP for this tunnel group and is applicable only to LNS.

The tunnel can be explicitly activated (if the parent group is in a **no shutdown** state) or deactivated by the **up** and **down** keywords.

If the admin state is not configured, the tunnel inherits its administrative state from its parent (group).

The **no** form of this command causes the tunnel administrative state to be inherited from the group.

Parameters

up

Specifies that the tunnel is to be administratively up.

down

Specifies that the tunnel is to be administratively down.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

admin-state

Syntax

[no] admin-state

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>info-output>always-display admin-state)

Full Context

configure system management-interface cli md-cli environment info-output always-display admin-state

Description

This command configures that the values of the **admin-state** elements in the **info** output (without the **detail** option) are always displayed, even if they are the default values.

The **no** form of this command excludes the values of the **admin-state** elements from the **info** output display.

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Default

no admin-state

Platforms

All

6.24 admin-status

admin-status

Syntax

admin-status {**rx** | **tx** | **tx-rx** | **disabled**}

Context

[Tree] (config>port>ethernet>lldp>dstmac admin-status)

Full Context

configure port ethernet lldp dest-mac admin-status

Description

This command configures LLDP transmission/reception frame handling.

Default

admin-status disabled

Parameters

rx

Specifies the LLDP agent will receive, but will not transmit LLDP frames on this port.

tx

Specifies that the LLDP agent will transmit LLDP frames on this port and will not store any information about the remote systems connected.

tx-rx

Specifies that the LLDP agent transmits and receives LLDP frames on this port.

disabled

Specifies that the LLDP agent does not transmit or receive LLDP frames on this port. If there is remote systems information which is received on this port and stored in other tables, before the port's admin status becomes disabled, then the information will naturally age out.

Platforms

All

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admin-status

Syntax

admin-status {**rx** | **tx** | **tx-rx** | **disabled**}

Context

[Tree] (config>lag>lldp-member-template>dstmac admin-status)

Full Context

configure lag lldp-member-template dest-mac admin-status

Description

This command configures the LLDP transmission and reception frame handling.

Default

admin-status disabled

Parameters

rx

Keyword to specify that the LLDP agent receives, but does not transmit LLDP frames on this port.

tx

Keyword to specify that the LLDP agent transmits LLDP frames on this port and does not store any information about the remote systems connected.

tx-rx

Keyword to specify that the LLDP agent transmits and receives LLDP frames on this port.

disabled

Keyword to specify that the LLDP agent does not transmit or receive LLDP frames on this port. If remote system information is received on this port and stored in other tables before the administrative status of the port becomes disabled, the information naturally ages out.

Platforms

All

6.25 admin-tag

admin-tag

Syntax

[**no**] **admin-tag** *tag-value*

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Context

[Tree] (config>router>mpls>lsp admin-tag)

[Tree] (config>router>mpls>lsp-template admin-tag)

Full Context

configure router mpls lsp admin-tag

configure router mpls lsp-template admin-tag

Description

This assigns an administrative tag to an LSP. The administrative tag can be used to enable routes with certain administrative tags to resolve using LSPs of matching administrative tags.

Up to four tags can be assigned to an LSP.

The administrative tag must exist under **config>router>admin-tags**.

The **no** form of this command removes the administrative tag.

Parameters

tag-value

The value of the admin-tag, up to 32 characters.

Platforms

All

admin-tag

Syntax

[**no**] **admin-tag** *tag*

Context

[Tree] (config>router>admin-tags admin-tag)

Full Context

configure router admin-tags admin-tag

Description

This command configures an admin tag value in the nodal LSP administrative tag database.

Up to 256 admin tags can be configured.

The **no** form of this command removes the admin tag.

Parameters

tag

The value of the administrative tag, up to 32 characters.

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Platforms

All

6.26 admin-tag-policy

admin-tag-policy

Syntax

admin-tag-policy *policy-name*

no admin-tag-policy

Context

[Tree] (config>router>policy-options>policy-statement>default-action admin-tag-policy)

[Tree] (config>router>policy-options>policy-statement>entry>action admin-tag-policy)

Full Context

configure router policy-options policy-statement default-action admin-tag-policy

configure router policy-options policy-statement entry action admin-tag-policy

Description

This command assigns a route admin tag policy as an action in a route policy.

The admin tag policy must exist under **config>router>admin-tags**.

The **no** form of this command removes the admin tag policy.

Parameters

policy-name

Specifies the name of the admin tag policy, up to 64 characters.

Platforms

All

6.27 admin-tags

admin-tags

Syntax

admin-tags

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Context

[Tree] (config>router admin-tags)

Full Context

configure router admin-tags

Description

Commands in this context configure admin tags and router admin tag policy templates used for route resolution to LSPs.

Platforms

All

6.28 adspec

adspec

Syntax

[**no**] **adspec**

Context

[Tree] (config>router>mpls>lsp adspec)

[Tree] (config>router>mpls>lsp-template adspec)

Full Context

configure router mpls lsp adspec

configure router mpls lsp-template adspec

Description

When enabled, the ADSPEC object will be included in RSVP messages for this LSP. The ADSPEC object is used by the ingress LER to discover the minimum value of the MTU for links in the path of the LSP. By default, the ingress LER derives the LSP MTU from that of the outgoing interface of the LSP path.

A bypass LSP always signals the ADSPEC object since it protects both primary paths which signal the ADSPEC object and primary paths which do not. This means that MTU of LSP at ingress LER may change to a different value from that derived from the outgoing interface even if the primary path has ADSPEC disabled.

Default

no adspec — No ADSPEC objects are included in RSVP messages.

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Platforms

All

6.29 adv-adj-addr-only

adv-adj-addr-only

Syntax

[**no**] **adv-adj-addr-only**

Context

[Tree] (config>router>ldp>session-params>peer adv-adj-addr-only)

Full Context

configure router ldp session-parameters peer adv-adj-addr-only

Description

This command provides a means for an LDP router to advertise only the local IPv4 or IPv6 interfaces it uses to establish hello adjacencies with an LDP peer. By default, when a router establishes an LDP session with a peer, it advertises in an LDP Address message the addresses of all local interfaces to allow the peer to resolve LDP FECs distributed by this router. Similarly, a router sends a Withdraw Address message to of all its peers to withdraw a local address if the corresponding interface went down or was deleted.

This new option reduces CPU processing when a large number of LDP neighbors come up or go down. The new CLI option is strongly recommended in mobile backhaul networks where the number of LDP peers can be very large.

The **no** form of this command reverts LDP to the default behavior of advertising all local interfaces.

Platforms

All

6.30 adv-config-policy

adv-config-policy

Syntax

adv-config-policy *policy-name* [**create**]

no adv-config-policy *policy-name*

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Context

[Tree] (config>qos adv-config-policy)

Full Context

configure qos adv-config-policy

Description

Commands in this context configure an advanced QoS policy. This command contains only queue and policer child control parameters within a child-control node.

The parameters within the **child-control** node are intended to allow more precise control of the method that hierarchical virtual scheduling employs to emulate the effect of a scheduling context upon a member child queue or policer.

When a policy is created, it may be applied to a queue or policer defined within a **sap-egress** or **sap-ingress** QoS policy. It may also be applied to a queue or policer defined within an ingress or **egress queue-group** template. When a policy is currently associated with a QoS policy or template, the policy may be modified but not deleted (even in the event that the QoS policy or template is not in use).

While the system maintains default values for the advanced configuration parameters, no default **adv-config-policy** exists.

The **no** form of this command removes the specified advanced policy.

Parameters

policy-name

The name of the advanced QoS policy. A policy-name must be specified and conform to the policy naming guidelines. If the specified name does not exist, the optional **create** keyword requirements are met and the total number of policies per system will not be exceeded, an **adv-config-policy** of that name will be created. If the specified name does exist, the system will switch context to that **adv-config-policy** for the purpose of modification of the policy's contents.

Values Valid names consist of any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

adv-config-policy

Syntax

adv-config-policy *policy-name*

no adv-config-policy

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Context

[Tree] (config>qos>sap-ingress>queue adv-config-policy)

[Tree] (config>qos>sap-egress>policer adv-config-policy)

[Tree] (config>qos>sap-ingress>policer adv-config-policy)

[Tree] (config>qos>sap-egress>queue adv-config-policy)

Full Context

configure qos sap-ingress queue adv-config-policy

configure qos sap-egress policer adv-config-policy

configure qos sap-ingress policer adv-config-policy

configure qos sap-egress queue adv-config-policy

Description

This command specifies the advanced QoS policy. The advanced QoS policy contains only queue and policer child control parameters within a child-control node.

When a policy is created, it may be applied to a queue or policer defined within a **sap-egress** or **sap-ingress** QoS policy. It may also be applied to a queue or policer defined within an **ingress** or **egress queue-group** template. When a policy is currently associated with a QoS policy or template, the policy may be modified but not deleted (even in the event that the QoS policy or template is not in use).

The **no** form of this command removes the specified advanced policy.

Default

no adv-config-policy

Parameters

policy-name

The name of the advanced QoS policy.

Values Valid names consist of any string up to 63 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

- configure qos sap-egress queue adv-config-policy
- configure qos sap-ingress queue adv-config-policy

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-egress policer adv-config-policy
- configure qos sap-ingress policer adv-config-policy

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adv-config-policy

Syntax

adv-config-policy *adv-config-policy-name*

no adv-config-policy

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue adv-config-policy)

[Tree] (config>qos>qgrps>ing>qgrp>queue adv-config-policy)

[Tree] (config>qos>qgrps>egr>qgrp>policer adv-config-policy)

[Tree] (config>qos>qgrps>ing>qgrp>policer adv-config-policy)

Full Context

configure qos queue-group-templates egress queue-group queue adv-config-policy

configure qos queue-group-templates ingress queue-group queue adv-config-policy

configure qos queue-group-templates egress queue-group policer adv-config-policy

configure qos queue-group-templates ingress queue-group policer adv-config-policy

Description

This command specifies the name of the advanced configuration policy to be applied with this policer.

Parameters

adv-config-policy-name

Specifies an existing advanced configuration policy up to 32 characters.

Platforms

All

- configure qos queue-group-templates ingress queue-group queue adv-config-policy
- configure qos queue-group-templates egress queue-group queue adv-config-policy

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos queue-group-templates egress queue-group policer adv-config-policy
- configure qos queue-group-templates ingress queue-group policer adv-config-policy

adv-config-policy

Syntax

adv-config-policy *src-name dst-name* [**overwrite**]

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Context

[Tree] (config>qos>copy adv-config-policy)

Full Context

configure qos copy adv-config-policy

Description

This command copies existing QoS policy entries for a QoS policy-id to another QoS policy-id.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

adv-config-policy

Indicates that the source policy ID and the destination policy ID are advanced policy IDs. Specify the source advanced policy ID that the copy command will attempt to copy from and specify the destination advanced policy ID to which the command will copy a duplicate of the policy.

overwrite

Specifies that this policy is to replace the existing destination advanced policy. Everything in the existing destination policy will be overwritten with the contents of the source advanced policy. If **overwrite** is not specified, an error will occur if the destination policy ID exists, as shown here:

Example:

```
– ALA-7>config>qos# copy adv-config-policy default sp1
– MINOR: CLI Destination "sp1" exists - use {overwrite}
– ALA-7>config>qos#overwrite
```

Platforms

All

6.31 adv-local-lsr-id

adv-local-lsr-id

Syntax

[**no**] **adv-local-lsr-id**

Context

[Tree] (config>router>ldp>session-params>peer adv-local-lsr-id)

[Tree] (config>router>ldp>targeted-session>peer-template adv-local-lsr-id)

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Full Context

configure router ldp session-parameters peer adv-local-lsr-id

configure router ldp targeted-session peer-template adv-local-lsr-id

Description

This command advertises a local LSR ID over a specified LDP session.

Advertisement of a local LSR ID over a given LDP session is configured using the **adv-local-lsr-id** command in the peer session-parameters. If a user disables the **adv-local-lsr-id** command, then the system will withdraw the FEC for the local LSR ID.

The SR OS router uses the following rules when advertising a local LSR ID:

- If the session parameters have the default configuration and the targeted peer template has the default configuration, the local LSR ID is not advertised.
- If the session parameters have the default configuration but the targeted peer template has an explicit configuration for advertisement of the local LSR ID, the targeted peer template configuration is used.
- If the session parameters have an explicit configuration for advertisement of the local LSR ID but the targeted peer template has the default configuration, the session parameter configuration is used.
- If both the session parameters and the targeted peer template have an explicit configuration for advertisement of the local LSR ID, then the session parameter configuration is used.

The **no** form of this command withdraws the FEC for the local LSR ID.

Default

no adv-local-lsr-id

Platforms

All

6.32 adv-mtu-override

adv-mtu-override

Syntax

[**no**] **adv-mtu-override**

Context

[Tree] (config>service>sdp adv-mtu-override)

Full Context

configure service sdp adv-mtu-override

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Description

This command overrides the advertised VC-type MTU of all spoke-sdps of L2 services using this SDP-ID. When enabled, the router signals a VC MTU equal to the service MTU, which includes the Layer 2 header. It also allows this router to accept an MTU advertised by the far-end PE which value matches either its advertised MTU or its advertised MTU minus the L2 headers.

By default, the router advertises a VC-MTU equal to the L2 service MTU minus the Layer 2 header and always matches its advertised MTU to that signaled by the far-end PE router, otherwise the spoke-sdp goes operationally down.

When this command is enabled on the SDP, it has no effect on a spoke-sdp of an IES/VPRN spoke interface using this SDP-ID. The router continues to signal a VC MTU equal to the net IP interface MTU, which is min{ip-mtu, sdp operational path mtu - L2 headers}. The router also continues to make sure that the advertised MTU values of both PE routers match or the spoke-sdp goes operationally down.

The **no** form of the command disables the VC-type MTU override and returns to the default behavior.

Default

no adv-mtu-override

Platforms

All

6.33 adv-noaddrs-global

adv-noaddrs-global

Syntax

adv-noaddrs-global [**esm-proxy**] [**esm-relay**] [**relay**] [**server**]

no adv-noaddrs-global

Context

[Tree] (config>system>dhcp6 adv-noaddrs-global)

Full Context

configure system dhcp6 adv-noaddrs-global

Description

This command configures the different DHCPv6 applications to send the NoAddrsAvail Status-Code in DHCPv6 Advertise messages at the global DHCP message level.

By default, all applications send the NoAddrsAvail Status-Code in DHCPv6 Advertise messages at the IA_NA Option level.

Different applications for which NoAddrsAvail Status-Code in DHCPv6 Advertise messages can be configured at the global DHCP message level.

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The only valid combination in current SR OS is **adv-noaddrs-global esm-relay server**.

The **no** form of this command reverts to the default.

Default

no adv-noaddrs-global. All applications send the NoAddrsAvail Status-Code in DHCPv6 Advertise messages at the IA_NA Option level.

Parameters

esm-proxy

Specifies the DHCPv6 proxy server on subscriber group-interfaces. Not supported in current SR OS.

esm-relay

Specifies the DHCPv6 relay on subscriber group-interfaces. Must be enabled together with the DHCPv6 server (server) application.

relay

Specifies the DHCPv6 relay on regular IES or VPRN interfaces. Not supported in current SR OS.

server

Specifies the DHCPv6 server. Must be enabled together with the DHCPv6 relay on subscriber interfaces (esm-relay) application.

Platforms

All

6.34 adv-service-mtu

adv-service-mtu

Syntax

adv-service-mtu *octets*

no adv-service-mtu

Context

[Tree] (config>service>vpls>spoke-sdp adv-service-mtu)

[Tree] (config>service>epipe>spoke-sdp adv-service-mtu)

Full Context

configure service vpls spoke-sdp adv-service-mtu

configure service epipe spoke-sdp adv-service-mtu

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Description

This command configures the MTU value signaled in the targeted LDP for the spoke-SDP and is used to validate the value signaled by the far-end PE. If configured, this value is used instead of the service MTU. However, the configuration does not affect the locally enforced value, which is still based on the service MTU. This command cannot be configured on a spoke-SDP that is bound to an SDP with the **adv-mtu-override** command.

When configured, an adjusted service MTU is used. See the **service-mtu** command for more information.

The **no** form of this command removes the configuration.

Default

no adv-service-mtu

Parameters

octets

The size of the MTU in octets, expressed as a decimal integer.

Values 0 to 9782

Platforms

All

adv-service-mtu

Syntax

adv-service-mtu *number*

no adv-service-mtu

Context

[Tree] (config>service>vpls>bgp adv-service-mtu)

[Tree] (config>service>epipe>bgp adv-service-mtu)

Full Context

configure service vpls bgp adv-service-mtu

configure service epipe bgp adv-service-mtu

Description

This command configures the Layer 2 MTU value (advertised for BGP signaling) or the MTU interface parameter (advertised for LDP signaling) for the service. The configured MTU information is used to validate the value signaled by the far-end PE. However, this configuration does not affect the locally enforced value, which is still based on the service MTU.

The **no** form of this command reverts to the default Layer 2 MTU value for BGP signaling or to the default MTU interface parameter for LDP signaling for the service, which uses an adjusted **service-mtu** value. See the **service-mtu** command for more information.

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Default

no adv-service-mtu

Parameters

number

Specifies the size, in octets, of the Layer 2 MTU value to advertise for BGP signaling for the service.

Values 0 to 9782

Platforms

All

6.35 advertise

advertise

Syntax

advertise {**static** | **dynamic**| **evpn-local-es**} [**route-tag** [*1..255*]]

no advertise {**static** | **dynamic**| **evpn-local-es**}

Context

[Tree] (config>service>ies>if>vpls>evpn>nd advertise)

[Tree] (config>service>ies>if>vpls>evpn>arp advertise)

Full Context

configure service ies interface vpls evpn nd advertise

configure service ies interface vpls evpn arp advertise

Description

This command enables the advertisement of static and dynamic ARP and ND entries that are installed in the ARP and ND cache into EVPN MAC/IP routes. This command must be used along with **no learn-dynamic**.

The **no** form of this command disables the advertisement of static, dynamic or evpn-local-es ARP and ND entries that are installed in the ARP and ND cache into EVPN MAC/IP routes.

Default

no advertise

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Parameters

static

Keyword that enables the creation of ARP or ND host routes in the route table from EVPN ARP or ND entries.

dynamic

Keyword that enables the creation of ARP or ND host routes in the route table out of dynamic ARP or ND entries (learned from ARP or ND messages received from the hosts).

evpn-local-es

Keyword that enables the creation of ARP or ND host routes in the route table out of EVPN local ES ARP or ND entries (learned from ARP or ND messages received from the hosts).

route-tag

Keyword to specify the route tag that is added in the route table for ARP/ND host routes of type **static**, **dynamic**, or **evpn-local-es**. This tag can be matched on BGP VRF export and BGP peer export policies.

Values 1 to 255

Platforms

All

advertise

Syntax

advertise {**static** | **dynamic** | **evpn-local-es**} [**route-tag** [*1..255*]] **interface-less-routing** [**bgp-evpn-instance** [*1..1*]]

advertise {**static** | **dynamic** | **evpn-local-es**} [**route-tag** [*1..255*]]

no advertise {**static** | **dynamic** | **evpn-local-es**}

Context

[Tree] (config>service>vprn>if>vpls>evpn>arp advertise)

[Tree] (config>service>vprn>if>vpls>evpn>nd advertise)

Full Context

configure service vprn interface vpls evpn arp advertise

configure service vprn interface vpls evpn nd advertise

Description

This command enables the advertisement of static and dynamic ARP and ND entries that are installed in the ARP and ND cache into EVPN MAC/IP routes. This command must be used along with the **no learn-dynamic** command.

The **no** form of this command disables the advertisement of static, dynamic or evpn-local-es ARP and ND entries that are installed in the ARP and ND cache into EVPN MAC/IP routes.

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Default

no advertise

Parameters

static

Keyword that enables the creation of ARP or ND host routes in the route table from EVPN ARP or ND entries.

dynamic

Keyword that enables the creation of ARP or ND host routes in the route table out of dynamic ARP or ND entries (learned from ARP or ND messages received from the hosts).

evpn-local-es

Keyword that enables the creation of ARP or ND host routes in the route table out of EVPN local ES ARP or ND entries (learned from ARP or ND messages received from the hosts).

route-tag

Keyword to specify the route tag is added in the route table for ARP or ND host routes of type **dynamic**, **static**, or **evpn-local-es**. This tag can be matched on BGP VRF export and BGP peer export policies.

Values 1 to 255

interface-less-routing

Keyword to specify that the advertisement in EVPN MAC/IP advertisement routes include the label1 and route target of the R-VPLS EVPN service and the label2 value and route target of the EVPN interface-less instance in the linked VPRN.

bgp-evpn-instance

Keyword to specify the EVPN interface-less BGP instance from which the label and route target are taken when advertising the ARP or ND entry in an EVPN MAC/IP advertisement route.

Values 1 to 1

Platforms

All

advertise

Syntax

advertise *fad-name*

no advertise

Context

[Tree] (config>router>ospf>flex-algos>flex-algo advertise)

[Tree] (config>router>isis>flex-algos>flex-algo advertise)

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Full Context

configure router ospf flexible-algorithms flex-algo advertise

configure router isis flexible-algorithms flex-algo advertise

Description

This command enables the advertisement of a locally configured Flexible Algorithm Definition (FAD).

A locally defined FAD is only advertised if it is administratively enabled. A router can advertise only a single locally defined FAD by using the *fad-name* as reference anchor.

The winning FAD used by a router must be consistent with the winning FAD on all other routers. This avoids routing loops and traffic blackholing. The winning FAD is selected using a tie-breaker algorithm that first selects the highest advertised FAD priority and next the highest system Id.

The **no** form of this command removes the advertisement of a flexible algorithm definition.

Default

no advertise

Parameters

fad-name

Configures the FAD name, up to 32 characters. By default, no locally configured FAD is advertised.

Platforms

All

advertise

Syntax

advertise {**mvpn-pim** | **mvpn-only**| **pim-only**}

Context

[Tree] (config>service>vpls>bind>evpn-mcast-gateway advertise)

Full Context

configure service vpls allow-ip-int-bind evpn-mcast-gateway advertise

Description

This command signals the OISM gateway function type in the Inclusive Multicast Ethernet Tag (IMET) routes.

Default

advertise mvpn-pim

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Parameters

mvpn-pim

Specifies that the router signals the MVPN-to-OISM (MEG) and PIM-to-OISM (PEG) gateway capabilities.

mvpn-only

Specifies that the router signals the MVPN-to-OISM (MEG) gateway capabilities.

pim-only

Specifies that the router signals the PIM-to-OISM (PEG) gateway capabilities.

Platforms

All

advertise

Syntax

[**no**] **advertise**

advertise weight dynamic [**max-dynamic-weight** *max-dynamic-weight*]

advertise weight *weight*

Context

[Tree] (configure>service>vprn>bgp-evpn>srv6>evpn-link-bw advertise)

[Tree] (configure>service>vprn>bgp-evpn>vxlan>evpn-link-bw advertise)

[Tree] (configure>service>vprn>bgp-evpn>mpls>evpn>evpn-link-bw advertise)

[Tree] (configure>service>vpls>bgp-evpn>ip-route-link-bw advertise)

Full Context

configure service vprn bgp-evpn segment-routing-v6 evpn-link-bandwidth advertise

configure service vprn bgp-evpn vxlan evpn-link-bandwidth advertise

configure service vprn bgp-evpn mpls evpn-link-bandwidth advertise

configure service vpls bgp-evpn ip-route-link-bandwidth advertise

Description

This command enables the advertisement of the EVPN link bandwidth extended community along with the IP Prefix routes.

The **no** form of this command disables the advertisement of the EVPN link bandwidth extended community.

Default

no advertise

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Parameters

weight

Specifies the weight advertised in the EVPN link bandwidth extended community for the advertised EVPN IP prefix routes for the service.

Values 1 to 128

weight dynamic

Keyword to specify that the weight is dynamically set based on the number of BGP PE-CE paths for the IP-Prefix that is advertised in an EVPN IP-Prefix route.

max-dynamic-weight

Specifies the maximum weight advertised in the EVPN link bandwidth extended community for the advertised EVPN IP-Prefix routes for the service. If **weight dynamic** is configured, the actual advertised weight is the minimum of the number of BGP PE-CE paths for the prefix and the configured maximum weight.

Values 1 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-evpn segment-routing-v6 evpn-link-bandwidth advertise

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan evpn-link-bandwidth advertise

All

- configure service vpls bgp-evpn ip-route-link-bandwidth advertise
- configure service vprn bgp-evpn mpls evpn-link-bandwidth advertise

advertise

Syntax

advertise [**holdtime** *seconds*]

no advertise

Context

[Tree] (configure>router>bgp>group>bfd-strict-mode advertise)

[Tree] (configure>router>bgp>bfd-strict-mode advertise)

[Tree] (configure>service>vprn>bgp>bfd-strict-mode advertise)

[Tree] (configure>service>vprn>bgp>group>bfd-strict-mode advertise)

[Tree] (configure>router>bgp>group>neighbor>bfd-strict-mode advertise)

[Tree] (configure>service>vprn>bgp>group>neighbor>bfd-strict-mode advertise)

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Full Context

configure router bgp group bfd-strict-mode advertise

configure router bgp bfd-strict-mode advertise

configure service vprn bgp bfd-strict-mode advertise

configure service vprn bgp group bfd-strict-mode advertise

configure router bgp group neighbor bfd-strict-mode advertise

configure service vprn bgp group neighbor bfd-strict-mode advertise

Description

This command configures BGP to advertise the Strict-BFD capability to peers that are within scope of this command and meet the following requirements:

- The **bfd-enable** command that applies to the peer is enabled (through either configuration or inheritance).
- The interface associated with the peer has a valid BFD configuration.

When the preceding conditions are satisfied and two peers attempting to form a session both advertise the Strict-BFD capability, the BGP finite state machine in each router transitions the session state to established after the BFD session with the peer enters the up state.

The **no** form of this command prevents BGP from advertising the Strict-BFD capability to peers.

Default

no advertise

Parameters

seconds

Specifies the maximum time (in seconds) BGP waits for the BFD session to come up, provided that the Strict-BFD procedures apply to a session, and the negotiated BGP hold time is zero (no keepalives). If the negotiated BGP hold time is greater than zero, the **holdtime** parameter is not considered.

Values 1 to 65535

Default 30

Platforms

All

advertise

Syntax

[**no**] **advertise**

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Context

[Tree] (configure>service>vprn>bgp-evpn>mpls>gateway-ip advertise)

[Tree] (configure>service>vprn>bgp-evpn>vxlan>gateway-ip advertise)

Full Context

configure service vprn bgp-evpn mpls gateway-ip advertise

configure service vprn bgp-evpn vxlan gateway-ip advertise

Description

This command configures the advertisement of an IP prefix route for prefix P with the next hop N in the GW-IP field when a BGP PE-CE route for P is received from N. If multiple CEs advertise the same prefix P from different next hops, and the **configure router bgp add-paths evpn** command is enabled on the Base router, the router generates multiple IP prefix routes. Each of these routes has a unique next hop encoded in the GW-IP field and a distinct path ID.

The **no** form of this configures the advertisement of an IP prefix route to not use the GW-IP in the IP prefix route.

Default

no advertise

Platforms

All

- configure service vprn bgp-evpn mpls gateway-ip advertise

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan gateway-ip advertise

6.36 advertise-admin-group

advertise-admin-group

Syntax

advertise-admin-group {prefer-ag | eag-only | ag-eag}

no advertise-admin-group

Context

[Tree] (config>router>ospf>flex-algos advertise-admin-group)

[Tree] (config>router>isis>flex-algos advertise-admin-group)

Full Context

configure router ospf flexible-algorithms advertise-admin-group

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configure router isis flexible-algorithms advertise-admin-group

Description

This command configures the type of Aministrative Group (AG) or Extended Administrative Group (EAG) TLVs the router advertises as the Interior Gateway Protocol (IGP) link attribute. This command is configured for this IGP instance.

The **no** form of this command removes the configuration.

Default

prefer-ag

Parameters

prefer-ag

Keyword to specify that the router advertises the Administrative Group (AG) TLV as the IGP link attribute if the affinity bits in the **configure router if-attribute admin-group** *value* command are configured between 0 to 31. If no EAG (32 to 255) affinity bits are configured, only the AG TLV is advertised as the IGP link attribute.

If the affinity bits are configured in both the AG (0 to 31) and EAG (32 to 255) range, the router advertises both the AG and the EAG TLVs as the IGP link attributes.

eag-only

Keyword to specify that the router advertises only the EAG TLV as the IGP link attribute. No AG TLV is advertised if this keyword is configured.

ag-eag

Keyword to specify that the router can advertise both the AG and the EAG TLVs as the IGP link attributes, even without the affinity bit in the EAG range configured in the **configure router if-attribute admin-group** *value* command. If no affinity bit is configured in the AG range (0 to 31), the router prunes the AG TLV. Configuring this keyword allows for backward compatibility for vendor implementations that support only AG, while still supporting EAG.

Platforms

All

6.37 advertise-bgp

advertise-bgp

Syntax

advertise-bgp route-distinguisher *rd* [**community** *community*]

no advertise-bgp route-distinguisher *rd*

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Context

[Tree] (config>service>pw-routing>local-prefix advertise-bgp)

Full Context

configure service pw-routing local-prefix advertise-bgp

Description

This command enables a given prefix to be advertised in MP-BGP for dynamic MS-PW routing.

The **no** form of this command will explicitly withdraw a route if it has been previously advertised.

Default

no advertise-bgp

Parameters

rd

Specifies an 8-octet route distinguisher associated with the prefix. Up to 4 unique route distinguishers can be configured and advertised for a given prefix though multiple instances of the advertise-bgp command. This parameter is mandatory.

Values (6 bytes, other 2 Bytes of type will be automatically generated) asn:number1 (RD Type 0): 2bytes ASN and 4 bytes locally administered number ip-address:number2 (RD Type 1): 4bytes IPv4 and 2 bytes locally administered number;

community

An optional BGP communities attribute associated with the advertisement. To delete a previously advertised community, advertise-bgp route-distinguisher must be run again with the same value for the RD but excluding the community attribute.

Values

community	{2-byte-as-number:comm-va1}
2-byte-asnumber	0 to 65535
comm.-val	0 to 65535

Platforms

All

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6.38 advertise-capabilities

advertise-capabilities

Syntax

advertise-capabilities

Context

[Tree] (config>port>ethernet>efm-oam>discovery advertise-capabilities)

Full Context

configure port ethernet efm-oam discovery advertise-capabilities

Description

This is the top level of the hierarchy which allows for the overriding of default advertising of capabilities to a remote peer.

Platforms

All

6.39 advertise-delay

advertise-delay

Syntax

[**no**] **advertise-delay**

Context

[Tree] (config>router>ospf>te-opts advertise-delay)

Full Context

configure router ospf traffic-engineering-options advertise-delay

Description

This command configures the advertisement of link delay in the IGP LSDB within the OSPF-TE TLV attribute or when the Application Specific Link Attribute (ASLA) is enabled within the SR-TE ASLA.

When the router is configured with the **configure router ospf traffic-engineering-options sr-te application-specific-link-attributes** command to generate SR-TE ASLA attributes, link delay is

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advertised as a legacy RFC 3630 TE TLV when RSVP-TE is enabled and as an ASLA RFC 8920 TLV for SR-TE when MPLS is enabled for an interface.

SR OS accepts and handles both legacy RSVP-TE TLVs and ASLAs for the RSVP application. However, SR OS only advertises RFC 3630 legacy RSVP-TE TLVs (as recommended by RFC 8920) to avoid compatibility issues.

The **no** form of this command disables link delay advertisement.

Default

no advertise-delay

Platforms

All

advertise-delay

Syntax

[**no**] **advertise-delay**

Context

[Tree] (config>router>isis>te advertise-delay)

Full Context

configure router isis traffic-engineering-options advertise-delay

Description

This command enables the advertisement of link delay in the IGP LSDB within legacy Traffic Engineering (TE) attributes in IS-IS or within the Application Specific Link Attribute (ASLA) when ASLA is enabled for SR-TE or RSVP-TE applications.

When **application-link-attributes legacy** command is configured for SR-TE or RSVP-TE, link delay is advertised as a legacy TE TLV with the ASLA legacy bit set.

The **no** form of this command disables link delay advertisement.

Default

no advertise-delay

Platforms

All

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6.40 advertise-external

advertise-external

Syntax

[**no**] **advertise-external** [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**]

Context

[Tree] (config>router>bgp advertise-external)

Full Context

configure router bgp advertise-external

Description

This command allows BGP to advertise its best external route to a destination even when its best overall route is an internal route. Entering the command (or its **no** form) with no address family parameters is equivalent to specifying all supported address families.

The **no** form of this command disables Advertise Best External for the BGP family.

Default

no advertise-external

Parameters

ipv4

Enables the best-external advertisement for unlabeled unicast IPv4 routes.

ipv6

Enables the best-external advertisement for unlabeled unicast IPv6 routes.

label-ipv4

Enables the best-external advertisement for labeled-unicast IPv4 routes.

label-ipv6

Enables the best-external advertisement for labeled-unicast IPv6 routes.

Platforms

All

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6.41 advertise-ifl-host-ad-routes

advertise-ifl-host-ad-routes

Syntax

advertise-ifl-host-ad-routes [**route-tag** *route-tag*] [**bgp-evpn-instance** *bgp-instance*]

no advertise-ifl-host-ad-routes

Context

[Tree] (config>service>system>bgp-evpn>eth-seg advertise-ifl-host-ad-routes)

Full Context

configure service system bgp-evpn ethernet-segment advertise-ifl-host-ad-routes

Description

This command enables the AD per-EVI and AD per-ES routes for advertisement in the VPRN and BGP EVPN instances with R-VPLS services attached to the Ethernet segment.

The AD per-EVI routes for the VPRNs contain the route distinguisher, route targets, and label or VNI of the VPRN BGP EVPN instance. The instance is specified by using the **bgp-evpn-instance** command option. The AD per-ES routes for the VPRNs contain the route distinguisher and route targets of the VPRN BGP EVPN instance. On the remote PEs, the reception of EVPN-IFL-HOST routes with an ESI matching the ESI of the VPRN AD per-EVI and AD per-ES routes enables the IP aliasing procedures for EVPN-IFL-HOST routes.

The **no** form of this command disables the AD per-EVI and AD per-ES routes for advertisement.

Default

no advertise-ifl-host-ad-routes

Parameters

route-tag

Specifies the route tag added to VPRN AD per-EVI routes of the Ethernet segment. This value can be matched on export policies.

Note: VPRN AD per-ES routes are not associated with this route-tag.

Values 1 to 255

bgp-instance

Specifies the EVPN interface-less BGP instance from which the label or VNI, route distinguisher, and route targets are taken when advertising the AD per-EVI and the AD per-ES routes (except for the VNI/label in AD per-ES routes).

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Values 1 to 1

Platforms

All

6.42 advertise-inactive

advertise-inactive

Syntax

[**no**] **advertise-inactive**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy advertise-inactive)

Full Context

configure subscriber-mgmt bgp-peering-policy advertise-inactive

Description

This command enables the advertising of inactive BGP routers to other BGP peers.

By default, BGP only advertises BGP routes to other BGP peers if a given BGP route is chosen by the route table manager as the most preferred route within the system and is active in the forwarding plane. This command allows system administrators to advertise a BGP route even though it is not the most preferred route within the system for a given destination.

The **no** form of this command disables the advertising.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

advertise-inactive

Syntax

[**no**] **advertise-inactive**

Context

[Tree] (config>service>vprn>bgp>group advertise-inactive)

[Tree] (config>service>vprn>bgp>group>neighbor advertise-inactive)

[Tree] (config>service>vprn>bgp advertise-inactive)

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Full Context

configure service vprn bgp group advertise-inactive

configure service vprn bgp group neighbor advertise-inactive

configure service vprn bgp advertise-inactive

Description

This command enables or disables the advertising of inactive BGP routers to other BGP peers.

By default, BGP only advertises BGP routes to other BGP peers if a given BGP route is chosen by the route table manager as the most preferred route within the system and is active in the forwarding plane. This command allows system administrators to advertise a BGP route even though it is not the most preferred route within the system for a given destination.

When the BGP **advertise-inactive** command is configured so that it applies to a BGP session it has the following effect on the IPv4, IPv6, mcast-ipv4, mcast-ipv6, label-IPv4 and label-IPv6 routes advertised to that peer:

- If the active route for the IP prefix is a BGP route then that route is advertised.
- If the active route for the IP prefix is a non-BGP route and there is at least one valid but inactive BGP route for the same destination then the best of the inactive and valid BGP routes is advertised unless the non-BGP active route is matched and accepted by an export policy applied to the session.
- If the active route for the IP prefix is a non-BGP route and there are no (valid) BGP routes for the same destination then no route is advertised for the prefix unless the non-BGP active route is matched and accepted by an export policy applied to the session.

Default

no advertise-inactive

Platforms

All

advertise-inactive

Syntax

[**no**] **advertise-inactive**

Context

[Tree] (config>router>bgp advertise-inactive)

[Tree] (config>router>bgp>group advertise-inactive)

[Tree] (config>router>bgp>group>neighbor advertise-inactive)

Full Context

configure router bgp advertise-inactive

configure router bgp group advertise-inactive

configure router bgp group neighbor advertise-inactive

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Description

This command enables the advertising of inactive BGP routes to other BGP peers. By default, BGP only advertises BGP routes to other BGP peers if a given BGP route is chosen by the route table manager as the most preferred route within the system and is active in the forwarding plane. This command allows system administrators to advertise a BGP route even though it is not the used route within the system for a given destination.

The **no** form of this command disables the advertising of inactive BGP routers to other BGP peers.

Default

no advertise-inactive

Platforms

All

6.43 advertise-ipv6-next-hops

advertise-ipv6-next-hops

Syntax

advertise-ipv6-next-hops [**ipv4**]

no advertise-ipv6-next-hops

Context

[Tree] (config>service>vprn>bgp advertise-ipv6-next-hops)

[Tree] (config>service>vprn>bgp>group>neighbor advertise-ipv6-next-hops)

[Tree] (config>service>vprn>bgp>group advertise-ipv6-next-hops)

Full Context

configure service vprn bgp advertise-ipv6-next-hops

configure service vprn bgp group neighbor advertise-ipv6-next-hops

configure service vprn bgp group advertise-ipv6-next-hops

Description

When this command is configured, with the IPv4 option, so that it applies to a BGP session established on top of IPv6 transport, IPv4 BGP routes can be advertised with a true IPv6 address when originated or when **next-hop-self** (configured or automatic) is applied.

If an IPv4 route must originate or be advertised with a **next-hop-self** and the corresponding **advertise-ipv6-next-hops** command option does not apply to the session or if an appropriate **extended-nh-encoding** capability was not received from the remote peer, then the route is advertised with the IPv4 system address as the BGP next-hop.

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If an IPv4 route is matched by a BGP export policy entry that tries to change the next hop to an IPv6 address and the corresponding **advertise-ipv6-next-hops** command option does not apply to the session or if an appropriate **extended-nh-encoding** capability was not received from the remote peer, then the route is handled as though it was rejected by the policy entry.

This command has no effect on sessions established over IPv4 transport.

The **no** form of this command reverts to the default.

Default

no advertise-ipv6-next-hops

Parameters

ipv4

Allows IPv4 unicast routes to be advertised to IPv6-transport peers with an IPv6 address as the BGP next-hop in cases of route origination or **next-hop-self** (configured or automatic). It also allows export policies to change the BGP next-hop of an IPv4 route to an IPv6 address. All of these cases require the remote peer to advertise the necessary extended NH encoding capability. It may be necessary to configure the **forward-ipv4-packets** command under the appropriate **interface>ipv6** contexts in order to enable datapath support for these control plane exchanges.

Platforms

All

advertise-ipv6-next-hops

Syntax

advertise-ipv6-next-hops [**vpn-ipv6**] [**label-ipv6**] [**evpn**] [**vpn-ipv4**] [**label-ipv4**] [**ipv4**]

no advertise-ipv6-next-hops

Context

[Tree] (config>router>bgp>group>neighbor advertise-ipv6-next-hops)

[Tree] (config>router>bgp advertise-ipv6-next-hops)

[Tree] (config>router>bgp>group advertise-ipv6-next-hops)

Full Context

configure router bgp group neighbor advertise-ipv6-next-hops

configure router bgp advertise-ipv6-next-hops

configure router bgp group advertise-ipv6-next-hops

Description

This command applies to a BGP session established on top of IPv6 transport; BGP routes belonging to the specified families can be advertised with a true IPv6 address when originated or when **next-hop-self** (configured or automatic) is applied.

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This command has no effect on routes advertised to IPv4 peers.

When this command is not enabled, the following considerations apply:

- If a VPN IPv6 or label IPv6 route needs to be originated or advertised with **next-hop-self** to an IPv6 transport peer the route is advertised with the IPv4 system address as BGP next-hop (encoded as an IPv4-mapped IPv6 address).
- If a VPN-IPv4 or label IPv4 route needs to be originated or advertised with **next-hop-self** or if an appropriate **extended-nh-encoding** capability was not received from the remote peer, the route is advertised with the IPv4 system address as the BGP next-hop.
- If a VPN IPv4 or label IPv4 route is matched by a BGP export policy entry that tries to change the next-hop to an IPv6 address and an appropriate **extended-nh-encoding** capability was not received from the remote peer, the route is handled as though it was rejected by the policy entry.

The **no** form of this command disables the setting of next hops to a global IPv6 address for the family.

Default

no advertise-ipv6-next-hops

Parameters

vpn-ipv6

Allows VPN IPv6 routes to be advertised to IPv6 transport peers with an IPv6 address as the BGP next-hop in cases of route origination or **next-hop-self** (configured or automatic).

label-ipv6

Allows label IPv6 routes to be advertised to IPv6 transport peers with an IPv6 address as the BGP next-hop in cases of route origination or **next-hop-self** (configured or automatic).

vpn-ipv4

Allows VPN IPv4 routes to be advertised to IPv6 transport peers with an IPv6 address as the BGP next-hop in cases of route origination or **next-hop-self** (configured or automatic). It also allows export policies to change the BGP next-hop of a VPN IPv4 route to an IPv6 address. All of these cases require the remote peer to advertise the necessary extended NH encoding capability.

label-ipv4

Allows label IPv4 routes to be advertised to IPv6 transport peers with an IPv6 address as the BGP next-hop in cases of route origination or **next-hop-self** (configured or automatic). It also allows export policies to change the BGP next-hop of a label IPv4 route to an IPv6 address. All of these cases require the remote peer to advertise the necessary extended NH encoding capability.

ipv4

Instructs BGP to advertise an extended NH encoding capability for NLRI AFI=1, NLRI SAFI=1 and next-hop AFI=2.

evpn

Allows EVPN routes to be advertised to IPv6 transport peers.

Platforms

All

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6.44 advertise-label

advertise-label

Syntax

advertise-label {**per-prefix** | **pop** | **pop-and-forward**}

no advertise-label

Context

[Tree] (config>router>policy-options>policy-statement>default-action advertise-label)

[Tree] (config>router>policy-options>policy-statement>entry>action advertise-label)

Full Context

configure router policy-options policy-statement default-action advertise-label

configure router policy-options policy-statement entry action advertise-label

Description

This command configures the label allocation method for advertised routes. The effect of the **advertise-label** command depends on the context where the associated policy is applied.

Use the **per-prefix** option and configure the command in the default action or entry-specific action of a VRF export policy to advertise every qualifying matched route with a per-prefix label in the resulting VPN-IP routes. In this situation, non-qualifying routes include local interface routes and BGP-VPN routes. The command overrides, for specific routes, the configured label-mode of the exporting VPRN service.

Use the per-prefix option and configure the command in the default action or entry-specific action of a BGP import policy to assign a per-prefix label to qualifying label-IPv4 and label-IPv6 routes when:

- these routes are the best path for their prefix in the respective RIB
- there is a BGP next-hop change

A label-IPv4 or label-IPv6 route advertised with a pre-prefix label supports ECMP forwarding across multiple BGP next-hops.

The **pop** option is applicable in route-table-import policies. The advertised BGP label is programmed for a pop operation when:

- a /32 IPv4 static, OSPF, or IS-IS route is matched and accepted by a label-IPv4 or label-IPv6 RIB route-table-import policy entry or default-action with this command
- the route is a candidate to be advertised as a label-IPv4 or label-IPv6 route (due to a BGP export policy)

When the label-IPv4 RIB imports a /32 static, OSPF, or IS-IS route and then exports the route as a BGP route, the default behavior is to program a swap operation in the datapath, which swaps the BGP label with the tunnel label that takes traffic to the destination of the /32 route.

The **pop-and-forward** option is applicable in route-table-import policies, when these policies match an unlabeled BGP route and apply this policy action.

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Use the **pop-and-forward** option to program the label that is advertised in the BGP-LU route to forward the packet according to the resolution of the unlabeled route that triggered the origination of the BGP-LU route. The forwarding is done without an IP FIB lookup, which can be useful in situations where the IP FIB at the exit of the MPLS tunnel is not synchronized with the FIB at the head-end of the MPLS tunnel. The advertisement of a pop-and-forward label overrides the configuration to advertise label-ipv6 routes with an explicit null label and the configuration to advertise BGP-LU with a prefix SID attribute. Those features are not available when using the pop-and-forward label.

Default

no advertise-label

Parameters

per-prefix

Sets the per-prefix label allocation for matched routes. This takes effect only in VRF export policies and BGP import policies, and only for certain types of routes.

pop

Sets the pop label allocation for matched routes. This takes effect only in label-IPv4 route-table-import policies and only applies to /32 IPv4 routes that were learned through static configuration, OSPF, or IS-IS.

pop-and-forward

Sets the pop-and-forward label allocation for matched routes. This takes effect only when an unlabeled BGP IPv4 or IPv6 route is matched by a label-IPv4 or label-IPv6 route-table-import policy.

Platforms

All

6.45 advertise-ldp-prefix

advertise-ldp-prefix

Syntax

[**no**] **advertise-ldp-prefix**

Context

[Tree] (config>router>bgp>group>neighbor advertise-ldp-prefix)

Full Context

configure router bgp group neighbor advertise-ldp-prefix

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Description

This command, when configured for a session that supports the IPv4 labeled-unicast address family, allows (subject to BGP export policies) active /32 LDP FEC prefixes to be advertised to the BGP peer with an RFC 8277 label, even though there may be BGP paths for the same prefix.

Default

no advertise-ldp-prefix

Platforms

All

6.46 advertise-local

advertise-local

Syntax

[**no**] **advertise-local**

Context

[Tree] (config>service>vpls>isid-policy>entry advertise-local)

Full Context

configure service vpls isid-policy entry advertise-local

Description

The **no advertise-local** option prevents the advertisement of any locally defined I-VPLS ISIDs or static-isids in the range in a B-VPLS. For I-VPLS services or static-isids that are primarily unicast traffic, the use-def-mcast and no advertise-local options allows the forwarding of ISID based multicast frames locally using the default multicast. The **no advertise-local** option also suppresses this range of ISIDs from being advertised in ISIS. When using the **use-def-mcast** and **no advertise-local** policies, the ISIDs configured under this **static-isid** declarations SPBM treats the ISIDs as belonging to the default tree.

Default

advertise-local

Platforms

All

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6.47 advertise-ne-profile

advertise-ne-profile

Syntax

advertise-ne-profile *name*

no advertise-ne-profile

Context

[Tree] (config>service>vprn>ospf>area advertise-ne-profile)

Full Context

configure service vprn ospf area advertise-ne-profile

Description

This command enables advertising of a specific NE profile using OSPFv2 LSA type 10 opaque.

The **no** version of this command disables advertising of NE profiles.

Default

no advertise-ne-profile

Parameters

name

Specifies the name of the NE profile to be advertised, up to 32 characters.

Platforms

All

6.48 advertise-operating-system

advertise-operating-system

Syntax

[**no**] **advertise-operating-system**

Context

[Tree] (config>system>netconf>call-home>device-labels advertise-operating-system)

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Full Context

configure system netconf call-home device-labels advertise-operating-system

Description

This command advertises the network operating system, which is encoded as a NETCONF capability.

The **no** form of this command disables advertising the network operating system.

Default

no advertise-operating-system

Platforms

All

6.49 advertise-passive-only

advertise-passive-only

Syntax

[**no**] **advertise-passive-only**

Context

[Tree] (config>service>vprn>isis advertise-passive-only)

Full Context

configure service vprn isis advertise-passive-only

Description

This command enables IS-IS for the VPRN instance to advertise only prefixes that belong to passive interfaces.

The **no** form of this command disables IS-IS for the VPRN instance from advertising only prefixes that belong to passive interfaces.

Platforms

All

advertise-passive-only

Syntax

[**no**] **advertise-passive-only**

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Context

[Tree] (config>router>isis advertise-passive-only)

Full Context

configure router isis advertise-passive-only

Description

This command enables and disables IS-IS to advertise only prefixes that belong to passive interfaces.

Default

no advertise-passive-only

Platforms

All

6.50 advertise-router-capability

advertise-router-capability

Syntax

advertise-router-capability {**area** | **as**}

no advertise-router-capability

Context

[Tree] (config>service>vprn>isis>level advertise-router-capability)

[Tree] (config>service>vprn>isis advertise-router-capability)

Full Context

configure service vprn isis level advertise-router-capability

configure service vprn isis advertise-router-capability

Description

This command enables advertisement of a router's capabilities to its neighbors for informational and troubleshooting purposes. A new TLV as defined in RFC 4971 advertises the TE Node Capability Descriptor capability.

The parameters (area & as) control the scope of the capabilities advertisements.

The **no** form of this command disables this capability.

Default

no advertise-router-capability

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Parameters

area

Capabilities are only advertised within the area of origin.

as

Capabilities are only advertised throughout the entire autonomous system.

Platforms

All

advertise-router-capability

Syntax

advertise-router-capability

advertise-router-capability {**link** | **area** | **as**}

no advertise-router-capability

Context

[Tree] (config>service>vprn>ospf>area>if advertise-router-capability)

[Tree] (config>service>vprn>ospf3 advertise-router-capability)

[Tree] (config>service>vprn>ospf>area advertise-router-capability)

[Tree] (config>service>vprn>ospf advertise-router-capability)

[Tree] (config>service>vprn>ospf3>area>if advertise-router-capability)

Full Context

configure service vprn ospf area interface advertise-router-capability

configure service vprn ospf3 advertise-router-capability

configure service vprn ospf area advertise-router-capability

configure service vprn ospf advertise-router-capability

configure service vprn ospf3 area interface advertise-router-capability

Description

This command enables advertisement of a router's capabilities to its neighbors for informational and troubleshooting purposes. A Router Information (RI) LSA as defined in RFC 4970 advertises the following capabilities:

- OSPF graceful restart capable: no
- OSPF graceful restart helper: yes, when enabled
- OSPF Stub Router support: yes
- OSPF Traffic Engineering support: yes, when enabled
- OSPF point-to-point over LAN: yes

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- OSPF Experimental TE: no

The parameters (**link**, **area** and **as**) control the advertisement scope of the router capabilities.

The **no** form of this command disables this capability.

Default

no advertise-router-capability

Parameters

link

Capabilities are only advertised over local link and not flooded beyond.

area

Capabilities are only advertised within the area of origin.

as

Capabilities are only advertised throughout the entire autonomous system.

Platforms

All

advertise-router-capability

Syntax

advertise-router-capability {**area** | **as**}

no advertise-router-capability

Context

[Tree] (config>router>isis advertise-router-capability)

Full Context

configure router isis advertise-router-capability

Description

This command enables advertisement of a router's capabilities to its neighbors for informational and troubleshooting purposes. A TLV as defined in RFC 4971 advertises the TE Node Capability Descriptor capability.

The parameters (area and as) control the scope of the capability advertisements.

The **no** form of this command disables this capability.

Parameters

area

Specifies to only advertise within the area of origin.

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as

Specifies to advertise throughout the entire autonomous system.

Platforms

All

advertise-router-capability

Syntax

[**no**] **advertise-router-capability**

Context

[Tree] (config>router>isis>level advertise-router-capability)

Full Context

configure router isis level advertise-router-capability

Description

This command enables router advertisement capabilities.

The **no** form of this command disables router advertisement capabilities.

Default

advertise-router-capability

Platforms

All

advertise-router-capability

Syntax

advertise-router-capability {**link** | **area** | **as**}

no advertise-router-capability

Context

[Tree] (config>router>ospf advertise-router-capability)

[Tree] (config>router>ospf3 advertise-router-capability)

Full Context

configure router ospf advertise-router-capability

configure router ospf3 advertise-router-capability

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Description

This command enables advertisement of a router's capabilities to its neighbors for informational and troubleshooting purposes. A Router Information (RI) LSA as defined in RFC 4970 advertises the following capabilities:

- OSPF graceful restart capable: no
- OSPF graceful restart helper: yes, when enabled
- OSPF stub router support: yes
- OSPF traffic engineering support: yes, when enabled
- OSPF point-to-point over LAN: yes
- OSPF experimental TE: no

The parameters (**link**, **area** and **as**) control the scope of the capability advertisements.

The **no** form of this command disables this capability.

Default

no advertise-router-capability

Parameters

link

capabilities are only advertised over local links and not flooded beyond.

area

capabilities are only advertised within the area of origin.

as

capabilities are advertised throughout the entire autonomous system.

Platforms

All

advertise-router-capability

Syntax

[**no**] **advertise-router-capability**

Context

[Tree] (config>router>ospf>area advertise-router-capability)

[Tree] (config>router>ospf3>area>interface advertise-router-capability)

[Tree] (config>router>ospf3>area advertise-router-capability)

[Tree] (config>router>ospf>area>interface advertise-router-capability)

Full Context

configure router ospf area advertise-router-capability

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configure router ospf3 area interface advertise-router-capability

configure router ospf3 area advertise-router-capability

configure router ospf area interface advertise-router-capability

Description

This command enables advertisement of a router's capabilities to its neighbors for informational and troubleshooting purposes. A Router Information (RI) LSA as defined in RFC 4970 advertises the following capabilities:

- OSPF graceful restart capable: no
- OSPF graceful restart helper: yes, when enabled
- OSPF stub router support: yes
- OSPF traffic engineering support: yes, when enabled
- OSPF point-to-point over LAN: yes
- OSPF experimental TE: no

The **no** form of this command disables this capability.

Default

advertise-router-capability

Platforms

All

6.51 advertise-selection

advertise-selection

Syntax

advertise-selection

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay advertise-selection)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay advertise-selection)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay advertise-selection)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection

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Description

Commands in this context configure a solicit delay or a DHCPv6 preference option value to influence the advertise selection of DHCPv6 clients.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.52 advertise-software-version

advertise-software-version

Syntax

[**no**] **advertise-software-version**

Context

[Tree] (config>system>netconf>call-home>device-labels advertise-software-version)

Full Context

configure system netconf call-home device-labels advertise-software-version

Description

This command advertises the software version, which is encoded as a NETCONF capability.

The **no** form of this command disables advertising the network software version.

Default

no advertise-software-version

Platforms

All

6.53 advertise-stale-to-all-neighbors

advertise-stale-to-all-neighbors

Syntax

advertise-stale-to-all-neighbors [**without-no-export**]

no advertise-stale-to-all-neighbors

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Context

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived advertise-stale-to-all-neighbors)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived advertise-stale-to-all-neighbors)

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived advertise-stale-to-all-neighbors)

Full Context

configure service vprn bgp graceful-restart long-lived advertise-stale-to-all-neighbors

configure service vprn bgp group neighbor graceful-restart long-lived advertise-stale-to-all-neighbors

configure service vprn bgp group graceful-restart long-lived advertise-stale-to-all-neighbors

Description

This command allows BGP routes marked as LLGR stale to be advertised to BGP peers that did not advertise the LLGR capability when the session was opened. The **no** version of this command causes advertisement behavior to follow the rule that stale routes cannot be advertised to a peer that does not understand or implement the LLGR capability. Stale routes are withdrawn towards such peers.

When this command is configured with the **without-no-export** option, LLGR stales routes can be advertised to any peer (EBGP or IBGP) that did not signal the LLGR capability. Towards IBGP and confederation-EBGP peers that did not advertise the LLGR capability, the LOCAL_PREFERENCE attribute in the advertised stale routes is automatically set to zero.

When this command is configured without the **without-no-export** option, LLGR stale routes are not advertised to any EBGP peer that did not signal the LLGR capability. Towards IBGP and confederation-EBGP peers that did not advertise the LLGR capability the LOCAL_PREFERENCE attribute in the advertised stale routes is automatically set to zero and a NO_EXPORT standard community is automatically added to the routes.

Default

no advertise-stale-to-all-neighbors

Parameters

without-no-export

Allows LLGR stale routes to be advertised to all peers, such that they can exit the local AS.

Platforms

All

advertise-stale-to-all-neighbors

Syntax

advertise-stale-to-all-neighbors [**without-no-export** | **no without-no-export**]

no advertise-stale-to-all-neighbors

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Context

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived advertise-stale-to-all-neighbors)

[Tree] (config>router>bgp>group>graceful-restart>long-lived advertise-stale-to-all-neighbors)

[Tree] (config>router>bgp>graceful-restart>long-lived advertise-stale-to-all-neighbors)

Full Context

configure router bgp group neighbor graceful-restart long-lived advertise-stale-to-all-neighbors

configure router bgp group graceful-restart long-lived advertise-stale-to-all-neighbors

configure router bgp graceful-restart long-lived advertise-stale-to-all-neighbors

Description

This command allows BGP routes marked as LLGR stale to be advertised to BGP peers that did not advertise the LLGR capability when the session was opened.

When this command is configured with the **without-no-export** option, LLGR stale routes can be advertised to any peer (EBGP or IBGP) that did not signal the LLGR capability. Towards IBGP and confederation-EBGP peers that did not advertise the LLGR capability, the LOCAL_PREFERENCE attribute in the advertised stale routes is automatically set to zero.

When this command is configured without the **without-no-export** option, LLGR stale routes are not advertised to any EBGP peer that did not signal the LLGR capability. Towards IBGP and confederation-EBGP peers that did not advertise the LLGR capability the LOCAL_PREFERENCE attribute in the advertised stale routes is automatically set to zero and a NO_EXPORT standard community is automatically added to the routes.

The **no** version of this command causes advertisement behavior to follow the rule that stale routes cannot be advertised to a peer that does not understand or implement the LLGR capability. Stale routes are withdrawn towards such peers.

Default

no advertise-stale-to-all-neighbors

Parameters

without-no-export

Allows LLGR stale routes to be advertised to all peers, such that they can exit the local AS.

Platforms

All

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6.54 advertise-subnet

advertise-subnet

Syntax

[**no**] **advertise-subnet**

Context

[Tree] (config>service>vprn>ospf>area>if advertise-subnet)

Full Context

configure service vprn ospf area interface advertise-subnet

Description

This command enables advertising point-to-point interfaces as subnet routes (network number and mask). When disabled, point-to-point interfaces are advertised as host routes.

This command is not supported in the OSPF3 context.

The **no** form of this command disables advertising point-to-point interfaces as subnet routes meaning they are advertised as host routes.

Default

advertise-subnet — Advertises point-to-point interfaces as subnet routes.

Platforms

All

advertise-subnet

Syntax

[**no**] **advertise-subnet**

Context

[Tree] (config>router>ospf>area>interface advertise-subnet)

Full Context

configure router ospf area interface advertise-subnet

Description

This command enables advertising point-to-point interfaces as subnet routes (network number and mask). When disabled, point-to-point interfaces are advertised as host routes.

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The **no** form of this command disables advertising point-to-point interfaces as subnet routes meaning they are advertised as host routes.

Default

advertise-subnet

Platforms

All

6.55 advertise-system-name

advertise-system-name

Syntax

[**no**] **advertise-system-name**

Context

[Tree] (config>system>netconf>call-home>device-labels advertise-system-name)

Full Context

configure system netconf call-home device-labels advertise-system-name

Description

This command advertises the system name, which is encoded as a NETCONF capability.

The **no** form of this command disables advertising the system name.

Default

no advertise-system-name

Platforms

All

6.56 advertise-tunnel-link

advertise-tunnel-link

Syntax

[**no**] **advertise-tunnel-link**

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Context

[Tree] (config>router>isis advertise-tunnel-link)

[Tree] (config>router>ospf advertise-tunnel-link)

Full Context

configure router isis advertise-tunnel-link

configure router ospf advertise-tunnel-link

Description

This command enables the forwarding adjacency feature. With this feature, IS-IS or OSPF advertises an RSVP LSP as a link so that other routers in the network can include it in their SPF computations. The RSVP LSP is advertised as an unnumbered point-to-point link and the link LSP or LSA has no Traffic Engineering opaque sub-TLVs, as per RFC 3906. An SR-TE LSP is not supported with forwarding adjacency.

The forwarding adjacency feature can be enabled independently from the IGP shortcut feature in CLI. If both **igp-shortcut** and **advertise-tunnel-link** options are enabled for a given IGP instance, then the **advertise-tunnel-link** takes precedence.

When the forwarding adjacency feature is enabled, each node advertises a p2p unnumbered link for each best metric tunnel to the router ID of any endpoint node. The node does not include the tunnels as IGP shortcuts in SPF computation directly. Instead, when the LSA or LSP that advertises the corresponding P2P unnumbered link is installed in the local routing database, the node performs an SPF using it like any other link LSA or LSP. The bidirectional check of the link requires that a link, regular or tunnel, exists in the reverse direction for the tunnel to be used in SPF.

The **igp-shortcut** option under the LSP name governs the use of the LSP with both the **igp-shortcut** and the **advertise-tunnel-link** options in IGP. In other words, the user can exclude a specific RSVP LSP from being used as a forwarding adjacency by entering the command **config>router>mpls>lsp>no igp-shortcut**.

Support is provided for resolving and forwarding IPv4 and IPv6 prefixes over IPv4 forwarding adjacency RSVP-TE LSP. Specifically, the forwarding adjacency feature supports family IPv4 in OSPFv2, family IPv6 in OSPFv3, families IPv4 and IPv6 in ISIS MT=0, and family IPv6 in ISIS MT=2.

In addition, both IPv4 and IPv6 SR-ISIS tunnels can be resolved and further tunneled over one or more RSVP-TE LSPs used as forwarding adjacencies. This is enabled by configuring both segment routing and forwarding adjacency features within an IS-IS instance in a multi-topology MT=0.

IS-IS forwarding adjacency using the **advertise-tunnel-link** command is not supported in combination with the IS-IS link bundling and the IS-IS metric link quality adjustment features.

The **no** form of this command disables forwarding adjacency and disables the advertisement of RSVP LSP into IGP.

Default

no advertise-tunnel-link

Platforms

All

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6.57 advertised-stale-time

advertised-stale-time

Syntax

advertised-stale-time *seconds*

no advertised-stale-time

Context

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived advertised-stale-time)

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived>family advertised-stale-time)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived advertised-stale-time)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived>family advertised-stale-time)

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived advertised-stale-time)

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived>family advertised-stale-time)

Full Context

configure service vprn bgp graceful-restart long-lived advertised-stale-time

configure service vprn bgp graceful-restart long-lived family advertised-stale-time

configure service vprn bgp group neighbor graceful-restart long-lived advertised-stale-time

configure service vprn bgp group neighbor graceful-restart long-lived family advertised-stale-time

configure service vprn bgp group graceful-restart long-lived advertised-stale-time

configure service vprn bgp group graceful-restart long-lived family advertised-stale-time

Description

This command sets the value of the long-lived stale time that is advertised by the router in its LLGR capability. When configured in the long-lived configuration context, **advertised-stale-time** applies to all AFI/SAFI in the advertised LLGR capability except for any AFI/SAFI with a family-specific override. A family-specific override is configured with the **advertised-stale-time** command in a family context.

The **no** version of this command sets the **advertised-stale-time** value to 24 hours (86400 seconds).

Default

no advertised-stale-time

Parameters

seconds

Specifies the advertised long-lived stale time in seconds.

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Values 0 to 16777215

Platforms

All

advertised-stale-time

Syntax

advertised-stale-time *seconds*

no advertised-stale-time

Context

[Tree] (config>router>bgp>group>graceful-restart>long-lived advertised-stale-time)

[Tree] (config>router>bgp>graceful-restart>long-lived>family advertised-stale-time)

[Tree] (config>router>bgp>graceful-restart>long-lived advertised-stale-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived>family advertised-stale-time)

[Tree] (config>router>bgp>group>graceful-restart>long-lived>family advertised-stale-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived advertised-stale-time)

Full Context

configure router bgp group graceful-restart long-lived advertised-stale-time

configure router bgp graceful-restart long-lived family advertised-stale-time

configure router bgp graceful-restart long-lived advertised-stale-time

configure router bgp group neighbor graceful-restart long-lived family advertised-stale-time

configure router bgp group graceful-restart long-lived family advertised-stale-time

configure router bgp group neighbor graceful-restart long-lived advertised-stale-time

Description

This command sets the value of the long-lived stale time that is advertised by the router in its LLGR capability. When configured in the long-lived configuration context, **advertised-stale-time** applies to all AFI/SAFI in the advertised LLGR capability except for any AFI/SAFI with a family-specific override. A family-specific override is configured with the **advertised-stale-time** command in a **family** context.

The **no** version of this command sets the **advertised-stale-time** value to 24 hours (86400 seconds).

Default

no advertised-stale-time

Parameters

seconds

Specifies the advertised long-lived stale time in seconds.

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Values 0 to 16777215

Platforms

All

6.58 aes-initialization-vector

aes-initialization-vector

Syntax

aes-initialization-vector *hex-string*

no aes-initialization-vector

Context

[Tree] (config>app-assure>group>http-enrich>field aes-initialization-vector)

Full Context

configure application-assurance group http-enrich field aes-initialization-vector

Description

This command configures the initialization vector that is used for the AES CBC encryption.

The **no** form of this command removes the initialization vector.

Default

no aes-initialization-vector

Parameters

hex-string

Specifies the AES initialization vector in 34 characters, that is, 0x followed by exactly 32 hexadecimal characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.59 agg-rate

agg-rate

Syntax

[**no**] **agg-rate**

Context

[Tree] (config>service>ies>if>sap>egress agg-rate)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress agg-rate)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress agg-rate)

Full Context

configure service ies interface sap egress agg-rate

configure service ies subscriber-interface group-interface sap egress agg-rate

configure service vprn subscriber-interface group-interface sap egress agg-rate

Description

Commands in this context configure aggregation rate parameters. This command is used to control an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, **and queue-frame-based-accounting**.

When specified under a Vport, the **agg-rate**, **port-scheduler-policy** and **scheduler-policy** commands are mutually exclusive. Changing between the use of a scheduler policy and the use of an **agg-rate** or **port-scheduler-policy** involves removing the existing command and applying the new command.

The **no** form of this command disables the aggregation rate.

Platforms

All

- configure service ies interface sap egress agg-rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress agg-rate
- configure service vprn subscriber-interface group-interface sap egress agg-rate

agg-rate

Syntax

[**no**] **agg-rate**

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Context

[Tree] (config>port>ethernet>access>egr>vport agg-rate)

[Tree] (config>port>ethernet>access>egr>qgrp agg-rate)

[Tree] (config>port>ethernet>network>egr>qgrp agg-rate)

Full Context

configure port ethernet access egress vport agg-rate

configure port ethernet access egress queue-group agg-rate

configure port ethernet network egress queue-group agg-rate

Description

This command controls an H-QoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, **and queue-frame-based-accounting**.

When specified under a Vport, the agg-rate rate, port-scheduler-policy and scheduler-policy commands are mutually exclusive. Changing between the use of a scheduler policy and the use of an agg-rate/port-scheduler-policy involves removing the existing command and applying the new command.

Platforms

All

agg-rate

Syntax

[**no**] **agg-rate**

Context

[Tree] (config>service>ipipe>sap>egress agg-rate)

[Tree] (config>service>epipe>sap>egress agg-rate)

[Tree] (config>service>cpipe>sap>egress agg-rate)

Full Context

configure service ipipe sap egress agg-rate

configure service epipe sap egress agg-rate

configure service cpipe sap egress agg-rate

Description

This command is used to control an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, and **queue-frame-based-accounting**.

Platforms

All

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- configure service epipe sap egress agg-rate
- configure service ipipe sap egress agg-rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress agg-rate

agg-rate

Syntax

[**no**] **agg-rate**

Context

[Tree] (config>service>template>vpls-sap-template>egress agg-rate)

[Tree] (config>service>vpls>sap>egress agg-rate)

[Tree] (config>service>vpls>sap>egress>encap-defined-qos>encap-group agg-rate)

Full Context

configure service template vpls-sap-template egress agg-rate

configure service vpls sap egress agg-rate

configure service vpls sap egress encap-defined-qos encap-group agg-rate

Description

This command is used to control an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, **and queue-frame-based-accounting**.

Platforms

All

agg-rate

Syntax

[**no**] **agg-rate**

Context

[Tree] (config>service>vprn>if>sap>egress agg-rate)

Full Context

configure service vprn interface sap egress agg-rate

Description

This command is used to control an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, **and queue-frame-based-accounting**.

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Platforms

All

agg-rate

Syntax

[**no**] **agg-rate**

Context

[Tree] (config>service>cust>multi-service-site>egress agg-rate)

Full Context

configure service customer multi-service-site egress agg-rate

Description

Commands in this context control an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, **and queue-frame-based-accounting**.

The **no** form of the command disables the aggregate rate limit parameters.

Platforms

All

6.60 agg-rate-limit

agg-rate-limit

Syntax

agg-rate-limit *agg-rate* [**min-resv-bw** *min-rate*] [**queue-frame-based-accounting**] **[adaptation-rule** *adaptation-rule*] [**burst-limit** *size*] [**bytes** | **kilobytes**]

no agg-rate-limit

Context

[Tree] (config>subscr-mgmt>sub-prof>egr agg-rate-limit)

Full Context

configure subscriber-mgmt sub-profile egress agg-rate-limit

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Description

This command defines a subscriber aggregate limit when the subscriber profile is directly associated with an egress port based scheduler instead of a scheduler policy. The optional **queue-frame-based-accounting** keyword allows the subscriber queues to operate in the frame-based accounting mode.

When egress frame based accounting is enabled on the subscriber profile, all queues associated with the subscriber (created through the sla-profile associated with each subscriber host) have their rate and CIR values interpreted as frame-based values. When shaping, the queues include the 12-byte Inter-Frame Gap (IFG) and 8-byte preamble for each packet scheduled out the queue. The profiling CIR threshold also includes the 20-byte frame encapsulation overhead. Statistics associated with the queue do not include the frame encapsulation overhead. Packet byte offset settings are not included in the applied rate when queue frame based accounting is configured, however the offsets are applied to the statistics.

The **queue-frame-based-accounting** keyword does not change the behavior of the egress-agg-rate-limit rate value. Since the egress-agg-rate-limit is always associated with egress port based scheduling and egress port based scheduling is dependent on frame based operation, the egress-agg-rate-limit rate is always interpreted as a frame-based value.

Enabling queue-frame-based-accounting does not clear the statistics for queues associated with the subscriber.

The **no** form of this command removes both an egress aggregate rate limit and egress frame-based accounting for all subscribers associated with the sub-profile. If a subscriber's accounting mode is changed, the subscriber's queue statistics are cleared.

Parameters

agg-rate

Specifies the egress aggregate rate, in kb/s.

Values 1 to 800000000, **max**

min-rate

Specifies the minimum rate of the minimum reserved bandwidth for unicast data traffic. Since minimum rate can oversubscribe subscriber bandwidth to guarantee a minimum bandwidth for unicast traffic, care must be taken in QoS provisioning to prioritize packets accordingly (downstream network elements such as the access node or aggregation nodes) when congestion occurs.

Values 0 to 800000000

queue-frame-based-accounting

Specifies whether to use frame-based accounting when evaluating the aggregation rate limit for the egress queues for this SAP.

adaptation-rule

Specifies the adaptation rule for the PIR value of the subscriber aggregate rate. This rule determines which configured value is adapted to **oper-agg-rate** based on hardware capabilities.

Values **max, min, closest**

Default closest

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size

Specifies the burst limit size.

Values 1 to 14000000, default

bytes | kilobytes

Specifies whether the value is in bytes or kilobytes.

Default bytes

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

agg-rate-limit

Syntax

agg-rate-limit *agg-rate*

no agg-rate-limit

Context

[Tree] (config>port>ethernet>access>egress>vport agg-rate-limit)

Full Context

configure port ethernet access egress vport agg-rate-limit

Description

This command configures an aggregate rate for the Vport. This command is mutually exclusive with the **port-scheduler-policy** command.

The **no** form of this command reverts to the default.

Parameters

agg-rate

Specifies the rate limit for the Vport.

Values max, 1 to 10000000

Platforms

All

agg-rate-limit

Syntax

agg-rate-limit *kilobits-per-second*

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no agg-rate-limit

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>egress agg-rate-limit)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>egress agg-rate-limit)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw egress agg-rate-limit

configure service ies subscriber-interface group-interface wlan-gw egress agg-rate-limit

Description

This command configures an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: **rate**, **limit-unused-bandwidth**, **and queue-frame-based-accounting**.

The **no** form of this command removes the rate from the configuration.

Parameters

kilobits-per-second

Specifies the aggregate rate limit.

Values 1 to 100000000, **max**

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.61 agg-shaper-weight

agg-shaper-weight

Syntax

agg-shaper-weight *weight*

no agg-shaper-weight

Context

[Tree] (config>qos>sap-egress>queue agg-shaper-weight)

[Tree] (config>qos>qgrps>egr>qgrp>queue agg-shaper-weight)

Full Context

configure qos sap-egress queue agg-shaper-weight

configure qos queue-group-templates egress queue-group queue agg-shaper-weight

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Description

This command specifies the aggregate shaper weight of the SAP-egress or queue-group queue.

The **no** form of this command returns the aggregate shaper weight to the default value.

Default

agg-shaper-weight 1

Parameters

weight

Specifies the aggregate shaper weight.

Values 1 to 100

Platforms

7750 SR-1, 7750 SR-s

6.62 aggregate

aggregate

Syntax

[**no] aggregate**

Context

[Tree] (config>port>ethernet>egress>hs-sec-shaper aggregate)

Full Context

configure port ethernet egress hs-secondary-shaper aggregate

Description

Commands in this context configure aggregate parameters.

The **no** form of this command removes all of the aggregate parameter values from the configuration of this HS secondary shaper.

Platforms

7750 SR-7/12/12e

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aggregate

Syntax

aggregate *ip-prefix/ip-prefix-length* [**summary-only**] [**as-set**] [**aggregator** *as-number:ip-address*] [**discard-component-communities**] [**black-hole** [**generate-icmp**]] [**community** *comm-id* [*comm-id*] [**local-preference** *local-pref*]] [**description** *description*] [**tunnel-group** *tunnel-group-id*]

aggregate *ip-prefix/ip-prefix-length* [**summary-only**] [**as-set**] [**aggregator** *as-number:ip-address*] [**discard-component-communities**] [**community** *comm-id* [*comm-id*]] [**indirect** *ip-address*] [**local-preference** *local-pref*]] [**description** *description*] [**tunnel-group** *tunnel-group-id*]

no aggregate *ip-prefix/ip-prefix-length*

Context

[Tree] (config>service>vprn aggregate)

Full Context

configure service vprn aggregate

Description

This command creates an aggregate route. Use this command to automatically install an aggregate route in the routing table when there are one or more component routes. A component route is any route used for forwarding that is a more specific match of the aggregate.

The use of aggregate routes can reduce the number of routes that need to be advertised to neighbor routers, leading to smaller routing table sizes.

Overlapping aggregate routes may be configured; in this case a route becomes a component of only the one aggregate route with the longest prefix match. For example if one aggregate is configured as 10.0.0.0/16 and another as 10.0.0.0/24, then route 10.0.128/17 would be aggregated into 10.0.0.0/16, and route 10.0.0.128/25 would be aggregated into 10.0.0.0/24. If multiple entries are made with the same prefix and the same mask the previous entry is overwritten.

A list of up to 12 BGP communities (any mix of standard, extended, and large communities) may be associated with an aggregate route. These communities can be matched in route policies and are automatically added to BGP routes that are created from the aggregate route.

By default, aggregate routes are not installed in the forwarding table, however there are configuration options that allow an aggregate route to be installed with a black-hole next hop or with an indirect IP address as next hop.

Aggregate routes can be advertised via MP-BGP to other PEs within the network. Aggregate routes advertised using MP-BGP do not include aggregated BGP path attributes from the component routes which were used to activate the aggregate route. The aggregate route will be advertised with the minimal set of path attributes as if the aggregate was originated by the advertising routes. Export route policies should be used to control and modify the advertisement and path attributes of the aggregate routes.

The **no** form of this command removes the aggregate.

Default

no aggregate

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Parameters

ip-prefix

The destination address of the aggregate route in dotted decimal notation.

Values

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length	0 to 128

the ipv6-prefix and ipv6-prefix-length apply only to the 7750 SR and 7950 XRS

the mask associated with the network address expressed as a mask length

Values: 0 to 32

summary-only

This optional parameter suppresses advertisement of more specific component routes for the aggregate.

To remove the **summary-only** option, enter the same aggregate command without the **summary-only** parameter.

as-set

This optional parameter is only applicable to BGP and creates an aggregate where the path advertised for this route will be an AS_SET consisting of all elements contained in all paths that are being summarized. Use this feature carefully as it can increase the amount of route churn due to best path changes.

aggregator *as-number*:*ip-address*

This optional parameter specifies the BGP aggregator path attribute to the aggregate route. When configuring the aggregator, a two-octet AS number used to form the aggregate route must be entered, followed by the IP address of the BGP system that created the aggregate route.

discard-component-communities

This optional keyword causes the aggregate to be advertised with only the configured BGP community set, none of the communities from the component routes activating the aggregate are included. (Component attributes are never included in aggregate routes advertised to other PE routers via MP-BGP).

black-hole

This optional parameter installs the aggregate route, when activated, in the FIB with a black-hole next-hop, where packets matching this route are discarded.

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generate-icmp

This optional parameter keyword generates an ICMP.

community

This configuration option associates a BGP community with the aggregate route. The community can be matched in route policies and is automatically added to BGP routes exported from the aggregate route.

comm-id

Specifies a BGP community value, up to 72 characters.

Values [*as-num:comm-val* | *well-known-comm* | *ext-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - color:co-bits:*color-value*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - *val-in-mbps* — 0 to 16777215
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - *co-bits* — 00, 01, 10 or 11
  - *color-value* — 0 to 4294967295
- *large-comm — asn-or-ex:val-or-ex:val-or-ex*

description

Specifies a text description stored in the configuration file for a configuration context.

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local-preference

Specifies a BGP local-preference value with the aggregate route. The local-preference overrides the default local preference value of a BGP route originated by exporting the aggregate route.

Values 0 to 4294967295

indirect *ip-address*

This configuration option specifies that the aggregate route should be installed in the FIB with a next-hop taken from the route used to forward packets to ip-address.

Values		
	ipv4-prefix	a.b.c.d
	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

The ipv6-prefix applies only to the 7750 SR and 7950 XRS.

tunnel-group-id

Specifies that the MC-IPsec state of the specific tunnel-group is added to the aggregate route.

Values 1 to 16

Platforms

All

aggregate

Syntax

aggregate *ip-prefix/ip-prefix-length* [**summary-only**] [**as-set**] [**aggregator** *as-number:ip-address*] [**discard-component-communities**] [**black-hole** [**generate-icmp**]] [**community** *comm-id* [*comm-id*]] [**description** *description*] [**local-preference** *local-pref*erence] [**policy** *policy-name*]

aggregate *ip-prefix/ip-prefix-length* [**summary-only**] [**as-set**] [**aggregator** *as-number:ip-address*] [**discard-component-communities**] [**community** *comm-id* [*comm-id*]] [**indirect** *ip-address*] [**description** *description*] [**local-preference** *local-preference*] [**policy** *policy-name*]

no aggregate *ip-prefix/ip-prefix-length*

Context

[Tree] (config>router aggregate)

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Full Context

configure router aggregate

Description

This command creates an aggregate route.

Use this command to automatically install an aggregate route in the routing table when there are one or more component routes. A component route is any route used for forwarding that is a more-specific match of the aggregate.

The use of aggregate routes can reduce the number of routes that need to be advertised to neighbor routers, leading to smaller routing table sizes.

Overlapping aggregate routes may be configured; in this case a route becomes a component of only the one aggregate route with the longest prefix match. For example if one aggregate is configured as 10.0.0.0/16 and another as 10.0.0.0/24, then route 10.0.128/17 would be aggregated into 10.0.0.0/16, and route 10.0.0.128/25 would be aggregated into 10.0.0.0/24. If multiple entries are made with the same prefix and the same mask the previous entry is overwritten.

A standard 4-byte BGP community may be associated with an aggregate route in order to facilitate route policy matching.

By default aggregate routes are not installed in the forwarding table, however there are configuration options that allow an aggregate route to be installed with a black-hole next hop or with an indirect IP address as next hop.

The **no** form of this command removes the aggregate.

Default

no aggregate

Parameters

ip-prefix

Specifies the destination address of the aggregate route in dotted decimal notation.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix	a.b.c.d (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
ipv6-prefix-length	0 to 128	

Values The following values apply to the 7450 ESS:

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ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32

ip-prefix-length

Specifies the mask associated with the network address expressed as a mask length.

Values 0 to 32

summary-only

Suppresses advertisement of more specific component routes for the aggregate.

To remove the **summary-only** option, enter the same aggregate command without the **summary-only** parameter.

as-set

This optional parameter is only applicable to BGP and creates an aggregate where the path advertised for this route will be an AS_SET consisting of all elements contained in all paths that are being summarized. Use this feature carefully as it can increase the amount of route churn due to best path changes.

as-number:ip-address

Specifies the BGP aggregator path attribute to the aggregate route. When configuring the aggregator, a two-octet AS number used to form the aggregate route must be entered, followed by the IP address of the BGP system that created the aggregate route.

discard-component-communities

Causes the aggregate to be advertised with only the configured BGP community set, none of the communities from the component routes activating the aggregate are included.

black-hole

Installs the aggregate route, when activated, in the FIB with a black-hole next-hop, where packets matching this route are discarded.

generate-icmp

Mandatory keyword to generate an ICMP.

community

Associates a BGP community with the aggregate route. The community can be matched in route policies and is automatically added to BGP routes exported from the aggregate route.

comm-id

Specifies a BGP community value, up to 72 characters. A maximum of twelve community IDs can be specified in a single statement.

Values [*as-num:comm-val* | *well-known-comm* | *ext-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**

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- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - color:co-bits:*color-value*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - *val-in-mbps* — 0 to 16777215
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - *co-bits* — 00, 01, 10 or 11
  - *color-value* — 0 to 4294967295
- *large-comm — asn-or-ex:val-or-ex:val-or-ex*

indirect *ip-address*

Specifies that the aggregate route should be installed in the FIB with a next-hop taken from the route used to forward packets to ip-address.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix	a.b.c.d
ipv6-prefix	x:x:x:x:x:x:x:x
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Values The following values apply to the 7450 ESS:

ipv4-prefix: a.b.c.d

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description

Specifies a text description stored in the configuration file for a configuration context, up to 80 characters.

local-preference

Specifies a BGP local-preference value with the aggregate route. The local-preference overrides the default local preference value of a BGP route originated by exporting the aggregate route.

Values 0 to 4294967295

policy-name

Specifies the route policy, up to 64 characters.

Platforms

All

6.63 aggregate-contributor

aggregate-contributor

Syntax

[**no**] **aggregate-contributor**

Context

[Tree] (config>router>policy-options>policy-statement>entry>from aggregate-contributor)

Full Context

configure router policy-options policy-statement entry from aggregate-contributor

Description

This command matches all routes (BGP and non-BGP) that contributed to an active aggregate route. If the prefix tree above a particular route includes no active aggregate routes, or the most specific active aggregate route in the prefix tree above this route has a policy that rejects the route, then it is not considered as an aggregate-contributor.

This match condition is only supported when used in a BGP export policy. If it is used in an entry of a BGP import policy, VRF export policy, or VRF import policy, no routes are matched by that entry.

The **no** form of this command disables matching of routes (BGP and non-BGP) that contributed to an active aggregate route.

Platforms

All

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6.64 aggregate-prefix-match

aggregate-prefix-match

Syntax

[**no**] **aggregate-prefix-match**

Context

[Tree] (config>router>ldp aggregate-prefix-match)

Full Context

configure router ldp aggregate-prefix-match

Description

The command enables the use by LDP of the aggregate prefix match procedures.

When this option is enabled, LDP performs the following procedures for all prefixes. When an LSR receives a FEC-label binding from an LDP neighbor for a given specific FEC1 element, it will install the binding in the LDP FIB if:

- It is able to perform a successful longest IP match of the FEC prefix with an entry in the routing table, and
- The advertising LDP neighbor is the next-hop to reach the FEC prefix.

When such a FEC-label binding has been installed in the LDP FIB, then LDP programs an NHLFE entry in the egress data path to forward packets to FEC1. It also advertises a new FEC-label binding for FEC1 to all its LDP neighbors.

When a new prefix appears in the routing table, LDP inspects the LDP FIB to determine if this prefix is a better match (a more specific match) for any of the installed FEC elements. For any FEC for which this is true, LDP may have to update the NHLFE entry for this FEC.

When a prefix is removed from the routing table, LDP inspects the LDP FIB for all FEC elements which matched this prefix to determine if another match exists in the routing table. If so, it updates the NHLFE entry accordingly. If not, it sends a label withdraw message to its LDP neighbors to remove the binding.

When the next hop for a routing prefix changes, LDP updates the LDP FIB entry for the FEC elements which matched this prefix. It also updates the NHLFE entry for these FEC elements accordingly.

The **no** form of this command disables the use by LDP of the aggregate prefix procedures and deletes the configuration. LDP resumes performing exact prefix match for FEC elements.

Default

no aggregate-prefix-match

Platforms

All

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6.65 aggregate-qos-stats

aggregate-qos-stats

Syntax

aggregate-qos-stats

Context

[Tree] (config>subscr-mgmt>sla-prof aggregate-qos-stats)

Full Context

configure subscriber-mgmt sla-profile aggregate-qos-stats

Description

Commands in this context configure how aggregate QoS statistics are calculated for the SLA profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.66 aggregate-sample-window

aggregate-sample-window

Syntax

aggregate-sample-window

Context

[Tree] (config>test-oam>link-meas>template aggregate-sample-window)

Full Context

configure test-oam link-measurement measurement-template aggregate-sample-window

Description

Commands in this context configure the aggregate sample window parameters to be used when the measurement template is assigned to an IP interface. The aggregate sample window is the collection of sample windows.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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6.67 aggregate-shapers

aggregate-shapers

Syntax

aggregate-shapers

Context

[Tree] (config>qos>fp-resource-policy aggregate-shapers)

Full Context

configure qos fp-resource-policy aggregate-shapers

Description

This command enters the aggregate-shapers context.

Platforms

7750 SR-1, 7750 SR-s

6.68 aggregate-stats

aggregate-stats

Syntax

aggregate-stats export-using *export-method* [*export-method*...(up to 2 max)]

aggregate-stats no-export

Context

[Tree] (config>app-assure>group>statistics>aa-sub aggregate-stats)

Full Context

configure application-assurance group statistics aa-sub aggregate-stats

Description

This command configures aa-sub accounting statistics for export of aggregate statistics of a given subscriber.

Default

aggregate-stats no-export

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Parameters

export-method

Specifies the method of statistics export to be used.

Values accounting-policy (this is the only option for sub-aggregate statistics, and it is only supported in residential and VPN sub-scale modes).

no-export

Disables the export.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.69 aggregate-used-paths

aggregate-used-paths

Syntax

aggregate-used-paths *family* [*family*]

no aggregate-used-paths

Context

[Tree] (config>service>vprn>bgp>group>link-bandwidth aggregate-used-paths)

[Tree] (config>service>vprn>bgp>group>neighbor>link-bandwidth aggregate-used-paths)

Full Context

configure service vprn bgp group link-bandwidth aggregate-used-paths

configure service vprn bgp group neighbor link-bandwidth aggregate-used-paths

Description

This command configures BGP to aggregate the bandwidth values from the link-bandwidth extended communities of the used multipaths towards an IP prefix when it is re-advertising a route with next-hop-self towards peers within the scope of the command, as long as the route belongs to one of the listed address families.

Aggregation is not supported unless all of the used multipaths (up to the configured ECMP limit) correspond to received BGP routes with a link-bandwidth extended community. If add-path is also enabled toward the peer, then all of the add-paths advertised to the peer encode the aggregated bandwidth in a link-bandwidth extended community.

Up to three families may be configured.

The **no** form of this command disables aggregation in a next-hop-self scenario and the link-bandwidth extended community in the advertised route is a copy of the link-bandwidth extended community in the

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received route (which may have been added by import policy or by the effect of the **add-to-received-ebgp** command).

Default

no aggregate-used-paths

Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

Platforms

All

aggregate-used-paths

Syntax

aggregate-used-paths *family* [*family*]

no aggregate-used-paths

Context

[Tree] (config>router>bgp>group>neighbor>link-bandwidth aggregate-used-paths)

[Tree] (config>router>bgp>group>link-bandwidth aggregate-used-paths)

Full Context

configure router bgp group neighbor link-bandwidth aggregate-used-paths

configure router bgp group link-bandwidth aggregate-used-paths

Description

This command configures BGP to aggregate the bandwidth values from the link-bandwidth extended communities of the used multipaths towards an IP prefix when it is re-advertising a route with next-hop-self towards peers within the scope of the command, as long as the route belongs to one of the listed address families.

Aggregation is not supported unless all of the used multipaths (up to the configured ECMP limit) correspond to received BGP routes with a link-bandwidth extended community. If add-path is also enabled

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toward the peer, then all of the add-paths advertised to the peer encode the aggregated bandwidth in a link-bandwidth extended community.

Up to six families may be configured.

The **no** form of this command disables aggregation in a next-hop-self scenario and the link-bandwidth extended community in the advertised route is a copy of the link-bandwidth extended community in the received route (which may have been added by import policy or by the effect of the **add-to-received-ebgp** command).

Default

no aggregate-used-paths

Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

vpn-ipv4 — Adds a link-bandwidth extended community to IPv4 VPN (SAFI 128) routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

label-ipv6 — Adds a link-bandwidth extended community to labeled-unicast IPv6 routes.

vpn-ipv6 — Adds a link-bandwidth extended community to IPv6 VPN (SAFI 128) routes.

Platforms

All

6.70 aggregation

aggregation

Syntax

[**no**] **aggregation**

Context

[Tree] (config>cflowd>collector aggregation)

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Full Context

configure cflowd collector aggregation

Description

This command configures the type of aggregation scheme to be exported.

Specifies the type of data to be aggregated and to the collector.

To configure aggregation, you must decide which type of aggregation scheme to configure: autonomous system, destination prefix, protocol port, raw, source destination, or source prefix.

This can only be configured if the collector version is configured as V8.

The **no** form of this command removes all aggregation types from the collector configuration.

Default

no aggregation

Platforms

All

6.71 aggregator-id-zero

aggregator-id-zero

Syntax

[**no**] **aggregator-id-zero**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy aggregator-id-zero)

Full Context

configure subscriber-mgmt bgp-peering-policy aggregator-id-zero

Description

This command is used to set the router ID in the BGP aggregator path attribute to zero when BGP aggregates routes. This prevents different routers within an AS from creating aggregate routes that contain different AS paths.

When BGP is aggregating routes, it adds the aggregator path attribute to the BGP update messages. By default, BGP adds the AS number and router ID to the aggregator path attribute.

When this command is enabled, BGP adds the router ID to the aggregator path attribute. The **no** form of this command used at the global level reverts to default where BGP adds the AS number and router ID to the aggregator path attribute.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

aggregator-id-zero

Syntax

[**no**] **aggregator-id-zero**

Context

[Tree] (config>service>vprn>bgp>group>neighbor aggregator-id-zero)

[Tree] (config>service>vprn>bgp aggregator-id-zero)

[Tree] (config>service>vprn>bgp>group aggregator-id-zero)

Full Context

configure service vprn bgp group neighbor aggregator-id-zero

configure service vprn bgp aggregator-id-zero

configure service vprn bgp group aggregator-id-zero

Description

This command is used to set the router ID in the BGP aggregator path attribute to zero when BGP aggregates routes. This prevents different routers within an AS from creating aggregate routes that contain different AS paths.

When BGP is aggregating routes, it adds the aggregator path attribute to the BGP update messages. By default, BGP adds the AS number and router ID to the aggregator path attribute.

When this command is enabled, BGP adds the router ID to the aggregator path attribute. This command is used at the group level to revert to the value defined under the global level, while this command is used at the neighbor level to revert to the value defined under the group level.

The **no** form of this command used at the global level reverts to default where BGP adds the AS number and router ID to the aggregator path attribute.

The **no** form of this command used at the group level reverts to the value defined at the group level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no aggregator-id-zero — BGP adds the AS number and router ID to the aggregator path attribute.

Platforms

All

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aggregator-id-zero

Syntax

[**no**] **aggregator-id-zero**

Context

[Tree] (config>router>bgp>group>neighbor aggregator-id-zero)

[Tree] (config>router>bgp aggregator-id-zero)

[Tree] (config>router>bgp>group aggregator-id-zero)

Full Context

configure router bgp group neighbor aggregator-id-zero

configure router bgp aggregator-id-zero

configure router bgp group aggregator-id-zero

Description

This command sets the router ID in the BGP aggregator path attribute to zero when BGP aggregates routes. This prevents different routers within an AS from creating aggregate routes for the same prefix with different path attributes.

When BGP is aggregating routes, it adds the aggregator path attribute to the BGP update messages. By default, BGP adds the AS number and router ID to the aggregator path attribute.

When this command is enabled, BGP adds the router ID to the aggregator path attribute. This command is used at the group level to revert to the value defined under the global level, while this command is used at the neighbor level to revert to the value defined under the group level.

The **no** form of this command used at the global level reverts to default where BGP adds the AS number and router ID to the aggregator path attribute.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no aggregator-id-zero

Platforms

All

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6.72 agi

agi

Syntax

agi *agi*

no agi

Context

[Tree] (config>service>cpipe>spoke-sdp>pw-path-id agi)

[Tree] (config>service>vpls>spoke-sdp>pw-path-id agi)

[Tree] (config>service>epipe>spoke-sdp>pw-path-id agi)

Full Context

configure service cpipe spoke-sdp pw-path-id agi

configure service vpls spoke-sdp pw-path-id agi

configure service epipe spoke-sdp pw-path-id agi

Description

This command configures the attachment group identifier for an MPLS-TP PW.

Parameters

agi

Specifies the attachment group identifier.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

agi

Syntax

agi *agi*

no agi

Context

[Tree] (config>service>ies>if>spoke-sdp>pw-path-id agi)

[Tree] (config>service>ies>red-if>spoke-sdp>pw-path-id agi)

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Full Context

configure service ies interface spoke-sdp pw-path-id agi

configure service ies redundant-interface spoke-sdp pw-path-id agi

Description

This command configures the attachment group identifier for an MPLS-TP PW.

Parameters

agi

Specifies the attachment group identifier.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp pw-path-id agi

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies redundant-interface spoke-sdp pw-path-id agi

agi

Syntax

agi *attachment-group-identifier*

no agi

Context

[Tree] (config>service>vprn>if>spoke-sdp>pw-path-id agi)

[Tree] (config>service>vprn>red-if>spoke-sdp>pw-path-id agi)

Full Context

configure service vprn interface spoke-sdp pw-path-id agi

configure service vprn redundant-interface spoke-sdp pw-path-id agi

Description

This command configures the attachment group identifier for an MPLS-TP PW.

Parameters

attachment-group-identifier

Specifies the attachment group identifier.

Values 0 to 4294967295

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp pw-path-id agi

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn redundant-interface spoke-sdp pw-path-id agi

agi

Syntax

agi *route-identifier*

no agi

Context

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>pw-path-id agi)

[Tree] (config>mirror>mirror-dest>spoke-sdp>pw-path-id agi)

Full Context

configure mirror mirror-dest remote-source spoke-sdp pw-path-id agi

configure mirror mirror-dest spoke-sdp pw-path-id agi

Description

This command configures the attachment group identifier for an MPLS-TP PW.

Parameters

route-identifier

Specifies the attachment group identifier.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.73 aging

aging

Syntax

aging *days*

no aging

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Context

[Tree] (config>system>security>password aging)

Full Context

configure system security password aging

Description

This command configures the number of days a user password is valid before the user must change their password. This parameter can be used to force the user to change the password at the configured interval. Note the aging starts after the last password configuration or update. This timer is persistence (per user) over a node reboot or activity switch between CPMs. When the user changes the password, the timer is reset to the maximum age. When the password for a user ages out, the user is prompted at login to change the password. Console/SSH/Telnet supports password change prompt.

The **no** form of this command reverts to the default value.

Parameters

days

Specifies the maximum number of days the password is valid.

Values 1 to 500

Note:
This command applies to local users.

Platforms

All

6.74 ah-ext-hdr

ah-ext-hdr

Syntax

ah-ext-hdr {**true** | **false**}

no ah-ext-hdr

Context

[Tree] (config>filter>ipv6-filter>entry>match ah-ext-hdr)

Full Context

configure filter ipv6-filter entry match ah-ext-hdr

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Description

This command enables match on existence of AH Extension Header in the IPv6 filter policy.

The **no** form of this command ignores AH Extension Header presence/absence in a packet when evaluating match criteria of a given filter policy entry.

Default

no ah-ext-hdr

Parameters

true

Matches a packet with an AH Extension Header.

false

Matches a packet without an AH Extension Header.

Platforms

All

6.75 aigp

aigp

Syntax

[**no**] **aigp**

Context

[Tree] (config>router>bgp>group aigp)

[Tree] (config>router>bgp>group>neighbor aigp)

Full Context

configure router bgp group aigp

configure router bgp group neighbor aigp

Description

This command enables or disables Accumulated IGP (AIGP) path attribute support with one or more BGP peers. BGP path selection among routes with an associated AIGP metric is based on the end-to-end IGP metrics of the different BGP paths, even when these BGP paths span more than one AS and IGP instance.

The effect of disabling AIGP (using the **no** form of this command or implicit) is to remove the AIGP attribute from advertised routes, if present, and to ignore the AIGP attribute in received routes.

Default

no aigp

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Platforms

All

6.76 aigp-metric

aigp-metric

Syntax

aigp-metric *metric*

aigp-metric add

aigp-metric igp

no aigp-metric

Context

[Tree] (config>router>policy-options>policy-statement>entry>action aigp-metric)

[Tree] (config>router>policy-options>policy-statement>default-action aigp-metric)

Full Context

configure router policy-options policy-statement entry action aigp-metric

configure router policy-options policy-statement default-action aigp-metric

Description

This command assigns a BGP AIGP metric to routes matching the entry. The effect of this command on a route matched and accepted by a route policy entry depends on how the policy is applied (BGP import policy vs. BGP export policy), the type of route and the specific form of this command.

In a BGP import policy this command is used to:

- Associate an AIGP metric with an IBGP route received with an empty AS path and no AIGP attribute.
- Associate an AIGP metric with an EBGP route received without an AIGP attribute that has an AS path containing only AS numbers belonging to the local AIGP administrative domain.
- Modify the received AIGP metric value prior to BGP path selection.

In a BGP export policy this command is used to:

- Add the AIGP attribute and set the AIGP metric value in a BGP route originated by exporting a direct, static or IGP route from the routing table.
- Remove the AIGP attribute from a route advertisement to a particular peer.
- Modify the AIGP metric value in a route advertisement to a particular peer.

Default

no aigp-metric

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Parameters

metric

Administratively defined metric.

Values 0 to 4294967295

Default name — The AIGP metric parameter variable name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@".

add

Adds the AIGP attribute.

igp

Sets the AIGP metric to the IGP metric.

Platforms

All

6.77 ais-enable

ais-enable

Syntax

[**no**] **ais-enable**

Context

[Tree] (config>port>ethernet>eth-cfm>mep ais-enable)

[Tree] (config>lag>eth-cfm>mep ais-enable)

Full Context

configure port ethernet eth-cfm mep ais-enable

configure lag eth-cfm mep ais-enable

Description

This command enables the reception of AIS messages.

The **no** form of this command reverts to the default values.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ais-enable

Syntax

[**no**] **ais-enable**

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep ais-enable)

[Tree] (config>service>epipe>sap>eth-cfm ais-enable)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep ais-enable)

Full Context

configure service epipe sap eth-cfm mep ais-enable

configure service epipe sap eth-cfm ais-enable

configure service epipe spoke-sdp eth-cfm mep ais-enable

Description

This command enables the generation and the reception of AIS messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ais-enable

Syntax

[**no**] **ais-enable**

Context

[Tree] (config>service>vpls>sap>eth-cfm>mep ais-enable)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep ais-enable)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep ais-enable)

Full Context

configure service vpls sap eth-cfm mep ais-enable

configure service vpls mesh-sdp eth-cfm mep ais-enable

configure service vpls spoke-sdp eth-cfm mep ais-enable

Description

This command enables the generation and the reception of AIS messages.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ais-enable

Syntax

[**no**] **ais-enable**

Context

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm ais-enable)

Full Context

configure service ies interface spoke-sdp eth-cfm ais-enable

Description

This command configures the reception of Alarm Indication Signal (AIS) message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ais-enable

Syntax

[**no**] **ais-enable**

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm ais-enable)

[Tree] (cfg>svc>vprn>if>sap>eth-cfm>mep ais-enable)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm ais-enable)

Full Context

configure service vprn interface spoke-sdp eth-cfm ais-enable

configure service vprn interface sap eth-cfm mep ais-enable

configure service vprn subscriber-interface group-interface sap eth-cfm ais-enable

Description

This command configures the reception of Alarm Indication Signal (AIS) message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep ais-enable

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- configure service vprn interface spoke-sdp eth-cfm ais-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm ais-enable

ais-enable

Syntax

[**no**] **ais-enable**

Context

[Tree] (config>router>mpls>if>mpls-tp-mep ais-enable)

Full Context

configure router mpls interface mpls-tp-mep ais-enable

Description

This command enables MPLS-TP AIS insertion for the forward and reverse directions of all MPLS-TP transit paths using the MPLS interface. This causes the generation of AIS packets in the forward or reverse directions of a path if a fault is detected on the applicable underlying interface for the ingress of the path direction.

The **no** form of this command disables AIS insertion.

Default

no ais-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.78 alarm

alarm

Syntax

alarm *rmon-alarm-id* **variable-oid** *oid-string* **interval** *seconds* [*sample-type*] [**startup-alarm** *alarm-type*] [**rising-event** *rmon-event-id* **rising-threshold** *threshold*] [**falling-event** *rmon-event-id* **falling-threshold** *threshold*] [**owner** *owner-string*]

no alarm *rmon-alarm-id*

Context

[Tree] (config>system>thresholds>rmon alarm)

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Full Context

configure system thresholds rmon alarm

Description

The alarm command configures an entry in the RMON-MIB alarmTable. The alarm command controls the monitoring and triggering of threshold crossing events. In order for notification or logging of a threshold crossing event to occur there must be at least one associated rmon>event configured.

The agent periodically takes statistical sample values from the MIB variable specified for monitoring and compares them to thresholds that have been configured with the alarm command. The alarm command configures the MIB variable to be monitored, the polling period (interval), sampling type (absolute or delta value), and rising and falling threshold parameters. If a sample has crossed a threshold value, the associated event is generated.

Use the **no** form of this command to remove an rmon-alarm-id from the configuration.

Parameters

rmon-alarm-id

Specifies a numerical identifier for the alarm being configured. The number of alarms that can be created is limited to 1200. Alarm ID values above 65400 are used for dynamic system threshold commands and should be avoided.

Values 1 to 65535

oid-string

Specifies the SNMP object identifier of the particular variable to be sampled. Only SNMP variables that resolve to an ASN.1 primitive type of integer (integer, Integer32, Counter32, Counter64, Gauge, or TimeTicks) may be sampled. The oid-string, up to 255 characters, may be expressed using either the dotted string notation or as object name plus dotted instance identifier. For example, "1.3.6.1.2.1.2.2.1.10.184582144" or "ifInOctets.184582144".

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds. When setting this interval value, care should be taken in the case of ’delta’ type sampling - the interval should be set short enough that the sampled variable is very unlikely to increase or decrease by more than 2147483647 - 1 during a single sampling interval. Care should also be taken not to set the interval value too low to avoid creating unnecessary processing overhead.

Values 1 to 2147483647

sample-type

Specifies the method of sampling the selected variable and calculating the value to be compared against the thresholds.

Values absolute — Specifies that the value of the selected variable will be compared directly with the thresholds at the end of the sampling interval.

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delta — Specifies that the value of the selected variable at the last sample will be subtracted from the current value, and the difference compared with the thresholds.

Default absolute

alarm-type

Specifies the alarm that may be sent when this alarm is first created.

If the first sample is greater than or equal to the rising threshold value and **startup-alarm** is equal to **rising** or **either**, then a single rising threshold crossing event is generated.

If the first sample is less than or equal to the falling threshold value and **startup-alarm** is equal to **falling** or **either**, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

rising-event *rmon-event-id*

Specifies the identifier of the **rmon>event** that specifies the action to be taken when a rising threshold crossing event occurs.

If there is no corresponding event configured for the specified rmon-event-id, then no association exists and no action is taken.

If the **rising-event** *rmon-event-id* has a value of zero (0), no associated event exists.

If a **rising-event** *rmon-event-id* is configured, the CLI requires a **rising-threshold** to also be configured.

Values 0 to 65535

Default 0

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated startup-alarm is equal to **rising** or **either**.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal the **falling-threshold** value.

Values -2147483648 to 2147483647

Default 0

falling-event *rmon-event-id*

Specifies the identifier of the **rmon>event** that specifies the action to be taken when a falling threshold crossing event occurs. If there is no corresponding event configured for the specified rmon-event-id, then no association exists and no action is taken. If the **falling-event** has a value of zero (0), no associated event exists.

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If a **falling-event** is configured, the CLI requires a **falling-threshold** to also be configured.

Values 0 to 65535

Default 0

falling-threshold ***threshold***

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated **startup-alarm** is equal to **falling** or **either**.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal the rising-threshold value.

Values -2147483648 to 2147483647

Default 0

owner-string

Specifies the owner string; the owner identifies the creator of this alarm. It defaults to "TiMOS CLI". This parameter is defined primarily to allow entries that have been created in the RMON-MIB alarmTable by remote SNMP managers to be saved and reloaded in a CLI configuration file. The owner will not normally be configured by CLI users and can be a maximum of 80 characters long.

Default TiMOS CLI

Configuration example

```
alarm 3 variable-oid ifInOctets.184582144 interval 20 sample-type delta
start-alarm either rising-event 5 rising-threshold 10000 falling-event 5
falling-threshold 9000 owner "TiMOS CLI"
```

Platforms

All

alarm

Syntax

[**no**] **alarm**

Context

[Tree] (config>sys>security>cpu-protection>policy alarm)

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Full Context

configure system security cpu-protection policy alarm

Description

This command enables the generation of an event when a rate is exceed. The event includes information about the offending source. Only one event is generated per monitor period.

The **no** form of this command disables the notifications.

Default

no alarm

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

6.79 alarm-contact-in-power

alarm-contact-in-power

Syntax

alarm-contact-in-power {**on** | **off**}

Context

[Tree] (config>system alarm-contact-in-power)

Full Context

configure system alarm-contact-in-power

Description

This command allows the user to enable a supply of +24V output power on the +24VDC pin of the Alarm Interface Port of the CPM. When enabled, the power supplied through the +24VDC output pin can be used as a source voltage for the alarm contact input pins. The +24VDC output can be used to supply power for monitoring external sensor devices such as cabinet door sensors instead of using an external power source. If users want to use a separate external power source, they should disable the supply of power to the +24VDC output pin by using this CLI command.

Default

alarm-contact-in-power off

Parameters

on

Specifies to turn on power to the +24VDC output pin of the Alarm Interface Port of the CPM.

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off

Specifies to turn off power to the +24VDC output pin of the Alarm Interface Port of the CPM.

Platforms

7750 SR-a

6.80 alarm-contact-input

alarm-contact-input

Syntax

alarm-contact-input *input-pin-number*

Context

[Tree] (config>system alarm-contact-input)

Full Context

configure system alarm-contact-input

Description

Commands in this context configure the alarm contact input pin parameters for the specified input number.

Parameters

input-pin-number

Specifies the alarm contact input number.

Values 1 to 4

Platforms

7750 SR-a

6.81 alarm-notification

alarm-notification

Syntax

alarm-notification

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Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep alarm-notification)

[Tree] (config>lag>eth-cfm>mep alarm-notification)

Full Context

configure eth-tunnel path eth-cfm mep alarm-notification

configure lag eth-cfm mep alarm-notification

Description

This command configures the MEP alarm notification parameter.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

alarm-notification

Syntax

alarm-notification

Context

[Tree] (config>service>vprn>if>sap>eth-cfm>mep alarm-notification)

[Tree] (config>service>vpls>eth-cfm>mep alarm-notification)

[Tree] (config>port>ethernet>eth-cfm>mep alarm-notification)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep alarm-notification)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep alarm-notification)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep alarm-notification)

[Tree] (config>router>if>eth-cfm>mep alarm-notification)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep alarm-notification)

[Tree] (config>service>ies>if>sap>eth-cfm>mep alarm-notification)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep alarm-notification)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep alarm-notification)

[Tree] (config>service>ipipe>sap>eth-cfm>mep alarm-notification)

[Tree] (config>service>vpls>sap>eth-cfm>mep alarm-notification)

[Tree] (config>service>epipe>sap>eth-cfm>mep alarm-notification)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep alarm-notification)

Full Context

configure service vprn interface sap eth-cfm mep alarm-notification

configure service vpls eth-cfm mep alarm-notification

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configure port ethernet eth-cfm mep alarm-notification

configure service ies subscriber-interface group-interface sap eth-cfm mep alarm-notification

configure service vpls spoke-sdp eth-cfm mep alarm-notification

configure service ies interface spoke-sdp eth-cfm mep alarm-notification

configure router interface eth-cfm mep alarm-notification

configure service vprn interface spoke-sdp eth-cfm mep alarm-notification

configure service ies interface sap eth-cfm mep alarm-notification

configure service epipe spoke-sdp eth-cfm mep alarm-notification

configure service vpls mesh-sdp eth-cfm mep alarm-notification

configure service ipipe sap eth-cfm mep alarm-notification

configure service vpls sap eth-cfm mep alarm-notification

configure service epipe sap eth-cfm mep alarm-notification

configure service vprn subscriber-interface group-interface sap eth-cfm mep alarm-notification

Description

Commands in this context configure the Fault Notification Generation time values for raising and resetting the CCM defect alarm. These timers are used for network management processes and do not delay notification to the fault management system on the network element. These timers do not affect fault propagation mechanisms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service epipe spoke-sdp eth-cfm mep alarm-notification
- configure service ies interface sap eth-cfm mep alarm-notification
- configure service epipe sap eth-cfm mep alarm-notification
- configure service ies interface spoke-sdp eth-cfm mep alarm-notification
- configure port ethernet eth-cfm mep alarm-notification
- configure service vpls mesh-sdp eth-cfm mep alarm-notification
- configure service vpls sap eth-cfm mep alarm-notification
- configure service vprn interface spoke-sdp eth-cfm mep alarm-notification
- configure service vpls spoke-sdp eth-cfm mep alarm-notification
- configure service ipipe sap eth-cfm mep alarm-notification
- configure service vprn interface sap eth-cfm mep alarm-notification
- configure service vpls eth-cfm mep alarm-notification
- configure router interface eth-cfm mep alarm-notification

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep alarm-notification
- configure service vprn subscriber-interface group-interface sap eth-cfm mep alarm-notification

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alarm-notification

Syntax

alarm-notification

Context

[Tree] (config>eth-ring>path>eth-cfm>mep alarm-notification)

Full Context

configure eth-ring path eth-cfm mep alarm-notification

Description

Commands in this context configure the MEP alarm notification parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.82 alarm-thresholds

alarm-thresholds

Syntax

[no] alarm-thresholds

Context

[Tree] (config>port>access>egress>pool>monitor-depth alarm-thresholds)

[Tree] (config>port>network>egress>pool>monitor-depth alarm-thresholds)

[Tree] (config>port>access>ingress>pool>monitor-depth alarm-thresholds)

[Tree] (config>card>fp>ingress>network>pool>monitor-depth alarm-thresholds)

Full Context

configure port access egress pool monitor-pool-depth alarm-thresholds

configure port network egress pool monitor-pool-depth alarm-thresholds

configure port access ingress pool monitor-pool-depth alarm-thresholds

configure card fp ingress network pool monitor-pool-depth alarm-thresholds

Description

Commands in this context configure the alarm thresholds for pool usage.

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The **no** form of this command removes the configured alarm thresholds.

Default

no alarm-thresholds

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.83 alarms

alarms

Syntax

alarms

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer alarms)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer alarms)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer alarms)

Full Context

configure mcast-management multicast-info-policy bundle video analyzer alarms

configure mcast-management multicast-info-policy bundle channel video analyzer alarms

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms

Description

Commands in this context configure alarms for the analyzer (VQM).

Platforms

7450 ESS, 7750 SR, 7750 SR-s

alarms

Syntax

alarms

Context

[Tree] (config>li>x-interfaces>x3 alarms)

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Full Context

configure li x-interfaces x3 alarms

Description

This command enables the configuration of X3 alarms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

alarms

Syntax

alarms

Context

[Tree] (config>system alarms)

Full Context

configure system alarms

Description

Commands in this context configure facility alarm parameters. Alarm support is intended to cover a focused subset of router states that are likely to indicate service impacts (or imminent service impacts) related to the overall state of hardware assemblies (cards, fans, links, and so on).

Platforms

All

6.84 alc-acct-triggered-reason

alc-acct-triggered-reason

Syntax

[**no**] **alc-acct-triggered-reason**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute alc-acct-triggered-reason)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute alc-acct-triggered-reason

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Description

This command includes the **alc-acct-triggered-reason** attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.85 alc-error-code

alc-error-code

Syntax

[**no**] **alc-error-code**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute alc-error-code)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute alc-error-code

Description

This command enables RADIUS accounting messages to include an error number and error code when the subscriber host session terminates. To obtain a complete list of error numbers and their corresponding codes, use the **tools>dump>aaa>radius-acct-terminate-cause** command.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.86 alg

alg

Syntax

alg

Context

[Tree] (config>service>nat>up-nat-policy alg)

[Tree] (config>service>nat>firewall-policy alg)

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[Tree] (config>service>nat>nat-policy alg)

Full Context

configure service nat up-nat-policy alg

configure service nat firewall-policy alg

configure service nat nat-policy alg

Description

Commands in this context configure application layer gateway (ALG) parameters of this policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy alg
- configure service nat up-nat-policy alg

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy alg

6.87 algorithm

algorithm

Syntax

algorithm *flex-algo-id*

no algorithm

Context

[Tree] (conf>router>segment-routing>srv6>micro-segment-locator algorithm)

[Tree] (config>router>segment-routing>srv6>locator algorithm)

Full Context

configure router segment-routing segment-routing-v6 micro-segment-locator algorithm

configure router segment-routing segment-routing-v6 locator algorithm

Description

This command configures an IGP flexible algorithm identifier for an SRv6 or micro-segment locator.

A locator can only be part of a single algorithm but it can be used in multiple IGP instances.

The **no** form of this command returns the locator to the base IGP algorithm 0.

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Default

no algorithm

Parameters

flex-algo-id

Specifies the flexible algorithm ID.

Values 128 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

6.88 alias

alias

Syntax

alias *alias-name alias-command-name*

no alias *alias-name*

Context

[Tree] (environment alias)

Full Context

environment alias

Description

This command enables the substitution of a command line (or part of a command line) by an alias. Use this command to create alternative or easier to remember or understand names for an entity or command string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The special characters forward slash (/) and backslash (\) cannot be used as the first character inside an alias string. An alias can contain a double quote character by preceding the quote with a backslash (\) character (for example, **alias my-alias "| match \"***string***\""**). Only a single command can be present in the command string (the command can be long with many parameters but there is no support for aliases that include multiple CLI commands or lines). This command can be entered in any context but must be created in the **root environment** context.

For example, to create an alias named **soi** to display OSPF interfaces, enter the following command:

alias soi "show router ospf interface”

Complex aliases can be created to have shortcuts for customized show routine output.

environment alias my-summary "| match expression \"----|Description|Interface|Admin State| Oper State|Transceiver Type|Optical Compliance|Link Length\" | match invert-match expression \"Ethernet Interface|OTU Interface\" | match invert-match expression \"----\" post-lines 1"

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and then used like this:

show port detail my-summary

Parameters

alias-name

Specifies the alias name, up to 80 characters. Do not use a valid command string for the name of the alias. If the alias specified is an actual command, this causes the command to be replaced by the alias.

alias-command-name

Specifies the command name to be associated, up to 320 characters.

Platforms

All

6.89 align

align

Syntax

[**no**] **align**

Context

[Tree] (config>log>acct-policy align)

Full Context

configure log accounting-policy align

Description

This command enables alignment of statistics collection to the nearest interval within an hour. Enabling the alignment allows statistics collection into an accounting file that is being synchronized across multiple network nodes in the network.

The **no** form of this command disables alignment of statistics collection.

Default

no align

Platforms

All

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6.90 all

all

Syntax

all [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no all

Context

[Tree] (debug>service>id>pim-snooping all)

Full Context

debug service id pim-snooping all

Description

This command enables or disables debugging for all the PIM modules.

Parameters

grp-ip-address

Debugs information associated with all PIM modules

Values multicast group address (IPv4 or IPv6)

ip-address

Debugs information associated with all PIM modules

Values IPv4 or IPv6 address

detail

Debugs detailed information on all PIM modules

Platforms

All

all

Syntax

all [**detail**]

no all

Context

[Tree] (debug>router>rsvp>event all)

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[Tree] (debug>router>mpls>event all)

Full Context

debug router rsvp event all

debug router mpls event all

Description

This command debugs all events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about all events.

Platforms

All

all

Syntax

all [**detail**]

no all

Context

[Tree] (debug>router>rsvp>packet all)

Full Context

debug router rsvp packet all

Description

This command debugs all packets.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about all RSVP packets.

Platforms

All

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all

Syntax

all [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no all

Context

[Tree] (debug>router>pim all)

Full Context

debug router pim all

Description

This command enables debugging for all the PIM modules.

The **no** form of this command disables debugging PIM modules.

Parameters

grp-ip-address

Debugs information associated with all PIM modules.

Values IPv4 or IPv6 address

ip-address

Debugs information associated with all PIM modules.

Values IPv4 or IPv6 address

detail

Debugs detailed information on all PIM modules.

Platforms

All

all

Syntax

[**no**] **all**

Context

[Tree] (debug>router>rpki-session>packet all)

Full Context

debug router rpki-session packet all

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Description

This command enables debugging for all RPKI packets.

The **no** form of this command disables debugging for all RPKI packets.

Platforms

All

all

Syntax

all

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-cntr all)

[Tree] (config>log>acct-policy>cr>aa>aa-sub-attr all)

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr all)

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr all)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters all

configure log accounting-policy custom-record aa-specific aa-sub-attributes all

configure log accounting-policy custom-record aa-specific to-aa-sub-counters all

configure log accounting-policy custom-record aa-specific from-aa-sub-counters all

Description

This command includes all counters and only applies to the 7750 SR.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

all

Syntax

all [**detail**]

no all

Context

[Tree] (debug>router>pcep>pcc>conn all)

[Tree] (debug>router>pcep>pcc all)

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Full Context

debug router pcep pcc connection all

debug router pcep pcc all

Description

This command enables debugging for all PCEP PCC or connection events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about all events.

Platforms

All

all

Syntax

all [**detail**]

no all

Context

[Tree] (debug>router>pcep>pce>conn all)

[Tree] (debug>router>pcep>pce all)

Full Context

debug router pcep pce connection all

debug router pcep pce all

Description

This command enables debugging for all PCEP PCE or connection events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about all events.

Platforms

VSR-NRC

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all

Syntax

all

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress>policers all)

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress>queues all)

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress>queues all)

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress>policers all)

Full Context

configure subscriber-mgmt idle-timeout-policy ingress policers all

configure subscriber-mgmt idle-timeout-policy ingress queues all

configure subscriber-mgmt idle-timeout-policy egress queues all

configure subscriber-mgmt idle-timeout-policy egress policers all

Description

This command enables monitoring of all egress or ingress (policers or queues) for idle time.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.91 all-authorized-session-addresses

all-authorized-session-addresses

Syntax

[**no**] **all-authorized-session-addresses**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute all-authorized-session-addresses)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute all-authorized-session-addresses

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Description

This command specifies to include all included and authorized address/prefix attributes in session accounting and is applicable only for session-accounting mode.

With this flag enabled, all IP address attributes explicitly enabled to be included are the following:

- delegated-ipv6-prefix
- framed-ip-address
- framed-ip-netmask
- framed-ipv6-prefix
- ipv6-address

These are included if the corresponding addresses or prefixes are authorized (via access-accept or ludb) and independent if they are used or not.

The **no** form of this command reverts to the default.

Default

no all-authorized-session-addresses

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.92 all-events

all-events

Syntax

all-events

Context

[Tree] (debug>service>id>mrp all-events)

Full Context

debug service id mrp all-events

Description

This command enables MRP debugging for the applicant, leave all, periodic and registrant state machines and enables debugging of received and transmitted MRP PDUs.

Platforms

All

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all-events

Syntax

all-events

Context

[Tree] (debug>service>id>stp all-events)

Full Context

debug service id stp all-events

Description

This command enables STP debugging for all events.

The **no** form of the command disables debugging.

Platforms

All

6.93 all-l1isis

all-l1isis

Syntax

all-l1isis *ieee-address*

no all-l1isis

Context

[Tree] (config>service>vprn>isis all-l1isis)

Full Context

configure service vprn isis all-l1isis

Description

This command specifies the MAC address to use for the VPRN instance of the Layer 1 IS-IS routers. The MAC address should be a multicast address.

The **no** form of this command reverts to the default value.

Default

all-l1isis 01:80:c2:00:00:14

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Parameters

ieee-address

Specifies the destination MAC address for all Layer 1 I-IS neighbors on the link for this ISIS instance.

Platforms

All

all-l1isis

Syntax

all-l1isis *ieee-address*

no all-l1isis

Context

[Tree] (config>router>isis all-l1isis)

Full Context

configure router isis all-l1isis

Description

This command enables you to specify the MAC address to use for all Layer 1 IS-IS routers. The MAC address should be a multicast address.

The **no** form of this command reverts to the default value.

Default

01:80:c2:00:00:14

Parameters

ieee-address

Specifies the destination MAC address for all Layer 1 I-IS neighbors on the link for this IS-IS instance.

Platforms

All

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6.94 all-l2isis

all-l2isis

Syntax

all-l2isis *ieee-address*

no all-l2isis

Context

[Tree] (config>service>vprn>isis all-l2isis)

Full Context

configure service vprn isis all-l2isis

Description

This command specifies the MAC address to use for Layer 2 IS-IS routers for the VPRN instance. The MAC address should be a multicast address.

The **no** form of this command reverts to the default value.

Default

all-l2isis 01:80:c2:00:00:15

Parameters

ieee-address

Specifies the destination MAC address for all Layer 2 ISIS neighbors on the link for this ISIS instance.

Platforms

All

all-l2isis

Syntax

all-l2isis *ieee-address*

no all-l2isis

Context

[Tree] (config>router>isis all-l2isis)

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Full Context

configure router isis all-l2isis

Description

This command enables you to specify the MAC address to use for all Layer 2 IS-IS routers. The MAC address should be a multicast address.

The **no** form of this command reverts to the default value.

Default

01:80:c2:00:00:15

Parameters

ieee-address

Specifies the destination MAC address for all Layer 2 IS-IS neighbors on the link for this IS-IS instance.

Platforms

All

6.95 all-octets-offered-count

all-octets-offered-count

Syntax

[**no**] **all-octets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters all-octets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters all-octets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters all-octets-offered-count

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters all-octets-offered-count

Description

This command includes all octets offered in the count.

The **no** form of this command excludes the octets offered in the count.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

all-octets-offered-count

Syntax

[**no**] **all-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters all-octets-offered-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters all-octets-offered-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters all-octets-offered-count

configure log accounting-policy custom-record queue i-counters all-octets-offered-count

Description

This command includes all octets offered in the count.

The **no** form of this command excludes the octets offered in the count.

Default

no all-octets-offered-count

Platforms

All

6.96 all-packets-offered-count

all-packets-offered-count

Syntax

[**no**] **all-packets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters all-packets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters all-packets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters all-packets-offered-count

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configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters all-packets-offered-count

Description

This command includes all packets offered in the count.

The **no** form of this command excludes the packets offered in the count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

all-packets-offered-count

Syntax

[**no**] **all-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters all-packets-offered-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters all-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters all-packets-offered-count

configure log accounting-policy custom-record queue i-counters all-packets-offered-count

Description

This command includes all packets offered in the count.

The **no** form of this command excludes the packets offered in the count.

Default

no all-packets-offered-count

Platforms

All

6.97 allocate-dual-sids

allocate-dual-sids

Syntax

[**no**] **allocate-dual-sids**

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Context

[Tree] (config>router>isis>segm-rtng>adj-sid allocate-dual-sids)

[Tree] (config>router>ospf3>segm-rtng>adj-sid allocate-dual-sids)

[Tree] (config>router>ospf>segm-rtng>adj-sid allocate-dual-sids)

Full Context

configure router isis segment-routing adjacency-sid allocate-dual-sids

configure router ospf3 segment-routing adjacency-sid allocate-dual-sids

configure router ospf segment-routing adjacency-sid allocate-dual-sids

Description

This command enables the support of two SR-MPLS adjacency SIDs per interface. A protected and unprotected adjacency SID is instantiated and advertised. If an SR-MPLS adjacency SID already exists, an additional complementary (protected or unprotected) adjacency SID is created on the interface.

The **no** form of this command disables the support of two SR-MPLS adjacency SIDs per interface.

Default

no allocate-dual-sids

Platforms

All

6.98 allocation

allocation

Syntax

allocation explicit-percent *percent-of-parent-pool*

allocation port-bw-weight *pool-weight*

no allocation

Context

[Tree] (config>qos>hs-port-pool-policy>alt-port-class-pools>class-pool allocation)

[Tree] (config>qos>hs-port-pool-policy>std-port-class-pools>class-pool allocation)

Full Context

configure qos hs-port-pool-policy alt-port-class-pools class-pool allocation

configure qos hs-port-pool-policy std-port-class-pools class-pool allocation

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Description

This command sizes the associated class-pool based on either the specified **explicit-percent** *percent-of-parent-pool* or based on the dynamic port bandwidth portioning mechanism. Setting an explicit percentage prevents the port-class pool from participating in the dynamic port level bandwidth-based distribution of the mid-pool's size as the port bandwidth weight of the port-class pool becomes zero (0). Setting a port bandwidth weight causes the explicit percent value to become zero (0) disabling explicit sizing of the port-class pool.

The **no** form of the command sets the *percent-of-parent-pool* value to zero (0) and the *pool-weight* parameter to 1 for the port-class pool, restoring the default settings.

Default

allocation 1

Parameters

percent-of-parent-pool

Specifies the percentage of parent pool being allocated. This parameter must be configured when specifying the **explicit-percent**. The *percent-of-parent-pool* value is expressed as a percentage with two decimal places (100th of a percent) that indicates that the port-class pool should be sized by applying the value to the parent mid-pool size. Specifying **explicit-percent** forces the **port-bw-weight** to a zero (0) value (disabled).

Values 0.01 to 100.00

pool-weight

Specifies port bandwidth weight being allocated. The **port-bw-weight** and **explicit-percent** commands are mutually exclusive. The *pool-weight* parameter is required when specifying the port bandwidth weight and defines both that the port-class pool should be sized in the port bandwidth distribution of the mid-pool's size and what the distribution weight should be for the port-class pool compared to other port-class pools associated with the same mid-pool when competing for the port's distribution portion.

Values 1 to 100

Platforms

7750 SR-7/12/12e

6.99 allocation-percent

allocation-percent

Syntax

allocation-percent *percent-of-parent-pool*

no allocation-percent

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Context

[Tree] (config>qos>hs-pool-policy>mid-tier>mid-pool allocation-percent)

Full Context

configure qos hs-pool-policy mid-tier mid-pool allocation-percent

Description

This command sizes the associated mid-pool based on the specified percent of the parent pool. The size is obtained by applying the specified percentage value to the current root-pool size acting as the mid-pool's parent. Whenever the parent root-pool is changed to a new root-pool or the size of the current parent root-pool is modified, the mid-pool's size is updated.

The **no** form of the command reverts to the default.

Default

allocation-percent 1.00

Parameters

percent-of-parent-pool

Specifies the percent of the parent pool. This parameter is required when the **allocation-percent** command is executed. This parameter defines the percentage of the root pool's size to derive the size of the mid-pool. The value is specified as a percentage with two decimal places (100th of a percent).

Values 0.01 to 100.00

Platforms

7750 SR-7/12/12e

6.100 allocation-weight

allocation-weight

Syntax

allocation-weight *pool-weight*

no allocation-weight

Context

[Tree] (config>qos>hs-pool-policy>root-tier>root-pool allocation-weight)

Full Context

configure qos hs-pool-policy root-tier root-pool allocation-weight

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Description

This command specifies the weight that is applied to the root pool and is divided by the sum of all root pool weights to derive the pool's buffer allocation factor. The amount of buffers remaining after the system-reserve percentage is applied is multiplied by the buffer allocation factor to derive the pool size.

Root pools function as an oversubscription control mechanism. A root pool acts as the root of a hierarchy of buffer pools and queues with respect to buffer allocation. Because the sum of the root pool sizes does not exceed the total number of buffers available, the number of buffers indicated by the root pools size is always be available to the queues within the root pools hierarchy, queues from one hierarchy can never steal buffers from another.

A root pool hierarchy is based on the dynamic parenting of one or more mid-tier pools to a root pool. A mid-tier pool represents the buffering allowed for all port-class pools mapped to the mid-tier pool. Each mid-tier pool is sized as a percentage of the root pool to which it is parented. The sum of the mid-tier pools percentages for a root pool may be greater than 100 percent, which allows the root pool to be oversubscribed. This can be beneficial when large fluctuations in mid-tier buffer utilization are expected and a given mid-tier pool should be allowed to exceed its fair share of buffering.

Through the mapping hierarchy presented above, each queue is mapped to a port-class pool, mid-tier pool, and root pool.

A root pool with an **allocation-weight** set to "0" is considered inactive and is not allocated buffers. Mid-tier pools cannot be parented to a root pool with a weight set to "0". After a mid-tier pool is associated with a root pool, the root pool's weight cannot be set to "0".

As port classes are mapped to mid-tier pools in a different policy than mid-tier pools are mapped to root pools, a port-class pool can be mapped to a mid-tier pool that is not parented to a root pool. A queue mapped indirectly to a non-parented mid-tier pool has its operational MBS value set to zero and drops all incoming packets.

When a root pool's allocation weight is modified, all root pools, mid-tier pools, and port class pool sizes are reevaluated and modified when necessary.

The **no** form of the command restores the default **allocation-weight** value to the associated root pool. Root pool 1 has a different default weight than root pools 2 through 8. The **no allocation-weight** command fails for root pools 2 through 8 if the root pool is currently parented to a class pool.

Default

root-pool 1: allocation-weight 100

root-pool 2 to 16: allocation-weight 0

Parameters

pool-weight

Defines the weight of the associated **root-pool** *root-pool-id* and is used by the system to calculate the size of the root buffer pool. This parameter is required when executing the **allocation-weight** command. Setting the *pool-weight* to 0 disables the pool and prevents the root pool from being a parent to any class pools. Root pool 1 cannot be set with an allocation weight of 0.

Values root-pool 1: 1 to 100

root-pool 2 to 16: 0 to 100

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Platforms
7750 SR-7/12/12e

6.101 allow-bgp-to-igp-export

allow-bgp-to-igp-export

Syntax
[no] allow-bgp-to-igp-export

Context
[Tree] (config>router allow-bgp-to-igp-export)

Full Context
configure router allow-bgp-to-igp-export

Description
This command enables the export of base BGP RTM routes into the IGP routing instance within the base router. This command applies to already exported BGP prefixes and to newly received BGP prefixes.

Default
allow-bgp-to-igp-export

Platforms
All

6.102 allow-boot-license-violations

allow-boot-license-violations

Syntax
[**no**] **allow-boot-license-violations**

Context
[Tree] (config>system allow-boot-license-violations)

Full Context
configure system allow-boot-license-violations

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Description

This command configures whether the system should allow successful execution of the bootup configuration file when it contains license violations. When enabled, the system will not error on any configuration that causes a license violation and as a result permits the system to come into service. However, if violations are detected, the system reboots after a period of time if the violations are not fixed. See the *7450 ESS, 7750 SR, 7950 XRS and VSR Pay-as-You-Grow Licensing Reference Guide* for more information.

Platforms

All

6.103 allow-client-id-change

allow-client-id-change

Syntax

[**no**] **allow-client-id-change**

Context

[Tree] (config>service>ies>sub-if>ipv6>dhcp6 allow-client-id-change)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 allow-client-id-change)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 allow-client-id-change)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6 allow-client-id-change)

Full Context

configure service ies subscriber-interface ipv6 dhcp6 allow-client-id-change

configure service vprn subscriber-interface group-interface ipv6 dhcp6 allow-client-id-change

configure service ies subscriber-interface group-interface ipv6 dhcp6 allow-client-id-change

configure service vprn subscriber-interface ipv6 dhcp6 allow-client-id-change

Description

This command configures the system to allow changes to the client ID. This command can be configured on subscriber interface of retailer IES/VPRN in case of wholesale retail configuration.

Default

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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6.104 allow-directed-broadcasts

allow-directed-broadcasts

Syntax

[**no**] **allow-directed-broadcasts**

Context

[Tree] (config>service>ies>if allow-directed-broadcasts)

[Tree] (config>service>vprn>nw-if allow-directed-broadcasts)

[Tree] (config>service>vprn>if allow-directed-broadcasts)

[Tree] (config>router>if allow-directed-broadcasts)

Full Context

configure service ies interface allow-directed-broadcasts

configure service vprn network-interface allow-directed-broadcasts

configure service vprn interface allow-directed-broadcasts

configure router interface allow-directed-broadcasts

Description

This command enables the forwarding of directed broadcasts out of the IP interface.

A directed broadcast is a packet received on a local router interface destined for the subnet broadcast address on another IP interface. The **allow-directed-broadcasts** command on an IP interface enables or disables the transmission of packets destined to the subnet broadcast address of the egress IP interface.

When enabled, a frame destined to the local subnet on this IP interface is sent as a subnet broadcast out this interface. Care should be exercised when allowing directed broadcasts as it is a well-known mechanism used for denial-of-service attacks.

When disabled, directed broadcast packets discarded at this egress IP interface are counted in the normal discard counters for the egress SAP.

Note:
Allowing directed broadcasts is a well-known mechanism used for denial-of-service attacks.

By default, directed broadcasts are not allowed and are discarded at this egress IP interface.

The **no** form of this command disables the forwarding of directed broadcasts out of the IP interface. All broadcasts are dropped.

Default

no allow-directed-broadcasts — Directed broadcasts are dropped.

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Platforms

All

6.105 allow-dot1q-msaps

allow-dot1q-msaps

Syntax

[**no**] **allow-dot1q-msaps**

Context

[Tree] (config>service>vpls>sap allow-dot1q-msaps)

Full Context

configure service vpls sap allow-dot1q-msaps

Description

This command enables support for single tagged traffic triggering managed SAP creation on a qinq encapsulated capture SAP.

With this command enabled, a single tagged trigger packet received on a qinq encapsulated capture SAP (x/y/z:*.* or x/y/z:tag.*) can trigger the creation of an x/y/z:tag.0 managed SAP (MSAP).

The **config>system>ethernet>new-qinq-untagged-sap** command should be configured:

- as a prerequisite for an x/y/z:tag.* capture-sap
- where x/y/z:tag1.0 and x/y/z:tag1.tag2 MSAPs for an x/y/z:*.* capture-sap should co-exist

Note that enabling new-qinq-untagged-sap affects the behavior of existing <port-id>:tag.0 SAPs.

With the allow-dot1q-msaps command disabled (default), a single tagged trigger packet received on a qinq encapsulated capture SAP (x/y/z:*.* or x/y/z:tag.*) is dropped as "Invalid QTag”.

This command cannot be enabled on:

- a dot1q encapsulated **capture-sap**
- an inverse capture sap (x/y/z:*.tag)

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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6.106 allow-egress-remark-dscp

allow-egress-remark-dscp

Syntax

[**no**] **allow-egress-remark-dscp**

Context

[Tree] (config>oam-pm>session>ip allow-egress-remark-dscp)

Full Context

configure oam-pm session ip allow-egress-remark-dscp

Description

This command instructs the egress QoS process to modify the DSCP based on the egress QoS configuration. This command exposes the DSCP to egress DSCP processing rules.

The **no** form of this command instructs the egress QoS process to ignore the DSCP and allow it to bypass egress QoS. If the **config**>**qos**>**network**>**egress**>**remark force** command is configured for the network egress QoS profile, the egress QoS process is applied and the DSCP can be overwritten regardless of the **allow-egress-remark-dscp** configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

allow-egress-remark-dscp

Syntax

[**no**] **allow-egress-remark-dscp**

Context

[Tree] (config>test-oam>link-meas>template>twl allow-egress-remark-dscp)

Full Context

configure test-oam link-measurement measurement-template twamp-light allow-egress-remark-dscp

Description

This command instructs the egress QoS process to modify the DSCP based on the egress QoS configuration. This command exposes the DSCP to egress DSCP processing rules.

If the **config>qos>network>egress>remark-force** command is configured for the network egress QoS profile, the egress QoS process is applied and the DSCP can be overwritten regardless of the **allow-egress-remark-dscp** configuration.

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The **no** form of this command reverts to the default value, bypassing egress QoS processing of the DSCP.

Default

no allow-egress-remark-dscp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

allow-egress-remark-dscp

Syntax

[**no**] **allow-egress-remark-dscp**

Context

[Tree] (config>test-oam>lag-meas>template>twl allow-egress-remark-dscp)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light allow-egress-remark-dscp

Description

This command overwrites the IP header DSCP for each launched packet in accordance with the egress port QoS policy.

The **no** form of this command does not overwrite the IP header DSCP.

Default

no allow-egress-remark-dscp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.107 allow-entropy-label

allow-entropy-label

Syntax

[**no**] **allow-entropy-label**

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp allow-entropy-label)

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Full Context

configure anysec mpls tunnel-encryption encryption-group allow-entropy-label

Description

This command configures the ANYsec encryption group to use ELs by inserting the EL and ELI in the label stack in clear format.

The **no** form of this command does not insert the EL and ELI on ANYsec, even when the IGP is configured to set them.

Default

no allow-entropy-label

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

6.108 allow-export-bgp-vpn

allow-export-bgp-vpn

Syntax

[**no**] **allow-export-bgp-vpn**

Context

[Tree] (config>service>vprn allow-export-bgp-vpn)

Full Context

configure service vprn allow-export-bgp-vpn

Description

This command allows routes leaked from another local VPRN service to be re-exported by this VPRN in the form of new VPN-IP routes. The service label, route targets, and BGP next-hop of the re-advertised routes are based on the configuration and default values of the re-exporting VPRN.

When re-exporting leaked routes, the following restrictions apply.

- The **allow-export-bgp-vpn** command is not configurable in combination with any of the following commands: **carrier-carrier-vpn** (CSC), **label-mode next-hop** (LPN), **type** {**hub** | **spoke** | **subscriber-split-horizon**}, **redundant-interface**, and **export-inactive-bgp**.
- Re-exported routes always have the per-VRF label of the exporting VPRN; label-per-prefix advertisement is not supported.
- The best-external (inactive BGP) routes leaked by another VPRN cannot be re-exported by a VPRN configured with **allow-export-bgp-vpn**.

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Caution:
When a VPRN configured with **allow-export-bgp-vpn** advertises a leaked route, the **split-horizon** context is lost. A re-exported route can be easily advertised back to the sending peer unless this is blocked by BGP export policies. This can cause route flaps or other similar instability. In addition, **allow-export-bgp-vpn** may never be used in a VPRN service with a route distinguisher that is used in other PEs attached to the same service; if the same route distinguisher is used in this case, there is constant route flap.

If the **no** form of this command is configured, leaked routes cannot be re-advertised as VPN-IP routes; they can only be re-advertised to PE-CE BGP peers of the VPRN.

Default

no allow-export-bgp-vpn

Platforms

All

6.109 allow-flex-algo-fallback

allow-flex-algo-fallback

Syntax

[**no**] **allow-flex-algo-fallback**

Context

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel allow-flex-algo-fallback)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel allow-flex-algo-fallback)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel allow-flex-algo-fallback)

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunnel>family allow-flex-algo-fallback)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family allow-flex-algo-fallback)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel allow-flex-algo-fallback)

Full Context

configure service vprn bgp-evpn mpls auto-bind-tunnel allow-flex-algo-fallback

configure service vpls bgp-evpn mpls auto-bind-tunnel allow-flex-algo-fallback

configure service epipe bgp-evpn mpls auto-bind-tunnel allow-flex-algo-fallback

configure router bgp next-hop-resolution shortcut-tunnel family allow-flex-algo-fallback

configure router bgp next-hop-resolution labeled-routes transport-tunnel family allow-flex-algo-fallback

configure service vprn bgp-ipvpn mpls auto-bind-tunnel allow-flex-algo-fallback

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Description

This command configures a router to relax the strictly enforced Flex-Algorithm aware autobind, which is enabled through an import policy configured with the **action flex-algo** command.

If the **allow-flex-algo-fallback** command is enabled, the BGP router can autobind to a fallback algorithm 0 tunnel if no target Flex-Algorithm tunnel is available. If the **allow-flex-algo-fallback** command is disabled, the BGP autobind is strictly enforced to an intended Flex-Algorithm tunnel, which may cause traffic loss if no corresponding Flex-Algorithm tunnel exists.

The **no** form of this command removes the **allow-flex-algo-fallback** command from the configuration.

Default

no allow-flex-algo-fallback

Platforms

All

allow-flex-algo-fallback

Syntax

allow-flex-algo-fallback

Context

[Tree] (config>service>vprn>auto-bind-tunnel allow-flex-algo-fallback)

Full Context

configure service vprn auto-bind-tunnel allow-flex-algo-fallback

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

6.110 allow-fragmentation

allow-fragmentation

Syntax

[**no**] **allow-fragmentation**

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Context

[Tree] (config>service>sdp allow-fragmentation)

[Tree] (config>service>pw-template allow-fragmentation)

Full Context

configure service sdp allow-fragmentation

configure service pw-template allow-fragmentation

Description

This command disables the setting of the **do-not-fragment** bit in the IP header of GRE encapsulated service traffic. This feature is only applicable to GRE SDPs and will be applied to all service traffic using the associated GRE SDP.

The **no** form of this command removes the command from the active configuration and returns the associated SDP to its default which is to set the **do-not-fragment** bit in all GRE encapsulated service traffic.

Default

no allow-fragmentation

Platforms

All

6.111 allow-ftp

allow-ftp

Syntax

[**no**] **allow-ftp**

Context

[Tree] (config>service>vprn>management allow-ftp)

Full Context

configure service vprn management allow-ftp

Description

This commands allows access to the FTP server from VPRN.

The **no** form of this command removes FTP access for this VPRN.

Platforms

All

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allow-ftp

Syntax

[**no**] **allow-ftp**

Context

[Tree] (config>system>security>management allow-ftp)

Full Context

configure system security management allow-ftp

Description

This command allows access to the FTP server from Base and Management routers if it is operationally up.

The **no** form of this command disallows access to the FTP server.

Default

allow-ftp

Platforms

All

6.112 allow-grpc

allow-grpc

Syntax

[**no**] **allow-grpc**

Context

[Tree] (config>system>security>management allow-grpc)

Full Context

configure system security management allow-grpc

Description

This command allows access to the gRPC server from Base and Management routers if it is operationally up.

The **no** form of this command disallows access to the gRPC server.

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Platforms

All

allow-grpc

Syntax

[**no**] **allow-grpc**

Context

[Tree] (config>service>vprn>management allow-grpc)

Full Context

configure service vprn management allow-grpc

Description

This commands allows access to the GRPC server from VPRN.

The **no** form of this command removes GRPC access for this VPRN.

Platforms

All

6.113 allow-icmp-redirect

allow-icmp-redirect

Syntax

[**no**] **allow-icmp-redirect**

Context

[Tree] (config>router allow-icmp-redirect)

Full Context

configure router allow-icmp-redirect

Description

This command allows ICMP redirects received on the management interface.

The **no** form of this command drops the ICMP redirects received on the management interface.

Platforms

All

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6.114 allow-icmp6-redirect

allow-icmp6-redirect

Syntax

[**no**] **allow-icmp-redirect**

Context

[Tree] (config>router allow-icmp6-redirect)

Full Context

configure router allow-icmp6-redirect

Description

This command allows IPv6 ICMP redirects received on the management interface.

The **no** form of this command drops the IPv6 ICMP redirects received on the management interface.

Platforms

All

6.115 allow-immediate

allow-immediate

Syntax

[**no**] **allow-immediate**

Context

[Tree] (config>system>management-interface>cli>classic-cli allow-immediate)

Full Context

configure system management-interface cli classic-cli allow-immediate

Description

This command enables write access in the classic CLI configuration branch without having to use the classic CLI **candidate edit** functionality.

The **no** form of this command blocks write access and configuration changes in the classic CLI configuration branch, and the classic CLI configuration branch is read-only. This enforces using the classic

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CLI **candidate edit** functionality, including **candidate commit**, to modify the router configuration, instead of allowing immediate line-by-line configuration changes.

Default

allow-immediate

Platforms

All

6.116 allow-ip-int-bind

allow-ip-int-bind

Syntax

[**no**] **allow-ip-int-bind**

Context

[Tree] (config>service>vpls allow-ip-int-bind)

Full Context

configure service vpls allow-ip-int-bind

Description

The allow-ip-int-bind command that sets a flag on the VPLS or I-VPLS service that enables the ability to attach an IES or VPRN IP interface to the VPLS service in order to make the VPLS service routable. When the allow-ip-int-bind command is not enabled, the VPLS service cannot be attached to an IP interface.

VPLS Configuration Constraints for Enabling allow-ip-int-bind

When attempting to set the allow-ip-int-bind VPLS flag, the system first checks to see if the correct configuration constraints exist for the VPLS service and the network ports. The following VPLS features must be disabled or not configured for the allow-ip-int-bind flag to set:

- SAP ingress QoS policies applied to the VPLS SAPs cannot have MAC match criteria defined
- The VPLS service type cannot be B-VPLS or M-VPLS
- MVR from Routed VPLS and to another SAP is not supported
- Enhanced and Basic Subscriber Management (ESM and BSM) features
- Network domain on SDP bindings

Once the VPLS allow-ip-int-bind flag is set on a VPLS service, the above features cannot be enabled on the VPLS service.

Network Port Hardware Constraints

The system also checks to ensure that all ports configured in network mode are associated with FlexPath2 forwarding planes. If a port is currently in network mode and the port is associated with a FlexPath1

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forwarding plane, the allow-ip-int-bind command will fail. Once the allow-ip-int-bind flag is set on any VPLS service, attempting to enable network mode on a port associated with a FlexPath1 forwarding plane will fail.

VPLS SAP Hardware Constraints

Besides VPLS configuration and network port hardware association, the system also checks to that all SAPs within the VPLS are created on Ethernet ports and the ports are associated with FlexPath2 forwarding planes. Certain Ethernet ports and virtual Ethernet ports are not supported which include CCAG virtual ports (VSM based). If a SAP in the VPLS exists on an unsupported port type or is associated with a FlexPath1 forwarding plane, the allow-ip-int-bind command will fail. Once the allow-ip-int-bind flag is set on the VPLS service, attempting to create a VPLS SAP on the wrong port type or associated with a FlexPath1 forwarding plane will fail.

VPLS Service Name Bound to IP Interface without allow-ip-int-bind flag Set

If a service name is applied to a VPLS service and that service name is also bound to an IP interface but the allow-ip-int-bind flag has not been set on the VPLS service context, the system attempt to resolve the service name between the VPLS service and the IP interface will fail. After the allow-ip-int-bind flag is successfully set on the VPLS service, either the service name on the VPLS service must be removed and reapplied or the IP interface must be re-initialized using the **shutdown** / **no shutdown** commands. This will cause the system to reattempt the name resolution process between the IP interface and the VPLS service.

The **no** form of this command resets the allow-ip-int-bind flag on the VPLS service. If the VPLS service currently has an IP interface from an IES or VPRN service attached, the no allow-ip-int-bind command will fail. Once the allow-ip-int-bind flag is reset on the VPLS service, the configuration and hardware restrictions associated with setting the flag are removed. The port network mode hardware restrictions are also removed.

Platforms

All

6.117 allow-ipv6-udp-checksum-zero

allow-ipv6-udp-checksum-zero

Syntax

[**no**] **allow-ipv6-udp-checksum-zero**

Context

[Tree] (config>test-oam>twamp>server allow-ipv6-udp-checksum-zero)

[Tree] (config>router>twamp-light>reflector allow-ipv6-udp-checksum-zero)

[Tree] (config>test-oam>link-meas>template>twl allow-ipv6-udp-checksum-zero)

[Tree] (config>service>vprn>twamp-light>reflector allow-ipv6-udp-checksum-zero)

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Full Context

configure test-oam twamp server allow-ipv6-udp-checksum-zero

configure router twamp-light reflector allow-ipv6-udp-checksum-zero

configure test-oam link-measurement measurement-template twamp-light allow-ipv6-udp-checksum-zero

configure service vprn twamp-light reflector allow-ipv6-udp-checksum-zero

Description

This command configures the acceptance of IPv6 packets with UDP checksums of 0. This optional configuration allows the router to process arriving IPv6 TWAMP Test packets that contain IPv6 UDP checksum of 0x0000. The UDP port specific to this TWAMP Light test bypasses the default discard IPv6 UDP checksum 0x0000. If this optional command is not configured, packets that arrive with the IPv6 UDP checksum 0x000 are discarded.

The **no** form of this command reverts to the default value, discarding packets that arrive with an IPv6 UDP checksum of 0x0000.

Default

no allow-ipv6-udp-checksum-zero

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

allow-ipv6-udp-checksum-zero

Syntax

[**no**] **allow-ipv6-udp-checksum-zero**

Context

[Tree] (config>test-oam>lag-meas>template>twl allow-ipv6-udp-checksum-zero)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light allow-ipv6-udp-checksum-zero

Description

This command enables the processing of IPv6 packets with UDP checksum zero.

The **no** form of this command does not process IPv6 packets with UDP checksum zero.

Default

no allow-ipv6-udp-checksum-zero

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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6.118 allow-lease-query

allow-lease-query

Syntax

[**no**] **allow-lease-query**

Context

[Tree] (config>router>dhcp6>server allow-lease-query)

[Tree] (config>service>vprn>dhcp6>server allow-lease-query)

Full Context

configure router dhcp6 local-dhcp-server allow-lease-query

configure service vprn dhcp6 local-dhcp-server allow-lease-query

Description

If enabled, the local DHCPv6 server will handle and reply to lease query messages.

The **no** form of this command disables lease query support.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.119 allow-list

allow-list

Syntax

allow-list *allow-list-name*

no allow-list

Context

[Tree] (config>app-assure>group>url-filter>local-filtering allow-list)

Full Context

configure application-assurance group url-filter local-filtering allow-list

Description

This command adds an allow-list URL list to the local filtering URL filter policy.

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The **no** form of this command removes the URL list object.

Default

no allow-list

Parameters

allow-list-name

Specifies the URL list name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.120 allow-local-management

allow-local-management

Syntax

[**no**] **allow-local-management**

Context

[Tree] (config>service>vprn>grt>enable-grt allow-local-management)

Full Context

configure service vprn grt-lookup enable-grt allow-local-management

Description

This command enables the support of specific management protocols over VPRN interfaces that terminate on Base routing context IPv4 and IPv6 interface addresses, including Base loopback and system addresses. Global Routing Table (GRT) leaking is used to enable the visibility and access of the Base interface addresses in the VPRN. The supported protocols are Telnet, FTP, SNMP, TACACS+, RADIUS (IPv4 only, not IPv6), SSH (including applications that ride over the standard SSH TCP port 22 such as SCP and SFTP) and NETCONF (configured on port 22 or 830).

Ping and traceroute responses from the Base router interfaces are supported but are not configurable.

The **allow-local-management** command does not control the support for management protocols terminating on VPRN interfaces directly. See "Node Management using VPRN" in the 7450 ESS, 7750 SR, 7950 XRS, and VSR Layer 3 Services Guide: IES and VPRN for more information. Also, see the **access** command in the **config>service>vprn>snmp** context, and the commands in the **config>service>vprn>management** context.

Platforms

All

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6.121 allow-multiple-wan-addresses

allow-multiple-wan-addresses

Syntax

[**no**] **allow-multiple-wan-addresses**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6 allow-multiple-wan-addresses)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 allow-multiple-wan-addresses)

[Tree] (config>service>vprn>sub-if>ipv6 allow-multiple-wan-addresses)

[Tree] (config>service>ies>sub-if>ipv6 allow-multiple-wan-addresses)

Full Context

configure service ies subscriber-interface group-interface ipv6 allow-multiple-wan-addresses

configure service vprn subscriber-interface group-interface ipv6 allow-multiple-wan-addresses

configure service vprn subscriber-interface ipv6 allow-multiple-wan-addresses

configure service ies subscriber-interface ipv6 allow-multiple-wan-addresses

Description

This command enables host to have two WAN addresses, one from DHCP IA_NA and one from SLAAC assignment.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.122 allow-netconf

allow-netconf

Syntax

[**no**] **allow-netconf**

Context

[Tree] (config>system>security>management allow-netconf)

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Full Context

configure system security management allow-netconf

Description

This command allows access to the NETCONF server from Base and Management routers if it is operationally up.

The **no** form of this command disallows access to the NETCONF server.

Platforms

All

allow-netconf

Syntax

[**no**] **allow-netconf**

Context

[Tree] (config>service>vprn>management allow-netconf)

Full Context

configure service vprn management allow-netconf

Description

This commands allows access to the NETCONF server from VPRN.

The **no** form of this command removes NETCONF access for this VPRN.

Platforms

All

6.123 allow-qinq-network-interface

allow-qinq-network-interface

Syntax

[**no**] **allow-qinq-network-interface**

Context

[Tree] (config>system>ip allow-qinq-network-interface)

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Full Context

configure system ip allow-qinq-network-interface

Description

This command is a system-wide option that allows the creation of network interfaces on a QinQ encapsulated VLAN.

When enabled, the maximum number of allowed MPLS labels is reduced by 1 to allow for the additional VLAN tag at egress processing.

The **no** form of this command reverts the option to the default value, which is to not allow network interfaces on QinQ encapsulated VLANs.

Default

no allow-qinq-network-interface

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.124 allow-reconfigure-without-lease

allow-reconfigure-without-lease

Syntax

[**no**] **allow-reconfigure-without-lease**

Context

[Tree] (config service ies if ipv6 dhcp6-relay allow-reconfigure-without-lease)

[Tree] (config service vprn if ipv6 dhcp6-relay allow-reconfigure-without-lease)

[Tree] (config service ies sub-if grp-if ipv6 dhcp6 relay allow-reconfigure-without-lease)

[Tree] (config service vprn sub-if grp-if ipv6 dhcp6 relay allow-reconfigure-without-lease)

Full Context

configure service ies interface ipv6 dhcp6-relay allow-reconfigure-without-lease

configure service vprn interface ipv6 dhcp6-relay allow-reconfigure-without-lease

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay allow-reconfigure-without-lease

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay allow-reconfigure-without-lease

Description

This command enables DHCPv6 Reconfigure messages without the corresponding lease state.

The **no** form of this command disables DHCPv6 reconfigure messages.

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Default

no allow-reconfigure-without-lease

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.125 allow-reverse-route-override

allow-reverse-route-override

Syntax

allow-reverse-route-override [*type*]

no allow-reverse-route-override

Context

[Tree] (config>service>vprn>ipsec allow-reverse-route-override)

Full Context

configure service vprn ipsec allow-reverse-route-override

Description

This command allows a new dynamic LAN-to-LAN tunnel that terminates in the private VPRN service to be created with an overlapping reverse route.

The **no** form of this command reverts to the default value.

Default

no allow-reverse-route-override

Parameters

type

Specifies the action to take when the system accepts a new reverse route.

Values same-idi — Specifies that the system accepts a new reverse route and removes the existing route only if the IDi of the new tunnel is the same as existing route.

any-idi — Specifies that the system accepts a new reverse route and removes the existing route regardless of the IDi.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.126 allow-sr-over-srte

allow-sr-over-srte

Syntax

[**no**] **allow-sr-over-srte**

Context

[Tree] (config>router>ospf>igp-sc allow-sr-over-srte)

[Tree] (config>router>isis>igp-sc allow-sr-over-srte)

Full Context

configure router ospf igp-shortcut allow-sr-over-srte

configure router isis igp-shortcut allow-sr-over-srte

Description

This command enables the SR-TE LSPs as eligible SRv4 or SRv6 IGP shortcuts.

For SR-MPLS SRv4 and SRv6, IGP shortcuts can only use SR-TE LSPs with **allow-sr-over-srte** explicitly enabled that have an adjacency SID as top SID in the SR-TE LSP. IPv4 and IPv6 addresses can use all available SR-TE LSPs as shortcuts regardless of the explicit **allow-sr-over-srte** configuration.

Under ECMP, when IGP **allow-sr-over-srte** is configured, preference is given to the SR-TE LSPs with **allow-sr-over-srte** explicitly configured over the LSPs that do not have **allow-sr-over-srte** configured.

The **no** form of this command disables the eligibility.

Default

no allow-sr-over-srte

Platforms

All

6.127 allow-ssh

allow-ssh

Syntax

[**no**] **allow-ssh**

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Context

[Tree] (config>service>vprn>management allow-ssh)

Full Context

configure service vprn management allow-ssh

Description

This command allows configuration of the SSH parameters.

The **no** form of this command disallows configuration of the SSH parameters.

Platforms

All

allow-ssh

Syntax

[**no**] **allow-ssh**

Context

[Tree] (config>system>security>management allow-ssh)

Full Context

configure system security management allow-ssh

Description

This command allows the SSH parameters to be configured from Base and Management routers.

The **no** form of this command disallows SSH parameters from being configured.

Default

allow-ssh

Platforms

All

6.128 allow-static

allow-static

Syntax

allow-static

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no allow-static

Context

[Tree] (config>router>bgp>next-hop-res>labeled-routes allow-static)

Full Context

configure router bgp next-hop-resolution labeled-routes allow-static

Description

This command allows the BGP next-hop of label-IPv4, label-IPv6, VPN-IPv4, and VPN-IPv6 routes received from any EBGP or IBGP peer to be resolved using static routes, except for static default routes (0/0 and ::/0).

A static route is less preferred than a local or interface route for resolving the BGP next-hop of labeled route, but more preferred than other IGP routes or tunnels.

Note:
A label-IPv4 or label-IPv6 route can be resolved by a static blackhole route, even when the **allow-static** command is not configured, but only if the static blackhole route is the longest prefix match (LPM) static route for the BGP next-hop address.

Default

no allow-static

Platforms

All

6.129 allow-telnet

allow-telnet

Syntax

[**no**] **allow-telnet**

Context

[Tree] (config>service>vprn>management allow-telnet)

Full Context

configure service vprn management allow-telnet

Description

This command allows access to the Telnet server from a VPRN.

The **no** form of this command removes the Telnet access.

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Platforms

All

allow-telnet

Syntax

[**no**] **allow-telnet**

Context

[Tree] (config>system>security>management allow-telnet)

Full Context

configure system security management allow-telnet

Description

This command allows access to the Telnet server from Base and Management routers if it is operationally up.

The **no** form of this command disallows access to the Telnet server.

Default

allow-telnet

Platforms

All

6.130 allow-telnet6

allow-telnet6

Syntax

[**no**] **allow-telnet6**

Context

[Tree] (config>service>vprn>management allow-telnet6)

Full Context

configure service vprn management allow-telnet6

Description

This command allows access to the Telnet IPv6 server from a VPRN.

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The **no** form of this command removes the Telnet IPv6 access.

Platforms

All

allow-telnet6

Syntax

[**no**] **allow-telnet6**

Context

[Tree] (config>system>security>management allow-telnet6)

Full Context

configure system security management allow-telnet6

Description

This command allows access to the Telnet IPv6 server from Base and Management routers if it is operationally up.

The **no** form of this command disallows access to the Telnet IPv6 server.

Default

allow-telnet6

Platforms

All

6.131 allow-unmatching-prefixes

allow-unmatching-prefixes

Syntax

[**no**] **allow-unmatching-prefixes**

Context

[Tree] (config>service>ies>sub-if>ipv6 allow-unmatching-prefixes)

[Tree] (config>service>vprn>sub-if>ipv6 allow-unmatching-prefixes)

Full Context

configure service ies subscriber-interface ipv6 allow-unmatching-prefixes

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configure service vprn subscriber-interface ipv6 allow-unmatching-prefixes

Description

This command allows address assignment for IPoEv6 and PPPoEv6 hosts in cases where the subscriber host assigned IPv6 address or prefix falls outside of the subscriber-prefix range explicitly configured for the subscriber-interface (**configure>service>vprn/ies>sub-if>ipv6**) or the subscriber-prefix is not configured at all.

SLAAC hosts is installed in the FDB as /64 entries, the length of the installed DHCP-PD prefix is dictated by the prefix-length and the DHCP-NA host is installed as /128 entries.

IPv4 subscriber hosts are unaffected by this command.

The **no** form of this command reverts to the default.

Default

no allow-unmatching-prefixes

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.132 allow-unmatching-subnets

allow-unmatching-subnets

Syntax

[**no**] **allow-unmatching-subnets**

Context

[Tree] (config>service>vprn>subscriber-interface allow-unmatching-subnets)

Full Context

configure service vprn subscriber-interface allow-unmatching-subnets

Description

This command specifies whether subscriber hosts with a subnet that does not match any of the subnets configured on this interface, are allowed.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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allow-unmatching-subnets

Syntax

[**no**] **allow-unmatching-subnets**

Context

[Tree] (config>service>vprn>sub-if>ipv6 allow-unmatching-subnets)

[Tree] (config>service>ies>sub-if>ipv6 allow-unmatching-subnets)

Full Context

configure service vprn subscriber-interface ipv6 allow-unmatching-subnets

configure service ies subscriber-interface ipv6 allow-unmatching-subnets

Description

This command allows address assignment for IPoEv6 and PPPoEv6 hosts in cases where the subscriber host assigned IPv6 address or prefix falls outside of the subscriber-prefix range explicitly configured for the subscriber-interface (**configure>service>vprn/ies>sub-if>ipv6**) or the subscriber-prefix is not configured at all.

SLAAC hosts are installed in the FDB as /64 entries, the length of the installed DHCP-PD prefix is dictated by the prefix-length and the DHCP-NA host is installed as /128 entries.

IPv4 subscriber hosts are unaffected by this command.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

allow-unmatching-subnets

Syntax

[**no**] **allow-unmatching-subnets**

Context

[Tree] (config>service>ies>subscriber-interface allow-unmatching-subnets)

Full Context

configure service ies subscriber-interface allow-unmatching-subnets

Description

This command specifies whether subscriber hosts with a subnet that does not match any of the subnets configured on this interface, are allowed.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.133 allow-unresolved-leaking

allow-unresolved-leaking

Syntax

[**no**] **allow-unresolved-leaking**

Context

[Tree] (config>router>bgp>next-hop-res allow-unresolved-leaking)

Full Context

configure router bgp next-hop-resolution allow-unresolved-leaking

Description

This command instructs BGP, in the base router instance, to allow its routes to be leaked to other (VPRN) BGP instances, even if the routes to be leaked do not have a BGP next hop that can be resolved by the base instance.

By default, BGP routes cannot be leaked to another BGP instance unless they are resolvable by the instance that receives them.

The **no** form of this command provides the default behavior.

Default

no allow-unresolved-leaking

Platforms

All

6.134 allow-unsecure-connection

allow-unsecure-connection

Syntax

[**no**] **allow-unsecure-connection**

Context

[Tree] (config>system>grpc allow-unsecure-connection)

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Full Context

configure system grpc allow-unsecure-connection

Description

This command enables unsecure operation of gRPC connections. This means that TCP connections are not encrypted, including username and password information.

This command can be enabled only if there is no TLS profile assigned to the gRPC server.

The **no** form of this command enables TLS encryption on gRPC connections.

Default

no allow-unsecure-connection

Platforms

All

allow-unsecure-connection

Syntax

[**no**] **allow-unsecure-connection**

Context

[Tree] (config>system>telemetry>destination-group allow-unsecure-connection)

Full Context

configure system telemetry destination-group allow-unsecure-connection

Description

This command enables an unsecured connection for a specified destination group.

This command is mutually exclusive with the **tls-client-profile** command.

The **no** form of this command disables unsecured connections for the specified destination group.

Default

no allow-unsecure-connection

Platforms

All

allow-unsecure-connection

Syntax

[**no**] **allow-unsecure-connection**

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Context

[Tree] (config>system>grpc-tunnel>destination-group allow-unsecure-connection)

Full Context

configure system grpc-tunnel destination-group allow-unsecure-connection

Description

This command enables an unsecured connection for a specified destination group, which allows a gRPC tunnel to run without a secured transport protocol. Data is transferred in unencrypted form.

This command is mutually exclusive with the **tls-client-profile** command.

The **no** form of this command disables unsecured connections for the specified destination group.

Default

no allow-unsecure-connection

Platforms

All

6.135 allow-unsecured-msgs

allow-unsecured-msgs

Syntax

[**no**] **allow-unsecured-msgs**

Context

[Tree] (config>service>ies>if>ipv6>secure-nd allow-unsecured-msgs)

Full Context

configure service ies interface ipv6 secure-nd allow-unsecured-msgs

Description

This command specifies whether unsecured messages are accepted. When Secure Neighbor Discovery (SeND) is enabled, only secure messages are accepted by default.

The **no** form of this command disables accepting unsecured messages.

Platforms

All

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allow-unsecured-msgs

Syntax

[**no**] **allow-unsecured-msgs**

Context

[Tree] (config>service>vprn>if>send allow-unsecured-msgs)

Full Context

configure service vprn interface ipv6 secure-nd allow-unsecured-msgs

Description

This command specifies whether unsecured messages are accepted. When Secure Neighbor Discovery (SeND) is enabled, only secure messages are accepted by default.

The **no** form of this command disables accepting unsecured messages.

Platforms

All

allow-unsecured-msgs

Syntax

[**no**] **allow-unsecured-msgs**

Context

[Tree] (config>router>if>ipv6>secure-nd allow-unsecured-msgs)

Full Context

configure router interface ipv6 secure-nd allow-unsecured-msgs

Description

This command specifies whether unsecured messages are accepted. When Secure Neighbor Discovery (SeND) is enabled, only secure messages are accepted by default.

The **no** form of this command disables accepting unsecured messages.

Platforms

All

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6.136 allow-user-name

allow-user-name

Syntax

[**no**] **allow-user-name**

Context

[Tree] (config>system>security>password>complexity-rules allow-user-name)

Full Context

configure system security password complexity-rules allow-user-name

Description

The user name is allowed to be used as part of the password.

The **no** form of this command does not allow user name to be used as password.

Default

no allow-user-name

Platforms

All

6.137 allowed-peer-as

allowed-peer-as

Syntax

[**no**] **allowed-peer-as** *min-as-number* [**max** *max-as-number*]

Context

[Tree] (config>service>vprn>bgp>group>dynamic-neighbor>match>prefix allowed-peer-as)

Full Context

configure service vprn bgp group dynamic-neighbor match prefix allowed-peer-as

Description

This command configures a single peer AS value or a contiguous range of peer AS values to associate with a prefix from which dynamic BGP sessions can be accepted.

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If an incoming dynamic BGP session is associated with the prefix then the peer's AS, as reported in the OPEN message, is checked against the list of allowed-peer-as values. If the peer AS is not contained in one of the **allowed-peer-as** commands, then the connection is rejected with a Bad_Peer_AS error. If there is no **allowed-peer-as** configuration in the matched prefix, then the ASN in the peer's OPEN message, is checked against the group level peer-as.

The **no** form of this command removes an allowed-peer-as entry.

Default

no allowed-peer-as

Parameters

min-as-number

Specifies an allowed peer AS value as well as the start of an allowed range if the *max-as-number* value is also configured.

Values 1 to 4294967295

max-as-number

Specifies the end of an allowed range.

Values 1 to 4294967295

Platforms

All

allowed-peer-as

Syntax

[**no**] **allowed-peer-as** *min-as-number* [**max** *max-as-number*]

Context

[Tree] (config>router>bgp>group>dynamic-neighbor>match>prefix allowed-peer-as)

Full Context

configure router bgp group dynamic-neighbor match prefix allowed-peer-as

Description

This command configures a single peer AS value or a contiguous range of peer AS values to associate with a prefix from which dynamic BGP sessions can be accepted.

If an incoming dynamic BGP session is associated with the prefix, then the peer's AS, as reported in the OPEN message, is checked against the list of allowed-peer-as values. If the peer AS is not contained in one of the **allowed-peer-as** commands, then the connection is rejected with a Bad_Peer_AS error. If there is no **allowed-peer-as** configuration in the matched prefix, then the ASN in the peer's OPEN message, is checked against the group level peer-as.

The **no** form of this command removes an allowed-peer-as entry.

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Default

no allowed-peer-as

Parameters

min-as-number

Specifies an allowed peer AS value as well as the start of an allowed range if the *max-as-number* value is also configured.

Values 1 to 4294967295

max-as-number

Specifies the end of an allowed range.

Values 1 to 4294967295

Platforms

All

allowed-peer-as

Syntax

[**no**] **allowed-peer-as** *min-as-number* [**max** *max-as-number*]

Context

[Tree] (config>service>vprn>bgp>group>dynamic-neighbor>interface allowed-peer-as)

[Tree] (config>router>bgp>group>dynamic-neighbor>interface allowed-peer-as)

Full Context

configure service vprn bgp group dynamic-neighbor interface allowed-peer-as

configure router bgp group dynamic-neighbor interface allowed-peer-as

Description

This command configures a singular allowed peer AS value or a range of acceptable values.

The **no** form of this command removes an allowed peer AS value or range of acceptable values.

Parameters

min-as-number

Specifies an allowed peer AS value as well as the start of an allowed range if the *max-as-number* value is also configured.

Values 1 to 4294967295

max-as-number

Specifies the end of an allowed range.

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Values 1 to 4294967295

Platforms
All

6.138 allowed-source-macs

allowed-source-macs

Syntax
allowed-source-macs

Context
[Tree] (config>port>ethernet>dot1x>per-host-authentication allowed-source-macs)

Full Context
configure port ethernet dot1x per-host-authentication allowed-source-macs

Description
Commands in this context add the source MAC addresses of the hosts to the allowed MAC list.

Platforms
All

6.139 already-signed-in

already-signed-in

Syntax
[**no**] **already-signed-in**

Context
[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state already-signed-in)

Full Context
configure subscriber-mgmt wlan-gw ue-query state already-signed-in

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Description

This command enables matching on UEs that are already signed in.

The **no** form of this command disables matching on UEs that are already signed in, unless all state matching is disabled.

Default

no already-signed-in

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.140 alt-port-class-pools

alt-port-class-pools

Syntax

alt-port-class-pools

Context

[Tree] (config>qos>hs-port-pool-policy alt-port-class-pools)

Full Context

configure qos hs-port-pool-policy alt-port-class-pools

Description

Commands in this context configure alternate port class pools parameters. Within this context, the corresponding port-class pools can be associated with a mid-pool, explicitly sized as a percentage of the mid-pool size, dynamically sized based on relative port bandwidth, or have a slope policy applied.

Platforms

7750 SR-7/12/12e

6.141 alternate-profile

alternate-profile

Syntax

alternate-profile *alternate-profile-name* [**create**]

no alternate-profile *alternate-profile-name*

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Context

[Tree] (config>system>ptp alternate-profile)

Full Context

configure system ptp alternate-profile

Description

This command creates an alternate profile configuration for use in PTP messaging.

The alternate profile can be used at the edge of a network to provide PTP time or frequency distribution outward to external PTP clocks.

The alternate profile cannot be deleted if it is configured as the profile under a PTP port.

The **no** form of this command removes the alternate profile configuration.

Parameters

alternate-profile-name

Configures the alternate profile name, up to 64 characters. The string "profile" in any uppercase or lowercase form cannot be used for the alternate profile name.

create

Keyword used to create the alternate profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

alternate-profile

Syntax

alternate-profile *alternate-profile-name*

no alternate-profile *alternate-profile-name*

Context

[Tree] (config>system>ptp>port alternate-profile)

Full Context

configure system ptp port alternate-profile

Description

This command assigns the alternate profile configuration that is used for PTP messaging on the port.

If no alternate profile is specified, the primary profile is used.

If an *alternate-profile-name* is specified, that alternate profile must already exist in the configuration.

The **no** form of this command removes the profile assignment.

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Parameters

alternate-profile-name

Assigns the alternate profile name, up to 64 characters. The string "profile” in any uppercase or lowercase form cannot be used for the alternate profile name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.142 alternate-profile-threshold

alternate-profile-threshold

Syntax

alternate-profile-threshold *threshold type threshold value*

no alternate-profile-threshold

Context

[Tree] (config>subscriber-mgmt alternate-profile-threshold)

Full Context

configure subscriber-mgmt alternate-profile-threshold

Description

This command configures the thresholds that determine when an alternate subscriber-management profile is used instead of the original profile. The alternate profile is configured under the original profile, for example using the **alternate-sub-profile** command in the **configure subscriber-management sub-profile** context and the **alternate-sla-profile** command in the **configure subscriber-management sla-profile** context.

When this command is configured, the system classifies every new subscriber either as "alternate" or "non-alternate". By default, the system classifies a subscriber as non-alternate. When the number of non-alternate subscribers reaches the configured threshold, the system classifies new subscribers as alternate.

The **no** form of this command removes the configuration.

Parameters

threshold type

Specifies the threshold type.

Values subscriber-count

threshold value

Specifies the maximum number of subscribers. A value of 0 indicates that the threshold is disabled.

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Values	1 to 500000
Default	0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.143 alternate-sla-profile

alternate-sla-profile

Syntax

alternate-sla-profile *[256 chars max]*

no alternate-sla-profile

Context

[Tree] (config>subscr-mgmt>sla-prof alternate-sla-profile)

Full Context

configure subscriber-mgmt sla-profile alternate-sla-profile

Description

This command configures the alternate SLA profile that is used if the system hits any of the thresholds configured using the **configure subscriber-management alternate-profile-threshold** command. In this case, the alternate profile is used instead of the current profile.

The **no** form of this command causes the system to use the current profile even if threshold conditions apply.

Default

no alternate-sla-profile

Parameters

[256 chars max]

Specifies the SLA profile name, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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6.144 alternate-sub-profile

alternate-sub-profile

Syntax

alternate-sub-profile *[256 chars max]*

no alternate-sub-profile

Context

[Tree] (config>subscr-mgmt>sub-prof alternate-sub-profile)

Full Context

configure subscriber-mgmt sub-profile alternate-sub-profile

Description

This command configures the alternate subscriber profile to be used if the system hits any of the thresholds configured using the **configure subscriber-management alternate-profile-threshold** command. In this case, the alternate profile is used instead of the current profile.

The **no** form of this command causes the current profile to be used even if threshold conditions apply.

Default

no alternate-subscriber-profile

Parameters

[256 chars max]

Specifies the profile subscriber name, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.145 always-compare-med

always-compare-med

Syntax

always-compare-med {**zero** | **infinity**}

no always-compare-med strict-as {**zero** | **infinity**}

no always-compare-med

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Context

[Tree] (config>router>bgp>best-path-selection always-compare-med)

[Tree] (config>service>vprn>bgp>path-selection always-compare-med)

Full Context

configure router bgp best-path-selection always-compare-med

configure service vprn bgp best-path-selection always-compare-med

Description

This command configures the comparison of BGP routes based on the MED attribute. The default behavior of SR OS (equivalent to the **no** form of this command) is to only compare two routes on the basis of MED if they have the same neighbor AS (the first non-confed AS in the received AS_PATH attribute). Also by default, a route without a MED attribute is handled the same as though it had a MED attribute with the value 0. The **always-compare-med** command without the **strict-as** keyword allows MED to be compared even if the paths have a different neighbor AS; in this case, if neither **zero** nor **infinity** is specified, the **zero** option is inferred, meaning a route without a MED is handled the same as though it had a MED attribute with the value 0. When the **strict-as** keyword is present, MED is only compared between paths from the same neighbor AS, and in this case, **zero** or **infinity** is mandatory and tells BGP how to interpret paths without a MED attribute.

Default

no always-compare-med

Parameters

zero

Specifies that for routes learned without a MED attribute that a zero (0) value is used in the MED comparison. The routes with the lowest metric are the most preferred.

infinity

Specifies for routes learned without a MED attribute that a value of infinity (2^32-1) is used in the MED comparison. This in effect makes these routes the least desirable.

strict-as

Specifies that the BGP MED values are only compared if the route comes from the same neighbor AS.

Platforms

All

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6.146 always-display

always-display

Syntax

always-display

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>info-output always-display)

Full Context

configure system management-interface cli md-cli environment info-output always-display

Description

Commands in this context configure the elements that are always displayed in the **info** output of an MD-CLI session, regardless of whether the **detail** option is used.

Platforms

All

6.147 always-set-sender-for-ir

always-set-sender-for-ir

Syntax

[**no**] **always-set-sender-for-ir**

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 always-set-sender-for-ir)

Full Context

configure system security pki ca-profile cmpv2 always-set-sender-for-ir

Description

This command specifies to always set the sender field in CMPv2 header of all Initial Registration (IR) messages with the subject name. By default, the sender field is only set if an optional certificate is specified in the CMPv2 request.

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Default

no always-set-sender-for-ir

Platforms

All

6.148 amber-alarm-threshold

amber-alarm-threshold

Syntax

amber-alarm-threshold *percentage*

no amber-alarm-threshold

Context

[Tree] (config>port>access>egress>pool amber-alarm-threshold)

[Tree] (config>port>network>egress>pool amber-alarm-threshold)

[Tree] (config>port>access>ingress>pool amber-alarm-threshold)

Full Context

configure port access egress pool amber-alarm-threshold

configure port network egress pool amber-alarm-threshold

configure port access ingress pool amber-alarm-threshold

Description

This command configures the threshold for the amber alarm on the over-subscription allowed.

Users can selectively enable amber or red alarm thresholds. But if both are enabled (non-zero), the amber alarm threshold cannot be more than the red alarm threshold.

The **no** form of this command reverts to the default value.

Default

no amber-alarm-threshold

Parameters

percentage

Specifies the amber alarm threshold.

Values 1 to 1000

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

amber-alarm-threshold

Syntax

amber-alarm-threshold *percentage*

no amber-alarm-threshold

Context

[Tree] (config>card>fp>ingress>network>pool amber-alarm-threshold)

Full Context

configure card fp ingress network pool amber-alarm-threshold

Description

This command configures the threshold for the amber alarm on the over-subscription allowed.

Users can selectively enable amber or red alarm thresholds. But if both are enabled (non-zero) then the red alarm threshold must be greater than the amber alarm threshold.

The **no** form of this command reverts to the default value.

Default

no amber-alarm-threshold

Parameters

percentage

Specifies the amber alarm threshold.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.149 ambr

ambr

Syntax

ambr down-link *down-link-kbps* **up-link** *up-link-kbps*

no ambr

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Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>pgw>qos ambr)

[Tree] (config>subscr-mgmt>gtp>peer-profile>mme>qos ambr)

[Tree] (config>subscr-mgmt>gtp>peer-profile>ggsn>qos ambr)

Full Context

configure subscriber-mgmt gtp peer-profile pgw qos ambr

configure subscriber-mgmt gtp peer-profile mme qos ambr

configure subscriber-mgmt gtp peer-profile ggsn qos ambr

Description

This command configures the Aggregated Maximum Bit Rate (AMBR) to be sent in the APN AMBR IE. The contents of this IE can be overridden by RADIUS or report-rate mechanisms. If those mechanisms specify a partial value, such as only specifying the **down-link** parameter, the other value is picked up from the **ambr** configuration.

For GTPv1, the **no** form of this command implies that the IE will not be sent. If a partial value is received from another source, the missing value will use the following defaults:

- 10000 kb/s up-link
- 20000 kb/s down-link

For GTPv2, the **no** form of this command reverts to the default of 10000 kb/s up-link and 20000 kb/s down-link.

Default

no ambr - for ggsn

ambr down-link 20000 up-link 10000 - for mme and pgw

Parameters

down-link-kbps

Specifies the downlink AMBR.

Values 0 to 10000000

up-link-kbps

Specifies the uplink AMBR.

Values 0 to 10000000

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.150 ambr-qos-mapping

ambr-qos-mapping

Syntax

ambr-qos-mapping

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn ambr-qos-mapping)

Full Context

configure subscriber-mgmt gtp apn-policy apn ambr-qos-mapping

Description

Mapping of an incoming APN-AMBR to SR OS QoS overrides.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.151 an-gw-address

an-gw-address

Syntax

[**no**] **an-gw-address**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp an-gw-address)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp an-gw-address

Description

This command configures the IPv4 address of the node.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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6.152 analyze-gre-payload

analyze-gre-payload

Syntax

[**no**] **analyze-gre-payload**

Context

[Tree] (config>cflowd analyze-gre-payload)

Full Context

configure cflowd analyze-gre-payload

Description

This command enables cflowd analysis of the inner IP packet in a sampled GRE packet that is transiting the local router.

If the GRE packet terminates on the local node, the inner IP payload is analyzed and reported using existing IPv4 or IPv6 flow templates. This behavior is not affected by this command.

If this parameter is enabled and a GRE packet is transiting the local node, the inner payload is reported using the GRE Flow Template. (Template ID 308 or 309)

This behavior is only supported with V10 (IPFIX) collectors.

The **no** form of this command disables cflowd analysis of the inner IP packet in a sampled GRE packet.

Platforms

All

6.153 analyze-l2tp-traffic

analyze-l2tp-traffic

Syntax

[**no**] **analyze-l2tp-traffic**

Context

[Tree] (config>cflowd analyze-l2tp-traffic)

Full Context

configure cflowd analyze-l2tp-traffic

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Description

This command causes cflowd to look for and analyze the inner IP header of an L2TPv2 frame.

L2TPv2 traffic is identified by either the source or destination UDP port numbering that is set to 1701.

The **no** form of this command disables this function.

Default

no analyze-l2tp-traffic

Platforms

All

6.154 analyze-srv6-payload

analyze-srv6-payload

Syntax

[**no**] **analyze-srv6-payload**

Context

[Tree] (config>cflowd analyze-srv6-payload)

Full Context

configure cflowd analyze-srv6-payload

Description

This command configures cflowd to perform analysis based on the inner header of the SRv6 encapsulated packet.

The **no** form of this command reverts to the default value.

Default

no analyze-srv6-payload

Platforms

All

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6.155 analyze-v4overv6-traffic

analyze-v4overv6-traffic

Syntax

[**no**] **analyze-v4overv6-traffic**

Context

[Tree] (config>cflowd analyze-v4overv6-traffic)

Full Context

configure cflowd analyze-v4overv6-traffic

Description

This command causes cflowd to look for and analyze the inner IPv4 header of IPv4overIPv6 frames that include MAP-E as well as DS-Lite and SAM traffic.

The **no** form of this command disables this function.

Default

no analyze-v4overv6-traffic

Platforms

All

6.156 analyzer

analyzer

Syntax

[**no**] **analyzer**

Context

[Tree] (config>isa>video-group analyzer)

Full Context

configure isa video-group analyzer

Description

This command specifies whether or not the video analyzer is enabled for all streams on this video group.

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The **no** form of the command disables the analyzer for the group.

Default

no analyzer

Platforms

7450 ESS, 7750 SR, 7750 SR-s

analyzer

Syntax

[**no**] **analyzer**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video analyzer)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video analyzer)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video analyzer)

Full Context

configure mcast-management multicast-info-policy bundle channel video analyzer

configure mcast-management multicast-info-policy bundle video analyzer

configure mcast-management multicast-info-policy bundle channel source-override video analyzer

Description

This command enables or disables the analyzer for the group.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

6.157 ancp

ancp

Syntax

ancp

Context

[Tree] (config>subscr-mgmt>sub-prof ancp)

[Tree] (config>subscr-mgmt ancp)

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Full Context

configure subscriber-mgmt sub-profile ancp

configure subscriber-mgmt ancp

Description

Commands in this context configure Access Node Control Protocol (ANCP) parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ancp

Syntax

ancp

Context

[Tree] (config>service>vpls>gsmp>group ancp)

[Tree] (config>service>vprn>gsmp>group ancp)

Full Context

configure service vpls gsmp group ancp

configure service vprn gsmp group ancp

Description

Commands in this context configure Access Node Control Protocol (ANCP) parameters for this GSMP group.

The **no** form of this command disables the ANCP parameters configured in this context.

Platforms

All

ancp

Syntax

ancp ancp-string *ancp-string* **loopback** [**count** *send-count*] [**timeout** *timeout*] [**alarm**]

ancp subscriber *sub-ident-string* **loopback** [**count** *send-count*] [**timeout** *timeout*] [**alarm**]

Context

[Tree] (oam ancp)

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Full Context

oam ancp

Description

This command sends an OAM request to the access node. ANCP can be used to send OAM messages to the access node. The access node must be able to accept these messages and signals such support by the capability negotiations. If the operator attempts to send an OAM command to an access node that does not support, the operation results in an error.

Parameters

ancp-string

Specifies an existing ANCP string, up to 63 characters.

loopback

Sends an OAM loopback test request to the access node.

send-count

Specifies the number of messages the access node uses to test the circuit. If omitted, the number is determined by the access node via local policy.

Values 1 to 32

timeout

Specifies the length of time, in seconds, that the controlling node waits for a result.

Values 1 to 255

alarm

Specifies that the CLI the result is returned to the CLI and a trap is issued to indicate the test has finished. If the flag is used through SNMP the results are available in the results MIB and after the node sends the trap to indicate the results are ready.

sub-ident-string

Specifies an existing subscriber-id, up to 32 characters. The node uses the *ancp-string* value associated with the provided subscriber-id to identify the circuit.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ancp

Syntax

ancp

Context

[Tree] (config>system>persistence ancp)

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Full Context

configure system persistence ancp

Description

This command configures ANCP persistence parameters.

Platforms

All

6.158 ancp-policy

ancp-policy

Syntax

ancp-policy *policy-name* [**create**]

no ancp-policy *policy-name*

Context

[Tree] (config>subscr-mgmt>ancp ancp-policy)

Full Context

configure subscriber-mgmt ancp ancp-policy

Description

This command creates an Access Node Control Protocol (ANCP) policy. The policy is associated with either the ANCP string (static case) or subscriber-profile (dynamic case) and defines the behavior of the hosts belonging to these profiles.

ANCP policies control rates and subscribers based on port-up/port-down messages from the access node. When configured, the 7450 ESS or 7750 SR should stop SHCV to a host that is part of a port defined to be down (by port-down message). When the node receives a port-up message for a port that was in port-down state, the node will initiate the SHCV process immediately to verify connectivity.

When ANCP is used with Enhanced Subscriber Management, the ANCP string last associated with the subscriber is used. All hosts of a subscriber is updated with the new ANCP string.

The **no** form of this command removes the policy name from the ANCP configuration.

Parameters

policy-name

Configures the ANCP policy name, up to 32 characters.

create

Keyword used to create the ANCP policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ancp-policy

Syntax

ancp-policy *name*

Context

[Tree] (config>subscr-mgmt>sub-prof>ancp ancp-policy)

Full Context

configure subscriber-mgmt sub-profile ancp ancp-policy

Description

This command specifies an existing Access Node Control Protocol (ANCP) policy to associate with the subscriber profile. The policy is associated with either the ANCP string (static case) or subscriber-profile (dynamic case) and defines the behavior of the hosts belonging to these profiles.

The **no** form of this command removes the policy name from the ANCP configuration.

Parameters

name

Specifies an existing ANCP policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.159 ancp-static-map

ancp-static-map

Syntax

ancp-static-map

Context

[Tree] (config>subscr-mgmt>ancp ancp-static-map)

Full Context

configure subscriber-mgmt ancp ancp-static-map

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Description

Commands in this context configure a static ANCP name map.

Default

ancp-static-map

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.160 ancp-string

ancp-string

Syntax

ancp-string *ancp-string*

no ancp-string

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings ancp-string)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings ancp-string)

Full Context

configure subscriber-mgmt local-user-db ipoe host identification-strings ancp-string

configure subscriber-mgmt local-user-db ppp host identification-strings ancp-string

Description

This command specifies the ANCP string which is encoded in the identification strings.

The **no** form of this command returns to the default.

Parameters

ancp-string

Specifies the ANCP string, up to 63 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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ancp-string

Syntax

ancp-string *ancp-string*

no ancp-string

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host ancp-string)

[Tree] (config>service>vprn>if>sap>static-host ancp-string)

[Tree] (config>service>vpls>sap>static-host ancp-string)

[Tree] (config>service>ies>if>sap>static-host ancp-string)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host ancp-string)

Full Context

configure service ies subscriber-interface group-interface sap static-host ancp-string

configure service vprn interface sap static-host ancp-string

configure service vpls sap static-host ancp-string

configure service ies interface sap static-host ancp-string

configure service vprn subscriber-interface group-interface sap static-host ancp-string

Description

This command specifies the ANCP string associated to this SAP host.

The **no** form of this command reverts to the default.

Parameters

ancp-string

Specifies the ANCP string up to 63 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

6.161 anno-rx-timeout

anno-rx-timeout

Syntax

anno-rx-timeout *count*

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no anno-rx-timeout

Context

[Tree] (config>system>ptp anno-rx-timeout)

Full Context

configure system ptp anno-rx-timeout

Description

This command configures the announceReceiptTimeout value for all peer associations. This defines the number of Announce message intervals that must expire with no received Announce messages before declaring an ANNOUNCE_RECIPT_TIMEOUT event.

The **announce-rx-timeout** cannot be changed unless PTP is shut down.

Default

anno-rx-timeout 3

Parameters

count

Specifies the announce packet interval, in log form.

Values 2 to 10

Default 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.162 announce

announce

Syntax

[**no**] **announce**

Context

[Tree] (config>service>nat>pcp-server-policy>opcode announce)

Full Context

configure service nat pcp-server-policy opcode announce

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Description

This command enables/disables support for the **announce** opcode.

Default

no announce

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.163 antenna-cable-delay

antenna-cable-delay

Syntax

antenna-cable-delay *nanoseconds*

Context

[Tree] (config>port>gnss antenna-cable-delay)

Full Context

configure port gnss antenna-cable-delay

Description

This command configures the expected signal delay resulting from the length of the GNSS antenna cable, for platforms that support one or more embedded GNSS receivers.

Default

0

Parameters

nanoseconds

Specifies the signal delay in nanoseconds.

Values 0 to 1000

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

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6.164 anti-spoof

anti-spoof

Syntax

anti-spoof *type*

no anti-spoof

Context

[Tree] (config>service>vpls>sap anti-spoof)

[Tree] (config>service>ies>sap anti-spoof)

[Tree] (config>service>vprn>sub-if>grp-if>sap anti-spoof)

[Tree] (config>service>ies>sub-if>grp-if>sap-parameters anti-spoof)

[Tree] (config>service>ies>sub-if>grp-if>sap anti-spoof)

[Tree] (config>subscr-mgmt>msap-policy>ies-vprn-only-sap-parameters anti-spoof)

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters anti-spoof)

Full Context

configure service vpls sap anti-spoof

configure service ies sap anti-spoof

configure service vprn subscriber-interface group-interface sap anti-spoof

configure service ies subscriber-interface group-interface sap-parameters anti-spoof

configure service ies subscriber-interface group-interface sap anti-spoof

configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters anti-spoof

configure service vprn subscriber-interface group-interface sap-parameters anti-spoof

Description

This command enables anti-spoof filtering and optionally changes the anti-spoof matching type for the SAP.

The type of anti-spoof filtering defines what information in the incoming packet is used to generate the criteria to lookup an entry in the anti-spoof filter table. The type parameter (**ip**, **mac**, **ip-mac**) defines the anti-spoof filter type enforced by the SAP when anti-spoof filtering is enabled.

Enabling anti-spoof filtering on a subscriber-facing SAP causes the anti-spoof table to be populated with all static and dynamic host information available on the SAP. Enabling anti-spoof filtering on the SAP will fail if any static hosts are defined without the proper addresses specified for the selected anti-spoof filter type.

When enabled, forwarding IP packets that ingress the SAP is dependent on a successful anti-spoof table match with an entry in the table. DHCP and non-IP packets (including ARP) are not subject to anti-spoof filtering. If an entry does not match the ingress packet, the packet is silently discarded while incrementing the SAP discard counter.

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Anti-spoof filtering is only allowed on VPLS SAPs, IES SAP-based IP interfaces, and VPRN SAP-based IP interfaces. Anti-spoof filtering is not available on IES or VPRN SDP bound IP interfaces. Anti-spoof filtering is not supported on Epipe and other VLL type services. Support for anti-spoofing is dependent on SAP based service interfaces. Note VPRN and VLL are supported on the 7750 SR only.

Note:
Anti-spoofing filters, with type **ip-mac**, must be enabled to perform Enhanced Subscriber Management (as described in the Triple Play Enhanced Subscriber Management section).

The **no** form of this command disables anti-spoof filtering on the SAP.

Default

no anti-spoof

Parameters

type

Specifies the anti-spoof filtering type for this SAP.

Values ip — Specifies to use only the source IP address in its lookup. If a static host exists on the SAP without an IP address specified, the **anti-spoof ip** command fails.

ip-mac — Specifies to use both the source IP address and the source MAC address in its lookup.

mac — Specifies to use only the source MAC address in its lookup. If a static host exists on the SAP without a specified MAC address, the **anti-spoof mac** command fails.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap anti-spoof
- configure service ies subscriber-interface group-interface sap anti-spoof
- configure service vpls sap anti-spoof
- configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters anti-spoof

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap-parameters anti-spoof
- configure service vprn subscriber-interface group-interface sap-parameters anti-spoof

anti-spoof

Syntax

anti-spoof *pppoe-anti-spoofing-type*

no anti-spoof

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Context

[Tree] (config>service>vprn>sub-if>grp-if>pppoe anti-spoof)

[Tree] (config>service>ies>sub-if>grp-if>pppoe anti-spoof)

Full Context

configure service vprn subscriber-interface group-interface pppoe anti-spoof

configure service ies subscriber-interface group-interface pppoe anti-spoof

Description

This command specifies the type of PPPoE anti-spoof filtering to use.

The **no** form of this command reverts to the default.

Default

anti-spoof mac-sid

Parameters

pppoe-anti-spoofing-type

Specifies the PPPoE anti-spoof filtering.

Values mac-sid, mac-sid-ip

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

anti-spoof

Syntax

anti-spoof *type*

no anti-spoof

Context

[Tree] (config>service>ies>if>sap anti-spoof)

[Tree] (config>service>vprn>if>sap anti-spoof)

Full Context

configure service ies interface sap anti-spoof

configure service vprn interface sap anti-spoof

Description

This command enables anti-spoof filtering and optionally changes the anti-spoof matching type for the SAP.

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The type of anti-spoof filtering defines what information in the incoming packet is used to generate the criteria to lookup an entry in the anti-spoof filter table. The type parameter (**ip**, **mac**, **ip-mac**) defines the anti-spoof filter type enforced by the SAP when anti-spoof filtering is enabled.

The **no** form of the command disables anti-spoof filtering on the SAP.

Default

no anti-spoof

Parameters

type

Specifies the anti-spoof filtering type for this SAP.

Values ip — Configures SAP anti-spoof filtering to use only the source IP address in its lookup. If a static host exists on the SAP without an IP address specified, the anti-spoof type **ip** command fails.

ip-mac — Configures SAP anti-spoof filtering to use both the source IP address and the source MAC address in its lookup. If a static host exists on the SAP without both the IP address and MAC address specified, the anti-spoof type **ip-mac** command fails. This is also true if the default anti-spoof filter type of the SAP is **ip-mac** and the default is not overridden. The anti-spoof type **ip-mac** command will also fail if the SAP does not support Ethernet encapsulation.

mac — Configures SAP anti-spoof filtering to use only the source MAC address in its lookup. Setting the anti-spoof filter type to **mac** is not allowed on non-Ethernet encapsulated SAPs. If a static host exists on the SAP without a specified MAC address, the anti-spoof type **mac** command fails. The anti-spoof type **mac** command will also fail if the SAP does not support Ethernet encapsulation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

anti-spoof

Syntax

[**no**] **anti-spoof**

Context

[Tree] (config>app-assure>group>http-enrich>field anti-spoof)

Full Context

configure application-assurance group http-enrich field anti-spoof

Description

This command configures the HTTP header enrichment anti-spoofing functionality.

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The **no** form of this command disables anti-spoofing functionality.

Default

no anti-spoof

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.165 anycast

anycast

Syntax

[**no**] **anycast** *rp-ip-address*

Context

[Tree] (config>service>vprn>pim>rp anycast)

Full Context

configure service vprn pim rp anycast

Description

This command configures a PIM anycast protocol instance for the RP being configured. Anycast enables fast convergence when a PIM RP router fails by allowing receivers and sources to rendezvous at the closest RP.

The **no** form of this command removes the anycast instance from the configuration.

Parameters

rp-ip-address

Configure the loopback IP address shared by all routes that form the RP set for this anycast instance. Only a single address can be configured. If another anycast command is entered with an address then the old address will be replaced with the new address. If no ip-address is entered then the command is simply used to enter the anycast CLI level.

Values Any valid loopback address configured on the node.

Platforms

All

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anycast

Syntax

anycast *ipv6-address*

no anycast *ipv6-address*

Context

[Tree] (config>service>vprn>pim>rp>ipv6 anycast)

Full Context

configure service vprn pim rp ipv6 anycast

Description

This command configures an IPv6 PIM anycast protocol instance for the RP being configured. Anycast enables fast convergence when a PIM RP router fails by allowing receivers and sources to rendezvous at the closest RP.

The **no** form of this command removes the anycast instance from the configuration.

Parameters

ipv6-address

Configures the loopback IP address shared by all routes that form the RP set for this anycast instance. Only a single address can be configured. If another anycast command is entered with an address then the old address will be replaced with the new address. If no address is entered then the command is simply used to enter the anycast CLI context.

Values

ipv6-address	: x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

Platforms

All

anycast

Syntax

[**no**] **anycast** *rp-ip-address*

Context

[Tree] (config>router>pim>rp anycast)

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Full Context

configure router pim rp anycast

Description

This command configures a PIM anycast protocol instance for the RP being configured. Anycast enables fast convergence when a PIM RP router fails by allowing receivers and sources to rendezvous at the closest RP.

The **no** form of this command removes the anycast instance from the configuration.

Parameters

rp-ip-address

Specifies the loopback IP address shared by all routes that form the RP set for this anycast instance. Only a single address can be configured. If another anycast command is entered with an address then the old address will be replaced with the new address. If no ip-address is entered then the command is simply used to enter the anycast CLI level.

Values Any valid loopback address configured on the node.

Platforms

All

anycast

Syntax

[**no**] **anycast** *ipv6-address*

Context

[Tree] (config>router>pim>rp>ipv6 anycast)

Full Context

configure router pim rp ipv6 anycast

Description

This command configures a PIM anycast protocol instance for the RP being configured. Anycast enables fast convergence when a PIM RP router fails by allowing receivers and sources to rendezvous at the closest RP.

The **no** form of this command removes the anycast instance from the configuration.

Parameters

ipv6-address

Specifies the loopback IPv6 address shared by all routes that form the RP set for this anycast instance. Only a single address can be configured. If another anycast command is entered with an address then the old address is replaced with the new address. If no *ipv6-address* is entered then the command is simply used to enter the anycast CLI level.

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Values Any valid loopback address configured on the node.

Platforms

All

6.166 anysec

anysec

Syntax

[**no**] **anysec**

Context

[Tree] (config>macsec>connectivity-association anysec)

Full Context

configure macsec connectivity-association anysec

Description

This command configures the Connectivity Association (CA) for exclusive use with ANYsec encyrption.

Note:
When this command is configured, the following CA commands cannot be configured.

```
configure macsec connectivity-association clear-tag-mode
configure macsec connectivity-association delay-protection
configure macsec connectivity-association encryption-offset
configure macsec connectivity-association macsec-encrypt
configure macsec connectivity-association replay-window-size
configure macsec mac-policy
```

The **no** form of this command removes ANYsec from the CA configuration.

Default

no anysec

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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anysec

Syntax

anysec

Context

[Tree] (config anysec)

Full Context

configure anysec

Description

Commands in this context configure ANYsec.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

anysec

Syntax

[**no**] **anysec**

Context

[Tree] (debug anysec)

Full Context

debug anysec

Description

This command enables ANYsec debugging.

The **no** form of this command disables ANYsec debugging.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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6.167 anysec-encryption-group

anysec-encryption-group

Syntax

anysec-encryption-group *name*

no anysec-encryption-group

Context

[Tree] (config>service>epipe>spoke-sdp anysec-encryption-group)

Full Context

configure service epipe spoke-sdp anysec-encryption-group

Description

This command assigns an encryption group to this spoke SDP.

Note: In the case of a pseudowire switch, each spoke SDP has its own encryption group. Consequently, traffic is decrypted on the arriving spoke SDP and re-encrypted on the second spoke SDP.

Note: Pseudowire redundancy is supported with service encryption.

The **no** form of this command removes the encryption group.

Parameters

name

Specifies the encryption group name.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

anysec-encryption-group

Syntax

anysec-encryption-group *name*

no anysec-encryption-group

Context

[Tree] (config>service>vprn>bgp-ipvpn>mpls anysec-encryption-group)

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Full Context

configure service vprn bgp-ipvpn mpls anysec-encryption-group

Description

This command assigns an encryption group to the autobind MPLS. When a single encryption group is assigned to an autobind, all LSPs under the BGP-IPVPN that are set up through autobind inherit the CA, ES, local address, and peer configurations from that encryption group.

The **no** form of this command removes the encryption group.

Parameters

name

Specifies the encryption group name, up to 32 characters.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

anysec-encryption-group

Syntax

anysec-encryption-group *name*

no anysec-encryption-group

Context

[Tree] (config>service>vprn>if>spoke-sdp anysec-encryption-group)

Full Context

configure service vprn interface spoke-sdp anysec-encryption-group

Description

This command assigns an encryption group to the Layer 3 spoke SDP. If the service has autobinding and Layer 3 spoke SDP, the encryption group can be different or the same for both. The encryption group can also be different for different Layer 3 spoke SDPs.

The **no** form of this command removes the encryption group.

Parameters

name

Specifies the encryption group name.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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anysec-encryption-group

Syntax

anysec-encryption-group *name*

no anysec-encryption-group

Context

[Tree] (config>service>vprn>bgp-evpn>mpls anysec-encryption-group)

Full Context

configure service vprn bgp-evpn mpls anysec-encryption-group

Description

This command assigns an encryption group to the autobind MPLS. When a single encryption group is assigned to an autobind, all the LSPs under the BGP-EVPN that are set up through autobind inherit the CA, ES, local address, and peer configurations from that encryption group.

The **no** form of this command removes the encryption group.

Parameters

name

Specifies the encryption group name.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

anysec-encryption-group

Syntax

anysec-encryption-group *name*

no anysec-encryption-group

Context

[Tree] (config>service>ies>if>spoke-sdp anysec-encryption-group)

Full Context

configure service ies interface spoke-sdp anysec-encryption-group

Description

This command assigns an encryption group to the Layer 3 spoke SDP. If the service has autobinding and Layer 3 spoke SDP, the encryption group can be different or the same for both. The encryption group can also be different for different Layer 3 spoke SDPs.

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The **no** form of this command removes the encryption group.

Parameters

name

Specifies the encryption group name.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

6.168 ap-mac-learn-failed

ap-mac-learn-failed

Syntax

ap-mac-learn-failed {**true** | **false** | **not-specified**}

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query ap-mac-learn-failed)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query ap-mac-learn-failed

Description

This command specifies the matching criteria of tunnels based on whether or not learning the associated AP-MAC address last failed.

Default

ap-mac-learn-failed not-specified

Parameters

true

Specifies matching of tunnels status where learning of the AP-MAC address succeeded.

false

Specifies matching of tunnels status where learning of the AP-MAC address failed.

not-specified

Specifies no matching on the AP-MAC address learning status.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.169 apn

apn

Syntax

apn *apn*

no apn

Context

[Tree] (config>router>gtp>uplink apn)

[Tree] (config>service>vprn>gtp>uplink apn)

Full Context

configure router gtp uplink apn

configure service vprn gtp uplink apn

Description

This command configures the Network Identifier part of the APN.

The **no** form of this command removes the string from the configuration.

Default

no apn

Parameters

apn

Specifies the APN used for this IMSI to connect to this Mobile Gateway, up to 80 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

apn

Syntax

apn {*apn-name* | **unknown**} [**create**]

no apn {*apn-name* | **unknown**}

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy apn)

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Full Context

configure subscriber-mgmt gtp apn-policy apn

Description

This command configures the parameters that should be applied to incoming connections with the APN specified. Multiple APN nodes can be defined per APN policy.

For each APN-policy, one **unknown** APN entry can be created. This APN is used by all connections not matching another APN.

The **no** form of this command removes the APN from the policy. Only new sessions are affected by the removal.

Parameters

apn-name

Specifies the APN name as it appears in GTP messaging, up to 80 characters.

create

Creates an *apn-name* instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

apn

Syntax

[**no**] **apn**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute apn)

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute apn)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute apn

configure subscriber-mgmt authentication-policy include-radius-attribute apn

Description

This command enables the inclusion of the APN n AAA protocols as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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apn

Syntax

apn *apn-string*

no apn

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>imsi-apn-fltr>entry apn)

Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter entry apn

Description

This command configures a matching condition for an APN configured as a GTP filter.

Parameters

apn-string

Specifies the match string, which can include 1 to 32 characters.

If no APN is specified, the entry will not check for the APN IE in GTP-C packets.

Values *string*: The extracted APN must match *string* exactly.

^*string*: The extracted APN must start with *string*.

*string***$**: The extracted APN must end with *string*.

WILDCARD_APN: Special string that indicates that the extracted APN must be "*" (that is, a length octet with value one, followed by the ASCII code for the asterisk)

EMPTY_APN: Special string that indicates that the extracted APN must be empty (that is, "")

ANY_APN: Special string that indicates that the extracted APN IE must be present and can have any value in order for the filter entry to match

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.170 apn-ambr

apn-ambr

Syntax

[**no**] **apn-ambr**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp apn-ambr)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp apn-ambr

Description

This command enables the inclusion of the APN-Aggregate-Max-Bitrate-DL and APN-Aggregate-Max-Bitrate-UL AVPs inside the QoS-Information AVP, as signaled in the incoming GTP message.

The **no** form of this command disables the inclusion of the AVPs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.171 apn-ambr-dl

apn-ambr-dl

Syntax

apn-ambr-dl agg-rate

apn-ambr-dl arbiter *arbiter-name*

apn-ambr-dl hs-sla-agg-rate

apn-ambr-dl policer *policer-id*

apn-ambr-dl queue *queue-id*

apn-ambr-dl scheduler *scheduler-name*

no apn-ambr-dl

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>3gpp-qos-mapping apn-ambr-dl)

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Full Context

configure subscriber-mgmt diameter-application-policy gx 3gpp-qos-mapping apn-ambr-dl

Description

This command configures the APN-Aggregate-Max-Bitrate-DL AVP. When enabled, the AVP is interpreted as a rate override for the specified egress QoS object. For queues and policers, the PIR is overridden.

This override uses the same QoS override mechanism as the native Gx and RADIUS-based QoS overrides. Therefore, a subsequent Gx/RADIUS-based override removes this override and an APN-AMBR based override removes any preceding Gx/RADIUS-based override.

The **no** form of this command disables the override mechanism based on APN-AMBR.

Parameters

agg-rate

Specifies to map to an aggregate rate.

arbiter-name

Specifies the name of the arbiter to be overridden.

hs-sla-agg-rate

Specifies to map to an HS SLA aggregate rate.

policer-id

Specifies the ID of the policer to be overridden.

queue-id

Specifies the ID of the queue to be overridden.

scheduler-name

Specifies the name of the scheduler to be overridden.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.172 apn-ambr-ul

apn-ambr-ul

Syntax

apn-ambr-ul arbiter *arbiter-name*

apn-ambr-ul policer *policer-id*

apn-ambr-ul queue *queue-id*

apn-ambr-ul scheduler *scheduler-name*

no apn-ambr-ul

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Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>3gpp-qos-mapping apn-ambr-ul)

Full Context

configure subscriber-mgmt diameter-application-policy gx 3gpp-qos-mapping apn-ambr-ul

Description

This command configures the APN-Aggregate-Max-Bitrate-UL AVP. When enabled, the AVP is interpreted as a rate override for the specified egress QoS object. For queues and policers, the PIR is overridden.

This override uses the same QoS override mechanism as the native Gx and RADIUS-based QoS overrides. Therefore, a subsequent Gx/RADIUS-based override removes this override and an APN-AMBR based override removes any preceding Gx/RADIUS-based override.

The **no** form of this command disables the override mechanism based on APN-AMBR.

Parameters

arbiter-name

Specifies the name of the arbiter to be overridden.

policer-id

Specifies the ID of the policer to be overridden.

queue-id

Specifies the ID of the queue to be overridden.

scheduler-name

Specifies the name of the scheduler to be overridden.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.173 apn-policy

apn-policy

Syntax

apn-policy *apn-policy-name*

no apn-policy

Context

[Tree] (config>router>gtp>s11>interface apn-policy)

[Tree] (config>service>vprn>gtp>s11>interface apn-policy)

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Full Context

configure router gtp s11 interface apn-policy

configure service vprn gtp s11 interface apn-policy

Description

This command configures an Access Point Name (APN) policy for the S11 interface.

The **no** form of this command removes the APN policy.

Parameters

apn-policy-name

Specifies the name of the policy, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

apn-policy

Syntax

apn-policy *policy-name* [**create**]

no apn-policy *policy-name*

Context

[Tree] (config>subscr-mgmt>gtp apn-policy)

Full Context

configure subscriber-mgmt gtp apn-policy

Description

This command configures an APN policy that defines parameters to be used when setting up a new incoming GTP connection. Each APN can be mapped to its own set of parameters.

The **no** form of this command removes the policy from the system. A policy can only be removed if it is not in use.

Parameters

policy-name

Specifies the name of the policy, up to 32 characters.

create

Creates an entry.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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6.174 app-filter

app-filter

Syntax

app-filter

Context

[Tree] (config>app-assure>group>policy app-filter)

Full Context

configure application-assurance group policy app-filter

Description

Commands in this context configure an application filter for application assurance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.175 app-group

app-group

Syntax

app-group *app-group-name* [*rate*]

no app-group *app-group-name*

Context

[Tree] (config>app-assure>group>cflowd>comp app-group)

[Tree] (config>app-assure>group>cflowd>tcp-perf app-group)

Full Context

configure application-assurance group cflowd comprehensive app-group

configure application-assurance group cflowd tcp-performance app-group

Description

This command configures application groups to export performance records with cflowd.

The **no** form of this command removes the parameters from the configuration.

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Parameters

app-group-name

Specifies the application group name.

rate

Specifies which sampling flow rate to use; flow-rate or flow-rate2.

Values flow-rate, flow-rate2

Default flow-rate

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

app-group

Syntax

app-group *application-group-name* [**create**]

no app-group *application-group-name*

Context

[Tree] (config>app-assure>group>policy app-group)

Full Context

configure application-assurance group policy app-group

Description

This command creates an application group for an application assurance policy.

The **no** form of this command deletes the application group from the configuration. All associations must be removed in order to delete a group.

Default

no app-group

Parameters

application-group-name

A string of up to 32 characters uniquely identifying this application group in the system.

create

Mandatory keyword used when creating an application group. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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app-group

Syntax

app-group *app-group-name*

Context

[Tree] (config>app-assure>group>policy>application app-group)

Full Context

configure application-assurance group policy application app-group

Description

This command associates an application with an application group of an application assurance policy.

Parameters

app-group-name

A string of up to 32 characters uniquely identifying an existing application in the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

app-group

Syntax

app-group {**eq** | **neq**} *application-group-name*

no app-group

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match app-group)

[Tree] (config>app-assure>group>policy>chrg-fltr>entry>match app-group)

Full Context

configure application-assurance group policy app-qos-policy entry match app-group

configure application-assurance group policy charging-filter entry match app-group

Description

This command adds app-group to match criteria used by this entry.

The **no** form of this command removes the app-group from match criteria for this entry.

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Default

no app-group

Parameters

eq

Specifies that the value configured and the value in the flow must be equal.

neq

Specifies that the value configured and the value in the flow must differ.

application-group-name

Specifies the name of the existing application group entry, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

app-group

Syntax

app-group *app-group-name* **export-using** *export-method* [*export-method* **...**(up to 2 max)]

app-group *app-group-name* **no-export**

no app-group *app-group-name*

Context

[Tree] (config>app-assure>group>statistics>aa-sub app-group)

Full Context

configure application-assurance group statistics aa-sub app-group

Description

Commands in this context configure accounting and statistics collection parameters per system for application groups of application assurance for a given AA ISA group/partition.

The **no** form of this command removes the application group name.

Parameters

app-group-name

Specifies an existing application group name, up to 32 characters.

export-method

Specifies the method of statistics export to be used.

Values accounting-policy, radius-accounting-policy

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no-export

Allows the operator to enable the referred to application group to be selected (via Diameter) for Gx-usage monitoring. Gx usage monitoring is enabled automatically (and this command is not shown) if the **export-using** parameter is selected for the respective application group.

Usage monitoring must be enabled at the group:partition level (**config>app-assure>group>statistics>aa-sub>usage-monitoring**) as well in order to allow any application/application group/charging group usage monitoring.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

6.176 app-profile

app-profile

Syntax

app-profile *app-profile-name*

no app-profile

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap app-profile)

[Tree] (config>service>vprn>if>spoke-sdp app-profile)

[Tree] (config>service>vpls>spoke-sdp app-profile)

[Tree] (config>service>ies>if>sap app-profile)

[Tree] (config>service>vprn>if>sap>static-host app-profile)

[Tree] (config>service>ies>if>spoke-sdp app-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap app-profile)

[Tree] (config>service>vprn>if>sap app-profile)

[Tree] (config>service>vpls>sap app-profile)

[Tree] (config>service>vpls>sap>static-host app-profile)

[Tree] (config>service>ies>if>sap>static-host app-profile)

Full Context

configure service vprn subscriber-interface group-interface sap app-profile

configure service vprn interface spoke-sdp app-profile

configure service vpls spoke-sdp app-profile

configure service ies interface sap app-profile

configure service vprn interface sap static-host app-profile

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configure service ies interface spoke-sdp app-profile

configure service ies subscriber-interface group-interface sap app-profile

configure service vprn interface sap app-profile

configure service vpls sap app-profile

configure service vpls sap static-host app-profile

configure service ies interface sap static-host app-profile

Description

This command specifies an application profile name.

The **no** form of this command reverts to the default.

Parameters

app-profile-name

Specifies the application profile name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

app-profile

Syntax

app-profile *app-profile-name* [**scope** *scope-type*]

no app-profile

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host app-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host app-profile)

Full Context

configure service ies subscriber-interface group-interface sap static-host app-profile

configure service vprn subscriber-interface group-interface sap static-host app-profile

Description

This command specifies an application profile name.

Parameters

app-profile-name

Specifies the application profile name up to 32 characters in length.

scope-type

Specifies the scope to which the application profile is assigned in the context.

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Values subscriber - The application profile applies to this context with subscriber scope (all hosts or devices).

mac - The application profile applies to this context with MAC scope (single device).

Default subscriber

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

app-profile

Syntax

app-profile *app-profile-name*

no app-profile

Context

[Tree] (config>service>ipipe>sap app-profile)

[Tree] (config>service>ipipe>spoke-sdp app-profile)

[Tree] (config>service>epipe>sap app-profile)

[Tree] (config>service>epipe>spoke-sdp app-profile)

Full Context

configure service ipipe sap app-profile

configure service ipipe spoke-sdp app-profile

configure service epipe sap app-profile

configure service epipe spoke-sdp app-profile

Description

This command configures the application profile name.

Parameters

app-profile-name

Specifies an existing application profile name configured in the **config>app-assure>group>policy** context.

Platforms

All

- configure service ipipe spoke-sdp app-profile
- configure service ipipe sap app-profile

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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- configure service epipe sap app-profile
- configure service epipe spoke-sdp app-profile

app-profile

Syntax

app-profile *app-profile-name* [**create**]

no app-profile *app-profile-name*

Context

[Tree] (config>app-assure>group>policy app-profile)

Full Context

configure application-assurance group policy app-profile

Description

This command creates an application profile and commands in this context configure the profile parameters.

The **no** form of this command removes the application profile from the configuration.

Parameters

app-profile-name

Specifies the name of the application profile up to 32 characters.

create

Mandatory keyword used when creating an application profile. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

app-profile

Syntax

[**no**] **app-profile**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-attributes app-profile)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-attributes app-profile

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Description

This command enables the subscriber app-profile attribute information to be exported in the AA subscriber's custom record.

The **no** form of this command excludes the subscriber app-profile attribute from the AA subscriber's custom record.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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7 a Commands – Part III

7.1 app-profile-map

app-profile-map

Syntax

app-profile-map

Context

[Tree] (config>subscr-mgmt>sub-ident-pol app-profile-map)

Full Context

configure subscriber-mgmt sub-ident-policy app-profile-map

Description

Commands in this context configure an application profile mapping.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.2 app-profile-string

app-profile-string

Syntax

app-profile-string *app-profile-string*

no app-profile-string

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings app-profile-string)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings app-profile-string)

Full Context

configure subscriber-mgmt local-user-db ppp host identification-strings app-profile-string

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configure subscriber-mgmt local-user-db ipoe host identification-strings app-profile-string

Description

This command specifies the application profile string which is encoded in the identification strings.

The **no** form of this command returns to the default.

Parameters

app-profile-string

Specifies the application profile string, up to 16 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.3 app-qos-policy

app-qos-policy

Syntax

app-qos-policy

Context

[Tree] (config>app-assure>group>policy app-qos-policy)

Full Context

configure application-assurance group policy app-qos-policy

Description

Commands in this context configure an application QoS policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.4 app-route-notifications

app-route-notifications

Syntax

app-route-notifications

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Context

[Tree] (config>log app-route-notifications)

Full Context

configure log app-route-notifications

Description

Specific system applications in SR OS can take action based on a route to certain IP destinations being available. This CLI branch contains configuration related to these route availability notifications. A delay can be configured between the time that a route is determined as available in the CPM, and the time that the application is notified of the available route. For example, this delay may be used to increase the chances that other system modules (such as IOMs/XCMs/MDAs/XMAs) are fully programmed with the new route before the application takes action. Currently, the only application that acts upon these *route available* or *route changed* notifications with their configurable delays is the SNMP replay feature, which receives notifications of route availability to the SNMP trap receiver destination IP address.

Platforms

All

7.5 app-service-options

app-service-options

Syntax

app-service-options

Context

[Tree] (config>app-assure>group>policy app-service-options)

Full Context

configure application-assurance group policy app-service-options

Description

Commands in this context configure application service option characteristics.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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app-service-options

Syntax

[**no**] **app-service-options**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-attributes app-service-options)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-attributes app-service-options

Description

This command enables the subscriber application service option attributes to be exported in the AA subscriber's custom record.

The **no** form of this command excludes the subscriber application service option attributes from the AA subscriber's custom record.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.6 applicant-sm

applicant-sm

Syntax

[**no**] **applicant-sm**

Context

[Tree] (debug>service>id>mrp applicant-sm)

Full Context

debug service id mrp applicant-sm

Description

This command enables debugging of the applicant state machine.

The **no** form of this command disables debugging of the applicant state machine.

Platforms

All

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7.7 application

application

Syntax

application {**gx** | **gy** | **nasreq**}

no application

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy application)

Full Context

configure subscriber-mgmt diameter-application-policy application

Description

This command specifies the Diameter application for which this policy contains the configuration details, such as AVPs to include and their format.

Applications are mutually exclusive.

The **no** form of this command reverts to the default.

Parameters

gx

Specifies that Gx is the supported application of this DIAMETER policy.

gy

Specifies that Gy is the supported application of this DIAMETER policy.

nasreq

Specifies that NASREQ is the supported application of this DIAMETER policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application

Context

[Tree] (debug>diam application)

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Full Context

debug diameter application

Description

This command debugs application processing for the Diameter node. This level is session aware (the session state is maintained at this level). Connection level messages are not reported on this level.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application *dscp-app-name* **dscp** {*dscp-value* | *dscp-name*}

application *dot1p-app-name* **dot1p** *dot1p-priority*

no application {*dscp-app-name* | *dot1p-app-name*}

Context

[Tree] (config>service>vprn>sgt-qos application)

[Tree] (config>router>sgt-qos application)

Full Context

configure service vprn sgt-qos application

configure router sgt-qos application

Description

This command configures DSCP/dot1p remarking for self-generated application traffic. When an application is configured using this command, the specified DSCP name is used for all packets generated by this application within the router instance it is configured. The instances can be base router, vprn, or management.

Using the value configured in this command:

- sets the DSCP bits in the IP packet
- maps to the FC. This value will be signaled from the CPM to the egress forwarding complex.
- based on this signaled FC, the egress forwarding complex QoS policy sets the Ethernet 802.1p and MPLS EXP bits. This includes ARP, PPPoE, and IS-IS packets that do not carry DSCP bits.
- configure the DSCP value in the egress IP header. The egress QoS policy does not overwrite this value.

Only one DSCP name can be configured per application, if multiple entries are configured, the subsequent entry overrides the previous configured entry.

The **no** form of this command reverts back to the default value.

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Parameters

dscp-app-name

Specifies the DSCP application name.

Values Some of the following values may only apply to specific products. Refer to the *SR OS R26.x.Rx Software Release Notes* for details about application support for different SR OS products:

bfd, bgp, bmp, call-trace, cflowd, dhcp, diameter, dns, ftp, grpc, gtp, http, icmp, igmp, igmp-reporter, l2tp, ldp, mld, mpls-udp-return, msdp, mtrace2, ndis, ntp, ospf, pcep, pim, ptp, radius, rip, rsvp, sflow, snmp, snmp-notification, srrp, ssh, syslog, tacplus, telnet, tftp, traceroute, vrrp

dscp-value

Specifies a value when this packet egresses; the respective egress policy should provide the mapping for the DSCP value to either LSP-EXP bits or IEEE 802.1p (dot1p) bits as appropriate. Otherwise, the default mapping applies.

Values 0 to 63

dscp-name

Specifies the DSCP name.

Values none, be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

dot1p-priority

Specifies the dot1p priority.

Values none, 0 to 7

dot1p-app-name

Specifies the dot1p application name.

Values Some of the following values may only apply to specific products. Refer to the *SR OS R26.x.Rx Software Release Notes* for details about application support for different SR OS products:

arp, isis, pppoe

Platforms

All

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application

Syntax

application *app* [*ip-int-name* | *ip-address*]

no application *app*

Context

[Tree] (config>service>vprn>source-address application)

Full Context

configure service vprn source-address application

Description

This command configures the IPv4 source interface name or IP address for the application.

The **no** form of this command removes the interface name or IP address from the command.

Parameters

app

Specifies the application name.

Values cflowd, ntp, ping, ptp, radius, snmptrap, ssh, syslog, tacplus, telnet, traceroute, icmp-error

ip-int-name

Specifies the name of the IP interface, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

ip-address

Specifies the source IP address.

Values

ipv4-address: a.b.c.d

Platforms

All

application

Syntax

application {**eq** | **neq**} *application-id*

no application

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Context

[Tree] (config>service>vprn>log>filter>entry>match application)

Full Context

configure service vprn log filter entry match application

Description

This command adds an OS application as an event filter match criterion.

An OS application is the software entity that reports the event. Applications include IP, MPLS, OSPF, CLI, SERVICES and so on Only one application can be specified. The latest **application** command overwrites the previous command.

The **no** form of this command removes the application as a match criterion.

Default

no application — no application match criterion is specified

Parameters

eq | neq

The operator specifying the type of match.

Values

eq	equal to
neq	not equal to

application-id

The application name string.

Values port, ppp, rip, route, policy, rsvp, security, snmp, stp, svcmgr, system, user, vrrp, vrtr

Platforms

All

application

Syntax

application *application-name* [*rate*]

no application *application-name*

Context

[Tree] (config>app-assure>group>cflowd>tcp-perf application)

[Tree] (config>app-assure>group>cflowd>comp application)

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Full Context

configure application-assurance group cflowd tcp-performance application

configure application-assurance group cflowd comprehensive application

Description

This command configures applications to export performance records with cflowd.

The **no** form of this command removes the parameters from the configuration.

Parameters

application-name

Specifies the name defined for the application.

rate

Specifies which sampling flow rate to use; flow-rate or flow-rate2.

Values flow-rate, flow-rate2

Default flow-rate

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application *application-name* [**create**]

no application *application-name*

Context

[Tree] (config>app-assure>group>policy application)

Full Context

configure application-assurance group policy application

Description

This command creates an application of an application assurance policy.

The **no** form of this command deletes the application. To delete an application, all associations to the application must be removed.

Parameters

application-name

Specifies a string of up to 32 characters uniquely identifying this application in the system.

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create

Mandatory keyword used when creating an application. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application *application-name*

Context

[Tree] (config>app-assure>group>policy>app-filter>entry application)

Full Context

configure application-assurance group policy app-filter entry application

Description

This command assigns this application filter entry to an existing application. Assigning the entry to **Unknown** application restores the default configuration.

Parameters

application-name

Specifies an existing application name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application {**eq** | **neq**} *application-name*

no application

Context

[Tree] (config>app-assure>group>policy>chrg-fltr>entry>match application)

[Tree] (config>app-assure>group>policy>aqp>entry>match application)

Full Context

configure application-assurance group policy charging-filter entry match application

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configure application-assurance group policy app-qos-policy entry match application

Description

This command adds an application to match criteria used by this entry.

The **no** form of this command removes the application from match criteria for this entry.

Default

no application

Parameters

eq

Specifies that the value configured and the value in the flow must be equal.

neq

Specifies that the value configured and the value in the flow must differ.

application-name

Specifies the name of name existing application name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application *application-name* **export-using** *export-method* [*export-method*...(up to 2 max)]

application *application-name* **no-export**

no application *application-name*

Context

[Tree] (config>app-assure>group>statistics>aa-sub application)

Full Context

configure application-assurance group statistics aa-sub application

Description

This command configures aa-sub accounting statistics for export of applications of a given AA ISA group/partition.

The no form of this command removes the application name.

Parameters

application-name

Specifies an existing application name, up to 32 characters.

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export-method

Specifies the method of statistics export to be used.

Values accounting-policy, radius-accounting-policy

no-export

Allows the operator to enable the referred application group to be selected (via Diameter) for Gx-usage monitoring. Gx usage monitoring is enabled automatically (and this command is not shown) if the **export-using** parameter is selected for the respective application group.

Usage monitoring must be enabled at the group:partition level (**config>app-assure>group>statistics>aa-sub>usage-monitoring**) as well in order to allow any application/application group/charging group usage monitoring.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

application {**eq** | **neq**} *application-name*

no application

Context

[Tree] (debug>app-assure>group>traffic-capture>match application)

Full Context

debug application-assurance group traffic-capture match application

Description

This command configures debugging on an application.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application

Syntax

[**no**] **application** *application-name*

Context

[Tree] (debug>app-assure>group>port-recorder application)

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Full Context

debug application-assurance group port-recorder application

Description

This commands specifies the applications used as input by the port-recorder. Applications responsible for unknown or unidentified traffic are meant to be used by this tool.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

Output

The following output is an example of configuration records TCP and UDP port numbers for the application "Unidentified TCP”.

Output Example

```
7750# show debug
debug
    application-assurance
        group 1:1
            port-recorder
                application "Unidentified TCP"
                rate 100
                no shutdown
            exit
        exit
    exit
exit
```

application

Syntax

application {**eq** | **neq**} *application-id*

no application

Context

[Tree] (config>log>filter>entry>match application)

Full Context

configure log filter entry match application

Description

This command adds an OS application as an event filter match criterion.

An OS application is the software entity that reports the event. Applications include IP, MPLS, OSPF, CLI, SERVICES and so on. Only one application can be specified. The latest **application** command overwrites the previous command.

The **no** form of this command removes the application as a match criterion.

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Parameters

eq | neq

Specifies the operator match type. Valid operators are listed in Table 17: Valid Operators.

Table 17: Valid Operators

Operator	Notes
eq	equal to
neq	not equal to

application-id

The application name string.

Values application_assurance, aps, bgp, cflowd, chassis, debug, dhcp, dhcps, diameter, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, fiter, gsmp, igh, igmp, igmp_snooping, ip, ipsec, isis, l2tp, lag, ldp, li, lldp, logger, mcpath, mc_redundancy, mirror, mld, mld_snooping, mpls, mpls_tp, msdp, nat, ntp, oam, open_flow, ospf, pim, pim_snooping, port, ppp, pppoe, ptp, radius, rip, rip_ng, route_policy, rsvp, security, snmp, stp, svcmgr, system, user, video, vrrp, vrtr, wlan_gw, wpp

Platforms

All

application

Syntax

application *app* [*ip-int-name* | *ip-address*]

no application *app*

Context

[Tree] (config>system>security>source-address application)

Full Context

configure system security source-address application

Description

This command configures the source IP address specified by the **source-address** command.

The **no** form of this command removes the interface name or IP address from the command.

Parameters

app

Specifies the application name.

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Values cflowd, dns, ftp, ntp, ldap, ping, ptp, radius, sflow, snmptrap, sntp, ssh, syslog, tacplus, telnet, traceroute, mcreporter, icmp-error

ip-int-name

Specifies the name of the IP interface, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

ip-address

Specifies the source IP address.

Values *ipv4-address*: a.b.c.d

Platforms

All

application

Syntax

application *application* **[keychain** *keychain-name***]**

no application *application*

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>transport-encryption application)

Full Context

configure redundancy multi-chassis peer sync transport-encryption application

Description

This command configures transport encryption.

The **no** form of this command removes the specified application.

Parameters

application

Specifies a Multi-Chassis Synchronization (MCS) client application

keychain-name

Specifies a keychain name, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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7.8 application-assurance

application-assurance

Syntax

application-assurance

Context

[Tree] (admin application-assurance)

Full Context

admin application-assurance

Description

Commands in this context perform Application Assurance (AA) configuration operations.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application-assurance

Syntax

application-assurance

Context

[Tree] (config application-assurance)

Full Context

configure application-assurance

Description

Commands in this context perform Application Assurance (AA) configuration operations.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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application-assurance

Syntax

application-assurance

Context

[Tree] (config>system>persistence application-assurance)

Full Context

configure system persistence application-assurance

Description

Commands in this context configure application assurance persistence parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

application-assurance

Syntax

application-assurance *app-profile-name*

Context

[Tree] (config>subscr-mgmt>http-rdr-plcy application-assurance)

Full Context

configure subscriber-mgmt http-redirect-policy application-assurance

Description

This command specifies the AA application profile used for HTTP redirect portal authentication. This forwards all UDP/TCP traffic to AA for packet filtering. Any forwarding entries under the HTTP redirect policy are not taken into account because only UDP/TCP can be configured. Outbound ICMP and ICMPv6 traffic is always dropped.

Parameters

app-profile-name

Specifies an AA application profile name, up to 32 characters, that is configured in the **config**>**app-assur**>**group**>**policy**>**app-prof** context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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7.9 application-assurance-group

application-assurance-group

Syntax

application-assurance-group *application-assurance-group-index* [**create**] [**aa-sub-scale** *sub-scale*]

no application-assurance-group *application-assurance-group-index*

Context

[Tree] (config>isa application-assurance-group)

Full Context

configure isa application-assurance-group

Description

Commands in this context create an application assurance group with the specified system-unique index and configure that group's parameters.

The **no** form of this command deletes the specified application assurance group from the system. The group must be shutdown first.

Parameters

application-assurance-group-index

Specifies an integer to identify the AA group

Values 1 to 255

create

Mandatory keyword used when creating an application assurance group in the ISA context. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

sub-scale

Specifies the set of scaling limits that are supported with regards to the maximum number of AA subscribers per ISA, the max flow scale, and the corresponding policy scale that can be specified.

Values

residential	Scaling limits for ISA2 residential operation (on VSR, it has the same scale as residential-8k)
residential-8k	Scaling limits for VSR or ESA-vm residential 8k sub operation
residential-16k	Scaling limits for VSR or ESA-vm residential 16k sub operation

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residential-32k	Scaling limits for VSR or ESA-vm residential 32k sub operation
residential-64k	Scaling limits for VSR or ESA-vm residential 64k sub operation
vpn	Scaling limits for SR AA VPN operation
vpn-1k	Scaling limits for VSR or ESA-vm AA VPN 1k sub operation
vpn-2k	Scaling limits for VSR or ESA-vm AA VPN 2k sub operation
vpn-4k	Scaling limits for VSR or ESA-vm AA VPN 4k sub operation
vpn-8k	Scaling limits for VSR or ESA-vm AA VPN 8k sub operation
lightweight-internet	Scaling limits for ISA2 or VSR operation as a wireless LAN gateway using DSM subscribers
lightweight-internet-512k	Scaling limits for VSR or ESA-vm 512k sub operation as a wireless LAN gateway using DSM subscribers

Default residential

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.10 application-link-attributes

application-link-attributes

Syntax

[**no**] **application-link-attributes**

Context

[Tree] (config>router>isis>traffic-engineering-options application-link-attributes)

Full Context

configure router isis traffic-engineering-options application-link-attributes

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Description

Commands in this context configure the advertisement of the TE attributes of each link on a per-application basis. Two applications are supported in SR OS: RSVP-TE and SR-TE.

The legacy mode of advertising TE attributes that is used in RSVP-TE is still supported but it can be disabled by using the **no legacy** command, which also enables per-application TE attribute advertisement for RSVP-TE.

The **no** form of this command deletes the context.

Default

no application-link-attributes

Platforms

All

7.11 application-policy

application-policy

Syntax

[**no**] **application-policy** *name*

Context

[Tree] (config>app-assure>group>transit-ip>diameter application-policy)

Full Context

configure application-assurance group transit-ip-policy diameter application-policy

Description

This command specifies the Diameter application to be used by seen IP transit subs. The application policy is defined using the **config**>**subscr-mgmt**>**diameter-application-policy** command.

The **no** form of this command removes the policy.

Default

no application-policy

Parameters

name

Specifies the name of the application policy configured using the **diameter-application-policy** command up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.12 application6

application6

Syntax

application6 *app ipv6-address*

no application6 *app*

Context

[Tree] (config>service>vprn>source-address application6)

Full Context

configure service vprn source-address application6

Description

This command configures the IPv6 source address for the application.

The **no** form of this command removes the application and IPv6 address from the configuration.

Parameters

app

Specifies the application name.

Values cflowd, ntp, ping, ptp, radius, snmptrap, ssh, syslog, tacplus, telnet, traceroute, icmp6-error

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

All

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application6

Syntax

application6 *app ipv6-address*

no application6

Context

[Tree] (config>system>security>source-address application6)

Full Context

configure system security source-address application6

Description

This command configures the application to use the source IPv6 address specified by the **source-address** command.

The **no** form of this command removes the application and IPv6 address from the configuration.

Parameters

app

Specifies the application name.

Values cflowd, dns, ftp, ldap, ntp, ping, ptp, radius, sflow, snmptrap, ssh, syslog, tacplus, telnet, traceroute, icmp6-error

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

All

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7.13 applications

applications

Syntax

applications all

applications [**connectivity-management**] [**gx**] [**gy**] [**nasreq**] [**radius-auth**] [**radius-acct**] [**python**] [**ludb**] [**msap**] [**pfcp**] [**ppp-event**]

no applications

Context

[Tree] (config>call-trace>trace-profile applications)

Full Context

configure call-trace trace-profile applications

Description

This command enables tracing of messages and events for the specified applications.

Default

applications all

Parameters

all

Enables tracing of all packets and events, with the exception of PPP events.

connectivity-management

Enables tracing for connectivity protocols, such as DHCP, ARP, and DHCPv6, and events related to connectivity management; for example, migrant or data-triggered host creation, idling, or session timeout. In the CUPS context, this command traces uplink IBCP messages.

gx

Enables tracing of Diameter Gx messages.

gy

Enables tracing of Diameter Gy messages.

nasreq

Enables tracing of Diameter NASREQ messages.

radius-auth

Enables tracing of messages and events related to RADIUS authentication, including CoA and Disconnect.

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radius-acct

Enables tracing of messages and events related to RADIUS-based accounting.

python

Enables tracing of python script execution.

ludb

Enables tracing of local user database lookups.

msap

Enables tracing of MSAP creation events.

pfcp

Enables tracing of PFCP messages.

ppp-event

Enables tracing of all events related to the PPP state machine. This can result in a large amount of event messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.14 apply-bgp-nh-override

apply-bgp-nh-override

Syntax

[**no**] **apply-bgp-nh-override**

Context

[Tree] (config>service>vprn>pim apply-bgp-nh-override)

Full Context

configure service vprn pim apply-bgp-nh-override

Description

This command forces the RPF check to be performed via IPv4 VPN AF next-hop and not via IPv4 VPN AF VRF import extended community.

Default

no apply-bgp-nh-override

Platforms

All

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7.15 apply-function-specific-behavior

apply-function-specific-behavior

Syntax

[no] apply-function-specific-behavior

Context

[Tree] (config>app-assure>group>url-filter apply-function-specific-behavior)

Full Context

configure application-assurance group url-filter apply-function-specific-behavior

Description

If this command is enabled, the **default-action**, **default-http-redirect**, and **http-redirect** commands at the **url-filter** function level (ICAP, local filtering and web service) will apply.

The **no** form of this command indicates that the configuration at the **url-filter** level will apply to all of the configured **url-filter** functions.

Default

no apply-function-specific-behavior

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.16 apply-path

apply-path

Syntax

[**no**] **apply-path**

Context

[Tree] (config>filter>match-list>ipv6-prefix-list apply-path)

[Tree] (config>filter>match-list>ip-prefix-list apply-path)

Full Context

configure filter match-list ipv6-prefix-list apply-path

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configure filter match-list ip-prefix-list apply-path

Description

Commands in this context configure the auto-generation of address prefixes for IPv4 or IPv6 address prefix match lists. The context in which the command is executed governs whether IPv4 or IPv6 prefixes will be auto-generated.

The **no** form of this command removes all auto-generation configuration under the **apply-path** context.

Default

no apply path

Platforms

All

7.17 apply-to

apply-to

Syntax

apply-to {**all** | **none**}

Context

[Tree] (config>service>vprn>pim apply-to)

Full Context

configure service vprn pim apply-to

Description

This command creates a PIM interface with default parameters.

If a manually created interface or modified interface is deleted, the interface will be recreated when the **apply-to** command is executed. If PIM is not required on a specific interface, then execute a **shutdown** command.

The **apply-to** command is saved first in the PIM configuration structure, all subsequent commands either create new structures or modify the defaults as created by the **apply-to** command.

Default

apply-to none

Parameters

all

Specifies that all VPRN and non-VPRN interfaces are automatically applied in PIM.

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none

No interfaces are automatically applied in PIM. PIM interfaces must be manually configured.

Platforms

All

apply-to

Syntax

apply-to {**ies** | **non-ies** | **all** | **none**}

Context

[Tree] (config>router>pim apply-to)

Full Context

configure router pim apply-to

Description

This command creates a PIM interface with default parameters.

If a manually created or a modified interface is deleted, the interface is recreated when (re)processing the **apply-to** command and if PIM is not required on a specific interface a shutdown should be executed.

The **apply-to** command is first saved in the PIM configuration structure. Then, all subsequent commands either create new structures or modify the defaults as created by the apply-to command.

Default

apply-to none

Parameters

ies

Specifies to apply all IES interfaces in PIM.

non-ies

Specifies to apply non-IES interfaces created in PIM.

all

Specifies to apply all IES and non-IES interfaces created in PIM.

none

Removes all interfaces that are not manually created or modified. It also removes explicit no interface commands if present.

Platforms

All

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7.18 aqp-initial-lookup

aqp-initial-lookup

Syntax

aqp-initial-lookup

no aqp-initial-lookup

Context

[Tree] (config>app-assure>group aqp-initial-lookup)

Full Context

configure application-assurance group aqp-initial-lookup

Description

This command allows AA to perform AQP lookups on flows prior to complete application identification. As usual, AQP will be looked up again on identification complete. Without this, AA executes AQPs that are part of what so called "sub-default policy". Sub-default policy is formed by regular AQPs that contain ASOs, subID and/or flow direction as matching conditions.

This behavior is required, for example, in order to be able apply GTP and SCTP filtering on the first packet of a new GTP/SCTP flow (AQP matching conditions in this case contains protocol id).

The **no** form of this command forces complete AQP look up on identification finish stage only.

Default

no aqp-initial-lookup

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.19 arbiter

arbiter

Syntax

arbiter *arbiter-name* [**create**]

no arbiter *arbiter-name*

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Context

[Tree] (config>qos>plcr-ctrl-plcy>tier arbiter)

Full Context

configure qos policer-control-policy tier arbiter

Description

This command is used to create an arbiter within the context of **tier 1** or **tier 2**. An arbiter is a child policer bandwidth control object that manages the throughput of a set of child policers. An arbiter allows child policers or other arbiters to parent to one of eight strict levels. Each arbiter is itself parented to either another tiered arbiter or to the **root** arbiter.

The root arbiter starts with its defined maximum rate and distributes the bandwidth to its directly attached child policers and arbiters beginning with priority 8. As the children at each priority level are distributed bandwidth according to their needs and limits, the root proceeds to the next lower priority until either all children's needs are met or it runs out of bandwidth. The bandwidth given to a tiered arbiter is then divided between that arbiter's children (child policers or a tier 2 arbiter) in the same fashion. A tiered arbiter may also have a rate limit defined that limits the amount of bandwidth it may receive from its parent.

An arbiter that is currently parented by another arbiter cannot be deleted.

Each time the **policer-control-policy** is applied to either a SAP, or a subscriber (through association with a sub-profile that has the policy applied), or a multiservice site, an instance of the parent policer and the arbiters is created.

Any child policer that uses the arbiter's name in its parenting command will be associated with the arbiter instance. The child policer will also become associated with any arbiter to which its parent arbiter is parented (grandparent). Having child policers parented to an arbiter does not prevent that arbiter from being removed from the **policer-control-policy**. When removed, the child policers become orphaned.

You can create up to 31 tiered arbiters within the **policer-control-policy** on either tier 1 or tier 2 (in addition to the arbiter).

The **no** form of this command is used to remove an arbiter from tier 1 or tier 2. If the specified arbiter does not exist, the command returns without an error. If the specified arbiter is currently specified as the parent for another arbiter, the command will fail. When an arbiter is removed from a **policer-control-policy**, all instances of the arbiter will also be removed. Any child policers currently parented to the arbiter instance will become orphans and will not be bandwidth managed by the policer control policy instances parent policer.

Parameters

arbiter-name

Any unique name within the policy. Up to 31 arbiters may be created.

Platforms

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7.20 area

area

Syntax

[**no**] **area** *area-id*

Context

[Tree] (config>service>vprn>ospf area)

[Tree] (config>service>vprn>ospf3 area)

Full Context

configure service vprn ospf area

configure service vprn ospf3 area

Description

This command creates the context to configure an OSPF area. An area is a collection of network segments within an AS that have been administratively grouped together. The area ID can be specified in dotted decimal notation or as a 32-bit decimal integer.

The **no** form of this command deletes the specified area from the configuration. Deleting the area also removes the OSPF configuration of all the interfaces, virtual-links, sham-links, address-ranges and so on, that are currently assigned to this area.

Default

no area — No OSPF areas are defined.

Parameters

area-id

The OSPF area ID expressed in dotted decimal notation or as a 32-bit decimal integer.

Values 0.0.0.0 to 255.255.255.255 (dotted decimal)
0 to 4294967295 (decimal integer)

Platforms

All

area

Syntax

[**no**] **area** *area-id*

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Context

[Tree] (config>router>ospf area)

[Tree] (config>router>ospf3 area)

Full Context

configure router ospf area

configure router ospf3 area

Description

This command creates the context to configure an OSPF or OSPF3 area. An area is a collection of network segments within an AS that have been administratively grouped together. The area ID can be specified in dotted decimal notation or as a 32-bit decimal integer.

The **no** form of this command deletes the specified area from the configuration. Deleting the area also removes the OSPF configuration of all the interfaces, virtual-links, and address-ranges and so on, that are currently assigned to this area.

Default

no area

Parameters

area-id

The OSPF area ID expressed in dotted decimal notation or as a 32-bit decimal integer.

Values 0.0.0.0 to 255.255.255.255 (dotted decimal), 0 to 4294967295 (decimal integer)

Platforms

All

area

Syntax

area [*area-id*]

no area

Context

[Tree] (debug>router>ospf area)

[Tree] (debug>router>ospf3 area)

Full Context

debug router ospf area

debug router ospf3 area

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Description

This command enables debugging for an OSPF area.

Parameters

area-id

Specifies the OSPF area ID expressed in dotted decimal notation or as a 32-bit decimal integer.

Values ip-address — a.b.c.d

area — 0 to 4294967295

Platforms

All

area

Syntax

area *area-id*

no area

Context

[Tree] (config>router>policy-options>policy-statement>entry>from area)

Full Context

configure router policy-options policy-statement entry from area

Description

This command configures an OSPF area as a route policy match criterion.

This match criterion is only used in export policies.

All OSPF routes (internal and external) are matched using this criterion if the best path for the route is by the specified area.

The **no** form of this command removes the OSPF area match criterion.

Default

no area

Parameters

area-id

Specifies the OSPF area ID expressed in dotted decimal notation or as a 32-bit decimal integer.

Values 0.0.0.0 to 255.255.255.255 (dotted decimal), 0 to 4294967295 (decimal)

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Platforms

All

7.21 area-id

area-id

Syntax

[**no**] **area-id** *area-address*

Context

[Tree] (config>service>vprn>isis area-id)

Full Context

configure service vprn isis area-id

Description

This command configures the area ID portion of NSAP addresses for the VPRN instance. This identifies a point of connection to the network, such as a router interface, and is called a Network Service Access Point (NSAP). Addresses in the IS-IS protocol are based on the ISO NSAP addresses and Network Entity Titles (NETs), not IP addresses.

A maximum of 3 **area addresses** can be configured for the VPRN instance.

NSAP addresses are divided into three parts.

- Area ID — A variable length field between 1 and 13 bytes long. This includes the Authority and Format Identifier (AFI) as the most significant byte and the area ID.
- System ID — A six-byte system identification. When not configured, the system ID is derived from the configurations for **configure router isis router-id**, **configure router router-id**, or **system address** *ipv4 address*. If the previous commands are not configured, the system ID defaults to the last four octets of the chassis MAC address.
- Selector ID — A one-byte selector identification that must contain zeros when configuring a NET. This value is not configurable. The selector ID is always 00.

The NET is constructed like an NSAP but the selector byte contains a 00 value. NET addresses are exchanged in hello and LSP PDUs. All net addresses configured on the node are advertised to its neighbors.

For Level 1 interfaces, neighbors can have different area IDs, but, they must have at least one area ID (AFI + area) in common. Sharing a common area ID, they become neighbors and area merging between the potentially different areas can occur.

For Level 2 (only) interfaces, neighbors can have different area IDs. However, if they have no area IDs in common, they become only Level 2 neighbors and Level 2 LSPs are exchanged.

For Level 1 and Level 2 interfaces, neighbors can have different area IDs. If they have at least one area ID (AFI + area) in common, they become neighbors. In addition to exchanging Level 2 LSPs, area merging between potentially different areas can occur.

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If multiple **area-id** commands are entered, the system ID of all subsequent entries must match the first **area** address.

The **no** form of this command removes the area address.

Platforms

All

area-id

Syntax

[**no**] **area-id** *area-address*

Context

[Tree] (config>router>isis area-id)

Full Context

configure router isis area-id

Description

This command was previously named the **net** *network-entity-title* command. The **area-id** command allows you to configure the area ID portion of NSAP addresses which identifies a point of connection to the network, such as a router interface, and is called a Network Service Access Point (NSAP). Addresses in the IS-IS protocol are based on the ISO NSAP addresses and Network Entity Titles (NETs), not IP addresses.

A maximum of three **area addresses** can be configured.

NSAP addresses are divided into three parts.

- Area ID — A variable length field between 1 and 13 bytes long. This includes the Authority and Format Identifier (AFI) as the most significant byte and the area ID.
- System ID — A six-byte system identification. When not configured, the system ID is derived from the configurations for **configure router isis router-id**, **configure router router-id**, or **system address** *ipv4 address*. If the previous commands are not configured, the system ID defaults to the last four octets of the chassis MAC address.
- Selector ID — A one-byte selector identification that must contain zeros when configuring a NET. This value is not configurable. The selector ID is always 00.

The NET is constructed like an NSAP but the selector byte contains a 00 value. NET addresses are exchanged in hello and LSP PDUs. All net addresses configured on the node are advertised to its neighbors.

For Level 1 interfaces, neighbors can have different area IDs, but, they must have at least one area ID (AFI + area) in common. Sharing a common area ID, they become neighbors and area merging between the potentially different areas can occur.

For Level 2 (only) interfaces, neighbors can have different area IDs. However, if they have no area IDs in common, they become only Level 2 neighbors and Level 2 LSPs are exchanged.

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For Level 1 and Level 2 interfaces, neighbors can have different area IDs. If they have at least one area ID (AFI + area) in common, they become neighbors. In addition to exchanging Level 2 LSPs, area merging between potentially different areas can occur.

If multiple **area-id** commands are entered, the system ID of all subsequent entries must match the first **area** address.

The **no** form of this command removes the area address.

Parameters

area-address

Specifies a 1 — 13-byte address. Of the total 20 bytes comprising the NET, only the first 13 bytes can be manually configured. As few as one byte can be entered or, at most, 13 bytes. If less than 13 bytes are entered, the rest is padded with zeros.

Platforms

All

7.22 area-range

area-range

Syntax

area-range *ip-prefix/prefix-length* [**advertise** | **not-advertise**]

no area-range *ip-prefixImask*

area-range *ipv6-prefix/prefix-length* [**advertise** | **not-advertise**]

no area-range *ipv6-prefix/prefix-length*

Context

[Tree] (config>service>vprn>ospf>area area-range)

[Tree] (config>service>vprn>ospf3>area>nssa area-range)

[Tree] (config>service>vprn>ospf>area>nssa area-range)

[Tree] (config>service>vprn>ospf3>area area-range)

Full Context

configure service vprn ospf area area-range

configure service vprn ospf3 area nssa area-range

configure service vprn ospf area nssa area-range

configure service vprn ospf3 area area-range

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Description

This command creates ranges of addresses on an Area Border Router (ABR) for the purpose of route summarization or suppression. When a range is created, it is configured to be advertised or not advertised into other areas. Multiple range commands are used to summarize or hide different ranges. In the case of overlapping ranges, the most specific range command applies.

ABRs send summary link advertisements to describe routes to other areas. To minimize the number of advertisements that are flooded, you can summarize a range of IP addresses and send reachability information about these addresses in an LSA.

The **no** form of this command deletes the range (non) advertisement.

Default

no area-range

Parameters

ipv6-prefix/prefix-length

The IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area.

Values	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D
	ipv6-prefix-length	0 to 128

mask

The subnet mask for the range expressed as a decimal integer mask length or in dotted decimal notation.

Values 0 to 32 (mask length), 0.0.0.0 to 255.255.255.255 (dotted decimal)

advertise | not-advertise

Specifies whether or not to advertise the summarized range of addresses into other areas. The **advertise** keyword indicates the range will be advertised, and the keyword **not-advertise** indicates the range will not be advertised.

The default is **advertise**.

Platforms

All

area-range

Syntax

area-range *ip-prefixlmask* [**advertise** | **not-advertise**]

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no area-range *ip-prefixlmask*

Context

[Tree] (config>router>ospf>area area-range)

[Tree] (config>router>ospf>area>nssa area-range)

Full Context

configure router ospf area area-range

configure router ospf area nssa area-range

Description

This command creates ranges of addresses on an Area Border Router (ABR) for the purpose of route summarization or suppression. When a range is created, the range is configured to be advertised or not advertised into other areas. Multiple range commands may be used to summarize or hide different ranges. In the case of overlapping ranges, the most specific range command applies.

ABRs send summary link advertisements to describe routes to other areas. To minimize the number of advertisements that are flooded, you can summarize a range of IP addresses and send reachability information about these addresses in an LSA.

The **no** form of this command deletes the range (non) advertisement.

Default

no area-range

Parameters

ip-prefix

Specifies the IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area.

Values ip-prefix/mask: ip-prefix a.b.c.d (host bits must be 0)

mask

Specifies the subnet mask for the range expressed as a decimal integer mask length or in dotted decimal notation.

Values 0 to 32 (mask length), 0.0.0.0 to 255.255.255.255 (dotted decimal)

advertise | not-advertise

Specifies whether to advertise the summarized range of addresses into other areas. The **advertise** keyword indicates the range will be advertised, and the keyword **not-advertise** indicates the range will not be advertised.

Default advertise

Platforms

All

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area-range

Syntax

area-range *ipv4-prefix/mask* | *ipv6-prefix/prefix-length* [**advertise** | **not-advertise**]

no area-range *ipv4-prefix/mask* | *ipv6-prefixIprefix-length*

Context

[Tree] (config>router>ospf3>area area-range)

[Tree] (config>router>ospf3>area>nssa area-range)

Full Context

configure router ospf3 area area-range

configure router ospf3 area nssa area-range

Description

This command creates ranges of addresses on an Area Border Router (ABR) for the purpose of route summarization or suppression. When a range is created, the range is configured to be advertised or not advertised into other areas. Multiple range commands may be used to summarize or hide different ranges. In the case of overlapping ranges, the most specific range command applies.

ABRs send summary link advertisements to describe routes to other areas. To minimize the number of advertisements that are flooded, you can summarize a range of IP addresses and send reachability information about these addresses in an LSA.

The **no** form of this command deletes the range (non) advertisement.

Default

no area-range

Parameters

ip-prefix/prefix-length

Specifies the IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area.

Values ip-prefix/mask:

- ip-prefix a.b.c.d (host bits must be 0)

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

prefix-length: 0 to 128

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advertise | not-advertise

Specifies whether or not to advertise the summarized range of addresses into other areas. The **advertise** keyword indicates the range will be advertised, and the keyword **not-advertise** indicates the range will not be advertised.

Default advertise

Platforms

All

area-range

Syntax

area-range [*ip-address*]

no area-range

Context

[Tree] (debug>router>ospf area-range)

[Tree] (debug>router>ospf3 area-range)

Full Context

debug router ospf area-range

debug router ospf3 area-range

Description

This command enables debugging for an OSPF area range.

Parameters

ip-address

Specifies the IPv4 or IPv6 address for the range used by the ABR to advertise the area into another area.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

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7.23 argument-length

argument-length

Syntax

argument-length *length*

Context

[Tree] (config>router>segment-routing>srv6>locator argument-length)

[Tree] (conf>router>sr>srv6>micro-segment argument-length)

Full Context

configure router segment-routing segment-routing-v6 locator argument-length

configure router segment-routing segment-routing-v6 micro-segment argument-length

Description

This command configures the argument length for an SRv6 or micro-segment locator.

The sum of the function length, argument length, and the locator prefix length must not exceed 128 bits. This is enforced in CLI validation.

The following commands are used to configure the function length and locator prefix length:

- **configure router segment-routing segment-routing-v6 locator function-length**
- **configure router segment-routing segment-routing-v6 locator prefix ip-prefix**

Default

argument-length 0

Parameters

length

Specifies the argument length.

Values 0, 16

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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7.24 arp

arp

Syntax

arp *arp-value*

no arp

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>ggsn>qos arp)

[Tree] (config>subscr-mgmt>gtp>peer-profile>mme>qos arp)

[Tree] (config>subscr-mgmt>gtp>peer-profile>pgw>qos arp)

Full Context

configure subscriber-mgmt gtp peer-profile ggsn qos arp

configure subscriber-mgmt gtp peer-profile mme qos arp

configure subscriber-mgmt gtp peer-profile pgw qos arp

Description

The command configures the allocation and retention priority to be used in the GTP messages as QoS IE (for a Gn interface) or Bearer QoS (for GTPv2).

The **no** form of this command reverts to the default.

Default

arp 1

Parameters

arp-value

Specifies the Allocation/Retention Priority (ARP).

Values 1 to 3 (for ggsn context)

Values 1 to 15 (for pgw and mme context)

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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arp

Syntax

arp

Context

[Tree] (config>service>ies>if>vpls>evpn arp)

[Tree] (config>service>vprn>if>vpls>evpn arp)

Full Context

configure service ies interface vpls evpn arp

configure service vprn interface vpls evpn arp

Description

Commands in this context configure ARP host route parameters.

Platforms

All

arp

Syntax

arp

Context

[Tree] (debug>router>ip arp)

Full Context

debug router ip arp

Description

This command configures route table debugging.

Platforms

All

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7.25 arp-host

arp-host

Syntax

arp-host

Context

[Tree] (config>service>ies>sub-if>grp-if arp-host)

[Tree] (config>service>vpls>sap arp-host)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only arp-host)

[Tree] (config>service>vprn>sub-if>grp-if arp-host)

Full Context

configure service ies subscriber-interface group-interface arp-host

configure service vpls sap arp-host

configure subscriber-mgmt msap-policy vpls-only-sap-parameters arp-host

configure service vprn subscriber-interface group-interface arp-host

Description

Commands in this context configure ARP host parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

arp-host

Syntax

[**no**] **arp-host**

Context

[Tree] (debug>service>id arp-host)

Full Context

debug service id arp-host

Description

This command enables and configures ARP host debugging.

The **no** form of this command disables ARP host debugging.

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Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.26 arp-host-route

arp-host-route

Syntax
arp-host-route

Context
[Tree] (config>service>vprn>if arp-host-route)
[Tree] (config>service>ies>if arp-host-route)

Full Context
configure service vprn interface arp-host-route
configure service ies interface arp-host-route

Description
Commands in this context configure ARP host routes to populate.

Platforms
All

7.27 arp-learn-unsolicited

arp-learn-unsolicited

Syntax
[**no**] **arp-learn-unsolicited**

Context
[Tree] (config>service>ies>if arp-learn-unsolicited)
[Tree] (config>service>vprn>if arp-learn-unsolicited)
[Tree] (config>router>if arp-learn-unsolicited)

Full Context
configure service ies interface arp-learn-unsolicited

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configure service vprn interface arp-learn-unsolicited

configure router interface arp-learn-unsolicited

Description

This command allows the ARP application to learn new entries based on any received ARP message (GARP, ARP-Request, or ARP-Reply, such as any frame with ethertype 0x0806).

The **no** form of this command disables the above behavior and causes ARP entries to only be learned when needed, that is, when the router receives an ARP-reply after an ARP-request triggered by received traffic.

Platforms

All

7.28 arp-limit

arp-limit

Syntax

arp-limit *limit* [**log-only**] [**threshold** *percent*]

no arp-limit

Context

[Tree] (config>service>ies>interface arp-limit)

Full Context

configure service ies interface arp-limit

Description

This command configures the maximum amount of dynamic IPv4 ARP entries that can be learned on an IP interface.

When the number of dynamic ARP entries reaches the configured percentage of this limit, a log event is raised. When the limit is exceeded, no new entries are learned until an entry expires and traffic to these destinations will be dropped. Entries that have already been learned will be refreshed.

The **no** form of this command removes the **arp-limit**.

Default

no arp-limit

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Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, entries above the limit will be learned.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

Default 90

limit

The number of entries that can be learned on an IP interface expressed as a decimal integer. If the limit is set to 0, dynamic ARP learning is disabled and no dynamic ARP entries are learned.

Values 0 to 524288

Platforms

All

arp-limit

Syntax

arp-limit *limit* [**log-only**] [**threshold** *percent*]

no arp-limit

Context

[Tree] (config>service>vprn>if arp-limit)

Full Context

configure service vprn interface arp-limit

Description

This command configures the maximum amount of dynamic IPv4 ARP entries that can be learned on an IP interface.

When the number of dynamic ARP entries reaches the configured percentage of this limit, an SNMP trap is sent. When the limit is exceeded, no new entries are learned until an entry expires and traffic to these destinations will be dropped. Entries that have already been learned will be refreshed.

The **no** form of this command removes the **arp-limit**.

Default

90 percent

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Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, entries above the limit will be learned.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

limit

The number of entries that can be learned on an IP interface expressed as a decimal integer. If the limit is set to 0, dynamic ARP learning is disabled and no dynamic ARP entries are learned.

Values 0 to 524288

Platforms

All

arp-limit

Syntax

arp-limit *limit* [**log-only**] [**threshold** *percent*]

no arp-limit

Context

[Tree] (config>router>if arp-limit)

Full Context

configure router interface arp-limit

Description

This command configures the maximum amount of dynamic IPv4 ARP entries that can be learned on an IP interface.

When the number of dynamic ARP entries reaches the configured percentage of this limit, an SNMP trap is sent. When the limit is exceeded, no new entries are learned until an entry expires and traffic to these destinations will be dropped. Entries that have already been learned will be refreshed.

The **no** form of this command removes the **arp-limit.**

Default

no arp-limit

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Parameters

limit

The number of entries that can be learned on an IP interface expressed as a decimal integer. If the limit is set to 0, dynamic ARP learning is disabled and no dynamic ARP entries are learned.

Values 0 to 524288

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, entries above the limit will be learned.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

Platforms

All

7.29 arp-nd-extended-community-advertisement

arp-nd-extended-community-advertisement

Syntax

[**no**] **arp-nd-extended-community-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn arp-nd-extended-community-advertisement)

Full Context

configure service vpls bgp-evpn arp-nd-extended-community-advertisement

Description

This command enables the advertisement of the RFC 9047 ARP/ND extended community along with the MAC/IP routes that are advertised for local static and dynamic proxy ARP or ND entries. This command also controls the processing of the ARP/ND extended community and the selection of ARP or ND entries based on the inmutable flag.

The **no** form of this command disables the advertisement of the RFC 9047 ARP/ND extended community.

Default

no arp-nd-extended-community-advertisement

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Platforms

All

7.30 arp-nd-only-with-fdb-advertisement

arp-nd-only-with-fdb-advertisement

Syntax

[**no**] **arp-nd-only-with-fdb-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn arp-nd-only-with-fdb-advertisement)

Full Context

configure service vpls bgp-evpn arp-nd-only-with-fdb-advertisement

Description

This command enables the router to advertise local ARP/ND entries of VPRN interfaces using this VPLS BGP-EVPN service when the corresponding local MAC is programmed in the FDB.

The **no** form of this command disables the advertisement of the ARP/ND entries.

Default

no arp-nd-only-with-fdb-advertisement

Platforms

All

7.31 arp-populate

arp-populate

Syntax

[**no**] **arp-populate**

Context

[Tree] (config>service>ies>sub-if>grp-if arp-populate)

[Tree] (config>service>vprn>if arp-populate)

[Tree] (config>service>ies>if arp-populate)

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[Tree] (config>service>vprn>sub-if>grp-if arp-populate)

Full Context

configure service ies subscriber-interface group-interface arp-populate

configure service vprn interface arp-populate

configure service ies interface arp-populate

configure service vprn subscriber-interface group-interface arp-populate

Description

This command, when enabled, disables dynamic learning of ARP entries. Instead, the ARP table is populated with static and dynamic entries from the DHCP Lease State Table (enabled with **lease-populate**), and optionally with static entries entered with the **static-host** command.

The host's IP address and MAC address are placed in the system ARP cache as a managed entry. Static hosts must be defined on the interface using the **static-host** command. Dynamic hosts are enabled on the system through enabling lease-populate in the IP interface DHCP context.

In the event that both a static host and a dynamic host share the same IP and MAC address, the system's ARP cache retains the host information until both the static and dynamic information are removed.

Both static and dynamic hosts override static ARP entries. Static ARP entries are marked as inactive when they conflict with static or dynamic hosts and will be repopulated once all static and dynamic host information for the IP address are removed. Since static ARP entries are not possible when static subscriber hosts are defined or when DHCP lease state table population is enabled, conflict between static ARP entries and the arp-populate function is not an issue.

Enabling the **arp-populate** command removes any dynamic ARP entries learned on this interface from the ARP cache.

The **arp-populate** command fails if an existing static ARP entry exists for this interface.

When **arp-populate** is enabled, the system does not send out ARP requests for hosts that are not in the ARP cache. Only statically configured and DHCP learned hosts are reachable through an IP interface with **arp-populate** enabled. The **arp-populate** command can only be enabled on IES and VPRN interfaces supporting Ethernet encapsulation.

The **no** form of this command disables ARP cache population functions for static and dynamic hosts on the interface. All static and dynamic host information for this interface is removed from the system's ARP cache. Any existing static ARP entries previously inactive due to static or dynamic hosts will be populated in the system ARP cache.

Default

no arp-populate

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface arp-populate
- configure service vprn subscriber-interface group-interface arp-populate

All

- configure service vprn interface arp-populate

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- configure service ies interface arp-populate

7.32 arp-populate-host-route

arp-populate-host-route

Syntax

[**no**] **arp-populate-host-route**

Context

[Tree] (config>service>ies>if arp-populate-host-route)

Full Context

configure service ies interface arp-populate-host-route

Description

This command enables the addition or deletion of host routes in the route table derived from ARP entries in the ARP cache. To enable this command, the interface must be shut down. The command triggers the population of host routes in the route table out of their corresponding static, dynamic, or EVPN types in the ARP table. ARP entries installed by subscriber management, local interfaces, and others, do not create host routes.

The **no** form of this command disables the creation of host routes from the ARP cache.

Platforms

All

7.33 arp-proactive-refresh

arp-proactive-refresh

Syntax

[**no**] **arp-proactive-refresh**

Context

[Tree] (config>service>ies>if arp-proactive-refresh)

Full Context

configure service ies interface arp-proactive-refresh

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Description

This command enables the router to always send out a single refresh message with no entries 30 seconds prior to the timeout of the entry.

The **no** form of this command sets the default behavior, in which an entry is marked as stale 30 seconds prior to age-out, and the router only sends an ARP request to refresh the entry if the IOM receives traffic that uses it. If so, the IOM asks the ARP application to send a refresh message. With **arp-proactive-refresh** enabled, the ARP module sends a refresh message regardless of whether the IOM receives traffic.

Platforms

All

arp-proactive-refresh

Syntax

[**no**] **arp-proactive-refresh**

Context

[Tree] (config>service>vprn>if arp-proactive-refresh)

Full Context

configure service vprn interface arp-proactive-refresh

Description

This command enables the router to always send out a refresh message 30 seconds prior to the timeout of the entry (a single refresh message with no retries).

The **no** form of this command sets the default behavior, in which an entry is marked as stale 30 seconds prior to age-out, and the router only sends an ARP request to refresh the entry if the IOM receives traffic that uses it. If so, the IOM asks the ARP application to send a refresh message. With **arp-proactive-refresh** enabled, the ARP module sends a refresh message regardless of the IOM receiving traffic.

Platforms

All

arp-proactive-refresh

Syntax

[**no**] **arp-proactive-refresh**

Context

[Tree] (config>router>if arp-proactive-refresh)

Full Context

configure router interface arp-proactive-refresh

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Description

This command enables the router to always send out a refresh message 30 seconds prior to the timeout of the entry (a single refresh message with no retries).

The **no** form of this command sets the default behavior, in which an entry is marked as stale 30 seconds prior to age-out, and the router only sends an ARP request to refresh the entry if the IOM receives traffic that uses it. If so, the IOM asks the ARP application to send a refresh message. With **arp-proactive-refresh** enabled, the ARP module sends a refresh message regardless of the IOM receiving traffic.

Platforms

All

7.34 arp-reply-agent

arp-reply-agent

Syntax

arp-reply-agent [**sub-ident**]

no arp-reply-agent

Context

[Tree] (config>service>vpls>sap arp-reply-agent)

Full Context

configure service vpls sap arp-reply-agent

Description

This command enables a special ARP response mechanism in the system for ARP requests destined to static or dynamic hosts associated with the SAP. The system responds to each ARP request using the host's MAC address as the both the source MAC address in the Ethernet header and the target hardware address in the ARP header.

ARP replies and requests received on a SAP with **arp-reply-agent** enabled is evaluated by the system against the anti-spoof filter entries associated with the ingress SAP (if the SAP has anti-spoof filtering enabled). ARPs from unknown hosts on the SAP is discarded when anti-spoof filtering is enabled.

The ARP reply agent only responds if the ARP request enters an interface (SAP, spoke SDP or mesh SDP) associated with the VPLS instance of the SAP.

A received ARP request that is not in the ARP reply agent table is flooded to all forwarding interfaces of the VPLS capable of broadcast except the ingress interface while honoring split-horizon constraints.

Static hosts can be defined on the SAP using the **host** command. Dynamic hosts are enabled on the system by enabling the **lease-populate** command in the SAP's **dhcp** context. If both a static host and a dynamic host share the same IP and MAC address, the VPLS ARP reply agent will retain the host information until both the static and dynamic information are removed. If both a static and dynamic host

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share the same IP address, but different MAC addresses, the VPLS ARP reply agent is populated with the static host information.

The **arp-reply-agent** command fails if an existing static host on the SAP does not have both MAC and IP addresses specified. Once the ARP reply agent is enabled, creating a static host on the SAP without both an IP address and MAC address will fail.

The apr-reply-agent can only be enabled on SAPs supporting Ethernet encapsulation.

The **no** form of the command disables arp-reply-agent functions for static and dynamic hosts on the SAP.

Default

no arp-reply-agent

Parameters

sub-ident

Configures the arp-reply-agent to discard ARP requests received on the SAP that are targeted for a known host on the same SAP with the same subscriber identification.

Hosts are identified by their subscriber information. For DHCP subscriber hosts, the subscriber hosts, the subscriber information is configured using the optional subscriber parameter string.

When arp-reply-agent is enabled with **sub-ident**:

- If the subscriber information for the destination host exactly matches the subscriber information for the originating host and the destination host is known on the same SAP as the source, the ARP request is silently discarded.
- If the subscriber information for the destination host or originating host is unknown or undefined, the source and destination hosts are not considered to be the same subscriber. The ARP request is forwarded outside the SAP's Split Horizon Group.
- When **sub-ident** is not configured, the arp-reply-agent does not attempt to identify the subscriber information for the destination or originating host and will not discard an ARP request based on subscriber information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

arp-reply-agent

Syntax

arp-reply-agent [**sub-ident**]

no arp-reply-agent

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only arp-reply-agent)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters arp-reply-agent

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Description

This command enables a special ARP response mechanism in the system for ARP requests destined to static or dynamic hosts associated with the SAP. The system responds to each ARP request using the hosts MAC address as the both the source MAC address in the Ethernet header and the target hardware address in the ARP header.

ARP replies and requests received on an MSAP with **arp-reply-agent** enabled is evaluated by the system against the anti-spoof filter entries associated with the ingress SAP (if the SAP has anti-spoof filtering enabled). ARPs from unknown hosts on the SAP is discarded when anti-spoof filtering is enabled.

The ARP reply agent only responds if the ARP request enters an interface (SAP, spoke-SDP or mesh-SDP) associated with the VPLS instance of the MSAP.

A received ARP request that is not in the ARP reply agent table is flooded to all forwarding interfaces of the VPLS capable of broadcast except the ingress interface while honoring split-horizon constraints.

Static hosts can be defined using the **host** command. Dynamic hosts are enabled on the system by enabling the **lease-populate** command in the **dhcp** context. In the event that both a static host and a dynamic host share the same IP and MAC address, the VPLS ARP reply agent will retain the host information until both the static and dynamic information are removed. In the event that both a static and dynamic host share the same IP address, but different MAC addresses, the VPLS ARP reply agent is populated with the static host information.

The **arp-reply-agent** command will fail if an existing static host does not have both MAC and IP addresses specified. Once the ARP reply agent is enabled, creating a static host on the MSAP without both an IP address and MAC address will fail.

The ARP-reply-agent may only be enabled on SAPs supporting Ethernet encapsulation.

The **no** form of this command disables ARP-reply-agent functions for static and dynamic hosts on the MSAP.

Parameters

sub-ident

Configures the arp-reply-agent to discard ARP requests received on the MSAP that are targeted for a known host on the same MSAP with the same subscriber identification.

Hosts are identified by their subscriber information. For DHCP subscriber hosts, the subscriber hosts, the subscriber information is configured using the optional subscriber parameter string.

When arp-reply-agent is enabled with **sub-ident**:

- If the subscriber information for the destination host exactly matches the subscriber information for the originating host and the destination host is known on the same MSAP as the source, the ARP request is silently discarded.
- If the subscriber information for the destination host or originating host is unknown or undefined, the source and destination hosts are not considered to be the same subscriber. The ARP request is forwarded outside the MSAP's Split Horizon Group.
- When **sub-ident** is not configured, the arp-reply-agent does not attempt to identify the subscriber information for the destination or originating host and will not discard an ARP request based on subscriber information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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7.35 arp-retry-timer

arp-retry-timer

Syntax

arp-retry-timer *timer-multiple*

no arp-retry-timer

Context

[Tree] (config>service>ies>if arp-retry-timer)

Full Context

configure service ies interface arp-retry-timer

Description

This command allows the arp retry timer to be configured to a specific value.

The timer value is entered as a multiple of 100 ms. So a timer value of 1, means the ARP timer will be set to 100 ms.

The **no** form of this command removes the command from the active configuration and returns the ARP retry timer to its default value of 5 seconds.

Default

arp-retry-timer 50

Parameters

timer-multiple

Specifies the multiple of 100 ms that the ARP retry timer will be configured as.

Values 1 to 300 (equally a timer range of 100 ms to 30,000 ms)

Platforms

All

arp-retry-timer

Syntax

arp-retry-timer *timer-multiple*

no arp-retry-timer

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Context

[Tree] (config>service>vprn>if arp-retry-timer)

[Tree] (config>service>vprn>network-interface arp-retry-timer)

Full Context

configure service vprn interface arp-retry-timer

configure service vprn network-interface arp-retry-timer

Description

This command allows the arp retry timer to be configured to a specific value.

The timer value is entered as a multiple of 100 ms. So a timer value of 1, means the ARP timer will be set to 100 ms.

The **no** form of this command removes the command from the active configuration and returns the ARP retry timer to its default value of 5 s.

Default

arp-retry-timer 50

Parameters

timer-multiple

Specifies the multiple of 100 ms that the ARP retry timer will be configured as.

Values 1 to 300 (equally a timer range of 100 ms to 30 000 ms)

Platforms

All

arp-retry-timer

Syntax

arp-retry-timer *timer-multiple*

no arp-retry-timer

Context

[Tree] (config>router>if arp-retry-timer)

Full Context

configure router interface arp-retry-timer

Description

This command allows the arp retry timer to be configured to a specific value.

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The timer value is entered as a multiple of 100 ms. So a timer value of 1, means the ARP timer will be set to 100 ms.

The **no** form of this command removes the command from the active configuration and returns the ARP retry timer to its default value of 5 seconds.

Default

arp-retry-timer 50

Parameters

timer-multiple

Specifies the multiple of 100 ms that the ARP retry timer will be configured as.

Values 1 to 300 (equally a timer range of 100 ms to 30,000 ms)

Platforms

All

7.36 arp-timeout

arp-timeout

Syntax

arp-timeout *seconds*

no arp-timeout

Context

[Tree] (config>service>vprn>if arp-timeout)

[Tree] (config>service>vprn>sub-if>grp-if arp-timeout)

[Tree] (config>service>ies>sub-if>grp-if arp-timeout)

[Tree] (config>service>ies>if arp-timeout)

Full Context

configure service vprn interface arp-timeout

configure service vprn subscriber-interface group-interface arp-timeout

configure service ies subscriber-interface group-interface arp-timeout

configure service ies interface arp-timeout

Description

This command configures the minimum time in seconds an ARP entry learned on the IP interface is stored in the ARP table. ARP entries are automatically refreshed when an ARP request or gratuitous ARP is seen

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from an IP host, otherwise, the ARP entry is aged from the ARP table. If **arp-timeout** is set to a value of zero seconds, ARP aging is disabled.

When the **arp-populate** and **lease-populate** commands are enabled on an interface, the ARP table entries will no longer be dynamically learned, but instead by snooping DHCP ACK message from a DHCP server. In this case the configured **arp-timeout** value has no effect.

The default value for **arp-timeout** is 14400 seconds (4 hours).

The **no** form of this command reverts to the default value.

Default

arp-timeout 14400

Parameters

seconds

Specifies the minimum number of seconds a learned ARP entry is stored in the ARP table, expressed as a decimal integer. A value of zero specifies that the timer is inoperative and learned ARP entries will not be aged.

Values 0 to 65535

Platforms

All

- configure service vprn interface arp-timeout
- configure service ies interface arp-timeout

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface arp-timeout
- configure service ies subscriber-interface group-interface arp-timeout

arp-timeout

Syntax

arp-timeout *seconds*

no arp-timeout

Context

[Tree] (config>service>vpls>interface arp-timeout)

Full Context

configure service vpls interface arp-timeout

Description

This command configures the minimum time in seconds an ARP entry learned on the IP interface will be stored in the ARP table. ARP entries are automatically refreshed when an ARP request or gratuitous ARP

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is seen from an IP host, otherwise, the ARP entry is aged from the ARP table. If **arp-timeout** is set to a value of zero seconds, ARP aging is disabled.

The default value for **arp-timeout** is 14400 seconds (4 hours).

The **no** form of this command restores **arp-timeout** to the default value.

Default

arp-timeout 14400

Parameters

seconds

The minimum number of seconds a learned ARP entry will be stored in the ARP table, expressed as a decimal integer. A value of zero specifies that the timer is inoperative and learned ARP entries will not be aged.

Values 0 to 65535

Platforms

All

arp-timeout

Syntax

arp-timeout *seconds*

no arp-timeout

Context

[Tree] (config>router>if arp-timeout)

Full Context

configure router interface arp-timeout

Description

This command configures the minimum time, in seconds, an ARP entry learned on the IP interface is stored in the ARP table. ARP entries are automatically refreshed when an ARP request or gratuitous ARP is seen from an IP host. Otherwise, the ARP entry is aged from the ARP table. If the **arp-timeout** value is set to 0 seconds, ARP aging is disabled.

The **no** form of this command reverts to the default value.

Default

no arp-timeout

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Parameters

seconds

The minimum number of seconds a learned ARP entry is stored in the ARP table, expressed as a decimal integer. A value of 0 specifies that the timer is inoperative and learned ARP entries will not be aged.

Values 0 to 65535

Platforms

All

7.37 as-matrix

as-matrix

Syntax

[**no**] **as-matrix**

Context

[Tree] (config>cflowd>collector>aggregation as-matrix)

Full Context

configure cflowd collector aggregation as-matrix

Description

This command specifies that the aggregation data should be based on autonomous system (AS) information. An AS matrix contains packet and byte counters for traffic from either source-destination autonomous systems or last-peer to next-peer autonomous systems.

The **no** form of this command removes this type of aggregation from the collector configuration.

Default

no as-matrix

Platforms

All

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7.38 as-override

as-override

Syntax

[**no**] **as-override**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy as-override)

Full Context

configure subscriber-mgmt bgp-peering-policy as-override

Description

This command replaces all instances of the peer's AS number with the local AS number in a BGP route's AS_PATH.

This command breaks BGP's loop detection mechanism. It should be used carefully.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

as-override

Syntax

[**no**] **as-override**

Context

[Tree] (config>service>vprn>bgp>group as-override)

[Tree] (config>service>vprn>bgp>group>neighbor as-override)

Full Context

configure service vprn bgp group as-override

configure service vprn bgp group neighbor as-override

Description

This command replaces all instances of the peer's AS number with the local AS number in a BGP route's AS_PATH.

This command breaks BGP's loop detection mechanism. It should be used carefully.

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Default

no as-override

Platforms

All

as-override

Syntax

[**no**] **as-override**

Context

[Tree] (config>router>bgp>group as-override)

[Tree] (config>router>bgp>group>neighbor as-override)

Full Context

configure router bgp group as-override

configure router bgp group neighbor as-override

Description

This command enables BGP to monitor the outbound routes toward the peer and whenever there is a route with the peer's autonomous system number (ASN) in the AS_PATH, all occurrences are removed and replaced with the advertising router's local ASN (or its confederation ID if the peer is outside the confederation).

In the group context, the **no** form of this command disables the functionality. In the neighbor context, the **no** form of this command causes the setting to be inherited from the group level.

Default

no as-override

Platforms

All

7.39 as-path

as-path

Syntax

[**no**] **as-path** *name*

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Context

[Tree] (config>router>policy-options as-path)

Full Context

configure router policy-options as-path

Description

This command creates a route policy AS path to use in route policy entries.

The **no** form of this command deletes the AS path.

Default

no as-path

Parameters

name

The AS path regular expression name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

as-path

Syntax

as-path *name*

no as-path

Context

[Tree] (config>router>policy-options>policy-statement>entry>from as-path)

Full Context

configure router policy-options policy-statement entry from as-path

Description

This command configures an AS path regular expression statement as a match criterion for the route policy entry.

If no AS path criterion is specified, any AS path is considered to match.

AS path regular expression statements are configured at the global route policy level (**config>router>policy-options>as-path** *name*).

The **no** form of this command removes the AS path regular expression statement as a match criterion.

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Default

no as-path

Parameters

name

Specifies the AS path regular expression name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end", " @variable@end", or "start@variable@".

Platforms

All

as-path

Syntax

as-path {**add** | **replace**} *name*

no as-path

Context

[Tree] (config>router>policy-options>policy-statement>default-action as-path)

[Tree] (config>router>policy-options>policy-statement>entry>action as-path)

Full Context

configure router policy-options policy-statement default-action as-path

configure router policy-options policy-statement entry action as-path

Description

This command assigns a BGP AS path list to routes matching the route policy statement entry.

If no AS path list is specified, the AS path attribute is not changed.

The **no** form of this command disables the AS path list editing action from the route policy entry.

Default

no as-path

Parameters

add

Specifies that the AS path list is to be prepended to an existing AS list.

replace

Specifies AS path list replaces any existing as path attribute.

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name

Specifies the AS path list name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end"," @variable@end", or "start@variable@".

The *name* specified must already be defined.

Platforms

All

7.40 as-path-group

as-path-group

Syntax

[**no**] **as-path-group** *name*

Context

[Tree] (config>router>policy-options as-path-group)

Full Context

configure router policy-options as-path-group

Description

This command creates a route policy AS path regular expression statement to use in route policy entries.

The **no** form of this command deletes the AS path regular expression statement.

Default

no as-path-group

Parameters

name

Specifies the AS path regular expression name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

Platforms

All

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as-path-group

Syntax

as-path-group *name*

no as-path-group *name*

Context

[Tree] (config>router>policy-options>policy-statement>entry>from as-path-group)

Full Context

configure router policy-options policy-statement entry from as-path-group

Description

This command creates a route policy AS path regular expression statement to use in route policy entries.

The **no** form of this command deletes the AS path regular expression statement.

Default

no as-path-group

Parameters

name

Specifies the AS path regular expression name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end", " @variable@end", or "start@variable@".

Platforms

All

7.41 as-path-ignore

as-path-ignore

Syntax

as-path-ignore [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**]

no as-path-ignore

Context

[Tree] (config>service>vprn>bgp>path-selection as-path-ignore)

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Full Context

configure service vprn bgp best-path-selection as-path-ignore

Description

This command configures whether AS path length is considered in the selection of the best BGP route for a prefix.

If an address family is listed in this command, the length of AS paths is not a factor in the route selection process for routes of that address family.

The **no** form of this command removes the parameter from the configuration.

Default

no as-path-ignore

Parameters

ipv4

Specifies that the AS path length is ignored for all unlabeled unicast IPv4 routes.

ipv6

Specifies that the AS path length is ignored for all unlabeled unicast IPv6 routes.

label-ipv4

Specifies that the AS path length is ignored for all labeled unicast IPv4 routes.

label-ipv6

Specifies that the AS path length is ignored for all labeled unicast IPv6 routes.

Platforms

All

as-path-ignore

Syntax

as-path-ignore [**ipv4**] [**label-ipv4**] [**vpn-ipv4**] [**ipv6**] [**label-ipv6**] [**vpn-ipv6**] [**mcast-ipv4**] [**mcast-ipv6**] [**mvpn-ipv4**] [**mvpn-ipv6**] [**l2-vpn**]

no as-path-ignore

Context

[Tree] (config>router>bgp>best-path-selection as-path-ignore)

Full Context

configure router bgp best-path-selection as-path-ignore

Description

This command configures whether AS path length is considered in the selection of the best BGP route for a prefix.

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If an address family is listed in this command, then the length of AS paths is not a factor in the route selection process for routes of that address family.

The **no** form of this command removes the parameter from the configuration.

Default

no as-path-ignore

Parameters

ipv4

Specifies that the AS-path length will be ignored for all unlabeled unicast IPv4 routes.

label-ipv4

Specifies that the AS-path length will be ignored for all labeled-unicast IPv4 routes.

vpn-ipv4

Specifies that the length AS-path will be ignored for all VPN IPv4 (SAFI 128) routes.

ipv6

Specifies that the AS-path length will be ignored for all unlabeled unicast IPv6 routes.

label-ipv6

Specifies that the AS-path length will be ignored for all labeled-unicast IPv6 routes.

vpn-ipv6

Specifies that the AS-path length will be ignored for all VPN IPv6 (SAFI 128) routes.

mcast-ipv4

Specifies that the AS-path length will be ignored for all IPv4 multicast routes.

mcast-ipv6

Specifies that the AS-path length will be ignored for all IPv6 multicast routes.

mvpn-ipv4

Specifies that the AS-path length will be ignored for all IPv4 MVPN routes.

mvpn-ipv6

Specifies that the AS-path length will be ignored for all IPv6 MVPN routes.

l2-vpn

Specifies that the AS-path length will be ignored for all L2-VPN NLRIs.

Platforms

All

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7.42 as-path-length

as-path-length

Syntax

as-path-length *length* [**equal** | **or-higher** | **or-lower**] [**unique**]

no as-path-length

Context

[Tree] (config>router>policy-options>policy-statement>entry>from as-path-length)

Full Context

configure router policy-options policy-statement entry from as-path-length

Description

This command matches BGP routes based on their AS path length (the number of AS numbers in the AS_PATH).

If no comparison qualifiers are present (**equal**, **or-higher**, **or-lower**), then **equal** is the implied default.

Confederation member AS numbers in the AS_PATH do not count towards the total. An AS_SET element is considered to have a length of 1.

The **unique** option counts.

A non-BGP route does not match a policy entry if it contains the **as-path-length** command.

Default

no as-path-length

Parameters

length

Specifies the length of the AS path.

Values 0 to 255, or a parameter name delimited by starting and ending at-sign (@) characters

equal

Specifies that matched routes should have the same number of AS path elements as the value specified.

or-higher

Specifies that matched routes should have the same or a greater number of AS path elements as the value specified.

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or-lower

Specifies that matched routes should have the same or a lower number of AS path elements as the value specified.

unique

Specifies that only the unique AS numbers should be counted (that is, multiple occurrences of the same AS number in the sequence count as one).

Platforms

All

7.43 as-path-prepend

as-path-prepend

Syntax

as-path-prepend *as-path* [*repeat*]

as-path-prepend most-recent [*repeat*]

no as-path-prepend

Context

[Tree] (config>router>policy-options>policy-statement>default-action as-path-prepend)

[Tree] (config>router>policy-options>policy-statement>entry>action as-path-prepend)

Full Context

configure router policy-options policy-statement default-action as-path-prepend

configure router policy-options policy-statement entry action as-path-prepend

Description

The command prepends a BGP AS number once or numerous times to the AS path attribute of routes matching the route policy statement entry.

If an AS number is not configured, the AS path is not changed.

If the optional *number* is specified, then the AS number is prepended as many times as indicated by the number.

The **no** form of this command disables the AS path prepend action from the route policy entry.

Default

no as-path-prepend

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Parameters

as-path

Specifies the AS number to prepend expressed as a decimal integer.

Values 1 to 4294967295

param-name — Specifies the AS path parameter variable name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

repeat

Specifies the number of times to prepend the specified AS number expressed as a decimal integer.

Values 1 to 50

param-name — Specifies the AS path parameter variable name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

most-recent

Specifies that the most recent AS number must be prepended to the AS-Path attribute of the route.

Platforms

All

7.44 asbr

asbr

Syntax

[**no**] **asbr** [**trace-path** *domain-id*]

no asbr

[**no**] **asbr**

Context

[Tree] (config>router>ospf3 asbr)

[Tree] (config>router>ospf asbr)

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Full Context

configure router ospf3 asbr

configure router ospf asbr

Description

This command configures the router as an Autonomous System Boundary Router (ASBR) if the router is to be used to export routes from the Routing Table Manager (RTM) into this instance of OSPF. After a router is configured as an ASBR, the export policies into this OSPF domain take effect. If no policies are configured, no external routes are redistributed into the OSPF domain.

The **no** form of this command removes the ASBR status and withdraws the routes redistributed from the Routing Table Manager into this instance of OSPF from the link state database.

When configuring multiple instances of OSPF, there is a risk of loops because networks are advertised by multiple domains configured with multiple interconnections to one another. To prevent this from happening, all routers in a domain should be configured with the same domain ID. Each domain (OSPF-instance) should be assigned a specific bit value in the 32-bit tag mask.

When an external route is originated by an ASBR using an internal OSPF route in a given domain, the corresponding bit is set in the AS-external LSA. As the route gets redistributed from one domain to another, more bits are set in the tag mask, each corresponding to the OSPF domain the route visited. Route redistribution looping is prevented by checking the corresponding bit as part of the export policy; if the bit corresponding to the announcing OSPF process is already set, the route is not exported there.

Domain IDs are incompatible with any other use of normal tags. The domain ID should be configured with a value between 1 and 31 by each router in a given OSPF domain (OSPF Instance).

When an external route is originated by an ASBR using an internal OSPF route in a given domain, the corresponding (1-31) bit is set in the AS-external LSA.

As the route gets redistributed from one domain to another, more bits are set in the tag mask, each corresponding to the OSPF domain the route visited. Route redistribution looping is prevented by checking the corresponding bit as part of the export policy; if the bit corresponding to the announcing OSPF process is already set, the route is not exported there.

Default

no asbr

Parameters

domain-id

Specifies the domain ID.

Values 1 to 31

Default 0

Platforms

All

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7.45 assert

assert

Syntax

assert [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no assert

Context

[Tree] (debug>router>pim assert)

Full Context

debug router pim assert

Description

This command enables debugging for PIM assert mechanism.

The **no** form of this command disables PIM assert debugging.

Parameters

grp-ip-address

Debugs information associated with the PIM assert mechanism.

Values multicast group address (ipv4, ipv6)

ip-address

Debugs information associated with the PIM assert mechanism.

Values source address (ipv4, ipv6)

detail

Debugs detailed information on the PIM assert mechanism.

Platforms

All

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7.46 assert-period

assert-period

Syntax

assert-period *assert-period*

no assert-period

Context

[Tree] (config>service>vprn>pim>if assert-period)

Full Context

configure service vprn pim interface assert-period

Description

This command configures the period in seconds for periodic refreshes of PIM Assert messages on an interface.

The **no** form of this command reverts to the default.

Default

assert-period 60

Parameters

assert-period

Specifies the period, in seconds, for periodic refreshes of PIM Assert messages on an interface.

Values 1 to 300

Platforms

All

assert-period

Syntax

assert-period *assert-period*

no assert-period

Context

[Tree] (config>router>pim>interface assert-period)

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Full Context

configure router pim interface assert-period

Description

This command configures the period for periodic refreshes of PIM Assert messages on an interface.

The **no** form of this command removes the assert-period from the configuration.

Default

no assert-period

Parameters

assert-period

Specifies the period, in seconds, for periodic refreshes of PIM Assert messages on an interface.

Values 1 to 300

Platforms

All

7.47 assignment

assignment

Syntax

assignment {**port** *port-id* | **card** *slot-number*}

no assignment

Context

[Tree] (config>service>cust>multi-service-site assignment)

Full Context

configure service customer multi-service-site assignment

Description

This command assigns a multi-service customer site to a specific chassis slot, port, or channel. This allows the system to allocate the resources necessary to create the virtual schedulers defined in the ingress and egress scheduler policies as they are specified. This also verifies that each SAP assigned to the site exists within the context of the proper customer ID and that the SAP was configured on the proper slot, port, or channel. The assignment must be given prior to any SAP associations with the site.

The **no** form of this command removes the port, channel, or slot assignment. If the customer site has not yet been assigned, the command has no effect and returns without any warnings or messages.

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Default

no assignment

Parameters

port-id

Assigns the multi-service customer site to the port-id or port-id.channel-id given. When the multi-service customer site is assigned to a specific port or channel, all SAPs associated with this customer site must be on a service owned by the customer and created on the defined port or channel. The defined port or channel must already have been pre-provisioned on the system but need not be installed when the customer site assignment is made.

Syntax: *port-id*[:encap-val]

Values For the 7950 XRS:

slot/mda/port [.channel]

eth-tunnel-id - eth-tunnel-<id>

	eth-tunnel	keyword
	id	[1..1024]
lag-id	lag-id	
	lag	keyword
	id	1 to 800
	id	[1..1024]
eth-sat-id	esat-id/slot/port	
	esat	keyword
	id: 1 to 20	
	u	keyword
pxc-id	pxc-<id>.<sub-port>	
	pxc	keyword
	id: 1 to 64	
	sub-port	a, b
lag		keyword
id	1 to 800	1 to 800
pw-id	pw-<id>	
	pw	keyword
	id	1 to 32767

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For the 7750 SR and the 7450 ESS:

port-id	slot/mda/port[.channel]		
	aps-id	aps-group-id[.channel]	
		aps keyword	
		group-id	1 to 128
	eth-tunnel-id	eth-tunnel-<id>	
		eth-tunnel	keyword
		id	1 to 1024
	lag-id	lag-id	
		lag	keyword
		id	1 to 800
		id	1 to 1024
	eth-sat-id	esat-<id>/<slot>/[u]<port>	
		esat	keyword
		id	1 to 20
		u	keyword for up-link port
	pxc-id	psc-id.sub-port	
		pxc psc-id.sub-port	
		pxc	keyword
		id: 1 to 64	
		sub-port: a, b	
	pw-id	pw-<id>	
		pw	keyword
		id	1 to 32767
slot-number	1 to 10		
fpe-id	1 to 64		

slot-number

Assigns the multi-service customer site to the slot-number given. When the multi-service customer site is assigned to a specific slot in the chassis, all SAPs associated with this customer site must be on a service owned by the customer and created on the defined chassis slot. The defined slot must already be pre-provisioned on the system but need not be installed when the customer site assignment is made.

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Values Any pre-provisioned slot number for the chassis type that allows SAP creation.

1 to 20

fpe-id

Specifies the multi-service-site (MSS) assignment to an FPE object for the purpose of controlling aggregated bandwidth across a set of PW SAPs.

Values 1 to 64

Platforms

All

7.48 assignment-id

assignment-id

Syntax

assignment-id *assignment-id*

Context

[Tree] (debug>router>l2tp assignment-id)

Full Context

debug router l2tp assignment-id

Description

This command enables and configures debugging for the L2TP tunnel with a given assignment ID.

Parameters

assignment-id

Specifies a string that distinguishes this L2TP tunnel, up to 63 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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7.49 assisted-replication

assisted-replication

Syntax

assisted-replication leaf [**replicator-activation-time** *seconds*]

assisted-replication replicator [**preserve-leave-source-vtep**]

no assisted-replication

Context

[Tree] (config>service>vpls>vxlan assisted-replication)

Full Context

configure service vpls vxlan assisted-replication

Description

This command enables the AR function for VXLAN tunnels in the service. The execution of this command triggers the BGP EVPN to send an update containing the inclusive multicast route for the service and the AR type=AR Replicator (AR-R) or AR-L.

The replicators switch the VXLAN traffic back to VXLAN destinations when the IP destination address matches their own AR-IP address. Leaf nodes select a replicator node and send all the broadcast or multicast frames to it, allowing the replicator to replicate traffic on their behalf.

Enabling or disabling the AR function, or changing the role between the replicator and leaf, requires the BGP EVPN MPLS to be shutdown.

If the **leaf** parameter is configured, the system creates a broadcast or multicast (BM) destination to the selected AR-R and unknown unicast (U) destinations to the rest of the VTEPs. If no replicator exists, the leaf creates BUM bindings to all the VTEPs.

If the **replicator** parameter is configured, the system creates BUM destinations to the remote leafs, RNVE, and other AR-Rs. The system performs assisted replication for traffic from known VTEPs only (that is, where the routes have been received and programmed toward a VTEP).

The **no** form of this command removes the AR function from the service.

Default

no assisted-replication

Parameters

replicator-activation-time *seconds*

Specifies the optional parameter that can be added to the leaf parameter. It specifies the wait time before the leaf can begin sending traffic to a new replicator, allowing some time for the replicator to learn about the leaf.

Values 1 to 255

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Default 0 seconds (indicates **no replicator-activation-time** and no delay in sending packets to the AR-R)

replicator | leaf

Keyword to select the AR role of the router for the service.

preserve-leaf-source-vtep

Keyword to enable the preservation of the leaf source VTEP.

Platforms

All

7.50 assisted-replication-ip

assisted-replication-ip

Syntax

assisted-replication-ip *ip-address*

no assisted-replication-ip

Context

[Tree] (config>service>system>vxlan assisted-replication-ip)

Full Context

configure service system vxlan assisted-replication-ip

Description

The assisted-replication-ip (AR-IP) command defines the IP address that supports the AR-R function in the router. The AR-IP address must also be defined as a loopback address in the base router and advertised in the IGP/BGP so that it is accessible to the remote NVE/PEs in the Overlay network.

If the AR-R function is enabled in a service, the Broadcast and Multicast frames encapsulated in VXLAN packets arriving at the router are replicated to the other VXLAN destinations within the service (except the destination pointing at the originator of the packet).

The **no** version of this command removes the AR IP address.

Default

no assisted-replication-ip

Parameters

ip-address

Specifies the assisted replication IP address.

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Platforms

All

7.51 assistive-address-resolution

assistive-address-resolution

Syntax

[**no**] **assistive-address-resolution**

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext assistive-address-resolution)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext assistive-address-resolution)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext assistive-address-resolution

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext assistive-address-resolution

Description

This command enables assistive address resolution (AAR) for HLE services.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.52 association

association

Syntax

association *name*

no association

Context

[Tree] (config>service>vpls>sap>pfcp association)

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Full Context

configure service vpls sap pfcp association

Description

This command links this capture SAP to a PFCP association. This command enables CUPS for this capture SAP and makes any trigger packets eligible for forwarding to the BNG CUPS CPF.

The **no** form of this command disables CUPS for this capture SAP.

Parameters

name

Specifies the name of the association, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

association

Syntax

association *ma-index* [**format** *ma-name-format*] **name** *ma-name* [**admin-name** *admin-name*]

association *ma-index*

no association *ma-index*

Context

[Tree] (config>eth-cfm>domain association)

Full Context

configure eth-cfm domain association

Description

This command configures the Maintenance Association (MA) for the domain.

Parameters

ma-index

Specifies the MA index value.

Values 1 to 4294967295

ma-name-format

Specifies a value that represents the type (format).

Values

icc-based: Only applicable to a Y.1731 context where the domain format is configured as none. Allows for a name of exactly 13 characters.

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integer:	0 to 65535 (integer value 0 means the MA is not attached to a VID)
string:	raw ascii
vid:	0 to 4095
vpn-id:	RFC-2685, *Virtual Private Networks Identifier* xxx:xxxx, where x is a value between 00 and FF, for example, 00164D:AABBCCDD

Default integer

ma-name

Specifies the part of the MA identifier that is unique within the maintenance domain name, up to 45 characters.

admin-name

Specifies a creation time required parameter that allows the operator to assign a name value to the domain container. This is used for information and migration purposes. This value cannot be modified without destroying the domain. If no *admin-name* exists, the configured *md-index* value is converted into a character string to become the *admin-name* reference. When upgrading from a release that does not include the **admin-name** configuration option, the *md-index* is converted into a character string. After an *admin-name* value is assigned, it cannot be modified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

7.53 association-id

association-id

Syntax

association-id *association-id*

no association-id

Context

[Tree] (config>router>pcep>pcc>pce-assoc>div association-id)

Full Context

configure router pcep pcc pce-associations diversity association-id

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Description

This command configures the diversity association ID. The user must specify an association ID.

The **no** form of the command removes the association ID from the diversity association.

Default

no association-id

Parameters

association-id

Specifies the diversity association ID.

Values 1 to 65535

Platforms

All

association-id

Syntax

association-id *association-id*

no association-id

Context

[Tree] (config>router>pcep>pcc>pce-assoc>plcy association-id)

Full Context

configure router pcep pcc pce-associations policy association-id

Description

This command configures the policy association ID. The user must specify an association ID.

The **no** form of the command removes the association ID from the policy association.

Default

no association-id

Parameters

association-id

Specifies the policy association ID.

Values 1 to 65535

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Platforms

All

7.54 association-source

association-source

Syntax

association-source *ip-address*

no association-source

Context

[Tree] (config>router>pcep>pcc>pce-assoc>div association-source)

Full Context

configure router pcep pcc pce-associations diversity association-source

Description

This command configures the source IP address of the diversity association.

The **no** form of the command removes the IP address from the diversity association.

Default

no association-source

Parameters

ip-address

Specifies the source IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

Platforms

All

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association-source

Syntax

association-source *ip-address*

no association-source

Context

[Tree] (config>router>pcep>pcc>pce-assoc>plcy association-source)

Full Context

configure router pcep pcc pce-associations policy association-source

Description

This command configures the source IP address of the policy association.

The **no** form of the command removes IP address from the policy association.

Default

no association-source

Parameters

ip-address

Specifies the source IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

Platforms

All

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7.55 async-mapping

async-mapping

Syntax

[**no**] **async-mapping**

Context

[Tree] (config>port>otu async-mapping)

Full Context

configure port otu async-mapping

Description

This command allows the user to configure the port to support asynchronous mapping of the payload inside the OTU. If the port is configured for async-mapping and the payload clock is asynchronous to the OTU clock, there will be positive or negative pointer justification that will show up in the OTU statistics and the data will be received error free. If the port is configured for synchronous mapping and the received data is asynchronously mapped, there will be errors in the received data.

async-mapping is the only mode of operation that is supported on the OTU3 encapsulated 40-Gigabit Ethernet and therefore the 'no async-mapping' is not supported on that port type and the default on the is async-mapping.

The **no** form of this command configures the port to receive synchronously mapped data.

Default

no async-mapping

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

7.56 asynchronous-execution

asynchronous-execution

Syntax

asynchronous-execution *seconds*

asynchronous-execution never

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Context

[Tree] (config>system>management-interface>ops>global-timeout asynchronous-execution)

Full Context

configure system management-interface operations global-timeouts asynchronous-execution

Description

This command configures the period of time that operations launched as "asynchronous" are allowed to execute before being automatically stopped by the SR OS.

An asynchronous operation is not deleted from the system when it is stopped. See the **asynchronous-retention** command.

If a specific execution timeout is not included in the request for a particular asynchronous operation, this system-level timeout applies.

Note:
This execution timeout is part of the general global operations infrastructure and is separate and independent from any operation-specific timeouts (for example, the **ping** operation also has its own **timeout** parameter).

Default

asynchronous-execution 3600

Parameters

seconds

Specifies the period of time, in seconds, that asynchronous operations are allowed to execute.

Values 1 to 604800

never

Keyword to specify that an execution timeout is not applied to asynchronous operations.

Platforms

All

7.57 asynchronous-retention

asynchronous-retention

Syntax

asynchronous-retention *seconds*

asynchronous-retention never

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Context

[Tree] (config>system>management-interface>ops>global-timeout asynchronous-retention)

Full Context

configure system management-interface operations global-timeouts asynchronous-retention

Description

This command configures the period of time that data related to operations launched as "asynchronous" is retained in the system. After the retention timeout expires, all information related to the operation is deleted, including any status information and result data.

If a specific retention timeout is not included in the request for a particular asynchronous operation, this system-level timeout applies.

Default

asynchronous-retention 86400

Parameters

seconds

Specifies the period of time, in seconds, that data related to asynchronous operations is retained in the system.

Values 1 to 604800

never

Keyword to specify that data related to asynchronous operations will persist in memory until explicitly deleted.

Platforms

All

7.58 attempts

attempts

Syntax

attempts *count* [**time** *minutes1* [**lockout** *minutes2*]

no attempts

Context

[Tree] (config>system>security>password attempts)

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Full Context

configure system security password attempts

Description

This command configures a threshold value of unsuccessful login attempts allowed in a specified time frame.

If the threshold is exceeded, the user is locked out for a specified time period.

If multiple **attempts** commands are entered, each command overwrites the previously entered command.

The **no attempts** command resets all values to default.

Note:
This command applies to a local user, in addition to users on RADIUS, TACACS, and LDAP.

Default

attempts 3 time 5 lockout 10

Parameters

count

Specifies the number of unsuccessful login attempts allowed for the specified **time**. This is a mandatory value that must be explicitly entered.

Values 1 to 64

minutes

Specifies the period of time, in minutes, that a specified number of unsuccessful attempts can be made before the user is locked out.

Values 0 to 60

minutes

Specifies the lockout period, in minutes, during which the user is not allowed to login.

Values 0 to 1440, or infinite

If the user exceeds the attempted **count** times in the specified **time**, then that user is locked out from any further login attempts for the configured lockout time period.

Values 0 to 1440

Values infinite; user is locked out and must wait until manually unlocked before any further attempts.

Platforms

All

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attempts

Syntax

attempts [*count*] [**time** *minutes1*] [**lockout** *minutes2*]

no attempts

Context

[Tree] (config>system>security>snmp attempts)

Full Context

configure system security snmp attempts

Description

This command configures a threshold value of unsuccessful SNMPv2 or SNMPv3 connection attempts allowed in a specified time frame. The command parameters are used to counter denial of service (DoS) attacks through SNMP.

If the threshold is exceeded, the host is locked out for the lockout time period.

The **no** form of the command restores the default values.

Default

attempts 20 time 5 lockout 10

Parameters

count

Specifies the number unsuccessful SNMP attempts allowed for the specified **time**.

Values 1 to 64

minutes1

Specifies period of time, in minutes, that a specified number of unsuccessful attempts can be made before the host is locked out.

Values 0 to 60

minutes2

Specifies the lockout period in minutes where the host is not allowed to login. When the host exceeds the attempted count times in the specified time, then that host is locked out from any further login attempts for the configured time period.

Values 0 to 144**0**

Platforms

All

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7.59 attrib

attrib

Syntax

attrib [**+r** | **-r**] *file-url*

attrib

Context

[Tree] (file attrib)

Full Context

file attrib

Description

This command sets or clears/resets the read-only attribute for a file in the local file system. To list all files and their current attributes enter **attrib** or **attrib x** where **x** is either the filename or a wildcard (*).

When an **attrib** command is entered to list a specific file or all files in a directory, the file's attributes are displayed with or without an "R" preceding the filename. The "R" implies that the **+r** is set and that the file is read-only. Files without the "R" designation implies that the **-r** is set and that the file is read-write-all. For example:

```
ALA-1>file cf3:\ # attrib
cf3:\bootlog.txt
cf3:\bof.cfg
cf3:\boot.ldr
cf3:\sr1.cfg
cf3:\test
cf3:\bootlog_prev.txt
cf3:\BOF.SAV
```

Parameters

file-url

Specifies the URL for the local file.

Values

local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length 99 chars max each
remote-url	[{ftp:// | tftp://}*login*:*pswd@remote-locn/*][*file-path*] up to 247 characters directory length up to 199 characters
remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]

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ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
	x:x:x:x:x:x:d.d.d.d[*-interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

+r

Sets the read-only attribute on the specified file.

-r

Clears/resets the read-only attribute on the specified file.

Platforms

All

7.60 attribute

attribute

Syntax

attribute [**vendor** *vendor-id*] **attribute-type** *attribute-type*

no attribute

Context

[Tree] (config>router>nat>inside>subscriber-identification attribute)

[Tree] (config>service>vprn>nat>inside>subscriber-identification attribute)

Full Context

configure router nat inside subscriber-identification attribute

configure service vprn nat inside subscriber-identification attribute

Description

This command defines the attribute that will in addition to framed-ip-address (inside IP address) and service-id be used for correlating BNG subscriber with the NAT subscriber.

Only a single attribute at the time can be configured. The attribute will be extracted from the BNG accounting start and/or interim-update messages via RADIUS accounting proxy server. This attribute can

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be then optionally passed to the Large Scale NAT44 accounting server. User-name attribute (if included) in Large Scale NAT44 accounting messages will be automatically set to the subscriber-id string.

The attribute parameter can be changed at any given time and the change will be reflected automatically when the next interim-update message from the BNG host is received by the RADIUS accounting proxy.

In case that the BNG accounting message in RADIUS accounting proxy does not contain this attribute, subscriber aware Large Scale NAT44 functionality for this particular subscriber will be disabled.

Default

attribute vendor "nokia" attribute-type "alc-sub-string"

Parameters

vendor *vendor-id*

specifies the RADIUS vendor ID.

Values standard, nokia (6527), 3gpp

Default nokia

attribute-type *attribute-type*

Specifies the RADIUS attribute to be used as subscriber. identifier

Values **alc-sub-string (nokia)** — Subscriber-id string (Alc-Subsc-ID-Str) is cached in Large Scale NAT44 application and used to correlate Large Scale NAT44 subscriber to BNG subscriber.

user-name (stnd) — User-Name standard RADIUS attribute is cached in Large Scale NAT44 application and is used to correlate Large Scale NAT44 subscriber to BNG subscriber.

class (stnd) — Class standard RADIUS attribute is cached in Large Scale NAT44 application and is used to correlate Large Scale NAT44 subscriber to BNG subscriber. Class attribute is initially set and send by RADIUS server. As such it must be echoed by BNG in all accounting messages.

station-id (stnd) — Calling-Station-Id RADIUS attribute is cached in Large Scale NAT44 application and is used to correlate Large Scale NAT44 subscriber to BNG subscriber.

imsi (3gpp) — International Mobile Subscriber Identification is used in WiFi Offload applications as a SIM card identifier.

imei (3gpp) — International Mobile Equipment Identification is used in WiFi Offload applications as a physical phone device identifier.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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7.61 attribute-matching

attribute-matching

Syntax

attribute-matching

Context

[Tree] (config>router>radius-proxy>server attribute-matching)

[Tree] (config>service>vprn>radius-proxy>server attribute-matching)

Full Context

configure router radius-proxy server attribute-matching

configure service vprn radius-proxy server attribute-matching

Description

Commands in this context select the RADIUS policy for authentication and accounting based on the RADIUS attribute. This feature is supported for both the ESM RADIUS proxy and the ISA RADIUS proxy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.62 attribute-propagation

attribute-propagation

Syntax

[**no**] **attribute-propagation**

Context

[Tree] (config>service>system>bgp-evpn>ad-per-evi-routes attribute-propagation)

Full Context

configure service system bgp-evpn ad-per-evi-routes attribute-propagation

Description

This command enables attribute propagation in multi-instance Epipe services.

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The **no** form of this command disables the propagation of attributes, including D-PATH, even if the **domain-id** is configured in the service.

Default

no attribute-propagation

Platforms

All

7.63 attribute-set

attribute-set

Syntax

attribute-set

Context

[Tree] (config>service>vprn>bgp attribute-set)

Full Context

configure service vprn bgp attribute-set

Description

Commands in this context configure the handling of attribute set (ATTR_SET) attributes in BGP routes received from PE-CE peers of the VPRN.

ATTR_SET is an optional transitive BGP path attribute standardized by RFC 6368 that is added to BGP Layer 3 VPN routes to provide logical separation between the BGP domain of a customer and the BGP domain of a service provider.

Platforms

All

attribute-set

Syntax

attribute-set

Context

[Tree] (config>service>vprn>bgp-ipvpn attribute-set)

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Full Context

configure service vprn bgp-ipvpn attribute-set

Description

Commands in this context configure the handling of attribute set (ATTR_SET) attributes attached to VPN-IP routes imported into or exported from the VPRN.

ATTR_SET is an optional transitive BGP path attribute standardized by RFC 6368 that is added to BGP Layer 3 VPN routes to provide logical separation between the BGP domain of a customer and the BGP domain of a service provider.

Platforms

All

7.64 attribute-table-high-wmark

attribute-table-high-wmark

Syntax

no attribute-table-high-wmark *high-water-mark*

no attribute-table-high-wmark

Context

[Tree] (config>service>vpls>mrp>mmrp attribute-table-high-wmark)

[Tree] (config>service>vpls>mrp>mvrp attribute-table-high-wmark)

Full Context

configure service vpls mrp mmrp attribute-table-high-wmark

configure service vpls mrp mvrp attribute-table-high-wmark

Description

This command specifies the percentage filling level of the MMRP attribute table where logs and traps are sent.

Default

attribute-table-high-wmark 95

Parameters

high-water-mark

Specifies the utilization of the MRP attribute table of this service at which a table full alarm will be raised by the agent, as a percentage.

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Values 0 to 100

Platforms

All

7.65 attribute-table-low-wmark

attribute-table-low-wmark

Syntax

attribute-table-low-wmark *low-water-mark*

no attribute-table-low-wmark

Context

[Tree] (config>service>vpls>mrp>mvrp attribute-table-low-wmark)

[Tree] (config>service>vpls>mrp>mmrp attribute-table-low-wmark)

Full Context

configure service vpls mrp mvrp attribute-table-low-wmark

configure service vpls mrp mmrp attribute-table-low-wmark

Description

This command specifies the MMRP attribute table low watermark as a percentage. When the percentage filling level of the MMRP attribute table drops below the configured value, the corresponding trap is cleared and/or a log entry is added.

Default

attribute-table-low-wmark 90

Parameters

low-water-mark

Specifies utilization of the MRP attribute table of this service at which a table full alarm will be cleared by the agent, as a percentage.

Values 0 to 100

Platforms

All

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7.66 attribute-table-size

attribute-table-size

Syntax

attribute-table-size *max-attributes*

no attribute-table-size

Context

[Tree] (config>service>vpls>mrp>mmrp attribute-table-size)

Full Context

configure service vpls mrp mmrp attribute-table-size

Description

This command controls the number of attributes accepted on a per B-VPLS basis. When the limit is reached, no new attributes will be registered.

If a new lower limit (smaller than the current number of attributes) from a local or dynamic I-VPLS is being provisioned, a CLI warning will be issued stating that the system is currently beyond the new limit. The value will be accepted, but any creation of new attributes will be blocked under the attribute count drops below the new limit; the software will then start enforcing the new limit.

Default

maximum number of attributes

Parameters

value

The maximum number of attributes accepted per B-VPLS.

Values 1 to 2048 (Full participants)

1 to 8191 (End-Station-Only participants)

Platforms

All

attribute-table-size

Syntax

[**no**] **attribute-table-size** *value*

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Context

[Tree] (config>service>vpls>mrp>mvrp attribute-table-size)

Full Context

configure service vpls mrp mvrp attribute-table-size

Description

This command controls the number of attributes accepted on a per M-VPLS basis. When the limit is reached, no new attributes will be registered.

If a new lower limit (smaller than the current number of attributes) is being provisioned, a CLI warning will be issued stating that the system is currently beyond the new limit. The value will be accepted, but any creation of new attributes will be blocked under the attribute count drops below the new limit; the software will then start enforcing the new limit.

Default

maximum number of attributes

Parameters

value

Specifies the number of attributes accepted on a per M-VPLS basis

Values 1 to 4095 for MVRP

Platforms

All

7.67 attribute-uniform-propagation

attribute-uniform-propagation

Syntax

[**no**] **attribute-uniform-propagation**

Context

[Tree] (config>service>system>bgp-evpn>ip-prefix-routes>iff attribute-uniform-propagation)

Full Context

configure service system bgp-evpn ip-prefix-routes interface-ful attribute-uniform-propagation

Description

This command enables the uniform propagation of BGP attributes for EVPN Interface-ful (EVPN-IFF) routes. EVPN-IFF is used in R-VPLS services with **bgp-evpn**>**ip-route-advertisement**. When enabled,

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the received EVPN-IFF routes for the R-VPLS can be propagated with the original BGP path attributes into EVPN-IFL, IPVPN, EVPN-IFF (in other R-VPLS services), or BGP IP routes advertised for the attached VPRN. This command also enables the attribute propagation in the opposite direction; for example, from EVPN-IFL, IPVPN, IP, or EVPN-IFF routes into EVPN-IFF routes.

The propagation is in accordance with the uniform mode defined in *draft-ietf-bess-evpn-ipvpn-interworking*.

The **no** form of this command re-originates the BGP path attributes when propagating EVPN-IFF routes into other inter-subnet forwarding families.

Default

no attribute-uniform-propagation

Platforms

All

7.68 augment-route-table

augment-route-table

Syntax

[**no**] **augment-route-table**

Context

[Tree] (config>router>isis>loopfree-alternates augment-route-table)

Full Context

configure router isis loopfree-alternates augment-route-table

Description

This command enables IS-IS to attach Remote LFA specific information to RTM entries for use by other protocols. This command requires **configure router isis lfa remote-lfa** to be enabled. Currently only LDP makes use of this additional information.

The **no** form of this command disables IS-IS to attach Remote LFA specific information to RTM entries for use by other protocols.

Platforms

All

augment-route-table

Syntax

[**no**] **augment-route-table**

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Context

[Tree] (config>router>ospf>loopfree-alternates augment-route-table)

Full Context

configure router ospf loopfree-alternates augment-route-table

Description

This command enables OSPF to attach Remote LFA (rLFA) information to RTM entries for use by other protocols. Before this command is configured, the **configure router ospf lfa remote-lfa** command, must be enabled on the system. Currently, only LDP makes use of this additional information.

The **no** form of this command disables the attachment of rLFA-specific information to RTM entries for use by other protocols.

Default

no augment-route-table

Platforms

All

7.69 auth

auth

Syntax

[**no**] **auth**

Context

[Tree] (debug>router>rsvp>event auth)

Full Context

debug router rsvp event auth

Description

This command debugs auth events.

The **no** form of the command disables the debugging.

Platforms

All

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auth

Syntax

[**no**] **auth** [**neighbor** *ip-int-name* | *ip-address*]

Context

[Tree] (debug>router>rip auth)

Full Context

debug router rip auth

Description

This command enables debugging for RIP authentication.

Parameters

ip-int-name* | *ip-address

Debugs the RIP authentication for the neighbor IP address or interface.

Platforms

All

7.70 auth-domain-name

auth-domain-name

Syntax

auth-domain-name *domain-name*

no auth-domain-name

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host auth-domain-name)

Full Context

configure subscriber-mgmt local-user-db ipoe host auth-domain-name

Description

This command sets the domain name which can be appended to user-name in RADIUS-authentication-request message for the given host.

The **no** form of this command removes the domain name from the host configuration.

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Parameters

domain-name

Specifies the domain name, up to 32 characters, to be appended to user-name in RADIUS-authentication-request message for the given host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.71 auth-include-attributes

auth-include-attributes

Syntax

[**no**] **auth-include-attributes**

Context

[Tree] (config>aaa>isa-radius-plcy auth-include-attributes)

Full Context

configure aaa isa-radius-policy auth-include-attributes

Description

This command configures attributes to be included in RADIUS authentication messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.72 auth-keychain

auth-keychain

Syntax

auth-keychain *name*

no auth-keychain

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy auth-keychain)

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Full Context

configure subscriber-mgmt bgp-peering-policy auth-keychain

Description

This command configures the BGP authentication key for all peers.

The keychain allows the rollover of authentication keys during the lifetime of a session.

The **no** form of this command reverts to the default.

Parameters

name

Specifies the name of an existing keychain, up to 32 characters, to use for the specified TCP session or sessions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

auth-keychain

Syntax

auth-keychain *name*

Context

[Tree] (config>service>vprn>bgp auth-keychain)

[Tree] (config>service>vprn>bgp>group auth-keychain)

[Tree] (config>service>vprn>bgp>group>neighbor auth-keychain)

Full Context

configure service vprn bgp auth-keychain

configure service vprn bgp group auth-keychain

configure service vprn bgp group neighbor auth-keychain

Description

This command configures the BGP authentication key for all peers.

The keychain allows the rollover of authentication keys during the lifetime of a session.

Default

no auth-keychain

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Parameters

name

Specifies the name of an existing keychain, up to 32 characters, to use for the specified TCP session or sessions.

Platforms

All

auth-keychain

Syntax

auth-keychain *name*

Context

[Tree] (config>service>vprn>isis>level auth-keychain)

[Tree] (config>service>vprn>isis auth-keychain)

Full Context

configure service vprn isis level auth-keychain

configure service vprn isis auth-keychain

Description

This command configures an authentication keychain to use for the protocol interface for the VPRN instance. The keychain allows the rollover of authentication keys during the lifetime of a session.

Default

no auth-keychain

Parameters

name

Specifies the name of the keychain, up to 32 characters, to use for the specified protocol session or sessions.

Platforms

All

auth-keychain

Syntax

auth-keychain *name*

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Context

[Tree] (config>router>isis auth-keychain)

[Tree] (config>router>isis>level auth-keychain)

Full Context

configure router isis auth-keychain

configure router isis level auth-keychain

Description

This command configures an authentication keychain to use for the protocol interface. The keychain allows the rollover of authentication keys during the lifetime of a session.

Parameters

name

Specifies the name of the keychain, up to 32 characters, to use for the specified protocol session or sessions.

Platforms

All

auth-keychain

Syntax

auth-keychain *name*

Context

[Tree] (config>service>vprn>ospf>area>virtual-link auth-keychain)

[Tree] (config>service>vprn>ospf>area>sham-link auth-keychain)

[Tree] (config>service>vprn>ospf>area>if auth-keychain)

Full Context

configure service vprn ospf area virtual-link auth-keychain

configure service vprn ospf area sham-link auth-keychain

configure service vprn ospf area interface auth-keychain

Description

This command enables the authentication keychain.

Parameters

name

Specifies the name of the authentication keychain, up to 32 characters.

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Platforms

All

auth-keychain

Syntax

auth-keychain *name*

Context

[Tree] (config>router>ldp>tcp-session-params auth-keychain)

[Tree] (config>router>ldp>tcp-session-params>peer-transport auth-keychain)

Full Context

configure router ldp tcp-session-parameters auth-keychain

configure router ldp tcp-session-parameters peer-transport auth-keychain

Description

This command configures the TCP authentication keychain to use for the TCP session. The per-peer authentication configuration takes precedence over the global authentication configuration.

Parameters

name

Specifies the name of the keychain, up to 32 characters. This keychain is used for the specified TCP session or sessions, and allows the rollover of authentication keys during the lifetime of a session. The peer address used must be the TCP session transport address.

Platforms

All

auth-keychain

Syntax

auth-keychain *name*

Context

[Tree] (config>router>rsvp>interface auth-keychain)

Full Context

configure router rsvp interface auth-keychain

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Description

This command configures an authentication keychain to use for authentication of protocol messages sent and received over the associated interface. The keychain must include a valid entry to properly authenticate protocol messages, including a key, specification of a supported authentication algorithm, and beginning time. Each entry may also include additional options to control the overall lifetime of each entry to allow for the seamless rollover of without affecting the protocol adjacencies.

The **no** form of the auth-keychain command removes the association between the routing protocol and any keychain currently used.

Default

no auth-keychain

Parameters

name

Specifies the name of the keychain, up to 32 characters, to use for the specified protocol session or sessions.

Platforms

All

auth-keychain

Syntax

auth-keychain *name*

Context

[Tree] (config>router>bgp>group auth-keychain)

[Tree] (config>router>bgp>group>neighbor auth-keychain)

[Tree] (config>router>bgp auth-keychain)

Full Context

configure router bgp group auth-keychain

configure router bgp group neighbor auth-keychain

configure router bgp auth-keychain

Description

This command configures a TCP authentication keychain to use for the session. The keychain allows the rollover of authentication keys during the lifetime of a session.

Default

no auth-keychain

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Parameters

name

Specifies the name of the keychain, up to 32 characters, to use for the specified TCP session or sessions.

Platforms

All

auth-keychain

Syntax

auth-keychain

Context

[Tree] (config>router>ospf>area>virtual-link auth-keychain)

[Tree] (config>router>ospf>area>interface auth-keychain)

Full Context

configure router ospf area virtual-link auth-keychain

configure router ospf area interface auth-keychain

Description

This command configures an authentication keychain to use for the protocol interface. The keychain allows the rollover of authentication keys during the lifetime of a session.

The **no** form of this command removes the association to a previously specified keychain.

Default

no auth-keychain

Parameters

name

Specifies the name of the keychain, up to 32 characters, to use for the specified protocol session or sessions.

Platforms

All

auth-keychain

Syntax

auth-keychain *name*

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Context

[Tree] (config>router>pcep>pcc>peer auth-keychain)

Full Context

configure router pcep pcc peer auth-keychain

Description

This command specifies a keychain to be used for TCP-AO authentication between the PCC and the PCE. The keychain must first be configured in the **configure system security keychain** context.

Default

no auth-keychain

Parameters

name

Specifies the name of the keychain, up to 32 characters.

Platforms

All

7.73 auth-method

auth-method

Syntax

auth-method {**psk** | **plain-psk-xauth** | **cert-auth** | **psk-radius** | **cert-radius** | **eap** | **auto-eap-radius** | **auto-eap**}

no auth-method

Context

[Tree] (config>ipsec>ike-policy auth-method)

Full Context

configure ipsec ike-policy auth-method

Description

This command specifies the authentication method used with this IKE policy.

The **no** form of this command removes the parameter from the configuration.

Default

no auth-method

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Parameters

psk

Both client and gateway authenticate each other by a hash derived from a pre-shared secret. Both client and gateway must have the PSK. This work with both IKEv1 and IKEv2

plain-psk-xauth

Both client and gateway authenticate each other by pre-shared key and RADIUS. This work with IKEv1 only.

psk-radius

Use the pre-shared-key and RADIUS to authenticate. IKEv2 remote-access tunnel only.

cert-radius

Use the certificate, public/private key and RADIUS to authenticate. IKEv2 remote-access tunnel only.

eap

Use the EAP to authenticate peer. IKEv2 remote-access tunnel only

auto-eap-radius

Use EAP or potentially other method to authenticate the peer. IKEv2 remote-access tunnel only. Also see **config>ipsec>ike-policy auto-eap-method** and **config>ipsec>ike-policy auto-eap-own-method**.

auto-eap

Use the EAP or potentially other RADIUS-related method to authenticate the peer. IKEv2 remote-access tunnel only. Also see **config>ipsec>ike-policy auto-eap-method** and **config>ipsec>ike-policy auto-eap-own-method**.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.74 auth-policy

auth-policy

Syntax

auth-policy *policy-name*

no auth-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host auth-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host auth-policy)

Full Context

configure subscriber-mgmt local-user-db ipoe host auth-policy

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configure subscriber-mgmt local-user-db ppp host auth-policy

Description

This command configures the authentication policy of this host and PPPoE hosts. This authentication policy is only used if no authentication policy is defined at the interface level. For DHCP hosts, the host entry should not contain any other information needed for setup of the host (IP address, ESM strings, and so on.). For PPPoE hosts, the authentication policy configured here must have its PPPoE authentication method set to **pap-chap**, otherwise the request is dropped.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the authentication policy name, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.75 auth-port

auth-port

Syntax

auth-port *port*

no auth-port

Context

[Tree] (config>service>vprn>radius-server>server auth-port)

[Tree] (config>router>radius-server>server auth-port)

Full Context

configure service vprn radius-server server auth-port

configure router radius-server server auth-port

Description

This command specifies the UDP listening port for RADIUS authentication requests.

The **no** form of this commands resets the UDP port to its default value (1812)

Default

auth-port 1812

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Parameters

port

Specifies the UDP listening port for accounting requests of the external RADIUS server.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.76 auth-request-script-policy

auth-request-script-policy

Syntax

auth-request-script-policy *policy-name*

no auth-request-script-policy

Context

[Tree] (config>aaa>radius-srv-plcy auth-request-script-policy)

Full Context

configure aaa radius-server-policy auth-request-script-policy

Description

This command specifies the name of the RADIUS script policy used to change the RADIUS attributes of the Access-Request messages.

Parameters

policy-name

Specifies the name of the Python script to modify Access-Request messages, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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7.77 authenticate

authenticate

Syntax

[**no**] **authenticate**

Context

[Tree] (config>service>vprn>ntp authenticate)

Full Context

configure service vprn ntp authenticate

Description

This command enables authentication for the NTP server.

The **no** form of this command reverts to the default value.

Default

no authenticate

Platforms

All

7.78 authenticate-client

authenticate-client

Syntax

authenticate-client

Context

[Tree] (config>system>security>tls>server-tls-profile authenticate-client)

Full Context

configure system security tls server-tls-profile authenticate-client

Description

Commands in this context configure client authentication parameters.

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Platforms

All

7.79 authenticate-on-dhcp

authenticate-on-dhcp

Syntax

[**no**] **authenticate-on-dhcp**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range authenticate-on-dhcp)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range authenticate-on-dhcp)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range authenticate-on-dhcp

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range authenticate-on-dhcp

Description

This command enables initial authentication (when there is no state for the UE on the ISA), to be triggered by DHCP DISCOVER or REQUEST. The default behavior is authentication based on first Layer 3 packet.

The **no** form of this command reverts to the default.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.80 authenticated-brg-only

authenticated-brg-only

Syntax

[**no**] **authenticated-brg-only**

Context

[Tree] (config>service>ies>sub-if>grp-if>brg authenticated-brg-only)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>brg authenticated-brg-only)

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[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>brg authenticated-brg-only)

[Tree] (config>service>vprn>sub-if>grp-if>brg authenticated-brg-only)

Full Context

configure service ies subscriber-interface group-interface brg authenticated-brg-only

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg authenticated-brg-only

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg authenticated-brg-only

configure service vprn subscriber-interface group-interface brg authenticated-brg-only

Description

This command indicates that only BRGs that are pre-authenticated using the RADIUS proxy are allowed in this context.

The **no** form of this command removes the restriction.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface brg authenticated-brg-only
- configure service vprn subscriber-interface group-interface brg authenticated-brg-only

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg authenticated-brg-only
- configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg authenticated-brg-only

7.81 authentication

authentication

Syntax

authentication {**chap** | **pap** | **pref-chap** | **prep-pap**}

Context

[Tree] (config>service>vprn>l2tp>group>ppp authentication)

[Tree] (config>router>l2tp>group>ppp authentication)

[Tree] (config>router>l2tp>group>tunnel>ppp authentication)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp authentication)

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Full Context

configure service vprn l2tp group ppp authentication

configure router l2tp group ppp authentication

configure router l2tp group tunnel ppp authentication

configure service vprn l2tp group tunnel ppp authentication

Description

This command configures the PPP authentication protocol to negotiate authentication.

Default

authentication pref-chap

Parameters

chap

Specifies to always use CHAP for authentication.

pap

Specifies to always use PAP for authentication.

pref-chap

Specifies to use CHAP as the preferred authentication method, and to use PAP if that attempt fails.

pref-pap

Specifies to use PAP as the preferred authentication method, and to use CHAP if that attempt fails.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication

Syntax

authentication

Context

[Tree] (config>service>dynsvc>policy authentication)

Full Context

configure service dynamic-services dynamic-services-policy authentication

Description

Commands in this context configure authentication parameters for data-triggered dynamic services.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication

Syntax

authentication [**policy** *policy-name*] [**mac-addr** *ieee-address*] [**circuit-id** *circuit-id*]

Context

[Tree] (debug>subscr-mgmt authentication)

Full Context

debug subscriber-mgmt authentication

Description

This command debugs subscriber authentication.

Parameters

policy-name

Specifies an existing subscriber management authentication policy name.

ieee-address

Specifies the 48-bit MAC address xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

circuit-id

Specify the circuit-id, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication

Syntax

authentication

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range authentication)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range authentication)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication

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Description

Commands in this context create configuration for authenticating a user from the WLAN-GW ISA.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

authentication

Syntax

authentication bidirectional *sa-name*

authentication inbound *sa-name* **outbound** *sa-name*

no authentication

Context

[Tree] (config>service>vprn>ospf3>area>virtual-link authentication)

[Tree] (config>service>vprn>ospf3>area>if authentication)

Full Context

configure service vprn ospf3 area virtual-link authentication

configure service vprn ospf3 area interface authentication

Description

This command configures OPSFv3 confidentiality authentication.

The **no** form of this command removes the SA name from the configuration.

Parameters

bidirectional *sa-name*

Specifies the IPsec security association name in case the OSPFv3 traffic on the interface has to be authenticated.

inbound *sa-name*

Specifies the IPsec security association name in case the OSPFv3 traffic on the interface has to be authenticated.

outbound *sa-name*

Specifies the IPsec security association name in case the OSPFv3 traffic on the interface has to be authenticated.

Platforms

All

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authentication

Syntax

authentication *ascii-algorithm* **ascii-key** *ascii-string* [**hash** | **hash2** | **custom**]

authentication *auth-algorithm* **hex-key** *hex-string* [**hash** | **hash2** | **custom**]

no authentication

Context

[Tree] (config>ipsec>static-sa authentication)

Full Context

configure ipsec static-sa authentication

Description

This command configures the authentication algorithm to use for an IPsec manual SA.

Default

no authentication

Parameters

auth-algorithm

Specifies the authentication algorithm to be used.

Values mda5, sha1

ascii-string

Specifies an ASCII key; 16 characters for **md5** and 20 characters for **sha1**.

hex-string

Specifies a HEX key; 32 hex nibbles for **md5** and 40 hex nibbles for **sha1**.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

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Platforms

All

authentication

Syntax

authentication [**port** *udp-port*]

no authentication

Context

[Tree] (config>aaa>isa-radius-plcy>servers>server authentication)

Full Context

configure aaa isa-radius-policy servers server authentication

Description

This command configures authentication for this server.

Default

no authentication

Parameters

udp-port

Specifies the UDP port number on which to contact the RADIUS server for authentication.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

authentication

Syntax

[**no**] **authentication**

Context

[Tree] (config>li>x-interfaces>lics>lic authentication)

Full Context

configure li x-interfaces lics lic authentication

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Description

This command configures the parameters for authentication of INE and LIC on the X1 and X2 interfaces.

The **no** form of this command removes the configured parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

authentication

Syntax

authentication none

authentication *authentication-protocol authentication-key* [**privacy-none**] [**hash** | **hash2** | **custom**]

authentication *authentication-protocol authentication-key* **privacy** *privacy-protocol privacy-key* [**hash** | **hash2** | **custom**]

no authentication

Context

[Tree] (config>system>security>user>snmp authentication)

Full Context

configure system security user snmp authentication

Description

This command configures the SNMPv3 authentication and privacy protocols for the user to communicate with the router. The keys are stored in an encrypted format in the configuration.

The keys configured with these commands must be localized keys, which are a hash of the SNMP engine ID and a password. The password is not entered directly in this command. Use the **tools perform system management-interface snmp generate-key** command to generate localized authentication and privacy keys.

Default

authentication none

Parameters

none

Keyword to specify that no authentication protocol is used. If **none** is specified, privacy cannot be configured.

authentication-protocol

Specifies the SNMPv3 authentication protocol.

Values **hmac-md5-96** — Specifies use of the HMAC-MD5-96 authentication protocol.

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hmac-sha1-96 — Specifies use of the HMAC-SHA-96 authentication protocol.

hmac-sha2-224 — Specifies use of the HMAC-SHA-224 authentication protocol.

hmac-sha2-256 — Specifies use of the HMAC-SHA-256 authentication protocol.

hmac-sha2-384 — Specifies use of the HMAC-SHA-384 authentication protocol.

hmac-sha-512 — Specifies use of the HMAC-SHA-512 authentication protocol.

authentication-key

Specifies the localized authentication key, which is entered as a hexadecimal string; the character length depends on the specified authentication protocol. The following table lists the authentication protocol key lengths.

Table 18: Authentication protocol key lengths

Authentication protocol	Character lengths
HMAC-MD5-96	32
HMAC-SHA-96	40
HMAC-SHA-224	56
HMAC-SHA-256	64
HMAC-SHA-384	96
HMAC-SHA-512	128

privacy-none

Keyword to specify that a privacy protocol is not used in the communication.

Default privacy none

privacy-protocol

Specifies the SNMPv3 privacy protocol.

Values **cbc-des** — Specifies the use of the CBC-DES privacy protocol.

cfb128-aes-128 — Specifies the use of the CFB128-AES-128 privacy protocol.

cfb128-aes-192 — Specifies the use of the CFB128-AES-192 privacy protocol.

cfb128-aes-256 — Specifies the use of the CFB128-AES-256 privacy protocol.

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privacy-key

Specifies the localized privacy key, which is entered as a hexadecimal string; the character length depends on the specified privacy protocol. The following table lists the privacy protocol key lengths.

Table 19: Privacy protocol key lengths

Privacy protocol	Character length
CBC-DES	32
CFB128-AES-128	32
CFB128-AES-192	48
CFB128-AES-256	64

hash

Keyword that specifies the key is entered in an encrypted form. If the **hash** or **hash2** keyword is not specified, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Keyword that specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone; that is, the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** keyword is not specified, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Keyword that specifies the custom encryption to the management interface.

Platforms

All

authentication

Syntax

authentication bidirectional *sa-name*

authentication [**inbound** *sa-name* **outbound** *sa-name*]

no authentication

Context

[Tree] (config>router>ospf3>area>virtual-link authentication)

[Tree] (config>router>ospf3>area>interface authentication)

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Full Context

configure router ospf3 area virtual-link authentication

configure router ospf3 area interface authentication

Description

This command configures the password used by the OSPF3 interface or virtual-link to send and receive OSPF3 protocol packets on the interface when simple password authentication is configured.

All neighboring routers must use the same type of authentication and password for proper protocol communication.

By default, no authentication key is configured.

The **no** form of this command removes the authentication.

Default

no authentication

Parameters

bidirectional sa-name

Specifies bidirectional OSPF3 authentication.

inbound sa-name

Specifies the inbound security association (SA) name for OSPF3 authentication.

outbound sa-name

Specifies the outbound SA name for OSPF3 authentication.

Platforms

All

7.82 authentication-check

authentication-check

Syntax

[**no**] **authentication-check**

Context

[Tree] (config>service>vprn>isis authentication-check)

Full Context

configure service vprn isis authentication-check

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Description

This command sets an authentication check to reject PDUs that do not match the type or key requirements for the VPRN instance.

The default behavior when authentication is configured is to reject all IS-IS protocol PDUs that have a mismatch in either the authentication type or authentication key.

When **no authentication-check** is configured, authentication PDUs are generated and IS-IS PDUs are authenticated on receipt. However, mismatches cause an event to be generated and will not be rejected.

The **no** form of this command allows authentication mismatches to be accepted and generates a log event.

Default

authentication-check — Rejects authentication mismatches.

Platforms

All

authentication-check

Syntax

[**no**] **authentication-check**

Context

[Tree] (config>service>vprn>ntp authentication-check)

Full Context

configure service vprn ntp authentication-check

Description

This command configures the router to skip the rejection of NTP PDU mismatches, where the authentication key ID, type, or key requirements do not match. The default behavior when authentication is configured is to reject all NTP protocol PDUs that have a mismatch in the authentication key ID, type, or key.

When **authentication-check** is enabled (default behavior), NTP PDUs are authenticated on receipt and mismatches are rejected. However, mismatches cause a counter to be increased. Two mismatch error counters exist, one for a type mismatch and another for a key value mismatch. These counters are visible in the **show system ntp all** command.

The **no** form of this command allows authentication mismatches to be accepted; the counters, however, are maintained.

Default

authentication-check

Platforms

All

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authentication-check

Syntax

[**no**] **authentication-check**

Context

[Tree] (config>system>time>ntp authentication-check)

Full Context

configure system time ntp authentication-check

Description

This command provides the option to skip the rejection of NTP PDUs that do not match the authentication key-id, type or key requirements. The default behavior when authentication is configured is to reject all NTP protocol PDUs that have a mismatch in either the authentication key-id, type or key.

When **authentication-check** is enabled, NTP PDUs are authenticated on receipt. However, mismatches cause a counter to be increased, one counter for type and one for key-id, one for type, value mismatches. These counters are visible in a show command.

The **no** form of this command allows authentication mismatches to be accepted; the counters however are maintained.

Default

authentication-check

Platforms

All

authentication-check

Syntax

[**no**] **authentication-check**

Context

[Tree] (config>router>isis authentication-check)

Full Context

configure router isis authentication-check

Description

This command sets an authentication check to reject PDUs that do not match the type or key requirements.

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The default behavior when authentication is configured is to reject all IS-IS protocol PDUs that have a mismatch in either the authentication type or authentication key.

When **no authentication-check** is configured, authentication PDUs are generated and IS-IS PDUs are authenticated on receipt. However, mismatches cause an event to be generated and will not be rejected.

The **no** form of this command allows authentication mismatches to be accepted and generates a log event.

Default

authentication-check

Platforms

All

7.83 authentication-key

authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy authentication-key)

Full Context

configure subscriber-mgmt bgp-peering-policy authentication-key

Description

This command configures the BGP authentication key.

The MD5 message-based digest is used to perform authentication between neighboring routers before setting up the BGP session by verifying the password. The authentication key can be any combination of letters or numbers from 1 to 16.

The **no** form of this command removes the authentication password from the configuration and effectively disables authentication.

Parameters

authentication-key

Specifies an authentication key. The key can be up to 255 characters (unencrypted).

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 342 characters (encrypted).

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This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to the management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>redundancy>multi-chassis>peer authentication-key)

Full Context

configure redundancy multi-chassis peer authentication-key

Description

This command configures the authentication key used between this node and the multi-chassis peer. The authentication key can be any combination of letters or numbers. The **no** form of the command removes the authentication key.

Default

no authentication-key

Parameters

authentication-key

Specifies the authentication key. Allowed values are any string up to 20 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

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hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 33 (hash1-key) or 55 (hash2-key) characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>subscr-mgmt>rip-policy authentication-key)

Full Context

configure subscriber-mgmt rip-policy authentication-key

Description

This command configures the BGP authentication key.

Authentication is performed between neighboring routers before setting up the BGP session by verifying the password. Authentication is performed using the MD5 message-based digest. The authentication key can be any combination of letters or numbers from 1 to 16.

The **no** form of this command removes the authentication password from the configuration and effectively disables authentication.

Default

Authentication is disabled and the authentication password is empty.

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Parameters

authentication-key

Specifies the authentication key. The key can be any combination of ASCII characters up to 255 characters (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 342 characters (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2**| **custom**]

no authentication-key

Context

[Tree] (config>service>ies>if>vrrp authentication-key)

Full Context

configure service ies interface vrrp authentication-key

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Description

The **authentication-key** command, within the **vrrp** *virtual-router-id* context, is used to assign a simple text password authentication key to generate master VRRP advertisement messages and validating received VRRP advertisement messages.

The authentication-key command is one of the few commands not affected by the presence of the owner keyword. If simple text password authentication is not required, the authentication-key command is not required. If the command is re-executed with a different password key defined, the new key will be used immediately. If a no authentication-key command is executed, the password authentication key is restored to the default value. The authentication-key command may be executed at any time.

To change the current in-use password key on multiple virtual router instances:

- Identify the current master
- Shutdown the virtual router instance on all backups
- Execute the authentication-key command on the master to change the password key
- Execute the authentication-key command and no shutdown command on each backup key

The **no** form of the command removes the authentication key.

Default

No default. The authentication data field contains the value 0 in all 16 octets.

Parameters

authentication-key

The *key* parameter identifies the simple text password used when VRRP Authentication Type 1 is enabled on the virtual router instance. Type 1 uses a string eight octets long that is inserted into all transmitted VRRP advertisement messages and compared against all received VRRP advertisement messages. The authentication data fields are used to transmit the key.

The *key* parameter is expressed as a string consisting up to eight alpha-numeric characters. Spaces must be contained in quotation marks (" "). The quotation marks are not considered part of the string.

The string is case sensitive and is left-justified in the VRRP advertisement message authentication data fields. The first field contains the first four characters with the first octet (starting with IETF RFC bit position 0) containing the first character. The second field holds the fifth through eighth characters. Any unspecified portion of the authentication data field is padded with the value 0 in the corresponding octet.

Values Any 7-bit printable ASCII character.

Exceptions:	Double quote (")	ASCII 34
	Carriage Return	ASCII 13
	Line Feed	ASCII 10
	Tab	ASCII 9
	Backspace	ASCII 8

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hash-key

The hash key. The key can be any combination of ASCII characters up to 22 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>service>vprn>bgp>group authentication-key)

[Tree] (config>service>vprn>bgp>group>neighbor authentication-key)

[Tree] (config>service>vprn>bgp authentication-key)

Full Context

configure service vprn bgp group authentication-key

configure service vprn bgp group neighbor authentication-key

configure service vprn bgp authentication-key

Description

This command configures the BGP authentication key.

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Authentication is performed between neighboring routers before setting up the BGP session by verifying the password. Authentication is performed using the MD5 message-based digest. The authentication key can be any combination of letters or numbers from 1 to 16.

The **no** form of this command removes the authentication password from the configuration and effectively disables authentication.

Default

no authentication-key

Parameters

authentication-key

Specifies an authentication key. The key can be up to 255 characters (unencrypted).

hash-key

The hash key. The key can be any combination of ASCII characters up to 342 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>service>vprn>if>vrrp authentication-key)

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Full Context

configure service vprn interface vrrp authentication-key

Description

The **authentication-key** command, within the **vrrp** *virtual-router-id* context, is used to assign a simple text password authentication key to generate master VRRP advertisement messages and validate received VRRP advertisement messages.

The **authentication-key** command is one of the few commands not affected by the presence of the **owner** keyword. If simple text password authentication is not required, this command is not required. If the command is re-executed with a different password key defined, the new key will be used immediately. If a no **authentication-key** command is executed, the password authentication key is restored to the default value. The **authentication-key** command may be executed at any time.

To change the current in-use password key on multiple virtual router instances:

- Identify the current master
- Shut down the virtual router instance on all backups
- Execute the **authentication-key** command on the master to change the password key
- Execute the **authentication-key** command and the **no shutdown** command on each backup key

The **no** form of this command restores the default null string to the value of key.

Parameters

authentication-key

The *key* parameter identifies the simple text password used when VRRP Authentication Type 1 is enabled on the virtual router instance. Type 1 uses a string eight octets long that is inserted into all transmitted VRRP advertisement messages and compared against all received VRRP advertisement messages. The authentication data fields are used to transmit the key.

The *key* parameter is expressed as a string consisting of up to eight alpha-numeric characters. Spaces must be contained in quotation marks (" ”). The quotation marks are not considered part of the string.

The string is case sensitive and is left-justified in the VRRP advertisement message authentication data fields. The first field contains the first four characters with the first octet (starting with IETF RFC bit position 0) containing the first character. The second field holds the fifth through eighth characters. Any unspecified portion of the authentication data field is padded with the value 0 in the corresponding octet.

Values Any 7-bit printable ASCII character.

Exceptions:	Double quote (")	ASCII 34
	Carriage Return	ASCII 13
	Line Feed	ASCII 10
	Tab	ASCII 9
	Backspace	ASCII 8

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hash-key

The hash key. The key can be any combination of ASCII characters up to 22 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ")

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>service>vprn>isis authentication-key)

[Tree] (config>service>vprn>isis>level authentication-key)

Full Context

configure service vprn isis authentication-key

configure service vprn isis level authentication-key

Description

This command sets the authentication key used to verify PDUs sent by neighboring routers on the interface for the VPRN instance.

Neighboring routers use passwords to authenticate PDUs sent from an interface. For authentication to work, both the authentication *key* and the authentication *type* on a segment must match. The OSPF Commands statement must also be included.

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To configure authentication on the global level, configure this command in the **config>router>isis** context. When this parameter is configured on the global level, all PDUs are authenticated including the Hello PDU.

To override the global setting for a specific level, configure the **authentication-key** command in the **config>router>isis>level** context. When configured within the specific level, hello PDUs are not authenticated.

The **no** form of this command removes the authentication key.

Default

no authentication-key — No authentication key is configured.

Parameters

authentication-key

The authentication key. The key can be any combination of ASCII characters up to 255 characters in length (un-encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

The hash key. The key can be any combination of ASCII characters up to 342 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

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Context

[Tree] (config>service>vprn>msdp>group>peer authentication-key)

[Tree] (config>service>vprn>msdp>peer authentication-key)

Full Context

configure service vprn msdp group peer authentication-key

configure service vprn msdp peer authentication-key

Description

This command configures a Message Digest 5 (MD5) authentication key to be used with a specific Multicast Source Discovery Protocol (MSDP) peering session. The authentication key must be configured per peer as such no global or group configuration is possible.

The **no** form of this command removes the authentication key.

Default

no authentication-key (All MSDP messages are accepted and the MD5 signature option authentication key is disabled.)

Parameters

authentication-key

Specifies the authentication key. Allowed values are any string up to 256 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), enclose the entire string in quotation marks (" ").

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 451 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

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Platforms

All

authentication-key

Syntax

authentication-key *key-id* **key** *key* [**hash** | **hash2** | **custom**] **type** {**des** | **message-digest**}

no authentication-key *key-id*

Context

[Tree] (config>service>vprn>ntp authentication-key)

Full Context

configure service vprn ntp authentication-key

Description

This command configures the authentication key ID, type, and key used to authenticate NTP PDUs sent by the broadcast server function toward external clients. It also authenticates NTP PDUs received from external unicast clients within the VPRN routing instance. For authentication to work, the authentication key ID, type, and key value must match.

The **no** form of this command removes the authentication key.

Parameters

key-id

Specifies the authentication key ID used by the node when transmitting or receiving NTP packets.

Entering the **authentication-key** command with a *key-id* value that matches an existing configuration key results in overriding the existing entry.

Recipients of the NTP packets must have the same authentication key ID, type, and key value to use the data transmitted by this node. This is an optional parameter.

Values 1 to 255

key

Specifies the authentication key associated with the configured key ID. The value configured in this parameter is the actual value used by other network elements to authenticate the NTP packet.

The key can be any combination of ASCII characters, up to 8 characters in length (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash

Keyword to specify the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For

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security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Keyword to specify the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Keyword to specify the custom encryption to management interface.

type

Mandatory keyword to specify if DES or message-digest authentication is used.

Values des — Specifies that DES authentication is used for this key.

message-digest — Specifies that MD5 authentication in accordance with RFC 2104 is used for this key.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>service>vprn>ospf>area>if authentication-key)

[Tree] (config>service>vprn>ospf>area>sham-link authentication-key)

[Tree] (config>service>vprn>ospf>area>virtual-link authentication-key)

Full Context

configure service vprn ospf area interface authentication-key

configure service vprn ospf area sham-link authentication-key

configure service vprn ospf area virtual-link authentication-key

Description

This command configures the password used by the OSPF interface or virtual-link to send and receive OSPF protocol packets on the interface when simple password authentication is configured.

This command is not valid in the OSPF3 context.

All neighboring routers must use the same type of authentication and password for proper protocol communication. If the **authentication-type** is configured as password, then this key must be configured.

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By default, no authentication key is configured.

This command is not supported in the OSPF context.

The **no** form of this command removes the authentication key.

Default

no authentication-key — No authentication key is defined.

Parameters

authentication-key

The authentication key. The key can be any combination of ASCII characters up to 8 characters in length (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

The hash key. The key can be any combination of ASCII characters up to 22 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>service>vprn>rip>group authentication-key)

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[Tree] (config>service>vprn>rip authentication-key)

[Tree] (config>service>vprn>rip>group>neighbor authentication-key)

Full Context

configure service vprn rip group authentication-key

configure service vprn rip authentication-key

configure service vprn rip group neighbor authentication-key

Description

This command sets the authentication password to be passed between RIP neighbors.

The authentication type and authentication key must match exactly to authenticate and then process the RIP message.

The **no** form of this command removes the authentication password from the configuration and disables authentication.

Default

no authentication-key

Parameters

authentication-key

The authentication key. The key can be any combination of ASCII characters up to 16 characters in length (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

The hash key. The key can be any combination of ASCII characters up to 33 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

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Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>router>ldp>tcp-session-params>peer-transport authentication-key)

[Tree] (config>router>ldp>tcp-session-params authentication-key)

Full Context

configure router ldp tcp-session-parameters peer-transport authentication-key

configure router ldp tcp-session-parameters authentication-key

Description

This command specifies the authentication key used to establish a session between LDP peers. Authentication uses the MD5 message-based digest. The peer address used in authentication must be the TCP session transport address. If one or more transport addresses used in the Hello adjacencies to the same peer LSR are different from the LSR-ID value, the user must add each transport address to the authentication-key configuration as a separate peer. As a result, when the TCP connection is bootstrapped by a specific Hello adjacency, the authentication can operate over that TCP connection by using its specific transport address. The per peer authentication configuration takes precedence over global authentication configuration, and authentication keychain configuration takes precedence over authentication key configuration.

The **no** form of this command disables authentication.

Parameters

authentication-key

Specifies the authentication key. The key can be any combination of ASCII characters, up to 255 characters (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

Specifies the hash key. The key can be any combination of up to 33 alphanumeric characters. If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys

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are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex, encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to the management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>router>rsvp>interface authentication-key)

Full Context

configure router rsvp interface authentication-key

Description

This command specifies the authentication key for use between RSVP neighbors to authenticate RSVP messages. Authentication uses the MD5 message-based digest.

When enabled on an RSVP interface, authentication of RSVP messages operates in both directions of the interface. A router maintains a security association using one authentication key for each interface to an RSVP neighbor.

An RSVP neighbor transmits an authenticating digest of the RSVP message that is computed using the shared authentication key and a keyed-hash algorithm. The message digest is included in an INTEGRITY object, which also contains a flags field, a key identifier field, and a sequence number field. An RSVP neighbor uses the key together with the authentication algorithm to process received RSVP messages. The RSVP MD5 authentication complies to the procedures for RSVP message generation in RFC 2747, *RSVP Cryptographic Authentication*.

The MD5 implementation does not support the authentication challenge procedures in RFC 2747.

The **no** form of this command disables authentication.

Default

no authentication-key - The authentication key value is the null string.

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Parameters

authentication-key

Specifies the authentication key. The key can be any combination of ASCII characters up to 16 characters in length (unencrypted). If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

hash-key

Specifies the hash key. The key can be any combination of up 33 alphanumeric characters. If spaces are used in the string, enclose the entire string in quotation marks (" ")

This is useful when a user must configure the parameter, but for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>router>msdp>peer authentication-key)

[Tree] (config>router>msdp>group>peer authentication-key)

Full Context

configure router msdp peer authentication-key

configure router msdp group peer authentication-key

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Description

This command configures an MD5 authentication key used with a specific MSDP peering session. The authentication key is not inherited from the global or group level and must be configured per peer.

The **no** form of this command configures acceptance of all MSDP messages and disables the MD5 signature option authentication key.

Default

no authentication-key

Parameters

authentication-key

Specifies the authentication key. The key can be any combination of printable, 7-bit ASCII characters, up to 255 characters. If the string contains special characters (#, ?, space), enclose the entire string in quotation marks (" ").

hash-key

Specifies a hash key. The key can be any combination of ASCII characters up to 451 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, although, for security purposes, the actual unencrypted key value is not provided.

hash

Keyword that specifies the hash key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Keyword that specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone; that is, the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Keyword that specifies the custom encryption to the management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [{**hash** | **hash2** | **custom**}]

no authentication-key

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Context

[Tree] (config>router>if>vrrp authentication-key)

Full Context

configure router interface vrrp authentication-key

Description

This command sets the simple text authentication key used to generate master VRRP advertisement messages and validates VRRP advertisements.

If simple text password authentication is not required, the **authentication-key** command is not required.

The command is configurable in both non-owner and owner **vrrp** nodal contexts.

The *key* parameter identifies the simple text password to be used when VRRP Authentication Type 1 is enabled on the virtual router instance. Type 1 uses an eight octet long string that is inserted into all transmitted VRRP advertisement messages and is compared against all received VRRP advertisement messages. The authentication data fields are used to transmit the *key*.

The *key* string is case sensitive and is left justified in the VRRP advertisement message authentication data fields. The first field contains the first four characters with the first octet (starting with IETF RFC bit position 0) containing the first character. The second field similarly holds the fifth through eighth characters. Any unspecified portion of the authentication data field is padded with a 0 value in the corresponding octet.

If the command is re-executed with a different password key defined, the new key is used immediately.

The **authentication-key** command can be executed at anytime.

To change the current in-use password key on multiple virtual router instances:

Identify the current master.

1. Shutdown the virtual router instance on all backups.
2. Execute the **authentication-key** command on the master to change the password key.
3. Execute the **authentication-key** command and **no shutdown** command on each backup.

The **no** form of the command reverts to the default value.

Default

no authentication-key — The authentication key value is the null string.

Parameters

authentication-key

The authentication key. Allowed values are any string up to 8 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

hash-key

The hash key. The key can be any combination of ASCII characters up to 22 (hash-key1) or 121 (hash-key2) characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but for security purposes, the actual unencrypted key value is not provided.

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hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key *key-id* **key** *key* [**hash** | **hash2** | **custom**] **type** {**des** | **message-digest**}

no authentication-key *key-id*

Context

[Tree] (config>system>time>ntp authentication-key)

Full Context

configure system time ntp authentication-key

Description

This command configures the authentication key ID, type, and key used to authenticate NTP PDUs sent to, or received by, other network elements participating in the NTP protocol. For authentication to work, the authentication key ID, type, and key value must match.

The **no** form of this command removes the authentication key.

Parameters

key-id

Specifies the authentication key ID used by the node when transmitting or receiving NTP packets.

Entering the **authentication-key** command with a key ID value that matches an existing configuration key results in overriding the existing entry.

Recipients of the NTP packets must have the same authentication key ID, type, and key value to use the data transmitted by this node. This is an optional parameter.

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Values 1 to 255

key

Specifies the authentication key associated with the configured key ID. The value configured in this parameter is the actual value used by other network elements to authenticate the NTP packet.

The key can be any combination of ASCII characters, up to 32 characters for message-digest (md5) or 8 characters for DES (length limits are unencrypted lengths). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash

Keyword to specify the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Keyword to specify the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Keyword to specify the custom encryption to management interface.

type

Mandatory keyword to specify if DES or message-digest authentication is used.

Values des — Specifies that DES authentication is used for this key.

message-digest — Specifies that MD5 authentication in accordance with RFC 2104 is used for this key.

Platforms

All

authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>router>bgp>group authentication-key)

[Tree] (config>router>bgp>group>neighbor authentication-key)

[Tree] (config>router>bgp authentication-key)

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Full Context

configure router bgp group authentication-key

configure router bgp group neighbor authentication-key

configure router bgp authentication-key

Description

This command configures the BGP authentication key.

Authentication is performed between neighboring routers before setting up the BGP session by verifying the password. Authentication is performed using the MD5 message based digest.

The **no** form of this command reverts to the default value.

Default

no authentication-key

Parameters

authentication-key

Specifies an authentication key. The key can be up to 255 characters (unencrypted).

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 342 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

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authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>router>isis>level authentication-key)

[Tree] (config>router>isis authentication-key)

Full Context

configure router isis level authentication-key

configure router isis authentication-key

Description

This command sets the authentication key used to verify PDUs sent by neighboring routers on the interface.

Neighboring routers use passwords to authenticate PDUs sent from an interface. For authentication to work, both the authentication *key* and the authentication *type* on a segment must match. The **authentication-type** command must also be included.

To configure authentication on the global level, configure this command in the **config>router>isis** context. When this parameter is configured on the global level, all PDUs are authenticated, including the hello PDU.

To override the global setting for a specific level, configure the **authentication-key** command in the **config>router>isis>level** context. When configured within the specific level, hello PDUs are not authenticated.

The **no** form of this command removes the authentication key.

Default

no authentication-key

Parameters

authentication-key

Specifies the authentication key. The key can be any combination of ASCII characters up to 255 characters in length (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 342 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter but, for security purposes, the actual unencrypted key value is not provided.

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hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no authentication-key

Context

[Tree] (config>router>ospf>area>virtual-link authentication-key)

[Tree] (config>router>ospf>area>interface authentication-key)

Full Context

configure router ospf area virtual-link authentication-key

configure router ospf area interface authentication-key

Description

This command configures the password used by the OSPF interface or virtual link to send and receive OSPF protocol packets on the interface when simple password authentication is configured.

All neighboring routers must use the same type of authentication and password for proper protocol communication. If **authentication-type password** is configured, this key must be configured.

By default, no authentication key is configured.

The **no** form of this command removes the authentication key.

Default

no authentication-key

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Parameters

authentication-key

Specifies the authentication key. The key can be any combination of ASCII characters up to 8 characters in length (unencrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 22 characters (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

authentication-key

Syntax

authentication-key {*authentication-key* | *hash-key*} [{**hash** | **hash2** | **custom**}]

no authentication-key

Context

[Tree] (config>router>rip>group authentication-key)

[Tree] (config>router>rip>group>neighbor authentication-key)

[Tree] (config>router>rip authentication-key)

Full Context

configure router rip group authentication-key

configure router rip group neighbor authentication-key

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configure router rip authentication-key

Description

This command sets the authentication password to be passed between RIP neighbors.

The authentication type and authentication key must match exactly for the RIP message to be considered authentic and processed.

The **no** form of the command removes the authentication password from the configuration and disables authentication.

Default

no authentication-key

Parameters

authentication-key

Specifies the authentication key. Allowed values are any string up to 16 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

hash-key

Specifies the hash key. The key can be any combination of ASCII characters up to 33 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

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7.84 authentication-keychain

authentication-keychain

Syntax

authentication-keychain *keychain-name*

no authentication-keychain

Context

[Tree] (config>system>time>ntp authentication-keychain)

Full Context

configure system time ntp authentication-keychain

Description

This command configures the authentication keychain used to handle unsolicited NTP requests.

If the system receives a request with a key ID that matches both the configured key and the keychain, the system checks the MAC ID using the key information first. If the key authentication fails, the system then checks the MAC ID using the information from the keychain.

The **no** form of the command removes the authentication keychain.

Parameters

keychain-name

Specifies the keychain name, up to 32 characters.

Platforms

All

authentication-keychain

Syntax

authentication-keychain *keychain-name*

no authentication-keychain

Context

[Tree] (config>service>vprn>ntp authentication-keychain)

Full Context

configure service vprn ntp authentication-keychain

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Description

This command configures the authentication keychain used to handle unsolicited NTP requests.

If the system receives a request with a key ID that matches both the configured key and the keychain, the system checks the MAC ID using the key information first. If the key authentication fails, the system then checks the MAC ID using the information from the keychain.

The **no** form of this command removes the authentication keychain.

Default

no authentication-keychain

Parameters

keychain-name

Specifies the keychain name, up to 32 characters.

Platforms

All

7.85 authentication-method

authentication-method

Syntax

authentication-method

Context

[Tree] (config>system>security>ssh authentication-method)

Full Context

configure system security ssh authentication-method

Description

Commands in this context configure at the system level the SSH authentication method.

Platforms

All

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7.86 authentication-order

authentication-order

Syntax

authentication-order [*method-1*] [*method-2*] [*method-3*] [*method-4*] [**exit-on-reject**]

no authentication-order

Context

[Tree] (config>system>security>password authentication-order)

Full Context

configure system security password authentication-order

Description

This command configures the sequence in which the system attempts authentication and authorization among the local user database, RADIUS servers, TACACS+ servers, and LDAP servers.

Configure the order from the most preferred method to the least preferred. The presence of all methods in the command line does not guarantee they are all operational. Specifying options that are not available delays user authentication.

If all operational methods are attempted and no authentication for a particular login has been granted, an entry in the security log records the failed attempt. Both the attempted login identification and originating IP address are logged with a timestamp.

The **no** form of this command reverts to the default order.

The order is not applicable to SNMPv3. SNMPv3 messages ignore the configured order and are authorized using the locally configured users only. TACACS+, RADIUS, and LDAP are not supported for SNMPv3 authentication.

Note:
This command applies to a local user, in addition to users on RADIUS, TACACS+, and LDAP.

Default

authentication-order radius tacplus ldap local

Parameters

method-1

Specifies the first password authentication method to attempt.

Values local, radius, tacplus, ldap

method-2

Specifies the second password authentication method to attempt.

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Values local, radius, tacplus, ldap

method-3

Specifies the third password authentication method to attempt.

Values local, radius, tacplus, ldap

method-4

Specifies the fourth password authentication method to attempt.

Values local, radius, tacplus, ldap

local

Specifies the password authentication based on the local password database.

radius

Specifies RADIUS authentication.

tacplus

Specifies TACACS+ authentication.

ldap

Specifies LDAP authentication.

exit-on-reject

When this parameter is configured, the router stops authentication and authorization if one of the AAA methods configured in the order sends a rejection.

When this parameter is not configured, the router attempts the next AAA method if a AAA method sends a rejection. If all AAA methods are exhausted, authentication and authorization are rejected.

If the order specifies **local** as the first method, the following actions apply:

- If this parameter is configured and the user does not exist, the user is not authenticated.
- If the user can be authenticated locally, other methods, if configured, are used for authorization and accounting.
- If the user is configured locally but without console access, login is denied.

Platforms

All

7.87 authentication-origin

authentication-origin

Syntax

authentication-origin

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Context

[Tree] (config>subscr-mgmt authentication-origin)

Full Context

configure subscriber-mgmt authentication-origin

Description

Commands in this context configure a subscriber's authentication origin.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.88 authentication-over-bypass

authentication-over-bypass

Syntax

authentication-over-bypass [**enable** | **disable**]

Context

[Tree] (config>router>rsvp authentication-over-bypass)

Full Context

configure router rsvp authentication-over-bypass

Description

This command configures the MD5 authentication over the bypass LSP of all Point of Local Repairs (PLRs) and Merge Points (MPs) on the router. Only enable this command when the TE interfaces in the RSVP-TE network use the same MD5 authentication parameters.

When a Point of Local Repair (PLR) activates a bypass LSP towards a Merge Point (MP), by default, the INTEGRITY object corresponding to the bypass LSP interface is not added to a transmitted RSVP message except for packets of routed RSVP messages (Resv, Srefresh, and ACK), and only when the packet is intended for a bypass LSP endpoint (PLR or MP) that is a directly connected neighbor.

When this command is enabled, the INTEGRITY object of the interface corresponding to the bypass LSP is added to a transmitted RSVP message regardless of whether the bypass LSP endpoint (PLR or MP) is a directly connected RSVP neighbor. The INTEGRITY object is included with the following RSVP messages: Path, PathTear, PathErr, Resv, ResvTear, ResvErr, Srefresh, and ACK.

In all cases, an RSVP message received from a PLR or a MP (sender address in the SenderTemplate/ FilterSpec is different from an Extended Tunnel Id in a Session Object), and which includes the INTEGRITY object is authenticated against the bypass LSP interface. An RSVP message received from a PLR or MP without the INTEGRITY object is also accepted.

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Default

authentication-over-bypass disable

Parameters

enable

Enables the MD5 authentication over the bypass LSP of all PLRs on the node.

disable

Disables the MD5 authentication over the bypass LSP of all PLRs on the node.

Platforms

All

7.89 authentication-policy

authentication-policy

Syntax

authentication-policy *auth-policy-name*

no authentication-policy

Context

[Tree] (config>service>vprn>l2tp>group>ppp authentication-policy)

[Tree] (config>router>l2tp>group>ppp authentication-policy)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp authentication-policy)

[Tree] (config>router>l2tp>group>tunnel>ppp authentication-policy)

Full Context

configure service vprn l2tp group ppp authentication-policy

configure router l2tp group ppp authentication-policy

configure service vprn l2tp group tunnel ppp authentication-policy

configure router l2tp group tunnel ppp authentication-policy

Description

This command configures the RADIUS authentication policy that will be used to authenticate PPP sessions on the LNS.

The **no** form of this command reverts to the default value.

Default

no authentication-policy

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Parameters

auth-policy-name

Specifies the authentication policy name.

Values 32 chars max

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-policy

Syntax

authentication-policy *name* [**create**]

no authentication-policy

Context

[Tree] (config>subscr-mgmt authentication-policy)

Full Context

configure subscriber-mgmt authentication-policy

Description

This command creates a RADIUS authentication policy containing parameters to authenticate subscriber sessions. The policies can be applies to an IES or VPRN interface or group interface, or a VPLS SAP.

The **no** form of this command removes the policy from the configuration.

Parameters

name

Specifies the name of the authentication profile. The string is case sensitive and limited to 32 ASCII 7-bit printable characters.

create

Keyword used to create the authentication policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-policy

Syntax

authentication-policy *name*

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no authentication-policy

Context

[Tree] (config>service>vprn>if authentication-policy)

[Tree] (config>service>ies>if authentication-policy)

[Tree] (config>service>ies>sub-if>grp-if authentication-policy)

[Tree] (config>service>vprn>sub-if>grp-if authentication-policy)

Full Context

configure service vprn interface authentication-policy

configure service ies interface authentication-policy

configure service ies subscriber-interface group-interface authentication-policy

configure service vprn subscriber-interface group-interface authentication-policy

Description

This command assigns a RADIUS authentication policy to the interface.

The **no** form of this command removes the policy from the interface configuration.

Parameters

name

Specifies the authentication policy name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-policy

Syntax

authentication-policy *name*

no authentication-policy

Context

[Tree] (config>service>vpls>sap authentication-policy)

Full Context

configure service vpls sap authentication-policy

Description

For a regular SAP (bridged CO model), this command defines which subscriber authentication policy must be applied when a DHCP message is received on the interface. The authentication policies must already be defined. The policy is only applied when DHCP snooping is enabled on the SAP.

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For a capture SAP, this command specifies the RADIUS authentication policy to use for subscriber session authentication when a valid trigger packet is received. The same authentication policy must be assigned on the group-interface where the MSAP for the subscriber session is created.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-policy

Syntax

authentication-policy *policy-name*

no authentication-policy

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>authentication authentication-policy)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>authentication authentication-policy)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication authentication-policy

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication authentication-policy

Description

This command assigns a RADIUS authentication policy configured under the **aaa** context for authenticating users on WLAN-GW ISA.

The **no** form of this command removes the policy from the configuration.

Parameters

policy-name

Specifies the name of the authentication policy up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

authentication-policy

Syntax

authentication-policy *name*

no authentication-policy

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Context

[Tree] (config>app-assure>group>transit-ip>radius authentication-policy)

Full Context

configure application-assurance group transit-ip-policy radius authentication-policy

Description

This command configures the RADIUS authentication-policy for the IP transit policy.

Default

no authentication-policy

Parameters

name

Specifies the authentication policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.90 authentication-type

authentication-type

Syntax

authentication-type {**none** | **password** | **message-digest** | **message-digest-20**}

no authentication-type

Context

[Tree] (config>subscr-mgmt>rip-plcy authentication-type)

Full Context

configure subscriber-mgmt rip-policy authentication-type

Description

This command sets the type of authentication to be used between RIP neighbors. The type and password must match exactly for the RIP message to be considered authentic and processed.

The **no** form of this command removes the authentication type from the configuration and effectively disables authentication.

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Parameters

none

Disables authentication at a given level (global, group, neighbor). If the command does not exist in the configuration, the parameter is inherited.

password

Specifies enable simple password (plain text) authentication. If authentication is enabled and no authentication type is specified in the command, simple password authentication is enabled.

message-digest

Configures 16 byte message digest for MD5 authentication. If this option is configured, then at least one message-digest-key must be configured.

message-digest-20

Configures 20 byte message digest for MD5 authentication in accordance with RFC 2082, RIP-2 MD5 Authentication. If this option is configured, then at least one message-digest-key must be configured.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

authentication-type

Syntax

authentication-type {**password** | **message-digest**}

no authentication

Context

[Tree] (config>service>vprn>isis authentication-type)

[Tree] (config>service>vprn>isis>level authentication-type)

Full Context

configure service vprn isis authentication-type

configure service vprn isis level authentication-type

Description

This command enables either simple password or message digest authentication or must go in either the global IS-IS or IS-IS level context.

Both the authentication key and the authentication type on a segment must match. The **authentication-key** statement must also be included.

Configure the authentication type on the global level in the **config>router>isis** context.

Configure or override the global setting by configuring the authentication type in the **config>router>isis>level** context.

The **no** form of this command disables authentication.

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Default

no authentication-type — No authentication type is configured and authentication is disabled.

Parameters

password

Specifies that simple password (plain text) authentication is required.

message-digest

Specifies that MD5 authentication in accordance with RFC 2104 is required.

Platforms

All

authentication-type

Syntax

authentication-type {**password** | **message-digest**}

no authentication-type

Context

[Tree] (config>service>vprn>ospf>area>sham-link authentication-type)

[Tree] (config>service>vprn>ospf>area>if authentication-type)

[Tree] (config>service>vprn>ospf>area>virtual-link authentication-type)

Full Context

configure service vprn ospf area sham-link authentication-type

configure service vprn ospf area interface authentication-type

configure service vprn ospf area virtual-link authentication-type

Description

This command enables authentication and specifies the type of authentication to be used on the OSPF interface, virtual-link, and sham-link.

This command is not valid in the OSPF3 context.

Both simple **password** and **message-digest** authentication are supported.

The **no** form of this command disables authentication on the interface.

Default

no authentication-type — No authentication is enabled on an interface.

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Parameters

password

This keyword enables simple password (plain text) authentication. If authentication is enabled and no authentication type is specified in the command, simple **password** authentication is enabled.

message-digest

This keyword enables message digest MD5 authentication in accordance with RFC 1321. If this option is configured, then at least one message-digest-key must be configured.

Platforms

All

authentication-type

Syntax

authentication-type {**none** | **password** | **message-digest** | **message-digest-20**}

no authentication-type

Context

[Tree] (config>service>vprn>rip authentication-type)

[Tree] (config>service>vprn>rip>group authentication-type)

[Tree] (config>service>vprn>rip>group>neighbor authentication-type)

Full Context

configure service vprn rip authentication-type

configure service vprn rip group authentication-type

configure service vprn rip group neighbor authentication-type

Description

This command defines the type of authentication used between RIP neighbors. The type and password must match exactly to authenticate and then process the RIP message.

The **no** form of this command removes the authentication type from the configuration and effectively disables authentication.

Default

no authentication-type

Parameters

none

No authentication is used.

password

A simple cleartext password is sent.

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message-digest

MD5 authentication is used.

message-digest-20

MD20 authentication is used.

Platforms

All

authentication-type

Syntax

authentication-type {**password** | **message-digest**}

no authentication

Context

[Tree] (config>router>isis>level authentication-type)

[Tree] (config>router>isis authentication-type)

Full Context

configure router isis level authentication-type

configure router isis authentication-type

Description

This command enables either simple password or message digest authentication or must go in either the global IS-IS or IS-IS level context.

Both the authentication key and the authentication type on a segment must match. The **authentication-key** statement must also be included.

Configure the authentication type on the global level in the **config>router>isis** context.

Configure or override the global setting by configuring the authentication type in the **config>router>isis>level** context.

The **no** form of this command disables authentication.

Parameters

password

Specifies that simple password (plain text) authentication is required.

message-digest

Specifies that MD5 authentication in accordance with RFC 2104 is required.

Platforms

All

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authentication-type

Syntax

authentication-type {**password** | **message-digest**}

no authentication-type

Context

[Tree] (config>router>ospf>area>interface authentication-type)

[Tree] (config>router>ospf>area>virtual-link authentication-type)

Full Context

configure router ospf area interface authentication-type

configure router ospf area virtual-link authentication-type

Description

This command enables authentication and specifies the type of authentication to be used on the OSPF interface.

Both simple **password** and **message-digest** authentication are supported.

By default, authentication is not enabled on an interface.

The **no** form of this command disables authentication on the interface.

Default

no authentication-type

Parameters

password

Enables the simple password (plain text) authentication. If authentication is enabled and no authentication type is specified in the command, simple **password** authentication is enabled.

message-digest

Enables message digest MD5 authentication in accordance with RFC 1321. If this option is configured, then at least one message-digest-key must be configured.

Platforms

All

authentication-type

Syntax

authentication-type {**none** | **password** | **message-digest** | **message-digest-20**}

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no authentication-type

Context

[Tree] (config>router>rip>group>neighbor authentication-type)

[Tree] (config>router>rip authentication-type)

[Tree] (config>router>rip>group authentication-type)

Full Context

configure router rip group neighbor authentication-type

configure router rip authentication-type

configure router rip group authentication-type

Description

This command sets the type of authentication to be used between RIP neighbors.

The type and password must match exactly for the RIP message to be considered authentic and processed.

The **no** form of the command removes the authentication type from the configuration and effectively disables authentication.

Default

no authentication-type

Parameters

none

The **none** parameter explicitly disables authentication at a given level (global, group, neighbor). If the command does not exist in the configuration, the parameter is inherited.

password

Specifies that the password enables simple password (plain text) authentication. If authentication is enabled and no authentication type is specified in the command, simple **password** authentication is enabled.

message-digest

Configures 16 byte message digest for MD5 authentication. If this option is configured, then at least one **message-digest-key must** be configured.

message-digest-20

Configures 20 byte message digest for MD5 authentication in accordance with RFC 2082, *RIP-2 MD5 Authentication*. If this option is configured, then at least one **message-digest-key** must be configured.

Platforms

All

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7.91 authenticator-init

authenticator-init

Syntax

[**no**] **authenticator-init**

Context

[Tree] (config>port>ethernet>dot1x>per-host-authentication authenticator-init)

Full Context

configure port ethernet dot1x per-host-authentication authenticator-init

Description

This command configures the authenticator-initiated mode of the host.

The **no** form of this command disables the authenticator-initiated mode of the host.

Default

authenticator-init

Platforms

All

7.92 authorization

authorization

Syntax

authorization

Context

[Tree] (config>system>security>cli-script authorization)

Full Context

configure system security cli-script authorization

Description

Commands in this context authorize CLI script execution.

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Platforms

All

authorization

Syntax

[**no**] **authorization**

Context

[Tree] (config>system>security>radius authorization)

[Tree] (config>service>vprn>aaa>rmt-srv>radius authorization)

Full Context

configure system security radius authorization

configure service vprn aaa remote-servers radius authorization

Description

This command configures RADIUS authorization parameters.

The **no** form of this command removes RADIUS authorization parameters from the configuration.

Default

no authorization

Platforms

All

authorization

Syntax

authorization [**use-priv-lvl**]

no authorization

Context

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus authorization)

[Tree] (config>system>security>tacplus authorization)

Full Context

configure service vprn aaa remote-servers tacplus authorization

configure system security tacplus authorization

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Description

This command configures TACACS+ command authorization parameters.

If this command is enabled without the **use-priv-lvl** option, each command is sent to the TACACS+ server for authorization (this is true whether the **tacplus use-default-template** setting is enabled or not).

If the **tacplus authorization** command is disabled, and the **tacplus use-default-template** setting is enabled, the local profile in the **user-template tacplus_default** is used for command authorization.

The **no** form of this command removes authorization parameters from the configuration.

Default

no authorization

Parameters

use-priv-lvl

Specifies to automatically perform a single authorization request to the TACACS+ server for cmd* (all commands) immediately after login, and then use the local profile associated (via the **priv-lvl-map** command) with the privilege level returned by the TACACS+ server for all subsequent authorization (except **enable-admin**). After the initial authorization for cmd*, no further authorization requests are sent to the TACACS+ server (except **enable-admin**). If the TACACS+ server does not return a privilege level for a user, the profile from the **user-template tacplus_default** is used for command authorization (as long as **tacplus use-default-template** is enabled, otherwise all commands are rejected).

Platforms

All

7.93 authorized-only

authorized-only

Syntax

[**no**] **authorized-only**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state authorized-only)

Full Context

configure subscriber-mgmt wlan-gw ue-query state authorized-only

Description

This command enables matching on UEs in an authorized state.

The **no** form of this command disables matching on UEs in an authorized state, unless all state matching is disabled.

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Default

no authorized-only

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.94 auto-bandwidth

auto-bandwidth

Syntax

[**no**] **auto-bandwidth**

Context

[Tree] (config>router>mpls>lsp-template auto-bandwidth)

[Tree] (config>router>mpls>lsp auto-bandwidth)

Full Context

configure router mpls lsp-template auto-bandwidth

configure router mpls lsp auto-bandwidth

Description

This command enables automatic adjustments of LSP bandwidth.

Auto-bandwidth at the LSP or LSP-template level cannot be enabled unless the **adaptive** command is configured in the **configure router mpls lsp** or **configure router mpls lsp-template** context.

The **no** form of this command disables automatic adjustments of LSP bandwidth.

Default

no auto-bandwidth

Platforms

All

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7.95 auto-bandwidth-multipliers

auto-bandwidth-multipliers

Syntax

auto-bandwidth-multipliers sample-multiplier *number1* **adjust-multiplier** *number2*

no auto-bandwidth-multipliers

Context

[Tree] (config>router>mpls auto-bandwidth-multipliers)

Full Context

configure router mpls auto-bandwidth-multipliers

Description

This command configures the number of collection intervals in the sample interval and adjust interval for auto-bandwidth adjustment.

The **no** form of this command reverts to the default values.

Default

auto-bandwidth-multipliers sample-multiplier 1 adjust-multiplier 288

Parameters

number1

Specifies the number of collection intervals in the sample interval.

Values 1 to 511

number2

Specifies the number of collection intervals in the adjust interval.

Values 1 to 16383

Platforms

All

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7.96 auto-bind-tunnel

auto-bind-tunnel

Syntax

auto-bind-tunnel

Context

[Tree] (config>service>vprn>bgp-evpn>mpls auto-bind-tunnel)

[Tree] (config>service>vprn>bgp-ipvpn>mpls auto-bind-tunnel)

[Tree] (config>service>epipe>bgp-evpn>mpls auto-bind-tunnel)

[Tree] (config>service>vpls>bgp-evpn>mpls auto-bind-tunnel)

Full Context

configure service vprn bgp-evpn mpls auto-bind-tunnel

configure service vprn bgp-ipvpn mpls auto-bind-tunnel

configure service epipe bgp-evpn mpls auto-bind-tunnel

configure service vpls bgp-evpn mpls auto-bind-tunnel

Description

Commands in this context configure automatic binding of a VPRN service using tunnels to MP-BGP peers.

The **auto-bind-tunnel** node is simply a context to configure the binding of BGP IPVPN or EVPN routes to tunnels. The user must configure the **resolution** option to enable auto-bind resolution to tunnels in TTM. If the **resolution** option is explicitly set to **disabled**, the auto-binding to tunnel is removed.

If resolution is set to **any**, any supported tunnel type in the Epipe/VPRN/VPLS context is selected following TTM preference. If one or more explicit tunnel types are specified using the **resolution-filter** option, then only these tunnel types are selected again following the TTM preference.

The user must set **resolution** to **filter** in order to activate the list of tunnel-types configured under resolution-filter.

In VPRN services and for BGP-IPVPN, when an explicit SDP to a BGP next hop is configured (**config**>**service**>v**prn**>**spoke-sdp**), it overrides the auto-bind-tunnel selection for that BGP next hop only. There is no support for reverting automatically to the auto-bind-tunnel selection if the explicit SDP goes down. The user must delete the explicit spoke-sdp in the VPRN service context to resume using the auto-bind-tunnel selection for the BGP next hop.

Platforms

All

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auto-bind-tunnel

Syntax

auto-bind-tunnel

Context

[Tree] (config>service>vprn auto-bind-tunnel)

Full Context

configure service vprn auto-bind-tunnel

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

7.97 auto-boot

auto-boot

Syntax

auto-boot [**management-port**] [**inband** [**vlan** *vlan-id* | **vlan-discovery**]] [**ipv4**] [**ipv6**] [**client-identifier** {**string** *ascii-string* | **hex** *hex-string* | **chassis-mac**}] [**include-user-class**] [**timeout** *minutes*]

auto-boot ospf [**neid** *neid-hex-string*] [**vendor-id** *vendor-id*] [**neip-ipv4** *ip-address*] [**neip-ipv6** *ipv6-address*] [**port-mtu** *mtu-bytes*] [**ospf-mtu** *ip-mtu-bytes*] [**vlan** *vlan-id*] [**timeout** *minutes*]

no auto-boot

Context

[Tree] (bof auto-boot)

Full Context

bof auto-boot

Description

This command enables the **auto-boot** flag in the BOF and configures the **auto-boot** options for ZTP. When modifying **auto-boot** options using CLI, all required options must be explicitly configured, as the default cases will no longer be used.

The **no** form of this command disables the **auto-boot** flag.

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Default

no auto-boot

Parameters

management-port

Specifies that the out-of-band management port (Mgmt port) should be used for ZTP.

inband

Specifies that in-band management through an Ethernet port should be used for ZTP. Unless the **vlan-discovery** flag is used, the **inband** option disables VLAN discovery.

vlan-id

Specifies an in-band VLAN to use for the auto-boot process.

Values 1 to 4094

vlan-discovery

Floods all VLANs (1 to 4094) with DHCP discovery messages and is supported only on **inband** ports. The first offer received on a specific VLAN is processed.

ipv4

Enables IPv4 DHCP discovery. This parameter is mandatory if the **ipv6** parameter is not specified.

ipv6

Enables IPv6 DHCP solicitation. This parameter is mandatory if the **ipv4** parameter is not specified.

ascii-string

Specifies a DHCP client identification string, up to 58 ASCII characters, to be used for Option 61 (IPv4) or Option 1 (IPv6).

hex-string

Specifies a DHCP client identification string, up to 116 hexadecimal nibbles, to be used for Option 61 (IPv4) or Option 1 (IPv6).

Values 0x0 to 0xFFFFFFFF

chassis-mac

Specifies that the chassis MAC address should be used as the DHCP client identification string for Option 61 (IPv4) or Option 1 (IPv6).

include-user-class

Specifies that Option 77 should be included in DHCP messages.

client-identifier

Specifies that a custom client ID should be used in network discovery requests.

minutes

Specifies the time interval after which, if the auto-boot process is unsuccessful (in the case of auto-boot using OSPF, if no OSPF adjacency is found), the node is rebooted and the auto-boot process is retried.

Values 30 to 1440

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Default 30

ospf

Specifies that OSPF auto-discovery should be used.

neid-hex-string

Specifies a hexadecimal network element identification string.

Values 0x10101to 0xFEFEFE

ip-address

Specifies the IPv4 address for the network element.

Values a.b.c.d

Default *vendor-id.neid-hex-string*

ipv6-address

Specifies the IPv6 address for the network element.

Values

x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

Default The IPv6 version of *vendor-id.neid-hex-string*

vendor-id

Specifies the vendor identification number. The number 140 corresponds to "Nokia”.

Values 1 to 254

Default 140

ip-mtu-bytes

Specifies the OSPF MTU in bytes.

Values 512 to 9786

Default 1500

mtu-bytes

Specifies the port MTU in bytes.

Values 512 to 9800

Default The default MTU of the port type.

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Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

7.98 auto-config

auto-config

Syntax

[**no**] **auto-config**

Context

[Tree] (config>service>epipe>spoke-sdp-fec auto-config)

Full Context

configure service epipe spoke-sdp-fec auto-config

Description

This command enables single sided automatic endpoint configuration of the spoke SDP. The router acts as the passive T-PE for signaling this MS-PW.

Automatic Endpoint Configuration allows the configuration of a spoke SDP endpoint without specifying the TAII associated with that spoke SDP. It allows a single-sided provisioning model where an incoming label mapping message with a TAII that matches the SAII of that spoke SDP to be automatically bound to that endpoint. In this mode, the far end T-PE actively initiates MS-PW signaling and will send the initial label mapping message using T-LDP, while the router T-PE for which auto-config is specified will act as the passive T-PE.

The **auto-config** command is blocked in CLI if signaling active has been enabled for this spoke SDP. It is only applicable to spoke SDPs configured under the Epipe, IES and VPRN interface context.

The **no** form of this command means that the router T-PE either acts as the active T-PE (if signaling active is configured) or automatically determines which router will initiate MS-PW signaling based on the prefix values configured in the SAII and TAII of the spoke SDP. If the SAII has the greater prefix value, then the router will initiate MS-PW signaling without waiting for a label mapping message from the far end. However, if the TAII has the greater value prefix, then the router will assume that the far end T-PE will initiate MS-PW signaling and will wait for that label mapping message before responding with a T-LDP label mapping message for the MS-PW in the reverse direction.

Default

no auto-config

Platforms

All

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7.99 auto-config-save

auto-config-save

Syntax

[**no**] **auto-config-save**

Context

[Tree] (config>system>management-interface>cli>md-cli auto-config-save)

Full Context

configure system management-interface cli md-cli auto-config-save

Description

This command enables the functionality to automatically write the running configuration to the saved configuration file as part of a successful MD-CLI commit operation.

The **no** form of this command disables this functionality.

Default

auto-config-save

Platforms

All

auto-config-save

Syntax

[**no**] **auto-config-save**

Context

[Tree] (config>system>netconf auto-config-save)

Full Context

configure system netconf auto-config-save

Description

This command enables the functionality to automatically write the running configuration to the saved configuration file as part of a successful NETCONF or pySROS commit operation.

The **no** form of this command disables this functionality.

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Default

auto-config-save

Platforms

All

auto-config-save

Syntax

[**no**] **auto-config-save**

Context

[Tree] (config>system>grpc>gnmi auto-config-save)

Full Context

configure system grpc gnmi auto-config-save

Description

This command enables the functionality to automatically write the running configuration to the saved configuration file as part of a successful gNMI commit operation.

The **no** form of this command disables this functionality.

Default

auto-config-save

Platforms

All

7.100 auto-creation

auto-creation

Syntax

[no] auto-creation

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers auto-creation)

Full Context

configure qos fp-resource-policy aggregate-shapers auto-creation

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Description

This command enables the auto-creation of hardware aggregate shapers on the specified FP. After enabling, the corresponding FP is rebooted.

The **no** version of this command disables auto-creation of hardware aggregate shapers.

Default

no auto-creation

Platforms

7750 SR-1, 7750 SR-s

7.101 auto-crl-update

auto-crl-update

Syntax

auto-crl-update [**create**]

no auto-crl-update

Context

[Tree] (config>system>security>pki>ca-prof auto-crl-update)

Full Context

configure system security pki ca-profile auto-crl-update

Description

This command creates an auto CRL update configuration context with the **create** parameter, or enters the auto-crl-update configuration context without the **create** parameter.

This mechanism auto downloads a CRL file from a list of configured HTTP URLs either periodically or before existing CRL expires. If the downloaded CRL is more recent than the existing one, then the existing one will be replaced.

Note:
The configured URL must point to a DER encoded CRL file.

Parameters

create

Creates an auto CRL update for the ca-profile.

Platforms

All

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auto-crl-update

Syntax

[**no**] **auto-crl-update**

Context

[Tree] (debug>certificate auto-crl-update)

Full Context

debug certificate auto-crl-update

Description

This command enables trace for automated and manual CRL updates.

Platforms

All

7.102 auto-disc-route-advertisement

auto-disc-route-advertisement

Syntax

[**no**] **auto-disc-route-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn>vxlan auto-disc-route-advertisement)

Full Context

configure service vpls bgp-evpn vxlan auto-disc-route-advertisement

Description

This command enables sending route advertisements on auto-discovery.

The **no** form of this command disables sending route advertisements on auto-discovery.

Default

no auto-disc-route-advertisement

Platforms

All

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7.103 auto-discovery

auto-discovery

Syntax

auto-discovery [**default** | **mdt-safi**] [**source-address** *ip-address*]

Context

[Tree] (config>service>vprn>mvpn auto-discovery)

Full Context

configure service vprn mvpn auto-discovery

Description

This command enables MVPN membership auto-discovery through BGP. When auto-discovery is enabled, PIM peering on the inclusive provider tunnel is disabled. Changing auto-discovery configuration requires shutdown of this VPRN instance.

The **no** form of this command disables MVPN membership auto-discovery through BGP.

Default

auto-discovery default

Parameters

default

Enables AD route exchange based on format defined in NG-MVPN (RFC 6514).

mdt-safi

Keyword to enable AD route exchange based on the MDT-SAFI format, as described in *draft-rosen-vpn-mcast.*

This command optionally specifies a source IP address to be used by Rosen MVPN or NG-MVPN for core diversity, non-default IGP instances (not using system IP). Two unique IP addresses for PIM or GRE MVPNs are supported. The two unique IP address restriction does not apply to MVPNs with MPLS tunnels (for example, RSVP and MLDP). For instances using default System IP, source address configuration should not be specified to avoid consuming one of the addresses.

Explicitly defining a source address allows GRE-encapsulated Rosen MVPN or NG-MVPN multicast traffic (Default and Data MDT) to originate from a configured IP address, so the source IP address of the GRE packets is not the default system IP address.

ip-address

Specifies an IPv4 address. To achieve the desired functionality, the address should be a pre-configured, non-default IS-IS or OSPF loopback address for an IGP instance using a loopback address different from the system IP loopback.

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Platforms

All

auto-discovery

Syntax

auto-discovery [**default**]

no auto-discovery

Context

[Tree] (config>router>pim>gtm auto-discovery)

Full Context

configure router pim gtm auto-discovery

Description

This command enables multicast auto-discovery over BGP for GTM.

The **no** form of this command disables auto-discovery.

Default

no auto-discovery

Parameters

default

Enables the default auto-discovery mode.

Platforms

All

7.104 auto-discovery-disable

auto-discovery-disable

Syntax

[**no**] **auto-discovery-disable**

Context

[Tree] (config>service>vprn>mvpn>pt>selective auto-discovery-disable)

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Full Context

configure service vprn mvpn provider-tunnel selective auto-discovery-disable

Description

This command disables C-trees to P-tunnel binding auto-discovery through BGP so it is signaled using PIM join TLVs.

This command requires the **c-mcast-signaling** parameter to be set to PIM.

For multi-stream S-PMSI, this command must be enabled for BGP auto-discovery to function.

The **no** form of this command enables multicast VPN membership auto-discovery through BGP.

Default

auto-discovery-disable

Platforms

All

7.105 auto-eap-method

auto-eap-method

Syntax

auto-eap-method {**psk** | **cert** | **psk-or-cert**}

Context

[Tree] (config>ipsec>ike-policy auto-eap-method)

Full Context

configure ipsec ike-policy auto-eap-method

Description

This command enables following behavior for IKEv2 remote-access tunnel when auth-method is configured as auto-eap-radius:

- If there is no AUTH payload in IKE_AUTH request, then system use EAP to authenticate client and also will own-auth-method to generate AUTH payload.
- If there is AUTH payload in IKE_AUTH request:
  - if auto-eap-method is psk, then system proceed as auth-method:psk-radius
  - if auto-eap-method is cert, then system proceed as auth-method:cert-radius
  - if auto-eap-method is psk-or-cert, then:
    - if the "Auth Method" field of AUTH payload is PSK, then system proceed as auth-method:psk-radius

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- if the "Auth Method" field of AUTH payload is RSA or DSS, then system proceed as auth-method:cert-radius

– The system will use **auto-eap-own-method** to generate AUTH payload.

This command only applies when **auth-method** is configured as **auto-eap-radius**.

Default

auto-eap-method cert

Parameters

psk

Uses the pre-shared-key as the authentication method.

cert

Uses the certificate as the authentication method.

psk-or-cert

Uses either the pre-shared-key or certificate based on the "Auth Method" field of the received AUTH payload.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.106 auto-eap-own-method

auto-eap-own-method

Syntax

auto-eap-own-method {**psk** | **cert**}

Context

[Tree] (config>ipsec>ike-policy auto-eap-own-method)

Full Context

configure ipsec ike-policy auto-eap-own-method

Description

This command enables following behavior for IKEv2 remote-access tunnel when auth-method is configured as auto-eap-radius:

- If there is no AUTH payload in IKE_AUTH request, then system use EAP to authenticate client and also will own-auth-method to generate AUTH payload.
- If there is AUTH payload in IKE_AUTH request:
  – if auto-eap-method is psk, then system proceed as auth-method:psk-radius.

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- if auto-eap-method is cert, then system proceed as auth-method:cert-radius.
- if auto-eap-method is psk-or-cert, then:
  - if the "Auth Method" field of AUTH payload is PSK, then system proceed as auth-method:psk-radius.
  - if the "Auth Method" field of AUTH payload is RSA or DSS, then system proceed as auth-method:cert-radius.
- The system will use **auto-eap-own-method** to generate AUTH payload.

This command only applies when **auth-method** is configured as **auto-eap-radius**.

Default

auto-eap-own-method cert

Parameters

psk

Uses a pre-shared-key to generate AUTH payload.

cert

Uses a public/private key to generate AUTH payload.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

7.107 auto-edge

auto-edge

Syntax

[**no**] **auto-edge**

Context

[Tree] (config>service>vpls>sap>stp auto-edge)

[Tree] (config>service>template>vpls-sap-template>stp auto-edge)

[Tree] (config>service>vpls>spoke-sdp>stp auto-edge)

Full Context

configure service vpls sap stp auto-edge

configure service template vpls-sap-template stp auto-edge

configure service vpls spoke-sdp stp auto-edge

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Description

This command configures automatic detection of the edge port characteristics of the SAP or spoke SDP.

If **auto-edge** is enabled, and STP concludes there is no bridge behind the spoke SDP, the OPER_EDGE variable is dynamically set to true. If **auto-edge** is enabled, and a BPDU is received, the OPER_EDGE variable is dynamically set to false.

The **no** form of this command disables automatic detection.

Default

auto-edge

Platforms

All

auto-edge

Syntax

[**no**] **auto-edge**

Context

[Tree] (config>service>pw-template>stp auto-edge)

Full Context

configure service pw-template stp auto-edge

Description

This command configures automatic detection of the edge port characteristics of the SAP or spoke SDP.

If **auto-edge** is enabled, and STP concludes there is no bridge behind the spoke SDP, the OPER_EDGE variable is dynamically set to true. If **auto-edge** is enabled, and a BPDU is received, the OPER_EDGE variable is dynamically set to false.

The **no** form of this command disables automatic detection.

Default

auto-edge

Platforms

All

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7.108 auto-esi

auto-esi

Syntax

auto-esi {**none** | **type-1**}

Context

[Tree] (config>service>system>bgp-evpn>eth-seg auto-esi)

Full Context

configure service system bgp-evpn ethernet-segment auto-esi

Description

This command configures the auto-ESI type to use in the Ethernet segment (ES).

The default mode is **none** and forces the user to configure a manual ESI. When **type-1** is configured, a manual ESI cannot be configured and the ESI is auto-derived in accordance with the RFC 7432 ESI type 1 definition.

An ESI type 1 encodes 0x01 in the ESI type octet (T=0x01) and indicates that IEEE 802.1AX LACP is used between the PEs and CEs.

The ESI is auto-derived from the LACP PDUs by concatenating the following parameters:

- CE LACP system MAC address (6 octets)

  The CE LACP system MAC address is encoded in the high-order 6 octets of the ESI value field.
- CE LACP port Key (2 octets)

  The CE LACP port key is encoded in the 2 octets next to the system MAC address.
- the remaining octet is set to 0x00.

Parameters

type-1

Specifies an auto-generated ESI value.

none

Specifies the configuration of a manual ESI.

Platforms

All

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7.109 auto-establish

auto-establish

Syntax

[**no**] **auto-establish**

Context

[Tree] (config>router>l2tp>group>tunnel auto-establish)

Full Context

configure router l2tp group tunnel auto-establish

Description

This command specifies if this tunnel is to be automatically set up by the system.

Default

no auto-establish

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

auto-establish

Syntax

[**no**] **auto-establish**

Context

[Tree] (config>service>vprn>l2tp>group>tunnel auto-establish)

Full Context

configure service vprn l2tp group tunnel auto-establish

Description

This command specifies if this tunnel is to be automatically set up by the system.

Default

no auto-establish

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

auto-establish

Syntax

[**no**] **auto-establish**

Context

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn auto-establish)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn auto-establish)

[Tree] (config>ipsec>trans-mode-prof>dyn auto-establish)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn auto-establish)

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn auto-establish)

Full Context

configure service vprn interface sap ipsec-tunnel dynamic-keying auto-establish

configure service ies interface ipsec ipsec-tunnel dynamic-keying auto-establish

configure ipsec ipsec-transport-mode-profile dynamic-keying auto-establish

configure service vprn interface ipsec ipsec-tunnel dynamic-keying auto-establish

configure router interface ipsec ipsec-tunnel dynamic-keying auto-establish

Description

This command enables automatic attempts to establish a phase 1 exchange.

The system automatically establishes a phase 1 SA as soon as the tunnel is provisioned and enabled (**no shutdown**). This option should only be configured on one side of the tunnel.

Any associated static routes remains up as long as the tunnel is up, even though it may actually be operationally down according to the CLI.

The **no** form of this command disables the automatic attempts to establish a phase 1 exchange.

Default

no auto-establish

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel dynamic-keying auto-establish
- configure ipsec ipsec-transport-mode-profile dynamic-keying auto-establish

VSR

- configure service vprn interface ipsec ipsec-tunnel dynamic-keying auto-establish
- configure service ies interface ipsec ipsec-tunnel dynamic-keying auto-establish

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- configure router interface ipsec ipsec-tunnel dynamic-keying auto-establish

7.110 auto-learn-mac-protect

auto-learn-mac-protect

Syntax

[**no**] **auto-learn-mac-protect**

Context

[Tree] (config>service>pw-template>split-horizon-group auto-learn-mac-protect)

[Tree] (config>service>vpls>endpoint auto-learn-mac-protect)

Full Context

configure service pw-template split-horizon-group auto-learn-mac-protect

configure service vpls endpoint auto-learn-mac-protect

Description

This command enables the automatic protection of source MAC addresses learned on the associated object. MAC protection is used in conjunction with the **restrict-protected-src**, **restrict-unprotected-dst**, and **mac-protect** commands. When **auto-learn-mac-protect** command is applied or removed, the MAC addresses are cleared from the related object.

When the **auto-learn-mac-protect** is enabled on an SHG the action only applies to the associated SAPs (no action is taken by default for spoke SDPs in the SHG). To enable this function for spoke SDPs within a SHG, the **auto-learn-mac-protect** command must be enabled explicitly under the spoke SDP. If required, the **auto-learn-mac-protect** command can also be enabled explicitly under specific SAPs within the SHG.

The **no** form of the command reverts to the default.

Default

no auto-learn-mac-protect

Platforms

All

auto-learn-mac-protect

Syntax

auto-learn-mac-protect [**exclude-list** *name*]

no auto-learn-mac-protect

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Context

[Tree] (config>service>vpls>split-horizon-group auto-learn-mac-protect)

[Tree] (config>service>vpls>spoke-sdp auto-learn-mac-protect)

[Tree] (config>service>vpls>sap auto-learn-mac-protect)

[Tree] (config>service>pw-template auto-learn-mac-protect)

[Tree] (config>service>vpls>mesh-sdp auto-learn-mac-protect)

Full Context

configure service vpls split-horizon-group auto-learn-mac-protect

configure service vpls spoke-sdp auto-learn-mac-protect

configure service vpls sap auto-learn-mac-protect

configure service pw-template auto-learn-mac-protect

configure service vpls mesh-sdp auto-learn-mac-protect

Description

This command specifies whether to enable automatic population of the MAC protect list with source MAC addresses learned on the associated object under which the command is configured.

When configured, dynamically learned MAC Source Addresses (SA) are protected only if they are learned on an object with ALMP configured and there is no exclude list associated to the same object or if there is an exclude list but the MAC does not match any entry.

The same list can be used in multiple objects of the same or different service. If the list is empty, ALMP does not exclude any learned MAC from protection on the object.

The **no** form of the command disables the automatic population of the MAC protect list.

Default

auto-learn-mac-protect

Parameters

name

Specifies the name of the exclude list, up to 32 characters.

Platforms

All

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7.111 auto-lifetimes

auto-lifetimes

Syntax

[**no**] **auto-lifetimes**

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy>pfx-opt>stateful auto-lifetimes)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options stateful auto-lifetimes

Description

This command adjusts the valid and preferred lifetime values of the router advertisement from the DHCP lease of the subscriber. Every router advertisement sent to the subscriber is derived from the DHCP lease in real time. The route advertisement is always sent on a DHCP Renew.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.112 auto-lsp

auto-lsp

Syntax

auto-lsp lsp-template *template-name* {**policy** *peer-prefix-policy* [**peer-prefix-policy**] | **one-hop**}

no auto-lsp lsp-template *template-name*

Context

[Tree] (config>router>mpls auto-lsp)

Full Context

configure router mpls auto-lsp

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Description

This command enables the automatic creation of an RSVP point-to-point LSP to a destination node whose router ID matches a prefix in the specified peer prefix policy. This LSP type is referred to as auto-LSP of type mesh.

The user can associate multiple templates with same or different peer prefix policies. Each application of an LSP template with a given prefix in the prefix list results in the instantiation of a single CSPF computed LSP primary path using the LSP template parameters as long as the prefix corresponds to a router ID for a node in the TE database. This command does not support the automatic signaling of a secondary path for an LSP. If the signaling of multiple LSPs to the same destination node is required, the user must apply a separate LSP template to the same or different prefix list that contains the same destination node. Each instantiated LSP will have a unique LSP ID and a unique tunnel ID. This command also does not support the signaling of a non-CSPF LSP. The selection of the **no cspf** option in the LSP template is blocked.

Up to five peer prefix policies can be associated with a given LSP template at all times. Each time the user runs the **auto-lsp** command with the same or different prefix policy associations, or the user changes a prefix policy associated with an LSP template, the system re-evaluates the prefix policy. The outcome of the re-evaluation tells MPLS if an existing LSP needs to be torn down or if a new LSP needs to be signaled to a destination address that is already in the TE database.

If a /32 prefix is added to (removed from) or if a prefix range is expanded (shrunk) in a prefix list associated with an LSP template, the preceding prefix policy re-evaluation is performed.

The user must perform a **no shutdown** of the template before the template takes effect. After a template is in use, the user must shut down the template before effecting any changes to the parameters, except for those LSP parameters for which the change can be handled with the Make-Before-Break (MBB) procedures. These parameters are **bandwidth** and enabling **fast-reroute** with or without the **hop-limit** or **node-protect** options. For all other parameters, the user must shut down the template, makes the change, and perform a **no shutdown**. This results in the existing instances of the LSP using this template to be torn down and re-signaled.

When a router with a router ID that matches a prefix in the prefix list appears in the TE database, it is a trigger to signal the LSP. The signaled LSP is installed in the Tunnel Table Manager (TTM) and is available to applications such as LDP-over-RSVP, resolution of BGP label routes, resolution of BGP, IGP, and static routes. It is, however, not available for use as a provisioned SDP for explicit binding or auto-binding by services.

Except for the MBB limitations to the configuration parameter change in the LSP template, MBB procedures for manual and timer based re-signaling of the LSP, for TE Graceful Shutdown and for soft preemption are supported.

The **one-to-one** option under **fast-reroute**, the LSP Diff-Serv **class-type** and **backup-class-type** parameters are not supported. If **diffserv-te** is enabled under RSVP, the auto-created LSP is still signaled but with the default LSP class type.

If the **one-hop** option is specified instead of a prefix list, this command enables the automatic signaling of one-hop point-to-point LSPs using the specified template to all directly connected neighbors. This LSP type is referred to as auto-LSP of type one-hop. Although the provisioning model and CLI syntax differ from that of a mesh LSP only by the absence of a prefix list, the actual behavior is quite different. When this command is executed, the TE database keeps track of each TE link that comes up to a directly connected IGP neighbor whose router ID is discovered. It then instructs MPLS to signals an LSP with a destination address matching the router ID of the neighbor and with a strict hop consisting of the address of the interface used by the TE link. Thus, the **auto-lsp** command with the **one-hop** option results in one or more LSPs signaled to the neighboring router.

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An auto-created mesh or one-hop LSP can collect egress statistics at the ingress LER by adding the **egress-statistics** node configuration into the LSP template. The user can also collect ingress statistics at the egress LER by using the same **ingress-statistics** node configuration. The user must specify the full LSP name as signaled by the ingress LER in the RSVP session name field of the Session Attribute object in the received Path message.

This feature also provides for the auto-creation of an SR-TE mesh LSP and for an SR-TE one-hop LSP.

The SR-TE mesh LSP feature specifically binds a **mesh-p2p-srte** LSP template with one or more prefix lists. When the TE database discovers a router that has a router ID matching an entry in the prefix list, it triggers MPLS to instantiate an SR-TE LSP to that router using the LSP parameters in the LSP template.

The SR-TE one-hop LSP feature specifically activates a **one-hop-p2p-srte** LSP template. In this case, the TE database keeps track of each TE link that comes up to a directly connected IGP neighbor. It then instructs MPLS to instantiate a SR-TE LSP with the following parameters:

- the source address of the local router
- an outgoing interface matching the interface index of the TE-link
- a destination address matching the router ID of the neighbor on the TE link

In both types of SR-TE auto-LSP, the router's hop-to-label translation computes the label stack required to instantiate the LSP.

Note:
An SR-TE auto-LSP can be reported to a PCE but cannot be delegated or have its paths computed by PCE.

The **no** form of this command deletes all LSPs signaled using the specified template and prefix policy. When the **one-hop** option is used, it deletes all one-hop LSPs signaled using the specified template to all directly-connected neighbors.

Parameters

lsp-template *template-name*

Specifies an LSP template name, up to 32 characters in length.

policy *peer-prefix-policy*

Specifies an peer prefix policy name, up to 32 characters in length.

one-hop

Enables the automatic signaling of one-hop point-to-point LSPs.

Platforms

All

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7.113 auto-mep-discovery

auto-mep-discovery

Syntax

[**no**] **auto-mep-discovery**

Context

[Tree] (config>eth-cfm>domain>assoc auto-mep-discovery)

Full Context

configure eth-cfm domain association auto-mep-discovery

Description

This command enables the ability to auto-discover remote MEPs from a peer MEP sending ETH-CC.

The **no** form of this command disables the ability to auto-discover remote MEPs from a peer MEP sending ETH-CC.

Default

no auto-mep-discovery

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

7.114 auto-reply

auto-reply

Syntax

[**no**] **auto-reply**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6 auto-reply)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 auto-reply)

Full Context

configure service ies subscriber-interface group-interface ipv6 auto-reply

configure service vprn subscriber-interface group-interface ipv6 auto-reply

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Description

This command assists IP-only static hosts to resolve their default gateway and MAC. By default, the BNG anti-spoof filter drops packets from unknown hosts. The auto-reply features first allow hosts to resolve their default gateway and afterwards allow them to forward traffic. Using the data traffic, the BNG can utilize the data-trigger mechanism to learn the host's MAC and populate the full IP+MAC static host entry.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.115 auto-rp

auto-rp

Syntax

auto-rp [**detail**]

no auto-rp

Context

[Tree] (debug>router>pim auto-rp)

Full Context

debug router pim auto-rp

Description

This command enables debugging for PIM auto-RP.

The **no** form of this command disables PIM auto-RP debugging.

Parameters

detail

Debugs detailed information on the PIM auto-RP mechanism.

Platforms

All

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7.116 auto-rp-discovery

auto-rp-discovery

Syntax

auto-rp-discovery [**candidate**] [**mapping-agent**]

no auto-rp-discovery

Context

[Tree] (config>service>vprn>pim>rp auto-rp-discovery)

Full Context

configure service vprn pim rp auto-rp-discovery

Description

This command enables the auto-RP protocol in discovery mode. In discovery mode, RP-mapping and RP-candidate messages are received and forwarded to downstream nodes. RP-mapping messages are received locally to learn the availability of RP nodes present in the network. In a VPRN configuration, Nokia recommends that a local loopback interface should be created with the same IP address as the system IP address.

The following configuration guidelines apply.

- Either **bsr-candidate** for IPv4 or **auto-rp-discovery** can be configured; the two mechanisms cannot be enabled together.
- **bsr-candidate** for IPv6 and **auto-rp-discovery** for IPv4 can be enabled together.
- **auto-rp-discovery** cannot be enabled together with **mdt-type sender-only** or **mdt-type receiver-only**, or **wildcard-spmsi** configurations.

This command also enables the auto-RP listener functionality. The auto-RP listener forwards the candidate 224.0.1.39 and mapping 224.0.1.40 messages over the PIM interfaces.

The **no** form of this command disables auto-RP discovery, auto-RP listener, candidate, and mapping-agent.

Default

no auto-rp-discovery

Parameters

candidate

Specifies that the RP is a candidate RP. The auto-RP C-RP announces the candidate RP messages on the 224.0.1.39 multicast address. This functionality is in addition to the listener functionality enabled by the auto RP discovery.

The default value is **no candidate**.

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mapping agent

Specifies the mapping agent on the node. The auto-RP MA observes the **auto-rp-announcement** messages, selects the RP, and generates the RP discovery 224.0.1.40 messages. This functionality is in addition to the auto RP discovery functionality.

The default value is **no mapping-agent**.

Platforms

All

auto-rp-discovery

Syntax

auto-rp-discovery [**candidate**] [**mapping-agent**]

no auto-rp-discovery

Context

[Tree] (config>router>pim>rp auto-rp-discovery)

Full Context

configure router pim rp auto-rp-discovery

Description

This command enables the auto-RP protocol in discovery mode. In discovery mode, RP-mapping and RP candidate messages are received and forwarded to downstream nodes. RP-mapping messages are received locally to learn the availability of RP nodes present in the network.

The following configuration guidelines apply.

- Either **bsr-candidate** for IPv4 or **auto-rp-discovery** can be configured; the two mechanisms cannot be enabled together.
- **bsr-candidate** for IPv6 and **auto-rp-discovery** for IPv4 can be enabled together.

This command also enables the auto-RP listener functionality. The auto-RP listener forwards the candidate 224.0.1.39 and mapping 224.0.1.40 messages over the PIM interfaces.

The **no** form of this command disables auto-RP discovery, auto-RP listener, candidate, and mapping-agent.

Default

no auto-rp-discovery

Parameters

candidate

Specifies that the RP is a candidate RP. The auto-RP C-RP announces the candidate RP messages on the 224.0.1.39 multicast address. This functionality is in addition to the listener functionality enabled by the auto RP discovery.

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The default value is **no candidate**.

mapping agent

Specifies the mapping agent on the node. The auto-RP MA observes the **auto-rp-announcement** messages, selects the RP, and generates the RP discovery 224.0.1.40 messages. This functionality is in addition to the auto RP discovery functionality.

The default value is **no mapping-agent**.

Platforms

All

7.117 auto-rx

auto-rx

Syntax

auto-rx

Context

[Tree] (config>router>ldp>targeted-session auto-rx)

Full Context

configure router ldp targeted-session auto-rx

Description

Commands in this context configure an automatic targeted LDP session and accept targeted Hello messages from any peer.

Platforms

All

7.118 auto-srrp-id-range

auto-srrp-id-range

Syntax

auto-srrp-id-range start *start-id* **end** *end-id*

no auto-srrp-id-range

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Context

[Tree] (config>redundancy>srrp auto-srrp-id-range)

Full Context

configure redundancy srrp auto-srrp-id-range

Description

This command reserves IDs for internal SRRP objects created for inter-BNG-UP resiliency. Manually provisioned SRRP instances cannot use these reserved IDs.

The **no** form of this command removes the reservation of IDs.

Parameters

start-id

Specifies the lower bound of the ID range.

Values 1 to 4294967294

end-id

Specifies the upper bound of the ID range.

Values 2 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.119 auto-sub-id-key

auto-sub-id-key

Syntax

auto-sub-id-key

Context

[Tree] (config>subscr-mgmt auto-sub-id-key)

Full Context

configure subscriber-mgmt auto-sub-id-key

Description

Commands in this context configure auto-generated subscriber identification key parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

7.120 auto-tx

auto-tx

Syntax

auto-tx

Context

[Tree] (config>router>ldp>targeted-session auto-tx)

Full Context

configure router ldp targeted-session auto-tx

Description

Commands in this context configure an automatic targeted LDP session and send targeted Hello messages towards PQ nodes determined by the rLFA algorithm.

Platforms

All

7.121 autoconfigure

autoconfigure

Syntax

autoconfigure

Context

[Tree] (bof autoconfigure)

Full Context

bof autoconfigure

Description

Commands in this context autoconfigure the IP address for the BOF. The IPv4 DHCP client, IPv6 DHCP client, and NDP/RA can be configured on the management interface.

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Default

no autoconfigure

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

7.122 autonegotiate

autonegotiate

Syntax

autonegotiate [**limited**]

no autonegotiate

Context

[Tree] (config>port>ethernet autonegotiate)

Full Context

configure port ethernet autonegotiate

Description

This command enables speed and duplex autonegotiation on Fast Ethernet ports and enables far-end fault indicator support on Gb ports.

There are three possible settings for autonegotiation:

- "on" or enabled with full port capabilities advertised
- "off" or disabled where there are no autonegotiation advertisements
- "limited" where a single speed/duplex is advertised.

When autonegotiation is enabled on a port, the link attempts to automatically negotiate the link speed and duplex parameters. If autonegotiation is enabled, the configured duplex and speed parameters are ignored.

When autonegotiation is disabled on a port, the port does not attempt to autonegotiate and will only operate at the **speed** and **duplex** settings configured for the port. Note that disabling autonegotiation on Gb ports is not allowed as the IEEE 802.3 specification for Gb Ethernet requires autonegotiation be enabled for far end fault indication.

If the **autonegotiate limited** keyword option is specified the port will auto-negotiate but will only advertise a specific speed and duplex. The speed and duplex advertised are the **speed** and **duplex** settings configured for the port. One use for limited mode is for multi-speed Gb ports to force Gb operation while keeping autonegotiation enabled for compliance with IEEE 802.3.

Router requires that autonegotiation be disabled or limited for ports in a Link Aggregation Group to guarantee a specific port speed.

The **no** form of this command disables autonegotiation on this port.

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Default

autonegotiate

Parameters

limited

The Ethernet interface will automatically negotiate link parameters with the far end, but will only advertise the speed and duplex mode specified by the Ethernet **config>port>ethernet speed** and **config>port>ethernet duplex** commands.

Platforms

All

autonegotiate

Syntax

[**no**] **autonegotiate**

Context

[Tree] (bof autonegotiate)

Full Context

bof autonegotiate

Description

This command enables speed and duplex autonegotiation on the management Ethernet port in the running configuration and the Boot Option File (BOF).

When **autonegotiation** is enabled, the link attempts to automatically negotiate the link speed and duplex parameters. If **autonegotiation** is enabled, then the configured duplex and speed parameters are ignored.

The **no** form of this command disables the autonegotiate feature on this port.

Platforms

All

7.123 autonomous

autonomous

Syntax

[**no**] **autonomous**

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Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv>pfx-opt autonomous)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv>pfx-opt autonomous)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv>pfx-opt autonomous)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv>pfx-opt autonomous)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements prefix-options autonomous

configure service ies subscriber-interface ipv6 router-advertisements prefix-options autonomous

configure service vprn subscriber-interface group-interface ipv6 router-advertisements prefix-options autonomous

configure service vprn subscriber-interface ipv6 router-advertisements prefix-options autonomous

Description

This command enables the option that determines whether or not the prefix can be used for stateless address autoconfiguration.

The **no** form of this command disables the option.

Default

no autonomous

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

autonomous

Syntax

[**no**] **autonomous**

Context

[Tree] (config>service>vprn>router-advert>if>prefix autonomous)

Full Context

configure service vprn router-advertisement interface prefix autonomous

Description

This command specifies whether the prefix can be used for stateless address autoconfiguration.

Default

autonomous

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Platforms

All

autonomous

Syntax

[**no**] **autonomous**

Context

[Tree] (config>router>router-advert>if>prefix autonomous)

Full Context

configure router router-advertisement interface prefix autonomous

Description

This command specifies whether the prefix can be used for stateless address autoconfiguration.

Default

autonomous

Platforms

All

7.124 autonomous-system

autonomous-system

Syntax

autonomous-system *as-number*

no autonomous-system

Context

[Tree] (config>service>vprn autonomous-system)

Full Context

configure service vprn autonomous-system

Description

This command defines the autonomous system (AS) to be used by this VPN routing/forwarding (VRF). This command defines the autonomous system to be used by this VPN routing

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The **no** form of this command removes the defined AS from this VPRN context.

Default

no autonomous-system

Parameters

as-number

Specifies the AS number for the VPRN service.

Values 1 to 4294967295

Platforms

All

autonomous-system

Syntax

autonomous-system *autonomous-system*

no autonomous-system

Context

[Tree] (config>router autonomous-system)

Full Context

configure router autonomous-system

Description

This command configures the autonomous system (AS) number for the router. A router can only belong to one AS. An AS number is a globally unique number with an AS. This number is used to exchange exterior routing information with neighboring ASs and as an identifier of the AS itself.

If the AS number is changed on a router with an active BGP instance, the new AS number is not used until the BGP instance is restarted either by administratively disabling/enabling (**shutdown**/**no shutdown**) the BGP instance or rebooting the system with the new configuration.

Default

no autonomous-system

Parameters

autonomous-system

Specifies the autonomous system number expressed as a decimal integer.

Values 1 to 4294967295

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Platforms

All

7.125 autonomous-system-type

autonomous-system-type

Syntax

autonomous-system-type {**origin** | **peer**}

Context

[Tree] (config>cflowd>collector autonomous-system-type)

Full Context

configure cflowd collector autonomous-system-type

Description

This command defines whether the autonomous system (AS) information included in the flow data is based on the originating AS or external peer AS of the routes.

This option is only allowed if the collector is configured as Version 5 or Version 8.

Default

autonomous-system-type origin

Parameters

origin

Specifies that the AS information included in the flow data is based on the originating AS.

peer

Specifies that the AS information included in the flow data is based on the peer AS.

Platforms

All

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7.126 aux-stats

aux-stats

Syntax

[**no**] **aux-stats sr**

Context

[Tree] (config>router>mpls aux-stats)

Full Context

configure router mpls aux-stats

Description

This command enables and configures counters for the specified labeled traffic type in an auxiliary MPLS statistics table. The **sr** keyword indicates to the system to increment packet and octet counters of that table for any type of Segment Routing traffic (SR-OSPF, SR-ISIS, SR-TE, and so on). This command cannot be used in specific system configurations. This command does not impact the overall counting of MPLS packets and octets shown, for example, by the **show router mpls interface** [*ip-int-name* | *ip-address*] **statistics** command.

The **no** form of this command disables the counters of the auxiliary MPLS statistics table. The **no** form of this command cannot be used if dark bandwidth accounting is enabled (**config>router>rsvp>dbw-accounting**).

Default

aux-stats sr

Parameters

sr

Specifies the type of traffic to count in the auxiliary MPLS statistics table. Refers to any type of Segment Routing traffic (SR-OSPF, SR-ISIS, SR-TE, and so on).

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

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7.127 availability

availability

Syntax

availability

Context

[Tree] (config>oam-pm>session>ethernet>lmm availability)

Full Context

configure oam-pm session ethernet lmm availability

Description

Commands in this context activate, collect, and record availability statistics for LMM tests. These computations are not enabled by default. In order to modify parameters within a session, including these availability parameters, the LMM test must be shut down.

Platforms

All

7.128 avg-flr-event

avg-flr-event

Syntax

avg-flr-event {**forward** | **backward**} **threshold** *raise-threshold-percentage* [**clear** *clear-threshold-percentage*]

no avg-flr-event {**forward** | **backward**}

Context

[Tree] (config>oam-pm>session>ethernet>slm>loss-events avg-flr-event)

[Tree] (config>oam-pm>session>ip>twamp-light>loss-events avg-flr-event)

[Tree] (config>oam-pm>session>ethernet>lmm>loss-events avg-flr-event)

Full Context

configure oam-pm session ethernet slm loss-events avg-flr-event

configure oam-pm session ip twamp-light loss-events avg-flr-event

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configure oam-pm session ethernet lmm loss-events avg-flr-event

Description

This command sets the frame loss ratio threshold to apply and check at the end of the measurement interval for the specified direction. This is a percentage based on average frame loss ratio over the entire measurement interval.

The **no** form of this command removes the event threshold for the frame loss ratio. The direction must be included with the **no** command.

Default

no avg-flr-event forward

no avg-flr-event backward

Parameters

forward

Specifies the threshold is applied to the forward direction value.

backward

Specifies the threshold is applied to the backward direction value.

raise-threshold-percentage

Specifies the rising percentage that determines when the event is generated.

Values 0.001 to 100.000

clear-threshold-percentage

Specifies an optional value used for stateful behavior that allows the operator to configure a percentage of loss value lower than the rising percentage to indicate when the clear event should be generated.

If the *clear-threshold-percentage* value is not specified, the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and without regard to any previous window. Each unique event can only be raised once within the measurement interval.

If the optional *clear-threshold-percentage* value is specified, the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to the following measurement intervals. If a threshold crossing event is raised another is not raised until a measurement interval completes and the clear threshold has not been exceeded. A clear event is raised under that condition.

Values 0.000 to 99.999

A value 0.000 means that the FLR must be 0.000.

Platforms

All

- configure oam-pm session ethernet lmm loss-events avg-flr-event
- configure oam-pm session ethernet slm loss-events avg-flr-event

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure oam-pm session ip twamp-light loss-events avg-flr-event

7.129 avg-frame-overhead

avg-frame-overhead

Syntax

avg-frame-overhead *percent*

no avg-frame-overhead

Context

[Tree] (config>qos>sap-egress>queue avg-frame-overhead)

[Tree] (config>qos>network-queue>queue avg-frame-overhead)

Full Context

configure qos sap-egress queue avg-frame-overhead

configure qos network-queue queue avg-frame-overhead

Description

This command configures the average frame overhead, expressed as a percentage, at which the offered load expands on the physical medium (wire) at egress. This is important for accurate "on-the-wire" rate calculations at various levels of H-QoS that do not inherently account for the physical medium characteristics. For example, without considering this overhead, a port scheduler in H-QoS might inaccurately estimate the available bandwidth on the wire, potentially leading to congestion issues and unexpected packet loss.

The rates impacted by the average frame overhead encompass the rates set on port schedulers and aggregate rate limits for subscribers and Vports. This impact is evident in the configured values, which represent on-the-wire (OTW) rates. Queue-configured rates, however, remain unaffected by this adjustment and continue to reflect Layer 2 rates.

This average frame overhead should be configured in networks with physical mediums that have constant sizes of transmission units (packets or cells) or in scenarios where the average packet size is known.

For Ethernet ports, the effect of this command depends on the setting of the **avg-frame-overhead-mode** command in advanced QoS configuration policy associated with the queue. If the **avg-frame-overhead-mode** is set to **auto**, the packet encapsulation overhead calculation is based on a fixed 20 bytes (7 bytes for preamble, 1 byte for start of frame delimiter, and 12 bytes for Inter-Frame Gap (IFG)) that the Ethernet medium adds to every packet during transmission. In other words, the configured rates for port-scheduler and aggregate rate limits for subscribers and Vports represent OTW rates.

The average frame overhead only affects rate and weight calculations and does not impact collected statistics for accounting purposes.

The **no** form of this command disables the average frame overhead.

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Default

no avg-frame-overhead

Parameters

percent

Specifies the average amount of packet-to-frame encapsulation overhead expected for the queue. This value is not used by the system for egress Ethernet queues. This parameter only applies to the 7450 ESS and 7750 SR.

Values 0.00 to 100.00

Platforms

All

avg-frame-overhead

Syntax

avg-frame-overhead *percent*

no avg-frame-overhead

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue avg-frame-overhead)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue avg-frame-overhead)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue avg-frame-overhead)

[Tree] (config>service>vpls>sap>egress>queue-override>queue avg-frame-overhead)

[Tree] (config>service>epipe>sap>egress>queue-override>queue avg-frame-overhead)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue avg-frame-overhead)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue avg-frame-overhead)

Full Context

configure service vprn interface sap egress queue-override queue avg-frame-overhead

configure service ipipe sap egress queue-override queue avg-frame-overhead

configure service cpipe sap egress queue-override queue avg-frame-overhead

configure service vpls sap egress queue-override queue avg-frame-overhead

configure service epipe sap egress queue-override queue avg-frame-overhead

configure service ies interface sap egress queue-override queue avg-frame-overhead

configure subscriber-mgmt sla-profile egress qos queue avg-frame-overhead

Description

This command configures overrides that supersede the average frame overhead configuration under the queue.

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For a full description of this command, see the command description under the following contexts:

configure qos network-queue queue avg-frame-overhead

configure qos sap-egress queue avg-frame-overhead

The **no** form of this command disables overrides for the queue.

Default

no avg-frame-overhead

Parameters

percent

Specifies the average amount of packet-to-frame encapsulation overhead expected for the queue. This value is not used by the system for egress Ethernet queues.

Values 0.00 to 100.00, default

Platforms

All

- configure service ies interface sap egress queue-override queue avg-frame-overhead
- configure service vprn interface sap egress queue-override queue avg-frame-overhead
- configure service epipe sap egress queue-override queue avg-frame-overhead
- configure service ipipe sap egress queue-override queue avg-frame-overhead
- configure service vpls sap egress queue-override queue avg-frame-overhead

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue avg-frame-overhead

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt sla-profile egress qos queue avg-frame-overhead

7.130 avg-frame-overhead-mode

avg-frame-overhead-mode

Syntax

avg-frame-overhead-mode {**auto** | **from-queue**}

no avg-frame-overhead-mode

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement avg-frame-overhead-mode)

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Full Context

configure qos adv-config-policy child-control offered-measurement avg-frame-overhead-mode

Description

This command configures the average frame overhead mode; that is, whether the average frame overhead is calculated automatically or configured manually. The average frame overhead, which represents the additional bytes associated with the physical medium (wire), facilitates more precise rate calculations based on the actual characteristics of the medium.

This command is exclusively applicable to Ethernet ports. On Ethernet, the wire overhead typically amounts to 20 bytes. These 20 bytes are comprised of 7 bytes for the preamble, 1 byte for the Start of Frame Delimiter (SFD), and 12 bytes for the Inter-Packet Gap (IPG).

When used in conjunction with the **avg-frame-overhead** command that is configured directly under a queue, this command allows you to enable, disable, or customize average frame overhead. To activate this command, you must apply the associated advanced configuration policy to a specific queue.

The **no** form of this command removes the configuration.

Default

avg-frame-overhead-mode auto

Parameters

auto

Keyword used to specify that the average frame overhead is automatically calculated and 20 bytes are added to each packet in the queue. This setting impacts rate calculations on port schedulers (whether on a port or within a Vport) and aggregate rate limits for subscribers and Vports where rate calculations are based on wire rates.

from-queue

Keyword used to specify that the average frame overhead is manually configured under the queue level using the **avg-frame-overhead** command where the overhead value is specified in percentages of an average frame size. The default value for the **avg-frame-overhead** command (overhead is 0), the rate calculations throughout the H-QoS hierarchy are based on Layer 2 packets (Layer 2 rates).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

7.131 avp-hiding

avp-hiding

Syntax

avp-hiding {**sensitive** | **always**}

no avp-hiding

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Context

[Tree] (config>router>l2tp avp-hiding)

[Tree] (config>service>vprn>l2tp avp-hiding)

Full Context

configure router l2tp avp-hiding

configure service vprn l2tp avp-hiding

Description

This command configures Attribute Value Pair (AVP) hiding. This capability can be used to avoid the passing of sensitive data, such as user passwords, as cleartext in an AVP.

The **no** form of this command reverts to the default value.

Default

no avp-hiding

Parameters

sensitive

AVP hiding is used only for sensitive information (such as username/password).

always

AVP hiding is always used.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

avp-hiding

Syntax

avp-hiding {**sensitive** | **always**}

no avp-hiding

Context

[Tree] (config>service>vprn>l2tp>group avp-hiding)

Full Context

configure service vprn l2tp group avp-hiding

Description

This command configures Attribute Value Pair (AVP) hiding. This capability can be used to avoid the passing of sensitive data, such as user passwords, as cleartext in an AVP.

The **no** form of this command returns the value to **never** allow AVP hiding.

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Default

no avp-hiding

Parameters

avp-hiding

Specifies the method to be used for the authentication of the tunnels in this L2TP group.

Values sensitive — AVP hiding is used only for sensitive information (such as username/password).

always — AVP hiding is always used.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

avp-hiding

Syntax

avp-hiding {**never** | **sensitive** | **always**}

no avp-hiding

Context

[Tree] (config>service>vprn>l2tp>group>tunnel avp-hiding)

Full Context

configure service vprn l2tp group tunnel avp-hiding

Description

This command configures Attribute Value Pair (AVP) hiding. This capability can be used to avoid the passing of sensitive data, such as user passwords, as cleartext in an AVP.

Caution:
Nokia recommends that sensitive information not be sent in cleartext.

The **no** form of this command removes the parameter of the configuration and indicates that the value on group level will be taken.

Default

no avp-hiding

Parameters

avp-hiding

Specifies the method to be used for the authentication of the tunnel.

Values never — AVP hiding is not used.

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sensitive — AVP hiding is used only for sensitive information (such as username/password).

always — AVP hiding is always used.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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8 b Commands

8.1 back

back

Syntax

back

Context

[Tree] (back)

Full Context

back

Description

This command moves the context back one level of the command hierarchy. For example, if the current level is the **config router ospf** context, the **back** command moves the cursor to the **config router** context level.

Platforms

All

8.2 backbone-vpls

backbone-vpls

Syntax

backbone-vpls *service-id* [**isid** *isid*]

no backbone-vpls

Context

[Tree] (config>service>vpls>pbb backbone-vpls)

Full Context

configure service vpls pbb backbone-vpls

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Description

This command configures B-VPLS service associated with the I-VPLS.

Parameters

service-id

Specifies the service ID.

Values 1 to 2147483648

isid

Specifies the ISID.

Values 0 to 16777215

Platforms

All

8.3 backup

backup

Syntax

[**no**] **backup** *ip-address*

Context

[Tree] (config>service>ies>if>ipv6>vrrp backup)

Full Context

configure service ies interface ipv6 vrrp backup

Description

This command configures virtual router IP addresses for the interface.

Platforms

All

backup

Syntax

[**no**] **backup** *ip-address*

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Context

[Tree] (config>service>ies>if>vrrp backup)

Full Context

configure service ies interface vrrp backup

Description

This command configures virtual router IP addresses for the interface.

Platforms

All

backup

Syntax

[**no**] **backup** *ip-address*

Context

[Tree] (config>service>vprn>if>vrrp backup)

Full Context

configure service vprn interface vrrp backup

Description

This command configures virtual router IP addresses for the interface.

Platforms

All

backup

Syntax

[**no**] **backup** *ipv6-address*

Context

[Tree] (config>service>vprn>if>ipv6>vrrp backup)

Full Context

configure service vprn interface ipv6 vrrp backup

Description

This command configures virtual router IP addresses for the interface.

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Platforms

All

backup

Syntax

[**no**] **backup** [*mda-id* | *esa-vm-id*]

Context

[Tree] (config>isa>aa-grp backup)

Full Context

configure isa application-assurance-group backup

Description

This command assigns an AA ISA or ESA-VM configured in the specified location to this application assurance group. The backup module provides the application assurance group with warm redundancy when the primary module in the group is configured. Primary and backup modules have equal operational status and when both module are coming up, the ones that becomes operational first becomes the active module. A module can serve as a backup for multiple AA ISA cards but only one can fail to it at one time.

On an activity switch from the primary module, configurations are already on the backup MDA but flow state information must be re-learned. Any statistics not yet spooled will be lost. Auto-switching from the backup to primary, once the primary becomes available again, is not supported.

Operator is notified through SNMP events when:

- When the AA service goes down (all modules in the group are down) or comes back up (a module in the group becomes active).
- When AA redundancy fails (one of the modules in the group is down) or recovers (the failed module comes back up).
- When an AA activity switch occurred.

The **no** form of this command removes the specified module from the application assurance group.

Parameters

mda-id

Specifies the slot and MDA, identifying a provisioned module to use as a backup module.

Values

slot/*mda*	
slot	1 to 10, depending on chassis model
mda	1 to 2

esa-vm-id

Specifies the ESA and VM, identifying a provisioned module to use as a backup module; for example, an ESA 1 with VM2 would be referred to as **esa-1/2**.

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Values	esa-*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

backup

Syntax

backup *mda-id*

no backup

Context

[Tree] (config>isa>tunnel-grp backup)

Full Context

configure isa tunnel-group backup

Description

This command assigns a tunnel ISA configured in the specified slot to this IPsec group. The backup module provides the IPsec group with warm redundancy when the primary module in the group is configured. An IPsec group must always have a primary configured.

Primary and backup modules have equal operational status and when both modules are coming up, the one that becomes operational first becomes the active module. An IPsec module can serve as a backup for multiple IPsec groups but the backup can become active for only one ISA IPsec group at a time.

All configuration information is pushed down to the backup MDA from the CPM once the CPM gets notice that the primary module has gone down. This allows multiple IPsec groups to use the same backup module. Any statistics not yet spooled are lost. Auto-switching from the backup to primary, after the primary becomes available again, is supported.

The user is notified through SNMP events when:

- When the ISA IPsec service goes down (all modules in the group are down) or comes back up (a module in the group becomes active).
- When ISA IPsec redundancy fails (one of the modules in the group is down) or recovers (the failed module comes back up).
- When an ISA IPsec activity switch took place.

The **no** form of this command removes the specified module from the IPsec group.

Default

no backup

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Parameters

mda-id

Specifies the card/slot identifying a provisioned module to be used as a backup module.

Values mda-id: *slot*/*mda* slot 1 to up to 10 depending on chassis model mda 1 to 2

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

backup

Syntax

[**no**] **backup** *ip-address*

Context

[Tree] (config>router>if>vrrp backup)

Full Context

configure router interface vrrp backup

Description

This command associates router IP addresses with the parental IP interface IP addresses.

The **backup** command has two distinct functions when used in an **owner** or a **non-owner** context of the virtual router instance.

Non-owner virtual router instances actually create a routable IP interface address that is operationally dependent on the virtual router instance mode (master or backup). The **backup** command in **owner** virtual router instances does not create a routable IP interface address; it simply defines the existing parental IP interface IP addresses that are advertised by the virtual router instance.

For **owner** virtual router instances, the **backup** command defines the IP addresses that are advertised within VRRP advertisement messages. This communicates the IP addresses that the master is representing to backup virtual routers receiving the messages. Advertising a correct list is important. The specified *ip-address* must be equal to one of the existing parental IP interface IP addresses (primary or secondary) or the **backup** command fails.

For non-owner virtual router instances, the **backup** command actually creates an IP interface IP address used for routing IP packets and communicating with the system when the access commands are defined (**ntp-reply, ping-reply**, **telnet-reply**, and **ssh-reply**). The specified *ip-address* must be an IP address that is within one of the parental IP interface local subnets created with the **address** or **secondary** commands. If a local subnet does not exist that includes the specified *ip-address* or if *ip-address* is the same IP address as the parental IP interface IP address, the **backup** command fails.

The new interface IP address created with the **backup** command assumes the mask and parameters of the corresponding parent IP interface IP address. The *ip-address* is only active when the virtual router instance is operating in the master state. When not operating as master, the virtual router instance acts as if it is operationally down. It does not respond to ARP requests to *ip-addr*ess, nor does it route packets received with its *vrid* derived source MAC address. A non-master virtual router instance always silently

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discards packets destined to *ip-address*. A single virtual router instance may only have a single virtual router IP address from a given parental local subnet. Multiple virtual router instances can define a virtual router IP address from the same local subnet as long as each is a different IP address.

In IPv4, up to sixteen **backup** *ip-address* commands can be executed within the same virtual router instance. Executing **backup** multiple times with the same *ip-addr*ess results in no operation performed and no error generated. At least one successful **backup** *ip-address* command must be executed before the virtual router instance can enter the operational state.

When operating as (non-owner) master, the default functionality associated with *ip-address* is ARP response to ARP requests to *ip-address*, routing of packets destined to the virtual router instance source MAC address and silently discarding packets destined to *ip-address*. Enabling the non-owner-access parameters selectively allows ping, Telnet and SSH connectivity to *ip-address* when the virtual router instance is operating as master.

The **no** form of the command removes the specified virtual router IP address from the virtual router instance. For non-owner virtual router instances, this causes all routing and local access associated with the *ip-address* to cease. For **owner** virtual router instances, the **no backup** command only removes *ip-addr*ess from the list of advertised IP addresses. If the last *ip-address* is removed from the virtual router instance, the virtual router instance will enter the operationally down state

Default

no backup — No virtual router IP address is assigned.

Parameters

ip-address

The virtual router IP address expressed in dotted decimal notation. The IP virtual router IP address must be in the same subnet of the parental IP interface IP address or equal to one of the primary or secondary IP addresses for **owner** virtual router instances.

Values 1.0.0.1 to 223.255.255.254

Platforms

All

backup

Syntax

[**no**] **backup** *ipv6-address*

Context

[Tree] (config>router>if>ipv6>vrrp backup)

Full Context

configure router interface ipv6 vrrp backup

Description

This command associates router IPv6 addresses with the parental IP interface IP addresses.

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The **backup** command has two distinct functions when used in an **owner** or a **non-owner** context of the virtual router instance.

Non-owner virtual router instances actually create a routable IP interface address that is operationally dependent on the virtual router instance mode (master or backup). The **backup** command in **owner** virtual router instances does not create a routable IP interface address; it simply defines the existing parental IP interface IP addresses that are advertised by the virtual router instance.

For **owner** virtual router instances, the **backup** command defines the IP addresses that are advertised within VRRP advertisement messages. This communicates the IP addresses that the master is representing to backup virtual routers receiving the messages. Advertising a correct list is important. The specified *ipv6-addr* must be equal to one of the existing parental IP interface IP addresses (link-local or global) or the **backup** command will fail.

For non-owner virtual router instances, the **backup** command actually creates an IP interface IP address used for routing IP packets and communicating with the system when the access commands are defined (**ntp-reply, ping-reply**, **telnet-reply**, and **ssh-reply**). The specified *ipv6-addr* must be an IP address that is within one of the parental IP interface local subnets created with the **link-local-address or address** commands. If a local subnet does not exist that includes the specified *ipv6-addr* or if *ipv6-addr* is the same IP address as the parental IP interface IP address, the **backup** command will fail.

The new interface IP address created with the **backup** command assumes the mask and parameters of the corresponding parent IP interface IP address. The *ipv6-addr* is only active when the virtual router instance is operating in the master state. For IPv6 VRRP, the parental interface's IP address that is in the same subnet as the backup address must be manually-configured, non EUI-64 and configured to be in the preferred state.

When not operating as master, the virtual router instance acts as if it is operationally down. It will not respond to Neighbor Solicitation (NS) requests to *ipv6-addr*, nor will it route packets received with its *vrid* derived source MAC address. A non-master virtual router instance always silently discards packets destined to *ipv6-addr*.

IPv6 allows the configuration of a link-local IPv6 address and multiple global IPv6 addresses on an interface. For each of these configured subnets, a virtual router IP address can be configured. Each IPv6 enabled device on a particular IPv6 subnet dynamically learns the connected IPv6 routers and correlated subnets in addition to the IPv6 default gateway using IPv6 neighbor discovery protocol (RFC 4861). This protocol behavior is revised from IPv4 where the default gateway is manually configured or derived from supporting protocols (for example, DHCP). During the IPv6 neighbor discovery process, VRRP enabled routers will use backup IPv6 addresses and correlated derived virtual MAC addresses. Multiple virtual router instances can define a virtual router IP address from the same local subnet as long as each is a different IP address.

Executing **backup** multiple times with the same *ipv6-addr* results in no operation performed and no error generated. At least one successful **backup** *ipv6-addr* command must be executed before the virtual router instance can enter the operational state.

When operating as (non-owner) master, the default functionality associated with *ipv6-addr* results in the IPv6 Neighbor Advertisement response to IPv6 Neighbor Solicitation requests to *ip-addr*, routing of packets destined to the virtual router instance source MAC address, and silently discarding packets destined to *ipv6-addr*. An IPv6 virtual router instance can enter the operational state only if one of the configured backup addresses is a link-local address and the router advertisement of the interface is configured to use the virtual MAC address. Enabling the non-owner-access parameters selectively allows ping, Telnet, and traceroute connectivity to *ipv6-addr* when the virtual router instance is operating as master.

The **no** form of the command removes the specified virtual router IP address from the virtual router instance. For non-owner virtual router instances, this causes all routing and local access associated with the *ipv6-addr* to cease. For **owner** virtual router instances, the **no backup** command only removes *ipv6-*

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addr from the list of advertised IP addresses. If the last *ipv6-addr or the link-local address* is removed from the virtual router instance, the virtual router instance will enter the operationally down state

Default

no backup — No virtual router IP address is assigned.

Parameters

ipv6-address

The virtual router IP address is represented as eight groups of four hexadecimal digits, each group representing 16 bits (two octets). The groups are separated by colons (:). The IP virtual router IP address must be in the same subnet of the parental IP interface IP address or equal to one of the parent interface addresses for **owner** virtual router instances.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x::d.d.d.d
	x: [0..FFFF]H
	d: [0..255]D

Platforms

All

8.4 backup-class-type

backup-class-type

Syntax

backup-class-type ct-number

no backup-class-type

Context

[Tree] (config>router>mpls>lsp>primary backup-class-type)

Full Context

configure router mpls lsp primary backup-class-type

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Description

This command enables the use of the Diff-Serv backup Class-Type (CT), instead of the Diff-Serv main CT, to signal the LSP primary path when it fails and goes into retry. The Diff-Serv main CT is configured at the LSP level or at the primary path level using the following commands:

config>router>mpls>lsp>class-type *ct-number*

config>router>mpls>lsp>primary>class-type *ct-numbe*r

When an LSP primary path retries due a failure, for example, it fails after being in the UP state, or undergoes any type of Make-Before-Break (MBB), MPLS will retry a new path for the LSP using the main CT. If the first attempt failed, the head-end node performs subsequent retries using the backup CT. This procedure must be followed regardless if the currently used CT by this path is the main or backup CT. This applies to both CSPF and non-CSPF LSPs.

The triggers for using the backup CT after the first retry attempt are:

1. A local interface failure or a control plane failure (hello timeout and so on).
2. Receipt of a PathErr message with a notification of a FRR protection becoming active downstream and/or Receipt of a Resv message with a 'Local-Protection-In-Use' flag set. This invokes the FRR Global Revertive MBB.
3. Receipt of a PathErr message with error code=25 ("Notify") and sub-code=7 ("Local link maintenance required") or a sub-code=8 ("Local node maintenance required"). This invokes the TE Graceful Shutdown MBB.
4. Receipt of a Resv refresh message with the 'Preemption pending' flag set or a PathErr message with error code=34 ("Reroute") and a value=1 ("Reroute request soft preemption"). This invokes the soft preemption MBB.
5. Receipt of a ResvTear message.
6. A configuration change MBB.
7. The user executing the **clear**>**router**>**mpls**>**lsp** command.

When an unmapped LSP primary path goes into retry, it uses the main CT until the number of retries reaches the value of the new **main-ct-retry-limit** parameter. If the path did not come up, it must start using the backup CT at that point in time. By default, this parameter is set to infinite value. The new main-ct-retry-limit parameter has no effect on an LSP primary path which retries due to a failure event.

An unmapped LSP primary path is a path which has never received a Resv in response to the first Path message sent. This can occur when performing a 'shut/no-shut' on the LSP or LSP primary path or when the node reboots. An unmapped LSP primary path goes into retry if the retry timer expired or the head-end node received a PathErr message before the retry timer expired.

When the re-signal timer expires, CSPF will try to find a path with the main CT. The head-end node must re-signal the LSP even if the new path found by CSPF is identical to the existing one since the idea is to restore the main CT for the primary path. A path with main CT is not found, the LSP remains on its current primary path using the backup CT.

When the user performs a manual re-signal of the primary path, CSPF will try to find a path with the main CT. The head-end node must re-signal the LSP as in current implementation.

The **no** form of this command disables the use of the Diff-Serv backup CT.

Default

no backup-class-type

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Parameters

ct-number

Specifies the Diff-Serv Class Type number. One or more system forwarding classes can be mapped to a CT.

Values 0 to 7, integer

Platforms

All

8.5 backup-next-hop

backup-next-hop

Syntax

[**no**] **backup-next-hop**

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp backup-next-hop)

Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group backup-next-hop

Description

Commands in this context configure the backup next hop of an NHG entry in a forwarding policy.

The **no** form of this command removes the backup next hop context from an NHG entry in a forwarding policy.

Platforms

All

backup-next-hop

Syntax

backup-next-hop

Context

[Tree] (config>service>vprn>static-route-entry>next-hop backup-next-hop)

[Tree] (config>router>static-route-entry>next-hop backup-next-hop)

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Full Context

configure service vprn static-route-entry next-hop backup-next-hop

configure router static-route-entry next-hop backup-next-hop

Description

Commands in this context configure static route entry fast failover.

Platforms

All

8.6 backup-node-sid

backup-node-sid

Syntax

backup-node-sid *ip-prefix/prefix-length* **index** *index*

backup-node-sid *ip-prefix/prefix-length* **label** *label*

no backup-node-sid

Context

[Tree] (config>router>ospf>segm-rtng backup-node-sid)

Full Context

configure router ospf segment-routing backup-node-sid

Description

This command enables LFA Protection using segment routing backup node SID.

The objective of this feature is to reduce the label stack pushed in a LFA tunnel next hop of inter-area and inter-domain prefixes. This is applicable in MPLS deployments across multiple IGP areas or domains such in seamless MPLS design.

The user enables the feature by configuring a backup node SID at an ABR/ASBR that is acting as a backup to the primary exit ABR/ASBR of inter-area or inter-as routes learned as BGP labeled routes. The user can enter either a label or an index for the backup node SID.

When a node in a IGP domain resolves a BGP label route for an inter-area or inter-domain prefix via the primary ABR exit router, it will use the backup node SID of this router, which is advertised by the backup ABR/ABR, as the LFA backup instead of the SID to the remote LFA PQ node to save on the pushed label stack.

This feature only allows the configuration of a single backup node SID per IGP instance and per ABR/ASBR. In other words, only a pair of ABR/ASBR nodes can back up each other in an IGP domain. Each time the user invokes the above command within the same IGP instance, it will override any previous

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configuration of the backup node SID. The same ABR/ASBR can, however, participate in multiple IGP instances and provide backup support within each instance.

Default

no backup-node-sid

Parameters

ip-prefix/prefix-length

Specifies the IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area.

Values ip-prefix/mask:

- ip-prefix a.b.c.d (host bits must be 0)

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

prefix-length: 0 to 128

index

Specifies the index for this backup node SID.

Values 0 to 4294967295

label

Specifies the SID value for this backup node SID.

Values 1 to 4294967295

Platforms

All

8.7 backup-path

backup-path

Syntax

[**no**] **backup-path** [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**]

Context

[Tree] (config>service>vprn>bgp backup-path)

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Full Context

configure service vprn bgp backup-path

Description

This command enables the computation and use of a backup path for IPv4 and/or IPv6 BGP-learned prefixes belonging to the base router or a particular VPRN. Multiple paths must be received for a prefix to take advantage of this feature. When a prefix has a backup path and its primary paths fail, the affected traffic is rapidly diverted to the backup path without waiting for control plane reconvergence to occur. When many prefixes share the same primary paths, and in some cases also the same backup path, the time to failover traffic to the backup path is independent of the number of prefixes.

By default, IPv4 and IPv6 prefixes do not have a backup path installed in the IOM.

Default

no backup-path

Parameters

ipv4

Keyword that enables the use of a backup path for BGP-learned unlabeled IPv4 prefixes.

ipv6

Keyword that enables the use of a backup path for BGP-learned unlabeled IPv6 prefixes.

label-ipv4

Keyword that enables the use of a backup path for BGP-learned labeled-IPv4 prefixes.

label-ipv6

Keyword that enables support for labeled-unicast IPv6 routes.

Platforms

All

backup-path

Syntax

[**no**] **backup-path** [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**] [**vpn-ipv4**] [**vpn-ipv6**]

Context

[Tree] (config>router>bgp backup-path)

Full Context

configure router bgp backup-path

Description

This command enables the computation and use of a backup path for certain BGP routes belonging to the base router. Multiple paths must be received for a prefix to take advantage of this feature. When a prefix has a backup path and its primary paths fail, the affected traffic is rapidly diverted to the backup path

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without waiting for control plane reconvergence to occur. When many prefixes share the same primary path, and also the same backup path, the time to failover traffic to the backup path is independent of the number of prefixes.

By default, BGP routes do not have a backup path installed in the IOM.

Default

no backup-path

Parameters

ipv4

Keyword that enables BGP fast reroute for unlabeled unicast IPv4 routes.

ipv6

Keyword that enables BGP fast reroute for unlabeled unicast IPv6 routes.

label-ipv4

Keyword that enables BGP fast reroute for labeled-unicast IPv4 routes.

label-ipv6

Keyword that enables BGP fast reroute for labeled-unicast IPv6 routes.

vpn-ipv4

Keyword that enables BGP fast reroute for labeled-unicast VPN-IPv4 routes, if they have the same route distinguisher and IP prefix and the context is an inter-AS model B ASBR or next-hop-self RR.

vpn-ipv6

Keyword that enables BGP fast reroute for labeled-unicast VPN-IPv6 routes, if they have the same route distinguisher and IP prefix and the context is an inter-AS model B ASBR or next-hop-self RR.

Platforms

All

8.8 backup-remote-ip

backup-remote-ip

Syntax

backup-remote-ip *ip-address*

no backup-remote-ip

Context

[Tree] (config>service>ies>if>sap>ip-tunnel backup-remote-ip)

[Tree] (config>service>vprn>if>sap>ip-tunnel backup-remote-ip)

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Full Context

configure service ies interface sap ip-tunnel backup-remote-ip

configure service vprn interface sap ip-tunnel backup-remote-ip

Description

This command configures the alternate destination IPv4 or IPv6 address to use for an IP tunnel. This destination address is used only if the primary destination configured with the **remote-ip** command is unreachable in the delivery service. The **source** address, **remote-ip** address and **backup-remote-ip** address of a tunnel must all belong to the same address family (IPv4 or IPv6). When the backup-remote-ip address contains an IPv6 address it must be a global unicast address.

The **no** form of this command deletes the backup-destination address from the tunnel configuration.

Default

no backup-remote-ip

Parameters

ip-address

Specifies the destination IPv4 address or IPv6 address of the tunnel.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

8.9 backup-tag

backup-tag

Syntax

backup-tag *tag-id*

no backup-tag

Context

[Tree] (config>service>vprn>static-route-entry backup-tag)

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[Tree] (config>router>static-route-entry backup-tag)

Full Context

configure service vprn static-route-entry backup-tag

configure router static-route-entry backup-tag

Description

This command associates a 4-byte backup route tag with the static route when the **backup-next-hop** command is activated. The tag value is an identifier that can be used in route policies to control distribution of the static route into other protocols when the backup-next-hop is activated for the associated static route.

The tag specified at this level of the static route causes the tag values that are configured under the **next-hop**, **black-hole**, and **indirect** contexts of the static route to be ignored.

The **no** form of this command removes the tag association.

Default

no backup-tag

Parameters

tag-id

Specifies an integer tag value.

Values 1 to 4294967295

Platforms

All

8.10 bandwidth

bandwidth

Syntax

bandwidth *bandwidth*

no bandwidth

Context

[Tree] (config>port>ethernet>access bandwidth)

[Tree] (config>lag>access bandwidth)

Full Context

configure port ethernet access bandwidth

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configure lag access bandwidth

Description

This command configures the administrator bandwidth assigned and available to ports and LAGs for use by SAP bandwidth Connection Admission Control (CAC). The administrator bandwidth on a port or LAG can be overbooked or underbooked using the **booking-factor** command.

Port or LAG: Increasing the port or LAG admin bandwidth will increase the available admin bandwidth on that port or LAG. Reducing the port or LAG admin bandwidth will reduce the available admin bandwidth on that port or LAG, however, if the reduction of available admin bandwidth would cause it to be insufficient to cover the sum of the current SAP admin bandwidth on the port or LAG then the command will fail.

The **no** form of this command reverts to the default value.

Default

no bandwidth

Parameters

bandwidth

Specifies the administrator bandwidth, in kb/s, that is assigned to the port or LAG.

Values 1 to 6400000000

Platforms

All

bandwidth

Syntax

bandwidth *bandwidth*

no bandwidth

Context

[Tree] (config>service>ipipe>sap bandwidth)

[Tree] (config>service>epipe>sap bandwidth)

Full Context

configure service ipipe sap bandwidth

configure service epipe sap bandwidth

Description

This command configures the administrator bandwidth assigned and available to SAPs for use by SAP bandwidth Connection Admission Control (CAC).

Attempts to increase the SAP administrator bandwidth fail if there is insufficient available administrator bandwidth on its port or LAG, otherwise the available port or LAG administrator bandwidth is reduced by

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the incremental SAP administrator bandwidth. Reducing the SAP administrator bandwidth increases the available administrator bandwidth on its port or LAG.

The **no** form of this command reverts to the default value.

Default

no bandwidth

Parameters

bandwidth

Specifies the administrator bandwidth, in kb/s, that is assigned to the SAP.

Values 1 to 6400000000

Platforms

All

bandwidth

Syntax

bandwidth *bw-value*

bandwidth max

no bandwidth

Context

[Tree] (config>service>epipe>spoke-sdp bandwidth)

[Tree] (config>service>ipipe>spoke-sdp bandwidth)

[Tree] (config>service>cpipe>spoke-sdp bandwidth)

Full Context

configure service epipe spoke-sdp bandwidth

configure service ipipe spoke-sdp bandwidth

configure service cpipe spoke-sdp bandwidth

Description

This command specifies the bandwidth to be used for VLL bandwidth accounting by the VLL CAC feature.

The service manager keeps track of the available bandwidth for each SDP. The maximum value is the sum of the bandwidths of all constituent LSPs in the SDP. The SDP available bandwidth is adjusted by the user configured booking factor.

If an LSP consists of a primary and many secondary standby LSPs, then the bandwidth used in the maximum SDP available bandwidth is that of the active path. Any change to and LSP active path bandwidth will update the maximum SDP available bandwidth. Note however that a change to any constituent LSP bandwidth due to re-signaling of the primary LSP path or the activation of a secondary

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path which causes overbooking of the maximum SDP available bandwidth causes a warning and a trap to be issued but no further action is taken. The activation of a bypass or detour LSP in the path of the primary LSP does not change the maximum SDP available bandwidth.

When the user binds a VLL service to this SDP, an amount of bandwidth equal to bandwidth is subtracted from the SDP available bandwidth adjusted by the booking factor. When the user deletes this VLL service binding from this SDP, an amount of bandwidth equal to bandwidth is added back into the SDP available bandwidth.

If the total SDP available bandwidth when adding this VLL service is about to overbook, a warning is issued and the binding is rejected. This means that the spoke SDP bandwidth does not update the maximum SDP available bandwidth. In this case, the spoke SDP is put in operational down state and a status message of "pseudowire not forwarding" is sent to the remote SR OS PE node. A trap is also generated. The service manager will not put the spoke SDP into an operationally up state until the user executes a **shutdown** command and then a **no-shutdown** command of the spoke SDP and the bandwidth check succeeds. Therefore, the service manager will not automatically audit spoke SDPs subsequently to their creation to check if bandwidth is available.

If the VLL service contains an endpoint with multiple redundant spoke SDPs, each spoke SDP will have its bandwidth checked against the available bandwidth of the corresponding SDP.

If the VLL service performs a pseudowire switching (VC switching) function, each spoke SDP is separately checked for bandwidth against the corresponding SDP.

This feature does not alter the way service packets are sprayed over multiple RSVP LSPs, which are part of the same SDP. That is, by default load balancing of service packets occurs over the SDP LSPs based on service-id, or based on a hash of the packet header if ingress SAP shared queuing is enabled. In both cases, the VLL bandwidth is not checked against the available bandwidth of the selected LSPs but on the total SDP available bandwidth. Therefore, if there is a single LSP per SDP, these two matches.

If class-forwarding is enabled on the SDP, VLL service packets are forwarded to the SDP LSP which the packet forwarding class maps to, or if this is down to the default LSP. However, the VLL bandwidth is not checked against the selected LSP available bandwidth but on the total SDP available bandwidth. If there is a single LSP per SDP, these two matches.

If a non-zero bandwidth is specified for a VLL service and attempts to bind the service to an LDP or a GRE SDP, a warning is issued that CAC failed but the VLL is established. A trap is also generated.

The **no** form of this command reverts to the default value.

Parameters

bw-value

The bandwidth to be used for VLL bandwidth accounting by the VLL CAC feature, in kilobits per second.

Values 0 to 100000000

Default 0

Platforms

All

- configure service epipe spoke-sdp bandwidth
- configure service ipipe spoke-sdp bandwidth

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7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp bandwidth

bandwidth

Syntax

bandwidth *bandwidth*

no bandwidth

Context

[Tree] (config>service>vpls>sap bandwidth)

Full Context

configure service vpls sap bandwidth

Description

This command specifies the admin bandwidth assigned to SAPs, ports and LAGs which is used by SAP bandwidth CAC.

SAP: Attempts to increase the SAP admin bandwidth will fail if there is insufficient available admin bandwidth on its port or LAG, otherwise the port or LAG available admin bandwidth will be reduced by the incremental SAP admin bandwidth. Reducing the SAP admin bandwidth will increase the available admin bandwidth on its port or LAG. This is not supported for PW-SAPs, Ethernet tunnels or subscriber group interface SAPs.

The **no** version of the command reverts to the default value.

Default

no bandwidth

Parameters

bandwidth

Specifies the admin bandwidth assigned to the SAP, port or LAG, in kb/s.

Values 1 to 6400000000

Platforms

All

bandwidth

Syntax

bandwidth *bandwidth*

no bandwidth

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Context

[Tree] (config>service>ies>if>sap bandwidth)

Full Context

configure service ies interface sap bandwidth

Description

This command specifies the admin bandwidth assigned to SAPs, ports and LAGs which is used by SAP bandwidth CAC.

SAP: Attempts to increase the SAP admin bandwidth will fail if there is insufficient available admin bandwidth on its port or LAG, otherwise the port or LAG available admin bandwidth will be reduced by the incremental SAP admin bandwidth. Reducing the SAP admin bandwidth will increase the available admin bandwidth on its port or LAG. This is not supported for PW-SAPs, Ethernet tunnels or subscriber group interface SAPs.

The **no** version of the command reverts to the default value.

Default

no bandwidth

Parameters

bandwidth

Specifies the admin bandwidth assigned to the SAP, port or LAG, in kb/s.

Values 1 to 6400000000

Platforms

All

bandwidth

Syntax

bandwidth *bandwidth*

no bandwidth

Context

[Tree] (config>service>vprn>if>sap bandwidth)

Full Context

configure service vprn interface sap bandwidth

Description

This command specifies the admin bandwidth assigned to SAPs, ports and LAGs which is used by SAP bandwidth CAC.

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SAP: Attempts to increase the SAP admin bandwidth will fail if there is insufficient available admin bandwidth on its port or LAG, otherwise the port or LAG available admin bandwidth will be reduced by the incremental SAP admin bandwidth. Reducing the SAP admin bandwidth will increase the available admin bandwidth on its port or LAG. This is not supported for PW-SAPs, Ethernet tunnels or subscriber group interface SAPs.

The **no** version of the command reverts to the default value.

Default

no bandwidth

Parameters

bandwidth

Specifies the admin bandwidth assigned to the SAP, port or LAG, in kb/s.

Values 1 to 6400000000

Platforms

All

bandwidth

Syntax

bandwidth *bandwidth-in-mbps*

no bandwidth

Context

[Tree] (config>router>mpls>lsp>primary-p2mp-instance bandwidth)

[Tree] (config>router>mpls>lsp-template bandwidth)

Full Context

configure router mpls lsp primary-p2mp-instance bandwidth

configure router mpls lsp-template bandwidth

Description

This command specifies the amount of bandwidth to be reserved for the P2MP instance.

The **config**>**router**>**mpls**>**lsp**>**primary-p2mp-instance**> **bandwidth** command is not supported on the 7450 ESS.

Parameters

bandwidth-in-mbps

Specifies the bandwidth, in Mb/s.

Values 0 to 6400000

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Platforms

All

bandwidth

Syntax

bandwidth *bandwidth-in-mbps*

no bandwidth

Context

[Tree] (config>router>mpls>lsp>secondary bandwidth)

[Tree] (config>router>mpls>lsp>primary bandwidth)

Full Context

configure router mpls lsp secondary bandwidth

configure router mpls lsp primary bandwidth

Description

This command specifies the amount of bandwidth to be reserved for the LSP path.

The **no** form of this command resets bandwidth parameters (no bandwidth is reserved).

Default

no bandwidth (bandwidth setting in the global LSP configuration)

Parameters

bandwidth-in-mbps

Specifies the amount of bandwidth reserved for the LSP path in Mb/s.

Values 0 to 6400000

Platforms

All

bandwidth

Syntax

bandwidth

Context

[Tree] (config>isa>video-group>watermark bandwidth)

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Full Context

configure isa video-group watermark bandwidth

Description

Commands in this context configure watermark parameters based on the bandwidth.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

bandwidth

Syntax

bandwidth *bandwidth-in-kbps*

no bandwidth

Context

[Tree] (config>router>mcac>policy>bundle bandwidth)

Full Context

configure router mcac policy bundle bandwidth

Description

This command configures the MCAC policy bundle maximum bandwidth.

Parameters

bandwidth-in-kbps

Specifies the MCAC policy bandwidth.

Values 1 to 4294967295

Platforms

All

bandwidth

Syntax

bandwidth *gbps*

no bandwidth

Context

[Tree] (config>card>xiom>mda>xcon>mac>lpbk bandwidth)

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[Tree] (config>card>mda>xcon>mac>lpbk bandwidth)

Full Context

configure card xiom mda xconnect mac loopback bandwidth

configure card mda xconnect mac loopback bandwidth

Description

This command configures the maximum bandwidth for a maximum Layer 2 rate for the MAC loopback. The value of this command is equivalent to a faceplate port rate with the difference that the bandwidth of a faceplate port is a Layer 1 rate, which on Ethernet-based ports includes 20B per frame (preamble and inter-packet gap).

The configured bandwidth value must align with the specified MAC capacity. See the Hardware Installation Guide for information about your specific hardware configuration.

The **no** form of this command reverts to the default value.

Default

bandwidth 100

Parameters

gbps

Specifies the bandwidth in Gb/s.

Values 10, 25, 40, 100, 400, 800

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda xconnect mac loopback bandwidth

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure card mda xconnect mac loopback bandwidth

8.11 bandwidth-distribution

bandwidth-distribution

Syntax

bandwidth-distribution

Context

[Tree] (config>qos>adv-config-policy>child-control bandwidth-distribution)

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Full Context

configure qos adv-config-policy child-control bandwidth-distribution

Description

This command modifies or controls the bandwidth distribution phase of the parent virtual scheduler.

This command edits the parameters that control the child given bandwidth for all policers and queues associated with the policy.

Platforms

All

8.12 bandwidth-policer

bandwidth-policer

Syntax

bandwidth-policer *policer-name*

no bandwidth-policer

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action bandwidth-policer)

Full Context

configure application-assurance group policy app-qos-policy entry action bandwidth-policer

Description

This command assigns an existing bandwidth policer as an action on flows matching this AQP entry. The match criteria for the AQP entry must specify a uni-directional traffic direction before a policer action can be configured. If a policer is used in one direction in an AQP match entry the same policer name cannot be used by another AQP entry which uses a different traffic direction match criteria.

When multiple policers apply to a single flow, the final action on a packet is the worst case of all policer outcomes (for example, if one of the policers marks packet out of profile, the final marking will reflect that).

The **no** form of this command removes bandwidth policer from actions on flows matching this AQP entry.

Default

no bandwidth-policer

Parameters

policer-name

Specifies the name of the existing flow setup rate policer for this application assurance profile. The *policer-name* is configured in the **config>app-assure>group>policer** context.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.13 bandwidth-policy

bandwidth-policy

Syntax

bandwidth-policy *policy-name* [**create**]

no bandwidth-policy *policy-name*

Context

[Tree] (config>mcast-mgmt bandwidth-policy)

Full Context

configure mcast-management bandwidth-policy

Description

This command creates a multicast bandwidth policy. Bandwidth policies are used to manage the ingress multicast path bandwidth. Each forwarding plane supports multicast forwarding paths into the switch fabric. By default, two paths are available; the multicast high priority path and the multicast low priority path. Multicast packets are forwarded on either path based on the expedited or non-expedited (best-effort) nature of the queue the packets are scheduled from. The ingress forwarding plane uses the classification rules to determine the forwarding class of each multicast packet and uses the forwarding class to queue mapping to decide which ingress multipoint queue forwards the packet.

When multicast path management is enabled, the ingress forwarding plane allows IP multicast snooped or routed packets to be placed on to the two multicast paths independently of the ingress classification rules. The high priority multicast path is treated as the primary path and the low priority multicast path is treated as the secondary path. The ingress bandwidth manager evaluates each multicast FIB (M-FIB) record to determine which path is best based on ingress bandwidth, number of switch fabric destinations and the fill level of each path. Explicit path association is also supported.

Dynamic Bandwidth Activity Monitoring

When ingress multicast path management is enabled on an MDA, the system monitors the in-use bandwidth associated with each Layer 2 and Layer 3 ingress multicast record. When records are first populated by static, snooping or routing protocols, they are first assumed to be inactive. An inactive record is not considered to be currently consuming ingress multicast path bandwidth.

Within the multicast-info-policy, the bandwidth activity of the new record was configured to be either managed based on an administrative bandwidth, or based on the dynamic bandwidth rate table. The bandwidth-policy associated with ingress MDA contains the configuration parameters for creating the dynamic bandwidth rate table. The purpose of the table is to allow for the system to monitor the bandwidth activity associated with a multicast record and compare the current rate against several rate thresholds. Rate thresholds are used to allow a multicast streams rate to fluctuate between a given range while keeping the managed rate at a certain level. Multiple dynamic managed rates are supported in the table

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to allow monitoring of different types of multicast traffic. Each rate threshold is associated with a rising and falling threshold that defines when the specified rate should be used and when the next lower rate should be used.

Once a record’s monitored current rate rises to the first dynamic rising threshold, the record is active and the system then manages the bandwidth the record represents based on the parameters associated with the record in the records multicast-info-policy and the configured path information in the MDAs associated bandwidth-policy.

Ingress Multicast Path Parameters

The bandwidth-policy also contains the configuration parameters for each of the managed ingress multicast paths. The queue default parameters can be overridden for each primary and secondary path. In addition, the number of secondary paths (and by implication the number of primary paths) can be overridden.

Default Bandwidth Policy

A bandwidth policy with the name 'default’ always exists and is used as the default bandwidth policy when ingress multicast path management is enabled without an explicit bandwidth policy defined on an FP. The default policy cannot be deleted or edited.

The **no** form of this command removes the specified bandwidth policy from the system. The bandwidth policy associations must be removed from MDA configurations before it can be removed.

Default

bandwidth-policy "default”

Parameters

policy-name

Specifies the name of the bandwidth policy, up to 32 characters. Each bandwidth policy must be uniquely named within the system. 32 policies can be configured per system.

create

This keyword is required if creating a new bandwidth policy when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the bandwidth policy name already exists.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

bandwidth-policy

Syntax

bandwidth-policy *policy-name*

no bandwidth-policy

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Context

[Tree] (config>card>fp>ingress>mcast-path-management bandwidth-policy)

Full Context

configure card fp ingress mcast-path-management bandwidth-policy

Description

This command explicitly associates a bandwidth policy to a forwarding plane. The bandwidth policy defines the dynamic rate table and the multicast paths bandwidth and queuing parameters.

If a bandwidth policy is not explicitly associated with a forwarding plane, the default bandwidth policy is used when ingress multicast path management is enabled.

The **no** form of this command removes an explicit bandwidth policy from a forwarding plane or MDA and restores the default bandwidth policy.

Parameters

policy-name

The policy-name parameter is required and defines the bandwidth policy that should be associated with the MDA or forwarding plane for ingress multicast path management. If the policy name does not exist, the bandwidth-policy command will fail. The name can be up to 32 characters long.

Values Any existing bandwidth policy name.

Default default

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

8.14 base-op-authorization

base-op-authorization

Syntax

base-op-authorization

Context

[Tree] (config>system>security>profile>netconf base-op-authorization)

Full Context

configure system security profile netconf base-op-authorization

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Description

Commands in this context configure the permission to use NETCONF operations at the base operation level for the specified profile.The NETCONF operations are authorized by default in the built-in system-generated administrative profile.

Platforms

All

8.15 base-routing-instance

base-routing-instance

Syntax

base-routing-instance

Context

[Tree] (config>router>segment-routing>srv6 base-routing-instance)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance

Description

Commands in this context configure the function value for End SID, End.X SID, and service SID of an IPv4 or an IPv6 prefix in the global routing instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

8.16 base-user-name

base-user-name

Syntax

base-user-name *user-name*

no base-user-name

Context

[Tree] (config>aaa>route-downloader base-user-name)

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Full Context

configure aaa route-downloader base-user-name

Description

This command sets the prefix for the user name that shall be used as access requests. The actual name used is a concatenation of this string, the "-" (dash) character and a monotonically increasing integer.

The **no** form of this command removes the *user-name* from the configuration.

Default

The system's configured name (system name).

Parameters

user-name

Specifies the prefix of the username that is used in the RADIUS access requests. The username used in the RADIUS access requests is a concatenation of this string, the dash character and an increasing integer.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.17 bbf-vendor-specific-tag

bbf-vendor-specific-tag

Syntax

[**no**] **bbf-vendor-specific-tag**

Context

[Tree] (config>service>vpls>sap>pppoe>intermediate-agent bbf-vendor-specific-tag)

Full Context

configure service vpls sap pppoe intermediate-agent bbf-vendor-specific-tag

Description

Commands in this context configure the PPPoE Intermediate Agent actions on Circuit ID, Remote ID, and other sub tags in the BBF vendor specific PPPoE tag.

The **no** form of this command removes the configuration.

Default

bbf-vendor-specific-tag

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.18 bd

bd

Syntax

bd *identifier*

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query bd)

Full Context

configure subscriber-mgmt wlan-gw ue-query bd

Description

This command enables matching on UEs that are part of the specified BD.

The **no** form of this command disables matching on the BD.

Default

no bd

Parameters

identifier

Specifies the BD identifier.

Values 0 to 4294967294

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.19 bd-mac-prefix

bd-mac-prefix

Syntax

bd-mac-prefix *mac-prefix*

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no bd-mac-prefix

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext bd-mac-prefix)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext bd-mac-prefix)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext bd-mac-prefix

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext bd-mac-prefix

Description

This command specifies the prefix of the HLE BD MAC address.

The **no** form of this command removes the MAC prefix from the configuration.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.20 bearer-fteid

bearer-fteid

Syntax

[**no**] **bearer-fteid**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute bearer-fteid)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute bearer-fteid

Description

This command, in the case of ESM over GTP access includes the Alc-Bearer-Fteid VSA in accounting. This VSA contains the fully qualified TEID of the current GTP-U tunnel, including the bearer ID, endpoint IP addresses and TEIDs for both local and remote endpoints.

The **no** version of this command disables inclusion of the Alc-Bearer-Fteid VSA.

Default

no bearer-fteid

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.21 begin

begin

Syntax

begin

Context

[Tree] (config>app-assure>group>policy begin)

Full Context

configure application-assurance group policy begin

Description

This command begins a policy editing session.

The editing session continues until one of the following conditions takes place:

- Abort or commit is issued.
- Control complex resets.

The editing session is not interrupted by:

- HA activity switch.
- CLI session termination (for example, as result of closing a Telnet session).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

begin

Syntax

begin

Context

[Tree] (config>router>bfd begin)

Full Context

configure router bfd begin

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Description

This command switches to edit mode for a BFD template. Changes are not activated until the **commit** command is issued for the BFD template changes.

Platforms

All

begin

Syntax

begin

Context

[Tree] (config>router>route-next-hop-policy begin)

Full Context

configure router route-next-hop-policy begin

Description

This command switches to edit mode for route next-hop templates. Changes are not activated until the **commit** command is issued for the route next-hop templates changes.

Default

begin

Platforms

All

begin

Syntax

begin

Context

[Tree] (config>system>sync-if-timing begin)

Full Context

configure system sync-if-timing begin

Description

This command is required in order to enter the mode to create or edit the system synchronous interface timing configuration.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

begin

Syntax

begin {**exclusive**}

Context

[Tree] (config>router>policy-options begin)

Full Context

configure router policy-options begin

Description

This command is required in order to enter the mode to create or edit route policies.

Parameters

exclusive

Specifies an exclusive lock on the policy configuration. Other CLI and SNMP users will be unable to edit the policy configuration until the lock is removed (via commit, abort, a timeout occurring, or a forced override).

Platforms

All

8.22 begin-time

begin-time

Syntax

begin-time *date hours-minutes* [**UTC**]

begin-time {**now** | **forever**}

no begin-time

Context

[Tree] (config>system>security>keychain>macsec>entry begin-time)

[Tree] (config>system>security>keychain>direction>uni>receive>entry begin-time)

[Tree] (config>system>security>keychain>direction>bi>entry begin-time)

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[Tree] (config>system>security>keychain>direction>uni>send>entry begin-time)

Full Context

configure system security keychain macsec entry begin-time

configure system security keychain direction uni receive entry begin-time

configure system security keychain direction bi entry begin-time

configure system security keychain direction uni send entry begin-time

Description

This command specifies the calendar date and time which the key entry becomes active and creates an MKA session.

If no date and time is set, the begin-time is represented by a date and time string with all NULLs and the key is not valid by default.

Default

begin-time forever

Parameters

date hours-minutes

Specifies the date and time for the key to become active.

Values date: YYYY/MM/DD hours-minutes: hh:mm[:ss]

now

Specifies the key should become active immediately.

forever

Specifies that the key is always inactive.

UTC

Indicates that time is given with reference to Coordinated Universal Time in the input.

Platforms

All

8.23 behavior-and-structure

behavior-and-structure

Syntax

behavior-and-structure behavior *behavior* **block-length** *block-length* **node-length** *node-length* **function-length** *function-length*

no behavior-and-structure

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Context

[Tree] (conf>router>segment-routing>sr-policies>policy>seg-list>segment behavior-and-structure)

Full Context

configure router segment-routing sr-policies static-policy segment-list segment behavior-and-structure

Description

This command configures the behavior and structure of the SRv6 policy micro-segment.

By default, no behavior or structure is associated with the SRv6 policy micro-segment. Behavior and structure are necessary (but not sufficient) for the SRv6 policy micro-segment to be compressed by a head end.

The **no** form of this command removes the behavior and structure associations for this micro-segment.

Default

no behavior-and-structure

Parameters

behavior

Specifies the behavior of the SRv6 policy micro-segment. The only allowed values are flavorless behaviors of NEXT-CSID. Configuring a value is mandatory.

Although END.T with NEXT-CSID is a configurable value, SR OS does not support this behavior for locally-instantiated SIDs. However, configuring this value forms a traffic-engineered path that includes nodes that would support such behavior.

Values endNextCsid, endXNextCsid, endTNextCsid, endB6EncapsNextCsid, endB6EncapsRedNextCsid

block-length

Specifies the length of the block part of the structure of the SRv6 policy micro-segment. Configuring a value is mandatory.

Values 8, 16, 24, 32, 40, 48, 56, 64

node-length

Specifies the length of the node part of the structure of the SRv6 policy micro-segment. Configuring a value is mandatory.

Values 0, 16

function-length

Specifies the length of the function part of the structure of the SRv6 policy micro-segment. Configuring a value is mandatory.

Values 0, 16

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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8.24 bert

bert

Syntax

bert {**2e3** | **2e9** | **2e11** | **2e15** | **2e20** | **2e20q** | **2e23** | **ones** | **zeros** | **alternating**} **duration** *duration*

no bert

Context

[Tree] (config>port>tdm>e3 bert)

[Tree] (config>port>tdm>ds3 bert)

Full Context

configure port tdm e3 bert

configure port tdm ds3 bert

Description

This command initiates or restarts a Bit Error Rate Test (BERT) on the associated DS-1/E-1 or DS-3/E-3 circuit.

The associated DS-1, E-1, DS-3, or E-3 must be in a shutdown (admin down) state to initiate this test.

The **no** form of this command terminates the BERT test if it has not yet completed.

Notes:

- This command is not saved in the router configuration between boots.
- The 4-port OC-3/STM-1 and the 1-port OC-12/STM-4 ASAP MDA supports up to 28 concurrent BERT tests per MDA. The 4-port and 12-port DS-3/E-3 ASAP MDAs support a single BERT test per MDA. An attempt to configure more BERT tests can result in an error indicating an operation failure due to resource exhaustion.
- If the ASAP MDA BERT error insertion **rate** command is executed when tests are running, it will not take effect until test is restarted.

Default

bert 2e3

Parameters

duration

Sets the duration for the BERT test.

Values Up to 24 hours, in seconds or hh:mm:ss format

ones

Sends an all ones pattern.

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zeros
Sends an all zeros pattern.

alternating
Sends an alternating ones and zeros pattern.

2e3
Sends a pseudo-random 2^3 -1 pattern.

2e9
Sends a pseudo-random 2^9 -1 pattern.

2e15
Sends a pseudo-random 2^15 -1 pattern.

2e20
Sends a pseudo-random 2^20 -1 pattern. Not available on channelized ASAP MDAs.

2e23
Sends a pseudo-random 2^23 -1 pattern.

Platforms
7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

8.25 best-path-selection

best-path-selection

Syntax
best-path-selection

Context
[Tree] (config>service>vprn>bgp best-path-selection)

Full Context
configure service vprn bgp best-path-selection

Description
This command enables path selection configuration.

Platforms
All

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best-path-selection

Syntax

best-path-selection

Context

[Tree] (config>router>bgp best-path-selection)

Full Context

configure router bgp best-path-selection

Description

Commands in this context configure path selection parameters.

Platforms

All

8.26 bfd

bfd

Syntax

bfd *transmit-interval* [**receive** *receive-interval*] [**multiplier** *multiplier* [**echo-receive** *echo-interval*] [**type** **cpm-np**]

no bfd

Context

[Tree] (config>service>vprn>if>ipv6 bfd)

[Tree] (config>service>ies>if bfd)

[Tree] (config>service>vprn>if bfd)

[Tree] (config>service>ies>if>ipv6 bfd)

[Tree] (config>service>vprn>nw-if bfd)

Full Context

configure service vprn interface ipv6 bfd

configure service ies interface bfd

configure service vprn interface bfd

configure service ies interface ipv6 bfd

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configure service vprn network-interface bfd

Description

This command configures the BFD parameters for the associated IP interface. If no parameters are defined, the default value is used.

The multiplier specifies the number of consecutive BFD messages that must be missed from the peer before the BFD session state is changed to down and the upper level protocols (OSPF, IS-IS, BGP or PIM) is notified of the fault.

The **no** form of this command removes BFD from the interface.

Note:
On the 7750 SR, the *transmit-interval,* **receive** *receive-interval, and* **echo-receive** *echo-interval* values can only be modified to a value less than 100 when:

- The **type cpm-np option** is explicitly configured.
- The service is shut down (**shutdown**)
- The interval is specified 10 to 100000.
- The service is reenabled (**no shutdown**)

To remove the **type cpm-np** option, reissue the **bfd** command without specifying the **type** parameter.

Parameters

transmit-interval

Sets the transmit interval, in milliseconds, for the BFD session.

Values 100 to 100000

10 to 100000 (for the 7750 SR only; see the preceding note)

Default 100

receive *receive-interval*

Sets the receive interval, in milliseconds, for the BFD session.

Values 100 to 100000

10 to 100000 (for the 7750 SR only; see the preceding note)

Default 100

multiplier *multiplier*

Sets the multiplier for the BFD session.

Values 3 to 20

Default 3

echo-receive *echo-interval*

Sets the minimum echo receive interval, in milliseconds, for the BFD session.

Values 100 to 100000

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10 to 100000 (for the 7750 SR only; see the preceding note)

Default 100

type cpm-np

For the 7750 SR only, specifies that BFD sessions associated with this interface are created on the CPM network processor to allow for fast timers down to 10 ms granularity.

Platforms

All

bfd

Syntax

bfd *transmit-interval* [**receive** *receive-interval*] [**multiplier** *multiplier* [**echo-receive** *echo-interval*] [**type cpm-np**]

no bfd

Context

[Tree] (config>service>vprn>sub-if>ipv6 bfd)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 bfd)

[Tree] (config>service>vprn>sub-if>grp-if bfd)

[Tree] (config>service>vprn>sub-if bfd)

Full Context

configure service vprn subscriber-interface ipv6 bfd

configure service vprn subscriber-interface group-interface ipv6 bfd

configure service vprn subscriber-interface group-interface bfd

configure service vprn subscriber-interface bfd

Description

This command specifies the BFD attributes for the associated retail subscriber interface or group interface. If no parameters are defined the default value are used.

The **no** form of this command removes BFD from the interface.

To remove the **type cpm-np** option, re-issue the **bfd** command without specifying the **type** parameter.

Default

no bfd

Parameters

transmit-interval

Sets the transmit interval for the BFD session.

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Values 10 to 100000

Default 100

Note:
On the 7750 SR, the *transmit-interval* can only be modified to a value less than 100 when the **type cpm-np option** is explicitly configured.

receive-interval

Sets the receive interval for the BFD session.

Values 10 to 100000

Default 100

Note:
On the 7750 SR, the *receive-interval* can only be modified to a value less than 100 when the **type cpm-np option** is explicitly configured.

multiplier

Sets the multiplier for the BFD session. A multiplier of less than 3 should not be used in production environments. The multiplier specifies the number of consecutive BFD messages that must be missed from the peer before the BFD session state is changed to down and the upper level protocol (BGP) is notified of the fault.

Values 1 to 20

Default 3

echo-interval

Sets the minimum echo receive interval, in milliseconds, for the BFD session.

Values 100 to 100000

Default 0

type cpm-np

Sets the CPM network processor as the local termination point for the BFD session to allow for fast timers down to 10ms granularity.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

bfd

Syntax

bfd

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Context

[Tree] (config>lag bfd)

Full Context

configure lag bfd

Description

This command creates the bfd context and enables BFD over the associated LAG links.

Platforms

All

bfd

Syntax

bfd

Context

[Tree] (config>router>mpls>lsp>primary bfd)

[Tree] (config>router>mpls>lsp>secondary bfd)

[Tree] (config>router>mpls>lsp-template bfd)

[Tree] (config>router>mpls>lsp bfd)

Full Context

configure router mpls lsp primary bfd

configure router mpls lsp secondary bfd

configure router mpls lsp-template bfd

configure router mpls lsp bfd

Description

Commands in this context configure LSP BFD commands on RSVP LSPs or seamless BFD commands on SR-TE LSPs.

Platforms

All

bfd

Syntax

bfd

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Context

[Tree] (config bfd)

Full Context

configure bfd

Description

This command specifies the context for the configuration of BFD parameters global to a specific router.

The **no** form of this command removes the context.

Platforms

All

bfd

Syntax

bfd *transmit-interval* [**receive** *receive-interval*] [**multiplier** *multiplier*] [**echo-receive** *echo-interval*] [**type cpm-np**]

no bfd

Context

[Tree] (config>router>if bfd)

[Tree] (config>router>if>ipv6 bfd)

Full Context

configure router interface bfd

configure router interface ipv6 bfd

Description

This command specifies the bidirectional forwarding detection (BFD) parameters for the associated IP interface. If no parameters are defined the default values are used.

The multiplier specifies the number of consecutive BFD messages that must be missed from the peer before the BFD session state is changed to down and the upper level protocols (OSPF, IS-IS, BGP or PIM) is notified of the fault.

The **no** form of this command removes BFD from the router interface regardless of the IGP/RSVP.

Important notes: On the 7750 SR and 7950 XRS SR OS, the *transmit-interval* and **receive receive-interval** values can only be modified to a value less than 100 ms when:

1. The **type cpm-np option** is explicitly configured.
2. The service is shut down (**shutdown**)
3. The interval is specified 10 to 100000.
4. The service is re-enabled (**no shutdown**)

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To remove the **type cpm-np** option, re-issue the **bfd** command without specifying the **type** parameter.

Default

no bfd

Parameters

transmit-interval

Sets the transmit interval, in milliseconds, for the BFD session.

Values 10 to 100000 (see Important Notes above) The minimum value is 300 msec for central BFD sessions in the 7950 XRS.

Default 100

receive-interval

Sets the receive interval, in milliseconds, for the BFD session.

Values 10 to 100000 (see Important Notes above)

Default 100

multiplier

Sets the multiplier for the BFD session. A multiplier of less than 3 should not be used in production environments.

Values 1 to 20

Default 3

echo-interval

Sets the minimum echo receive interval, in milliseconds, for the session.

Values 100 to 100000

Default 0

cpm-np

Selects the CPM network processor type as the local termination point for the BFD session for the 7750 SR and 7950 XRS. See Important Notes, above.

Platforms

All

bfd

Syntax

bfd

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Context

[Tree] (config>service>vprn>if>spoke-sdp bfd)

[Tree] (config>service>cpipe>spoke-sdp bfd)

[Tree] (config>service>epipe>spoke-sdp bfd)

[Tree] (config>service>ipipe>spoke-sdp bfd)

[Tree] (config>service>vpls>spoke-sdp bfd)

[Tree] (config>service>vpls>mesh-sdp bfd)

[Tree] (config>service>ies>if>spoke-sdp bfd)

Full Context

configure service vprn interface spoke-sdp bfd

configure service cpipe spoke-sdp bfd

configure service epipe spoke-sdp bfd

configure service ipipe spoke-sdp bfd

configure service vpls spoke-sdp bfd

configure service vpls mesh-sdp bfd

configure service ies interface spoke-sdp bfd

Description

This command creates a context for the configuration of VCCV BFD.

Platforms

All

- configure service ies interface spoke-sdp bfd
- configure service vprn interface spoke-sdp bfd
- configure service epipe spoke-sdp bfd
- configure service ipipe spoke-sdp bfd
- configure service vpls mesh-sdp bfd
- configure service vpls spoke-sdp bfd

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp bfd

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8.27 bfd-designate

bfd-designate

Syntax

[**no**] **bfd-designate**

Context

[Tree] (config>service>vprn>if>sap>ipsec-tunnel bfd-designate)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel bfd-designate)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel bfd-designate)

[Tree] (config>router>if>ipsec>ipsec-tunnel bfd-designate)

Full Context

configure service vprn interface sap ipsec-tunnel bfd-designate

configure service vprn interface ipsec ipsec-tunnel bfd-designate

configure service ies interface ipsec ipsec-tunnel bfd-designate

configure router interface ipsec ipsec-tunnel bfd-designate

Description

This command specifies whether this IPsec tunnel is the BFD designated tunnel.

Default

no bfd-designate

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel bfd-designate

VSR

- configure router interface ipsec ipsec-tunnel bfd-designate
- configure service vprn interface ipsec ipsec-tunnel bfd-designate
- configure service ies interface ipsec ipsec-tunnel bfd-designate

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8.28 bfd-enable

bfd-enable

Syntax

[**no**] **bfd-enable** *service-id* **interface** *interface-name* **dst-ip** *ip-address*

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address* **name** *service-name*

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address*

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp bfd-enable)

[Tree] (config>service>ies>sub-if>grp-if>srrp bfd-enable)

Full Context

configure service vprn subscriber-interface group-interface srrp bfd-enable

configure service ies subscriber-interface group-interface srrp bfd-enable

Description

This commands assigns a bi-directional forwarding (BFD) session providing heart-beat mechanism for the given VRRP/SRRP instance. There can be only one BFD session assigned to any given VRRP/SRRP instance, but there can be multiple SRRP/VRRP sessions using the same BFD session. If the interface configured with BFD is using a LAG or a spoke-SDP, the BFD transmit and receive intervals need to be set to a minimum of 300 ms.

BFD control the state of the associated interface. By enabling BFD on a given protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set via the BFD command under the IP interface. The specified interface may not be configured with BFD; when it is, the virtual router will then initiate the BFD session.

The **no** form of this command removes BFD from the configuration.

Parameters

service-id

Specifies the service ID of the interface running BFD. If no *svc-id* is specified then it indicates that the interface is a network interface in the Base router instance.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **bfd-enable interface** *interface-name* **dst-ip** *ip-address* **name** *name* variant can be used in all configuration modes.

Values {*id* | *svc-name*}

id: 1 to 2147483647

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svc-name: Specifies an existing service name up to 64 characters (*svc-name* is an alias for input only. The *svc-name* gets replaced with an id automatically by SR OS in the configuration)

interface *interface-name*

Specifies the name of the interface running BFD, up to 32 characters.

dst-ip *ip-address*

Specifies the destination address for the BFD session.

name *service-name*

Specifies a service name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>bgp>group bfd-enable)

[Tree] (config>router>bgp bfd-enable)

[Tree] (config>router>bgp>group>neighbor bfd-enable)

[Tree] (config>redundancy>multi-chassis>peer>mc-ep bfd-enable)

Full Context

configure router bgp group bfd-enable

configure router bgp bfd-enable

configure router bgp group neighbor bfd-enable

configure redundancy multi-chassis peer mc-endpoint bfd-enable

Description

This command enables the use of bi-directional forwarding (BFD) to control the state of the associated protocol interface. By enabling BFD on a given protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set via the BFD command under the IP interface.

The **no** form of this command disables BFD.

Default

no bfd-enable

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Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>cpipe>spoke-sdp>bfd bfd-enable)

[Tree] (config>service>epipe>spoke-sdp>bfd bfd-enable)

[Tree] (config>service>ipipe>spoke-sdp>bfd bfd-enable)

Full Context

configure service cpipe spoke-sdp bfd bfd-enable

configure service epipe spoke-sdp bfd bfd-enable

configure service ipipe spoke-sdp bfd bfd-enable

Description

This command enables VCCV BFD on the PW associated with the VLL, BGP VPWS, or VPLS service. The parameters for the BFD session are derived from the named BFD template, which must have been first configured using the **bfd-template** command.

The **no** form of this command disables VCCV BFD on the spoke-SDP.

Default

no bfd-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp bfd bfd-enable

All

- configure service ipipe spoke-sdp bfd bfd-enable
- configure service epipe spoke-sdp bfd bfd-enable

bfd-enable

Syntax

[**no**] **bfd-enable**

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Context

[Tree] (config>service>epipe>bgp>pw-template-binding bfd-enable)

Full Context

configure service epipe bgp pw-template-binding bfd-enable

Description

This command enables VCCV BFD on the PW associated with the VLL, BGP VPWS, or VPLS service. The parameters for the BFD session are derived from the named BFD template, which must have been first configured using the **bfd-template** command.

The **no** form of this command disables VCCV BFD.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>vpls>mesh-sdp>bfd bfd-enable)

[Tree] (config>service>vpls>spoke-sdp>bfd bfd-enable)

Full Context

configure service vpls mesh-sdp bfd bfd-enable

configure service vpls spoke-sdp bfd bfd-enable

Description

This command enables VCCV BFD on the PWs associated with the VPLS service's spoke or mesh SDPs. The parameters for the BFD session are derived from the named BFD template, which must have been first configured using the **bfd-template** command.

The **no** form of this command disables VCCV BFD on the mesh-SDP or spoke-SDP.

Default

no bfd-enable

Platforms

All

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bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>vpls>bgp>pw-template-binding bfd-enable)

[Tree] (config>service>vpls>bgp-ad>pw-template-binding bfd-enable)

Full Context

configure service vpls bgp pw-template-binding bfd-enable

configure service vpls bgp-ad pw-template-binding bfd-enable

Description

This command enables VCCV BFD on the PWs associated with the BGP AD VPLS service. The parameters for the BFD session are derived from the named BFD template, which must have been first configured using the **bfd-template** command.

The **no** form of this command disables VCCV BFD.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>ies>if>spoke-sdp>bfd bfd-enable)

Full Context

configure service ies interface spoke-sdp bfd bfd-enable

Description

This command enables VCCV BFD on the PW associated with the spoke-SDP terminated on the IES interface. The parameters for the BFD session are derived from the named BFD template, which must have been first configured using the **bfd-template** command.

The **no** form of this command disables VCCV BFD on the spoke-SDP.

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Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable** [*service-id*] **interface** *interface-name* **dst-ip** *ip-address*

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address* **name** *name*

Context

[Tree] (config>service>ies>if>vrrp bfd-enable)

[Tree] (config>service>ies>if>ipv6>vrrp bfd-enable)

Full Context

configure service ies interface vrrp bfd-enable

configure service ies interface ipv6 vrrp bfd-enable

Description

This commands assigns a bi-directional forwarding (BFD) session providing heart-beat mechanism for the given VRRP/SRRP instance. There can be only one BFD session assigned to any given VRRP/SRRP instance, but there can be multiple SRRP/VRRP sessions using the same BFD session.

BFD control the state of the associated interface. By enabling BFD on a given protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set via the BFD command under the IP interface. The specified interface may not be configured with BFD; however, when it is, the virtual router will then initiate the BFD session.

The **no** form of this command removes BFD from the configuration.

Parameters

service-id

Specifies the service ID of the interface running BFD.

Values service-id: 1 to 2147483648

No service ID indicates a network interface.

interface *interface-name*

Specifies the name of the interface running BFD.

dst-ip *ip-address*

Specifies the destination address to be used for the BFD session.

name *name*

Specifies the name, up to 64 characters.

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Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>vprn>static-route-entry>next-hop bfd-enable)

Full Context

configure service vprn static-route-entry next-hop bfd-enable

Description

This command associates the static route state to a BFD session between the local system and the configured nexthop.

The remote end of the BFD session must also be configured to originate or accept the BFD session controlling the static route state.

The **no** form of this command removes the association of the static route state to that of the BFD session.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>vprn>if>spoke-sdp>bfd bfd-enable)

Full Context

configure service vprn interface spoke-sdp bfd bfd-enable

Description

This command enables VCCV BFD on the PW associated with the spoke-SDP terminated on the VPRN interface service. The parameters for the BFD session are derived from the named BFD template, which must have been first configured using the **bfd-template** command.

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The **no** form of this command disables VCCV BFD on the spoke-SDP.

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address*

[**no**] **bfd-enable** *service-id* **interface** *interface-name* **dst-ip** *ip-address*

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address* **name** *service-name*

Context

[Tree] (config>service>vprn>if>vrrp bfd-enable)

[Tree] (config>service>vprn>if>ipv6>vrrp bfd-enable)

Full Context

configure service vprn interface vrrp bfd-enable

configure service vprn interface ipv6 vrrp bfd-enable

Description

This commands assigns a bi-directional forwarding (BFD) session providing heart-beat mechanism for the given VRRP/SRRP instance. There can be only one BFD session assigned to any given VRRP/SRRP instance, but there can be multiple SRRP/VRRP sessions using the same BFD session. If the interface used is configured with centralized BFD, the BFD transmit and receive intervals need to be set to at least 300 ms.

BFD control the state of the associated interface. By enabling BFD on a given protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set via the BFD command under the IP interface. The specified interface may not be configured with BFD; when it is, the virtual router will then initiate the BFD session.

The **no** form of this command removes BFD from the configuration.

Parameters

svc-id

Specifies the service ID of the interface running BFD. If no *svc-id* is specified then it indicates that the interface is a network interface in the Base router instance.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **bfd-enable interface** *interface-name* **dst-ip** *ip-address* **name** *name* variant can be used in all configuration modes.

Values {*id* | *svc-name*}

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id:	1 to 2147483647
svc-name:	Specifies an existing service name up to 64 characters (*svc-name* is an alias for input only. The *svc-name* gets replaced with an id automatically by SR OS in the configuration)

interface *interface-name*

Specifies the name of the interface running BFD, up to 32 characters.

dst-ip *ip-address*

Specifies the destination address to be used for the BFD session.

name *name*

Specifies a service name, up to 64 characters.

Platforms

All

bfd-enable

Syntax

bfd-enable {**ipv4** | **ipv6**} [**include-bfd-tlv**]

no bfd-enable {**ipv4** | **ipv6**}

Context

[Tree] (config>service>vprn>isis>if bfd-enable)

Full Context

configure service vprn isis interface bfd-enable

Description

This command enables the use of bi-directional forwarding (BFD) to control IPv4 or adjacencies. By enabling BFD on an IPv4 or IPv6 protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set by the BFD command under the IP interface. This command must be given separately to enable or disable BFD for IPv4 and IPv6.

The **no** form of this command removes BFD from the associated adjacency.

Default

no bfd-enable ipv4

no bfd-enable ipv6

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Parameters

ipv4

Keyword to enable BFD to control IPv4 adjacencies.

ipv6

Keyword to enable BFD to control IPv6 adjacencies.

include-bfd-tlv

Enables support for the IS-IS BFD TLV options in accordance with RFC 6213, which specifies that a BFD session must be established before an IS-IS adjacency can transition to the established state. This option must be enabled on all IS-IS neighbors on a shared interface.

Platforms

All

bfd-enable

Syntax

bfd-enable [**remain-down-on-failure**]

bfd-enable [**remain-down-on-failure**] **strict** [**strict-mode-holddown** *number*]

no bfd-enable

Context

[Tree] (config>service>vprn>ospf3>area>if bfd-enable)

[Tree] (config>service>vprn>ospf>area>if bfd-enable)

Full Context

configure service vprn ospf3 area interface bfd-enable

configure service vprn ospf area interface bfd-enable

Description

This command configures Bidirectional Forwarding Detection (BFD) to control the state of the associated protocol interface. By enabling BFD on a protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD session are set using the **bfd** command in the associated IP interface context.

The **no** form of this command removes BFD from the associated IGP protocol adjacency.

Default

no bfd-enable

Parameters

remain-down-on-failure

Keyword to force adjacency down on BFD failure.

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strict

Keyword to specify that the system uses BFD strict-mode, which requires that an active BFD session exists between the OSPF neighbors before establishing a full adjacency. When this keyword is configured, the router uses Link-Local Signaling (LLS) with the B-flag set to instruct OSPF neighbors that BFD must be enabled on the link. BFD strict-mode requires that both sides have the B-flag set.

During OSPFv3 BFD strict-mode operations, the router advertises the Local Interface IPv4 Address TLV using LLS, but the SR OS router continues to use IPv6-based BFD sessions for both the IPv4 and IPv6 address families.

strict-mode-holddown ***number***

Specifies a delay in bringing up the OSPF adjacency after the BFD session is established. Holddown helps mitigate potential routing churn when BFD sessions are unstable. The holddown timer is reset on an adjacency when a BFD session operationally toggles.

Values 1 to 600

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable** [**ipv4** | **ipv6**]

Context

[Tree] (config>service>vprn>pim>if bfd-enable)

Full Context

configure service vprn pim interface bfd-enable

Description

This command enables the use of bi-directional forwarding (BFD) to control the state of the associated protocol interface. By enabling BFD on a given protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set via the BFD command under the IP interface.

The **no** form of this command removes BFD from the associated IGP protocol adjacency.

Default

no bfd-enable

Platforms

All

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bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>vprn>bgp bfd-enable)

[Tree] (config>service>vprn>bgp>group bfd-enable)

[Tree] (config>service>vprn>bgp>group>neighbor bfd-enable)

Full Context

configure service vprn bgp bfd-enable

configure service vprn bgp group bfd-enable

configure service vprn bgp group neighbor bfd-enable

Description

This command enables the use of bi-directional forwarding (BFD) to control the state of the associated protocol interface. The parameters used for the BFD are set with the BFD command under the IP interface.

The **no** form of this command disables bfd-enable on the VPRN service.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>service>vprn>ripng>group>neighbor bfd-enable)

[Tree] (config>service>vprn>rip>group>neighbor bfd-enable)

[Tree] (config>service>vprn>ripng>group bfd-enable)

[Tree] (config>service>vprn>rip bfd-enable)

[Tree] (config>service>vprn>rip>group bfd-enable)

[Tree] (config>service>vprn>ripng bfd-enable)

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Full Context

configure service vprn ripng group neighbor bfd-enable

configure service vprn rip group neighbor bfd-enable

configure service vprn ripng group bfd-enable

configure service vprn rip bfd-enable

configure service vprn rip group bfd-enable

configure service vprn ripng bfd-enable

Description

This command enables bi-directional forwarding (BFD) to control the state of the associated protocol adjacency. By enabling BFD on a given protocol interface, the state of the RIP neighbor is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set using the **bfd** command under the IP interface configuration context.

The **no** form of this command removes BFD from the associated protocol adjacency.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>ldp>lsp-bfd bfd-enable)

Full Context

configure router ldp lsp-bfd bfd-enable

Description

This command enables BFD on LDP LSPs with FECs that match the prefix list specified using the **lsp-bfd** command. A named BFD template must be configured and applied prior to enabling BFD.

The **no** form of this command disables BFD.

Default

no bfd-enable

Platforms

All

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bfd-enable

Syntax

bfd-enable [**ipv4**][**ipv6**]

no bfd-enable

Context

[Tree] (config>router>ldp>if-params>if bfd-enable)

Full Context

configure router ldp interface-parameters interface bfd-enable

Description

This command enables tracking of the Hello adjacency to an LDP peer using BFD.

The **ipv6** option for this command is not supported on the 7450 ESS.

When this command is enabled on an LDP interface, LDP registers with BFD and starts tracking the LSR-id of all peers it formed Hello adjacencies with over that LDP interface. The LDP hello mechanism is used to determine the remote address to be used for the BFD session. The parameters used for the BFD session, that is, transmit-interval, receive-interval, and multiplier are those configured under the IP interface in existing implementation: **config>router>if>bfd**.

The operation of BFD over an LDP interface tracks the next-hop of the IPv4 and IPv6 prefixes in addition to tracking the LDP peer address of the Hello adjacency over that link. This is required since LDP can resolve both IPv4 and IPv6 prefix FECs over a single IPv4 or IPv6 LDP session and as such the next-hop of a prefix will not necessarily match the LDP peer source address of the Hello adjacency.

The failure of either or both of the BFD session tracking the FEC next-hop and the one tracking the Hello adjacency will cause the LFA backup NHLFE for the FEC to be activated or the FEC to be re-resolved if there is no FRR backup.

When multiple links exist to the same LDP peer, a Hello adjacency is established over each link and a separate BFD session is enabled on each LDP interface. If a BFD session times out on a specific link, LDP will immediately associate the LDP session with one of the remaining Hello adjacencies and trigger the LDP FRR procedures. As soon as the last Hello adjacency goes down due to BFD timing out, the LDP session goes down and the LDP FRR procedures will be triggered.

The **no** form of this command disables BFD on the LDP interface.

Default

no bfd-enable

Platforms

All

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bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>ldp>targ-session>peer-template bfd-enable)

[Tree] (config>router>ldp>targ-session>peer bfd-enable)

Full Context

configure router ldp targeted-session peer-template bfd-enable

configure router ldp targeted-session peer bfd-enable

Description

This command enables the bidirectional forwarding detection (BFD) session for the selected TLDP session. By enabling BFD for a selected targeted session, the state of that session is tied to the state of the underneath BFD session between the two nodes.

The parameters used for the BFD are set via the BFD command under the IP interface.

The **no** form of this command removes the TLDP session operational state binding to the central BFD session one.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>mpls>lsp-template>bfd bfd-enable)

[Tree] (config>router>mpls>lsp>primary>bfd bfd-enable)

[Tree] (config>router>mpls>lsp>bfd bfd-enable)

[Tree] (config>router>mpls>lsp>secondary>bfd bfd-enable)

Full Context

configure router mpls lsp-template bfd bfd-enable

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configure router mpls lsp primary bfd bfd-enable

configure router mpls lsp bfd bfd-enable

configure router mpls lsp secondary bfd bfd-enable

Description

This command enables LSP BFD on the RSVP LSP or S-BFD for the SR-TE LSP. LSP BFD must also be configured under **config>router** to enable LSP BFD. The parameters for the BFD session are derived from the named BFD Template, which must have been configured prior to the **bfd-enable** command and associated with the service using the **bfd-template** command.

The **no** form of this command disables LSP BFD on the RSVP LSP or S-BFD on the SR-TE LSP.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

bfd-enable [**cc** | **cc_cv**]

no bfd-enable

Context

[Tree] (config>router>mpls>lsp>protect-tp-path>mep bfd-enable)

[Tree] (config>router>mpls>lsp>working-tp-path>mep bfd-enable)

Full Context

configure router mpls lsp protect-tp-path mep bfd-enable

configure router mpls lsp working-tp-path mep bfd-enable

Description

The command associates the operational state of an MPLS-TP path with a BFD session whose control packets flow on the path. The BFD packets are encapsulated in a generic associated channel (G-ACh) on the path. The timer parameters of the BFD session are taken from the OAM template of the MEP.

A value of **cc** means that the BFD session is only used for continuity check of the MPLS-TP path. In this case, the CC timer parameters of the OAM template apply. A value of **cv** means that the BFD session is used for both continuity checking and connectivity verification, and the CV timers of the OAM template apply.

This form of the **bfd-enable** command is only applicable when it is configured under a MEP used on an MPLS-TP working or protection path.

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Default

no bfd-enable

Parameters

cc

Indicates that BFD runs in CC only mode. This mode uses G-ACh channel type 0x07.

cc_cv

Indicates that BFD runs in combined CC and CV mode. This mode uses channel type 0x22 for MPLS-TP CC packets, and 0x23 for MPLS-TP CV packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>rsvp>interface bfd-enable)

Full Context

configure router rsvp interface bfd-enable

Description

This command enables the use of bi-directional forwarding (BFD) to control the state of the associated RSVP interface. This causes RSVP to register the interface with the BFD session on that interface.

The user configures the BFD session parameters, such as, **transmit-interval**, **receive-interval**, and **multiplier**, under the IP interface in the **config>router> if>bfd** context.

Note:
It is possible that the BFD session on the interface was started because of a prior registration with another protocol, for example, OSPF or IS-IS.

The registration of an RSVP interface with BFD is performed at the time of neighbor gets its first session. This means when this node sends or receives a new Path message over the interface. If however the session did not come up, due to not receiving a Resv for a new path message sent after the maximum number of re-tries, the LSP is shutdown and the node de-registers with BFD. In general, the registration of RSVP with BFD is removed as soon as the last RSVP session is cleared.

The registration of an RSVP interface with BFD is performed independent of whether RSVP hello is enabled on the interface or not. However, hello timeout will clear all sessions towards the neighbor and RSVP de-registers with BFD at clearing of the last session.

An RSVP session is associated with a neighbor based on the interface address the path message is sent to. If multiple interfaces exist to the same node, each interface is treated as a separate RSVP neighbor.

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The user will have to enable BFD on each interface and RSVP will register with the BFD session running with each of those neighbors independently

Similarly the disabling of BFD on the interface results in removing registration of the interface with BFD.

When a BFD session transitions to DOWN state, the following actions are triggered. For RSVP signaled LSPs, this triggers activation of FRR bypass/detour backup (PLR role), global revertive (head-end role), and switchover to secondary if any (head-end role) for affected LSPs with FRR enabled. It triggers switchover to secondary if any and scheduling of re-tries for signaling the primary path of the non-FRR affected LSPs (head-end role).

The **no** form of this command removes BFD from the associated RSVP protocol adjacency.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

bfd-enable service-name *service-name* **interface-name** *interface-name* **dst-ip** *ip-address*

no bfd-enable

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel bfd-enable)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel bfd-enable)

[Tree] (config>router>if>ipsec>ipsec-tunnel bfd-enable)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel bfd-enable)

Full Context

configure service vprn interface ipsec ipsec-tunnel bfd-enable

configure service vprn interface sap ipsec-tunnel bfd-enable

configure router interface ipsec ipsec-tunnel bfd-enable

configure service ies interface ipsec ipsec-tunnel bfd-enable

Description

This command assigns a BFD session to provide a heart-beat mechanism for a given IPsec tunnel. There can be only one BFD session assigned to any given IPsec tunnel, but there can be multiple IPsec tunnels using same BFD session. BFD controls the state of the associated tunnel. If the BFD session goes down, the system will also bring down the associated non-designated IPsec tunnel.

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Parameters

service-name

Specifies the service name, up to 64 characters, on which the BFD session resides.

interface-name

Specifies the name, up to 32 characters, of the interface used by the BFD session.

ip-address

Specifies the destination address to be used for the BFD session.

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel bfd-enable
- configure service vprn interface ipsec ipsec-tunnel bfd-enable
- configure router interface ipsec ipsec-tunnel bfd-enable

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel bfd-enable

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec bfd-enable)

Full Context

configure redundancy multi-chassis peer mc-ipsec bfd-enable

Description

This command enables tracking a central BFD session, if the BFD session goes down, then system consider the peer is down and change the mc-ipsec status of configured tunnel-group accordingly.

The BFD session uses specified the loopback interface (in the specified service) address as the source address and uses specified dst-ip as the destination address. Other BFD parameters are configured with the **bfd** command on the specified interface.

Default

no bfd-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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bfd-enable

Syntax

[**no**] **bfd-enable** [**ipv4** | **ipv6**]

Context

[Tree] (config>router>pim>interface bfd-enable)

Full Context

configure router pim interface bfd-enable

Description

This command enables the use of IPv4 or IPv6 bidirectional forwarding detection (BFD) to control the state of the associated protocol interface. By enabling BFD on a given protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set via the BFD command under the IP interface.

The **no** form of this command removes BFD from the associated IGP protocol adjacency.

Default

no bfd-enable

Parameters

ipv4

Enables the use of IPv4 BFD.

ipv6

Enables the use of IPv6 BFD.

Platforms

All

bfd-enable

Syntax

bfd-enable [**ipv4**] [**ipv6**]

no bfd-enable

Context

[Tree] (config>router>p2mp-sr-tree bfd-enable)

Full Context

configure router p2mp-sr-tree bfd-enable

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Description

This command enables BFD tracking at the P2MP SR tree level, which causes all next-hops of the replication segments that use a BFD-enabled Layer 3 interface to register with the BFD module.

The **no** form of this command disables BFD tracking of the P2MP SR tree.

Default

no bfd-enable

Parameters

ipv4

Enables the use of IPv4 BFD tracking.

ipv6

Enables the use of IPv6 BFD tracking.

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>static-route-entry>next-hop bfd-enable)

Full Context

configure router static-route-entry next-hop bfd-enable

Description

This command associates the static route state to a BFD session between the local system and the configured nexthop.

The remote end of the BFD session must also be configured to originate or accept the BFD session controlling the static route state.

The **no** form of this command removes the association of the static route state to that of the BFD session.

Default

no bfd-enable

Platforms

All

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bfd-enable

Syntax

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address*

[**no**] **bfd-enable interface** *interface-name* **dst-ip** *ip-address* **name** *name*

[**no**] **bfd-enable** *svc-id* **interface** *interface-name* **dst-ip** *ip-address*

Context

[Tree] (config>router>if>vrrp bfd-enable)

[Tree] (config>router>if>ipv6>vrrp bfd-enable)

Full Context

configure router interface vrrp bfd-enable

configure router interface ipv6 vrrp bfd-enable

Description

This commands assigns a bidirectional forwarding detect (BFD) session to a specific VRRP/SRRP instance. This BFD sessions provided a heartbeat mechanism that can be used to speed up the transition of the standby VRRP router to an active state. If the associated BFD session fails, the VRRP routers will immediately send a VRRP Advertisement message. In addition, the standby VRRP router(s) will transition to a Master state to speed convergence. The normal VRRP election process will then take place based on the Advertisement messages sent by all VRRP routers.

There can be only one BFD session assigned to any given VRRP/SRRP instance, but there can be multiple SRRP/VRRP sessions using the same BFD session.

The parameters used for the BFD sessions are set by the BFD command under the IP interface.

The **no** form of this command removes BFD from the configuration.

Parameters

interface-name

Specifies the name of the interface running BFD. The specified interface may not yet be configured with BFD. However, when it is, this virtual router will then initiate the BFD session.

ip-address

Specifies the destination address to be used for the BFD session.

svc-id

Specifies the service ID of the interface running BFD.

Values *service-id*:1 to 2147483647

svc-name: 64 characters maximum

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Platforms

All

bfd-enable

Syntax

bfd-enable interface *interface-name* **dest-ip** *ipv4-address* [**service** *service-id*]

no bfd-enable

Context

[Tree] (config>service>oper-group bfd-enable)

Full Context

configure service oper-group bfd-enable

Description

This command associates a BFD sessions with the named oper-group so that if the BFD session fails then the oper-group is changed to operationally down and all monitoring interfaces should also be brought operationally down.

Parameters

interface-name

Specifies the source interface, up to 32 characters in length, for the BFD sessions to be monitored for the associated oper-group.

ipv4-address

Specifies the destination IPv4 address for the BFD sessions to be monitored for the associated oper-group.

service-id

Specifies the service ID, up to 64 characters in length, in which the BFD session exists if it is not in the base routing context.

Platforms

All

bfd-enable

Syntax

bfd-enable {**ipv4** | **ipv6**} [**include-bfd-tlv**]

no bfd-enable {**ipv4** | **ipv6**}

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Context

[Tree] (config>router>isis>if bfd-enable)

Full Context

configure router isis interface bfd-enable

Description

This command enables the use of bidirectional forwarding detection (BFD) to control IPv4 or IPv6 adjacencies. By enabling BFD on an IPv4 or IPv6 protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set by the BFD command under the IP interface. This command must be given separately to enable or disable BFD for both IPv4 and IPv6.

The **no** form of this command removes BFD from the associated adjacency.

Default

no bfd-enable ipv4

no bfd-enable ipv6

Parameters

ipv4

Keyword to enable BFD to control IPv4 adjacencies.

ipv6

Keyword to enable BFD to control IPv6 adjacencies.

include-bfd-tlv

Enables support for the IS-IS BFD TLV options in accordance with RFC 6213, which specifies that a BFD session must be established before an IS-IS adjacency can transition to the established state. This option must be enabled on all IS-IS neighbors on a shared interface.

Platforms

All

bfd-enable

Syntax

bfd-enable [**remain-down-on-failure**]

bfd-enable [**remain-down-on-failure**] **strict** [**strict-mode-holddown** *number*]

no bfd-enable

Context

[Tree] (config>router>ospf3>area>interface bfd-enable)

[Tree] (config>router>ospf>area>interface bfd-enable)

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Full Context

configure router ospf3 area interface bfd-enable

configure router ospf area interface bfd-enable

Description

This command configures BFD to control the state of the associated protocol interface. By enabling BFD on a protocol interface, the state of the protocol interface is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD session are set through the **bfd** command under the IP interface.

The **no** form of this command removes BFD from the associated OSPF protocol adjacency.

Default

no bfd-enable

Parameters

remain-down-on-failure

Keyword to specify that OSPF brings down the adjacency and waits on BFD again if the BFD session does not come back up within 10 seconds. This can cause OSPF neighbors to flap, because OSPF will form the adjacency and then bring it down if the BFD session is still down. If this parameter is not configured, the OSPF adjacency will form even if the BFD adjacency does not come back up after a failure.

strict

Keyword to specify that the system uses BFD strict-mode, which requires that an active BFD session exists between the OSPF neighbors before establishing a full adjacency. When this keyword is configured, the router uses Link-Local Signaling (LLS) with the B-flag set to instruct OSPF neighbors that BFD must be enabled on the link. BFD strict-mode requires that both sides have the B-flag set.

During OSPFv3 BFD strict-mode operations, the router advertises the Local Interface IPv4 Address TLV using LLS, but the SR OS router continues to use IPv6-based BFD sessions for both the IPv4 and IPv6 address families.

strict-mode-holddown *number*

Keyword to specify a delay in bringing up the OSPF adjacency after the BFD session is established. Holddown helps mitigate potential routing churn when BFD sessions are unstable. The holddown timer is reset on an adjacency when a BFD session operationally toggles.

Values 1 to 600

Platforms

All

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bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>rip>group>neighbor bfd-enable)

[Tree] (config>router>rip bfd-enable)

[Tree] (config>router>ripng>group bfd-enable)

[Tree] (config>router>ripng>group>neighbor bfd-enable)

[Tree] (config>router>ripng bfd-enable)

[Tree] (config>router>rip>group bfd-enable)

Full Context

configure router rip group neighbor bfd-enable

configure router rip bfd-enable

configure router ripng group bfd-enable

configure router ripng group neighbor bfd-enable

configure router ripng bfd-enable

configure router rip group bfd-enable

Description

This command enables bidirectional forwarding detection (BFD) to control the state of the associated protocol adjacency. By enabling BFD on a given protocol interface, the state of the RIP neighbor is tied to the state of the BFD session between the local node and the remote node. The parameters used for the BFD are set using the **bfd** command under the IP interface configuration context.

The **no** form of this command removes BFD from the associated protocol adjacency.

Platforms

All

bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>router>segment-routing>maintenance-policy bfd-enable)

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Full Context

configure router segment-routing maintenance-policy bfd-enable

Description

This command enables seamless BFD on every programmed segment list of an SR policy candidate path to which the maintenance policy is applied. BFD session parameters are taken from the BFD template that is configured for the maintenance policy.

The **no** form of this command disables seamless BFD on every segment list of an SR policy.

Default

no bfd-enable

Platforms

All

bfd-enable

Syntax

bfd-enable [**ipv4**]

no bfd-enable

Context

[Tree] (config>router>bier bfd-enable)

Full Context

configure router bier bfd-enable

Description

This command configures BFD tracking for BIER, which means that all next-hops that use a BFD-enabled interface register with the BFD module.

The **no** form of this command disables BFD tracking under BIER.

Default

no bfd-enable

Parameters

ipv4

Enables the use of IPv4 BFD tracking.

Platforms

All

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bfd-enable

Syntax

[**no**] **bfd-enable**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy bfd-enable)

Full Context

configure subscriber-mgmt bgp-peering-policy bfd-enable

Description

This command enables bi-directional forwarding (BFD) to control the state of an ESM dynamic BGP peer that is setup with this BGP peering policy. The parameters used for the BFD session are configured in the **bfd** context of the **group-interface** or retail **subscriber-interface**.

The **no** form of this command disables BFD for new ESM dynamic BGP peers that are setup with this BGP peering policy.

Default

no bfd-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.29 bfd-expedited-path-down

bfd-expedited-path-down

Syntax

[**no**] **bfd-expedited-path-down**

Context

[Tree] (config>subscr-mgmt>pfcp-association bfd-expedited-path-down)

Full Context

configure subscriber-mgmt pfcp-association bfd-expedited-path-down

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Description

This command enables BFD session tracking to expedite PFCP path down detection. When enabled, the system tracks BFD sessions to expedite PFCP path down detection on BFD down events. This requires the configuration of **path-restoration-time**.

The **no** form of this command disables BFD session tracking to expedite PFCP path down detection.

Default

no bfd-expedited-path-down

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.30 bfd-on-distributing-only

bfd-on-distributing-only

Syntax

[**no**] **bfd-on-distributing-only**

Context

[Tree] (config>lag>bfd>family bfd-on-distributing-only)

Full Context

configure lag bfd family bfd-on-distributing-only

Description

This command enables standardized implementation for interworking with other vendors by restricting micro-BFD sessions to links in LACP state distributing.

The **no** form of this command disables restricting micro-BFD sessions, which is an enhanced proprietary solution.

Default

no bfd-on-distributing-only

Platforms

All

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8.31 bfd-sessions

bfd-sessions

Syntax

bfd-sessions *max-limit*

no bfd-sessions

Context

[Tree] (config>router>lsp-bfd bfd-sessions)

Full Context

configure router lsp-bfd bfd-sessions

Description

This command enables or disables LSP BFD at the tail end of LSPs on the system. It is also used to limit the maximum number of LSP BFD sessions that may be established at the tail-end of LSPs on a node to *max-limit*. It has no impact on the number of LSP BFD sessions that may be configured at the head end.

The **no** version of this command disables the creation of LSP BFD sessions by the node at the tail end of LSPs.

Default

no bfd-sessions

Parameters

max-limit

Specifies the maximum number of LSP BFD sessions at the tail end of LSPs that can be established on a system. The maximum value that can be entered is constrained by the system wide limit for centralized BFD sessions.

Values 1- max, where max is the platform specific limit on centralized BFD sessions.

Platforms

All

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8.32 bfd-strict-mode

bfd-strict-mode

Syntax

bfd-strict-mode

Context

[Tree] (config>service>vprn>bgp bfd-strict-mode)

[Tree] (config>service>vprn>bgp>group>neighbor bfd-strict-mode)

[Tree] (config>service>vprn>bgp>group bfd-strict-mode)

[Tree] (config>router>bgp>group>neighbor bfd-strict-mode)

[Tree] (config>router>bgp>group bfd-strict-mode)

[Tree] (config>router>bgp bfd-strict-mode)

Full Context

configure service vprn bgp bfd-strict-mode

configure service vprn bgp group neighbor bfd-strict-mode

configure service vprn bgp group bfd-strict-mode

configure router bgp group neighbor bfd-strict-mode

configure router bgp group bfd-strict-mode

configure router bgp bfd-strict-mode

Description

Commands in this context configure the BFD Strict-Mode feature.

Platforms

All

8.33 bfd-template

bfd-template

Syntax

bfd-template *name*

no bfd-template

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Context

[Tree] (config>service>ipipe>spoke-sdp>bfd bfd-template)

[Tree] (config>service>cpipe>spoke-sdp>bfd bfd-template)

[Tree] (config>service>epipe>spoke-sdp>bfd bfd-template)

Full Context

configure service ipipe spoke-sdp bfd bfd-template

configure service cpipe spoke-sdp bfd bfd-template

configure service epipe spoke-sdp bfd bfd-template

Description

This command configures a named BFD template to be used by VCCV BFD on PWs belonging to the VLL service. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, used by the BFD session. Template parameters are configured under the **config>router>bfd** context.

The **no** form of this command removes the binding of the BFD template to the spoke-SDP.

Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string, up to 32 characters, in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

- configure service epipe spoke-sdp bfd bfd-template
- configure service ipipe spoke-sdp bfd bfd-template

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp bfd bfd-template

bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>service>epipe>bgp>pw-template-binding bfd-template)

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Full Context

configure service epipe bgp pw-template-binding bfd-template

Description

This command configures a named BFD template to be used by VCCV BFD on PWs belonging to the BGP VPWS service. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, to be used by the BFD session. Template parameters are configured under the **config>router>bfd** context.

The **no** form of this command removes the binding of the BFD template to the BGP VPWS.

Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string, up to 32 characters, in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>service>vpls>spoke-sdp>bfd bfd-template)

[Tree] (config>service>vpls>mesh-sdp>bfd bfd-template)

Full Context

configure service vpls spoke-sdp bfd bfd-template

configure service vpls mesh-sdp bfd bfd-template

Description

This command configures a named BFD template to be used by VCCV BFD on the PW belonging to the VPLS spoke-SDP or mesh-SDP. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, to be used by the BFD session. Template parameters are configured under the **config>router>bfd** context.

The **no** form of this command removes the binding of the BFD template to the spoke-SDP.

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Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string, up to 32 characters, in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>service>vpls>bgp-ad>pw-template-binding bfd-template)

[Tree] (config>service>vpls>bgp>pw-template-binding bfd-template)

Full Context

configure service vpls bgp-ad pw-template-binding bfd-template

configure service vpls bgp pw-template-binding bfd-template

Description

This command configures a named BFD template to be used by VCCV BFD on PWs belonging to the BGP VPWS, or BGP AD VPLS service. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, to be used by the BFD session. Template parameters are configured under the **config>router>bfd** context.

Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string, up to 32 characters, in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

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bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>service>ies>if>spoke-sdp>bfd bfd-template)

Full Context

configure service ies interface spoke-sdp bfd bfd-template

Description

This command configures a named BFD template to be used by VCCV BFD on the PW belonging to the spoke-SDP that is terminated on the IES interface. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, to be used by the BFD session. Template parameters are configured under the **config>router>bfd** context.

The **no** form of this command removes the binding of the BFD template to the spoke-SDP.

Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string, up to 32 characters, in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>service>vprn>if>spoke-sdp>bfd bfd-template)

Full Context

configure service vprn interface spoke-sdp bfd bfd-template

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Description

This command configures a named BFD template to be used by VCCV BFD on the PW belonging to spoke-SDP that is terminated on the VPRN interface. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, to be used by the BFD session. Template parameters are configured under the **config>router>bfd** context.

The **no** form of this command removes the binding of the BFD template to the spoke-SDP.

Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string, up to 32 characters, in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

bfd-template

Syntax

bfd-template *bfd-template-name*

no bfd-template

Context

[Tree] (config>router>ldp>lsp-bfd bfd-template)

Full Context

configure router ldp lsp-bfd bfd-template

Description

This command applies the specified BFD template to the BFD sessions for LDP LSPs with FECs that match the prefix list. The specified BFD template must exist prior to its application to LSP BFD.

The **no** form of this command removes the application of the BFD template.

Default

no bfd-template

Parameters

bfd-template-name

Specifies the name of the BFD template configured using the **config**>**router**>**bfd**>**bfd-template** command, up to 32 characters maximum.

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Platforms

All

bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>router>mpls>mpls-tp>oam-template bfd-template)

Full Context

configure router mpls mpls-tp oam-template bfd-template

Description

This command configures a named BFD template to be referenced by an OAM template.

Default

no bfd-template

Parameters

name

Specifies the BFD template name as a text string up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bfd-template

Syntax

bfd-template *name*

no bfd-template

Context

[Tree] (config>router>mpls>lsp>bfd bfd-template)

[Tree] (config>router>mpls>lsp>secondary>bfd bfd-template)

[Tree] (config>router>mpls>lsp-template>bfd bfd-template)

[Tree] (config>router>mpls>lsp>primary>bfd bfd-template)

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Full Context

configure router mpls lsp bfd bfd-template

configure router mpls lsp secondary bfd bfd-template

configure router mpls lsp-template bfd bfd-template

configure router mpls lsp primary bfd bfd-template

Description

This command references a named BFD template to be used by LSP BFD. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, to be used by the BFD session. Templates are configured under the **config>router>bfd** context.

The **no** form of this command removes the association of the named BFD template to the LSP.

Default

no bfd-template

Parameters

name

Specifies a text string name for the template of up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

bfd-template

Syntax

[**no**] **bfd-template** *name*

Context

[Tree] (config>router>bfd bfd-template)

Full Context

configure router bfd bfd-template

Description

This command configures a BFD template. A BFD template defines the set of configurable parameters used by a BFD session. These include the transmit and receive timer intervals used for BFD CC packets, the transmit timer interval used when the session is providing a CV function, the multiplier value, the echo-receive interval, and whether the BFD session terminates in the CPM network processor.

The **no** form of this command reverts to the default value.

Default

no bfd-template

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Parameters

name

Specifies a text string name for the template, up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

Platforms

All

bfd-template

Syntax

bfd-template *bfd-template*

no bfd-template

Context

[Tree] (config>router>segment-routing>maintenance-policy bfd-template)

Full Context

configure router segment-routing maintenance-policy bfd-template

Description

This command references a named BFD template that is used by seamless BFD. The template specifies parameters, such as the minimum transmit and receive control packet timer intervals, that are used by the BFD session. Templates are configured under the **config**>**router**>**bfd** context.

A BFD template must exist on the system before being referenced from a maintenance policy.

The **no** form of this command removes the configured template.

Parameters

bfd-template

Specifies the name of the BFD template, up to 32 characters.

Platforms

All

8.34 bfd-trap-suppression

bfd-trap-suppression

Syntax

[**no**] **bfd-trap-suppression**

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Context

[Tree] (config>router>mpls>lsp>protect-tp-path>mep bfd-trap-suppression)

[Tree] (config>router>mpls>lsp>working-tp-path>mep bfd-trap-suppression)

Full Context

configure router mpls lsp protect-tp-path mep bfd-trap-suppression

configure router mpls lsp working-tp-path mep bfd-trap-suppression

Description

This command enables AIS packets on a working or protection path of an MPLS-TP LSP to suppress BFD Down traps if a BFD session goes down on that path. It also causes BFD Up traps to be suppressed, and enables the 2.5 s hold-down timer.

Suppression only occurs as a result of a received AIS packet. Traps generated as a result of a local failure at an LER are not suppressed.

The **no** form of this command disables BFD Down/Up trap suppression when AIS packets are received.

Default

no bfd-trap-suppression

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.35 bfr-id

bfr-id

Syntax

bfr-id *bfr-id*

no bfr-id

Context

[Tree] (config>router>bier>template>sub-domain bfr-id)

Full Context

configure router bier template sub-domain bfr-id

Description

This command specifies the BIER-ID for this sub-domain. BIER-IDs should be assigned sequentially as the SI and BIER bit position are driven by the IDs. The equation used to drive BIER SI and bit positions from the ID is as follows:

SI = (BFR-id -1) /BitStringLength

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bit position = ((BFR-id -1) modulo BitStringLength) +1

If the BIER-ID is sequential then the all bit positions in a bit string length will be utilized before moving on to the next SetID (SI).

BFR ID configuration is only necessary for BFIR and BFER, and not for transit BFRs

The **no** form of this command removes the BIER-ID.

Parameters

bfr-id

The BIER-ID of the router.

Values 1 to 4096

Platforms

All

8.36 bgp

bgp

Syntax

[**no**] **bgp**

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn bgp)

Full Context

configure subscriber-mgmt isa-service-chaining evpn bgp

Description

Commands in this context configure EVPN BGP-specific information.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

bgp

Syntax

[**no**] **bgp** [*bgp-instance*]

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Context

[Tree] (config>service>epipe bgp)

Full Context

configure service epipe bgp

Description

Commands in this context configure the BGP-related parameters BGP uses for multihoming and BGP VPWS.

The **no** form of this command removes this string from the configuration.

Default

bgp 1

Parameters

bgp-instance

The BGP instance.

Values 1 to 2

Platforms

All

bgp

Syntax

[**no**] **bgp**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter bgp)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter bgp)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter bgp)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter bgp)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter bgp

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter bgp

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter bgp

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter bgp

Description

This command selects the BGP tunnel type.

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This command instructs BGP EVPN to search for a BGP LSP to the address of the BGP next hop. If the user does not enable the BGP tunnel type, inter-area or inter-as prefixes are not resolved.

The **no** form of this command removes the BGP tunnel type configuration.

Default

bgp

Platforms

All

bgp

Syntax

bgp *bgp-instance*

no bgp *bgp-instance*

Context

[Tree] (config>service>vpls bgp)

Full Context

configure service vpls bgp

Description

Commands in this context configure the BGP related parameters for BGP VPLS.

A maximum of two BGP instances can be configured in a VPLS service. The *bgp-instance* parameter value can be configured as 1 or 2. If it is not specified, the parameter value is configured as 1 by default.

The **route-distinguisher** configured in BGP instance 1 and 2 must be different. However, the route-target value may be configured the same or different for the two instances.

Only BGP-EVPN MPLS is allowed to be assigned to instance 2. Instance 1 must be used for the VXLAN and L2VPN address families.

BGP-EVPN VXLAN and BGP-EVPN MPLS can only be configured as **no shutdown** in the same service if they are associated with different instances (When the two BGP instances are created, the **bgp-instance** command must be configured in the **bgp-evpn mpls** context).

The **evi** value in **bgp-evpn** can be used to auto-derive the route distinguisher in instance 1 only. However, the **evi** value can be used to auto-derive the **route-target** in both instances.

The **no** version of the command removes the BGP instance.

Parameters

bgp-instance

Specifies the value associated with the BGP instance.

Values 1 to 2

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Platforms

All

bgp

Syntax

[**no**] **bgp**

Context

[Tree] (config>router bgp)

Full Context

configure router bgp

Description

This command creates the BGP protocol instance and BGP configuration context. BGP is administratively enabled upon creation.

The **no** form of this command deletes the BGP protocol instance and removes all configuration parameters for the BGP instance. BGP must be **shutdown** before deleting the BGP instance. An error occurs if BGP is not **shutdown** first.

Platforms

All

bgp

Syntax

[**no**] **bgp**

Context

[Tree] (config>service>vprn bgp)

Full Context

configure service vprn bgp

Description

This command enables the BGP protocol with the VPRN service.

The **no** form of this command disables the BGP protocol from the given VPRN service.

Default

no bgp

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Platforms

All

bgp

Syntax

bgp [**source** *src-Addr*] [**group** *grpAddr*] [**peer** *peerAddr*]

no bgp

Context

[Tree] (debug>router>pim bgp)

Full Context

debug router pim bgp

Description

This command enables debugging for PIM/BGP-specific interoperation.

The **no** form of this command disables debugging for PIM/BGP-specific interoperation.

Parameters

src-Addr

Debugs BGP information associated with the specified source.

Values source address (ipv4, ipv6)

grp-Addr

Debugs BGP information associated with the specified group.

Values group address (ipv4, ipv6)

PeerAddr

Debugs BGP information associated with the specified peer.

Values peer address (ipv4, ipv6)

Platforms

All

bgp

Syntax

[**no**] **bgp**

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Context

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter bgp)

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter bgp)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter bgp

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter bgp

Description

This command selects BGP tunneling for next-hop resolution and specifies the IPv4 tunnels created by receiving BGP label-unicast IPv4 routes for /32.

The **no** form of this command disables the selection of BGP tunneling for next-hop resolution.

Platforms

All

bgp

Syntax

bgp

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter bgp)

Full Context

configure service vprn auto-bind-tunnel resolution-filter bgp

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

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8.37 bgp-ad

bgp-ad

Syntax

[**no**] **bgp-ad**

Context

[Tree] (config>service>vpls bgp-ad)

Full Context

configure service vpls bgp-ad

Description

This command configures BGP auto-discovery.

Platforms

All

8.38 bgp-auto-rd-range

bgp-auto-rd-range

Syntax

bgp-auto-rd-range *ip-address* **comm-val** *comm-val* **to** *comm-val*

no bgp-auto-rd-range

Context

[Tree] (config>service>system bgp-auto-rd-range)

Full Context

configure service system bgp-auto-rd-range

Description

This command defines the type-1 route-distinguisher IPv4 address and community value range within which the system will select a route-distinguisher for the **bgp-enabled** services using **auto-rd**.

Interactions:

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This command is used along with the **route-distinguisher auto-rd** command supported in VPLS, VPRN and Epipe services. The system forces the user to create a **bgp-auto-range** before the **auto-rd** option can be used in the services.

The system will keep allocating values for services configured with **route-distinguisher auto-rd** as long as there are available community values within the configured range. After the command is added, the following changes are allowed:

- The ip-address can be changed without modifying the *comm-val* range, even if services using **auto-rd** are present. The affected routes will be withdrawn and re-advertised with the new route-distinguishers.
- The *comm-val* range can be modified as long as no conflicting values are present in the new range. For example, the user may expand the range as long as the new range does not overlap with existing manual route-distinguishers. The user may also reduce the range as long as the new range can accommodate the already allocated auto-RDs.

Parameters

ip-address

Specifies the IPv4 address used in the first 4 octets of all the type-1 auto route-distinguishers selected by the system.

comm-val

Specifies the community value of the type-1 auto route-distinguisher.

Values 1 to 65535

Platforms

All

8.39 bgp-evpn

bgp-evpn

Syntax

[**no**] **bgp-evpn**

Context

[Tree] (config>service>vpls bgp-evpn)

[Tree] (config>service>epipe bgp-evpn)

[Tree] (config>service>system bgp-evpn)

Full Context

configure service vpls bgp-evpn

configure service epipe bgp-evpn

configure service system bgp-evpn

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Description

Commands in this context configure the BGP EVPN parameters in the base instance.

Platforms

All

bgp-evpn

Syntax

bgp-evpn

Context

[Tree] (config>service>vprn bgp-evpn)

Full Context

configure service vprn bgp-evpn

Description

Commands in this context configure the BGP EVPN parameters.

Platforms

All

8.40 bgp-evpn-multi-homing

bgp-evpn-multi-homing

Syntax

bgp-evpn-multi-homing

Context

[Tree] (config>redundancy bgp-evpn-multi-homing)

Full Context

configure redundancy bgp-evpn-multi-homing

Description

Commands in this context configure the BGP-EVPN global timers

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Platforms

All

8.41 bgp-high-priority

bgp-high-priority

Syntax

[**no**] **bgp-high-priority**

Context

[Tree] (config>router>policy-options>policy-statement>entry>action bgp-high-priority)

[Tree] (config>router>policy-options>policy-statement>default-action bgp-high-priority)

Full Context

configure router policy-options policy-statement entry action bgp-high-priority

configure router policy-options policy-statement default-action bgp-high-priority

Description

This command enables eligible BGP routes matched by the policy entry or policy default-action that are tagged for faster route table updates.

This action applies only when the policy is applied as a BGP import policy to a base router BGP peer or VPRN BGP peer and applies only to the following route types:

- IPv4
- label-IPv4
- IPv6
- label-IPv6

This command is useful when the BGP RIB contains a large number of routes and quick routing table updates are needed for a small subset of these routes. The effectiveness of this command decreases as the subset becomes a larger proportion of the total RIB.

The **no** form of this command disables the routes that are tagged for faster route table updates.

Default

no bgp-high-priority

Platforms

All

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8.42 bgp-ipvpn

bgp-ipvpn

Syntax

bgp-ipvpn

Context

[Tree] (config>service>vprn bgp-ipvpn)

Full Context

configure service vprn bgp-ipvpn

Description

Commands in this context configure the BGP IPVPN parameters.

Platforms

All

8.43 bgp-labels-hold-timer

bgp-labels-hold-timer

Syntax

bgp-labels-hold-timer *seconds*

no bgp-labels-hold-timer

Context

[Tree] (config>router>mpls-labels bgp-labels-hold-timer)

Full Context

configure router mpls-labels bgp-labels-hold-timer

Description

This command configures the time to delay before the label-forwarding entries programmed by BGP are removed from the datapath. A non-zero delay is useful in the following situations:

- label-unicast route is readvertised by an ABR/ASBR operating in label-per-next-hop mode to choose a new primary path

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- IP VPN route is readvertised by an ABR/ASBR operating in label-per-next-hop mode to choose a new primary path
- IP VPN best-external route is readvertised by a VPRN to choose a new backup path
- IP VPN route is readvertised by a VPRN in label-per-next-hop mode to choose a new primary path

In the preceding situations, configure the hold timer to be large enough to account for the propagation delay of the route withdrawal to all ingress routers.

Default

bgp-labels-hold-timer 0

Parameters

seconds

Specifies the time delay, in seconds.

Values 0 to 255

Platforms

All

8.44 bgp-leak

bgp-leak

Syntax

[**no**] **bgp-leak**

Context

[Tree] (config>router>policy-options>policy-statement>entry>action bgp-leak)

[Tree] (config>router>policy-options>policy-statement>default-action bgp-leak)

Full Context

configure router policy-options policy-statement entry action bgp-leak

configure router policy-options policy-statement default-action bgp-leak

Description

This command causes qualifying matched BGP routes to be marked as leakable, meaning they are candidates to be leaked into other routing instances (copied with their complete set of path attributes). A BGP route is a qualifying route if it is an IPv4 route (unlabeled), IPv6 route (unlabeled) or a label-IPv4 route.

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Note:
A leakable BGP route is not actually leaked into another routing instance unless it is accepted by a leak-import policy of that other routing instance.

The **bgp-leak** command has an effect only when the policy is applied as a BGP import policy in the base router or a VPRN context.

Default

no bgp-leak

Platforms

All

8.45 bgp-med

bgp-med

Syntax

bgp-med adjust *expression*

bgp-med set {**igp** | **min-igp**}

bgp-med set *med-value*

no bgp-med

Context

[Tree] (config>router>policy-options>policy-statement>default-action bgp-med)

[Tree] (config>router>policy-options>policy-statement>entry>action bgp-med)

Full Context

configure router policy-options policy-statement default-action bgp-med

configure router policy-options policy-statement entry action bgp-med

Description

This command changes the BGP MED attribute value in BGP routes matched by the route policy entry (or the policy default action).

If the matched route already has a MED attribute, this command overwrites the existing value. If the matched route does not have a MED attribute, then one is added and the value is set based on the parameters of this command.

This command has no effect on non-BGP routes. The default, **no bgp-med**, does not modify MED values.

Default

no bgp-med

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Parameters

expression

Specifies a logical expression parsed as a string. The string can contain:

- parentheses () to change the order of operations
- mathematical operators: + (addition), - (subtraction) and * (multiplication)
- directly entered decimal values that act as operands of the mathematical operators. Each decimal value supports up to three decimal places precision in the range of 0.000 to 4294967295.000
- decimal values represented by parameter names (using the usual @parameter-name@ syntax) that act as operands of the mathematical operators. Each parameterized decimal value supports up to three decimal places precision in the range of 0.000 to 4294967295.000

igp

Instructs the policy to set the MED based on the current route table or tunnel table cost to resolve the BGP next-hop address.

min-igp

Instructs the policy to set the MED based on the minimum route table or tunnel table cost to resolve the BGP next-hop of the route, over its lifetime in the local RIB.

med-value

Specifies a new MED value (or parameter name to use for the new MED value) to use with the route.

Values *value*

- 0 to 4294967295

param-name

- up to 32 characters
- Must start and end with an at-sign (@)

Platforms

All

8.46 bgp-multi-homing

bgp-multi-homing

Syntax

bgp-multi-homing

Context

[Tree] (config>redundancy bgp-multi-homing)

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Full Context
configure redundancy bgp-multi-homing

Description
This command configures BGP multi-homing parameters.

Platforms
All

8.47 bgp-path-selection

bgp-path-selection

Syntax
[**no**] **bgp-path-selection**

Context
[Tree] (config>service>system>bgp-evpn>ad-per-evi-routes bgp-path-selection)

Full Context
configure service system bgp-evpn ad-per-evi-routes bgp-path-selection

Description
This command compares the received EVPN VPWS AD per-EVI routes based on BGP path attributes.

Attribute propagation must be configured before configuring this command.

The **no** form of this command disables the comparison of the routes.

Default
no bgp-path-selection

Platforms
All

bgp-path-selection

Syntax
bgp-path-selection [**d-path-length-ignore**]

no bgp-path-selection

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Context

[Tree] (config>service>system>bgp-evpn>ip-prefix-routes>iff bgp-path-selection)

Full Context

configure service system bgp-evpn ip-prefix-routes interface-ful bgp-path-selection

Description

This command enables BGP path selection for EVPN-IFF (Interface-ful) routes.

Once the command is enabled, the EVPN-IFF routes are ordered and selected in a similar manner as IPVPN or EVPN-IFL routes, that is, based on the regular BGP path selection process.

The **no** form of this command causes the system to order EVPN-IFF routes based on their {R-VPLS Ifindex, RD, Ethernet Tag}. For example, if two EVPN-IFF routes with different Route Distinguishers (RDs) are received for the same prefix on the same R-VPLS, the route with the lowest RD is selected.

Default

no bgp-path-selection

Parameters

d-path-length-ignore

Keyword used to make EVPN ignore the D-PATH length when **iff-bgp-path-selection** is enabled.

Platforms

All

8.48 bgp-peering-policy

bgp-peering-policy

Syntax

bgp-peering-policy *policy-name* [**create**]

no bgp-peering-policy *policy-name*

Context

[Tree] (config>subscr-mgmt bgp-peering-policy)

Full Context

configure subscriber-mgmt bgp-peering-policy

Description

This command configures the name of the BGP peering policy.

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The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the BGP peer policy name, up to 32 characters.

create

Keyword used to create the peering policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.49 bgp-peers

bgp-peers

Syntax

bgp-peers *criterion-index* **group** *reg-exp* **neighbor** *reg-exp*

bgp-peers *criterion-index* **router** *router-instance* **group** *reg-exp* **neighbor** *reg-exp*

bgp-peers *criterion-index* **router service-name** *service-name* **group** *reg-exp* **neighbor** *reg-exp*

no bgp-peers *criterion-index*

Context

[Tree] (config>filter>match-list>ip-pfx-list>apply-path bgp-peers)

[Tree] (config>filter>match-list>ipv6-pfx-list>apply-path bgp-peers)

Full Context

configure filter match-list ip-prefix-list apply-path bgp-peers

configure filter match-list ipv6-prefix-list apply-path bgp-peers

Description

This command configures autogeneration of IPv4 or IPv6 address prefixes (as required by the command context) of the BGP instance.

The **no** form of this command removes the **bgp-peers** configuration for autogeneration of address prefixes for the specified index value.

Parameters

criterion-index

Specifies an integer enumerating BGP peers autogeneration configuration within this list.

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Values 1 to 155

group ***reg-exp***

Specifies a match against the BGP instance group configuration. Specifies a regular expression that defines a match string, up to 255 characters in length, to be used to autogenerate address prefixes. Matching is performed from the least-significant digit. For example, a string **10.0** matches all neighbors with addresses starting with **10**, such as **10.0.x.x** or **10.0xx.x.x**. Regex match (.*) can be used to match against any group.

neighbor ***reg-exp***

Specifies a match against the BGP instance neighbor configuration. Specifies a regular expression that defines a match string, up to 255 characters in length, to be used to autogenerate address prefixes. Matching is performed from the least-significant digit. For example, a string **10.0** matches all neighbors with addresses starting with **10**, such as **10.0.x.x** or **10.0xx.x.x**. Regex match (.*) can be used to match against any neighbor.

router-instance

Specifies the router name or service ID.

Values router-instance: *router-name* or *vprn-svc-id*

router-name: "Base"

vprn-svc-id: 1 to 2147483647

service-name-reg-exp

Specifies a regular expression that defines a match string, up to 255 characters in length, used to match against the target service name.

Platforms

All

8.50 bgp-shared-queue

bgp-shared-queue

Syntax

bgp-shared-queue [**cir** *rate*] [**pir** *rate*]

no bgp-shared-queue

Context

[Tree] (config>service>vprn bgp-shared-queue)

Full Context

configure service vprn bgp-shared-queue

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Description

This command enables all BGP peers within a VPRN instance to share a single CPM queue. This command takes effect on new BGP connections established; already established BGP peers continue to use their own CPM queue. Any changes to PIR/CIR of the shared queue takes effect only after BGP connections are re-established.

Parameters

cir ***rate***

Specifies the CIR rate for the shared queue.

pir ***rate***

Specifies the PIR rate for the shared queue.

Platforms

All

8.51 bgp-shortcut

bgp-shortcut

Syntax

[**no**] **bgp-shortcut**

Context

[Tree] (config>router>mpls>lsp bgp-shortcut)

[Tree] (config>router>mpls>lsp-template bgp-shortcut)

Full Context

configure router mpls lsp bgp-shortcut

configure router mpls lsp-template bgp-shortcut

Description

This command enables the use of RSVP LSP for IPv4 BGP routes.

Platforms

All

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8.52 bgp-transport-tunnel

bgp-transport-tunnel

Syntax

bgp-transport-tunnel [**include** | **exclude**]

Context

[Tree] (config>router>mpls>lsp bgp-transport-tunnel)

[Tree] (config>router>mpls>lsp-template bgp-transport-tunnel)

Full Context

configure router mpls lsp bgp-transport-tunnel

configure router mpls lsp-template bgp-transport-tunnel

Description

This command allows or blocks RSVP-TE LSP to be used as a transport LSP for BGP tunnel routes.

Default

bgp-transport-tunnel include

Parameters

include

Allows RSVP-TE LSP to be used as transport LSP from the ASBR to local PE router, from ingress PE to ASBR in the local AS or between multi-hop External Border Gateway Protocol (EBGP) peers with ASBR to ASBR adjacency.

exclude

Blocks RSVP-TE LSP to be used as transport LSP from the ASBR to local PE router, from ingress PE to ASBR in the local AS or between multi-hop EBGP peers with ASBR to ASBR adjacency.

Platforms

All

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8.53 bgp-tunnel

bgp-tunnel

Syntax

[**no**] **bgp-tunnel**

Context

[Tree] (config>service>sdp bgp-tunnel)

Full Context

configure service sdp bgp-tunnel

Description

This command allows the use of BGP route tunnels available in the tunnel table to reach SDP far-end nodes. Use of BGP route tunnels are only available with MPLS-SDP. Only one of the transport methods is allowed per SDP - LDP, RSVP-LSP BGP, SR-ISIS, or SR-OSPF. This restriction is relaxed for some combinations of the transport methods when the mixed-lsp-mode option is enabled within the SDP.

The **no** form of the command disables resolving BGP route tunnel LSP for SDP far-end.

Default

no bgp-tunnel (BGP tunnel route to SDP far-end is disabled)

Platforms

All

8.54 bgp-tunnel-metric

bgp-tunnel-metric

Syntax

bgp-tunnel-metric [*value*] [**prefer-med**]

bgp-tunnel-metric [*value*] **prefer-aigp**

bgp-tunnel-metric [*value*] **prefer-aigp prefer-med**

bgp-tunnel-metric [*value*] [**prefer-aigp**]

no bgp-tunnel-metric

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Context

[Tree] (config>router>bgp bgp-tunnel-metric)

Full Context

configure router bgp bgp-tunnel-metric

Description

This command sets the TTM metric of all BGP tunnels to a fixed value or a value derived from the AIGP or the MED metric of the BGP-LU route, if the BGP-LU route has an AIGP or MED path attribute. Otherwise, the TTM metric is set to the number specified using the *value* parameter. BGP import policies override the configuration of this command.

By default, BGP tunnels are installed with a fixed cost of 1000 in the tunnel table. This can overstate or understate their true cost when compared to other tunnels with IGP-derived costs.

The **no** form of the command configures the router to use the default value.

Default

no bgp-tunnel-metric

Parameters

value

Specifies the BGP tunnel metric.

Values 0 to 4294967295

prefer-aigp

Specifies that the TTM metric is based on the AIGP metric value of the BGP-LU route. When a BGP-LU route is selected for installation in TTM and is not matched by a BGP import policy entry that overrides the BGP tunnel metric action, the TTM metric of the tunnel is set to the AIGP metric value of the BGP-LU route with the resolved cost to the BGP next hop of the route added to it. Otherwise, the metric is set to the value configured using the *value* parameter.

prefer-med

Specifies that the TTM metric is based on the MED metric value of the BGP-LU route. When a BGP-LU route is selected for installation in TTM and is not matched by a BGP import policy entry that overrides the BGP tunnel metric action, the TTM metric of the tunnel is set to the MED metric value of the BGP-LU route with the resolved cost to the BGP next hop of the route added to it. Otherwise, the metric is set to the value configured using the *value* parameter.

Note: prefer-aigp takes precedence over this parameter if the received BGP-LU has both attributes.

Platforms

All

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bgp-tunnel-metric

Syntax

bgp-tunnel-metric [*value* | *param-name*] [**prefer-aigp**] [**prefer-med**]

no bgp-tunnel-metric

Context

[Tree] (config>router>policy-options>policy-statement>default-action bgp-tunnel-metric)

[Tree] (config>router>policy-options>policy-statement>entry>action bgp-tunnel-metric)

Full Context

configure router policy-options policy-statement default-action bgp-tunnel-metric

configure router policy-options policy-statement entry action bgp-tunnel-metric

Description

This command sets the TTM metric of all BGP tunnels matched by the policy entry or the policy default action to a fixed value or a value derived from the AIGP or the MED metric of the BGP-LU route, if the BGP-LU route has an AIGP or MED path attribute. Otherwise, the TTM metric is set to the number specified using the *value* parameter.

The **no** form of this command configures the router to use the default value.

Default

no bgp-tunnel-metric

Parameters

value

Specifies the BGP tunnel metric.

Values 0 to 4294967295

param-name

Specifies the parameter name, up to 32 characters that starts and ends with an at-sign (@).

prefer-aigp

Specifies that if a BGP-LU route is selected for installation in the TTM and is matched by this action in a BGP import policy, the TTM metric of the tunnel is set to the AIGP metric value of the BGP-LU route with the IGP cost to reach the BGP next hop added to it.

prefer-med

Specifies that if a BGP-LU route is selected for installation in the TTM and is matched by this action in a BGP import policy, the TTM metric of the tunnel is set to the MED metric value of the BGP-LU route with the IGP cost to reach the BGP next hop added to it.

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Platforms

All

8.55 bgp-tunnel-preference

bgp-tunnel-preference

Syntax

bgp-tunnel-preference [*preference*]

no bgp-tunnel-preference

Context

[Tree] (config>router>bgp bgp-tunnel-preference)

Full Context

configure router bgp bgp-tunnel-preference

Description

This command configures the tunnel table preference for BGP-LU tunnel type away from its default value.

The tunnel table preference applies to the next-hop resolution of BGP routes of the following families: EVPN, IPv4, IPv6, VPN-IPv4, VPN-IPv6, label-IPv4, and label-IPv6 in the tunnel table.

This feature does not apply to a VPRN, VPLS, or VLL service with explicit binding to an SDP which enabled the **mixed-lsp-mode** option. The tunnel preference, in such an SDP, is fixed and is controlled by the service manager. The configuration of the tunnel table preference parameter does not modify the behavior of such an SDP and the services that bind to it.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command reverts to the default value.

Default

bgp-tunnel-preference 12

Parameters

preference

Specifies the BGP tunnel preference.

Values 1 to 255

Default 12

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Platforms

All

8.56 bgp-vpls

bgp-vpls

Syntax

bgp-vpls

Context

[Tree] (config>service>vpls bgp-vpls)

Full Context

configure service vpls bgp-vpls

Description

Commands in this context configure the BGP-VPLS parameters and addressing.

Platforms

All

8.57 bgp-vpls-mh-ve-id

bgp-vpls-mh-ve-id

Syntax

bgp-vpls-mh-ve-id *number*

no bgp-vpls-mh-ve-id

Context

[Tree] (config>service>vpls>sap bgp-vpls-mh-ve-id)

Full Context

configure service vpls sap bgp-vpls-mh-ve-id

Description

This command upon the configuration of the ve-id under the SAP and if BGP-VPLS is configured and is operationally up, causes the PE to advertise a bgp-mh route for the ve-id (the route does not contain label

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information). The bgp-mh route contains the F and D flags properly set based on the SAP operational state. Upon switchover, the former active PE (DF in case of EVPN-MH) sends an update with a transition of the F bit from 1 to 0. This is an indication for the remote PEs to flush their MACs associated to the advertising PE.

This command is required when MC-LAG or EVPN-MH is used for multi-homing redundancy and mac-flush is required at remote BGP-VPLS PEs when there is a failure in the active PE.

The **no** form of this command withdraws the L2 VPN route.

Parameters

number

Specifies the BGP-VPLS multi-homing virtual-edge identifier.

Values 1 to 65535

Platforms

All

8.58 bgp-vpws

bgp-vpws

Syntax

[**no**] **bgp-vpws**

Context

[Tree] (config>service>epipe bgp-vpws)

Full Context

configure service epipe bgp-vpws

Description

Commands in this context configure BGP-VPWS parameters and addressing.

Default

no bgp-vpws

Platforms

All

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8.59 bi

bi

Syntax

bi

Context

[Tree] (config>system>security>keychain>direction bi)

Full Context

configure system security keychain direction bi

Description

This command configures keys for both send and receive stream directions.

Platforms

All

8.60 bier

bier

Syntax

[**no**] **bier**

Context

[Tree] (config>service>vprn>mvpn>provider-tunnel>selective bier)

[Tree] (config>service>vprn>mvpn>provider-tunnel>inclusive bier)

Full Context

configure service vprn mvpn provider-tunnel selective bier

configure service vprn mvpn provider-tunnel inclusive bier

Description

This command creates a BIER inclusive or selective provider tunnel.

The **no** form of this command deletes the tunnel.

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Platforms

All

bier

Syntax

[**no**] **bier**

Context

[Tree] (config>router bier)

Full Context

configure router bier

Description

Commands in this context configure BIER.

Platforms

All

bier

Syntax

[**no**] **bier**

Context

[Tree] (config>router>isis>level bier)

Full Context

configure router isis level bier

Description

This command enables BIER capabilities.

The **no** form of this command disables BIER capabilities.

Platforms

All

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bier

Syntax

[**no**] **bier**

Context

[Tree] (config>router>ospf>area bier)

Full Context

configure router ospf area bier

Description

This command enables BIER capabilities.

The **no** form of this command disables BIER capabilities.

Default

no bier

Platforms

All

8.61 bier-inband

bier-inband

Syntax

[**no**] **bier-inband** [**detail**]

Context

[Tree] (debug>router>pim bier-inband)

Full Context

debug router pim bier-inband

Description

This command enables debugging for bier inband.

The **no** form of this command disables debugging for bier inband.

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Parameters

detail

Debugs detailed information on the bier inband.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.62 bier-ping

bier-ping

Syntax

bier-ping [**sub-domain** *sub-domain-id*] **bfr-id** *bfr-id* [**detail**] [**fc** *fc-name*] [**profile** {**in**| **out**}] [**timeout** *timeout*] [**ttl** *ttl*]

bier-ping [**sub-domain** *sub-domain-id*] **bfr-id-start** *bfr-id* **bfr-id-end** *bfr-id* [**detail**] [**fc** *fc-name*] [**profile** {**in**| **out**}] [**timeout** *timeout*] [**ttl** *ttl*]

bier-ping [**sub-domain** *sub-domain-id*] **bfr-prefix** *ipv4-address* [*ipv4-address*] [**detail**] [**fc** *fc-name*] [**profile** {**in**| **out**}] [**timeout** *timeout*] [**ttl** *ttl*]

Context

[Tree] (oam bier-ping)

Full Context

oam bier-ping

Description

This command performs connectivity tests on the BIER data plane.

Parameters

sub-domain-id

Specifies the ID of the sub-domain where the BIER OAM packet is generated.

Values 0 to 255

Default 0

bfr-id

Specifies the BIER-ID of the router.

Values 1 to 4096

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ipv4-address

Specifies the routable IPv4 address of the BFR, used by BIER to identify the BFR. Up to 16 IPv4 addresses can be specified.

Values a.b.c.d

detail

Keyword to display more information.

fc-name

Specifies the FC and profile parameters that are used to indicate the forwarding class and profile of the BIER echo request packet.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

{in | out}

Specifies the profile state of the BIER echo request packet.

Default out

timeout

Specifies the number, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the timeout, the test is marked complete and no more packets are processed.

Values 1 to 120

Default 10

ttl

Specifies the TTL value for the BIER ping test, expressed as a decimal integer.

Values 1 to 255

Default 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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8.63 bier-signaling

bier-signaling

Syntax

[**no**] **bier-signaling** [**ipv4**] [**ipv6**]

Context

[Tree] (config>router>pim>interface bier-signaling)

Full Context

configure router pim interface bier-signaling

Description

This commands enables PIM signaling through a BIER domain. PIM signaling only functions in the context of SD0. PIM signaling can signal PIM IPv4 and IPv6 over a BIER IPV4 core.

The **no** form of this command disables PIM signaling through a BIER domain.

Default

no bier-signaling

Parameters

ipv4

Enables the use of IPv4 PIM signaling through a BIER domain.

ipv6

Enables the use of IPv6 PIM signaling through a BIER domain.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.64 bier-trace

bier-trace

Syntax

bier-trace [**sub-domain** *sub-domain-id*] **bfr-id** *bfr-id* [**detail**] [**fc** *fc-name*] [**profile** {**in**| **out**}] [**min-ttl** *min-ttl*] [**max-ttl** *max-ttl*] [**probe-count** *probes-per-hop*] [**timeout** *timeout*]

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bier-trace [**sub-domain** *sub-domain-id*] **bfr-prefix** *ipv4-address* [**detail**] [**fc** *fc-name*] [**profile** {**in**| **out**}] [**min-ttl** *min-ttl*] [**max-ttl** *max-ttl*] [**probe-count** *probes-per-hop*] [**timeout** *timeout*]

Context

[Tree] (oam bier-trace)

Full Context

oam bier-trace

Description

This command performs trace tests on the BIER data plane.

Parameters

sub-domain-id

Specifies the ID of the sub-domain where the BIER OAM packet is generated.

Values 0 to 255

Default 0

bfr-id

Specifies the BIER-ID of the router.

Values 1 to 4096

ipv4-address

Specifies the routable IPv4 address of the BFR, used by BIER to identify the BFR.

Values a.b.c.d

detail

Keyword to display more information.

fc-name

Specifies the FC and profile parameters that are used to indicate the forwarding class and profile of the BIER OAM packet.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

{in | out}

Specifies the profile state of the BIER echo request packet.

Default out

min-ttl

Specifies the minimum TTL value for the BIER trace test, expressed as a decimal integer.

Values 1 to 255

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Default 1

max-ttl

Specifies the maximum TTL value for the BIER trace test, expressed as a decimal integer.

Values 1 to 255

Default 30

probes-per-hop

Specifies the probes-per-hop count, expressed as number of packets.

Values 1 to 10

Default 1

timeout

Specifies the number, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending each probe for a specific test. Upon the expiration of the timeout, the test is marked complete and no more packets are processed for the request probe.

When the test consists of multiple probes, the timeout is the interval, in seconds, between request probes.

A BIER trace test terminates after five consecutive timeouts.

Values 1 to 60

Default 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.65 bin

bin

Syntax

bin *bin-number*

Context

[Tree] (config>oam-pm>bin-group>bin-type bin)

Full Context

configure oam-pm bin-group bin-type bin

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Description

Commands in this context configure the thresholds for the specified bin.

Parameters

bin-number

Specifies bin to configure.

Values 1 to 9

Platforms

All

8.66 bin-group

bin-group

Syntax

bin-group *bin-group-number* [**fd-bin-count** *fd-bin-count* **fdr-bin-count** *fdr-bin-count* **ifdv-bin-count** *ifdv-bin-count* **create**]

no bin-group *bin-group-number*

Context

[Tree] (config>oam-pm bin-group)

Full Context

configure oam-pm bin-group

Description

This command allows the operator to configure the parameters for a specific bin group. Bin-group 1 is a default **bin-group** and cannot be modified. If no bin group is assigned to an oam-pm session, this is assigned by default. The default values for bin-group 1 are (fd-bin-count 3 bin 1 lower-bound 5000us, bin 2 lower-bound 10000us fdr-bin-count 2 bin 1lower-bound 5000us and ifdv-bin-count 2 bin 1lower-bound 5000us)

The **no** form of this command disables the OAM Performance Monitoring bin group.

Parameters

bin-group-number

Specifies an identifier for a bin-group that is referenced by oam-pm sessions. A bin group can only shutdown and modified when all the PM Sessions referencing the bin group have been shutdown. The only exception is the description parameter.

Values 1 to 255

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fd-bin-count

Specifies the number of frame delay bins that are created.

Values 2 to 10

fdr-bin-count

Specifies the number of frame delay range bins that are created.

Values 2 to 10

ifdv-bin-count

Specifies the number of inter-frame delay variation bins that are created.

Values 2 to 10

create

Keyword that creates the bin group.

Platforms

All

bin-group

Syntax

bin-group *bin-group-number*

no bin-group

Context

[Tree] (config>oam-pm>session bin-group)

Full Context

configure oam-pm session bin-group

Description

This command links the individual test to the group of bins that map the probe responses.

The **no** form of this command installs the default bin-group 1 as the bin-group for the session.

Parameters

bin-group-number

Specifies the number that was used to create the specific **bin-group** that is referenced for this session.

Values 1 to 255

Default 1

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Platforms

All

8.67 bin-type

bin-type

Syntax

bin-type {**fd** | **fdr** | **ifdv**}

Context

[Tree] (config>oam-pm>bin-group bin-type)

Full Context

configure oam-pm bin-group bin-type

Description

This command is the start of the hierarchy where the specific delay metric bin structure isis defined.

Parameters

fd

Keyword to enter the frame delay bin threshold configuration.

fdr

Keyword to enter the frame delay range bin threshold configuration.

ifdv

Keyword to enter the inter-frame delay variation bin thresholds configuration.

Platforms

All

8.68 bind-authentication

bind-authentication

Syntax

bind-authentication *root-dn* [**password** *password*] [**hash** | **hash2** | **custom**]

no bind-authentication

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Context

[Tree] (config>system>security>ldap>server bind-authentication)

Full Context

configure system security ldap server bind-authentication

Description

This command configures the LDAP binding used to log into LDAP server. A string of domain components (DC) and common names (CN) can be programmed to identify the user in addition to the password field. The password is hashed. For example, "cn=admin,dc=nokia,dc=com" indicates the user admin in domain nokia.com. Table 20: LDAP Attributes lists the LDAP attributes.

The **no** version of this command removes the bind-authentication.

Table 20: LDAP Attributes

Object Class	Naming Attribute Display Name	Naming Attribute LDAP Name
user	Common-Name	cn
organizationalUnit	Organizational-Unit-Name	ou
domain	Domain-Component	dc

Parameters

root-dn

Up to 512 characters.

password

Configures the password which enables a user to bind to the LDAP server. The maximum length is 128 characters.

hash

Specifies that the password is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the password is assumed to be in an unencrypted, clear text form. For security, all passwords are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the password is entered in a more complex encrypted form that involves more variables than the password value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the password is assumed to be in an unencrypted, clear text form. For security, all passwords are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

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8.69 binding

binding

Syntax

binding

Context

[Tree] (config>service>sdp binding)

Full Context

configure service sdp binding

Description

Commands in this context configure SDP bindings.

Platforms

All

8.70 binding-label

binding-label

Syntax

binding-label *label-number*

no binding-label

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy binding-label)

Full Context

configure router mpls forwarding-policies forwarding-policy binding-label

Description

This command configures a binding label for the MPLS forwarding policy.

The policy associates an incoming label, referred to as a binding label, to an NHG in which the primary and backup direct or indirect next hops are defined. This type of MPLS forwarding policy is referred to as a label-binding policy.

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The **no** form of the command removes the binding label from the MPLS forwarding policy.

Parameters

label-number

Specifies the label number.

Values 32 to 1048575

Platforms

All

8.71 binding-operator

binding-operator

Syntax

binding-operator {**and** | **or**}

no binding-operator

Context

[Tree] (config>filter>redirect-policy-binding binding-operator)

Full Context

configure filter redirect-policy-binding binding-operator

Description

This command configures the logical operator to use with the destinations test results to obtain the master test result (the redirect-policy binding test result). A change in this configuration results in the re-evaluation of the master test result.

The **no** version of this command sets the value to its default

Default

binding-operator and

Parameters

and | or

Keyword to specify the type of logical or boolean operation to perform between the individual destinations test results to obtain the master result.

Platforms

All

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8.72 binding-sid

binding-sid

Syntax

binding-sid *number*

no binding-sid

Context

[Tree] (conf>router>segment-routing>sr-policies>policy binding-sid)

Full Context

configure router segment-routing sr-policies static-policy binding-sid

Description

This command associates a binding SID with a statically defined segment routing policy. This is a mandatory parameter and configuration command to enable the segment routing policy; if the binding SID label value is not configured, the execution of the **no shutdown** command on the static segment routing policy fails.The BSID label should be an available label in the **reserved-label-block** range.

The **no** form of this command removes the BSID association.

Default

no binding-sid

Parameters

number

Specifies the binding SID label value.

Values 32 to 1048575

Platforms

All

binding-sid

Syntax

binding-sid *binding-sid-id* **[create]**

no binding-sid *binding-sid-id*

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Context

[Tree] (conf>router>segment-routing>sr-policies>policy>srv6 binding-sid)

Full Context

configure router segment-routing sr-policies static-policy segment-routing-v6 binding-sid

Description

Commands in this context configure an SRv6 binding SID.

The binding SID ID is a 32-bit unsigned integer. Only one binding SID ID is supported.

The **no** form of this command deletes the SRv6 binding SID.

Parameters

binding-sid-id

Specifies the binding SID number.

Values 1

create

Keyword to creating a binding SID. The create keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

binding-sid

Syntax

binding-sid *label*

no binding-sid

Context

[Tree] (config>router>mpls>lsp binding-sid)

Full Context

configure router mpls lsp binding-sid

Description

This command configures a binding SID label for the LSP. The label value must belong to the reserved label block that is configured with the **configure router mpls lsp-bsid-block** command.

The **no** form of this command unbinds the label, removes the ILM entry, and triggers the appropriate PCEP messages.

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Parameters

label

Specifies an MPLS label value from a specific reserved label block.

Values 32 to 1048575

Platforms

All

binding-sid

Syntax

[no] binding-sid

Context

[Tree] (config>router>mpls>lsp-template binding-sid)

Full Context

configure router mpls lsp-template binding-sid

Description

This command configures the system to allocate and bind a label to any LSP that is created using the template.

The **no** form of this command removes the configuration but does not affect LSPs that were already created using the template.

Default

no binding-sid

Platforms

All

8.73 bindings

bindings

Syntax

[**no**] **bindings**

Context

[Tree] (debug>router>ldp>peer>event bindings)

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Full Context

debug router ldp peer event bindings

Description

This command displays debugging information about addresses and label bindings learned from LDP peers for LDP bindings.

The **no** form of the command disables the debugging output.

Platforms

All

8.74 bit-error-insertion

bit-error-insertion

Syntax

bit-error-insertion *rate*

no bit-error-insertion

Context

[Tree] (config>port>tdm>e3 bit-error-insertion)

[Tree] (config>port>tdm>ds3 bit-error-insertion)

Full Context

configure port tdm e3 bit-error-insertion

configure port tdm ds3 bit-error-insertion

Description

This command inserts bit errors into a running BERT test. The number of errors inserted corresponds to 10^(-rate). A rate of 0 will cause 1 error in every bit transmitted. A rate of 7 will cause an error rate of 10^(-7), or 1 error in every one billion bits transmitted.

The no command disables the insertion of bit errors into the bit error rate test stream.

Note that this command is not saved in the router configuration between boots.

Default

no bit-error-insertion

Parameters

rate

Specifies the bit error rate, expressed as an integer.

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Values 2 to 7

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

8.75 bit-error-threshold

bit-error-threshold

Syntax

bit-error-threshold *bit-errors*

Context

[Tree] (config>lag>eth-cfm>mep bit-error-threshold)

[Tree] (config>eth-tunnel>path>eth-cfm>mep>eth-test-enable bit-error-threshold)

Full Context

configure lag eth-cfm mep bit-error-threshold

configure eth-tunnel path eth-cfm mep eth-test-enable bit-error-threshold

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

bit-error-threshold 1

Parameters

bit-errors

Specifies the lowest priority defect.

Values 0 to 11840

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bit-error-threshold

Syntax

bit-error-threshold *errors*

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no bit-error-threshold

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>eth-test-enable bit-error-threshold)

[Tree] (config>service>epipe>sap>eth-cfm>mep>eth-test-enable bit-error-threshold)

Full Context

configure service epipe spoke-sdp eth-cfm mep eth-test-enable bit-error-threshold

configure service epipe sap eth-cfm mep eth-test-enable bit-error-threshold

Description

This command is used to specify the threshold value of bit errors.

Parameters

errors

The threshold value of bit errors.

Values 0 to 11840

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bit-error-threshold

Syntax

bit-error-threshold *bit-errors*

Context

[Tree] (config>service>vpls>eth-cfm>mep>eth-test-enable bit-error-threshold)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>eth-test-enable bit-error-threshold)

[Tree] (config>service>vpls>sap>eth-cfm>mep>eth-test-enable bit-error-threshold)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>eth-test-enable bit-error-threshold)

Full Context

configure service vpls eth-cfm mep eth-test-enable bit-error-threshold

configure service vpls mesh-sdp eth-cfm mep eth-test-enable bit-error-threshold

configure service vpls sap eth-cfm mep eth-test-enable bit-error-threshold

configure service vpls spoke-sdp eth-cfm mep eth-test-enable bit-error-threshold

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Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

bit-error-threshold 1

Parameters

bit-errors

Specifies the lowest priority defect.

Values 0 to 11840

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bit-error-threshold

Syntax

bit-error-threshold *bit-errors*

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep>eth-test-enable bit-error-threshold)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>eth-test-enable bit-error-threshold)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>eth-test-enable bit-error-threshold)

Full Context

configure service ies interface sap eth-cfm mep eth-test-enable bit-error-threshold

configure service ies interface spoke-sdp eth-cfm mep eth-test-enable bit-error-threshold

configure service ies subscriber-interface group-interface sap eth-cfm mep eth-test-enable bit-error-threshold

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

bit-error-threshold 1

Parameters

bit-errors

Specifies the lowest priority defect.

Values 0 to 11840

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep eth-test-enable bit-error-threshold
- configure service ies interface sap eth-cfm mep eth-test-enable bit-error-threshold

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep eth-test-enable bit-error-threshold

bit-error-threshold

Syntax

bit-error-threshold *bit-errors*

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm bit-error-threshold)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep bit-error-threshold)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep bit-error-threshold)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm bit-error-threshold

configure service vprn interface sap eth-cfm mep bit-error-threshold

configure service vprn interface spoke-sdp eth-cfm mep bit-error-threshold

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

bit-error-threshold 1

Parameters

bit-errors

Specifies the lowest priority defect.

Values 0 to 11840

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm bit-error-threshold

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep bit-error-threshold
- configure service vprn interface spoke-sdp eth-cfm mep bit-error-threshold

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bit-error-threshold

Syntax

bit-error-threshold *bit-errors*

Context

[Tree] (config>router>if>eth-cfm>mep>eth-test-enable bit-error-threshold)

Full Context

configure router interface eth-cfm mep eth-test-enable bit-error-threshold

Description

This command specifies the lowest priority defect that generates a fault alarm.

Default

bit-error-threshold 1

Parameters

bit-errors

Specifies the priority defect threshold.

Values 0 to 11840

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bit-error-threshold

Syntax

bit-error-threshold *bit-errors*

Context

[Tree] (config>eth-ring>path>eth-cfm>mep>eth-test-enable bit-error-threshold)

Full Context

configure eth-ring path eth-cfm mep eth-test-enable bit-error-threshold

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

bit-error-threshold 1

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Parameters

bit-errors

Specifies the lowest priority defect.

Values 0 to 11840

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.76 bit-rate-high-wmark

bit-rate-high-wmark

Syntax

bit-rate-high-wmark *high-watermark*

Context

[Tree] (config>application-assurance bit-rate-high-wmark)

Full Context

configure application-assurance bit-rate-high-wmark

Description

This command configures the high watermark for bit rate alarms.

Default

bit-rate-high-wmark max

Parameters

high-watermark

Specifies the high watermark for bit rate alarms, in Mb/s. The value must be larger than or equal to the low watermark value.

Values 1 to 40000, **max** (disabled)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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8.77 bit-rate-low-wmark

bit-rate-low-wmark

Syntax

bit-rate-low-wmark *low-watermark*

no bit-rate-low-wmark

Context

[Tree] (config>application-assurance bit-rate-low-wmark)

Full Context

configure application-assurance bit-rate-low-wmark

Description

This command configures the utilization of the flow records on the ISA-AA Group when the full alarm will be cleared by the agent.

Default

bit-rate-low-wmark 0

Parameters

low-watermark

Specifies the low watermark for bit rate alarms, in Mb/s. The value must be lower than or equal to the high watermark value.

Values 0 to 39999

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.78 bits

bits

Syntax

bits

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Context

[Tree] (config>system>sync-if-timing bits)

Full Context

configure system sync-if-timing bits

Description

Commands in this context configure parameters for the Building Integrated Timing Supply (BITS). The settings specified under this context apply to both the BITS input and BITS output ports.

The **bits** command subtree is only available on the 7450 ESS-7, 7450 ESS-12, 7750 SR-7, 7750 SR-12, 7750 SR-12e, 7950 XRS-20, 7950 XRS-40, 7750 SR-a4, 7750 SR-a8, 7750 SR-1e, 7750 SR-2e, and 7750 SR-3e.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.79 bits-interface-type

bits-interface-type

Syntax

bits-interface-type {**ds1** [{**esf** | **sf**}] | **e1** [{**pcm30crc** | **pcm31crc**}

no bits-interface-type

Context

[Tree] (config>system>sync-if-timing>ref1 bits-interface-type)

[Tree] (config>system>sync-if-timing>ref2 bits-interface-type)

Full Context

configure system sync-if-timing ref1 bits-interface-type

configure system sync-if-timing ref2 bits-interface-type

Description

This command configures the interface type of the BITS timing reference.

The **no** form of the command reverts to the default configuration

Parameters

ds1 esf

Specifies Extended Super Frame (ESF). This is a framing type used on DS1 circuits that consists of 24 192-bit frames, The 193rd bit provides timing and other functions.

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ds1 sf

Specifies Super Frame (SF), also called D4 framing. This is a common framing type used on DS1 circuits. SF consists of 12 192-bit frames. The 193rd bit provides error checking and other functions. ESF supersedes SF.

e1 pcm30crc

Specifies the pulse code modulation (PCM) type. PCM30CRC uses PCM to separate the signal into 30 user channels with CRC protection.

e1 pcm31crc

Specifies the pulse code modulation (PCM) type. PCM31CRC uses PCM to separate the signal into 31 user channels with CRC protection.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.80 black-hole

black-hole

Syntax

[**no**] **black-hole**

Context

[Tree] (config>service>vprn>static-route-entry black-hole)

Full Context

configure service vprn static-route-entry black-hole

Description

This command specifies that the route is a black hole route. If the destination address on a packet matches this static route, it will be silently discarded.

Default

no black-hole

Platforms

All

black-hole

Syntax

[**no**] **black-hole**

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Context

[Tree] (config>router>static-route-entry black-hole)

Full Context

configure router static-route-entry black-hole

Description

This command specifies that the route is a black hole route. If the destination address on a packet matches this static route, it will be silently discarded.

Default

no black-hole

Platforms

All

8.81 black-hole-dup-mac

black-hole-dup-mac

Syntax

[**no**] **black-hole-dup-mac**

Context

[Tree] (config>service>vpls>bgp-evpn>mac-duplication black-hole-dup-mac)

Full Context

configure service vpls bgp-evpn mac-duplication black-hole-dup-mac

Description

The **black-hole-dup-mac** command is disabled by default. If enabled, a duplicated MAC detected in the network is programmed as a black-hole MAC in the FDB and displayed in the **show service id fdb detail** command as follows:

- Source-Identifier—black-hole
- Type—EvpnD:P

Because the MAC is now programmed in the FDB as a black-hole, all received frames with MAC DA matching the duplicate MAC are discarded. The duplicate black-hole MACs are installed as Protected, therefore, all received frames with MAC SA matching the duplicate MAC are discarded by default.

A BGP-EVPN (MPLS or VXLAN) shutdown is required to add or remove the **black-hole-dup-mac** command.

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The **no** form of the command removes the feature, and duplicate MACs are no longer programmed as black-hole MACs.

Default

no black-hole-dup-mac

Platforms

All

8.82 blackhole-aggregate

blackhole-aggregate

Syntax

[**no**] **blackhole-aggregate**

Context

[Tree] (config>service>vprn>ospf>area blackhole-aggregate)

[Tree] (config>service>vprn>ospf3>area blackhole-aggregate)

Full Context

configure service vprn ospf area blackhole-aggregate

configure service vprn ospf3 area blackhole-aggregate

Description

This command installs a low priority blackhole route for the entire aggregate. Existing routes that make up the aggregate have a higher priority and only the components of the range for which no route exists are blackholed.

It is possible that when performing area aggregation, addresses may be included in the range for which no actual route exists. This can cause routing loops. To avoid this problem, configure the **blackhole-aggregate** command.

The **no** form of this command removes this configuration.

Default

blackhole-aggregate

Platforms

All

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blackhole-aggregate

Syntax

[**no**] **blackhole-aggregate**

Context

[Tree] (config>router>ospf3>area blackhole-aggregate)

[Tree] (config>router>ospf>area blackhole-aggregate)

Full Context

configure router ospf3 area blackhole-aggregate

configure router ospf area blackhole-aggregate

Description

This command installs a low priority blackhole route for the entire aggregate. Existing routes that make up the aggregate will have a higher priority and only the components of the range for which no route exists are blackholed.

When performing area aggregation, addresses may be included in the range for which no actual route exists, which can cause routing loops. To avoid this problem, configure the **blackhole-aggregate** option.

The **no** form of this command removes this option.

Default

blackhole-aggregate

Platforms

All

8.83 block

block

Syntax

[**no**] **block** *ms-block-name*

Context

[Tree] (conf>router>sr>srv6>micro-segment block)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block

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Description

This command configures a micro-segment block and enters the context to configure the block.

The **no** form of this command removes the configured block.

Default

no block

Parameters

ms-block-name

Specifies the micro-segment block name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

block

Syntax

block *ms-block-name*

no block

Context

[Tree] (conf>router>segment-routing>srv6>micro-segment-locator block)

Full Context

configure router segment-routing segment-routing-v6 micro-segment-locator block

Description

This command configures an association between a pre-defined block and the micro-segment locator.

The **no** form of this command removes the configured block.

Default

no block

Parameters

ms-block-name

Specifies a block name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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8.84 block-length

block-length

Syntax

block-length *block-length*

no block-length

Context

[Tree] (config>router>segment-routing>srv6>locator block-length)

Full Context

configure router segment-routing segment-routing-v6 locator block-length

Description

This command configures the length of the block field of a SRv6 locator.

The **no** form of this command reverts to the default value.

Default

block-length 0

Parameters

block-length

Specifies the block length, in bits, for the SRv6 locator. This value must be less than the locator prefix length and is enforced by CLI validation.

Values 0 to 96

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

block-length

Syntax

block-length *block-length*

no block-length

Context

[Tree] (conf>router>sr>srv6>micro-segment block-length)

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Full Context

configure router segment-routing segment-routing-v6 micro-segment block-length

Description

This command configures the length of the micro-segment blocks.

The **no** form of this command reverts to the default value.

Default

block-length 32

Parameters

block-length

Specifies the micro-segment block length, in bits.

Values 8 to 64 (in steps of 8 bits)

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

8.85 block-limit

block-limit

Syntax

block-limit [**1..40**]

no block-limit

Context

[Tree] (config>service>nat>nat-policy block-limit)

Full Context

configure service nat nat-policy block-limit

Description

This command configures the maximum number of port blocks per subscriber.

The **no** form of the command reverts to the default.

Default

block-limit 1

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Parameters

1..40

Specifies the maximum number of port-blocks per NAT subscriber.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

block-limit

Syntax

block-limit *number*

no block-limit

Context

[Tree] (config>service>nat>up-nat-policy block-limit)

Full Context

configure service nat up-nat-policy block-limit

Description

This command configures the maximum number of port blocks per NAT subscriber.

The **no** form of the command reverts to the default.

Default

block-limit 1

Parameters

number

Specifies the maximum number of port blocks per NAT subscriber.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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8.86 block-on-mesh-failure

block-on-mesh-failure

Syntax

[**no**] **block-on-mesh-failure**

Context

[Tree] (config>service>vpls>spoke-sdp block-on-mesh-failure)

[Tree] (config>service>vpls>endpoint block-on-mesh-failure)

Full Context

configure service vpls spoke-sdp block-on-mesh-failure

configure service vpls endpoint block-on-mesh-failure

Description

This command enables blocking (brings the entity to an operationally down state) after all configured SDPs or endpoints are in operationally down state. This event is signaled to corresponding T-LDP peer by withdrawing service label (status-bit-signaling non-capable peer) or by setting "PW not forwarding" status bit in T-LDP message (status-bit-signaling capable peer).

The **no** form of this command reverts to the default.

Default

no block-on-mesh-failure

Platforms

All

8.87 block-on-peer-fault

block-on-peer-fault

Syntax

[**no**] **block-on-peer-fault**

Context

[Tree] (config>service>epipe>spoke-sdp block-on-peer-fault)

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Full Context

configure service epipe spoke-sdp block-on-peer-fault

Description

When enabled, this command blocks the transmit direction of a PW when any of the following PW status codes is received from the far end PE:

0x00000001	Pseudowire Not Forwarding
0x00000002	Local Attachment Circuit (ingress) Receive Fault
0x00000004	Local Attachment Circuit (egress) Transmit Fault
0x00000008	Local PSN-facing PW (ingress) Receive Fault
0x00000010	Local PSN-facing PW (egress) Transmit Fault

The transmit direction is unblocked when the following PW status code is received:

0x00000000	Pseudowire forwarding (clear all failures)

This command is mutually exclusive with **no pw-status-signaling**, and **standby-signaling-slave**. It is not applicable to spoke SDPs forming part of an MC-LAG or spoke SDPs in an endpoint.

Default

no block-on-peer-fault

Platforms

All

block-on-peer-fault

Syntax

[**no**] **block-on-peer-fault**

Context

[Tree] (config>service>pw-template block-on-peer-fault)

Full Context

configure service pw-template block-on-peer-fault

Description

When enabled, this command blocks the transmit direction of a pseudowire when any of the following pseudowire status codes is received from the far end PE:

0x00000001	Pseudowire Not Forwarding
0x00000002	Local Attachment Circuit (ingress) Receive Fault

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0x00000004	Local Attachment Circuit (egress) Transmit Fault
0x00000008	Local PSN-facing PW (ingress) Receive Fault
0x00000010	Local PSN-facing PW (egress) Transmit Fault

The transmit direction is unblocked when the following pseudowire status code is received:

0x00000000	Pseudowire forwarding (clear all failures)

This command is mutually exclusive with **no pw-status-signaling**, and **standby-signaling-slave**. It is not applicable to spoke SDPs forming part of an MC-LAG or spoke SDPs in an endpoint.

Default

no block-on-peer-fault

Platforms

All

8.88 block-prefix-sid

block-prefix-sid

Syntax

[**no**] **block-prefix-sid**

Context

[Tree] (config>router>bgp>group block-prefix-sid)

[Tree] (config>router>bgp>group>neighbor block-prefix-sid)

[Tree] (config>router>bgp block-prefix-sid)

Full Context

configure router bgp group block-prefix-sid

configure router bgp group neighbor block-prefix-sid

configure router bgp block-prefix-sid

Description

This command specifies whether all prefix SID attributes are removed from label IPv4 and label IPv6 routes when they are exchanges with EBGP and IBGP peers covered by the scope of the command. Even locally-imposed prefix SID attributes are removed.

A change of this configuration causes the affected BGP sessions to flap.

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The **no** form of this command allows prefix SID attributes associated with label IPv4 and label IPv6 routes to be propagated without restriction.

Default

no block-prefix-sid

Platforms

All

8.89 bmp

bmp

Syntax

bmp

Context

[Tree] (config bmp)

Full Context

configure bmp

Description

Commands in this context configure BGP Monitoring Protocol (BMP) parameters.

Platforms

All

bmp

Syntax

bmp

Context

[Tree] (debug>router bmp)

Full Context

debug router bmp

Description

Commands in this context debug BMP information.

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Platforms

All

8.90 bof

bof

Syntax

bof

Context

[Tree] (bof)

Full Context

bof

Description

This command creates or edits the boot option file (BOF) for the specified local storage device.

A BOF file specifies where the system searches for runtime images, configuration files, and other operational parameters during system initialization.

BOF parameters can be modified. Changes can be saved to a specified compact flash. The BOF must be located in the root directory of either an internal or external compact flash local to the system and have the mandatory filename of *bof.cfg*.

When modifications are made to in-memory parameters that are currently in use or operating, the changes are effective immediately. For example, if the IP address of the management port is changed, the change takes place immediately.

Only one entry of the BOF configuration command statement can be saved once the statement has been found to be syntactically correct.

When opening an existing BOF that is not the BOF used in the most recent boot, a message is issued notifying the user that the parameters will not affect the operation of the node.

No default boot option file exists. The router boots with the factory default boot sequence and options.

Platforms

All

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8.91 bonding-active-connections

bonding-active-connections

Syntax

[**no**] **bonding-active-connections**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute bonding-active-connections)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute bonding-active-connections

Description

This command triggers the inclusion of the Alc-Bonding-Active-Connection VSA in accounting for bonding subscribers.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.92 bonding-id

bonding-id

Syntax

[**no**] **bonding-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute bonding-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute bonding-id

Description

This command triggers the inclusion of the Alc-Bonding-Id VSA in accounting for bonding subscribers.

The **no** form of this command disables the inclusion of the attribute.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.93 bonding-parameters

bonding-parameters

Syntax

bonding-parameters

Context

[Tree] (config>service>vprn>sub-if>grp-if bonding-parameters)

[Tree] (config>service>ies>sub-if>grp-if bonding-parameters)

Full Context

configure service vprn subscriber-interface group-interface bonding-parameters

configure service ies subscriber-interface group-interface bonding-parameters

Description

Commands in this context configure ESM connection bonding parameters. The configuration of parameters under this context is only allowed when the group interface is created with the bonding parameter specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.94 bonding-selection

bonding-selection

Syntax

bonding-selection

Context

[Tree] (config>subscr-mgmt>sla-profile>egress bonding-selection)

Full Context

configure subscriber-mgmt sla-profile egress bonding-selection

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Description

Commands in this context configure parameters belonging to this node for link selection behavior in a bonding context. These parameters are ignored outside of bonding subscribers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.95 booking-factor

booking-factor

Syntax

booking-factor *factor*

no booking-factor

Context

[Tree] (config>port>ethernet>access booking-factor)

[Tree] (config>lag>access booking-factor)

Full Context

configure port ethernet access booking-factor

configure lag access booking-factor

Description

This command specifies the booking factor applied against the port or LAG administrator bandwidth by SAP administrator bandwidth CAC.

The service manager keeps track of the available administrator bandwidth for each port or LAG configured with an administrator bandwidth. The port or LAG available administrator bandwidth is adjusted by the user configured booking factor, allowing the port or LAG bandwidth to be overbooked or under booked.

If the booking factor is increased then available administrator bandwidth on the port or LAG increases. If the booking factor is decreased then available administrator bandwidth on the port or LAG decreases. However, if the reduction of available administrator bandwidth is insufficient to cover the sum of the current SAP administrator bandwidth on the port or LAG, the command fails.

The **no** form of this command reverts to the default value.

Default

booking-factor 100

Parameters

factor

Specifies the percentage of the port or LAG admin bandwidth for SAP bandwidth CAC.

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Values 1 to 1000

Platforms

All

booking-factor

Syntax

booking-factor *percentage*

no booking-factor

Context

[Tree] (config>service>sdp booking-factor)

Full Context

configure service sdp booking-factor

Description

This command specifies the booking factor applied against the maximum SDP available bandwidth by the VLL CAC feature.

The service manager keeps track of the available bandwidth for each SDP. The maximum value is the sum of the bandwidths of all constituent LSPs in the SDP. The SDP available bandwidth is adjusted by the user configured booking factor. A value of 0 means no VLL can be admitted into the SDP.

The **no** form of the command reverts to the default value.

Default

no booking-factor

Parameters

percentage

Specifies the percentage of the SDP maximum available bandwidth for VLL call admission. When the value of this parameter is set to zero (0), no new VLL spoke SDP bindings with non-zero bandwidth are permitted with this SDP. Overbooking, >100% is allowed.

Values 0 to 1000%

Default 100

Platforms

All

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8.96 boot-bad-exec

boot-bad-exec

Syntax

boot-bad-exec *file-url*

no boot-bad-exec

Context

[Tree] (config>system boot-bad-exec)

Full Context

configure system boot-bad-exec

Description

Use this command to configure a URL for a CLI script to **exec** following a failure of a bootup configuration. The command specifies a URL for the CLI scripts to be run following the completion of the bootup configuration. A URL must be specified or no action is taken.

The commands are persistent between router (re)boots and are included in the configuration saves (**admin>save**).

Related Commands

exec — This command executes the contents of a text file as if they were CLI commands entered at the console.

Default

no boot-bad-exec

Parameters

file-url

Specifies the location and name of the CLI script file executed following failure of the bootup configuration file execution. When this parameter is not specified, no CLI script file is executed.

Ipv6-address only applies to the 7750 SR and 7950 XRS.

Values

file url	*local-url* | *remote-url*	255 chars max
local-url	[*cflash-id*/][*file-path*]	
remote-url	[{ftp://} *login:pswd@remote-locn*/][*file-path*]	
	remote-locn	[*hostname* | *ipv4-address* | [*ipv6- address*]]

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	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*] *x:x:x:x:x:x:d.d.d.d*[-*interface*] *x* - [0 to FFFF]H *d* - [0 to 255]D *interface* - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:	

Platforms

All

8.97 boot-file-param

boot-file-param

Syntax

boot-file-param *hex-string*

no boot-file-param

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options6 boot-file-param)

Full Context

configure subscriber-mgmt local-user-db ipoe host options6 boot-file-param

Description

This command configures a hexadecimal string that contains the value for the concatenation of all param-len n and parameter n fields of DHCPv6 option BOOTFILE_PARAM (60).

The **no** form of this command removes the configured string.

Parameters

hex-string

Specifies the hexadecimal format for this option, up to 254 hex nibbles.

Values 0x0 to 0xFFFFFFFF

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.98 boot-file-url

boot-file-url

Syntax

boot-file-url *ascii-string*

no boot-file-url

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options6 boot-file-url)

Full Context

configure subscriber-mgmt local-user-db ipoe host options6 boot-file-url

Description

This command configures an ASCII string that contains the value for the boot-file-url field in the DHCPv6 option BOOTFILE_URL (59).

The **no** form of this command removes the configuration.

Parameters

ascii-string

Specifies the ASCII string, up to 127 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.99 boot-good-exec

boot-good-exec

Syntax

boot-good-exec *file-url*

no boot-good-exec

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Context

[Tree] (config>system boot-good-exec)

Full Context

configure system boot-good-exec

Description

Use this command to configure a URL for a CLI script to **exec** following the success of a bootup configuration.

Related Commands

exec - This command executes the contents of a text file as if they were CLI commands entered at the console.

Default

no boot-good-exec

Parameters

file-url

Specifies the location and name of the file executed following successful completion of the bootup configuration file execution. When this parameter is not specified, no CLI script file is executed.

Ipv6-address only applies to the 7750 SR and 7950 XRS and ipv4-address applies to the 7450 ESS.

Values

file url	*local-url* | *remote-url*	255 chars max
local-url	[*cflash-id*/][*file-path*]	
remote-url	[{ftp://} *login:pswd@remote-locn*/][*file-path*]	
	remote-locn	[*hostname* | *ipv4-address* | [*ipv6- address*]]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
		x:x:x:x:x:x:d.d.d.d[-*interface*]
		x - [0 to FFFF]H
		d - [0 to 255]D
		interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:	

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Platforms

All

8.100 boot-timer

boot-timer

Syntax

boot-timer *interval*

no boot-timer

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ep boot-timer)

Full Context

configure redundancy multi-chassis peer mc-endpoint boot-timer

Description

This command configures the boot timer interval. This command applies only when the node reboots. It specifies the time the MC-EP protocol keeps trying to establish a connection before assuming a failure of the remote peer. This is different from the keep-alive mechanism which is used just after the peer-peer communication was established. After this time interval passed all the mc-endpoints configured under services will revert to single chassis behavior, activating the best local PW.

The **no** form of this command sets the interval to default.

Default

no boot-timer

Parameters

interval

Specifies the boot timer interval.

Values 1 to 600

Platforms

All

boot-timer

Syntax

boot-timer *seconds*

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Context

[Tree] (config>redundancy>bgp-evpn-multi-homing boot-timer)

Full Context

configure redundancy bgp-evpn-multi-homing boot-timer

Description

This command allows the necessary time for the control plane protocols to come up upon PE boot-up before bringing up the ESs and running the DF algorithm.

The following considerations apply to this command:

- The **boot-timer** command must provide enough time to allow the IOMs and BGP sessions to come up before exchanging ES routes and running the DF election for each EVI or ISID.
- The boot-timer is synchronized across CPMs and is relative to the system up time; it is not changed or reset upon CPM switchover.
- The boot-timer is never interrupted (the e**s-activation-timer**, however, can be interrupted if there is a new event triggering the DF election).
- The boot-timer runs per EVI or ISID on the ESs in the system. If the system up time (time the system has been up since the last reboot) is less than the **boot-timer** value, the system does not run the DF election for any EVI or ISID. When the **boot-timer** value expires, the DF election runs, and if the system is elected DF for the EVI or ISID, the **es-activation-timer** is triggered.
- The system does not advertise ES routes until the boot timer expires, which guarantees that the peer ES PEs only run the DF election when the PE is ready to become the DF, if required.

Default

boot-timer 10

Parameters

seconds

Specifies the number of seconds for the boot-timer.

Values 0 to 1800

Platforms

All

boot-timer

Syntax

boot-timer *seconds*

no boot-timer

Context

[Tree] (config>service>vpls>site boot-timer)

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Full Context

configure service vpls site boot-timer

Description

This command configures for how long the service manager waits after a node reboot before running the DF election algorithm. The boot-timer value should be configured to allow for the BGP sessions to come up and for the NLRI information to be refreshed/exchanged.

The **no** form of this command reverts the default.

Default

boot-timer 10

Parameters

seconds

Specifies the site boot-timer in seconds.

Values 0 to 100

Platforms

All

boot-timer

Syntax

boot-timer *seconds*

no boot-timer

Context

[Tree] (config>service>epipe>site boot-timer)

Full Context

configure service epipe site boot-timer

Description

This command configures for how long the service manager waits after a node reboot before running the DF election algorithm. The boot-timer value should be configured to allow for the BGP sessions to come up and for the NLRI information to be refreshed/exchanged.

The **no** form of this command reverts the default.

Default

boot-timer 10

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Parameters

seconds

Specifies the site boot-timer in seconds.

Values 0 to 600

Platforms

All

boot-timer

Syntax

boot-timer *secs*

no boot-timer

Context

[Tree] (config>service>pw-routing boot-timer)

Full Context

configure service pw-routing boot-timer

Description

This command configures a hold-off timer for MS-PW routing advertisements and signaling and is used at boot time.

The **no** form of this command removes a previously configured timer and restores it to its default.

Default

no boot-timer

Parameters

timer-value

Specifies the value of the boot timer in seconds.

Values 0 to 600

Platforms

All

boot-timer

Syntax

boot-timer *seconds*

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no boot-timer

Context

[Tree] (config>redundancy>bgp-multi-homing boot-timer)

Full Context

configure redundancy bgp-multi-homing boot-timer

Description

This command configures the time the service manager waits after a node reboot before running the DF election algorithm. The **boot-timer** value should be configured to allow for the BGP sessions to come up and for the NLRI information to be refreshed or exchanged.

The **no** form of the command reverts the default.

Default

no boot-timer

Parameters

seconds

Specifies the BGP multi-homing boot-timer in seconds.

Values 0 to 600

Platforms

All

8.101 bootstrap-export

bootstrap-export

Syntax

bootstrap-export *policy-name* [*policy-name*]

no bootstrap-export

Context

[Tree] (config>service>vprn>pim>rp bootstrap-export)

Full Context

configure service vprn pim rp bootstrap-export

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Description

This command exports policies to control the flow of bootstrap messages from the RP. Up to five policies can be defined.

The **no** form of this command removes the specified policy names from the configuration.

Parameters

policy-name

Specifies up to five policy names. The policy statement must already be configured in the **config>router>policy-options** context.

Platforms

All

bootstrap-export

Syntax

bootstrap-export *policy-name* [*policy-name*]

no bootstrap-export

Context

[Tree] (config>router>pim>rp bootstrap-export)

Full Context

configure router pim rp bootstrap-export

Description

This command applies export policies to control the flow of bootstrap messages from the RP, and apply them to the PIM configuration.

The **no** form of this command removes the policy name from the PIM RP configuration.

Default

no bootstrap-export

Parameters

policy-name

Specifies up to five export policy names, up to 32 characters.

Platforms

All

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8.102 bootstrap-import

bootstrap-import

Syntax

bootstrap-import *policy-name* [*policy-name* **... up to five**]

no bootstrap-import *policy-name* [*policy-name* **... up to five**]

Context

[Tree] (config>service>vprn>pim>rp bootstrap-import)

Full Context

configure service vprn pim rp bootstrap-import

Description

This command imports policies to control the flow of bootstrap messages into the RP. Up to five policies can be defined.

The **no** form of this command removes the specified policy names from the configuration.

Parameters

policy-name

Specifies the policy name. The policy statement must already be configured in the config>router>policy-options context.

Platforms

All

bootstrap-import

Syntax

bootstrap-import *policy-name* [*policy-name*]

no bootstrap-import

Context

[Tree] (config>router>pim>rp bootstrap-import)

Full Context

configure router pim rp bootstrap-import

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Description

This command applies import policies to control the flow of bootstrap messages to the RP, and apply them to the PIM configuration.

The **no** form of this command removes the policy name from the

Default

no bootstrap-import

Parameters

policy-name

Specifies up to five import policy names, up to 32 characters.

Platforms

All

8.103 boundary-type

boundary-type

Syntax

boundary-type {**clock-aligned** | **test-relative**}

no boundary-type

Context

[Tree] (config>oam-pm>session>meas-interval boundary-type)

Full Context

configure oam-pm session meas-interval boundary-type

Description

This command establishes the alignment of the start of the measurement interval with either the time of day clock or the start of the test. Alignment with the time of day clock always defaults to the representative top of the hour. Clock-aligned 15-minute measurement intervals divide the hour into four equal sections 00, 15, 30, 45. Clock-aligned 1-hour measurement intervals start at 00. Clock-aligned 1-day measurement intervals start at midnight. Test relative start times launches the measurement interval when the individual test enters the active (**no shutdown**) state. It is typical for the first measurement interval of a clock-aligned test to have the suspect flag set to yes because it is unlikely the **no shutdown** exactly corresponds to the clock based measurement interval start time. Clock-aligned measurement intervals can include an additional offset.

The **no** form of this command sets the boundary to the default clock-aligned.

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Default

boundary-type clock-aligned

Parameters

clock-aligned

Aligns the start of the measurement interval with the time of day clock.

test-relative

Aligns the start of the measurement interval with the start of the test.

Platforms

All

8.104 bpdu

bpdu

Syntax

[**no**] **bpdu**

Context

[Tree] (debug>service>id>stp bpdu)

Full Context

debug service id stp bpdu

Description

This command enables STP debugging for received and transmitted BPDUs.

The **no** form of the command disables debugging.

Platforms

All

8.105 bpdu-translation

bpdu-translation

Syntax

bpdu-translation {**auto** | **auto-rw** | **pvst** | **pvst-rw** | **stp**}

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no bpdu-translation

Context

[Tree] (config>service>vpls>spoke-sdp bpdu-translation)

[Tree] (config>service>vpls>sap bpdu-translation)

Full Context

configure service vpls spoke-sdp bpdu-translation

configure service vpls sap bpdu-translation

Description

This command enables the translation of BPDUs to a specified format, meaning that all BPDUs transmitted on a specified SAP or spoke-SDP will have a specified format.

The **no** form of this command reverts to the default.

Default

no bpdu-translation

Parameters

auto

Specifies that appropriate format will be detected automatically, based on type of BPDUs received on such port.

auto-rw

Specifies that appropriate format will be detected automatically and the VLAN ID will be rewritten as follows:

- BPDU sent on egress of dot1q SAP will contain the VLAN ID of the SAP in BPDU-PVID TLV
- BPDU sent on egress of default QinQ SAP will contain the outer VLAN ID of the SAP in BPDU-PVID TLV
- BPDU sent on egress of QinQ SAP will contain the inner VLAN ID of the SAP in BPDU-PVID TLV

pvst

Specifies the BPDU-format as PVST. Note: the correct VLAN tag is included in the payload (depending on encapsulation value of outgoing SAP).

pvst-rw

Specifies the BPDU-format as PVST. The VLAN ID will be rewritten as follows:

- BPDU sent on egress of dot1q SAP will contain the VLAN ID of the SAP in BPDU-PVID TLV
- BPDU sent on egress of default QinQ SAP will contain the outer VLAN ID of the SAP in BPDU-PVID TLV
- BPDU sent on egress of QinQ SAP will contain the inner VLAN ID of the SAP in BPDU-PVID TLV

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stp

Specifies the BPDU-format as STP.

Platforms

All

8.106 breakout

breakout

Syntax

breakout *breakout*

no breakout

Context

[Tree] (config>port>connector breakout)

Full Context

configure port connector breakout

Description

This command configures the transceiver port breakout for use in the connector. Specifying the breakout type triggers the creation of accessible ports for the connector.

When a QSFP28 connector uses an SFP+ optical module with the QSFP28-to-SFP+/SFP28 adapter, the user should set the *breakout* parameter to **c1-10g**, which indicates the presence of this adapter.

The options for breakout on specific connectors depend on both the card type and level (or XMA type and level). See the applicable installation guides for more information.

For some connectors (such as QSFPDD), there can be overlap in the breakout for different host interfaces. The same port breakout can be supported on an optical module that uses a host interface of CAUI-4 as another optical module that uses 100GAUI-2. To distinguish from the CAUI-4 host interface, the "-aui2" suffix is used on some breakout options. This is only necessary where there is overlap. In other situations, SR OS sets the host interface correctly without requiring the distinction in the breakout option.

The **no** form of this command removes the ports under the connector.

Default

no breakout

Parameters

breakout

Specifies the breakout type.

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Values c1-40g, c4-10g, c1-100g, c4-25g, c10-10g, c1-400g, c2-100g, c4-100g, c1-10g, c1-25g, c1-50g, c8-50g, c1-800g, c3-100g, c8-100g, c2-400g, c1-100g-aui2, c2-100g-aui2, c1-400g-aui4, c4-100g-aui1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.107 brg

brg

Syntax

brg

Context

[Tree] (config>subscr-mgmt>vrgw brg)

Full Context

configure subscriber-mgmt vrgw brg

Description

Commands in this context configure Bridged Residential Gateway parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

brg

Syntax

brg

Context

[Tree] (config>service>ies>sub-if>grp-if brg)

[Tree] (config>service>vprn>sub-if>grp-if brg)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw brg)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw brg)

Full Context

configure service ies subscriber-interface group-interface brg

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configure service vprn subscriber-interface group-interface brg

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg

Description

Commands in this context configure BRG parameters. In the **config>service>ies>sub-if>grp-if** and **config>service>vprn>sub-if>grp-if** contexts, these commands are only available in the **vlan-tag-ranges** level.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface brg
- configure service ies subscriber-interface group-interface brg

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg
- configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg

8.108 brg-id

brg-id

Syntax

[**no**] **brg-id** *brg-ident*

Context

[Tree] (debug>subscr-mgmt>vrgw>brg>pppoe-client brg-id)

Full Context

debug subscriber-mgmt vrgw brg pppoe-client brg-id

Description

This command enables debugging of PPPoE client messages linked to a BRG.

Parameters

brg-ident

The string identifying the BRG.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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8.109 brg-num-active-sessions

brg-num-active-sessions

Syntax

[**no**] **brg-num-active-sessions**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include brg-num-active-sessions)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute brg-num-active-sessions

Description

This command indicates the number of IPoE sessions that are currently active on the BRG to which this accounting message relates. The **no** form of this command removes the attribute from inclusion.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.110 brg-profile

brg-profile

Syntax

brg-profile *profile-name* [**create**]

no brg-profile *profile-name*

Context

[Tree] (config>subscr-mgmt>vrgw>brg brg-profile)

Full Context

configure subscriber-mgmt vrgw brg brg-profile

Description

This command creates the profile for Bridged Residential Gateway (BRG) devices. The BRG profile specifies default parameters that are used for host management under a single BRG.

The **no** form of this command removes the profile name from the configuration.

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Parameters

profile-name

Specifies the name of the BRG profile.

create

Keyword used to create a BRG profile. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.111 bridge-identifier

bridge-identifier

Syntax

bridge-identifier *bridge-id* **vlan** *vlan-id*

Context

[Tree] (config>eth-cfm>default-domain bridge-identifier)

Full Context

configure eth-cfm default-domain bridge-identifier

Description

This command configures the cross-reference required to link the CFM function with the service context. The link is created when the **bridge-id**, **service-id**, and **vlan-id** (for a primary VLAN) match.

This command allows the entry of MIP-specific parameters for the index (**bridge-identifier** and **vlan**) in the default-domain table.

Parameters

bridge-id

Specifies the ID for a link to a specific service. Note that there is no verification that a service has been created with a matching service ID.

Values 1 to 2147483647

vlan-id

Specifies the VLAN ID for the **default-domain** index. The complete index allows the user to reference specific MIP entries in the **default-domain** table. The *vlan-id* value must match the configured **primary-vlan-enable** *vlan-id* corresponding to the **bridge-identifier**. If the MIP does not have **primary-vlan-enable** configured, the *vlan-id* must be configured as "none". When the *vlan-id* is configured as none, the MIP relies on the service delineation for extraction and installs no additional VLAN in that portion of the index.

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Values 1 to 4094 | none

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

bridge-identifier

Syntax

bridge-identifier {*bridge-id* | **bridge-name** *bridge-name*}

no bridge-identifier {*bridge-id* | **bridge-name** *bridge-name*}

Context

[Tree] (config>eth-cfm>domain>assoc bridge-identifier)

Full Context

configure eth-cfm domain association bridge-identifier

Description

This command configures the cross-reference required to link the CFM function with the service context. The link is created when the *bridge-id*, or *bridge-name* matches the *service-id*, or *service-name*, respectively.

The **no** form of this command removes the bridge identifier and the link between the ETH-CFM configuration and the matching service.

There is no verification that any service has been created with a matching value. An existing bridge identifier configuration can be overwritten with the alternate type, as long as the new reference does not change the existing service linkage.

Parameters

bridge-id

Specifies the ID to link to a specific service. Note that there is no verification that a service was created with a matching *service-id*.

This *bridge-id* variant of the command is only supported in classic configuration mode (**configure system management-interface configuration-mode classic**). The **bridge-identifier bridge-name** *bridge-name* variant can be used in all configuration modes. All references to **bridge-identifier** *bridge-id* must be changed to the **bridge-identifier bridge-name** *bridge-name* option as a prerequisite to model-driven mode.

Values 1 to 2147483647

bridge-name

Specifies a link to a service with a matching service-name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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8.112 bridge-priority

bridge-priority

Syntax

bridge-priority *bridge-priority*

no bridge-priority

Context

[Tree] (config>service>vpls>spb>level bridge-priority)

Full Context

configure service vpls spb level bridge-priority

Description

This command configures the four bit bridge priority for Shortest Path Bridging. This value is added to the 6 byte bridge Identifier (which is the system-id) in the top four bits of a two byte field. Note the actual value will be bit shifted 12 bits left effective putting this in the high bits of the 16 bits added to system ID.

The bridge priority is important in choosing the Root Bridge for the single tree algorithm (lowest value = best). Bridge priority also factors into the tie breaker for SPF algorithms as described in the SPB standard. The bridge-identifier (system-id) of the control B-VPLS determines the tiebreaker when the bridge-priorities are equal.

Default

bridge-priority 8

Parameters

bridge-priority

The bridge-priority value.

Values 0 to 15

Platforms

All

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8.113 broadcast

broadcast

Syntax

broadcast {**interface** *ip-int-name*} [**key-id** *key-id* | **authentication-keychain** *keychain-name*] [**version** *version*] [**ttl** *ttl*]

no broadcast {**interface** *ip-int-name*}

Context

[Tree] (config>service>vprn>ntp broadcast)

Full Context

configure service vprn ntp broadcast

Description

This command configures the node to transmit NTP packets on an interface. Broadcast and multicast messages can easily be spoofed; therefore, Nokia strongly recommends authentication.

The **no** form of this command removes the address from the configuration.

Parameters

ip-int-name

Specifies the local interface on which to transmit NTP broadcast packets, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

key-id

Specifies the configured authentication key and authentication type used by this node to receive and transmit NTP packets to and from an NTP server and peers. If an NTP packet is received by this node, both authentication key and authentication type must be valid; otherwise, the packet is rejected and an event or trap is generated.

Values 1 to 255

keychain-name

Specifies the keychain name, up to 32 characters.

version

Specifies the NTP version number that is generated by this node. This parameter does not need to be configured when in client mode; in this case, all versions are accepted.

Values 2 to 4

Default 4

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ttl

Specifies the IP TTL value.

Values 1 to 255

Platforms

All

broadcast

Syntax

broadcast [**router** *router-name*] {**interface** *ip-int-name*} [**key-id** *key-id* | **authentication-keychain** *keychain-name*] [**version** *version*] [**ttl** *ttl*]

no broadcast [**router** *router-name*] {**interface** *ip-int-name*}

Context

[Tree] (config>system>time>ntp broadcast)

Full Context

configure system time ntp broadcast

Description

This command configures the node to transmit NTP packets on a given interface. Broadcast and multicast messages can easily be spoofed, therefore, authentication is strongly recommended.

The **no** form of this command removes the address from the configuration.

Parameters

router-name

Specifies the router name used to transmit NTP packets. Base is the default. Select management to use the management port (Ethernet port on the CPM). Note that broadcast server capability can also be enabled on an interface within a VPRN context. Refer to "NTP Within a VPRN Service" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Layer 3 Services Guide: IES and VPRN* for more information.

Values Base | Management

Default Base

ip-int-name

Specifies the local interface on which to transmit NTP broadcast packets, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

key-id

Identifies the configured authentication key and authentication type used by this node to receive and transmit NTP packets to and from an NTP server and peers. If an NTP packet

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is received by this node both authentication key and authentication type must be valid otherwise the packet is rejected and an event or trap generated.

Values 1 to 255

keychain-name

Identifies the keychain name, up to 32 characters.

version

Specifies the NTP version number that is generated by this node. This parameter does not need to be configured when in client mode in which case all versions are accepted.

Values 2 to 4

Default 4

ttl

Specifies the IP Time To Live (TTL) value.

Values 1 to 255

Platforms

All

8.114 broadcast-client

broadcast-client

Syntax

[**no**] **broadcast-client**

Context

[Tree] (config>system>time>sntp broadcast-client)

Full Context

configure system time sntp broadcast-client

Description

This command enables listening to SNTP/NTP broadcast messages on interfaces with **broadcast client** enabled at global device level.

SNTP must be shutdown prior to changing either to or from broadcast mode.

The **no** form of the command disables broadcast client mode.

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Default

no broadcast-client

Platforms

All

8.115 broadcast-policer

broadcast-policer

Syntax

broadcast-policer *policer-id* [**fp-redirect-group**]

no broadcast-policer

Context

[Tree] (config>qos>sap-ingress>fc broadcast-policer)

Full Context

configure qos sap-ingress fc broadcast-policer

Description

Within a **sap-ingress** QoS policy forwarding class context, the **broadcast-policer** command is used to map packets that match the forwarding class and are considered broadcast in nature to the specified policer-id. The specified policer-id must already exist within the **sap-ingress** QoS policy. While the system is determining the forwarding class of a packet, it is also looking up its forwarding destination based on the ingress service type and the service instance forwarding records. If the service type is VPLS and the destination MAC address is the broadcast address (ff:ff:ff:ff:ff:ff), the packet is classified into the broadcast forwarding type.

Broadcast forwarding type packets are mapped to either an ingress multipoint queue (using the **broadcast** *queue-id* or **broadcast** *queue-id* **group** *ingress-queue-group* commands) or an ingress policer (**broadcast-policer** *policer-id*). The **broadcast** and **broadcast-policer** commands within the forwarding class context are mutually exclusive. By default, the broadcast forwarding type is mapped to the SAP ingress default multipoint queue. If the **broadcast-policer** *policer-id* command is executed, any previous policer mapping or queue mapping for the broadcast forwarding type within the forwarding class is overridden if the policer mapping is successful.

A policer defined within the **sap-ingress** policy is not actually created on an ingress SAP or a subscriber using an **sla-profile** where the policy is applied until at least one forwarding type (unicast, broadcast, unknown, or multicast) from one of the forwarding classes is mapped to the policer. If insufficient policer resources exist to create the policer for a SAP or subscriber or multiservice site, or ingress policing is not supported on the port associated with the SAP or subscriber or multiservice site, the initial forwarding class forwarding type mapping will fail.

The **broadcast-policer** command is ignored for instances of the policer applied to SAPs or subscribers' multiservice site where broadcast packets are not supported.

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When the broadcast forwarding type within a forwarding class is mapped to a policer, the broadcast packets classified to the subclasses within the forwarding class are also mapped to the policer.

The **no** form of this command is used to restore the mapping of the broadcast forwarding type within the forwarding class to the default multipoint queue. If all forwarding class forwarding types had been removed from the default multipoint queue, the queue will not exist on the SAPs or subscribers or multiservice site associated with the QoS policy and the **no broadcast-policer** command will cause the system to attempt to create the default multipoint queue on each object. If the system cannot create the queue on each instance, the **no broadcast-policer** command will fail and the broadcast forwarding type within the forwarding class will continue its mapping to the existing policer-id. If the **no broadcast-policer** command results in a policer without any current mappings, the policer will be removed from the SAPs and subscribers associated with the QoS policy. All statistics associated with the policer on each SAP and subscriber will be lost.

Parameters

policer-id

When the forwarding class **broadcast-policer** command is executed, a valid *policer-id* must be specified. The parameter *policer-id* references a *policer-id* that has already been created within the sap-ingress QoS policy.

Values 1 to 63

fp-redirect-group

Redirects a forwarding class to a forwarding plane queue-group as specified in a SAP QoS policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

8.116 broadcast-queue

broadcast-queue

Syntax

broadcast-queue *queue-id* [**group** *queue-group-name*]

no broadcast queue

Context

[Tree] (config>qos>sap-ingress>fc broadcast-queue)

Full Context

configure qos sap-ingress fc broadcast-queue

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Description

This command overrides the default broadcast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all broadcast traffic on a SAP using this policy will be forwarded using the *queue-id*.

The broadcast forwarding type usually tracks the multicast forwarding type definition. This command overrides that default behavior.

The **no** form of this command sets the broadcast forwarding type *queue-id* back to the default of tracking the multicast forwarding type queue mapping.

Parameters

queue-id

The *queue-id* parameter must be an existing, multipoint queue defined in the config>qos>sap-ingress context.

Values Any valid multipoint queue ID in the policy including 2 through 32.

Default 11

group *queue-group-name*

This optional parameter is used to redirect the forwarding type within the forwarding class to the specified queue-id within the queue-group-name. When the policy is applied, all packets matching the forwarding class and forwarding type will be redirected to the queue within the specified queue group. The *queue-group-name* are configured in the **config>qos>queue-group-templates** egress and ingress contexts.

Platforms

All

broadcast-queue

Syntax

broadcast-queue *queue-id*

Context

[Tree] (config>qos>shared-queue>fc broadcast-queue)

Full Context

configure qos shared-queue fc broadcast-queue

Description

This command configures the broadcast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all broadcast traffic on a SAP using this policy will be forwarded using the *queue-id*.

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The broadcast forwarding type usually tracks the multicast forwarding type definition. This command overrides that default behavior.

The **no** form of this command sets the broadcast forwarding type *queue-id* back to the default of tracking the multicast forwarding type queue mapping.

Parameters

queue-id

The *queue-id* parameter must specify an existing multipoint queue defined in the **config>qos>sap-ingress** context policer-output-queues profile. For the 7950 XRS, this is not configurable in the policer-output-queues profile.

Values 17 to 24

Platforms

All

8.117 broadcastclient

broadcastclient

Syntax

broadcastclient [**router** *router-instance* | **service-name** *service-name*] {**interface** *ip-int-name*} [**authenticate**]

no broadcastclient [**router** *router-instance* | **service-name** *service-name*] {**interface** *ip-int-name*}

Context

[Tree] (config>system>time>ntp broadcastclient)

Full Context

configure system time ntp broadcastclient

Description

When configuring NTP, the node can be configured to receive broadcast packets on a specified subnet. This command configures a specific interface to listen for broadcast NTP messages. The interface may exist within a VPRN service.

Broadcast and multicast messages can easily be spoofed, so authentication is strongly recommended. If broadcast is not configured, then any received NTP broadcast traffic will be ignored. Use the **show** command to view the state of the configuration.

The **no** form of this command removes the interface from the configuration.

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Parameters

router-instance

Specifies the routing context that contains the interface in the form of *router-name* or *service-id*.

Values *router-name* — Base | Management

service-id — 1 to 2147483647

Default Base

service name

Specifies the service name for the VPRN. The name can be up to 64 characters in length. Note that CPM routing instances are not supported.

ip-int-name

Specifies the VPRN interface on which to receive NTP broadcast packets. If the string contains special characters (such as #, $, or spaces) the entire string must be enclosed within double quotes.

authenticate

Specifies whether or not to require authentication of NTP PDUs. When enabled, NTP PDUs are authenticated upon receipt.

Platforms

All

8.118 bsm-check-rtr-alert

bsm-check-rtr-alert

Syntax

[**no**] **bsm-check-rtr-alert**

Context

[Tree] (config>service>vprn>pim>if bsm-check-rtr-alert)

Full Context

configure service vprn pim interface bsm-check-rtr-alert

Description

This command enables the checking of router alert option in the bootstrap messages received on this interface.

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Default

no bsm-check-rtr-alert

Platforms

All

bsm-check-rtr-alert

Syntax

[**no**] **bsm-check-rtr-alert**

Context

[Tree] (config>router>pim>interface bsm-check-rtr-alert)

Full Context

configure router pim interface bsm-check-rtr-alert

Description

This command enables the checking of the router alert option in the bootstrap messages received on this interface.

The **no** form of this command disables accepting BSM packets without the router alert option.

Default

no bsm-check-rtr-alert

Platforms

All

8.119 bsr

bsr

Syntax

bsr {**unicast** | **spmsi**}

no bsr

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive bsr)

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Full Context

configure service vprn mvpn provider-tunnel inclusive bsr

Description

This command configures the type of BSR signaling used.

The no form of this command restores the default.

Default

no bsr

Parameters

unicast

BSR PDUs are sent/forwarded using unicast PDUs (default).

spmsi

BSR PDUs are sent/forwarded using S-PMSI full mesh.

Platforms

All

bsr

Syntax

bsr [**detail**]

no bsr

Context

[Tree] (debug>router>pim bsr)

Full Context

debug router pim bsr

Description

This command enables/disables debugging for the PIM bootstrap mechanism.

The **no** form of the command disables debugging.

Parameters

detail

Debugs detailed information on the PIM bootstrap mechanism.

Platforms

All

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8.120 bsr-candidate

bsr-candidate

Syntax

bsr-candidate

Context

[Tree] (config>service>vprn>pim>rp bsr-candidate)

[Tree] (config>service>vprn>pim>rp>ipv6 bsr-candidate)

Full Context

configure service vprn pim rp bsr-candidate

configure service vprn pim rp ipv6 bsr-candidate

Description

Commands in this context configure Candidate Bootstrap (BSR) parameters.

Either **bsr-candidate** for IPv4 or **auto-rp-discovery** can be configured; the two mechanisms cannot be enabled together. **bsr-candidate** for IPv6 and **auto-rp-discovery** for IPv4 can be enabled together.

The **no** form of this command disables BSR.

Default

no bsr-candidate

Platforms

All

bsr-candidate

Syntax

bsr-candidate

Context

[Tree] (config>router>pim>rp>ipv6 bsr-candidate)

[Tree] (config>router>pim>rp bsr-candidate)

Full Context

configure router pim rp ipv6 bsr-candidate

configure router pim rp bsr-candidate

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Description

Commands in this context configure Candidate Bootstrap (BSR) parameters.

Either **bsr-candidate** for IPv4 or **auto-rp-discovery** can be configured; the two mechanisms cannot be enabled together. **bsr-candidate** for IPv6 and **auto-rp-discovery** for IPv4 can be enabled together.

Default

bsr-candidate shutdown

Platforms

All

8.121 buffer-allocation

buffer-allocation

Syntax

buffer-allocation min *percentage* **max** *percentage*

no buffer-allocation

Context

[Tree] (config>card>fp>egress>wred-queue-control buffer-allocation)

Full Context

configure card fp egress wred-queue-control buffer-allocation

Description

The buffer-allocation command defines the amount of buffers that will be set aside for WRED queue buffer pools. Note that the **min** *percentage* and max *percentage* parameters must be set to the same value. The forwarding plane protects against cross application buffer starvation by implementing a hierarchy of buffer pools. At the top of the hierarchy are mega-pools. Mega-pools are used to manage buffers at a system application level. Two mega-pools are currently used by the system. The first (default) mega-pool services all non-WRED type queues and when WRED queues are not enabled will contain all available forwarding plane queue buffers. When WRED queuing is enabled, the second mega-pool (the WRED mega-pool) is given buffers from the default mega-pool based on the buffer-allocation command.

The mega-pools provide buffers to the second tier buffer pools. The default mega-pool services all default pools. As the name implies, the WRED mega-pool services all the WRED buffer pools created for the WRED queues. The WRED mega-pool allows each WRED queue pool to be configured to an appropriate size while allowing the sum of the WRED queue pool sizes to oversubscribe the total amount set aside for WRED queue buffering without affecting the queues using the default pools.

No buffers are allocated to the WRED mega-pool until the wred-queue-control shutdown command is set to no shutdown. When the shutdown command is executed, all buffers allocated to the WRED mega-pool are returned to the default mega-pool and all WRED queues are returned to their default buffer pool.

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The **no** form of this command immediately restores the default min and max percentage values for sizing the WRED mega-pool.

Default

buffer-allocation min 25.00 max 25.00

Parameters

min *percentage*

Specifies that the required keyword defines the minimum percentage of total egress forwarding plane queue buffers that will be applied to the WRED mega-pool. The value given for *percentage* must be less than or equal to the value given for the **max** *percentage*. Percentages are defined with an accuracy of hundredths of a percent in the nn.nn format (15.65 = 15.65%).

Values 0.00 to 99.99

Default 25.00

max *percentage*

Specifies that the required keyword defines the maximum percentage of total egress forwarding plane queue buffers that may be applied to the WRED mega-pool. The value given for *percentage* must be equal to or greater than the value given for the **min** *percentage*. Percentages are defined with an accuracy of hundredths of a percent in the nn.nn format (15.65 = 15.65%).

Values 0.01 to 99.99

Default 25.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.122 buffer-type

buffer-type

Syntax

buffer-type *buffer-type*

Context

[Tree] (config>app-assure>group>evt-log buffer-type)

Full Context

configure application-assurance group event-log buffer-type

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Description

This command specifies the type of buffer to be used in the event log.

Default

buffer-type linear

Parameters

buffer-type

Specifies the type of event type.

Values **linear** — Specifies a linear buffer which once full will stop recording events until it is cleared.

circular — Specifies a circular buffer whereby older entries will be overwritten by newer entries.

syslog—Specifies that events are stored offline on a syslog host.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

8.123 buffer-unresolved-packets

buffer-unresolved-packets

Syntax

[**no**] **buffer-unresolved-packets**

Context

[Tree] (config>system>ip buffer-unresolved-packets)

Full Context

configure system ip buffer-unresolved-packets

Description

This command configures the buffering of unresolved IPv4 and IPv6 packets waiting for an address resolution process (ARP) or neighbor discovery (ND) reply.

The **no** form of this command configures the system to discard IPv4 and IPv6 traffic needing a destination resolution that is buffered while waiting for a response to avoid any potential of out-of-order delivery of packets to the resolved destination. As a result, after the ARP or ND entry is populated, the system delivers only newly received packets in order.

Default

buffer-unresolved-packets

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Platforms

All

8.124 buffering

buffering

Syntax

[**no**] **buffering**

Context

[Tree] (config>call-trace buffering)

Full Context

configure call-trace buffering

Description

This command specifies whether messages should be buffered for sessions where the trace key is not yet known, for example, a username for a PPP session. When the key indicates a match for a traced session, the router sends the buffered messages immediately. If the key does not match a trace, the router discards the buffered messages. By default, the router does not buffer any message and thus initial messages may not be traced.

The **no** form of this command reverts to the default value.

Default

no buffering

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

buffering

Syntax

[**no**] **buffering**

Context

[Tree] (config>aaa>radius-srv-plcy buffering)

Full Context

configure aaa radius-server-policy buffering

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Description

Commands in this context configure RADIUS message buffering.

The **no** form of this command disables RADIUS message buffering.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

8.125 build-packet

build-packet

Syntax

build-packet

Context

[Tree] (debug>oam build-packet)

[Tree] (config>test-oam build-packet)

Full Context

debug oam build-packet

configure test-oam build-packet

Description

Commands in this context configure packet header templates or the OAM test packet to be used when running an **oam find-egress** test.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.126 bundle

bundle

Syntax

bundle *bundle-name* [**create**]

no bundle *bundle-name*

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Context

[Tree] (config>mcast-mgmt>mcast-info-plcy bundle)

Full Context

configure mcast-management multicast-info-policy bundle

Description

This command creates or edits channel bundles within a multicast information policy. Bundles are used for two main purposes. First, bundles are used by the multicast CAC function to group multicast channels into a common bandwidth context. The CAC function limits the ability for downstream nodes to join multicast channels based on the egress interfaces ability to handle the multicast traffic. Bundling allows multicast channels with common preference or application to be managed into a certain percentage of the available bandwidth.

The second function of bundles is to provide a simple provisioning mechanism. Each bundle within a multicast information policy has a set of default channel parameters. If each channel provisioned in to the bundle can use the default parameters for the bundle, the provisioning and configuration storage requirements are minimized.

Up to 31 explicit bundles may be defined within a multicast information policy (32 including the default bundle).

Once a bundle is created, the default channel parameters should be configured and the individual channel ranges should be defined. Within each channel range, override parameters may be defined that override the default channel parameters. Further overrides are supported within the channel range based on explicit source overrides.

A bundle can be deleted at any time (except for the default bundle). When a bundle is deleted, all configuration information within the bundle is removed including multicast channel ranges. Any multicast records using the bundle should be reevaluated. Multicast CAC and ECMP managers should also be updated.

Default Bundle

Each multicast information policy contains a bundle named **default**. The default bundle cannot be deleted. Any multicast channel that fails to match a channel range within an explicit bundle is automatically associated with the default bundle.

The **no** form of this command removes a bundle from the multicast information policy. The default bundle cannot be removed from the policy.

Default

bundle "default”

Parameters

bundle-name

Specifies bundle expressed as an ASCII string with up to 16 characters and must follow normal naming conventions. If bundle-name already exists, the system enters the bundle context for editing purposes. If bundle-name does not exist, the system creates the defined bundle in the policy and enter the bundle context for editing purposes.

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create

The create keyword is required if creating a new multicast information policy bundle when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the bundle name already exists.

Platforms

All

bundle

Syntax

bundle [**detail**]

no bundle

Context

[Tree] (debug>router>rsvp>packet bundle)

Full Context

debug router rsvp packet bundle

Description

This command debugs bundle events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about bundle events.

Platforms

All

bundle

Syntax

bundle *bundle-name* [**create**]

no bundle *bundle-name*

Context

[Tree] (config>router>mcac>policy bundle)

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Full Context

configure router mcac policy bundle

Description

This command creates the context that enables the grouping of MCAC group addresses into bundles.

When a number of multicast groups or BTV channels are grouped into a single bundle, then policing, if a join for a particular MC-group (BTV channel), can depend on whether:

1. There is enough physical bandwidth on the egress interface.
2. The given channel is a mandatory or optional channel.
   - If optional, is there sufficient bandwidth according to the policy settings for the relevant interface.
   - If optional, is there sufficient bandwidth within the bundle.

The **no** form of this command removes the named bundle from the configuration.

Parameters

bundle-name

Specifies the multicast bundle name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be no enclosed within double quotes.

create

Mandatory keyword when creating a bundle instance. The create keyword requirement can be enabled or disabled in the **environment**>**create** context.

Platforms

All

8.127 burst-limit

burst-limit

Syntax

burst-limit {**default** | *size* [**bytes** | **kilobytes**]}

no burst-limit

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue burst-limit)

Full Context

configure service vprn interface sap egress queue-override queue burst-limit

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Description

The queue **burst-limit** command defines an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue shaping rate.

The **no** form of this command restores the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies. When specified within a queue-override queue context, any current burst limit override for the queue is removed and the queue burst limit is controlled by its defining policy.

Default

no burst-limit

Parameters

default

Reverts the queues burst limit to the system default value.

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** qualifier must be added following size.

Values 0 to 13671 kilobytes

0 to 14000000 bytes

Default No default for *size*; use the **default** keyword to specify default burst limit.

bytes

Specifies that the value given for *size* must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for *size* must be interpreted as the burst limit in kilobytes. If neither bytes, nor kilobytes is specified, the default qualifier is **kilobytes**.

Platforms

All

burst-limit

Syntax

burst-limit {**default** | *size* [**bytes** | **kilobytes**]}

no burst-limit

Context

[Tree] (config>port>ethernet>access>egr>qgrp>qover>q burst-limit)

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Full Context

configure port ethernet access egress queue-group queue-overrides queue burst-limit

Description

The queue **burst-limit** command overrides the shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate.

The **no** form of this command removes the current burst limit override for the queue. The queue's burst limit is controlled by its defining template.

Default

no burst-limit

Parameters

default

Reverts the queue's burst limit to the system default value.

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** qualifier must be added following size.

Values 1 to 13671 kilobytes

1 to 14000000 bytes

Default No default for *size*; use the **default** keyword to specify default burst limit.

bytes

Specifies that the value given for *size* must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for *size* must be interpreted as the burst limit in kilobytes. If neither **bytes** nor **kilobytes** is specified, the default qualifier is **kilobytes**.

Platforms

All

burst-limit

Syntax

burst-limit *size* [**bytes** | **kilobytes**]

no burst-limit

Context

[Tree] (config>service>cpipe>sap>egress>queue-override>queue burst-limit)

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[Tree] (config>service>epipe>sap>egress>queue-override>queue burst-limit)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue burst-limit)

Full Context

configure service cpipe sap egress queue-override queue burst-limit

configure service epipe sap egress queue-override queue burst-limit

configure service ipipe sap egress queue-override queue burst-limit

Description

The queue **burst-limit** command defines an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate.

The **no** form of this command restores the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies. When specified within a queue-override queue context, any current burst limit override for the queue is removed and the queue's burst limit is controlled by its defining policy.

Default

no burst-limit

Parameters

default

Reverts the queue's burst limit to the system default value.

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** qualifier must be added following size.

Values 1 to 13671 kilobytes

14000000 bytes

Default No default for *size*; use the **default** keyword to specify default burst limit.

bytes

Specifies that the value given for *size* must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for *size* must be interpreted as the burst limit in kilobytes. If neither bytes nor kilobytes is specified, the default qualifier is **kilobytes**.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue burst-limit

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All

- configure service epipe sap egress queue-override queue burst-limit
- configure service ipipe sap egress queue-override queue burst-limit

burst-limit

Syntax

burst-limit {**default** | *size* [**bytes** | **kilobytes**]}

no burst-limit

Context

[Tree] (config>service>vpls>sap>egress>queue-override>queue burst-limit)

Full Context

configure service vpls sap egress queue-override queue burst-limit

Description

The queue **burst-limit** command defines an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate. The **no** form of this command restores the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies. When specified within a queue-override queue context, any current burst limit override for the queue is removed and the queue's burst limit is controlled by its defining policy.

Default

no burst-limit

Parameters

default

Reverts the queue's burst limit to the system default value.

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and by default is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** qualifier must be added following size.

Values 1 to 13671 kilobytes

1 to 14000000 bytes

Default No default for *size*; use the **default** keyword to specify default burst limit.

bytes

Specifies that the value given for size must be interpreted as the burst limit in bytes.

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kilobytes

Specifies that the value given for size must be interpreted as the burst limit in kilobytes. If neither bytes nor kilobytes is specified, the default qualifier is **kilobytes**.

Platforms

All

burst-limit

Syntax

burst-limit {**default** | *size* [**bytes** | **kilobytes**]}

no burst-limit

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue burst-limit)

Full Context

configure service ies interface sap egress queue-override queue burst-limit

Description

The queue **burst-limit** command defines an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queues shaping rate.

The **no** form of this command restores the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies. When specified within a queue-override queue context, any current burst limit override for the queue is removed and the queue's burst limit is controlled by its defining policy.

Default

no burst-limit

Parameters

default

Reverts the queues burst limit to the system default value.

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** qualifier must be added following size.

Values 0 to 13671 kilobytes

0 to or 14000000 bytes

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Default No default for *size*; use the **default** keyword to specify default burst limit.

bytes

Specifies that the value given for *size* must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for *size* must be interpreted as the burst limit in kilobytes. If neither bytes, nor kilobytes is specified, the default qualifier is **kilobytes**.

Platforms

All

burst-limit

Syntax

burst-limit *size* [**bytes** | **kilobytes**]

no burst-limit

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override burst-limit)

Full Context

configure service vprn interface sap egress queue-override burst-limit

Description

The queue **burst-limit** command defines an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate.

The **no** form of this command restores the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies. When specified within a queue-override queue context, any current burst limit override for the queue is removed and the queue's burst limit is controlled by its defining policy.

Default

no burst-limit

Parameters

default

Reverts the queue's burst limit to the system default value.

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the

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burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** qualifier must be added following size.

Values 1 to 14000000

bytes

Specifies that the value given for *size* must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for *size* must be interpreted as the burst limit in kilobytes. If neither bytes nor kilobytes is specified, the default qualifier is **kilobytes**.

Platforms

All

burst-limit

Syntax

burst-limit *size* [**bytes** | **kilobytes**]

no burst-limit

Context

[Tree] (config>qos>sap-ingress>queue burst-limit)

Full Context

configure qos sap-ingress queue burst-limit

Description

The **queue burst-limit** command is used to define an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate.

The **burst-limit** command is supported under the sap-ingress and sap-egress QoS policy queues. The command is also supported under the ingress and egress queue-group-templates queues.

The **no** form of this command is used to restore the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies or queue group templates. When specified within a **queue-override queue** context, any current burst limit override for the queue will be removed and the queue's burst limit will be controlled by its defining policy or template.

Default

no burst-limit

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Parameters

size

Specifies an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the byte qualifier must be added following size.

Values 1 to 13,671 kbytes or 14,000,000 bytes

Default No default for size; use the default keyword to specify default burst limit.

bytes

Specifies that the value given for size must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for size must be interpreted as the burst limit in kilobytes. If neither bytes nor kilobytes is specified, the default qualifier is kilobytes.

Platforms

All

burst-limit

Syntax

burst-limit {**default** | *size* [**bytes** | **kilobytes**]}

burst-limit delay-time *microseconds*

no burst-limit

Context

[Tree] (config>qos>sap-egress>queue burst-limit)

Full Context

configure qos sap-egress queue burst-limit

Description

The **queue burst-limit** command configures an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate.

The **delay-time** command option configures the burst time as a function of the expected delay. The system automatically translates this configuration into kilobytes based on the administrative rate of the queue parent (for example, the port, scheduler, or aggregate-shaper).

The **no** form of this command restores the default burst limit to the specified queue. This is equivalent to specifying **burst-limit default** within the QoS policies or queue group templates.

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Default

no burst-limit

Parameters

default

Reverts the burst limit of the queue to the system default value.

size

Specifies an explicit burst limit size. The value is expressed as an integer and, by default, is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the **bytes** keyword must be added following *size*.

Values 1 to 13671 kilobytes
1 to 14,000,000 bytes

bytes

Specifies that the configured size value must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the configure size value must be interpreted as the burst limit in kilobytes. If neither bytes nor kilobytes is specified, the default qualifier is **kilobytes**.

microseconds

Specifies the burst limit as a function of delay time.

Values 0 to 1000000

Platforms

All

burst-limit

Syntax

burst-limit {*size* [**bytes** | **kilobytes**] | **default**}

no burst-limit

Context

[Tree] (config>qos>qgrps>ing>qgrp>queue burst-limit)

[Tree] (config>qos>qgrps>egr>qgrp>queue burst-limit)

Full Context

configure qos queue-group-templates ingress queue-group queue burst-limit

configure qos queue-group-templates egress queue-group queue burst-limit

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Description

The queue burst-limit command is used to define an explicit shaping burst size for a queue. The configured size defines the shaping leaky bucket threshold level that indicates the maximum burst over the queue's shaping rate.

The burst-limit command is supported under the sap-ingress and sap-egress QoS policy queues. The command is also supported under the ingress and egress queue-group-templates queues.

The **no** form of this command is used to restore the default burst limit to the specified queue. This is equivalent to specifying burst-limit default within the QoS policies or queue group templates. When specified within a queue-override queue context, any current burst limit override for the queue will be removed and the queue's burst limit will be controlled by its defining policy or template.

Parameters

size

When a numeric value is specified (size), the system interprets the value as an explicit burst limit size. The value is expressed as an integer and by default is interpreted as the burst limit in kilobytes. If the value is intended to be interpreted in bytes, the byte qualifier must be added following size.

Values 1 to 14,000 (14,000 or 14,000,000 depending on bytes or kilobytes)

bytes

Specifies that the value given for size must be interpreted as the burst limit in bytes.

kilobytes

Specifies that the value given for size must be interpreted as the burst limit in kilobytes.

Platforms

All

8.128 bw-activity

bw-activity

Syntax

bw-activity {**use-admin-bw** | **dynamic** [**falling-delay** *seconds*]} [**black-hole-rate** *kbps*]

no bw-activity

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel bw-activity)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle bw-activity)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>source-override bw-activity)

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Full Context

configure mcast-management multicast-info-policy bundle channel bw-activity

configure mcast-management multicast-info-policy bundle bw-activity

configure mcast-management multicast-info-policy bundle source-override bw-activity

Description

This command defines how the multicast ingress path manager determines the amount of bandwidth required by a multicast channel. The default setting is dynamic which causes the bandwidth manager to use the bandwidth policies dynamic rate table entries to determine the current rate. The alternative setting is **use-admin-bw** which causes the bandwidth manager to use the configured admin-bw associated with the channel. The **use-admin-bw** setting also requires an active and inactive threshold to be defined which allows the bandwidth manager to determine when the channel is actively using ingress path bandwidth and when the channel is idle.

The **use-admin-bw** setting requires that the channel be configured with an admin-bw value that is not equal to 0 in the same context as the **bw-activity** command using the setting. Once a context has the **use-admin-bw** command configured, the context's admin-bw value cannot be set to 0 and the no admin-bw command fails.

This command also supports an optional **black-hole-rate** *kbps* command that defines at which current rate a channel should be placed in the black-hole state. This is intended to provide a protection mechanism against multicast channels that exceed a reasonable rate and cause outages in other channels.

The **no** form of this command restores the default bandwidth activity monitoring setting (dynamic or null depending on the context).

Parameters

use-admin-bw | dynamic

The **use-admin-bw** and **dynamic** keywords are mutually exclusive and one must be specified when executing the **bw-activity** command. The **use-admin-bw** keyword indicates the channels current ingress bandwidth should be derived from the **admin-bw** setting. The **admin-bw** setting must not currently be set to 0 for the **use-admin-bw** setting to succeed. The **dynamic** keyword indicates that the multicast ingress path manager should use the dynamic rate table (as defined in the bandwidth-policy) to derive the channels current ingress rate.

falling-delay *seconds*

Specifies the value the bandwidth manager uses the falling-delay threshold to hold on to the previous highest bandwidth until the delay time has expired while operating in dynamic bandwidth mode. This allows the bandwidth manager to ignore momentary drops in channel bandwidth.

Values 10 to 3600

Default 30

Bundle default:	dynamic
Channel default:	Null (undefined)
Source-override default:	Null (undefined)

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black-hole-rate *kbps*

Specifies a rate at which a channel is placed in the black-hole state. This parameter is expressed, in kb/s, as an integer and represents multiples of 1,000 bits per second.

Values 1 to 40000000

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

8.129 bypass-resignal-timer

bypass-resignal-timer

Syntax

bypass-resignal-timer *minutes*

no bypass-resignal-timer

Context

[Tree] (config>router>mpls bypass-resignal-timer)

Full Context

configure router mpls bypass-resignal-timer

Description

This command triggers the periodic global re-optimization of all dynamic bypass LSP paths associated with RSVP P2P LSP. The operation is performed at each expiry of the user configurable bypass LSP resignal timer.

When this command is enabled, MPLS requests CSPF for the best path for each dynamic bypass LSP originated on this node. The constraints, hop-limit, SRLG and admin-group constraints, of the first associated LSP primary path that originally triggered the signaling of the bypass LSP must be satisfied. To do this, MPLS saves this initial Path State Block (PSB) of that LSP primary path, even if the latter is torn down.

CSPF first updates the SRLG membership of the current bypass LSP path and checks if the path violates the SRLG constraint of the initial PSB. It then attempts a new path computation for the bypass LSP using the initial PSB constraints. If CSPF returns no path or returns a new path with a cost that is lower than the current path, MPLS does not signal the new bypass path. If CSPF returns a new path with a cost that is lower than the current one, MPLS signals it. Also, if the new bypass path is SRLG strict disjoint with the primary path of the original PSB while the current path is SRLG loose disjoint, the manual bypass path is resignaled regardless of cost comparison.

Once the new path is successfully signaled, MPLS evaluates each PSB of each PLR (that is, each unique avoid-node or avoid-link constraint) associated with the current bypass LSP path to check if the corresponding LSP primary path constraints are still satisfied by the new bypass LSP path. If so, the PSB association is moved to the new bypass LSP.

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Each PSB for which the constraints are not satisfied remains associated with the PLR on the current bypass LSP and is checked at the next timer or manual bypass re-optimization. Additionally, if SRLG FRR loose disjointness is configured using the **configure router mpls srlg-frr** command and the current bypass LSP is SRLG disjoint with a primary path while the new bypass LSP is not SRLG disjoint, the PSB association is not moved. When CSPF does not return a new bypass path or it returns a less optimal one, the PSBs remain associated with the current bypass path. However, it is possible that CSPF found the current bypass LSP path no longer satisfies the SRLG constraint of one or more PLRs after the update of the current path SRLG information. In that case, MPLS detaches from current bypass path the PSB associations of these PLRs. These orphaned PSBs are re-evaluated by the FRR background task which checks unprotected PSBs on a regular basis and following the same above procedure.

If a specific PLR associated with a bypass LSP is active, the corresponding PSBs remain associated with the current PLR until the Global Revertive Make-Before-Break (MBB) tears down all corresponding primary paths, which also causes the current PLR to be removed.

Note:
While it is in the preceding state, the older PLR does not get any new PSB association until the specific PLR with an active bypass LSP is removed. When the last PLR is removed, the older bypass LSP is torn down.

This feature is not supported with inter-area dynamic bypass LSP and bypass LSP protecting S2L paths of a P2MP LSP.

The **no** form of this command disables the periodic global re-optimization of dynamic bypass LSP paths.

Default

no bypass-resignal timer.

Parameters

minutes

Specifies the time, in minutes, MPLS waits before attempting to resignal dynamic bypass LSP paths originated on the system.

Values 1 to 10080

Platforms

All

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9 c Commands – Part I

9.1 c-mcast-signaling

c-mcast-signaling

Syntax

c-mcast-signaling {**bgp** | **pim**}

no c-mcast-signaling

Context

[Tree] (config>service>vprn>mvpn c-mcast-signaling)

Full Context

configure service vprn mvpn c-mcast-signaling

Description

This command specifies BGP or PIM, for PE-to-PE signaling of CE multicast states. When this command is set to PIM and neighbor discovery by BGP is disabled, PIM peering will be enabled on the inclusive tree.

Changes may only be made to this command when the mvpn node is shutdown.

The **no** form of this command reverts it back to the default.

Default

c-mcast-signaling bgp

Parameters

bgp

Specifies to use BGP for PE-to-PE signaling of CE multicast states. Auto-discovery must be enabled.

pim

Specifies to use PIM for PE-to-PE signaling of CE multicast states.

Platforms

All

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9.2 c-tag

c-tag

Syntax

c-tag

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth c-tag)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet c-tag

Description

Commands in this context configure the customer VLAN tag (C-tag) information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

9.3 ca-name

ca-name

Syntax

ca-name *ca-name*

no ca-name

Context

[Tree] (config>anysec>mpls>svc-enc>enc-grp ca-name)

Full Context

configure anysec mpls service-encryption encryption-group ca-name

Description

This command configures the connectivity association (CA) used for the specified encryption group and its MKA. The CA can be configured in the **configure macsec** context.

The **no** form of this command removes the CA.

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Default

no ca-name

Parameters

ca-name

Specifies the connectivity association name, up to 64 characters.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

ca-name

Syntax

ca-name *ca-name*

no ca-name

Context

[Tree] (config>port>ethernet>dot1x>macsec>sub-port ca-name)

Full Context

configure port ethernet dot1x macsec sub-port ca-name

Description

This command configures the Connectivity Association (CA) linked to this MACsec sub-port. The specified CA provides the MACsec parameter to be used or negotiated with other peers.

The **no** form of this command removes the CA from the MACsec sub-port.

Parameters

ca-name

Specifies the appropriate ca to be used under this MACsec sub-port, up to 32 characters.

Platforms

All

ca-name

Syntax

ca-name *ca-name*

no ca-name

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Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp ca-name)

Full Context

configure anysec mpls tunnel-encryption encryption-group ca-name

Description

This command configures the CA used for this encryption group.

Note: A CA must be configured with the keyword **anysec** for use in the encryption group.

The **no** form of this command removes the CA.

Parameters

ca-name

Specifies the CA name for use under this ANYsec subport, up to 32 characters.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

9.4 ca-profile

ca-profile

Syntax

[**no**] **ca-profile** *name*

Context

[Tree] (config>ipsec>cert-profile>entry>send-chain ca-profile)

Full Context

configure ipsec cert-profile entry send-chain ca-profile

Description

This command specifies a CA certificate in the specified **ca-profile** to be sent to the peer.

Multiple configurations (up to seven) of this command are allowed in the same entry.

Parameters

name

Specifies the profile name up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ca-profile

Syntax

ca-profile *name* [**create**]

no ca-profile *name*

Context

[Tree] (config>system>security>pki ca-profile)

Full Context

configure system security pki ca-profile

Description

This command creates a new **ca-profile** or enters the configuration context of an existing **ca-profile**. Up to 128 ca-profiles can be created in the system. A **shutdown** of the **ca-profile** will not affect the current up and running **ipsec-tunnel** or **ipsec-**gw that is associated with the **ca-profile**. However, authentication afterwards will fail with a **shutdown ca-profile**.

Executing a **no shutdown** command in this context causes the system to reload the configured cert-file and crl-file.

A **ca-profile** can be applied under the **ipsec-tunnel** or **ipsec-gw** configuration.

The **no** form of this command removes the name parameter from the configuration. A ca-profile cannot be removed until all the associated entities (ipsec-tunnel/gw) have been removed.

Parameters

name

Specifies the name of the **ca-profile** up to 32 characters.

create

Keyword used to create a new **ca-profile**. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

ca-profile

Syntax

[**no**] **ca-profile** *profile-name*

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Context

[Tree] (debug>certificate>ocsp ca-profile)

[Tree] (debug>certificate>auto-crl-update ca-profile)

[Tree] (debug>certificate>cmpv2 ca-profile)

Full Context

debug certificate ocsp ca-profile

debug certificate auto-crl-update ca-profile

debug certificate cmpv2 ca-profile

Description

This command debugs output of the specified CA profile.

- Protection method of each message is logged.
- All HTTP messages are logged. Format allows offline analysis using Wireshark.
- In the event of failed transactions, saved certificates are not deleted from file system for further debug and analysis.
- The system allows CMPv2 debugging for multiple ca-profile at the same time.

Parameters

profile-name

Specifies the name of the CA profile, up to 32 characters.

Platforms

All

ca-profile

Syntax

[**no**] **ca-profile** *name*

Context

[Tree] (config>system>security>tls>cert-profile>entry>send-chain ca-profile)

Full Context

configure system security tls cert-profile entry send-chain ca-profile

Description

This command enables a certificate authority (CA) certificate in the specified CA profile to be sent to the peer. Up to seven configurations of this command are permitted in the same entry.

The **no** form of the command disables the transmission of a CA certificate from the specified CA profile.

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Parameters

name

Specifies the name of the certificate authority profile, up to 32 characters in length.

Platforms

All

9.5 cacert

cacert

Syntax

cacert est-profile *name* **output** *output-cert-filename* [**force**]

Context

[Tree] (admin>certificate>est cacert)

Full Context

admin certificate est cacert

Description

This command downloads a Certificate Authority (CA) certificate from an EST server specified by the EST profile. The downloaded certificate is imported and saved with the filename specified by the *output-cert-filename*.

Parameters

name

Specifies the EST profile name, up to 32 characters

output-cert-filename

Specifies the filename of the resulting CA certificate, up to 200 characters

force

Overwrites the existing file with same filename

Platforms

All

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9.6 cacerts

cacerts

Syntax

cacerts *path*

no cacerts

Context

[Tree] (config>system>security>pki>est-profile>request-path cacerts)

Full Context

configure system security pki est-profile request-path cacerts

Description

This command configures the server path for the distribution of CA certificates.

The **no** form of this command reverts to the default value.

Default

no cacerts

Parameters

path

Specifies the path for the distribution of CA certificates, up to 255 characters. The path must start with a forward slash (/).

Platforms

All

9.7 cache

cache

Syntax

cache [**create**]

no cache

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Context

[Tree] (config>python>py-policy cache)

Full Context

configure python python-policy cache

Description

Commands in this context configure the limits of the caching API inside the Python scripts.

The **no** form of this command removes the configured cache parameters from the configuration.

Parameters

create

This keyword is required when first creating the Python policy. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

All

cache

Syntax

cache

Context

[Tree] (config>router>radius-proxy>server cache)

[Tree] (config>service>vprn>radius-proxy>server cache)

Full Context

configure router radius-proxy server cache

configure service vprn radius-proxy server cache

Description

Commands in this context configure the cache under radius-proxy server. The cache contains per-subscriber authentication information learned from RADIUS authentication messages, and is used to authorize subsequent DHCP requests.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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9.8 cache-reset

cache-reset

Syntax

[**no**] **cache-reset**

Context

[Tree] (debug>router>rpki-session>packet cache-reset)

Full Context

debug router rpki-session packet cache-reset

Description

This command enables debugging for cache reset RPKI packets.

The **no** form of this command disables debugging for cache reset RPKI packets.

Platforms

All

9.9 cache-response

cache-response

Syntax

[**no**] **cache-response**

Context

[Tree] (debug>router>rpki-session>packet cache-response)

Full Context

debug router rpki-session packet cache-response

Description

This command enables debugging for cache response RPKI packets.

The **no** form of this command disables debugging for cache response RPKI packets.

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Platforms

All

9.10 cache-size

cache-size

Syntax

cache-size *num-entries*

no cache-size

Context

[Tree] (config>cflowd cache-size)

Full Context

configure cflowd cache-size

Description

This command configures the maximum number of active flows to maintain in the flow cache table.

The **no** form of this command reverts the number of active entries to the default value.

Default

The default is hardware dependent.

Parameters

num-entries

Specifies the maximum number of entries maintained in the cflowd cache. The number depends on the CPM version.

Values Ranges are hardware dependent.

Platforms

All

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9.11 cak

cak

Syntax

cak *hex-string* [**hash** | **hash2** | **custom**]

no cak

Context

[Tree] (config>macsec>conn-assoc>static-cak>pre-shared-key cak)

Full Context

configure macsec connectivity-association static-cak pre-shared-key cak

Description

Specifies the connectivity association key (CAK) for a pre-shared key. Two values are derived from CAK.

- Key Encryption Key (KEK), this is used to encrypt the MKA and SAK (symmetric key used for data path PDUs) to be distributed between all members.
- Integrity Check Value (ICK), this is used to authenticate the MKA and SAK PDUs to be distributed between all members.

The **no** form of this command removes the value.

Parameters

hex-string

Specifies the value of the CAK.

Values up to 64 hexadecimal characters, 32 hexadecimal characters for 128-bit key and 64 hexadecimal characters for 256-bit key

hash

Keyword, specifying the hash scheme.

hash2

Keyword, specifying the hash scheme.

custom

Specifies the custom encryption for management interface.

Platforms

All

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9.12 calculate-counts

calculate-counts

Syntax

[**no**] **calculate-counts**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query calculate-counts)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query calculate-counts

Description

This command specifies whether or not to count the number of tunnels matching the specified criteria.

Note:
Do not enable this command if the expected number of tunnels is large.

Default

no calculate-counts

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.13 call-home

call-home

Syntax

call-home

Context

[Tree] (config>system>netconf call-home)

Full Context

configure system netconf call-home

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Description

Commands in this context configure NETCONF Call Home, which enables an SR OS node to trigger a NETCONF client to start a connection.

Platforms

All

9.14 call-trace

call-trace

Syntax

call-trace

Context

[Tree] (config call-trace)

Full Context

configure call-trace

Description

Commands in this context configure parameters related to the call trace debugging tool.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

call-trace

Syntax

call-trace

Context

[Tree] (debug call-trace)

Full Context

debug call-trace

Description

Commands in this context set up various call trace debug sessions.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.15 called-station-id

called-station-id

Syntax

[**no**] **called-station-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute called-station-id)

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute called-station-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute called-station-id

configure subscriber-mgmt authentication-policy include-radius-attribute called-station-id

Description

This command includes called station ID attributes.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

called-station-id

Syntax

[**no**] **called-station-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp called-station-id)

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp called-station-id)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp called-station-id

configure subscriber-mgmt diameter-application-policy nasreq include-avp called-station-id

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Description

This command includes called station ID attributes.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

called-station-id

Syntax

called-station-id [*called-station-id*]

no called-station-id

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>include-avp called-station-id)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp called-station-id

Description

This command configures the value of the called station ID AVP.

The **no** form of this command returns the command to the default setting.

Parameters

called-station-id

Specifies the called station ID, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

called-station-id

Syntax

[**no**] **called-station-id**

Context

[Tree] (config>ipsec>rad-acct-plcy>include called-station-id)

[Tree] (config>ipsec>rad-auth-plcy>include called-station-id)

Full Context

configure ipsec radius-accounting-policy include-radius-attribute called-station-id

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configure ipsec radius-authentication-policy include-radius-attribute called-station-id

Description

This command includes called station ID attributes.

The **no** form of this command excludes called station ID attributes.

Default

no called-station-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

called-station-id

Syntax

[**no**] **called-station-id**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes called-station-id)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes called-station-id)

Full Context

configure aaa isa-radius-policy auth-include-attributes called-station-id

configure aaa isa-radius-policy acct-include-attributes called-station-id

Description

This command includes called station id attributes.

The **no** form of the command excludes called station id attributes.

Default

no called-station-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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9.16 calling-number-format

calling-number-format

Syntax

calling-number-format *ascii-spec*

no calling-number-format

Context

[Tree] (config>router>l2tp calling-number-format)

[Tree] (config>service>vprn>l2tp calling-number-format)

Full Context

configure router l2tp calling-number-format

configure service vprn l2tp calling-number-format

Description

This command what string to put in the Calling Number AVP, for L2TP control messages related to a session in this L2TP protocol instance.

Default

calling-number-format "%S %s"

Parameters

ascii-spec

Specifies the L2TP calling number AVP.

Values

char-specification	ascii-spec	
char-specification	ascii-char | char-origin	
ascii-char	a printable ASCII character	
char-origin	%origin	
origin	S | c | r | s | l	
	S	system name, the value of TIMETRA-CHASSIS-MIB::tmnxChassisName
	c	Agent Circuit Id

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r	Agent Remote Id
s	SAP ID, formatted as a character string
l	Logical Line ID

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.17 calling-station-id

calling-station-id

Syntax

[**no**] **calling-station-id**

Context

[Tree] (config>aaa>l2tp-acct-plcy>include-radius-attribute calling-station-id)

Full Context

configure aaa l2tp-accounting-policy include-radius-attribute calling-station-id

Description

This command enables the inclusion of the **calling-station-id** attribute in RADIUS authentication requests and RADIUS accounting messages.

Default

no calling-station-id

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

calling-station-id

Syntax

[**no**] **calling-station-id**

Context

[Tree] (config>ipsec>rad-acct-plcy>include calling-station-id)

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[Tree] (config>ipsec>rad-auth-plcy>include calling-station-id)

Full Context

configure ipsec radius-accounting-policy include-radius-attribute calling-station-id

configure ipsec radius-authentication-policy include-radius-attribute calling-station-id

Description

This command enables the inclusion of the **calling-station-id** attribute in RADIUS authentication requests and RADIUS accounting messages.

Default

no calling-station-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

calling-station-id

Syntax

calling-station-id

calling-station-id {**llid** | **mac** | **remote-id** | **sap-id** | **sap-string**}

no calling-station-id

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute calling-station-id)

[Tree] (config>service>vprn>sub-if>grp-if>sap calling-station-id)

[Tree] (config>service>vpls>sap calling-station-id)

[Tree] (config>service>ies>if>sap calling-station-id)

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute calling-station-id)

[Tree] (config>service>ies>sub-if>grp-if>sap calling-station-id)

[Tree] (config>service>vprn>if>sap calling-station-id)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute calling-station-id

configure service vprn subscriber-interface group-interface sap calling-station-id

configure service vpls sap calling-station-id

configure service ies interface sap calling-station-id

configure subscriber-mgmt radius-accounting-policy include-radius-attribute calling-station-id

configure service ies subscriber-interface group-interface sap calling-station-id

configure service vprn interface sap calling-station-id

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Description

This command enables the inclusion of the **calling-station-id** attribute in RADIUS authentication requests and RADIUS accounting messages.

The **no** form of this command reverts to the default.

Default

calling-station-id sap-string

Parameters

llid

Specifies that the logical link identifier (LLID) is mapping from a physical to logical identification of a subscriber line and supplied by a RADIUS llid-server.

mac

Specifies that the MAC address is sent.

remote-id

Specifies that the remote ID is sent.

sap-id

Specifies that the SAP ID is sent.

sap-string

Specifies that the value is the inserted value set at the SAP level. If no **calling-station-id** value is set at the SAP level, the **calling-station-id** attribute will not be sent.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

calling-station-id

Syntax

calling-station-id [**type** {**llid** | **mac** | **remote-id** | **sap-id** | **sap-string**}]

no calling-station-id

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp calling-station-id)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp calling-station-id)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp calling-station-id

configure subscriber-mgmt diameter-application-policy gx include-avp calling-station-id

Description

This command includes the calling-station-id AVP in the specified format.

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The **no** form of this command reverts to the default.

Parameters

type

Specifies the format of the Calling-Station-ID AVP.

Values **llid** — The logical link identifier (LLID) is the mapping from a physical to logical identification of a subscriber line and supplied by a RADIUS llid-serv

mac — Specifies that the MAC address is sent.

remote-id — Specifies that the remote ID is sent

sap-id — Specifies that the sap-id is sent

sap-string — Specifies that the value is the inserted value set at the SAP level. If no **calling-station-id** value is set at the SAP level, the **calling-station-id** attribute will not be sent.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

calling-station-id

Syntax

[**no**] **calling-station-id**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes calling-station-id)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes calling-station-id)

Full Context

configure aaa isa-radius-policy acct-include-attributes calling-station-id

configure aaa isa-radius-policy auth-include-attributes calling-station-id

Description

This command enables the inclusion of the calling-station-id attribute in RADIUS authentication requests and RADIUS accounting messages.

Default

no calling-station-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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9.18 cancel-commit

cancel-commit

Syntax

[**no**] **cancel-commit**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization cancel-commit)

Full Context

configure system security profile netconf base-op-authorization cancel-commit

Description

This command enables the NETCONF <cancel-commit> RPC.

The **no** form of this command disables the RPC.

Default

no cancel-commit

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

9.19 candidate

candidate

Syntax

candidate

Context

[Tree] (candidate)

Full Context

candidate

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Description

Commands in this context edit candidate configurations.

Commands in the **candidate** CLI branch, except **candidate edit**, are available only when in edit-cfg mode.

Platforms

All

candidate

Syntax

[**no**] **candidate**

Context

[Tree] (config>system>netconf>capabilities candidate)

Full Context

configure system netconf capabilities candidate

Description

This command allows the SR OS NETCONF server to access the candidate configuration datastore. Configuring this command also enables using **commit** and **discard-changes**.

When **configure system management-interface configuration-mode** is set to **classic**, the candidate capability is disabled, even if this command is configured.

The **no** form of the command disables the SR OS NETCONF server from accessing the candidate datastore. If the candidate is disabled, requests that reference the candidate datastore return an error, and when a NETCONF client establishes a new session, the candidate capability is not advertised in the SR OS NETCONF Hello message.

Default

candidate

Platforms

All

9.20 candidate-path

candidate-path

Syntax

[**no**] **candidate-path** *candidate-path-name*

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Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy candidate-path)

Full Context

configure router p2mp-sr-tree p2mp-policy candidate-path

Description

This command configures a candidate path in the P2MP policy entry for the P2MP SR tree.

A P2MP SR policy can contain multiple candidate paths, which are redundant trees. Each candidate path represents a P2MP SR tree with its own traffic engineering constraints. Each candidate path has its own preference; the candidate path with the highest preference is the active P2MP SR tunnel.

The **no** form of this command removes the specified candidate path from the P2MP SR policy.

Parameters

candidate-path-name

Specifies the name of the candidate path, up to 32 characters.

Platforms

All

9.21 cannot-change-password

cannot-change-password

Syntax

[**no**] **cannot-change-password**

Context

[Tree] (config>system>security>user>console cannot-change-password)

Full Context

configure system security user console cannot-change-password

Description

This command allows a user the privilege to change their password for both FTP and console login.

To disable a user's privilege to change their password, use the **cannot-change-password** form of this command.

Note:
The **cannot-change-password** flag is not replicated when a user copy is performed. A new-password-at-login flag is created instead.

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Default

no cannot-change-password

Platforms

All

9.22 capability-advertisement

capability-advertisement

Syntax

[**no**] **capability-advertisement**

Context

[Tree] (config>router>pcep>pcc capability-advertisement)

[Tree] (config>router>pcep>pce capability-advertisement)

Full Context

configure router pcep pcc capability-advertisement

configure router pcep pce capability-advertisement

Description

Commands in this context configure the advertisement of an SR policy or multipath capability in the OPEN message.

The **no** form of this command disables the advertisement capability.

Default

capability-advertisement

Platforms

All

- configure router pcep pcc capability-advertisement

VSR-NRC

- configure router pcep pce capability-advertisement

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9.23 capacity-cost

capacity-cost

Syntax

capacity-cost *cost*

no capacity-cost

Context

[Tree] (config>app-assure>group>policy>app-profile capacity-cost)

Full Context

configure application-assurance group policy app-profile capacity-cost

Description

This command configures an application profile capacity cost. Capacity-Cost based load balancing allows a cost to be assigned to diverted SAPs (with the app-profile) and this is then used for load-balancing SAPs between ISAs as well as for a threshold that notifies the operator if/when capacity planning has been exceeded.

Default

capacity-cost 1

Parameters

cost

Specifies the profile capacity cost.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.24 captive-portal-api-url

captive-portal-api-url

Syntax

captive-portal-api-url *rdr-url-string*

no captive-portal-api-url

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm captive-portal-api-url)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm captive-portal-api-url)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt captive-portal-api-url

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt captive-portal-api-url

Description

This command specifies a URL for an RFC 8908 captive portal API server that is included in DHCP, RA, and DHCPv6 messages as described in RFC 8910. This command supports the same macro substitutions as the **configure subscriber-mgmt http-redirect-policy url** command.

This command is mutually exclusive with the **one-time-redirect** and **send-unrestricted-portal-url** commands in the same context.

When unconfigured, the WLAN-GW populates the URL in DHCP, RA, and DHCPv6 messages based on whether redirect is applied and the value of the **one-time-redirect** command.

The **no** form of this command removes the configuration.

Default

no captive-portal-api-url

Parameters

rdr-url-string

Specifies the HTTP redirect URL, up to 255 characters. This option can be used for any session.

Values The following macro substitutions may be used:

$URL — is always replaced by an empty string

$MAC — a string that represents the MAC address of the UE

$IP — a string that represents the IP address of the UE

Note: Nokia does not recommend using IP in multi-stack deployments, as this leads to different URLs in DHCP, RA, and DHCPv6 messages which is discouraged by RFC 8910.

$NASIP — a string that represents the RADIUS IP address of the ISA/ESA-VM

$NASIPV6 — a string that represents the RADIUS IPv6 address of the ISA/ESA-VM

$URLPRM — a string that represents the Application Assurance HTTP URL parameter of the UE

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.25 captive-redirect

captive-redirect

Syntax

captive-redirect

Context

[Tree] (config>app-assure>group>http-redirect captive-redirect)

Full Context

configure application-assurance group http-redirect captive-redirect

Description

This command configures the captive redirect capability for an HTTP redirect policy. HTTP redirect policies using captive redirect can be used in conjunction with a session filter policy and will terminate TCP flows in the ISA-AA card before reaching the Internet to redirect subscribers to the predefined redirect URL. Non-HTTP TCP flows are TCP reset. Captive redirect uses the provisioned VLAN id to send the HTTP response to subscribers; therefore this VLAN id must be properly assigned in the same VPN as the subscriber. The operator can select the URL arguments to include in the redirect URL using either a specific template id or by configuring the redirect URL using one of the supported macro substitution keywords.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.26 capture

capture

Syntax

capture [{**start** | **stop**}] [**url-suffix** *capture_filename_suffix*] [**timestamp**]

Context

[Tree] (debug>pcap capture)

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Full Context

debug pcap capture

Description

This command starts and stops the packet capture process for a specified PCAP session. To avoid reconfiguring the PCAP file URL for each capture, when you start the capture specify the option to append a URL suffix, a timestamp, or both, to each PCAP file to create a new filename.

Parameters

start

Starts the packet capture process and also starts or restarts the FTP or TFTP session. If the FTP or TFTP server is unreachable, the command prompt rejects further input until the retry mechanism times out after 24 seconds (four attempts of approximately six seconds each). If the filename (configured using the **configure mirror mirror-dest pcap** command) is unchanged between captures, the **capture** command overwrites the file content. To avoid this, when you start the capture process use the **url-suffix** option, the **timestamp** option, or both, to create a new filename.

stop

Stops the packet capture process and also stops the FTP or TFTP session. If the FTP or TFTP server is unreachable, the command prompt rejects further input until the retries time out after 24 seconds (four attempts of approximately six seconds each).

capture_filename _suffix

Specifies a URL suffix, up to 20 characters, that is added to each PCAP filename for the capture session, to avoid overwriting previous PCAP files. This option only applies when the **pcap start** option is used.

timestamp

Adds a timestamp to each PCAP filename for the capture session, to avoid overwriting previous PCAP files; for example, capture-filename__FRI JAN 24 08:38:58 2025 UTC.pcap.

Platforms

All

9.27 capture-sap

capture-sap

Syntax

capture-sap *sap-id* [**encap-val** *qtag*[.*qtag*]] [**mode** *mode*]

no capture-sap *sap-id*

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Context

[Tree] (debug>dynsvc>data-triggers capture-sap)

Full Context

debug dynamic-services data-triggers capture-sap

Description

This command enables or disables the generation of dynamic services data trigger debug events, such as:

- data trigger received
- authentication
- data trigger SAP created
- dynamic service SAP created
- dropped data trigger with drop reason such as data trigger exists or lockout active.

Multiple capture SAPs can be specified simultaneously.

Optionally, a single **encap-val** per **capture-sap** can be specified to limit the output of the debug events to the data trigger events with the specified encapsulation.

Optionally, the debug output can be restricted to dropped data trigger events only.

Parameters

sap-id

Specifies the dynamic services data trigger capture SAP for which debug events should be logged.

encap-val qtag[.qtag]

Optionally restrict the debug output to data trigger events with the specified encapsulation.

Values 1 to 4094

mode

Optionally restrict the debug output to specific events.

Values all—log all data trigger events

dropped-only—log only dropped data trigger events

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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9.28 card

card

Syntax

[**no**] **card** *slot-number*

Context

[Tree] (config card)

Full Context

configure card

Description

This mandatory command enables access to the chassis and context. In SR OS cards cover IOM, IMM, and XCM.

The **no** form of this command removes the card from the configuration. All associated ports, services, and MDAs must be shutdown.

Default

no card

Parameters

slot-number

Specifies the slot number of the card in the chassis. The maximum slot number is platform dependent. Refer to the hardware installation guides.

Values 1 to 10

Platforms

All

9.29 card-type

card-type

Syntax

card-type *card-type* [**level** *card-level*]

no card-type

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Context

[Tree] (config>card card-type)

Full Context

configure card card-type

Description

This mandatory command adds an IOM/XCM to the device configuration for the slot. The card type can be preprovisioned, meaning that the card does not need to be installed in the chassis.

A card must be provisioned before an MDA, connector, or port can be configured.

A card can only be provisioned in a slot that is vacant, meaning no other card can be provisioned (configured) for that particular slot. To reconfigure a slot position, use the **no** form of this command to remove the current information.

A card can only be provisioned in a slot if the card type is allowed in the slot. An error message is generated if an attempt is made to provision a card type that is not allowed.

If a card is inserted that does not match the configured card type for the slot, then a log event and facility alarm is raised. The alarm is cleared when the correct card type is installed or the configuration is modified.

A log event and facility alarm are is raised if an administratively enabled card is removed from the chassis. The alarm is cleared when the correct card type is installed or the configuration is modified. A log event is issued when a card is removed that is administratively disabled.

Because IMMs do not have the capability to install separate MDAs, the configuration of the MDA is automatic. This configuration only includes the default parameters such as default buffer policies. Commands to manage the MDA such as **shutdown** and so on, remain in the MDA configuration context.

Some card hardware can support two different firmware loads. One load includes the base Ethernet functionality, including 10G WAN mode, but does not include 1588 port-based timestamping. The second load includes the base Ethernet functionality and 1588 port-based timestamping, but does not include 10G WAN mode. These are identified as two card types that are the same, except for a "-ptp” suffix to indicate the second loadset; for example, *imm40-10gb-sfp* and *imm40-10gb-sfp-ptp*. A hard reset of the card occurs when switching between the two provisioned types.

An appropriate alarm is raised if a partial or complete card failure is detected. The alarm is cleared when the error condition ceases.

New generations of cards include variants controlled by hardware and software licensing. For these cards, the license level must be provisioned in addition to the card type. A card cannot become operational unless the provisioned license level matches the license level of the card installed into the slot. The set of license levels varies by card type.

The provisioned level controls aspects related to connector provisioning and the consumption of hardware egress queues and egress policers. Changes to the provisioned license level may be blocked if configuration exists that would not be permitted with the new target license level.

If the license level is not specified, the level is set to the highest license level for that card.

The **no** form of this command removes the card from the configuration.

Default

no card-type

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Parameters

card-type

Specifies the type of card to be configured and installed in that slot. Values for this attribute vary by platform and release. The release notes include a listing of all supported card-types and their CLI strings. In addition, the command can be queried to check which card-types are relevant for the active platform type. Some examples include iom4-e-b and imm-2pac-fp3.

card-level

Specifies the license level of the card, up to 32 characters. Possible values vary by card type.

Platforms

All

9.30 carrier-carrier-vpn

carrier-carrier-vpn

Syntax

[**no**] **carrier-carrier-vpn**

Context

[Tree] (config>service>vprn carrier-carrier-vpn)

Full Context

configure service vprn carrier-carrier-vpn

Description

This command configures a VPRN service to support a Carrier Supporting Carrier model. It should be configured on a network provider's CSC-PE device.

This command cannot be applied to a VPRN unless it has no SAP or spoke-SDP interfaces. Once this command has been entered one or more MPLS-capable CSC interfaces can be created in the VPRN.

The **no** form of this command removes the Carrier Supporting Carrier capability from a VPRN.

Default

no carrier-carrier-vpn

Platforms

All

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9.31 category

category

Syntax

category *category-name* [**create**]

no category *category-name*

Context

[Tree] (config>subscr-mgmt>cat-map category)

Full Context

configure subscriber-mgmt category-map category

Description

Commands in this context configure RADIUS credit control, Diameter credit control (Gy), Diameter Gx Usage Monitoring, or Idle-Timeout.

Up to sixteen categories can be configured per category map. The internal category for Gx session level Usage Monitoring is included in this limit. The instantiation of the internal category is controlled with the **gx-session-level-usage** command.

Parameters

category-name

Specifies the category name, up to 32 characters.

create

Keyword used to create a category instance. The **create** keyword can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

category

Syntax

category *category-name* [**create**]

no category *category-name*

Context

[Tree] (config>subscr-mgmt>sla-prof>cat-map category)

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Full Context

configure subscriber-mgmt sla-profile category-map category

Description

This command defines the category in the category map to be used for the idle timeout monitoring of subscriber hosts.

The **no** form of this command reverts to the default.

Parameters

category-name

Specifies the name, up to 32 characters, of the category where the queues and policers are defined for idle timeout monitoring of subscriber hosts.

create

Keyword used to create a category instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

category

Syntax

category *category* **block**

no category *category*

Context

[Tree] (config>app-assure>group>url-filter>web-service>profile category)

Full Context

configure application-assurance group url-filter web-service profile category

Description

This command configures the category that will be blocked in the category profile.

The **no** form of this command removes the category blocking configuration.

Parameters

category

Specifies the URL category name for the configured web service, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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9.32 category-map

category-map

Syntax

category-map *category-map-name* [**create**]

no category-map *category-map-name*

Context

[Tree] (config>subscr-mgmt category-map)

Full Context

configure subscriber-mgmt category-map

Description

This command specifies the category map name.

The **no** form of this command reverts to the default.

Parameters

category-map-name

Specifies the category map name, up to 32 characters.

create

Keyword used to create a category map instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

category-map

Syntax

category-map *category-map-name*

no category-map

Context

[Tree] (config>subscr-mgmt>sla-prof category-map)

Full Context

configure subscriber-mgmt sla-profile category-map

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Description

This command references the category-map to be used for the idle-timeout monitoring of subscriber hosts associated with this sla-profile. The **category-map** must already exist in the **config**>**subscr-mgmt** context.

The **no** form of this command reverts to the default.

Parameters

category-map-name

Specifies the name of the category map, up to 32 characters, where the activity-threshold and the category is defined for idle-timeout monitoring of subscriber hosts.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.33 category-map-name

category-map-name

Syntax

category-map-name *category-map-name* [**create**]

no category-map-name *category-map-name*

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings category-map-name)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings category-map-name)

Full Context

configure subscriber-mgmt local-user-db ppp host identification-strings category-map-name

configure subscriber-mgmt local-user-db ipoe host identification-strings category-map-name

Description

This command specifies the category map name.

The **no** form of this command removes the category map name from the configuration.

Parameters

category-map-name

Specifies an existing category map name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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9.34 cbs

cbs

Syntax

cbs *percent-of-resv-cbs*

no cbs

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2>sec-path>queue cbs)

[Tree] (config>mcast-mgmt>bw-plcy>t2>prim-path>queue cbs)

Full Context

configure mcast-management bandwidth-policy t2-paths secondary-path queue-parameters cbs

configure mcast-management bandwidth-policy t2-paths primary-path queue-parameters cbs

Description

This command overrides the default committed buffer size (CBS) for each individual path's queue. The queue's CBS threshold is used when requesting buffers from the systems ingress buffer pool to indicate whether the requested buffer should be removed from the reserved portion of the buffer pool or the shared portion. When the queue's fill depth is below or equal to the CBS threshold, the requested buffer comes from the reserved portion. After the queue's depth exceeds the CBS threshold, buffers come from the shared portion.

The **cbs** *percent-of-resv-cbs* parameter is defined as a percentage of the reserved portion of the pool. The system allows the sum of all CBS values to equal more than 100% allowing for oversubscription of the reserved portion of the pool. If the reserved portion is oversubscribed and the queues are currently using more reserved space than provisioned in the pool, the pool automatically starts using the shared portion of the pool for within-CBS buffer allocation. The shared early detection slopes can assume more buffers that exist within the shared portion that may cause the early detection function to fail.

For the primary-path and secondary-path queues, the percentage is applied to a single queue for each path.

The **no** form of this command restores the path queue's default CBS value.

Parameters

percent-of-resv-cbs

Specifies the percent of buffers reserved from the total buffer pool space, expressed as a decimal integer. If 10 MB is the total buffers in the buffer pool, a value of 10 would reserve 1 MB (10%) of buffer space for the forwarding class queue. The value 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can be applied for scheduling purposes).

Values 0 to 100

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Default

Primary:	5
Secondary:	30

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

cbs

Syntax

cbs *size-in-kbytes*

no cbs

Context

[Tree] (config>qos>sap-egress>dynamic-queue cbs)

Full Context

configure qos sap-egress dynamic-queue cbs

Description

This command configures the committed buffer size (CBS) that is reserved for the queue. The CBS is applied to each dynamic queue and is not shared.

Default

no cbs (auto)

Parameters

size-in-kbytes

Specifies the size of the CBS in kilobytes.

Values 0 to 1048576
default (auto)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

cbs

Syntax

cbs *size-in-kbytes*

no cbs

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Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>queue cbs)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue cbs)

Full Context

configure subscriber-mgmt sla-profile ingress qos queue cbs

configure subscriber-mgmt sla-profile egress qos queue cbs

Description

This command can be used to override specific attributes of the specified queue's CBS parameters. It is permissible, and possibly desirable, to oversubscribe the total CBS reserved buffers for a given access port egress buffer pool. Oversubscription may be desirable due to the potential large number of service queues and the economy of statistical multiplexing the individual queues' CBS settings into the defined reserved total.

When oversubscribing the reserved total, it is possible for a queue depth to be lower than its CBS setting and still not receive a buffer from the buffer pool for an ingress frame. As more queues are using their CBS buffers and the total in use exceeds the defined reserved total, essentially the buffers are being removed from the shared portion of the pool without the shared in use average and total counts being decremented. This can affect the operation of the high and low priority RED slopes on the pool, causing them to miscalculate when to start randomly drop packets.

The **no** form of this command returns the CBS size to the size as configured in the QoS policy.

Default

no cbs

Parameters

size-in-kbytes

The size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10KBytes is desired, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes).

Values 0 to 1048576, **default**

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

cbs

Syntax

cbs *size* [**bytes** | **kilobytes**]

no cbs

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Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>policer cbs)

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>policer cbs)

Full Context

configure subscriber-mgmt sla-profile egress qos policer cbs

configure subscriber-mgmt sla-profile ingress qos policer cbs

Description

This command is used to configure the policer's CIR leaky bucket's exceed threshold. The CIR bucket's exceed threshold represents the committed burst tolerance allowed by the policer. If the policer's forwarding rate is equal to or less than the policer's defined CIR, the CIR bucket depth hovers around the 0 depth with spikes up to the maximum packet size in the offered load. If the forwarding rate increases beyond the profiling rate, the amount of data allowed to be in-profile above the rate is capped by the threshold.

The policer's **cbs** size defined in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command returns the policer to its default CBS size.

Parameters

size

Specifies the size parameter and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456

bytes

Specifies the size parameter the size parameter in bytes. When **bytes** is defined, the value given for size is interpreted as the queue's MBS value given in bytes.

kilobytes

Specifies the size parameter in kilobytes. When **kilobytes** is defined, the value is interpreted as the queue's MBS value given in kilobytes.

Default kilobyte

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cbs

Syntax

cbs *size-in-kbytes*

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no cbs

Context

[Tree] (config>service>vpls>sap>ingress>queue-override>queue cbs)

[Tree] (config>service>vpls>sap>egress>queue-override>queue cbs)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue cbs)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue cbs)

Full Context

configure service vpls sap ingress queue-override queue cbs

configure service vpls sap egress queue-override queue cbs

configure service ies interface sap egress queue-override queue cbs

configure service ies interface sap ingress queue-override queue cbs

Description

This command overrides specific attributes of the specified queue's CBS parameters.

It is permissible, and possibly desirable, to oversubscribe the total CBS reserved buffers for a given access port egress buffer pool. Oversubscription may be desirable due to the potential large number of service queues and the economy of statistical multiplexing the individual queue's CBS settings into the defined reserved total.

When oversubscribing the reserved total, it is possible for a queue depth to be lower than its CBS setting and still not receive a buffer from the buffer pool for an ingress frame. As more queues are using their CBS buffers and the total in use exceeds the defined reserved total, essentially the buffers are being removed from the shared portion of the pool without the shared in use average and total counts being decremented. This can affect the operation of the high and low priority RED slopes on the pool, causing them to miscalculate when to start randomly drop packets.

If the CBS value is larger than the MBS value, an error will occur, preventing the CBS change.

The **no** form of this command returns the CBS size to the default value.

Parameters

size-in-kbytes

Specifies the size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10 kbytes is desired, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes).

Values 0 to 1048576, default

Platforms

All

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cbs

Syntax

cbs *size-in-kbytes*

no cbs

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue cbs)

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue cbs)

Full Context

configure service vprn interface sap egress queue-override queue cbs

configure service vprn interface sap ingress queue-override queue cbs

Description

This command can be used to override specific attributes of the specified queue's CBS parameters.

It is permissible, and possibly desirable, to oversubscribe the total CBS reserved buffers for a given access port egress buffer pool. Oversubscription may be desirable due to the potential large number of service queues and the economy of statistical multiplexing the individual queue's CBS setting into the defined reserved total.

When oversubscribing the reserved total, it is possible for a queue depth to be lower than its CBS setting and still not receive a buffer from the buffer pool for an ingress frame. As more queues are using their CBS buffers and the total in use exceeds the defined reserved total, essentially the buffers are being removed from the shared portion of the pool without the shared in use average and total counts being decremented. This can affect the operation of the high and low priority RED slopes on the pool, causing them to miscalculate when to start randomly drop packets.

If the CBS value is larger than the MBS value, an error occurs, preventing the CBS change.

The **no** form of this command returns the CBS to the default value.

Default

no cbs

Parameters

size-in-kbytes

The size parameter is an integer expression of the number of kilobytes reserved for the queue. For a value of 10 kbytes, enter the number 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimum reserved size can be applied for scheduling purposes).

Values 0 to 131072 or default

Platforms

All

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cbs

Syntax

cbs *burst-size*

no cbs

Context

[Tree] (config>subscr-mgmt>isa-policer cbs)

Full Context

configure subscriber-mgmt isa-policer cbs

Description

This command specifies the committed burst-size value of this policer. This can only be set on dual-bucket-bandwidth policers.

The **no** form of this command reverts to its default.

Default

cbs 0

Parameters

burst-size

Specifies the committed burst-size in kbytes.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

cbs

Syntax

cbs {*size* [**bytes** | **kilobytes**] | **default**}

no cbs

Context

[Tree] (config>card>fp>ingress>access>qgrp>policer-over>plcr cbs)

[Tree] (config>card>fp>ingress>network>qgrp>policer-over>plcr cbs)

Full Context

configure card fp ingress access queue-group policer-override policer cbs

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configure card fp ingress network queue-group policer-override policer cbs

Description

This command configures the policer's CIR leaky bucket's exceed threshold. The CIR bucket's exceed threshold represents the committed burst tolerance allowed by the policer. If the policer's forwarding rate is equal to or less than the policer's defined CIR, the CIR bucket depth hovers around the 0 depth with spikes up to the maximum packet size in the offered load. If the forwarding rate increases beyond the profiling rate, the amount of data allowed to be in-profile above the rate is capped by the threshold.

The policer's **cbs** size defined in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command returns the policer to its default CBS size.

Parameters

size

Specifies that the *size* parameter is required when specifying **cbs** and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **bytes** and **kilobytes** keywords are mutually exclusive and are used to explicitly define whether *size* represents bytes or kilobytes.

Values 0 to 2683435456

bytes

When **bytes** is defined, the value given for size is interpreted as the queue's CBS value specified in bytes.

kilobytes

When **kilobytes** is defined, the value is interpreted as the queue's CBS value given in kilobytes.

Default **kilobyte**

default

Specifying the keyword **default** sets the CBS to its default value.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

cbs

Syntax

cbs *size-in-kbytes*

no cbs

Context

[Tree] (config>port>ethernet>access>egr>qgrp>qover>q cbs)

[Tree] (config>port>ethernet>network>egr>qover>q cbs)

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[Tree] (config>port>ethernet>access>ing>qgrp>qover>q cbs)

Full Context

configure port ethernet access egress queue-group queue-overrides queue cbs

configure port ethernet network egress queue-overrides queue cbs

configure port ethernet access ingress queue-group queue-overrides queue cbs

Description

This command defines the default committed buffer size for the template queue. Overall, the CBS command follows the same behavior and provisioning characteristics as the CBS command in the queue-group or network QoS policy. The exception is the addition of the cbs-value qualifier keywords bytes or kilobytes.

The **no** form of this command restores the default CBS size to the template queue.

Default

cbs default

Parameters

size-in-kbytes

The size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10 kbytes is desired, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes).

Values 0 to 1048576 or default

Platforms

All

cbs

Syntax

cbs *size* [**bytes** | **kilobytes**]

no cbs

Context

[Tree] (config>service>ipipe>sap>egress>policer-over>plcr cbs)

[Tree] (config>service>cpipe>sap>ingress>policer-over>plcr cbs)

[Tree] (config>service>ipipe>sap>ingress>policer-over>plcr cbs)

[Tree] (config>service>epipe>sap>egress>policer-over>plcr cbs)

[Tree] (config>service>cpipe>sap>egress>policer-over>plcr cbs)

[Tree] (config>service>epipe>sap>ingress>policer-over>plcr cbs)

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Full Context

configure service ipipe sap egress policer-override policer cbs

configure service cpipe sap ingress policer-override policer cbs

configure service ipipe sap ingress policer-override policer cbs

configure service epipe sap egress policer-override policer cbs

configure service cpipe sap egress policer-override policer cbs

configure service epipe sap ingress policer-override policer cbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured CBS parameter for the specified *policer-id*.

The **no** form of this command returns the CBS size to the default value.

Default

no cbs

Parameters

size

The size parameter is required when specifying cbs override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

bytes

When bytes is defined, the value given for *size* is interpreted as the policer's MBS value in bytes.

kilobytes

When kilobytes is defined, the value given for *size* is interpreted as the policer's MBS value in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-override policer cbs
- configure service epipe sap egress policer-override policer cbs
- configure service ipipe sap egress policer-override policer cbs
- configure service epipe sap ingress policer-override policer cbs

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override policer cbs
- configure service cpipe sap ingress policer-override policer cbs

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cbs

Syntax

cbs {*size-in-kbytes* | **default**}

no cbs

Context

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue cbs)

[Tree] (config>service>epipe>sap>egress>queue-override>queue cbs)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue cbs)

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue cbs)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue cbs)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue cbs)

Full Context

configure service ipipe sap ingress queue-override queue cbs

configure service epipe sap egress queue-override queue cbs

configure service ipipe sap egress queue-override queue cbs

configure service cpipe sap ingress queue-override queue cbs

configure service epipe sap ingress queue-override queue cbs

configure service cpipe sap egress queue-override queue cbs

Description

This command can be used to override specific attributes of the specified queue's CBS parameters.

It is permissible, and possibly desirable, to oversubscribe the total CBS reserved buffers for a specific access port egress buffer pool. Oversubscription may be desirable due to the potential large number of service queues and the economy of statistical multiplexing the individual queue's CBS setting into the defined reserved total.

When oversubscribing the reserved total, it is possible for a queue depth to be lower than its CBS setting and still not receive a buffer from the buffer pool for an ingress frame. As more queues are using their CBS buffers and the total in use exceeds the defined reserved total, essentially the buffers are being removed from the shared portion of the pool without the shared in use average and total counts being decremented. This can affect the operation of the high and low priority RED slopes on the pool, causing them to miscalculate when to start randomly to drop packets.

The **no** form of this command returns the CBS size to the default value.

Default

no cbs

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Parameters

size-in-kbytes

The size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10KBytes is wanted, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes).

Values 0 to 131072, default

Platforms

All

- configure service epipe sap ingress queue-override queue cbs
- configure service ipipe sap ingress queue-override queue cbs
- configure service ipipe sap egress queue-override queue cbs
- configure service epipe sap egress queue-override queue cbs

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress queue-override queue cbs
- configure service cpipe sap egress queue-override queue cbs

cbs

Syntax

cbs *size* [{**bytes** | **kilobytes**}]

no cbs

Context

[Tree] (config>service>vpls>sap>ingress>policer-override>plcr cbs)

[Tree] (config>service>vpls>sap>egress>policer-override>plcr cbs)

Full Context

configure service vpls sap ingress policer-override policer cbs

configure service vpls sap egress policer-override policer cbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured CBS parameter for the specified policer-id.

The **no** form of this command returns the CBS size to the default value.

Default

no cbs

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Parameters

size

This parameter is required when specifying CBS override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

cbs

Syntax

cbs *size* [{**bytes** | **kilobytes**}]

no cbs

Context

[Tree] (config>service>ies>if>sap>ingress>policer-over>plcr cbs)

[Tree] (config>service>ies>if>sap>egress>policer-over>plcr cbs)

Full Context

configure service ies interface sap ingress policer-override policer cbs

configure service ies interface sap egress policer-override policer cbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured CBS parameter for the specified policer-id.

The **no** form of this command returns the CBS size to the default value.

Default

no cbs

Parameters

size

This parameter is required when specifying CBS override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

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Values 0 to 2683435456, **default**

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

cbs

Syntax

cbs *size* [{**bytes** | **kilobytes**}]

no cbs

Context

[Tree] (config>service>vprn>if>sap>egress>policer-over>plcr cbs)

[Tree] (config>service>vprn>if>sap>ingress>policer-over>plcr cbs)

Full Context

configure service vprn interface sap egress policer-override policer cbs

configure service vprn interface sap ingress policer-override policer cbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured CBS parameter for the specified policer-id.

The **no** form of this command returns the CBS size to the default value.

Default

no cbs

Parameters

size

This parameter is required when specifying CBS override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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cbs

Syntax

cbs *congested-cbs*

no cbs

Context

[Tree] (config>app-assure>group>policer>congestion-override-stage2 cbs)

[Tree] (config>app-assure>group>policer>congestion-override cbs)

Full Context

configure application-assurance group policer congestion-override-stage2 cbs

configure application-assurance group policer congestion-override cbs

Description

This command configures the committed burst size for a policer. It is recommended that CBS is configured larger than twice the maximum MTU for the traffic handled by the policer to allow for some burstiness of the traffic. CBS is configurable for dual-bucket bandwidth policers only.

The **no** form of this command removes the congested CBS value from the configuration

Parameters

congested-cbs

Specifies the committed burst size, in kbytes, when the access-network-level, which the subscriber belongs to, is in a congested state.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cbs

Syntax

cbs *committed-burst-size*

no cbs

Context

[Tree] (config>app-assure>group>policer cbs)

[Tree] (config>app-assure>group>tod-override cbs)

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Full Context

configure application-assurance group policer cbs

configure application-assurance group policer tod-override cbs

Description

This command configures the committed burst size for a policer. It is recommended that CBS is configured larger than twice the maximum MTU for the traffic handled by the policer to allow for some burstiness of the traffic. CBS is configurable for dual-bucket bandwidth policers only.

The **no** form of this command removes the committed burst size from the configuration.

Parameters

committed-burst-size

Specifies an integer value defining size, in kbytes, for the CBS of the policer.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cbs

Syntax

cbs *size* [**bytes** | **kilobytes**]

no cbs

Context

[Tree] (config>qos>sap-ingress>policer cbs)

[Tree] (config>qos>sap-egress>dyn-policer cbs)

[Tree] (config>qos>sap-egress>policer cbs)

[Tree] (config>qos>sap-ingress>dyn-policer cbs)

Full Context

configure qos sap-ingress policer cbs

configure qos sap-egress dynamic-policer cbs

configure qos sap-egress policer cbs

configure qos sap-ingress dynamic-policer cbs

Description

This command configures the policer’s CIR leaky bucket’s exceed threshold. The CIR bucket’s exceed threshold represents the committed burst tolerance allowed by the policer. If the policer’s forwarding rate is equal to or less than the policer's defined CIR, the CIR bucket depth hovers around the 0 depth with spikes

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up to the maximum packet size in the offered load. If the forwarding rate increases beyond the profiling rate, the amount of data allowed to be in-profile above the rate is capped by the threshold.

The policer's **cbs** size defined in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command returns the policer to its default CBS size.

By default, the CBS is 16 Mbytes when CIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured CBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max CIR capped to 3968 kbytes, with a minimum of 256 bytes.

Parameters

size [bytes | kilobytes]

Specifies an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-ingress policer cbs
- configure qos sap-egress policer cbs

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure qos sap-ingress dynamic-policer cbs
- configure qos sap-egress dynamic-policer cbs

cbs

Syntax

cbs {*size-in-kbytes*| default}

cbs delay-time *microseconds*

cbs delay-percent *percent*

no cbs

Context

[Tree] (config>qos>sap-egress>queue cbs)

Full Context

configure qos sap-egress queue cbs

Description

This command provides a mechanism to override the default reserved buffers for the queue. It is permissible, and possibly desirable, to oversubscribe the total CBS reserved buffers for a specific access

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port egress buffer pool. Oversubscription may be desirable because of the potentially large number of service queues and the economy of statistical multiplexing the CBS settings of the individual into the defined reserved total.

When oversubscribing the reserved total, it is possible for a queue depth to be lower than its CBS setting and still not receive a buffer from the buffer pool for an ingress frame. As more queues use their CBS buffers and the total-in-use exceeds the defined reserved total, essentially the buffers are removed from the shared portion of the pool without the shared in-use average and total counts being decremented. This can affect the operation of the high- and low-priority RED slopes on the pool, causing them to miscalculate when to start randomly dropping packets.

If the CBS value is larger than the MBS value, the CBS is capped to the value of the MBS or the minimum CBS value. If the MBS and CBS values are configured to be equal (or nearly equal), this will result in the CBS being slightly higher than the value configured.

The **delay-time** command option configures the CBS as a function of the expected delay. The system automatically translates this configuration into kilobytes based on the administrative rate of the queue parent (for example, the port, scheduler, or aggregate-shaper).

The **delay-percent** command option configures the CBS as percentage of the SAP delay budget of the queue configured using the **latency-budget** command.

The **no** form of this command returns the CBS size to the default value.

Default

cbs default

Parameters

size-in-kbytes

The size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10 kbytes is required, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes). The CBS maximum value used is constrained by the pool size in which the queue exists.

Values 0 to 1048576

Minimum configurable non-zero value: 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

Minimum non-zero default value: maximum of 10 ms of CIR, or 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

microseconds

Specifies the CBS as a function of delay time.

Values 0 to 1000000

percent

Specifies the CBS as a percentage of the SAP latency budget.

Values 0.00 to 100.00

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Platforms

All

cbs

Syntax

cbs *size-in-kbytes*

no cbs

Context

[Tree] (config>qos>sap-ingress>queue cbs)

Full Context

configure qos sap-ingress queue cbs

Description

This command provides a mechanism to override the default reserved buffers for the queue. It is permissible, and possibly desirable, to oversubscribe the total CBS reserved buffers for a given access port egress buffer pool. Oversubscription may be desirable due to the potentially large number of service queues and the economy of statistical multiplexing the individual queue's CBS settings into the defined reserved total.

When oversubscribing the reserved total, it is possible for a queue depth to be lower than its CBS setting and still not receive a buffer from the buffer pool for an ingress frame. As more queues are using their CBS buffers and the total in use exceeds the defined reserved total, essentially the buffers are being removed from the shared portion of the pool without the shared in use average and total counts being decremented. This can affect the operation of the high- and low-priority RED slopes on the pool, causing them to miscalculate when to start randomly dropping packets.

If the CBS value is larger than the MBS value, the CBS is capped to the value of the MBS or the minimum CBS value. If the MBS and CBS values are configured to be equal (or nearly equal), this will result in the CBS being slightly higher than the value configured.

The **no** form of this command returns the CBS size to the default value.

Default

cbs default

Parameters

size-in-kbytes

The size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10 kbytes is desired, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes) The CBS maximum value used is constrained by the pool size in which the queue exists.

Values 0 to 1048576 or default

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Minimum configurable non-zero value: 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

Minimum non-zero default value: maximum of 10 ms of CIR, or 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

Platforms

All

cbs

Syntax

cbs *percent*

no cbs

Context

[Tree] (config>qos>network-queue>queue cbs)

Full Context

configure qos network-queue queue cbs

Description

The Committed Burst Size (**cbs**) command specifies the relative number of reserved buffers for a specific ingress network FP forwarding class queue or egress network port forwarding class queue. The value is entered as a percentage.

The CBS for a queue is used to determine whether it has exhausted its reserved buffers while enqueuing packets. When the queue has exceeded the number of buffers considered in reserve for this queue, it must contend with other queues for the available shared buffer space within the buffer pool. Access to this shared pool space is controlled through Random Early Detection (RED) slope application.

Two RED slopes are maintained in each buffer pool. A high-priority slope is used by in-profile packets. A low-priority slope is used by out-of-profile packets. At egress, there are two additional RED slopes maintained in each buffer pool: the highplus slope is used by inplus-profile packets, and the exceed slope is used by exceed-profile packets. All network control and management packets are considered in-profile. Assured packets are handled by their in-profile and out-of-profile markings. All best-effort packets are considered out-of-profile. Premium queues should be configured such that the CBS percent is sufficient to prevent shared buffering of packets. This is generally taken care of by the CIR scheduling of premium queues and the overall small amount of traffic on the class. Premium queues in a properly designed system will drain before all others, limiting their buffer utilization.

The RED slopes will detect congestion conditions and work to discard packets and slow down random TCP session flows through the queue. The RED slope definitions can be defined, modified, or disabled through the slope policy assigned to the FP for the network ingress buffer pool or assigned to the network port for network egress buffer pools.

The resultant CBS size can be larger than the MBS. This will result in a portion of the CBS for the queue to be unused and should be avoided.

The **no** form of this command returns the CBS size for the queue to the default for the forwarding class.

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Default

The cbs forwarding class defaults are listed in the Table 21: CBS Forwarding Class Defaults.

Table 21: CBS Forwarding Class Defaults

Forwarding Class	Forwarding Class Label	Default CBS
Network-Control	nc	3
High-1	h1	3
Expedited	ef	1
High-2	h2	1
Low-1	l1	3
Assured	af	1
Low-2	l2	3
Best-Effort	be	1

Parameters

percent

The percent of buffers reserved from the total buffer pool space, expressed as a decimal integer. If 10 Mbytes is the total buffer space in the buffer pool, a value of 10 would reserve 1 Mbyte (10%) of buffer space for the forwarding class queue. The value 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can be applied for scheduling purposes).

Values 0 to 100

Platforms

All

cbs

Syntax

cbs {*size-in-kbytes* | **default**}

no cbs

Context

[Tree] (config>qos>qgrps>egr>qgrp>policer cbs)

[Tree] (config>qos>qgrps>ing>qgrp>policer cbs)

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Full Context

configure qos queue-group-templates egress queue-group policer cbs

configure qos queue-group-templates ingress queue-group policer cbs

Description

The **cbs** command is used to define the default committed buffer size for the template queue or the CBS for the template policer. Overall, the cbs command follows the same behavior and provisioning characteristics as the cbs command in the SAP ingress and egress QoS policy.

The **no** form of this command restores the default CBS size to the template policer.

Default

default

Parameters

size-in-kbytes

For the queues, the size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10 kbytes is desired, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes). For policers, the size parameter is an integer expression of the number of kilobytes for the policer CBS.

Values 0 to 2683435456, **default**

Minimum default value: 16 Mbytes when CIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured CBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max CIR capped to 3968 kbytes, with a minimum of 256 bytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

cbs

Syntax

cbs {*size-in-kbytes* | **default**}

no cbs

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue cbs)

[Tree] (config>qos>qgrps>ing>qgrp>queue cbs)

Full Context

configure qos queue-group-templates egress queue-group queue cbs

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configure qos queue-group-templates ingress queue-group queue cbs

Description

The **cbs** command is used to define the default committed buffer size for the template queue or the CBS for the template policer. Overall, the cbs command follows the same behavior and provisioning characteristics as the cbs command in the SAP ingress and egress QoS policy.

The **no** form of this command restores the default CBS size to the template policer.

Default

default

Parameters

size-in-kbytes

For the queues, the size parameter is an integer expression of the number of kilobytes reserved for the queue. If a value of 10 kbytes is desired, enter the value 10. A value of 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can still be applied for scheduling purposes). For policers, the size parameter is an integer expression of the number of kilobytes for the policer CBS.

Values 0 to 1048576 or **default**

Minimum configurable non-zero value: 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

Minimum non-zero default value: maximum of 10 ms of CIR or 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

Platforms

All

cbs

Syntax

cbs *percent*

no cbs

Context

[Tree] (config>qos>shared-queue>queue cbs)

Full Context

configure qos shared-queue queue cbs

Description

The Committed Burst Size (**cbs)** command specifies the relative amount of reserved buffers for a specific ingress shared queue. The value is entered as a percentage.

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The CBS for a queue is used to determine whether it has exhausted its reserved buffers while enqueuing packets. When the queue has exceeded the amount of buffers considered in reserve for this queue, it must contend with other queues for the available shared buffer space within the buffer pool.

The resultant CBS size can be larger than the MBS. This will result in a portion of the CBS for the queue being unused and should be avoided.

Default

The queue CBS defaults are listed in Table 22: Queue CBS Default Values.

Table 22: Queue CBS Default Values

Queue	Default CBS
1	1
2	3
3	10
4	3
5	10
6	10
7	3
8	3
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1

Parameters

percent

The percent of buffers reserved from the total buffer pool space, expressed as a decimal integer. The value 0 specifies that no reserved buffers are required by the queue (a minimal reserved size can be applied for scheduling purposes).

Values 0 to 100

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Platforms

All

cbs

Syntax

cbs *cbs*

no cbs

Context

[Tree] (config>sys>security>cpm-queue>queue cbs)

Full Context

configure system security cpm-queue queue cbs

Description

This command specifies the amount of buffer that can be drawn from the reserved buffer portion of the queue's buffer pool.

Parameters

cbs

Specifies the committed burst size in kbytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.35 cc-error

cc-error

Syntax

[**no**] **cc-error**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms cc-error)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms cc-error)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms cc-error)

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Full Context

configure mcast-management multicast-info-policy bundle video analyzer alarms cc-error

configure mcast-management multicast-info-policy bundle channel video analyzer alarms cc-error

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms cc-error

Description

This command configures the analyzer to check the continuity counter. The continuity counter should be incremented per PID; otherwise, it is considered a continuity counter error.

Default

no cc-error

Platforms

7450 ESS, 7750 SR, 7750 SR-s

9.36 ccm-enable

ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep ccm-enable)

Full Context

configure eth-tunnel path eth-cfm mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Default

no ccm-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>port>ethernet>eth-cfm>mep ccm-enable)

[Tree] (config>lag>eth-cfm>mep ccm-enable)

Full Context

configure port ethernet eth-cfm mep ccm-enable

configure lag eth-cfm mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep ccm-enable)

[Tree] (config>service>epipe>sap>eth-cfm>mep ccm-enable)

Full Context

configure service epipe spoke-sdp eth-cfm mep ccm-enable

configure service epipe sap eth-cfm mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>service>vpls>eth-cfm>mep ccm-enable)

[Tree] (config>service>vpls>sap>eth-cfm>mep ccm-enable)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep ccm-enable)

[Tree] (config>service>vpls>mesh-sdp>mep ccm-enable)

Full Context

configure service vpls eth-cfm mep ccm-enable

configure service vpls sap eth-cfm mep ccm-enable

configure service vpls spoke-sdp eth-cfm mep ccm-enable

configure service vpls mesh-sdp mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep ccm-enable)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep ccm-enable)

[Tree] (config>service>ies>if>sap>eth-cfm>mep ccm-enable)

Full Context

configure service ies subscriber-interface group-interface sap eth-cfm mep ccm-enable

configure service ies interface spoke-sdp eth-cfm mep ccm-enable

configure service ies interface sap eth-cfm mep ccm-enable

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Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep ccm-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep ccm-enable
- configure service ies interface sap eth-cfm mep ccm-enable

ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm ccm-enable)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep ccm-enable)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep ccm-enable)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm ccm-enable

configure service vprn interface spoke-sdp eth-cfm mep ccm-enable

configure service vprn interface sap eth-cfm mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm ccm-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep ccm-enable
- configure service vprn interface spoke-sdp eth-cfm mep ccm-enable

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ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>router>if>eth-cfm>mep ccm-enable)

Full Context

configure router interface eth-cfm mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of this command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-enable

Syntax

[**no**] **ccm-enable**

Context

[Tree] (config>eth-ring>path>eth-cfm>mep ccm-enable)

Full Context

configure eth-ring path eth-cfm mep ccm-enable

Description

This command enables the generation of CCM messages.

The **no** form of the command disables the generation of CCM messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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9.37 ccm-hold-time

ccm-hold-time

Syntax

ccm-hold-time {**down** *down-timeout*] [**up** *up-timeout*}

no ccm-hold-time

Context

[Tree] (config>eth-tunnel ccm-hold-time)

Full Context

configure eth-tunnel ccm-hold-time

Description

This command allows a sub second CCM enabled MEP to delay a transition to a failed state if a configured remote CCM peer has timed out. The MEP will remain in the UP state for 3.5 times CCM interval + down-delay.

The **no** form of this command removes the additional delay

Parameters

down *down-timeout*

Specifies the time, in centiseconds, used for the hold-timer for associated Continuity Check (CC) Session down event dampening. This guards against reporting excessive member operational state transitions.

This is implemented by not advertising subsequent transitions of the CC state to the Ethernet Tunnel Group until the configured timer has expired.

Values 0 to 1000

Default 0

up *up-timeout*

Specifies the time, in deciseconds, used for the hold-timer for associated Continuity Check (CC) Session up event dampening. This guards against reporting excessive member operational state transitions.

This is implemented by not advertising subsequent transitions of the CC state to the Ethernet Tunnel Group until the configured timer has expired.

Values 0 to 5000

Default 20

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-hold-time

Syntax

ccm-hold-time down *timer*

no ccm-hold-time

Context

[Tree] (config>eth-cfm>domain>assoc ccm-hold-time)

Full Context

configure eth-cfm domain association ccm-hold-time

Description

This command allows a sub second CCM enabled MEP to delay a transition to a failed state if a configured remote CCM peer has timed out. The MEP remains in the UP state for 3.5 times CCM interval + down-delay.

The **no** form of this command removes the additional delay.

Default

no ccm-hold-time

Parameters

down *timer*

Specifies the amount of time to delay, in centiseconds.

Values 0 to 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-hold-time

Syntax

ccm-hold-time [**down** *down-timeout*] [**up** *up-timeout*]

no ccm-hold-time

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Context

[Tree] (config>eth-ring ccm-hold-time)

Full Context

configure eth-ring ccm-hold-time

Description

This command configures eth-ring dampening timers. See the **down** and **up** commands for more information.

The **no** form of the command sets the up and down timers to the default values.

Parameters

down-timeout

Specifies the down timeout, in centiseconds.

Values 0 to 5000

up-timeout

Specifies the hold-time for reporting the recovery, in deciseconds.

Values 0 to 5000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.38 ccm-interval

ccm-interval

Syntax

ccm-interval *interval*

no ccm-interval

Context

[Tree] (config>eth-cfm>domain>assoc ccm-interval)

Full Context

configure eth-cfm domain association ccm-interval

Description

This command configures the CCM transmission interval for all MEPs in the association.

The **no** form of this command reverts to the default value.

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Default

no ccm-interval

Parameters

interval

Specifies the interval between CCM transmissions to be used by all MEPs in the MA.

Values 10 milliseconds, 100 milliseconds, 1 second, 10 seconds, 60 seconds, 600 seconds

Default 10 (seconds)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.39 ccm-ltm-priority

ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep ccm-ltm-priority)

Full Context

configure eth-tunnel path eth-cfm mep ccm-ltm-priority

Description

This command specifies the priority value for CCMs and LTMs transmitted by the MEP.

The **no** form of this command reverts to the default value, which is the highest priority on the bridge-port.

Default

The highest priority on the bridge-port.

Parameters

priority

Specifies the priority of CCM and LTM messages.

Values 0 to 7

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>lag>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>port>ethernet>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>router>if>eth-cfm>mep ccm-ltm-priority)

Full Context

configure lag eth-cfm mep ccm-ltm-priority

configure port ethernet eth-cfm mep ccm-ltm-priority

configure router interface eth-cfm mep ccm-ltm-priority

Description

This command specifies the priority of the CCM and LTM messages transmitted by the MEP. Since CCM does not apply to the Router Facility MEP only the LTM priority is of value under that context.

The **no** form of this command reverts to the default values.

Default

no ccm-ltm-priority

Parameters

priority

Specifies the priority value.

Values 0 to 7

Default 7, highest priority for CCMs and LTMs transmitted by the MEP

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>service>ipipe>sap>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>service>epipe>sap>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep ccm-ltm-priority)

Full Context

configure service ipipe sap eth-cfm mep ccm-ltm-priority

configure service epipe sap eth-cfm mep ccm-ltm-priority

configure service epipe spoke-sdp eth-cfm mep ccm-ltm-priority

Description

This command specifies the priority value for CCMs and LTMs transmitted by the MEP.

The **no** form of this command removes the priority value from the configuration.

Default

The highest priority on the bridge-port.

Parameters

priority

Specifies the priority of CCM and LTM messages.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep ccm-ltm-priority)

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[Tree] (config>service>vpls>mesh-sdp>mep ccm-ltm-priority)

[Tree] (config>service>vpls>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>service>vpls>sap>eth-cfm>mep ccm-ltm-priority)

Full Context

configure service vpls spoke-sdp eth-cfm mep ccm-ltm-priority

configure service vpls mesh-sdp mep ccm-ltm-priority

configure service vpls eth-cfm mep ccm-ltm-priority

configure service vpls sap eth-cfm mep ccm-ltm-priority

Description

This command specifies the priority value for CCMs and LTMs transmitted by the MEP.

The **no** form of this command removes the priority value from the configuration.

Default

The highest priority on the bridge-port.

Parameters

priority

Specifies the priority of CCM and LTM messages

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>service>ies>if>sap>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep ccm-ltm-priority)

Full Context

configure service ies interface spoke-sdp eth-cfm mep ccm-ltm-priority

configure service ies interface sap eth-cfm mep ccm-ltm-priority

configure service ies subscriber-interface group-interface sap eth-cfm mep ccm-ltm-priority

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Description

This command specifies the priority value for CCMs and LTMs transmitted by the MEP.

The **no** form of this command removes the priority value from the configuration.

Default

The highest priority on the bridge-port.

Parameters

priority

Specifies the priority of CCM and LTM messages.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep ccm-ltm-priority
- configure service ies interface sap eth-cfm mep ccm-ltm-priority

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep ccm-ltm-priority

ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm ccm-ltm-priority)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep ccm-ltm-priority)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep ccm-ltm-priority)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm ccm-ltm-priority

configure service vprn interface sap eth-cfm mep ccm-ltm-priority

configure service vprn interface spoke-sdp eth-cfm mep ccm-ltm-priority

Description

This command specifies the priority value for CCMs and LTMs transmitted by the MEP.

The **no** form of this command removes the priority value from the configuration.

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Default

The highest priority on the bridge-port.

Parameters

priority

Specifies the priority of CCM and LTM messages.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm ccm-ltm-priority

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep ccm-ltm-priority
- configure service vprn interface spoke-sdp eth-cfm mep ccm-ltm-priority

ccm-ltm-priority

Syntax

ccm-ltm-priority *priority*

no ccm-ltm-priority

Context

[Tree] (config>eth-ring>path>eth-cfm>mep ccm-ltm-priority)

Full Context

configure eth-ring path eth-cfm mep ccm-ltm-priority

Description

This command specifies the priority value for CCMs and LTMs transmitted by the MEP.

The **no** form of the command removes the priority value from the configuration.

Default

The highest priority on the bridge-port.

Parameters

priority

Specifies the priority of CCM and LTM messages.

Values 0 to 7

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.40 ccm-padding-size

ccm-padding-size

Syntax

ccm-padding-size *ccm-padding*

no ccm-padding-size

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep ccm-padding-size)

[Tree] (config>lag>eth-cfm>mep ccm-padding-size)

Full Context

configure eth-tunnel path eth-cfm mep ccm-padding-size

configure lag eth-cfm mep ccm-padding-size

Description

This command inserts additional padding in the CCM packets.

The **no** form of this command reverts to the default.

Parameters

ccm-padding

Specifies the additional padding in the CCM packets, in octets.

Values 3 to 1500

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ccm-padding-size

Syntax

ccm-padding-size *ccm-padding*

no ccm-padding-size

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Context

[Tree] (config>router>if>eth-cfm>mep ccm-padding-size)

[Tree] (config>port>ethernet>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>ipipe>sap>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>vpls>sap>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>epipe>sap>eth-cfm>mep ccm-padding-size)

Full Context

configure router interface eth-cfm mep ccm-padding-size

configure port ethernet eth-cfm mep ccm-padding-size

configure service ipipe sap eth-cfm mep ccm-padding-size

configure service epipe spoke-sdp eth-cfm mep ccm-padding-size

configure service vpls spoke-sdp eth-cfm mep ccm-padding-size

configure service vpls sap eth-cfm mep ccm-padding-size

configure service vpls mesh-sdp eth-cfm mep ccm-padding-size

configure service epipe sap eth-cfm mep ccm-padding-size

Description

Set the byte size of the optional Data TLV to be included in the ETH-CC PDU. This will increase the size of the ETH-CC PDU by the configured value. The base size of the ETH-CC PDU, including the Interface Status TLV and Port Status TLV, is 83 bytes not including the Layer Two encapsulation. CCM padding is not supported when the CCM-Interval is less than one second.

Default

no ccm-padding-size

Parameters

ccm-padding

Specifies the byte size of the Optional Data TLV.

Values 3 to 1500

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ccm-padding-size

Syntax

ccm-padding-size *ccm-padding*

no ccm-padding-size

Context

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>ies>if>sap>eth-cfm>mep ccm-padding-size)

Full Context

configure service ies interface spoke-sdp eth-cfm mep ccm-padding-size

configure service ies subscriber-interface group-interface sap eth-cfm mep ccm-padding-size

configure service ies interface sap eth-cfm mep ccm-padding-size

Description

Set the byte size of the optional Data TLV to be included in the ETH-CC PDU. This will increase the size of the ETH-CC PDU by the configured value. The base size of the ETH-CC PDU, including the Interface Status TLV and Port Status TLV, is 83 bytes not including the Layer Two encapsulation. CCM padding is not supported when the CCM-Interval is less than one second.

Default

ccm-padding-size

Parameters

ccm-padding

Specifies the byte size of the Optional Data TLV.

Values 3 to 1500

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep ccm-padding-size
- configure service ies interface spoke-sdp eth-cfm mep ccm-padding-size

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep ccm-padding-size

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ccm-padding-size

Syntax

ccm-padding-size *ccm-padding*

no ccm-padding-size

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep ccm-padding-size)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep ccm-padding-size)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep ccm-padding-size

configure service vprn subscriber-interface group-interface sap eth-cfm mep ccm-padding-size

configure service vprn interface sap eth-cfm mep ccm-padding-size

Description

This command sets the byte size of the optional Data TLV to be included in the ETH-CC PDU. This will increase the size of the ETH-CC PDU by the configured value. The base size of the ETH-CC PDU, including the Interface Status TLV and Port Status TLV, is 83 bytes not including the Layer 2 encapsulation. CCM padding is not supported when the CCM-Interval is less than one second.

Parameters

ccm-padding

Specifies the byte size of the Optional Data TLV.

Values 3 to 1500

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep ccm-padding-size
- configure service vprn interface sap eth-cfm mep ccm-padding-size

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep ccm-padding-size

ccm-padding-size

Syntax

ccm-padding-size *ccm-padding*

no ccm-padding-size

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Context

[Tree] (config>eth-ring>path>eth-cfm>mep ccm-padding-size)

Full Context

configure eth-ring path eth-cfm mep ccm-padding-size

Description

This command inserts additional padding in the CCM packets.

The **no** form of the command reverts to the default.

Parameters

ccm-padding

Specifies the additional padding in the CCM packets.

Values 3 to 1500 octets

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.41 ccm-tlv-ignore

ccm-tlv-ignore

Syntax

ccm-tlv-ignore [**interface-status**] [**port-status**]

no ccm-tlv-ignore

Context

[Tree] (config>port>ethernet>eth-cfm>mep ccm-tlv-ignore)

[Tree] (config>router>if>eth-cfm>mep ccm-tlv-ignore)

[Tree] (config>lag>eth-cfm>mep ccm-tlv-ignore)

Full Context

configure port ethernet eth-cfm mep ccm-tlv-ignore

configure router interface eth-cfm mep ccm-tlv-ignore

configure lag eth-cfm mep ccm-tlv-ignore

Description

This command allows the receiving MEP to ignore the specified TLVs in CCM PDU. Ignored TLVs will be reported as absent and will have no impact on the MEP state machine.

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The **no** form of this command means the receiving MEP will process all recognized TLVs in the CCM PDU.

Default

no ccm-tlv-ignore

Parameters

interface-status

Ignores the interface status TLV on reception.

port-status

Ignores the port status TLV on reception.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.42 ccrt-replay

ccrt-replay

Syntax

ccrt-replay

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx ccrt-replay)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy ccrt-replay)

Full Context

configure subscriber-mgmt diameter-application-policy gx ccrt-replay

configure subscriber-mgmt diameter-application-policy gy ccrt-replay

Description

Commands in this context configure CCR-T replay. CCR-T replay is enabled with a **no shutdown** of this context. If a communication failure between client and server occurs, CCR-T replay enables the retransmission of CCR-T messages for a Gx or Gy session at a configured intervals until a valid response (CCA-t) is received or until the configured **max-lifetime** period expires, whichever comes first.

In Gx, replaying CCR-T messages ensures that the Gx session is cleared on the PCRF side in cases where the peering session to the PCRF was not available at the time that the initial and the first retransmitted CCR-T was sent.

In Gy, replaying CCR-T messages ensures that the final credit control usage reporting is not lost for billing by the OCS.

The subscriber host or session that triggered the Gx or Gy session that is in CCR-T replay mode is deleted from the system at the time that the initial CCR-T is sent. All resources associated with the subscriber host

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or session, such as queues, DHCP lease states, and PPPoE session states are released. The orphaned Gx and Gy sessions in replay mode are left in the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.43 cd

cd

Syntax

cd [*file-url*] [**router** *router-instance*]

Context

[Tree] (file cd)

Full Context

file cd

Description

This command displays or changes the current working directory in the local file system.

Parameters

file-url

Specifies the file URL.

Values

local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length 99 chars max each
remote-url	[{ftp | tftp | sftp}://*login*:*pswd@remote-locn/*][*file-path*]
	up to 247 characters
	directory length up to 199 characters
remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
	x:x:x:x:x:x:d.d.d.d[*-interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D

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	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

If no *file-url* is entered, the current working directory is displayed.

..

signifies the parent directory. This can be used in place of an actual directory name in a *directory-url*.

directory-url

Specifies the destination directory.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

9.44 ce-address

ce-address

Syntax

ce-address *ip-address*

no ce-address

Context

[Tree] (config>service>ipipe>spoke-sdp ce-address)

[Tree] (config>service>ipipe>sap ce-address)

Full Context

configure service ipipe spoke-sdp ce-address

configure service ipipe sap ce-address

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Description

This command specifies the IP address of the CE device associated with an Ipipe SAP or spoke SDP. In the case of a SAP, it is the address of the CE device directly attached to the SAP. For a spoke SDP, it is the address of the CE device reachable through that spoke SDP (for example, attached to the SAP on the remote node). The address must be a host address (no subnet addresses are accepted) as there must be only one CE device attached to an Ipipe SAP. The CE address specified at one end of an Ipipe will be used in processing ARP messages at the other endpoint, as the router acts as a proxy for ARP messages.

On a 7450 ESS, this command specifies the IP address of the CE device associated with an Ipipe SAP. In the case of a SAP, it is the address of the CE device directly attached to the SAP. The address must be a host address (no subnet addresses are accepted) as there must be only one CE device attached to an Ipipe SAP. The CE address specified at one end of an Ipipe will be used in processing ARP messages at the other endpoint, as the router acts as a proxy for ARP messages.

Parameters

ip-address

Specifies the IP address of the CE device associated with an Ipipe SAP.

Platforms

All

9.45 ce-address-discovery

ce-address-discovery

Syntax

ce-address-discovery

ce-address-discovery ipv6

no ce-address-discovery

Context

[Tree] (config>service>ipipe ce-address-discovery)

Full Context

configure service ipipe ce-address-discovery

Description

This command specifies whether the service automatically discovers the CE IP addresses.

When enabled, the addresses are automatically discovered on SAPs that support address discovery, and on the spoke SDPs. When enabled, addresses configuration on the Ipipe SAP and spoke SDPs are not allowed. If CE address discovery is required on an Ipipe service, the SAP should be created before either the spoke-SDP is administratively enabled or **ce-address-discovery** is configured.

If disabled, CE IP addresses must be manually configured for the SAPs to become operationally up.

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Default

no ce-address-discovery

Parameters

ipv6

The **ipv6** keyword enables IPv6 CE address discovery support on the Ipipe so that both IPv4 and IPv6 address discovery are supported. If the **ipv6** keyword is not included, then only IPv4 address discovery is supported and IPv6 packets are dropped.

Platforms

All

9.46 cem

cem

Syntax

cem

Context

[Tree] (config>mirror>mirror-dest>sap cem)

Full Context

configure mirror mirror-dest sap cem

Description

Commands in this context specify circuit emulation (CEM) mirroring properties.

Ingress and egress options cannot be supported at the same time on a CEM encap-type SAP. The options must be configured in either the ingress **or** egress contexts.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.47 cert

cert

Syntax

cert *cert-filename*

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no cert

Context

[Tree] (config>ipsec>cert-profile>entry cert)

Full Context

configure ipsec cert-profile entry cert

Description

This command specifies the file name of an imported certificate for the cert-profile entry.

The **no** form of this command removes the cert-file-name from the entry configuration.

Default

no cert

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cert

Syntax

cert

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn cert)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn cert)

[Tree] (config>service>ies>if>sap>ipsec-gw cert)

[Tree] (config>ipsec>trans-mode-prof>dyn cert)

[Tree] (config>service>vprn>if>sap>ipsec-gw cert)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn cert)

Full Context

configure router interface ipsec ipsec-tunnel dynamic-keying cert

configure service ies interface ipsec ipsec-tunnel dynamic-keying cert

configure service ies interface sap ipsec-gw cert

configure ipsec ipsec-transport-mode-profile dynamic-keying cert

configure service vprn interface sap ipsec-gw cert

configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert

Description

Commands in this context configure certificate parameters.

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Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel dynamic-keying cert
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert
- configure router interface ipsec ipsec-tunnel dynamic-keying cert

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-gw cert
- configure service ies interface sap ipsec-gw cert
- configure ipsec ipsec-transport-mode-profile dynamic-keying cert

cert

Syntax

cert *cert-filename*

no cert

Context

[Tree] (config>system>security>tls>cert-profile>entry cert)

Full Context

configure system security tls cert-profile entry cert

Description

This command specifies the file name of an imported certificate for the **cert-profile** entry.

The **no** form of the command removes the certificate.

Default

no cert

Parameters

cert-filename

Specifies the file name of the TLS certificate, up to 95 characters in length.

Platforms

All

cert

Syntax

cert *cert-file-name* [**create**]

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no cert

Context

[Tree] (config>system>security>pki>cert-auto-upd cert)

Full Context

configure system security pki certificate-auto-update cert

Description

This command configures the imported certificate filename for the certificate automatic update.

The **no** form of this command removes the *cert-file-name* from the configuration.

Parameters

cert-file-name

Specifies the filename of the certificate, up to 95 characters in length.

Platforms

All

9.48 cert-file

cert-file

Syntax

cert-file *filename*

no cert-file

Context

[Tree] (config>system>security>pki>ca-profile cert-file)

Full Context

configure system security pki ca-profile cert-file

Description

This command specifies the filename of a file in cf3:\system-pki\cert as the CA's certificate of the ca-profile.

Notes:

- The system will perform following checks against configured cert-file when a **no shutdown** command is issued:
  - Configured cert-file must be a DER formatted X.509v3 certificate file.

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- All non-optional fields defined in section 4.1 of RFC 5280 must exist and conform to the RFC 5280 defined format.
- Check the version field to see if its value is 0x2.
- Check The Validity field to see that if the certificate is still in validity period.
- X509 basic constraints extension must exists, and CA Boolean must be True.
- If Key Usage extension exists, then at least keyCertSign and cRLSign should be asserted.
- If the certificate is not a self-signing certificate, then system will try to look for issuer's CA's certificate to verify if this certificate is signed by issuer's CA; but if there is no such CA-profile configured, then system will just proceed with a warning message.
- If the certificate is not a self-signing certificate, then system will try to look for issuer's CA's CRL to verify that it has not been revoked; but if there is no such CA-profile configured or there is no such CRL, then system will just proceed with a warning message.

If any of above checks fails, then the **no shutdown** command will fail.

- Changing or removing of **cert-file** is only allowed when the **ca-profile** is in a **shutdown** state.

The **no** form of this command removes the filename from the configuration.

Parameters

filename

Specifies a local CF card file URL.

Platforms

All

9.49 cert-profile

cert-profile

Syntax

cert-profile *profile-name* [**create**]

no cert-profile *profile-name*

Context

[Tree] (config>ipsec cert-profile)

Full Context

configure ipsec cert-profile

Description

This command creates a new cert-profile or enters the configuration context of an existing cert-profile.

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The **no** form of this command removes the profile name from the cert-profile configuration.

Parameters

profile-name

Specifies the name of the certification profile up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cert-profile

Syntax

cert-profile *name*

no cert-profile

Context

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn>cert cert-profile)

[Tree] (config>router>if>ipsec>ipsec-tun>dyn>cert cert-profile)

[Tree] (config>service>ies>if>sap>ipsec-gw>cert cert-profile)

[Tree] (config>ipsec>trans-mode-prof>dyn>cert cert-profile)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn>cert cert-profile)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn>cert cert-profile)

[Tree] (config>service>vprn>if>sap>ipsec-gw>cert cert-profile)

Full Context

configure service vprn interface sap ipsec-tunnel dynamic-keying cert cert-profile

configure router interface ipsec ipsec-tunnel dynamic-keying cert cert-profile

configure service ies interface sap ipsec-gw cert cert-profile

configure ipsec ipsec-transport-mode-profile dynamic-keying cert cert-profile

configure service ies interface ipsec ipsec-tunnel dynamic-keying cert cert-profile

configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert cert-profile

configure service vprn interface sap ipsec-gw cert cert-profile

Description

This command specifies the name of certificate profile to be used for authentication.

The **no** form of this command removes the name from the configuration.

Parameters

name

Specifies the profile name, up to 32 characters

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ipsec-gw cert cert-profile
- configure ipsec ipsec-transport-mode-profile dynamic-keying cert cert-profile
- configure service vprn interface sap ipsec-tunnel dynamic-keying cert cert-profile
- configure service vprn interface sap ipsec-gw cert cert-profile

VSR

- configure service ies interface ipsec ipsec-tunnel dynamic-keying cert cert-profile
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert cert-profile
- configure router interface ipsec ipsec-tunnel dynamic-keying cert cert-profile

cert-profile

Syntax

cert-profile *profile-name* [**create**]

no cert-profile *profile-name*

Context

[Tree] (config>system>security>tls cert-profile)

Full Context

configure system security tls cert-profile

Description

This command configures TLS certificate profile information. The certificate profile contains the certificates that are sent to the TLS peer (server or client) to authenticate itself. It is mandatory for the TLS server to send this information. The TLS client may optionally send this information upon request from the TLS server.

The **no** form of the command deletes the specified TLS certificate profile.

Parameters

profile-name

Specifies the name of the TLS certificate profile, up to 32 characters in length.

create

Keyword used to create the TLS certificate profile.

Platforms

All

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cert-profile

Syntax

cert-profile *name*

no cert-profile

Context

[Tree] (config>system>security>tls>client-tls-profile cert-profile)

Full Context

configure system security tls client-tls-profile cert-profile

Description

This command assigns a TLS certificate profile to be used by the TLS client profile. This certificate is sent to the server for authentication of the client and public key.

The **no** form of the command removes the TLS certificate profile assignment.

Parameters

name

Specifies the name of the TLS certificate profile, up to 32 characters in length.

Platforms

All

cert-profile

Syntax

cert-profile *name*

no cert-profile

Context

[Tree] (config>system>security>tls>server-tls-profile cert-profile)

Full Context

configure system security tls server-tls-profile cert-profile

Description

This command assigns a TLS certificate profile to be used by the TLS server profile. This certificate is sent to the client for authentication of the server and public key.

The **no** form of the command removes the TLS certificate profile assignment.

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Parameters

name

Specifies the name of the TLS certificate profile, up to 32 characters in length.

Platforms

All

9.50 cert-request

cert-request

Syntax

cert-request ca *ca-profile-name* **current-key** *key-filename* **current-cert** *cert-filename* [**hash-alg** *hash-algorithm*] **newkey** *key-filename* **subject-dn** *subject-dn* [**domain-name** *domain-names*] [**ip-addr** *ip-address* | *ipv6-address*] **save-as** *save-path-of-result-cert*

Context

[Tree] (admin>certificate>cmpv2 cert-request)

Full Context

admin certificate cmpv2 cert-request

Description

This command configures the system to request an additional certificate after the system has obtained the initial certificate from the CA.

The request is authenticated by a signature signed by the current-key, along with the current certificate. The hash algorithm used for the signature depends on the key type:

- DSA key: SHA1
- RSA key: MD5/SHA1/SHA224 | SHA256 | SHA384 | SHA512 (default is SHA256)
- ECDSA key: SHA1 | SHA224 | SHA256 | SHA384 | SHA512 (default is SHA256)

In some cases, the CA may not return a certificate immediately due to reasons such as manual intervention required for request processing. In such cases, use the **admin certificate cmpv2 poll** command to poll the status of the request.

Parameters

ca-profile-name

Specifies a CA profile name, up to 32 characters, which includes CMP server information.

current-key ***key-filename***

Specifies the corresponding certificate issued by the CA, up to 95 characters.

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current-cert *cert-filename*

Specifies the filename of an imported certificate, up to 95 characters, that is attached to the certificate request.

newkey *key-filename*

Specifies the filename of the imported key, up to 95 characters.

hash-algorithm

Specifies the hash algorithm for the key.

Values **md5** – Configures the HMAC-MD5 algorithm
sha1 – Configures the HMAC-SHA1 algorithm
sha224 – Configures the HMAC-SHA224 algorithm
sha256 – Configures the HMAC-SHA256 algorithm
sha384 – Configures the HMAC-SHA384 algorithm
sha512 – Configures the HMAC-SHA512 algorithm

Default sha256

dn

Specifies the subject of the requesting certificate, up to 256 characters.

Values attr1=val1,attr2=val2 where: attrN={C | ST | O | OU | CN}

save-as *save-path-of-result-cert*

Specifies the full pathname used for saving the result certificate, up to 200 characters.

domain-names

Specifies FQDNs for SubjectAltName of the requesting certificate, separated by commas, up to 512 characters.

ip-address* | *ipv6-address

Specifies an IPv4 or IPv6 address for SubjectAltName of the requesting certificate.

Platforms

All

9.51 cert-sync

cert-sync

Syntax

[**no**] **cert-sync**

Context

[Tree] (config>redundancy cert-sync)

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Full Context

configure redundancy cert-sync

Description

This command automatically synchronizes the certificate/CRL/key when importing or generating (for the key). If a new CF card is inserted into cf3: on the standby CPM, the system will synchronize the whole `system-pki` directory from the active CPM.

Default

enabled

Platforms

All

9.52 certificate

certificate

Syntax

certificate *certificate-file*

no certificate

Context

[Tree] (config>app-assure>group>certificate-profile certificate)

Full Context

configure application-assurance group certificate-profile certificate

Description

This command indicated the file name of the certificate to be added to the profile.

The **no** form of this command removes the certificate from the profile.

Default

no certificate

Parameters

certificate-file

Specifies the name of the certificate file, up to 95 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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certificate

Syntax

certificate

Context

[Tree] (admin certificate)

Full Context

admin certificate

Description

Commands in this context configure X.509 certificate related operational parameters. For information about CMPv6 admin certificate commands, see the *7450 ESS, 7750 SR, and VSR Multiservice Integrated Service Adapter and Extended Services Appliance Guide.*

Platforms

All

certificate

Syntax

certificate

Context

[Tree] (debug certificate)

Full Context

debug certificate

Description

Commands in this context debug certificates.

Platforms

All

certificate

Syntax

certificate *filename*

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Context

[Tree] (debug>ipsec certificate)

Full Context

debug ipsec certificate

Description

This command enables debug for certificate chain computation in cert-profile.

Parameters

filename

Displays the filename of imported certificate, up to 95 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.53 certificate-auto-update

certificate-auto-update

Syntax

certificate-auto-update

Context

[Tree] (config>system>security>pki certificate-auto-update)

Full Context

configure system security pki certificate-auto-update

Description

This command configures automatic updates for the specified certificate. This must be an imported certificate.

Platforms

All

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9.54 certificate-display-format

certificate-display-format

Syntax

certificate-display-format {**ascii** | **utf8**}

Context

[Tree] (config>system>security>pki certificate-display-format)

Full Context

configure system security pki certificate-display-format

Description

This command specifies the display format used for the Certificates and Certificate Revocation Lists.

Default

certificate-display-format ascii

Parameters

ascii

Specifies the ASCII format to use for the Certificates and Certificate Revocation Lists.

utf8

Specifies the UTF8 format to use for the Certificates and Certificate Revocation Lists.

Platforms

All

9.55 certificate-expiration-warning

certificate-expiration-warning

Syntax

certificate-expiration-warning *hours* [**repeat** *repeat-hours*]

no certificate-expiration-warning

Context

[Tree] (config>system>security>pki certificate-expiration-warning)

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Full Context

configure system security pki certificate-expiration-warning

Description

With this command configured, the system issues two types of warnings related to certificate expiration:

- **BeforeExp —** A warning message issued before certificate expire
- **AfterExp —** A warning message issued when certificate expire

This command specifies when system will issue **BeforeExp** message before a certificate expires. For example, with c**ertificate-expiration-warning 5**, the system will issue a **BeforeExp** message 5 hours before a certificate expires. An optional **repeat** <*repeat-hour*> parameter will enable the system to repeat the **BeforeExp** message every hour until the certificate expires.

If the user only wants **AfterExp**, then **certificate-expiration-warning 0** can be used to achieve this.

BeforeExp and **AfterExp** warnings can be cleared in following cases:

- The certificate is reloaded by the **admin certificate reload** command. In this case, if the reloaded file is not expired, then **AfterExp** is cleared. And, if the reloaded file is outside of configured warning window, then the **BeforeExp** is also cleared.
- When the **ca-profile/ipsec-gw/ipsec-tunnel/cert-profile** is shutdown, then **BeforeExp** and **AfterExp** of corresponding certificates are cleared.
- When **no certificate-expiration-warning** command is configured, then all existing **BeforeExp** and **AfterExp** are cleared.
- Users may change the configuration of the **certificate-expiration-warning** so that certain certificates are no longer in the warning window. **BeforeExp** of corresponding certificates are cleared.
- If the system time changes so that the new time causes the certificates to no longer be in the warning window, then **BeforeExp** is cleared. If the new time causes an expired certificate to come non-expired, then **AfterExp** is cleared.

Default

no certificate-expiration-warning

Parameters

hours

Specifies the amount of time before a certificate expires when system issues BeforeExp.

Values 0 to 8760

repeat-hours

Specifies the time the system will repeat BeforeExp every repeat-hour.

Values 0 to 8760

Platforms

All

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9.56 certificate-profile

certificate-profile

Syntax

certificate-profile *cert-prof-name* [**create**]

no certificate-profile *cert-prof-name*

Context

[Tree] (config>app-assure>group certificate-profile)

Full Context

configure application-assurance group certificate-profile

Description

This command creates a certificate profile to be used for certificate-based encryption in HTTP header enrichment.

The **no** form of this command removes the certificate profile.

Parameters

cert-profile-name

Specifies the name of the profile, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.57 certificate-update-profile

certificate-update-profile

Syntax

certificate-update-profile *profile-name* [**create**]

no certificate-profile *profile-name*

Context

[Tree] (config>system>security>pki certificate-update-profile)

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Full Context

configure system security pki certificate-update-profile

Description

Commands in this context configure a certificate update profile that specifies the behavior of the automatic update certificate.

The **no** form of this command removes the profile.

Parameters

profile-name

Specifies the name of the profile, up to 32 characters.

create

Mandatory keyword to create a certificate update profile.

Platforms

All

9.58 cflash-cap-alarm

cflash-cap-alarm

Syntax

cflash-cap-alarm *cflash-id* **rising-threshold** *threshold* [**falling-threshold** *threshold*] **interval** *seconds* [*rmon-event-type*] [**startup-alarm** *alarm-type*]

no cflash-cap-alarm *cflash-id*

Context

[Tree] (config>system>thresholds cflash-cap-alarm)

Full Context

configure system thresholds cflash-cap-alarm

Description

This command enables capacity monitoring of the compact flash specified in this command. The severity level is alarm. Both a rising and falling threshold can be specified.

The **no** form of this command removes the configured compact flash threshold alarm.

Parameters

cflash-id

Specifies the name of the cflash device to be monitored.

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Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated **startup-alarm** is equal to **rising** or **either**.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal to the **falling-threshold** value.

The threshold value represents units of 512 bytes.

Values -2147483648 to 2147483647

Default 0

falling-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated **startup-alarm** is equal to **falling** or **either**.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal to the **rising-threshold** value.

The threshold value represents units of 512 bytes.

Values -2147483648 to 2147483647

Default 0

seconds

Specifies the polling period, in seconds, over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

Values log — An entry is made in the RMON-MIB log table for each event occurrence. This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations, which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

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both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

alarm-type

Specifies the alarm that may be sent when this alarm is first created

If the first sample is greater than or equal to the rising threshold value and **startup-alarm** is equal to **rising** or **either**, a single rising threshold crossing event is generated.

If the first sample is less than or equal to the falling threshold value and **startup-alarm** is equal to **falling** or **either**, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

Configuration example

```
cflash-cap-alarm cf1-A: rising-threshold 50000000 falling-
threshold 49999900
interval 120 rmon-event-type both start-alarm rising
```

Platforms

All

9.59 cflash-cap-alarm-pct

cflash-cap-alarm-pct

Syntax

cflash-cap-alarm-pct *cflash-id* **rising-threshold** *percentage* [**falling-threshold** *percentage*] **interval** *seconds* [**rmon-event-type** *event-type*] [**startup-alarm** *alarm-type*]

no cflash-cap-alarm-pct *cflash-id*

Context

[Tree] (config>system>thresholds cflash-cap-alarm-pct)

Full Context

configure system thresholds cflash-cap-alarm-pct

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Description

This command enables capacity monitoring of the compact flash specified in this command. The usage is monitored as a percentage of the capacity of the compact flash. The severity level is alarm. Both a rising and falling threshold can be specified.

The **no** form of this command removes the configured compact flash threshold alarm.

Parameters

cflash-id

Specifies the name of the cflash device to be monitored.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

rising-threshold *percentage*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated **startup-alarm** is equal to **rising** or **either**.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal to the **falling-threshold** value.

The threshold value is the percentage of used space versus capacity for the specified compact flash.

Values 0 to 100

Default 0

falling-threshold *percentage*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated **startup-alarm** is equal to **falling** or **either**.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal to the **rising-threshold** value.

The threshold value is the percentage of used space versus capacity for the specified compact flash.

Values 0 to 100

Default 0

seconds

Specifies the polling period, in seconds, over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

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event-type

Specifies the type of notification action to be taken when this event occurs.

Values log — An entry is made in the RMON-MIB log table for each event occurrence. This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations, which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

alarm-type

Specifies the alarm that may be sent when this alarm is first created.

If the first sample is greater than or equal to the rising threshold value and **startup-alarm** is equal to **rising** or **either**, a single rising threshold crossing event is generated.

If the first sample is less than or equal to the falling threshold value and **startup-alarm** is equal to **falling** or **either**, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

Configuration example

```
cflash-cap-alarm-pct cf1-A: rising-threshold 70 falling-
threshold 60 interval 120 rmon-event-type both start-alarm
 rising
```

Platforms

All

9.60 cflash-cap-warn

cflash-cap-warn

Syntax

cflash-cap-warn *cflash-id* **rising-threshold** *threshold* [**falling-threshold** *threshold*] **interval** *seconds* [*rmon-event-type*] [**startup-alarm** *alarm-type*]

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no cflash-cap-warn *cflash-id*

Context

[Tree] (config>system>thresholds cflash-cap-warn)

Full Context

configure system thresholds cflash-cap-warn

Description

This command enables capacity monitoring of the compact flash specified in this command.

The severity level is warning. Both a rising and falling threshold can be specified. The **no** form of this command removes the configured compact flash threshold warning.

Parameters

cflash-id

Specifies that the cflash-id specifies the name of the cflash device to be monitored.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

rising-threshold ***threshold***

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated **startup-alarm** is equal to **rising** or **either**.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal to the **falling-threshold** value.

The threshold value represents units of 512 bytes.

Values -2147483648 to 2147483647

Default 0

falling-threshold ***threshold***

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated **startup-alarm** is equal to **falling** or **either**.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal to the **rising-threshold** value.

The threshold value represents units of 512 bytes.

Values -2147483648 to 2147483647

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Default 0

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

Values log — An entry is made in the RMON-MIB log table for each event occurrence. This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations, which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and a SR OS logger event are generated.

none — No action is taken.

Default both

alarm-type

Specifies the alarm that may be sent when this alarm is first created. If the first sample is greater than or equal to the rising threshold value and **startup-alarm** is equal to **rising** or **either**, a single rising threshold crossing event is generated.

If the first sample is less than or equal to the falling threshold value and **startup-alarm** is equal to **falling** or **either**, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

Configuration example

```
cflash-cap-warn cf1-B: rising-threshold 2000000 falling-threshold 1999900
interval 240 rmon-event-type trap start-alarm either
```

Platforms

All

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9.61 cflash-cap-warn-pct

cflash-cap-warn-pct

Syntax

cflash-cap-warn-pct *cflash-id* **rising-threshold** *percentage* [**falling-threshold** *percentage*] **interval** *seconds* [**rmon-event-type** *event-type*] [**startup-alarm** *alarm-type*]

no cflash-cap-warn-pct *cflash-id*

Context

[Tree] (config>system>thresholds cflash-cap-warn-pct)

Full Context

configure system thresholds cflash-cap-warn-pct

Description

This command enables capacity monitoring of the compact flash specified in this command. The usage is monitored as a percentage of the capacity of the compact flash.

The severity level is warning. Both a rising and falling threshold can be specified. The **no** form of this command removes the configured compact flash threshold warning.

Parameters

cflash-id

Specifies that the cflash-id specifies the name of the cflash device to be monitored.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

rising-threshold ***percentage***

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated **startup-alarm** is equal to **rising** or **either**.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal to the **falling-threshold** value.

The threshold value is the percentage of used space versus capacity for the specified compact flash.

Values 0 to 100

Default 0

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falling-threshold ***percentage***

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated **startup-alarm** is equal to **falling** or **either**.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal to the **rising-threshold** value.

The threshold value is the percentage of used space versus capacity for the specified compact flash.

Values 0 to 100

Default 0

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

event-type

Specifies the type of notification action to be taken when this event occurs.

Values log — An entry is made in the RMON-MIB log table for each event occurrence. This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations, which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both —Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

alarm-type

Specifies the alarm that may be sent when this alarm is first created. If the first sample is greater than or equal to the rising threshold value and **startup-alarm** is equal to **rising** or **either**, a single rising threshold crossing event is generated.

If the first sample is less than or equal to the falling threshold value and **startup-alarm** is equal to **falling** or **either**, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

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Configuration example

```
cflash-cap-warn-pct cf1-B: rising-threshold 70 falling-threshold 60
interval 240 rmon-event-type trap start-alarm either
```

Platforms

All

9.62 cflowd

cflowd

Syntax

[**no**] **cflowd**

Context

[Tree] (config>service>epipe>sap cflowd)

Full Context

configure service epipe sap cflowd

Description

This command enables cflowd to collect traffic flow samples through a service interface (SAP) for analysis. When cflowd is enabled on an Ethernet service SAP, the Ethernet traffic can be sampled and processed by the system's cflowd engine and exported to IPFIX collectors with the l2-ip template enabled.

cflowd is used for network planning and traffic engineering, capacity planning, security, application and user profiling, performance monitoring, usage-based billing, and SLA measurement. When cflowd is enabled at the SAP level, all packets forwarded by the interface are subjected to analysis according to the cflowd configuration.

For L2 services, only ingress sampling is supported.

Default

no cflowd

Platforms

All

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cflowd

Syntax

[**no**] **cflowd**

Context

[Tree] (config>service>vpls>sap cflowd)

Full Context

configure service vpls sap cflowd

Description

This command enables cflowd to collect traffic flow samples through a service interface (SAP) for analysis. When cflowd is enabled on an Ethernet service SAP, the Ethernet traffic can be sampled and processed by the system's cflowd engine and exported to IPFIX collectors with the l2-ip template enabled.

cflowd is used for network planning and traffic engineering, capacity planning, security, application and user profiling, performance monitoring, usage-based billing, and SLA measurement. When cflowd is enabled at the SAP level, all packets forwarded by the interface are subjected to analysis according to the cflowd configuration.

For Layer 2 services, only ingress sampling is supported.

Default

no cflowd

Platforms

All

cflowd

Syntax

cflowd

Context

[Tree] (config>app-assure>group cflowd)

Full Context

configure application-assurance group cflowd

Description

Commands in this context configure cflowd parameters for the application assurance group.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cflowd

Syntax

[**no**] **cflowd**

Context

[Tree] (config cflowd)

Full Context

configure cflowd

Description

This command creates the context to configure cflowd.

The **no** form of this command removes all configuration under cflowd including the deletion of all configured collectors. This can only be executed if cflowd is in a shutdown state.

Default

no cflowd

Platforms

All

9.63 cflowd-parameters

cflowd-parameters

Syntax

cflowd-parameters

Context

[Tree] (config>service>vprn>sub-if>grp-if cflowd-parameters)

[Tree] (config>service>ies>sub-if>grp-if cflowd-parameters)

[Tree] (config>service>ies>if cflowd-parameters)

Full Context

configure service vprn subscriber-interface group-interface cflowd-parameters

configure service ies subscriber-interface group-interface cflowd-parameters

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configure service ies interface cflowd-parameters

Description

This command creates the configuration context to configure cflowd parameters for the associated IP interfaces.

cflowd is used for network planning and traffic engineering, capacity planning, security, application and user profiling, performance monitoring, usage-based billing, and SLA measurement. When Cflowd is enabled at the interface level, all packets forwarded by the interface are subjected to analysis according to the **cflowd** configuration.

At a minimum, the **sampling** command must be configured within this context in order to enable cflowd sampling, otherwise traffic sampling will not occur.

Default

no cflowd-parameters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface cflowd-parameters
- configure service vprn subscriber-interface group-interface cflowd-parameters

All

- configure service ies interface cflowd-parameters

cflowd-parameters

Syntax

cflowd-parameters

Context

[Tree] (config>service>vprn>nw-if cflowd-parameters)

[Tree] (config>service>vprn>if cflowd-parameters)

Full Context

configure service vprn network-interface cflowd-parameters

configure service vprn interface cflowd-parameters

Description

This command creates the configuration context to configure cflowd parameters for the associated IP interfaces.

cflowd is used for network planning and traffic engineering, capacity planning, security, application and user profiling, performance monitoring, usage-based billing, and SLA measurement.

At a minimum, the **sampling** command must be configured within this context in order to enable cflowd sampling, otherwise traffic sampling will not occur.

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Default

no cflowd-parameters

Platforms

All

cflowd-parameters

Syntax

cflowd-parameters

Context

[Tree] (config>router>if cflowd-parameters)

Full Context

configure router interface cflowd-parameters

Description

This command creates the configuration context to configure cflowd parameters for the associated IP interfaces.

cflowd is used for network planning and traffic engineering, capacity planning, security, application and user profiling, performance monitoring, usage-based billing, and SLA measurement.

At a minimum, the **sampling** command must be configured within this context in order to enable cflowd sampling, otherwise traffic sampling will not occur.

Default

no cflowd-parameters

Platforms

All

9.64 cfm-mac-advertisement

cfm-mac-advertisement

Syntax

[**no**] **cfm-mac-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn cfm-mac-advertisement)

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Full Context

configure service vpls bgp-evpn cfm-mac-advertisement

Description

This command enables the advertisement and withdrawal, as appropriate, of the IEEE MAC address associated with the MP (MEP and MIP) created on a SAP, Spoke or Mesh, in an EVPN service.

The up-date occurs each time an MP is added or deleted, or an IEEE MAC address is changed for an MP on a SAP, Spoke or Mesh within the service. The size of the update depends on the number of MPs in the service affected by the modification.

Only enable this functionality, as required, for services that require a resident MAC address to properly forward unicast traffic and that do not perform layer two MAC learning as part of the data plane.

Local MP IEEE MAC addresses are not stored in the local FDB and, as such, cannot be advertised through a control plane to a peer without this command.

The **no** version of the command disables the functionality and withdraws all previously advertised MP IEEE MAC addresses.

Platforms

All

9.65 cfm-opcode

cfm-opcode

Syntax

cfm-opcode {**lt** | **gt** | **eq**} *opcode*

cfm-opcode range *start end*

no cfm-opcode

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match cfm-opcode)

Full Context

configure system security management-access-filter mac-filter entry match cfm-opcode

Description

This command specifies the type of opcode checking to be performed.

If the cfm-opcode match condition is configured then a check must be made to see if the Ethertype is either IEEE802.1ag or Y1731. If the Ethertype does not match then the packet is not CFM and no match to the cfm-opcode is attempted.

The CFM (ieee802.1ag or Y1731) opcode can be assigned as a range with a start and an end number or with a (less than lt, greater than gt, or equal to eq) operator.

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If no range with a start and an end or operator (lt, gt, eq) followed by an opcode with the value between 0 and 255 is defined then the command is invalid.

Table 23: Opcode Values lists the opcode values.

Table 23: Opcode Values

CFM PDU or Organization	Acronym	Configurable Numeric Value (Range)
Reserved for IEEE 802.1 0		0
Continuity Check Message	CCM	1
Loopback Reply	LBR	2
Loopback Message	LBM	3
Linktrace Reply	LTR	4
Linktrace Message	LTM	5
Reserved for IEEE 802.1		6 – 31
Reserved for ITU		32
	AIS	33
Reserved for ITU		34
	LCK	35
Reserved for ITU		36
	TST	37
Reserved for ITU		38
	APS	39
Reserved for ITU		40
	MCC	41
	LMR	42
	LMM	43
Reserved for ITU		44
	1DM	45
	DMR	46
	DMM	47

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CFM PDU or Organization	Acronym	Configurable Numeric Value (Range)
Reserved for ITU		48 – 63
Reserved for IEEE 802.1 0		64 - 255

Defined by ITU-T Y.1731 32 - 63

Defined by IEEE 802.1. 64 - 255

Default

no cfm-opcode

Parameters

opcode

Specifies the opcode checking to be performed.

start

specifies the start number.

Values 0 to 255

end

Specifies the end number.

Values 0 to 255

lt | gt | eq

Specifies comparison operators.

Platforms

All

9.66 cfm-vlan-tag

cfm-vlan-tag

Syntax

cfm-vlan-tag *qtag1*[.*qtag2*]

no cfm-vlan-tag

Context

[Tree] (config>service>vpls>eth-cfm>mep cfm-vlan-tag)

[Tree] (config>service>epipe>sap>eth-cfm>mep cfm-vlan-tag)

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[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep cfm-vlan-tag)

[Tree] (config>service>vpls>sap>eth-cfm>mep cfm-vlan-tag)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep cfm-vlan-tag)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep cfm-vlan-tag)

Full Context

configure service vpls eth-cfm mep cfm-vlan-tag

configure service epipe sap eth-cfm mep cfm-vlan-tag

configure service epipe spoke-sdp eth-cfm mep cfm-vlan-tag

configure service vpls sap eth-cfm mep cfm-vlan-tag

configure service vpls spoke-sdp eth-cfm mep cfm-vlan-tag

configure service vpls mesh-sdp eth-cfm mep cfm-vlan-tag

Description

This command configures VLAN tags to apply to locally-generated CFM PDUs for egress processing.

The **no** form of the command removes the qtags from the configuration.

Parameters

qtag1

Specifies the outer VLAN ID.

Values 1 to 4094

qtag2

Specifies the inner VLAN ID and can only be specified if qtag1 is configured.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.67 chain-to-system-filter

chain-to-system-filter

Syntax

[**no**] **chain-to-system-filter**

Context

[Tree] (config>filter>ip-filter chain-to-system-filter)

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[Tree] (config>filter>ipv6-filter chain-to-system-filter)

Full Context

configure filter ip-filter chain-to-system-filter

configure filter ipv6-filter chain-to-system-filter

Description

This command chains this filter to a currently active system filter. When the filter is chained to the system filter, the system filter rules are executed first, and the filter rules are only evaluated if no match on the system filter was found.

The **no** form of the command detaches this filter from the system filter.

Operational note:

If no system filter is currently active, the command has no effect.

Default

no chain-to-system-filter

Platforms

All

9.68 challenge

challenge

Syntax

challenge {**always**}

no challenge

Context

[Tree] (config>router>l2tp challenge)

[Tree] (config>service>vprn>l2tp challenge)

Full Context

configure router l2tp challenge

configure service vprn l2tp challenge

Description

This command configures the use of challenge-response authentication.

The **no** form of this command reverts to the default **never** value.

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Default

no challenge

Parameters

always

Specifies that the challenge-response authentication is always used.

Default no challenge

Values always

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

challenge

Syntax

challenge{*always* | *never*}

no challenge

Context

[Tree] (config>service>vprn>l2tp>group challenge)

Full Context

configure service vprn l2tp group challenge

Description

This command configures the use of challenge-response authentication.

The **no** form of this command reverts to the default **never** value.

Default

no challenge

Parameters

always

Specifies when challenge-response is to be used for the authentication of the tunnels in this L2TP group.

Values always

never

Specifies never to use challenge-response for the authentication of the tunnels in this L2TP group.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

challenge

Syntax

challenge {**always** | **never**}

no challenge

Context

[Tree] (config>service>vprn>l2tp>group>tunnel challenge)

Full Context

configure service vprn l2tp group tunnel challenge

Description

This command configures the use of challenge-response authentication.

The **no** form of this command removes the parameter from the configuration and indicates that the value on group level will be taken.

Default

no challenge

Parameters

always

Specifies that challenge-response authentication should always be used for the tunnel.

never

Specifies that challenge-response authentication should never be used for the tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.69 change-reporting-action

change-reporting-action

Syntax

change-reporting-action *reporting-action*

no change-reporting-action

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Context

[Tree] (config>subscr-mgmt>gtp>peer-profile change-reporting-action)

Full Context

configure subscriber-mgmt gtp peer-profile change-reporting-action

Description

This command specifies the value of the change reporting action IE sends to the peer in applicable messages. The peer needs to indicate support first using the appropriate flag in the indication IE.

This is overridden by AAA, if AAA explicitly request notification changes for either ECGI, TAI or both. If AAA does not request any notification changes or only the generic location change, the configured value is used.

The **no** form of this command indicates that the IE is not sent, unless specified by AAA.

Default

no change-reporting-action

Parameters

reporting-action

Specifies the reporting action value as per TS 29.274.

Values 0 to 255, cgi-sai, rai, tai, ecgi, cgi-sai-rai, tai-ecgi

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.70 channel

channel

Syntax

channel *ip-address* [*ip-address*] [**create**]

no channel *ip-address* [*ip-address*]

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle channel)

Full Context

configure mcast-management multicast-info-policy bundle channel

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Description

This command defines explicit channels or channel ranges that are associated with the containing bundle. A channel or channel range is defined by their destination IP addresses. A channel may be defined using either IPv4 or IPv6 addresses. If a channel range is being defined, both the start and ending addresses must be the same type.

A specific channel may only be defined within a single channel or channel range within the multicast information policy. A defined channel range cannot overlap with an existing channel range.

If a channel range is to be shortened, extended, split or moved to another bundle, it must first be removed from its existing bundle.

Each specified channel range creates a containing context for any override parameters for the channel range. By default, no override parameters exist.

The **no** form of this command removes the specified multicast channel from the containing bundle.

Parameters

ip-address

Specifies the starting and ending destination IP addresses for a channel range. If only the start channel *ip-address* parameter is given, the channel ranges comprises of a single multicast channel.

If both the starting and ending address are specified, all addresses within the range including the specified address are part of the channel range.

IPv4 or IPv6 addresses may be defined. All specified addresses must be valid multicast destination addresses. The starting IP address must be numerically lower than the ending IP address.

Values Any valid IP multicast destination address

create

This keyword is required if creating a new multicast channel range when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the specified channel range already exists.

Platforms

All

channel

Syntax

channel *mcast-address* **source** *ip-address* [**channel-name** *channel-name*]

no channel *mcast-address* **source** *ip-address*

Context

[Tree] (config>service>vprn>video-interface channel)

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[Tree] (config>service>ies>video-interface channel)

Full Context

configure service vprn video-interface channel

configure service ies video-interface channel

Description

This command configures channel parameters for ad insertion.

Parameters

mcast-address

Specifies the multicast address.

source *ip-address*

Specifies the source IP address.

channel-name *channel-name*

Specifies the channel name up to 32 characters in length.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

channel

Syntax

channel *start-address end-address* **bw** *bandwidth* [**class** *class*] [**type** *type*] [**source** *prefix*|*prefix-length*]

no channel *start-address end-address* [**source** *prefix*|*prefix-length*]

Context

[Tree] (config>router>mcac>policy>bundle channel)

Full Context

configure router mcac policy bundle channel

Description

This command creates a multicast channel within the bundle where it is configured. A join for a particular multicast channel can be accepted if:

1. Mandatory channels:

   A sufficient bandwidth exists on the interface according to the policy settings for the interface. There is always sufficient BW available on the bundle level because mandatory channels get BW pre-reserved.

2. Optional channels:

   A sufficient BW exists on both interface and bundle level.

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A channel definition can be either IPv4 (*start-address, end-address, source-address* are IPv4 addresses) or IPv6. A single bundle can have either IPv4 or IPv6 or IPv6 and IPv4 channel definitions. A single policy can mix any of those bundles.

Overlapping channels are not allowed. Two channels overlap if they contain same groups and the same source address prefix (or both do not specify source address prefix). Two channels with same groups and different source prefixes (including one of the channels having no source configured or one of the channels having more specific prefix than the other) do not overlap and are treated as separate channels.

When joining a group from multiple sources, MCAC accounts for that only once when no source address is specified or a prefix for channel covers both sources. Channel BW should be adjusted accordingly or source-aware channel definition should be used if that is not desired.

If a bundle is removed, the channels associated are also removed and every multicast group that was previously policed (because it was in the bundle that contained the policy) becomes free of constraints.

When a new bundle is added to a MCAC policy, the bundle's established groups on a given interfaces are accounted by the policy. Even if this action results in exceeding the bundle's constrain, no active multicast groups are removed. When a leave message is received for an existing optional channel, then the multicast stream is pruned and subsequent new joins may be denied in accordance with the policy. It is possible that momentarily there may be insufficient bandwidth, even for mandatory channels, in this bundle.

Parameters

start-address

Specifies the beginning multicast IP address that identifies a multicast stream (BTV channel). Both addresses have to be either IPv4 or IPv6.

Values This must be a valid IPv4 or IPv6 multicast group address

end-address

Specifies the ending multicast IP address that identifies a multicast stream (BTV channel). Both addresses have to be either IPv4 or IPv6.

Values This must be a valid IPv4 or IPv6 multicast group address

prefix/prefix-length

Specifies the source of the multicast IP stream. This must be a valid IPv4 or IPv6 multicast source address prefix.

Values address-prefix/prefix-length

address-prefix is valid IPv4/IPv6 multicast source IP address prefix (local scope excluded)

prefix-length [0 to 32] for IPv4 [0 to 128] for IPv6

bandwidth

Specifies the bandwidth required by this channel in kb/s. If this bandwidth is configured for a mandatory channel then this bandwidth is reserved by subtracting the amount from the total available bandwidth for all potential egress interfaces and the bundle.

If this bandwidth is configured as an optional channel then this bandwidth must be available for both the bundle and the egress interface requesting the channel to be added. Once the channel has been added the available bandwidth for the bundle and the interface must be reduced by the configured bandwidth of channel.

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Values 10 to 10000000 kb/s

class

Provides deeper classification of channels used in the algorithm when LAG ports change state.

Values high, low

Default low

type

Specifies the channel to be either mandatory or optional.

mandatory — When the **mandatory** keyword is specified, then the bandwidth is reserved by subtracting it from the total available for all the potential egress interfaces and the bundle.

optional — When the **optional** keyword is specified then the bandwidth must be available on both the bundle and the egress interface that requests the channel to be added. Once the channel has been added the available bandwidth for the bundle and the interface must be reduced by the configured bandwidth of channel.

Values mandatory, optional

Default optional

Platforms

All

9.71 channelized

channelized

Syntax

channelized {**ds1** | **e1**}

no channelized

Context

[Tree] (config>port>tdm>ds3 channelized)

Full Context

configure port tdm ds3 channelized

Description

This command specifies that the associated DS-3 is a channelized DS-3 with DS-1/E-1 sub-channels. Depending on the MDA type, the DS-3 parameters must be disabled if clear channel is the default (for

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example, on m12-ds3 MDAs). Clear channel is a channel that uses out-of-band signaling, not in-band signaling, so the channel's entire bit rate is available. Channelization must be explicitly specified. The no form specifies the associated DS-3 is a clear channel circuit and cannot contain sub-channel DS-1s/E-1s. The sub-channels must be deleted first before the **no** command is executed.

Default

no channelized.

Parameters

ds1

Specifies that the channel is DS-1.

e1

Specifies that the channel is E-1.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

9.72 chap-challenge-length

chap-challenge-length

Syntax

chap-challenge-length min *length* **max** *length*

no chap-challenge-length

Context

[Tree] (config>service>vprn>l2tp>group>tunnel chap-challenge-length)

[Tree] (config>router>l2tp>group>tunnel>ppp chap-challenge-length)

[Tree] (config>router>l2tp>group>ppp chap-challenge-length)

Full Context

configure service vprn l2tp group tunnel chap-challenge-length

configure router l2tp group tunnel ppp chap-challenge-length

configure router l2tp group ppp chap-challenge-length

Description

This command configures the maximum and minimum PPP CHAP challenge length.

The **no** form of this command reverts to the default value.

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Default

chap-challenge-length min 32 max 64

Parameters

min *length*

Specifies the minimum PPP CHAP challenge length.

Values 8 to 64

Default 32

max *length*

Specifies the maximum PPP CHAP challenge length.

Values 8 to 64

Default 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

chap-challenge-length

Syntax

chap-challenge-length min *length* **max** *length*

no chap-challenge-length

Context

[Tree] (config>service>vprn>l2tp>group>ppp chap-challenge-length)

Full Context

configure service vprn l2tp group ppp chap-challenge-length

Description

This command configures the maximum and minimum PPP CHAP challenge length.

The **no** form of this command reverts to the default value.

Default

chap-challenge-length min 32 max 64

Parameters

min *length*

Specifies the minimum PPP CHAP challenge length.

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Values 8 to 64

max *length*

Specifies the maximum PPP CHAP challenge length.

Values 8 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.73 characteristic

characteristic

Syntax

characteristic *characteristic-name* **value** *value-name*

no characteristic *characteristic-name*

Context

[Tree] (config>app-assure>group>policy-override>policy characteristic)

Full Context

configure application-assurance group policy-override policy characteristic

Description

This command configure an override characteristic and value.

Parameters

characteristic-name

Specifies the characteristic name, up to 32 characters.

value-name

Specifies the override characteristic value for the application profile characteristic used by the Application assurance subscriber.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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characteristic

Syntax

characteristic *characteristic-name* **value** *value-name*

no characteristic *characteristic-name*

Context

[Tree] (config>app-assure>group>policy>app-profile characteristic)

Full Context

configure application-assurance group policy app-profile characteristic

Description

This command assigns one of the existing values of an existing application service option characteristic to the application profile.

The **no** form of this command removes the characteristic from the application profile.

Parameters

characteristic-name

Specifies the name of an existing ASO characteristic.

value-name

Specifies the name for the application profile characteristic up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

characteristic

Syntax

characteristic *characteristic-name* **{eq | neq}** *value-name*

no characteristic *characteristic-name*

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match characteristic)

Full Context

configure application-assurance group policy app-qos-policy entry match characteristic

Description

This command adds an existing characteristic and its value to the match criteria used by this AQP entry.

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The **no** form of this command removes the characteristic from match criteria for this AQP entry.

Parameters

eq

Specifies that the value configured and the value in the flow are equal.

neq

Specifies that the value configured differs from the value in the flow.

characteristic-name

Specifies the name of the existing ASO characteristic, up to 32 characters in length.

value-name

Specifies the name of an existing value for the characteristic, up to 32 characters in length.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

characteristic

Syntax

characteristic *characteristic-name* [**create**]

no characteristic *characteristic-name*

Context

[Tree] (config>app-assure>group>policy>aso characteristic)

Full Context

configure application-assurance group policy app-service-options characteristic

Description

This command creates the characteristic of the application service options.

The **no** form of this command deletes characteristic option. To delete a characteristic, it must not be referenced by other components of application assurance.

Parameters

characteristic-name

Specifies a string of up to 32 characters uniquely identifying this characteristic.

create

Mandatory keyword used to create when creating a characteristic. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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9.74 charging-characteristics

charging-characteristics

Syntax

charging-characteristics

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile charging-characteristics)

Full Context

configure subscriber-mgmt gtp peer-profile charging-characteristics

Description

Commands in this context configure charging characteristics.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.75 charging-filter

charging-filter

Syntax

charging-filter

Context

[Tree] (config>app-assure>group>policy charging-filter)

Full Context

configure application-assurance group policy charging-filter

Description

Commands in this context configure a charging filter for application assurance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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9.76 charging-group

charging-group

Syntax

charging-group *charging-group-name*

no charging-group

Context

[Tree] (config>app-assure>group>policy>chrg-fltr>entry charging-group)

Full Context

configure application-assurance group policy charging-filter entry charging-group

Description

This command configures an association between the charging group and the flows that match the charging filter entry.

The **no** form of this command removes the charging group.

Default

no charging-group

Parameters

charging-group-name

Specifies a string that uniquely identifies the charging group in the system, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

charging-group

Syntax

charging-group *charging-group-name*

no charging-group

Context

[Tree] (config>app-assure>group>policy>application charging-group)

[Tree] (config>app-assure>group>policy>app-grp charging-group)

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Full Context

configure application-assurance group policy application charging-group

configure application-assurance group policy app-group charging-group

Description

This command associates an application or app-group to an application assurance charging group.

The **no** form of this command deletes the charging group association.

Default

no charging-group

Parameters

charging-group-name

Specifies a string of up to 32 characters uniquely identifying an existing charging group in the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

charging-group

Syntax

charging-group {**eq** | **neq**} *charging-group-name*

no charging-group

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match charging-group)

Full Context

configure application-assurance group policy app-qos-policy entry match charging-group

Description

This command adds charging-group to match criteria used by this AQP entry.

The **no** form of this command removes the charging-group from match criteria for this AQP entry.

Default

no charging-group

Parameters

eq

Specifies that the value configured and the value in the flow are equal.

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neq

Specifies that the value configured differs from the value in the flow.

charging-group-name

Specifies the name of the existing application group entry. The application-group name is configured in the **config>app-assure>group>policy>aqp>entry>match** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

charging-group

Syntax

charging-group *charging-group-name* [**create**]

no charging-group *charging-group-name*

Context

[Tree] (config>app-assure>group>policy charging-group)

Full Context

configure application-assurance group policy charging-group

Description

This command creates a charging group for an application assurance policy.

The **no** form of this command deletes the charging group from the configuration. All associations must be removed to delete a group.

Default

no charging-group

Parameters

charging-group-name

Specifies a string of up to 32 characters uniquely identifying an existing charging group in the system.

create

Mandatory keyword used when creating an charging group. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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charging-group

Syntax

charging-group *charging-group-name* **export-using** *export-method* [*export-method*...(up to 2 max)]

charging-group *charging-group-name* **no-export**

no charging-group *charging-group-name*

Context

[Tree] (config>app-assure>group>statistics>aa-sub charging-group)

Full Context

configure application-assurance group statistics aa-sub charging-group

Description

This command configures aa-sub accounting statistics for export of charging groups of a given AA ISA group/partition.

The **no** form of this command removes the parameters from the configuration.

Parameters

charging-group-name

Specifies the name of the charging group. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

export-using *export-method*

Specifies that the method of stats export to be used.

Values accounting-policy, radius-accounting-policy

no-export

Allows the operator to enable the referred to a charging group to be selected (via Diameter) for Gx-usage monitoring. Gx usage monitoring is enabled automatically (and this command is not shown) if the **export-using** parameter is selected for the respective charging group.

Usage monitoring must be enabled at the group:partition level (**config>app-assure>group>statistics>aa-sub>usage-monitoring**) as well in order to allow any application/application group/charging group usage monitoring.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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9.77 charging-rule-base-name

charging-rule-base-name

Syntax

charging-rule-base-name category-map-name

charging-rule-base-name *string*

no charging-rule-base-name

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp charging-rule-base-name)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp charging-rule-base-name

Description

This command includes the Charging-Rule-Base-Name AVP with the specified value in all Diameter DCCA CCR messages.

The **no** form of this command removes the Charging-Rule-Base-Name AVP from the Diameter DCCA CCR messages.

Default

charging-rule-base-name category-map-name

Parameters

category-map-name

This keyword specifies the name of the category-map in use.

string

Specifies a string of up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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9.78 chassis-level

chassis-level

Syntax

chassis-level

Context

[Tree] (config>mcast-management chassis-level)

Full Context

configure mcast-management chassis-level

Description

Commands in this context configure multicast plane bandwidth parameters. The chassis-level CLI node contains the multicast plane replication limit for each switch fabric multicast plane.

The chassis-level node always exists and contains the configuration command to define the total replication rates for primary and secondary associated ingress paths for each switch fabric multicast plane.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

9.79 chassis-mode

chassis-mode

Syntax

chassis-mode *chassis-mode* [**force**]

Context

[Tree] (config>system chassis-mode)

Full Context

configure system chassis-mode

Description

This command is retained for historic reasons only. The command still exists but the mode is fixed at **chassis mode d**.

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Default

chassis-mode d

Parameters

chassis-mode

Specifies the chassis mode. This is always **chassis mode d**.

force

Forces an upgrade from a lesser scaling and feature set to a greater one.

Platforms

7450 ESS, 7750 SR-7/12

9.80 check-id-kp-cmcra-only

check-id-kp-cmcra-only

Syntax

[**no**] **check-id-kp-cmcra-only**

Context

[Tree] (config>system>security>pki>est-profile check-id-kp-cmcra-only)

Full Context

configure system security pki est-profile check-id-kp-cmcra-only

Description

This command enables checking id-kp-cmcRA in the EST certificate. When enabled, instead of the subject or subject alternative name, only the id-kp-cmcRA existence in extended key usage extension of EST server certificate is checked. The id-kp-cmcRA identifies a Registration Authority.

The **no** form of this command reverts to the default value.

Default

no check-id-kp-cmcra-only

Platforms

All

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9.81 check-zero

check-zero

Syntax

check-zero {**enable** | **disable**}

no check-zero

Context

[Tree] (config>service>vprn>ripng check-zero)

[Tree] (config>service>vprn>ripng>group check-zero)

[Tree] (config>service>vprn>rip check-zero)

[Tree] (config>service>vprn>rip>group>neighbor check-zero)

[Tree] (config>service>vprn>rip>group check-zero)

[Tree] (config>service>vprn>ripng>group>neighbor check-zero)

Full Context

configure service vprn ripng check-zero

configure service vprn ripng group check-zero

configure service vprn rip check-zero

configure service vprn rip group neighbor check-zero

configure service vprn rip group check-zero

configure service vprn ripng group neighbor check-zero

Description

This command enables checking for zero values in fields specified to be zero by the RIPv1 and RIPv2 specifications.

The **no** form of this command disables this check and allows the receipt of RIP messages even if the mandatory zero fields are non-zero.

Default

no check-zero

Parameters

enable

Enables checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications and rejecting noncompliant RIP messages.

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disable

Disables the checking and allows the receipt of RIP messages even if the mandatory zero fields are non-zero.

Platforms

All

check-zero

Syntax

check-zero {**enable** | **disable**}

no check-zero

Context

[Tree] (config>router>ripng>group check-zero)

[Tree] (config>router>ripng check-zero)

[Tree] (config>router>rip>group check-zero)

[Tree] (config>router>rip>group>neighbor check-zero)

[Tree] (config>router>rip check-zero)

[Tree] (config>router>ripng>group>neighbor check-zero)

Full Context

configure router ripng group check-zero

configure router ripng check-zero

configure router rip group check-zero

configure router rip group neighbor check-zero

configure router rip check-zero

configure router ripng group neighbor check-zero

Description

This command enables checking for zero values in fields specified to be zero by the RIPv1 and RIPv2 specifications.

The **check-zero enable** command enables checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications and rejecting non-compliant RIP messages.

The **check-zero disable** command disables this check and allows the receipt of RIP messages even if the mandatory zero fields are non-zero.

This configuration parameter can be set at three levels: global level (applies to all groups and neighbor interfaces), group level (applies to all neighbor interfaces in the group) or neighbor level (only applies to the specified neighbor interface). The most specific value is used. In particular if no value is set (**no check-zero**), the setting from the less specific level is inherited by the lower level.

The **no** form of the command removes the **check-zero** command from the configuration.

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Parameters

enable

Specifies to reject RIP messages which do not have zero in the RIPv1 and RIPv2 mandatory fields.

disable

Specifies allows receipt of RIP messages which do not have the mandatory zero fields reset.

Platforms

All

9.82 checksum

checksum

Syntax

checksum {**md5** | **sha256**} *file-url* [*router router-instance*]

Context

[Tree] (file checksum)

Full Context

file checksum

Description

This command computes and displays a checksum for a file.

Parameters

md5

Specifies the use of the MD5 algorithm to produce the file checksum.

sha256

Specifies the use of the SHA-256 algorithm to produce the file checksum.

file-url

Specifies the location of the file.

Values		
	local-url	[*cflash-id*/][*file-path*] up to 200 characters, including cflash-id directory length 99 chars max each
	remote-url	[{ftp | tftp | sftp}://*login*:*pswd@remote-locn*/][*file-path*] up to 247 characters

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	directory length up to 199 characters
remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
	x:x:x:x:x:x:d.d.d.d[*-interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

9.83 child-control

child-control

Syntax

child-control

Context

[Tree] (config>qos>adv-config-policy child-control)

Full Context

configure qos adv-config-policy child-control

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Description

This command contains parameters that are intended to allow more precise control of the method that hierarchical virtual scheduling employs to emulate the effect of a scheduling context upon a member child queue or policer.

This command edits the parameters that control the child requested bandwidth and parental bandwidth distribution for all policers and queues associated with the policy.

Platforms

All

9.84 chli-event

chli-event

Syntax

chli-event {**forward** | **backward** | **aggregate**} **threshold** *raise-threshold* [**clear** *clear-threshold*]

no chli-event {**forward** | **backward** | **aggregate**}

Context

[Tree] (config>oam-pm>session>ethernet>slm>loss-events chli-event)

[Tree] (config>oam-pm>session>ethernet>lmm>loss-events chli-event)

[Tree] (config>oam-pm>session>ip>twamp-light>loss-events chli-event)

Full Context

configure oam-pm session ethernet slm loss-events chli-event

configure oam-pm session ethernet lmm loss-events chli-event

configure oam-pm session ip twamp-light loss-events chli-event

Description

This command sets the consecutive high loss interval (CHLI) threshold to be monitored and the associated thresholds using the counter of the specified direction.

The **no** form of this command removes the event threshold for the frame loss ratio. The direction must be included with the **no** command.

Default

no chli-event forward

no chli-event backward

no chli-event aggregate

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Parameters

forward

Keyword to specify the threshold is applied to the forward direction count.

backward

Keyword to specify the threshold is applied to the backward direction count.

aggregate

Keyword to apply the threshold to the aggregate count (sum of forward and backward). The aggregate is a function of summing forward and backward. This value is only used as a threshold mechanism and is not part of the stored statistics.

raise-threshold

Specifies the numerical value compared to the CHLI counter that is the rising threshold that determines when the event is to be generated, when the percentage of loss value is reached.

Values 1 to 864000

clear-threshold

Specifies an optional numerical value compared to the CHLI counter used for stateful behavior that allows the operator to configure a value lower than the rising percentage to indicate when the clear event should be generated.

If the optional **clear** *clear-threshold* parameter is not specified, the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and regardless of any previous window. Each unique event can only be raised once within measurement interval.

If the optional **clear** *clear-threshold* parameter is specified, the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to the following measurement intervals. If a threshold crossing event is raised another is raised until a measurement interval completes and the clear threshold has not been exceeded. A clear event is raised under that condition.

Values 0 to 863999

A value of zero means that the CHLI counter must be 0.

Platforms

All

- configure oam-pm session ethernet lmm loss-events chli-event
- configure oam-pm session ethernet slm loss-events chli-event

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- configure oam-pm session ip twamp-light loss-events chli-event

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9.85 cipher

cipher

Syntax

cipher *index* **name** *cipher-name*

no cipher *index*

Context

[Tree] (config>system>security>ssh>client-cipher-list cipher)

[Tree] (config>system>security>ssh>server-cipher-list cipher)

Full Context

configure system security ssh client-cipher-list cipher

configure system security ssh server-cipher-list cipher

Description

This command configures a cipher. Client-ciphers are used when the SR OS is acting as an SSH client. Server-ciphers are used when the SR OS is acting as an SSH server.

The **no** form of this command removes the index and cipher name from the configuration.

Default

no cipher *index*

Parameters

index

Specifies the index of the cipher in the list.

Values 1 to 255

cipher-name

Specifies the algorithm used when performing encryption or decryption.

Values Client ciphers: 3des-cbc, aes128-cbc, aes192-cbc, aes256-cbc, aes128-ctr, aes192-ctr, aes256-ctr.

Server ciphers: 3des-cbc, aes128-cbc, aes192-cbc, aes256-cbc, aes128-ctr, aes192-ctr, aes256-ctr.

The following table lists the default ciphers used for SSHv2.

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Table 24: SSHv2 Default Ciphers

Cipher index value	Cipher name
190	aes256-ctr
192	aes192-ctr
194	aes128-ctr
200	aes128-cbc
205	3des-cbc
225	aes192-cbc
230	aes256-cbc

Platforms

All

cipher

Syntax

cipher *index* **name** *cipher-suite-code*

no cipher *index*

Context

[Tree] (config>system>security>tls>server-cipher-list cipher)

[Tree] (config>system>security>tls>client-cipher-list cipher)

Full Context

configure system security tls server-cipher-list cipher

configure system security tls client-cipher-list cipher

Description

This command configures the cipher suite to be negotiated by the server and client.

Parameters

index

Specifies the index number. The index number provides the location of the cipher in the negotiation list; the lower index numbers are higher in the list, and the higher index numbers are lower in the list.

Values 1 to 255

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cipher-suite-code

Specifies the cipher suite code.

Values tls-rsa-with-3des-ede-cbc-sha
tls-rsa-with-aes128-cbc-sha
tls-rsa-with-aes256-cbc-sha
tls-rsa-with-aes128-cbc-sha256
tls-rsa-with-aes256-cbc-sha256
tls-rsa-with-aes128-gcm-sha256
tls-rsa-with-aes256-gcm-sha384
tls-ecdhe-rsa-aes128-gcm-sha256
tls-ecdhe-rsa-aes256-gcm-sha384
tls-ecdhe-ecdsa-aes128-gcm-sha256
tls-ecdhe-ecdsa-aes256-gcm-sha384

Platforms

All

9.86 cipher-list

cipher-list

Syntax

cipher-list *name*

no cipher-list

Context

[Tree] (config>system>security>tls>client-tls-profile cipher-list)

Full Context

configure system security tls client-tls-profile cipher-list

Description

This command assigns the cipher list to be used by the TLS client profile for negotiation in the client Hello message.

Parameters

name

Specifies the name of the cipher list.

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Platforms

All

cipher-list

Syntax

cipher-list *name*

no cipher-list

Context

[Tree] (config>system>security>tls>server-tls-profile cipher-list)

Full Context

configure system security tls server-tls-profile cipher-list

Description

This command assigns a cipher list to be used by the TLS server profile. This cipher list is used to find matching ciphers with the cipher list that is received from the client.

The **no** form of the command removes the cipher list.

Parameters

name

Specifies the name of the cipher list, up to 32 characters in length.

Platforms

All

9.87 cipher-suite

cipher-suite

Syntax

cipher-suite *cipher-suite*

no cipher-suite

Context

[Tree] (config>macsec>connectivity-association cipher-suite)

Full Context

configure macsec connectivity-association cipher-suite

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Description

This command configures encryption of data path PDUs. When all parties in the Connectivity Association (CA) have the SAK, they use the above algorithm in conjunction with the SAK to encrypt the data path PDUs.

The XPN 64 bit (extended packet number) can be used for higher rate ports such as 10 GigE to minimize the window rollover and renegotiation of the SAK.

The **no** form of this command disables encryption of data path PDUs.

Default

cipher-suite gcm-aes-128

Parameters

cypher-suite

Specifies the algorithm.

Values gcm-aes-128 — algorithm is used for control plain encryption

gcm-aes-256 — algorithm is used for control plain encryption

gcm-aes-xpn-128 — algorithm with extended packet number is used for control plain encryption

gcm-aes-xpn-256 — algorithm with extended packet number is used for control plain encryption

Platforms

All

9.88 cir

cir

Syntax

cir *congested-cir*

no cir

Context

[Tree] (config>app-assure>group>policer>congestion-override cir)

Full Context

configure application-assurance group policer congestion-override cir

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Description

This command provides a mechanism to configure the CIR for the congestion override policer. It is recommended that the CIR is configured larger than twice the maximum MTU for the traffic handled by the policer to allow for some burstiness of the traffic. The CIR is configurable for dual-bucket bandwidth policers only.

The **no** form of this command resets the CIR value to its default.

Default

cir 0

Parameters

congested-cir

Specifies an integer value defining size, in kilobytes, for the CIR of the policer.

Values 0 to 100000000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cir

Syntax

cir *cir-rate*

no cir

Context

[Tree] (config>app-assure>group>policer>congestion-override-stage2 cir)

Full Context

configure application-assurance group policer congestion-override-stage2 cir

Description

This command provides a mechanism to configure the CIR for the congestion override policer. It is recommended that the CIR is configured larger than twice the maximum MTU for the traffic handled by the policer to allow for some burstiness of the traffic. The CIR is configurable for dual-bucket bandwidth policers only.

The **no** form of this command resets the CIR value to its default.

Default

cir 0

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Parameters

cir-rate

Specifies an integer value defining size, in kilobytes, for the CIR of the policer.

Values 0 to 100000000, max

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

cir

Syntax

[**no**] **cir**

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>test-types cir)

Full Context

configure test-oam service-activation-testhead service-test service-stream test-types cir

Description

This command configures the CIR test on the service stream.

The **no** form of this command removes the configured CIR test.

Default

no cir

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

cir

Syntax

cir

Context

[Tree] (config>test-oam>sath>svc-test>test-duration cir)

Full Context

configure test-oam service-activation-testhead service-test test-duration cir

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Description

Commands in this context configure the duration for the CIR test type.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

9.89 cir-non-profiling

cir-non-profiling

Syntax

[**no**] **cir-non-profiling**

Context

[Tree] (config>qos>sap-ingress>queue cir-non-profiling)

Full Context

configure qos sap-ingress queue cir-non-profiling

Description

This command prevents the modification of the profile of a packet depending on the queue rate compared to its configured CIR. The CIR continues to be used to affect the scheduling priority of a queue. The **cir-non-profiling** command and the **queue police** command are mutually exclusive.

The **cir-non-profiling** command is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

The **cir-non-profiling** command should not be configured under a SAP ingress QoS policy queue associated with a LAG which spans FP4-based and FP2- or FP3-based hardware as the resulting operation could be different depending on which hardware type the traffic ingresses.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

cir-non-profiling

Syntax

[**no**] **cir-non-profiling**

Context

[Tree] (config>qos>queue-group-templates>ingress>queue-group>queue cir-non-profiling)

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Full Context

configure qos queue-group-templates ingress queue-group queue cir-non-profiling

Description

This command prevents the modification of the profile of a packet-dependent queue rate compared to its configured CIR. The CIR continues to be used to affect the scheduling priority of a queue. The **cir-non-profiling** and the **queue police** commands are mutually exclusive.

cir-non-profiling is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

cir-non-profiling should not be configured under an ingress queue group template queue associated with a LAG which spans FP4-based and FP2/FP3-based hardware as the resulting operation could be different depending on which hardware type the traffic ingresses.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

9.90 cir-pir

cir-pir

Syntax

[**no**] **cir-pir**

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>test-types cir-pir)

Full Context

configure test-oam service-activation-testhead service-test service-stream test-types cir-pir

Description

This command configures both the CIR and PIR tests on the service stream.

The **no** form of this command removes the configured CIR and PIR test.

Default

no cir-pir

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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cir-pir

Syntax

cir-pir

Context

[Tree] (config>test-oam>sath>svc-test>dur cir-pir)

Full Context

configure test-oam service-activation-testhead service-test test-duration cir-pir

Description

Commands in this context configure the duration for the CIR-PIR test type.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

9.91 cir-threshold

cir-threshold

Syntax

cir-threshold *kbps*

no cir-threshold

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl cir-threshold)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template cir-threshold

Description

This command configures a CIR value that is compared to the measured results for the CIR test types. If the measured value is greater than or equal to the configured value, the test passes; otherwise, it fails. For more information, see the **m-factor** command.

The **no** form of this command disables the comparison of the parameter with the measured value; the CIR threshold value is ignored while declaring the test result.

Default

no cir-threshold

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Parameters

kbps

Specifies the value, in kb/s, to compare with the measured value.

Values 1 to 400,000,000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

9.92 circuit-id

circuit-id

Syntax

circuit-id string *ascii-string*

circuit-id hex *hex-string*

no circuit-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident circuit-id)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident circuit-id)

Full Context

configure subscriber-mgmt local-user-db ppp host host-identification circuit-id

configure subscriber-mgmt local-user-db ipoe host host-identification circuit-id

Description

This command specifies the circuit ID to match for a host lookup. When the LUDB is accessed using a DHCPv4 server, the circuit ID is matched against DHCP Option 82.

Note:
This command is only used when **circuit-id** is configured as one of the **match-list** parameters.

The **no** form of this command removes the circuit ID from the configuration.

Parameters

ascii-string

Specifies the circuit ID from the Option 82, up to 127 characters.

hex-string

Specifies the circuit ID in hexadecimal format from the Option 82.

Values 0x0 to 0xFFFFFFFF (maximum 254 hex nibbles)

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

circuit-id

Syntax

circuit-id *action*

circuit-id *action* **ascii** *ascii-string*

circuit-id *action* **hex** *hex-string*

no circuit-id

Context

[Tree] (config>service>vpls>sap>pppoe>intermediate-agent>bbf-vendor-specific-tag circuit-id)

Full Context

configure service vpls sap pppoe intermediate-agent bbf-vendor-specific-tag circuit-id

Description

This command configures the PPPoE Intermediate Agent action on the Circuit ID sub tag (Access loop identification) in the BBF vendor specific PPPoE tag.

The **no** form of this command resets the configuration to the default.

Default

circuit-id replace ascii "$SYS|$SVC|$SAP"

Parameters

ascii

Keyword used to specify an ASCII string as the value of the Circuit ID sub-tag when replaced or inserted by the PPPoE Intermediate Agent.

ascii-string

Specifies a user-defined ASCII string, up to 63 characters. The following variables can be used in the user-defined string:

Values

$MAC	source MAC address of the received PADx packet
$SAP	SAP ID where the PADx packet is received
$SVC	service ID of the service where the PADx packet is received
$SYS	system name of the router

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hex

Keyword used to specify an hexadecimal string as the value of the Circuit ID sub-tag when replaced or inserted by the PPPoE Intermediate Agent.

hex-string

Specifies a user-defined hexadecimal string.

Values 0x0 to 0xFFFFFFFF (maximum 126 hex nibbles)

action

Specifies the action

Values		
	keep	Keep the Circuit ID sub-tag when present in the received packet. Do not insert a Circuit ID sub-tag when not present in the received packet.
	remove	Remove the Circuit ID sub-tag when present in the received packet. Do not insert a Circuit ID sub-tag when not present in the received packet.
	merge	Keep the Circuit ID sub-tag when present in the received packet. Insert a Circuit ID sub-tag when not present in the received packet.
	replace	Replace the Circuit ID sub-tag when present in the received packet. Insert a Circuit ID sub-tag when not present in the received packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

circuit-id

Syntax

circuit-id sap-id

circuit-id string *ASCII string*

no circuit-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ali circuit-id)

Full Context

configure subscriber-mgmt local-user-db ppp host access-loop-information circuit-id

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Description

This command specifies a circuit-id for PPPoE hosts. A circuit ID received in PPPoE tags has precedence over the LUDB specified circuit ID.

The **no** form of this command reverts to the default.

Parameters

sap-id

Specifies to use the SAP ID of the PPPoE session as the circuit ID.

ASCII string

Specifies the circuit ID as a string, up to 63 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

circuit-id

Syntax

circuit-id

circuit-id {**ascii-tuple** | **if-index** | **sap-id** | **vlan-ascii-tuple**}

circuit-id hex [*hex-string*]

no circuit-id

Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option circuit-id)

[Tree] (config>service>vpls>sap>dhcp>option circuit-id)

[Tree] (config>service>ies>if>dhcp>option circuit-id)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option circuit-id)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option circuit-id)

[Tree] (config>service>vprn>if>dhcp>option circuit-id)

Full Context

configure service vprn subscriber-interface group-interface dhcp option circuit-id

configure service vpls sap dhcp option circuit-id

configure service ies interface dhcp option circuit-id

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option circuit-id

configure service ies subscriber-interface group-interface dhcp option circuit-id

configure service vprn interface dhcp option circuit-id

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Description

When enabled, the router sends an ASCII-encoded tuple in the **circuit-id** sub-option of the DHCP packet. This ASCII-tuple consists of the access-node-identifier, service-id, and SAP-ID, separated by "|". If no keyword is configured, then the circuit-id sub-option will not be part of the information option (Option 82). When the command is configured without any parameters, it equals to circuit-id ascii-tuple.

To send a tuple in the circuit ID, the **action replace** command must be configured in the same context.

If disabled, the **circuit-id** sub-option of the DHCP packet is left empty.

The **no** form of this command specifies to leave the circuit-id option of the packet empty.

Default

circuit-id ascii-tuple

Parameters

ascii-tuple

Specifies that the ASCII-encoded concatenated tuple consisting of the access-node-identifier, service-id, and interface-name is used.

ifindex

Specifies that the interface index is used. The If Index of a router interface can be displayed using the command **show>router>if>detail**.

sap-id

Specifies that the SAP identifier is used.

vlan-ascii-tuple

Specifies that the format will include VLAN-id and dot1p bits in addition to what is included in ascii-tuple already. The format is supported on dot1q and qinq ports only. Thus, when the Option 82 bits are stripped, dot1p bits are copied to the Ethernet header of an outgoing packet.

hex-string

Specifies the hex value of this option.

Values 0x0 to 0xFFFFFFFF...(up to 64 hex nibbles)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp option circuit-id
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option circuit-id
- configure service vprn subscriber-interface group-interface dhcp option circuit-id

All

- configure service vpls sap dhcp option circuit-id
- configure service ies interface dhcp option circuit-id
- configure service vprn interface dhcp option circuit-id

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circuit-id

Syntax

[**no**] **circuit-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute circuit-id)

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute circuit-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute circuit-id

configure subscriber-mgmt authentication-policy include-radius-attribute circuit-id

Description

This command enables the generation of the Broad Band Forum Agent-Circuit-Id Vendor Specific AVP in Diameter NASREQ AAR messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

circuit-id

Syntax

[**no**] **circuit-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>avp circuit-id)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp circuit-id

Description

This command includes the Broad Band Forum Agent-Circuit-Id Vendor Specific AVP in Diameter NASREQ AAR messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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circuit-id

Syntax

[**no**] **circuit-id** *circuit-id*

Context

[Tree] (debug>service>id>ppp circuit-id)

Full Context

debug service id ppp circuit-id

Description

This command enable PPP debug for the specified circuit-id.

Multiple circuit-id filters can be specified in the same debug command.

The **no** form of this command disables debugging.

Parameters

circuit-id

Specifies the circuit-id in PADI.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

circuit-id

Syntax

[**no**] **circuit-id**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes circuit-id)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes circuit-id)

Full Context

configure aaa isa-radius-policy auth-include-attributes circuit-id

configure aaa isa-radius-policy acct-include-attributes circuit-id

Description

This command enables the generation of the Broad Band Forum Agent-Circuit-Id Vendor Specific AVP in Diameter NASREQ AAR messages.

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Default

no circuit-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

circuit-id

Syntax

circuit-id {**ascii-tuple** | **ifindex** | **if-name** | **port-id** | **vlan-ascii-tuple** | **none**}

no circuit-id

Context

[Tree] (config>router>if>dhcp>option circuit-id)

Full Context

configure router interface dhcp option circuit-id

Description

When enabled, the router sends the interface index (If Index) in the **circuit-id** suboption of the DHCP packet. The If Index of a router interface can be displayed using the command **show router interface detail**. This option specifies data that must be unique to the router that is relaying the circuit.

If disabled, the **circuit-id** suboption of the DHCP packet will be left empty.

The **no** form of this command returns the system to the default.

Default

circuit-id ascii-tuple

Parameters

ascii-tuple

Specifies that the ASCII-encoded concatenated tuple will be used which consists of the access-node-identifier, service-id, and interface-name, separated by a pipe (|).

ifindex

Specifies that the interface index will be used. The If Index of a router interface can be displayed using the command **show router interface detail**.

if-name

Specifies the interface name.

port-id

Specifies the port ID.

vlan-ascii-tuple

Specifies that the format will include VLAN-id and dot1p bits in addition to what is included in ascii-tuple already. The format is supported on dot1q and qinq ports only. Therefore,

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when the Option 82 bits are stripped, dot1p bits will be copied to the Ethernet header of an outgoing packet.

none

Specifies that no circuit should be used.

Platforms

All

9.93 circuit-id-from-auth

circuit-id-from-auth

Syntax

[**no**] **circuit-id-from-auth**

Context

[Tree] (config>subscr-mgmt>ipoe-plcy circuit-id-from-auth)

Full Context

configure subscriber-mgmt ipoe-session-policy circuit-id-from-auth

Description

This command takes the circuit ID value from the authentication server to identify the session.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.94 cisco-nas-port

cisco-nas-port

Syntax

cisco-nas-port [**ethernet** *binary-spec-eth*]

no cisco-nas-port

Context

[Tree] (config>router>l2tp cisco-nas-port)

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Full Context

configure router l2tp cisco-nas-port

Description

This command configures the L2TP Cisco NAS port AVP.

The **no** form of this command removes the specified L2TP Cisco NAS port AVP.

Default

no cisco-nas-port

Parameters

binary-spec-eth

Specifies the string to put in the Cisco-NAS-Port AVP for L2TP control messages related to a PPPoE session in this L2TP protocol instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

cisco-nas-port

Syntax

cisco-nas-port [**ethernet** *binary-spec*]

Context

[Tree] (config>service>vprn>l2tp cisco-nas-port)

Full Context

configure service vprn l2tp cisco-nas-port

Description

This command enables the AVP Cisco-nas-port to include the slot/mda/port along with the pseudowire port ID. If the pseudowire is terminated on a LAG, the slot/mda/port cannot be populated and only the pseudowire ID is included.

The **no** form of this command enables the AVP Cisco-nas-port.

Default

no cisco-nas-port

Parameters

binary-spec

Specifies the NAS port attribute.

Values binary-spec <bit-specification> <binary-spec>

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bit-specification	0 | 1 | <bit-origin>	
bit-origin	*<number-of-bits><origin>	
number-of-bits	1 to 32	
origin	s | m | p | o | i | v | c	
	s	slot number
	m	MDA number
	p	port number, lag-id, pw-id or pxc-id
	o	outer VLAN ID
	i	inner VLAN ID
	v	ATM VPI
	c	ATM VCI or PXC subport (subport a = 0, subport b = 1)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.95 ckn

ckn

Syntax

ckn *hex-string*

no ckn

Context

[Tree] (config>macsec>conn-assoc>static-cak>pre-shared-key ckn)

Full Context

configure macsec connectivity-association static-cak pre-shared-key ckn

Description

Specifies the connectivity association key name (CKN) for a pre-shared key.

CKN is appended to the MKA for identification of the appropriate CAK by the peer.

The **no** form of this command reverts to the default value.

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Parameters

hex-string

Specifies the value of the CKN.

Values 32 octets char (64 hex)

Platforms

All

9.96 class

class

Syntax

[**no**] **class** *class-number*

Context

[Tree] (config>port>ethernet>egress>hs-sec-shaper class)

Full Context

configure port ethernet egress hs-secondary-shaper class

Description

This command specifies the HS secondary shaper class.

The **no** form of this command reverts the rate for this class to the default value.

Parameters

class-number

Specifies the HS secondary shaper class identifier.

Values 1 to 6

Platforms

7750 SR-7/12/12e

class

Syntax

[**no**] **class**

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Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes class)

Full Context

configure aaa isa-radius-policy acct-include-attributes class

Description

This command enables the generation of the class RADIUS attribute.

Default

no class

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.97 class-forwarding

class-forwarding

Syntax

[**no**] **class-forwarding**

Context

[Tree] (config>service>vprn class-forwarding)

Full Context

configure service vprn class-forwarding

Description

This command enables the CBF for VPRN-v4/v6 prefixes resolved to RSVP-TE LSPs.

The **no** form of this command disables the CBF for VPRN-v4/v6 prefixes resolved to RSVP-TE LSPs.

Default

no class-forwarding

Platforms

All

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class-forwarding

Syntax

class-forwarding cbf-mode {**lsr** | **ler** | **lsr-and-ler**}

no class-forwarding

Context

[Tree] (config>router>ldp class-forwarding)

Full Context

configure router ldp class-forwarding

Description

This command enables class-based forwarding for packets that belong to one of the eight forwarding classes (be, l2, af, l1, h2, ef, h1, and nc). For the LER role, class-based forwarding is performed in conjunction with ECMP. At LER, this function applies to packets whose prefixes resolve to an LDP FEC. This LDP FEC resolves to a set of IGP shortcuts (RSVP-TE LSPs). At LSR, this function applies to labeled LDP packets whose FEC resolves to an IGP shortcut. Refer to "Class-based Forwarding of LDP Prefix Packets over IGP Shortcuts" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR MPLS Guide* for detailed information on this capability.

The **no** form of this command disables class-based forwarding.

Default

no class-forwarding

Parameters

cbf-mode lsr

Enables class-forwarding at LSR and disables any previously enabled mode.

cbf-mode ler

Enables class-forwarding at LER and disables any previously enabled mode.

cbf-mode lsr-and-ler

Enables class-forwarding at both LSR and LER, and disables any previously enabled mode.

Platforms

All

class-forwarding

Syntax

[**no**] **class-forwarding**

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Context

[Tree] (config>router>mpls>lsp-template class-forwarding)

[Tree] (config>router>mpls>lsp class-forwarding)

Full Context

configure router mpls lsp-template class-forwarding

configure router mpls lsp class-forwarding

Description

Commands in this context configure class based forwarding parameters for a given LSP or LSP-template.

A change in the Class-Based Forwarding configuration may result in a change of forwarding behavior.

The **no** form removes any Class-Based Forwarding configuration associated to that LSP or LSP-template.

Default

no class-forwarding

Platforms

All

class-forwarding

Syntax

[**no**] **class-forwarding**

Context

[Tree] (config>router class-forwarding)

Full Context

configure router class-forwarding

Description

This command enables class-based forwarding (CBF) over IGP shortcuts. When the **class-forwarding** command is enabled, the following types of packets are forwarded based on their forwarding class:

- packets of BGP prefixes
- CPM originated packets for the families (IPv4 only, IPv6 only, or both IPv4 and IPv6) which have been enabled over IGP shortcuts using the **igp-shortcut** CLI context in one or more IGP instances

The SR OS CBF implementation supports spraying of packets over a maximum of four forwarding sets of ECMP LSPs. The user must define a class-forwarding policy object in MPLS to configure the mapping of FCs to the forwarding sets. Then, the user assigns the CBF policy name and set ID to each MPLS LSP that is used in IGP shortcuts.

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When a BGP IPv4 or IPv6 prefix is resolved, the FC of the packet is used to look up the forwarding set ID. Then, a modulo operation is performed on the tunnel next-hops of this set ID only, to spray packets of this FC. The data path concurrently implements CBF and ECMP within the tunnels of each set ID.

CPM-originated packets on the router, including control plane and OAM packets, are forwarded over a single LSP from the set of LSPs that the packet's FC is mapped to, as per the CBF configuration.

Note:
Weighted ECMP, at the transport tunnel level of BGP prefixes over IGP shortcuts and the CBF feature on a per BGP next-hop basis are mutually exclusive.

Default

no class-forwarding

Platforms

All

class-forwarding

Syntax

class-forwarding [**default-lsp** *lsp-name*]

no class-forwarding

Context

[Tree] (config>service>sdp class-forwarding)

Full Context

configure service sdp class-forwarding

Description

This command enables the forwarding of a service packet over the SDP based on the class of service of the packet. Specifically, the packet is forwarded on the RSVP LSP or static LSP whose forwarding class matches that of the packet. The user maps the system forwarding classes to LSPs using the **config>service>sdp>class-forwarding>fc** command. If there is no LSP that matches the packet's forwarding class, the default LSP is used. If the packet is a VPLS multicast/broadcast packet and the user did not explicitly specify the LSP to use under the **config>service>sdp>class-forwarding>multicast-lsp** context, then the default LSP is used.

VLL service packets are forwarded based on their forwarding class only if shared queuing is enabled on the ingress SAP. Shared queuing must be enabled on the VLL ingress SAP if class-forwarding is enabled on the SDP the service is bound to. Otherwise, the VLL packets will be forwarded to the LSP which is the result of hashing the VLL service ID. Since there are eight entries in the ECMP table for an SDP, one LSP ID for each forwarding class, the resulting load balancing of VLL service ID is weighted by the number of times an LSP appears on that table. For instance, if there are eight LSPs, the result of the hashing will be similar to when class based forwarding is disabled on the SDP. If there are fewer LSPs, then the LSPs which were mapped to more than one forwarding class, including the default LSP, will have proportionally more VLL services forwarding to them.

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Class-based forwarding is not supported on a spoke SDP used for termination on an IES or VPRN service. All packets are forwarded over the default LSP.

The **no** form of the command deletes the configuration and the SDP reverts back to forwarding service packets based on the hash algorithm used for LAG and ECMP.

Default

no class-forwarding

Parameters

default-lsp *lsp-name*

Specifies the default LSP for the SDP. This LSP name must exist and must have been associated with this SDP using the *lsp-name* configured in the **config>service>sdp>lsp** context. The default LSP is used to forward packets when there is no available LSP which matches the packet's forwarding class. This could be because the LSP associated with the packet's forwarding class is down, or that the user did not configure a mapping of the packet's forwarding class to an LSP using the **config>service>sdp>class-forwarding>fc** command. The default LSP is also used to forward VPLS service multicast/broadcast packets in the absence of a user configuration indicating an explicit association to one of the SDP LSPs.

Note:
When the default LSP is down, the SDP is also brought down. The user will not be able to enter the class-forwarding node if the default LSP was not previously specified. In other words, the class-forwarding for this SDP will remain shutdown.

Platforms

All

class-forwarding

Syntax

[**no**] **class-forwarding**

Context

[Tree] (config>router>ospf>segm-rtng class-forwarding)

[Tree] (config>router>isis>segm-rtng class-forwarding)

Full Context

configure router ospf segment-routing class-forwarding

configure router isis segment-routing class-forwarding

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Description

This command enables Class Based Forwarding with ECMP for SR-ISIS or SR-OSPF resolved to RSVP-TE LSPs as IGP shortcuts. For CBF+ECMP to be effective, a class forwarding policy must be defined. In addition, FC to set associations and RSVP-TE LSPs to set associations must be defined.

The **no** form of this command disables Class Based Forwarding with ECMP for SR-ISIS or SR-OSPF resolved to RSVP-TE LSPs as IGP shortcuts.

Default

no class-forwarding

Platforms

All

9.98 class-forwarding-policy

class-forwarding-policy

Syntax

class-forwarding-policy *policy-name*

no class-forwarding-policy *policy-name*

Context

[Tree] (config>router>mpls class-forwarding-policy)

Full Context

configure router mpls class-forwarding-policy

Description

This command configures the class-based forwarding (CBF) policy used in the CBF feature of an LDP FEC or a BGP prefix over IGP shortcuts.

Parameters

policy-name

Specifies the name of the class forwarding policy, up to 32 characters.

Platforms

All

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9.99 class-pool

class-pool

Syntax

[**no**] **class-pool** *alt-class-pool-id*

Context

[Tree] (config>qos>hs-port-pool-policy>alt-port-class-pools class-pool)

Full Context

configure qos hs-port-pool-policy alt-port-class-pools class-pool

Description

Commands in this context configure a class pool's parent mid-pool, dynamic port bandwidth weight, explicit percentage of mid-pool size, or a slope policy. Six alternate port-class pools always exist (one for each of the six scheduling classes) and do not need to be created.

The **no** form of the command restores the default **parent-mid-pool** association to **mid-pool none**, restores the default allocation **port-bw-weight 1** setting (**explicit-percent** disabled), and restores the default slope policy to the specified class-pool.

Parameters

alt-class-pool-id

Specifies the class pool ID.

Values 1 to 6

Platforms

7750 SR-7/12/12e

class-pool

Syntax

[**no**] **class-pool** *std-class-pool-id*

Context

[Tree] (config>qos>hs-port-pool-policy>std-port-class-pools class-pool)

Full Context

configure qos hs-port-pool-policy std-port-class-pools class-pool

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Description

Commands in this context configure class pool's parent mid-pool, dynamic port bandwidth weight, explicit percentage of mid-pool size, or a slope policy. Six alternate port-class pools always exist (one for each of the six scheduling classes) and do not need to be created.

The **no** form of the command restores the default **parent-mid-pool association** to **mid-pool 1**, restores the default allocation **port-bw-weight 1** setting (**explicit-percent** disabled), and restore the default slope policy to the specified class-pool.

Parameters

std-class-pool-id

Specifies the class pool ID.

Values 1 to 6

Platforms

7750 SR-7/12/12e

9.100 class-type

class-type

Syntax

class-type *ct-number*

no class-type

Context

[Tree] (config>router>mpls>lsp-template class-type)

[Tree] (config>router>mpls>lsp>primary class-type)

[Tree] (config>router>mpls>lsp class-type)

[Tree] (config>router>mpls>lsp>secondary class-type)

Full Context

configure router mpls lsp-template class-type

configure router mpls lsp primary class-type

configure router mpls lsp class-type

configure router mpls lsp secondary class-type

Description

This command configures the Diff-Serv Class Type (CT) for an LSP, the LSP primary path, or the LSP secondary path. The path level configuration overrides the LSP level configuration. However, only one CT per LSP path will be allowed as per RFC 4124.

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The signaled CT of a dynamic bypass is always be CT0 regardless of the CT of the primary LSP path. The setup and hold priorities must be set to default values, that is, 7 and 0 respectively. This assumes that the operator configured a couple of TE classes, one which combines CT0 and a priority of 7 and the other which combines CT0 and a priority of 0. If not, the bypass LSP will not be signaled and will go into the down state.

The operator cannot configure the CT, setup priority, and hold priority of a manual bypass. They are always signaled with CT0 and the default setup and holding priorities.

The signaled CT and setup priority of a detour LSP must match those of the primary LSP path it is associated with.

If the operator changes the CT of an LSP or of an LSP path, or changes the setup and holding priorities of an LSP path, the path will be torn down and retried.

An LSP which does not have the CT explicitly configured will behave like a CT0 LSP when Diff-Serv is enabled.

If the operator configured a combination of a CT and a setup priority and/or a combination of a CT and a holding priority for an LSP path that are not supported by the user-defined TE classes, the LSP path will be kept in a down state and an error code will be displayed in the show command output for the LSP path.

The **no** form of this command reverts to the default value.

Default

class-type 0

Parameters

ct-number

Specifies the Diff-Serv Class Type number.

Values 0 to 7

Platforms

All

9.101 class-type-bw

class-type-bw

Syntax

class-type-bw ct0 *%-link-bandwidth* **ct1***%-link-bandwidth* **ct2***%-link-bandwidth* **ct3***%-link-bandwidth* **ct4***%-link-bandwidth* **ct5***%-link-bandwidth* **ct6***%-link-bandwidth* **ct7***%-link-bandwidth*

no class-type-bw

Context

[Tree] (config>router>rsvp>diffserv-te class-type-bw)

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[Tree] (config>router>rsvp>interface class-type-bw)

Full Context

configure router rsvp diffserv-te class-type-bw

configure router rsvp interface class-type-bw

Description

This command configures the percentage of RSVP interface bandwidth each CT shares, for example, the Bandwidth Constraint (BC).

The absolute value of the CT share of the interface bandwidth is derived as the percentage of the bandwidth advertised by IGP in the Maximum Reservable Link Bandwidth TE parameter, for example, the link bandwidth multiplied by the RSVP interface **subscription** *percentage* parameter.

Note:
This configuration also exists at RSVP interface level and the interface specific configured value overrides the global configured value. The BC value can be changed at any time.

The RSVP interface **subscription** *percentage* parameter is configured in the **config>router>rsvp>interface** context.

The operator can specify the Bandwidth Constraint (BC) for a CT which is not used in any of the TE class definition but that does not get used by any LSP originating or transiting this node.

When Diff-Serv is disabled on the node, this model degenerates into a single default CT internally with eight preemption priorities and a non-configurable BC equal to the Maximum Reservable Link Bandwidth. This would behave exactly like CT0 with eight preemption priorities and BC= Maximum Reservable Link Bandwidth if Diff-Serv was enabled.

The **no** form of this command reverts to the default value.

Parameters

ct0 (ct1/ct2/ —ct7) %*link-bandwidth*

The Diff-Serv Class Type number. One or more system forwarding classes can be mapped to a CT.

Values 0 to 100 %

Default 0

Platforms

All

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9.102 class-weight

class-weight

Syntax

class-weight *weight*

no class-weight

Context

[Tree] (config>service>epipe>sap>egress>queue-override>hs-wrr-group class-weight)

[Tree] (config>service>ipipe>sap>egress>queue-override>hs-wrr-group class-weight)

Full Context

configure service epipe sap egress queue-override hs-wrr-group class-weight

configure service ipipe sap egress queue-override hs-wrr-group class-weight

Description

This command overrides the class weight of this WRR group at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

class-weight

Syntax

class-weight *weight*

no class-weight

Context

[Tree] (config>service>vpls>sap>egress>queue-override>hs-wrr-group class-weight)

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Full Context

configure service vpls sap egress queue-override hs-wrr-group class-weight

Description

This command overrides the class weight of this WRR group at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

class-weight

Syntax

class-weight *weight*

no class-weight

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>hs-wrr-group class-weight)

Full Context

configure service ies interface sap egress queue-override hs-wrr-group class-weight

Description

This command overrides the class weight of this WRR group at its parent primary shaper relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

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class-weight

Syntax

class-weight *weight*

no class-weight

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>hs-wrr-group class-weight)

Full Context

configure service vprn interface sap egress queue-override hs-wrr-group class-weight

Description

This command overrides the class weight of this WRR group at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

9.103 classes

classes

Syntax

classes *limit*

no classes

Context

[Tree] (config>card>fp>ingress>policy-accounting classes)

Full Context

configure card fp ingress policy-accounting classes

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Description

This command configures the maximum number of source and destination classes that can be instantiated for accounting purposes on the interfaces of a specific card or FP.

The **no** form of this command specifies that no resources are reserved for source or destination classes.

Parameters

limit

Specifies the number of accounting classes.

Values 1000 to 128000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

9.104 classic-cli

classic-cli

Syntax

classic-cli

Context

[Tree] (config>system>management-interface>cli classic-cli)

Full Context

configure system management-interface cli classic-cli

Description

Commands in this context configure the classic CLI management interface.

Platforms

All

classic-cli

Syntax

classic-cli

Context

[Tree] (config>system>security>management-interface classic-cli)

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Full Context

configure system security management-interface classic-cli

Description

Commands in this context configure hash-control for the classic CLI interface.

Platforms

All

9.105 classic-lsn-max-subscriber-limit

classic-lsn-max-subscriber-limit

Syntax

classic-lsn-max-subscriber-limit *max*

no classic-lsn-max-subscriber-limit

Context

[Tree] (config>service>vprn>nat>inside classic-lsn-max-subscriber-limit)

[Tree] (config>router>nat>inside classic-lsn-max-subscriber-limit)

Full Context

configure service vprn nat inside classic-lsn-max-subscriber-limit

configure router nat inside classic-lsn-max-subscriber-limit

Description

This command sets the granularity of traffic distribution in the upstream direction across the MS-ISA within the scope of an inside routing context. Traffic distribution mechanism is based on the source IPv4 addresses/prefixes. More granular distribution is based on the IPv4 address, while distribution based on the IPv4 prefix (determined by prefix length) will be less granular. The granularity will further decrease with shorter prefix length.

For example, a prefix length of 32 will distribute individual /32 IPv4 addresses over multiple MS-ISAs in an ISA group. This will ensure better traffic load balancing at the expense of forwarding table utilization on the outside (public side) where each /32 is installed in the forwarding table. On the contrary, shorter prefixes will ensure better utilization of the forwarding table on the outside, at the expense of coarser spread of IP addresses over multiple MS-ISAs.

This command affects all flavors of LSN44 within the inside routing contexts, although its primary use is intended for deterministic NAT and dnat-only.

The length of the prefix that is used for distribution purposes is (32-n), where 2^n= classic-lsn-max-subscriber-limit. For example, if traffic distribution is based on the IPv4 address (prefix length = 32), then n must be 0. From here, it follows that classic-lsn-max-subscriber-limit must be set to 1:

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Prefix length = 32 -> 32-n = 32 -> n=0 -> 2^0= 1 = *classic-lsn-max-subscriber-limit classic-lsn-max-subscriber-limit* = 1

The implicit method given by this command uses power of 2 calculations to provide prefix length for traffic distribution purposes. This roundabout approach to determine the prefix-length has roots in deterministic NAT where this command was originally introduced.

Even though deterministic NAT and dnat-only have very little in common, the method (and CLI syntax) for calculating the prefix length using the classic-lsn-max-subscriber-limit parameter for traffic distribution purposes is shared between the two. In dnat-only, this parameter is important from an operational perspective since it affects traffic load balancing over MS-ISA and the size of the routing table.

This command must be configured before any prefix is configured and can be modified only if there are no prefixes configured under the deterministic NAT.

Parameters

max

The power of 2 (2^n) value which in deterministic NAT must match the largest subscriber-limit value in any deterministic pool referenced from this inside routing instance.

In **dnat-only**, this value can be set to any value from the allowed range.

In both cases, this value will determine the prefix-length (17-32) that will directly influence load distribution between the MS-ISAs and the size of the routing table.

Values 1,2,4,8 to 32768

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.106 classic-lsn-sub

classic-lsn-sub

Syntax

[**no**] **classic-lsn-sub router** *router-instance* **ip** *ip-address*

Context

[Tree] (config>li>li-source>nat classic-lsn-sub)

Full Context

configure li li-source nat classic-lsn-sub

Description

This command configures a classic LSN subscriber sources.

The **no** form of this command removes the parameter from the configuration.

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Parameters

router-instance

Specifies the router instance the pool belongs to, either by router name or service ID.

Values *router-name*: "Base" | "management"

Default Base

ip-address

Specifies the IP address in a.b.c.d format.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.107 classification-overrides

classification-overrides

Syntax

classification-overrides

Context

[Tree] (config>app-assure>group>url-filter>web-service classification-overrides)

Full Context

configure application-assurance group url-filter web-service classification-overrides

Description

Commands in this context create a classification override and allows the operator to manually set the category of a hostname.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.108 classifier

classifier

Syntax

classifier *classifier* **category-set-id** *category-set*

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no classifier

Context

[Tree] (config>app-assure>group>url-filter>web-service classifier)

Full Context

configure application-assurance group url-filter web-service classifier

Description

This command selects the web service to use from the supported web services.

The **no** form of this command removes the selected web service.

Default

no classifier

Parameters

classifier

Specifies the web service to use.

Values web-service-1 | web-service-2

category-set

Specifies the category ID set to use for URL categorization. A category-set ID defines the list of categories that the web service uses to perform URL categorization.

Values 1 to 2

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.109 clear

clear

Syntax

clear

Context

[Tree] (admin clear)

Full Context

admin clear

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Description

Commands in this context clear statistics.

Platforms

All

clear

Syntax

clear [**now**]

Context

[Tree] (admin>system>license clear)

Full Context

admin system license clear

Description

This command removes the entitlements that were installed using a license file.

All the entitlements must be unallocated; otherwise, the command fails.

Parameters

now

Keyword used to specify the immediate removal of the license file entitlements. If the **now** keyword is not present, the user is prompted to confirm the removal.

Platforms

All

9.110 clear-alarm-msg

clear-alarm-msg

Syntax

clear-alarm-msg *message-string*

no clear-alarm-msg

Context

[Tree] (config>system>alarm-contact-input clear-alarm-msg)

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Full Context

configure system alarm-contact-input clear-alarm-msg

Description

This command configures a message string to send with SNMP trap and log event messages that are generated when the system clears an alarm. The system generates the default message "Alarm Input Cleared" if no message is configured. The **clear-alarm-msg** string is included in the log event when the pin changes to the normal state.

The **no** form of this command reverts to the default message "Alarm Input Cleared".

Default

no clear-alarm-msg

Parameters

message-string

Specifies a printable character string, up to 160 characters.

Platforms

7750 SR-a

9.111 clear-df-bit

clear-df-bit

Syntax

[**no**] **clear-df-bit**

Context

[Tree] (config>service>vprn>if>ipsec>ip-tunnel clear-df-bit)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel clear-df-bit)

[Tree] (config>service>ies>if>sap>ip-tunnel clear-df-bit)

[Tree] (config>router>if>ipsec>ipsec-tunnel clear-df-bit)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel clear-df-bit)

Full Context

configure service vprn interface ipsec ip-tunnel clear-df-bit

configure service ies interface ipsec ipsec-tunnel clear-df-bit

configure service ies interface sap ip-tunnel clear-df-bit

configure router interface ipsec ipsec-tunnel clear-df-bit

configure service vprn interface sap ipsec-tunnel clear-df-bit

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Description

This command instructs the MS-ISA to reset the DF bit to 0 in all payload IP packets associated with the GRE or IPsec tunnel, before any potential fragmentation resulting from the **ip-mtu** command (this requires a modification of the header checksum).

The **no** form of this command disables the DF bit reset.

Default

no clear-df-bit

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel clear-df-bit
- configure router interface ipsec ipsec-tunnel clear-df-bit

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel clear-df-bit
- configure service ies interface sap ip-tunnel clear-df-bit

clear-df-bit

Syntax

[**no**] **clear-df-bit**

Context

[Tree] (config>service>vprn>if clear-df-bit)

Full Context

configure service vprn interface clear-df-bit

Description

This command specifies whether to clear the Do not Fragment (DF) bit in the outgoing packets in this tunnel.

Platforms

All

clear-df-bit

Syntax

[**no**] **clear-df-bit**

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Context

[Tree] (config>ipsec>tnl-temp clear-df-bit)

Full Context

configure ipsec tunnel-template clear-df-bit

Description

This command enables clearing of the Do-not-Fragment bit.

Default

no clear-df-bit

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.112 clear-ocsp-cache

clear-ocsp-cache

Syntax

clear-ocsp-cache [*entry-id*]

Context

[Tree] (admin>certificate clear-ocsp-cache)

Full Context

admin certificate clear-ocsp-cache

Description

This command clears the current OCSP response cache. If optional issuer and serial-number are not specified, then all current cached results are cleared.

Parameters

entry-id

Specifies the local cache entry identifier of the certificate to clear.

Values 1 to 2000

Platforms

All

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9.113 clear-request

clear-request

Syntax

clear-request ca *ca-profile-name*

Context

[Tree] (admin>certificate>cmpv2 clear-request)

Full Context

admin certificate cmpv2 clear-request

Description

This command clears current pending CMPv2 requests toward the specified CA. If there are no pending requests, it will clear the saved result of prior request.

Parameters

ca *ca-profile-name*

Specifies a ca-profile name up to 32 characters.

Platforms

All

9.114 clear-tag-mode

clear-tag-mode

Syntax

clear-tag-mode *clear-tag-mode*

no clear-tag-mode

Context

[Tree] (config>macsec>connectivity-association clear-tag-mode)

Full Context

configure macsec connectivity-association clear-tag-mode

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Description

This command puts 802.1Q tags in cleartext before the SecTAG. There are two modes: **single-tag** and **dual-tag**.

Table 25: Encrypted Dot1q and QinQ Packet Format explains the encrypted dot1q and QinQ packet format when clear-tag-mode single-tag or dual-tag is configured.

The **no** form of this command puts all dot1q tags encrypted after the SecTAG.

Table 25: Encrypted Dot1q and QinQ Packet Format

Unencrypted format	Clear-tag-mode	Pre-encryption (Tx)	Pre-decryption (Rx)
Single tag (dot1q)	single-tag	DA, SA, TPID, VID, Etype	DA, SA, TPID, VID, SecTag
Single tag (dot1q)	dual-tag	DA, SA, TPID, VID, Etype	DA, SA, TPID, VID, SecTag
Double tag (q-in-q)	single-tag	DA, SA, TPID1, VID1, IPID2, VID2, Etype	DA, SA, TPID1, VID1, SecTag
Double tag (QinQ)	dual-tag	DA, SA, TPID1, VID1, IPID2, VID2, Etype	DA, SA, TPID1, VID1, IPID2, VID2, SecTag

Default

no clear-tag-mode

Parameters

clear-tag-mode

Specifies the clear tag mode.

Values single-tag, dual-tag

Platforms

All

9.115 cli

cli

Syntax

[**no**] **cli**

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Context

[Tree] (debug>dynsvc>scripts>inst>event cli)

[Tree] (debug>dynsvc>scripts>script>event cli)

[Tree] (debug>dynsvc>scripts>event cli)

Full Context

debug dynamic-services scripts instance event cli

debug dynamic-services scripts script event cli

debug dynamic-services scripts event cli

Description

This command enables/disables the generation of a specific dynamic data service script debugging event output: cli.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

cli

Syntax

cli

Context

[Tree] (config>system>management-interface cli)

Full Context

configure system management-interface cli

Description

Commands in this context configure the CLI management interfaces.

Platforms

All

cli

Syntax

cli {**warning** | **info**}

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>message-severity-level cli)

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Full Context

configure system management-interface cli md-cli environment message-severity-level cli

Description

This command specifies the threshold for CLI messages.

Default

cli info

Parameters

warning

Specifies that WARNING messages are displayed but INFO messages are suppressed.

info

Specifies that INFO messages and WARNING messages are displayed.

Platforms

All

9.116 cli-engine

cli-engine

Syntax

cli-engine {**classic-cli** | **md-cli**} [{**classic-cli** | **md-cli**}]

no cli-engine

Context

[Tree] (config>system>management-interface>cli cli-engine)

Full Context

configure system management-interface cli cli-engine

Description

This command configures the system-wide CLI engine. The operator can configure one or both engines. For the configuration to take effect, exit the running CLI session and start a new session after committing the new value.

Parameters

classic-cli

Specifies the classic CLI.

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md-cli

Specifies the MD-CLI.

Platforms

All

9.117 cli-script

cli-script

Syntax

cli-script

Context

[Tree] (config>system>security cli-script)

Full Context

configure system security cli-script

Description

Commands in this context configure the security parameters in the system.

Platforms

All

9.118 cli-session-group

cli-session-group

Syntax

cli-session-group *session-group-name* [**create**]

no cli-session-group *session-group-name*

Context

[Tree] (config>system>security cli-session-group)

Full Context

configure system security cli-session-group

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Description

This command is used to configure a session group that can be used to limit the number of CLI sessions available to members of the group.

Parameters

session-group-name

Specifies a particular session group.

Platforms

All

9.119 cli-user

cli-user

Syntax

cli-user *name*

no cli-user

Context

[Tree] (config>service>dynsvc>policy cli-user)

Full Context

configure service dynamic-services dynamic-services-policy cli-user

Description

This command specifies the CLI user to be used to execute the dynamic data services CLI scripts. With the specified user's profile, it is possible to further restrict the internal list of allowed commands to be executed via dynamic data service CLI scripts.

The **no** form of this command sets the CLI user to an internal user with all configuration rights.

Parameters

name

Specifies the CLI user name that must exist in the >config>system>security CLI context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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cli-user

Syntax

cli-user *user-name*

no cli-user

Context

[Tree] (config>system>security>cli-script>authorization>event-handler cli-user)

[Tree] (config>system>security>cli-script>authorization>cron cli-user)

Full Context

configure system security cli-script authorization event-handler cli-user

configure system security cli-script authorization cron cli-user

Description

This command configures the user context under which various types of CLI scripts should execute in order to authorize the script commands. TACACS+ and RADIUS users and authorization are not permitted for **cli-script** authorization.

The **no** form of this command configures scripts to execute with no restrictions and without performing authorization.

Default

no cli-user

Parameters

user-name

The name of a user in the local node database. TACACS+ or RADIUS users cannot be used. The user configuration should reference a valid local profile for authorization.

Platforms

All

9.120 client

client

Syntax

client *client-index* [**create**]

no client *client-index*

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Context

[Tree] (config>ipsec>client-db client)

Full Context

configure ipsec client-db client

Description

This command creates a new IPsec client entry in the client-db or enters the configuration context of an existing client entry.

There may be multiple client entries defined in the same client-db. If there are multiple entries that match the new tunnel request, then the system will select the entry that has smallest client-index.

The **no** form of this command reverts to the default.

Parameters

client-index

Specifies the ID of the client entry.

Values 1 to 8000

create

Keyword used to create the security policy instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

client

Syntax

client all

client *ip-address*

no client

Context

[Tree] (debug>system>grpc client)

Full Context

debug system grpc client

Description

This command enables debug output for all clients for a particular client.

The **no** form of this command deactivates debugging for all clients.

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Parameters

all

Specifies that debugging will occur for all clients.

ip-address

Specifies the IPv4 or IPv6 address of the client.

Platforms

All

client

Syntax

client

Context

[Tree] (config>system>security>ssh>key-re-exchange client)

Full Context

configure system security ssh key-re-exchange client

Description

Commands in this context enable the key re-exchange for SR OS as an SSH client.

Platforms

All

client

Syntax

client *client-index* [**create**]

no client *client-index*

Context

[Tree] (config>card>mda>flex client)

Full Context

configure card mda flex client

Description

This command creates an MDA FlexE group client within the FlexE group.

The **no** form of this command removes the MDA FlexE group client from the FlexE group.

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Default

no client

Parameters

client-index

Specifies the unique ID for the MDA FlexE client.

Values 1

create

Keyword to create an MDA FlexE client.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

9.121 client-application

client-application

Syntax

client-application [**ppp-v4**] [**ipoe-v4**]

no client-application

Context

[Tree] (config>service>vprn>sub-if>local-address-assignment client-application)

[Tree] (config>service>ies>sub-if>grp-if>local-address-assignment client-application)

[Tree] (config>service>vprn>sub-if>grp-if>local-address-assignment client-application)

[Tree] (config>service>ies>sub-if>local-address-assignment client-application)

Full Context

configure service vprn subscriber-interface local-address-assignment client-application

configure service ies subscriber-interface group-interface local-address-assignment client-application

configure service vprn subscriber-interface group-interface local-address-assignment client-application

configure service ies subscriber-interface local-address-assignment client-application

Description

This command enables local DHCP Server pool management for PPPoXv4 clients.

A pool of IP addresses can be shared between IPoE clients that rely on DHCP protocol (lease renewal process) and PPPoX clients where address allocation is not dependent on DHCP messaging but instead an IP address allocation within the pool is tied to the PPPoX session.

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The **no** form of this command disables Local Address Assignment for any protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

client-application

Syntax

client-application [**ppp-slaac**] [**ipoe-wan**] [**ipoe-slaac**]

no client-application

Context

[Tree] (config>service>vprn>sub-if>grp-if>lcl-addr-assign>ipv6 client-application)

Full Context

configure service vprn subscriber-interface group-interface local-address-assignment ipv6 client-application

Description

This command defines the client application that uses the local address server to perform address assignment. This feature relies on RADIUS or local-user-database to return a pool name. The pool name is matched again the pools defined in the local-dhcp6-server configuration. The name of the local-dhcp6-server must also be provisioned.

The **no** form of this command reverts to the default.

Parameters

ppp-slaac

Indicates using the local DHCPv6 prefix pool to assign SLAAC prefixes for hosts. The pool name where the prefixes are used for SLAAC prefix assignment are obtained from RADIUS or local-user-database during the authentication process. The RADIUS attribute Alc-slaac-ipv6-pool is used to indicate the SLAAC pool name for PPPoE hosts.

ipoe-wan

Indicates to assign an IA_NA address from a local DHCPv6 pool and to assign a fixed static IA_PD prefix. Other combinations of address assignment are not supported with **client-application** set to **ipoe-wan**. For RADIUS authentication, a Framed-IPv6-Pool (IA_NA address) and a Delegated-IPv6-Prefix (IA_PD prefix) attribute must be present in the Access-Accept message. For LUDB authentication, an IPv6-WAN-Address-Pool (IA_NA address) and an IPv6-DelegatedPrefix (IA_PD) must be provisioned.

ipoe-slaac

Indicates using the local DHCPv6 prefix pool to assign SLAAC prefixes for hosts. The pool name where the prefixes are used for SLAAC prefix assignment are obtained from RADIUS or local-user-database during the authentication process. The RADIUS attribute Alc-slaac-ipv6-pool is used to indicate the SLAAC pool name for IPoE hosts.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.122 client-applications

client-applications

Syntax

client-applications [**dhcp**] [**ppp**]

no client-applications

Context

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>proxy client-applications)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy client-applications)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>proxy client-applications)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>relay client-applications)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay client-applications)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay client-applications)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy client-applications)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay client-applications)

[Tree] (config>service>ies>sub-if>dhcp client-applications)

[Tree] (config>service>ies>sub-if>grp-if>dhcp client-applications)

[Tree] (config>service>vprn>sub-if>dhcp client-applications)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp client-applications)

Full Context

configure service vprn subscriber-interface ipv6 dhcp6 proxy-server client-applications

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server client-applications

configure service ies subscriber-interface ipv6 dhcp6 proxy-server client-applications

configure service ies subscriber-interface ipv6 dhcp6 relay client-applications

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay client-applications

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay client-applications

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server client-applications

configure service vprn subscriber-interface ipv6 dhcp6 relay client-applications

configure service ies subscriber-interface dhcp client-applications

configure service ies subscriber-interface group-interface dhcp client-applications

configure service vprn subscriber-interface dhcp client-applications

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configure service vprn subscriber-interface group-interface dhcp client-applications

Description

This command enables DHCP relay and proxy-server for the configured client types.

The **no** form of this command reverts to the default.

Default

dhcp

Parameters

dhcp

Enables IPoE clients to use the DHCP relay or proxy-server.

ppp

Enables PPPoE clients to use the DHCP relay or proxy-server that PPPoE attempts to request an IP address for a PPPoE client from the DHCP server assigned to PPPoE node.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

9.123 client-cert-subject-key-id

client-cert-subject-key-id

Syntax

[**no**] **client-cert-subject-key-id**

Context

[Tree] (config>ipsec>rad-auth-plcy>include client-cert-subject-key-id)

Full Context

configure ipsec radius-authentication-policy include-radius-attribute client-cert-subject-key-id

Description

This command enables the inclusion of the Subject Key Identifier of the peer's certificate in the RADIUS Access-Request packet as VSA: Alc-Subject-Key-Identifier. Refer to the *7750 SR and VSR RADIUS Attributes Reference Guide* for more information.

Default

no client-cert-subject-key-id

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

9.124 client-cipher-list

client-cipher-list

Syntax

client-cipher-list

Context

[Tree] (config>system>security>ssh client-cipher-list)

Full Context

configure system security ssh client-cipher-list

Description

Commands in this context configure a list of allowed ciphers by the SSH client.

Platforms

All

client-cipher-list

Syntax

client-cipher-list *name* [**create**]

no client-cipher-list *name*

Context

[Tree] (config>system>security>tls client-cipher-list)

Full Context

configure system security tls client-cipher-list

Description

This command creates a cipher list that the client sends to the server in the client Hello message. It is a list of ciphers that are supported and preferred by the SR OS to be used in the TLS session. The server matches this list against the server cipher list. The most preferred cipher found in both lists is chosen.

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Parameters

name

Specifies the name of the client cipher list, up to 32 characters in length.

create

Keyword used to create the client cipher list.

Platforms

All

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10 c Commands – Part II

10.1 client-db

client-db

Syntax

client-db *db-name* [**create**]

no client-db *db-name*

Context

[Tree] (config>ipsec client-db)

Full Context

configure ipsec client-db

Description

This command creates a new IPsec client-db or enters the configuration context of an existing client-db.

An IPsec client-db can be used for IKEv2 dynamic LAN-to-LAN tunnel authentication and authorization. When a new tunnel request is received, the system will match the request to the client entries configured in client-db and use credentials returned by the matched client entry for authentication. If authentication succeeds, the system could also use the IPsec configuration parameters (such as **private-service-id**) returned by the matched entry to set up the tunnel.

The configured client-db is referenced under the ipsec-gw configuration context using the **client-db** command.

The **no** form of this command removes the *db-name* from the configuration.

Parameters

db-name

Specifies the name of this IPsec client up to 32 characters.

create

Keyword used to create the security policy instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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client-db

Syntax

client-db *name*

client-db *name* **fallback**

client-db *name* **no-fallback**

no client-db

Context

[Tree] (config>service>ies>if>sap>ipsec-gw client-db)

[Tree] (config>service>vprn>if>sap>ipsec-gw client-db)

Full Context

configure service ies interface sap ipsec-gw client-db

configure service vprn interface sap ipsec-gw client-db

Description

This command enables the use of an IPsec client database. The system uses the specified client database to authenticate IKEv2 dynamic LAN-to-LAN tunnel.

Default

no client-db

Parameters

name

Specifies the name of the client database.

fallback

Specifies whether or not this IPsec gateway falls back to the default authentication policy when the IPsec tunnel authentication request fails to match any clients in the IPsec database.

no-fallback

Specifies that if the client database lookup fails to return a matched result, the system will fail the tunnel setup.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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client-db

Syntax

[**no**] **no client-db** *db-name*

Context

[Tree] (debug>ipsec client-db)

Full Context

debug ipsec client-db

Description

This command enables debugging for the specified IPsec client-db.

Parameters

db-name

Specifies the IPsec client database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.2 client-down-delay

client-down-delay

Syntax

client-down-delay *client-down-delay*

no client-down-delay

Context

[Tree] (config>system>satellite>eth-sat client-down-delay)

Full Context

configure system satellite eth-sat client-down-delay

Description

This command configures the delay between the last available uplink becoming unavailable and the disabling of associated Ethernet satellite client ports.

The **no** form of this command disables the delay and reverts to the current behavior.

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Default

no client-down-delay (30)

Parameters

client-down-delay

Specifies the number of seconds to wait between the last available uplink becoming unavailable and the disabling of associated Ethernet satellite client ports.

Values 0 to 1800

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.3 client-group-list

client-group-list

Syntax

client-group-list *name* [**create**]

no client-group-list *name*

Context

[Tree] (config>system>security>tls client-group-list)

Full Context

configure system security tls client-group-list

Description

This command configures a list of group suite codes that the client sends in a client Hello message.

The **no** form of this command removes the client group list.

Parameters

name

Specifies the name of the client group list, up to 32 characters.

create

Keyword used to create the client group list.

Platforms

All

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10.4 client-host-key-list

client-host-key-list

Syntax

client-host-key-list

Context

[Tree] (config>system>security>ssh client-host-key-list)

Full Context

configure system security ssh client-host-key-list

Description

Commands in this context configure the list of host key algorithms negotiated by the SR OS acting as the SSH client.

Platforms

All

10.5 client-id

client-id

Syntax

client-id {**mac-pppoe-session-id**}

no client-id

Context

[Tree] (config>service>ies>sub-if>grp-if>pppoe>dhcp-client client-id)

[Tree] (config>service>vprn>sub-if>grp-if>pppoe>dhcp-client client-id)

Full Context

configure service ies subscriber-interface group-interface pppoe dhcp-client client-id

configure service vprn subscriber-interface group-interface pppoe dhcp-client client-id

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Description

This command inserts a DHCP client identifier option 61 in DHCP client messages for PPPoE sessions that obtain IPv4 addresses from a third party DHCP server. By default, a DHCP client identifier option 61 is not included.

The **no** form of this command reverts to the default.

Default

no client-id

Parameters

mac-pppoe-session-id

Specifies that the DHCP client identifier option 61 contains a type value with type set to zero (1 octet) and value set to the PPPoE client MAC address (6 octets) and the PPPoE session ID (2 octets). For example:

Opt 61 (hex) = 00 00 10 94 A0 45 E5 00 01

where:

00 = type

00 10 94 A0 45 E5 = PPPoE client MAC address

00 01 = PPPoE session ID

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.6 client-identification

client-identification

Syntax

client-identification

Context

[Tree] (config>ipsec>client-db>client client-identification)

Full Context

configure ipsec client-db client client-identification

Description

Commands in this context configure client ID information of this IPsec client.

If there are multiple match input are configured in the match-list of the client-db, then all corresponding match criteria must be configured for the client-entry.

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.7 client-ip

client-ip

Syntax
client-ip {**eq** | **neq**} *ip-address*
no client-ip

Context
[Tree] (debug>app-assure>group>traffic-capture>match client-ip)

Full Context
debug application-assurance group traffic-capture match client-ip

Description
This command configures debugging of a client IP.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.8 client-kex-list

client-kex-list

Syntax
client-kex-list

Context
[Tree] (config>system>security>ssh client-kex-list)

Full Context
configure system security ssh client-kex-list

Description
Commands in this context configure SSH KEX algorithms for SR OS as a client.

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An empty list is the default list that the SSH KEX advertises. The default list contains the following:

ecdh-sha2-nistp512

ecdh-sha2-nistp384

ecdh-sha2-nistp256

diffie-hellman-group16-sha512

diffie-hellman-group14-sha256

diffie-hellman-group14-sha1

diffie-hellman-group-exchange-sha1

diffie-hellman-group1-sha1

Platforms

All

10.9 client-known-hosts

client-known-hosts

Syntax

client-known-hosts

Context

[Tree] (config>system>security>ssh client-known-hosts)

Full Context

configure system security ssh client-known-hosts

Description

Commands in this context configure the static list of trusted SSH host public keys that SR OS accepts when acting as the SSH client. SR OS supports configuring multiple static host public keys for a host. A mix of static and dynamically learned keys can be associated with a host for authentication.

Platforms

All

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10.10 client-mac

client-mac

Syntax

client-mac {**odd** | **even**}

no client-mac

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp>osel client-mac)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>osel client-mac)

[Tree] (config>service>vprn>sub-if>dhcp>osel client-mac)

Full Context

configure service ies subscriber-interface group-interface dhcp offer-selection client-mac

configure service vprn subscriber-interface group-interface dhcp offer-selection client-mac

configure service vprn subscriber-interface dhcp offer-selection client-mac

Description

Commands in this context configure a delay for the Discover message from the designated client MAC addresses.

The **no** form of this command removes the client MAC configuration.

Parameters

odd

Specifies to use the odd client MAC address.

even

Specifies to use the even client MAC address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

client-mac

Syntax

client-mac {**odd** | **even**}

no client-mac

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Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection client-mac)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>advertise-selection client-mac)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection client-mac)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection client-mac

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac

Description

Commands in this context configure a solicit delay or preference option value in function of the source MAC address of the solicit message.

The **no** form of this command removes the client MAC configuration.

Parameters

odd

Specifies to use the odd client MAC address.

even

Specifies to use the even client MAC address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.11 client-mac-address

client-mac-address

Syntax

[**no**] **client-mac-address**

Context

[Tree] (config>service>ies>sub-if>dhcp>option client-mac-address)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option>vendor client-mac-address)

[Tree] (config>service>ies>if>dhcp>option>vendor client-mac-address)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option>vendor client-mac-address)

[Tree] (config>service>vprn>if>dhcp>option>vendor client-mac-address)

[Tree] (config>service>vpls>sap>dhcp>option>vendor client-mac-address)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option>vendor client-mac-address)

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Full Context

configure service ies subscriber-interface dhcp option client-mac-address

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option client-mac-address

configure service ies interface dhcp option vendor-specific-option client-mac-address

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option client-mac-address

configure service vprn interface dhcp option vendor-specific-option client-mac-address

configure service vpls sap dhcp option vendor-specific-option client-mac-address

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option client-mac-address

Description

This command enables the sending of the MAC address in the Nokia vendor-specific sub-option of the DHCP relay packet.

The **no** form of this command disables the sending of the MAC address in the Nokia vendor-specific sub-option of the DHCP relay packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option client-mac-address
- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option client-mac-address
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option client-mac-address

All

- configure service vprn interface dhcp option vendor-specific-option client-mac-address
- configure service vpls sap dhcp option vendor-specific-option client-mac-address
- configure service ies interface dhcp option vendor-specific-option client-mac-address

client-mac-address

Syntax

[**no**] **client-mac-address**

Context

[Tree] (config>router>if>dhcp>option client-mac-address)

Full Context

configure router interface dhcp option client-mac-address

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Description

This command enables the sending of the MAC address in the Nokia vendor specific suboption of the DHCP relay packet.

The **no** form of this command disables the sending of the MAC address in the Nokia vendor specific suboption of the DHCP relay packet.

Default

no client-mac-address

Platforms

All

10.12 client-mac-list

client-mac-list

Syntax

client-mac-list

Context

[Tree] (config>system>security>ssh client-mac-list)

Full Context

configure system security ssh client-mac-list

Description

Commands in this context configure SSH MAC algorithms for SR OS as a client.

Platforms

All

10.13 client-meg-level

client-meg-level

Syntax

client-meg-level [[*level* [*level*]]

no client-meg-level

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Context

[Tree] (config>lag>eth-cfm>mep>ais-enable client-meg-level)

[Tree] (config>port>ethernet>eth-cfm>mep>ais-enable client-meg-level)

Full Context

configure lag eth-cfm mep ais-enable client-meg-level

configure port ethernet eth-cfm mep ais-enable client-meg-level

Description

This command configures the client MEG level(s) to use for AIS message generation. Up to 7 levels can be provisioned with the restriction that the client MEG level must be higher than the local MEG level. Only the lowest client MEG level will be used for facility MEPs.

The **no** form of this command reverts to the default values.

Parameters

level

Specifies the client MEG level.

Values 1 to 7

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

client-meg-level

Syntax

client-meg-level [[*level* [*level* ...]]

no client-meg-level

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>ais-enable client-meg-level)

[Tree] (config>service>epipe>sap>eth-cfm>mep client-meg-level)

Full Context

configure service epipe spoke-sdp eth-cfm ais-enable client-meg-level

configure service epipe sap eth-cfm mep client-meg-level

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Description

This command configures the client maintenance entity group (MEG) level or levels to use for AIS message generation. Up to 7 levels can be provisioned with the restriction that the client MEG level must be higher than the local MEG level.

Parameters

level

Specifies the client MEG level.

Values 1 to 7

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

client-meg-level

Syntax

client-meg-level [[*level* [*level* ...]]

no client-meg-level

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>ais-enable client-meg-level)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>ais-enable client-meg-level)

Full Context

configure service vpls spoke-sdp eth-cfm mep ais-enable client-meg-level

configure service vpls mesh-sdp eth-cfm mep ais-enable client-meg-level

Description

This command configures the client maintenance entity group (MEG) level(s) to use for AIS message generation. Up to 7 levels can be provisioned with the restriction that the client MEG level must be higher than the local MEG level.

Parameters

level

Specifies the client MEG level

Values 1 to 7

Default 1

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.14 client-name

client-name

Syntax

client-name *name*

no client-name

Context

[Tree] (config>ipsec>client-db>client client-name)

Full Context

configure ipsec client-db client client-name

Description

This command specifies the name of the client entry. The client name can be used in CLI navigation or in show commands.

Default

no client-name

Parameters

name

Specifies the name of the client.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.15 client-port

client-port

Syntax

client-port {**eq** | **neq**} *port-num*

no client-port

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Context

[Tree] (debug>app-assure>group>traffic-capture>match client-port)

Full Context

debug application-assurance group traffic-capture match client-port

Description

This command configures debugging of a client port.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.16 client-signature-list

client-signature-list

Syntax

client-signature-list *name* [**create**]

no client-signature-list *name*

Context

[Tree] (config>system>security>tls client-signature-list)

Full Context

configure system security tls client-signature-list

Description

This command configures a list of TLS 1.3-supported signature suite codes that the client sends in a client Hello message.

The **no** form of this command removes the client signature list.

Parameters

name

Specifies the name of the client signature list, up to 32 characters.

create

Keyword used to create the client signature list.

Platforms

All

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10.17 client-tls-profile

client-tls-profile

Syntax

client-tls-profile *name*

no client-tls-profile

Context

[Tree] (config>system>security>pki>est-profile client-tls-profile)

Full Context

configure system security pki est-profile client-tls-profile

Description

This command configures the TLS client profile to be assigned to applications for encryption. The profile creates the TLS connection to the EST server.

The **no** form of this command removes the name from the configuration.

Default

no client-tls-profile

Parameters

name

Specifies the name of the client TLS profile, up to 32 characters

Platforms

All

client-tls-profile

Syntax

client-tls-profile *name* [**create**]

no client-tls-profile *name*

Context

[Tree] (config>system>security>tls client-tls-profile)

Full Context

configure system security tls client-tls-profile

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Description

This command configures the TLS client profile to be assigned to applications for encryption.

Parameters

name

Specifies the name of the client TLS profile, up to 32 characters in length.

create

Keyword used to create the client TLS profile.

Platforms

All

10.18 clli-code

clli-code

Syntax

clli-code *clli-code*

no clli-code

Context

[Tree] (config>system clli-code)

Full Context

configure system clli-code

Description

This command creates a Common Language Location Identifier (CLLI) code string for the 7450 ESS, 7750 SR, 7950 XRS, and VSR router. A CLLI code is an 11-character standardized geographic identifier that uniquely identifies geographic locations and certain functional categories of equipment unique to the telecommunications industry.

No CLLI validity checks other than truncating or padding the string to eleven characters are performed.

Only one CLLI code can be configured, if multiple CLLI codes are configured the last one entered overwrites the previous entry.

The **no** form of the command removes the CLLI code.

Default

no clli-code

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Parameters

clli-code

Specifies the 11 character string CLLI code. Any printable, seven bit ASCII characters can be used within the string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. If more than 11 characters are entered, the string is truncated. If less than 11 characters are entered the string is padded with spaces.

Platforms

All

10.19 clock-offset

clock-offset

Syntax

clock-offset *seconds*

no clock-offset

Context

[Tree] (config>oam-pm>session>meas-interval clock-offset)

Full Context

configure oam-pm session meas-interval clock-offset

Description

This command allows measurement intervals with a boundary-type of clock aligned to be offset from the default time of day clock. The configured offset must be smaller than the size of the measurement interval. As an example, an offset of 120 (seconds) shifts the start times of the measurement intervals by two minutes from their default alignments with respect to the time of day clock.

The **no** form of this command sets the offset to 0.

Default

clock-offset 0

Parameters

seconds

Specifies the number of seconds to offset a clock-alignment measurement interval from its default.

Values 0 to 86399

Default 0

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Platforms

All

10.20 clock-source

clock-source

Syntax

clock-source {**loop-timed** | **node-timed** | **adaptive** | **differential**}

Context

[Tree] (config>port>tdm>e3 clock-source)

[Tree] (config>port>tdm>ds3 clock-source)

Full Context

configure port tdm e3 clock-source

configure port tdm ds3 clock-source

Description

This command configures the clock to be used for transmission of data out towards the line. The options are to use the locally recovered clock from the line's receive data stream, the node central reference, or an adaptively recovered clock using the received packets.

The following table shows MDAs that support loop timing at DS3/E3 channelization options.

Table 26: MDA Support for Loop Timing at DS3/E3 Channelization Options

TDM DS3/E3	LoopTimed	Default
Channelized OC-12	No	node-timed
Channelized OC-3	No	node-timed
Channelized DS3/E3	No	node-timed
Channelized ASAP OC-12	Yes	node-timed
Channelized ASAP OC-3	Yes	node-timed
Channelized ASAP DS3/E3	Yes	node-timed
CES OC-3	Yes	node-timed

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Parameters

loop-timed

The link recovers the clock from the received data stream.

node-timed

The link uses the internal clock when transmitting data.

adaptive

The clock is adaptively recovered from the rate at which data is received and not from the physical layer. Adaptive timing is only supported on ds1 and e1 channels.

differential

The clock is recovered from differential RTP timestamp header. Differential timing is only supported on ds1 and e1 channels.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

10.21 clock-type

clock-type

Syntax

clock-type boundary

clock-type ordinary {**master** | **slave**}

Context

[Tree] (config>system>ptp clock-type)

Full Context

configure system ptp clock-type

Description

This command configures the type of clock. The clock type can only be changed when PTP is shutdown.

The clock type cannot be changed to ordinary timeTransmitter if the PTP reference is **no shutdown**. In addition, the clock type cannot be changed to ordinary timeTransmitter if there are peers configured. The clock type is restricted based on the profile. See the **profile** command description for the details of the restrictions.

When enabling a PTP with clock-type boundary, at least one reference into the central frequency clock must be enabled using the **configure system sync-if-timing [bits |ref1 |ref2 | ptp| synce]** command.

Default

clock-type ordinary slave

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Parameters

boundary

Specifies that the system is a boundary clock, which may be anywhere in the PTP clock hierarchy. It can obtain timing from a timeTransmitter clock, and provide timing to multiple timeReceiver clocks concurrently.

ordinary master

Specifies that the system is a grandmaster clock in the PTP hierarchy. The system provides timing to multiple timeReceiver clocks in the network.

ordinary slave

Specifies that the system is always a timeReceiver clock in the PTP hierarchy. The system derives its timing from one or more timeTransmitter clocks in the network.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.22 close-session

close-session

Syntax

[**no**] **close-session**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization close-session)

Full Context

configure system security profile netconf base-op-authorization close-session

Description

This command enables the NETCONF <close-session> RPC.

The **no** form of this command disables the RPC.

Default

no close-session

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

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10.23 cluster

cluster

Syntax

cluster *cluster-id*

no cluster

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy cluster)

Full Context

configure subscriber-mgmt bgp-peering-policy cluster

Description

This command configures the cluster ID for a route reflector server.

Route reflectors are used to reduce the number of IBGP sessions required within an AS. Normally, all BGP speakers within an AS must have a BGP peering with every other BGP speaker in an AS. A route reflector and its clients form a cluster. Peers that are not part of the cluster are considered to be non-clients.

When a route reflector receives a route, first it must select the best path from all the paths received. If the route was received from a non-client peer, then the route reflector sends the route to all clients in the cluster. If the route came from a client peer, the route reflector sends the route to all non-client peers and to all client peers except the originator.

For redundancy, a cluster can have multiple route reflectors.

Confederations can also be used to remove the full IBGP mesh requirement within an AS.

The **no** form of this command deletes the cluster ID and effectively disables the Route Reflection for the given group.

Parameters

cluster-id

Specifies the route reflector cluster ID is expressed in dot decimal notation.

Values Any 32 bit number in dot decimal notation. (0.0.0.1 to 255.255.255.255)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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cluster

Syntax

cluster *cluster-id*

no cluster

Context

[Tree] (config>service>vprn>bgp>group cluster)

[Tree] (config>service>vprn>bgp>group>neighbor cluster)

[Tree] (config>service>vprn>bgp cluster)

Full Context

configure service vprn bgp group cluster

configure service vprn bgp group neighbor cluster

configure service vprn bgp cluster

Description

This command configures the cluster ID for a route reflector server.

Route reflectors are used to reduce the number of IBGP sessions required within an AS. Normally, all BGP speakers within an AS must have a BGP peering with every other BGP speaker in an AS. A route reflector and its clients form a cluster. Peers that are not part of the cluster are considered to be non-clients.

When a route reflector receives a route, first it must select the best path from all the paths received. If the route was received from a non-client peer, then the route reflector sends the route to all clients in the cluster. If the route came from a client peer, the route reflector sends the route to all non-client peers and to all client peers except the originator.

For redundancy, a cluster can have multiple route reflectors.

Confederations can also be used to remove the full IBGP mesh requirement within an AS.

The **no** form of this command deletes the cluster ID and effectively disables the Route Reflection for the given group.

Default

no cluster — No cluster ID is defined.

Parameters

cluster-id

The route reflector cluster ID is expressed in dot decimal notation.

Values Any 32 bit number in dot decimal notation. (0.0.0.1 to 255.255.255.255)

Platforms

All

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cluster

Syntax

cluster *cluster-id* **orr-location** *location-id* [**allow-local-fallback**]]

Context

[Tree] (config>router>bgp cluster)

Full Context

configure router bgp cluster

Description

This command configures the cluster ID for a route reflector server ID and implicitly configures the associated BGP sessions as route reflector clients of the BGP instance. If an ORR location ID is specified with the cluster ID, the clients in that cluster receive routes optimal for that specific location; refer to *draft-ietf-idr-bgp-optimal-route-reflection* for more information.

Route reflectors are used to reduce the number of IBGP sessions required within an AS. Normally, all BGP speakers within an AS must have a BGP peering with every other BGP speaker in an AS. A route reflector and its clients form a cluster. Peers that are not part of the cluster are considered to be non-clients.

When a route reflector receives best path from a non-client peer, it sends the route to all clients. When the route reflector receives a best path from a client peer it sends the route to all non-client and all client peers except the originator.

With optimal route reflection, the best path advertised to a client takes location ID into account, which means that if the tie-break for best path (or Add-Paths) comes down to next-hop IGP cost, the IGP costs will be calculated relative to the specified location. In the SR OS implementation, the IGP costs from arbitrary ORR locations are calculated using OSPF/OSPFv3, IS-IS, or BGP-LS information in the TE DB.

Default

no cluster

Parameters

ip-address

Specifies the route reflector cluster ID is expressed in dot decimal notation.

Values Any 32 bit number in dot decimal notation. (0.0.0.1 to 255.255.255.255)

orr-location location-id

Specifies the optimal route reflection location index for this set of route reflector clients.

Values 1 to 255

allow-local-fallback

Controls the behavior when there are no BGP routes to advertise to the RR clients that are reachable from the perspective of their ORR location. If this option is configured, the RR is allowed (in this circumstance only), to advertise the best reachable BGP path from its own

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topology location. If this option is not configured and this situation applies, then no route is advertised to the clients.

Platforms

All

cluster

Syntax

cluster *cluster-id* **orr-location** *location-id* [**allow-local-fallback**]]

cluster *cluster-id*

no cluster

Context

[Tree] (config>router>bgp>group cluster)

[Tree] (config>router>bgp>group>neighbor cluster)

Full Context

configure router bgp group cluster

configure router bgp group neighbor cluster

Description

This command configures the cluster ID for a route reflector server ID and implicitly configures the associated BGP sessions as route reflector clients of the BGP instance. If an ORR location ID is specified with the cluster ID, the clients in that cluster receive routes optimal for that specific location; see *draft-ietf-idr-bgp-optimal-route-reflection* for more information.

Route reflectors are used to reduce the number of IBGP sessions required within an AS. Normally, all BGP speakers within an AS must have a BGP peering with every other BGP speaker in an AS. A route reflector and its clients form a cluster. Peers that are not part of the cluster are considered to be non-clients.

When a route reflector receives best path from a non-client peer, it sends the route to all clients. When the route reflector receives a best path from a client peer it sends the route to all non-client and all client peers except the originator.

With optimal route reflection, the best path advertised to a client takes location ID into account, which means that if the tie-break for best path (or Add-Paths) comes down to next-hop IGP cost, the IGP costs will be calculated relative to the specified location. In the SR OS implementation, the IGP costs from arbitrary ORR locations are calculated using OSPF/OSPFv3, IS-IS, or BGP-LS information in the TE DB.

The **no** form of this command deletes the cluster ID and effectively disables route reflection for the group.

Default

no cluster

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Parameters

ip-address

Specifies the route reflector cluster ID is expressed in dot decimal notation.

Values Any 32 bit number in dot decimal notation. (0.0.0.1 to 255.255.255.255)

orr-location location-id

Specifies the optimal route reflection location index for this set of route reflector clients.

Values 1 to 255

allow-local-fallback

Controls the behavior when there are no BGP routes to advertise to the RR clients that are reachable from the perspective of their ORR location. If this option is configured, the RR is allowed (in this circumstance only), to advertise the best reachable BGP path from its own topology location. If this option is not configured and this situation applies, then no route is advertised to the clients.

Platforms

All

10.24 cluster-id

cluster-id

Syntax

cluster-id *ip-address/mask* [*ip-address/mask*]

cluster-id none

no cluster-id

Context

[Tree] (config>router>policy-options>policy-statement>entry>from cluster-id)

Full Context

configure router policy-options policy-statement entry from cluster-id

Description

This command enables BGP routes to be matched based on the IP addresses encoded in the CLUSTER_LIST attribute.

The first i*p-address/mask pair* is matched against the most recently added cluster ID. Each subsequent *ip-address/mask* pair is tested against the next most recent cluster ID.

For example, to match all routes reflected by the RR with cluster ID 1.1.1.1 and then any other RR before reaching the router where the policy is applied, use the command **cluster-id 0.0.0.0/0 1.1.1.1/32**.

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Note:
The command matches routes with two or more cluster IDs; the third and older cluster IDs are not evaluated and are automatically considered matching.

The **cluster-id none** form of this command only matches BGP routes without any CLUSTER_LIST attribute.

A non-BGP route does not match a policy entry if it contains the **cluster-id** command.

Default

no cluster-id

Parameters

ip-address

Specifies the 32-bit cluster ID in dotted decimal notation.

Values a.b.c.d

mask

Specifies a bit mask to apply to the *ip-address* parameter.

Values 0 to 32 (0 is only allowed if the *ip-address* is 0.0.0.0)

none

Specifies that only BGP routes without a CLUSTER_LIST attribute should be matched.

Platforms

All

10.25 cmpv2

cmpv2

Syntax

cmpv2

Context

[Tree] (admin>certificate cmpv2)

Full Context

admin certificate cmpv2

Description

Commands in this context configure CMPv2 operations.

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Platforms
All

cmpv2

Syntax
cmpv2

Context
[Tree] (config>system>security>pki>ca-profile cmpv2)

Full Context
configure system security pki ca-profile cmpv2

Description
Commands in this context configure CMPv2 parameters.

Platforms
All

cmpv2

Syntax
[**no**] **cmpv2**

Context
[Tree] (debug>certificate cmpv2)

Full Context
debug certificate cmpv2

Description
This command enables debugging of CMPv2 operations.

Platforms
All

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10.26 cn

cn

Syntax

[**no**] **cn** *index* **type** *type* **value** *common-name-value*

Context

[Tree] (config>system>security>pki>common-name-list cn)

Full Context

configure system security pki common-name-list cn

Description

This command creates a CN list entry in text or regexp format.

The **no** form of this command removes the specified entry.

Parameters

index

Specifies the index number of the entry.

type

Specifies the type of the entry.

Values ip-address, domain-name

common-name-value

Specifies the IP address or domain name value, up to 255 characters maximum.

Platforms

All

10.27 coa

coa

Syntax

coa [**port** *udp-port*]

no coa

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Context

[Tree] (config>aaa>isa-radius-plcy>servers>server coa)

Full Context

configure aaa isa-radius-policy servers server coa

Description

This command configures Change of Authorization (CoA) messages.

Default

no coa

Parameters

udp-port

Specifies the UDP port number on which to contact the RADIUS server for authentication.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.28 coa-script-policy

coa-script-policy

Syntax

coa-script-policy *policy-name*

no coa-script-policy

Context

[Tree] (config>subscr-mgmt>auth-plcy coa-script-policy)

Full Context

configure subscriber-mgmt authentication-policy coa-script-policy

Description

This command configures the RADIUS script policy used to change the RADIUS attributes of the Change-of-Authorization messages.

The **no** form of this command removes the policy name from the configuration.

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Parameters

policy-name

Specifies the Python script policy to modify the Change-of-Authorization messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

coa-script-policy

Syntax

coa-script-policy *policy-name*

no coa-script-policy

Context

[Tree] (config>router>radius-server>server coa-script-policy)

[Tree] (config>service>vprn>radius-server>server coa-script-policy)

Full Context

configure router radius-server server coa-script-policy

configure service vprn radius-server server coa-script-policy

Description

This command specifies the RADIUS script policy to modify the Change-of-Authorization messages sent from this RADIUS server.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the name of radius-script-policy up to 80 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.29 code-type

code-type

Syntax

code-type [**sonet** | **sdh**]

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[**no**] **code-type**

Context

[Tree] (config>port>ethernet>ssm code-type)

Full Context

configure port ethernet ssm code-type

Description

This command configures the encoding of synchronization status messages. For example, whether to use an SDH or SONET set of values. Configuring the network-type is only applicable to SyncE ports. It is not configurable on SONET/SDH ports. For the network-type, sdh refers to ITU-T G.781 Option I, while sonet refers to G.781 Option II (equivalent to Telcordia GR-253-CORE).

Default

code-type sdh

Parameters

sdh

Specifies the values used on a G.781 Option 1 compliant network.

sonet

Specifies the values used on a G.781 Option 2 compliant network.

Platforms

All

10.30 coherent

coherent

Syntax

coherent

Context

[Tree] (config>port>dwdm coherent)

Full Context

configure port dwdm coherent

Description

This command configures the coherent optical module parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.31 cold-start-wait

cold-start-wait

Syntax

cold-start-wait *seconds*

no cold-start-wait

Context

[Tree] (config>log>app-route-notifications cold-start-wait)

Full Context

configure log app-route-notifications cold-start-wait

Description

The time delay that must pass before notifying specific CPM applications that a route is available after a cold reboot.

Default

no cold-start-wait

Parameters

seconds

Time delay in seconds.

Values 1 to 300

Platforms

All

10.32 collect-aa-acct-stats

collect-aa-acct-stats

Syntax

[**no**] **collect-aa-acct-stats**

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Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm collect-aa-acct-stats)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm collect-aa-acct-stats)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt collect-aa-acct-stats

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt collect-aa-acct-stats

Description

This command enables Application Assurance account statistics collection.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.33 collect-lmm-fc-stats

collect-lmm-fc-stats

Syntax

collect-lmm-fc-stats

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>epipe>sap>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>ipipe>sap>eth-cfm collect-lmm-fc-stats)

Full Context

configure service epipe spoke-sdp eth-cfm collect-lmm-fc-stats

configure service epipe sap eth-cfm collect-lmm-fc-stats

configure service ipipe sap eth-cfm collect-lmm-fc-stats

Description

Commands in this context configure per-forwarding class (FC) LMM information collection.

This command is mutually exclusive with the **collect-lmm-stats** command when there is entity resource contention.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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collect-lmm-fc-stats

Syntax

collect-lmm-fc-stats

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>vpls>sap>eth-cfm collect-lmm-fc-stats)

Full Context

configure service vpls mesh-sdp eth-cfm collect-lmm-fc-stats

configure service vpls spoke-sdp eth-cfm collect-lmm-fc-stats

configure service vpls sap eth-cfm collect-lmm-fc-stats

Description

Commands in this context configure per-forwarding class (FC) LMM information collection.

This command is mutually exclusive with the **collect-lmm-stats** command when there is entity resource contention.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

collect-lmm-fc-stats

Syntax

collect-lmm-fc-stats

Context

[Tree] (config>service>ies>if>sap>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm collect-lmm-fc-stats)

Full Context

configure service ies interface sap eth-cfm collect-lmm-fc-stats

configure service ies interface spoke-sdp eth-cfm collect-lmm-fc-stats

configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats

Description

Commands in this context configure per-forwarding class (FC) LMM information collection.

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This command is mutually exclusive with the **collect-lmm-stats** command when there is entity resource contention.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm collect-lmm-fc-stats
- configure service ies interface spoke-sdp eth-cfm collect-lmm-fc-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats

collect-lmm-fc-stats

Syntax

collect-lmm-fc-stats

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>vprn>if>sap>eth-cfm collect-lmm-fc-stats)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm collect-lmm-fc-stats)

Full Context

configure service vprn interface spoke-sdp eth-cfm collect-lmm-fc-stats

configure service vprn interface sap eth-cfm collect-lmm-fc-stats

configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats

Description

Commands in this context configure per-forwarding class (FC) LMM information collection.

This command is mutually exclusive with the **collect-lmm-stats** command when there is entity resource contention.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm collect-lmm-fc-stats
- configure service vprn interface spoke-sdp eth-cfm collect-lmm-fc-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats

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collect-lmm-fc-stats

Syntax

collect-lmm-fc-stats

Context

[Tree] (config>router>if>eth-cfm>mep collect-lmm-fc-stats)

Full Context

configure router interface eth-cfm mep collect-lmm-fc-stats

Description

This command enables the collection of per-forwarding class LMM statistics.

The **collect-lmm-fc-stats** and **collect-lmm-stats** commands are mutually exclusive when there is entity resource contention.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.34 collect-lmm-stats

collect-lmm-stats

Syntax

[**no**] **collect-lmm-stats**

Context

[Tree] (config>lag>eth-cfm>mep collect-lmm-stats)

[Tree] (config>port>ethernet>eth-cfm>mep collect-lmm-stats)

[Tree] (config>router>if>eth-cfm>mep collect-lmm-stats)

Full Context

configure lag eth-cfm mep collect-lmm-stats

configure port ethernet eth-cfm mep collect-lmm-stats

configure router interface eth-cfm mep collect-lmm-stats

Description

This command enables the collection of statistics on the facility MEPs. This command is an object under the Facility MEP. This is at a different level of the hierarchy than collection of lmm statistics for service

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SAPs and MPLS SDP Bindings. The show mep command can be used to determine is the Facility MEP is collecting stats.

The **no** form of this command disables and deletes the counters for this SAP, Binding or facility.

Default

no collect-lmm-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

collect-lmm-stats

Syntax

[**no**] **collect-lmm-stats**

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm collect-lmm-stats)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm collect-lmm-stats)

[Tree] (config>service>epipe>sap>eth-cfm collect-lmm-stats)

[Tree] (config>service>ipipe>sap>eth-cfm collect-lmm-stats)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm collect-lmm-stats)

[Tree] (config>service>vpls>sap>eth-cfm collect-lmm-stats)

Full Context

configure service vpls mesh-sdp eth-cfm collect-lmm-stats

configure service epipe spoke-sdp eth-cfm collect-lmm-stats

configure service epipe sap eth-cfm collect-lmm-stats

configure service ipipe sap eth-cfm collect-lmm-stats

configure service vpls spoke-sdp eth-cfm collect-lmm-stats

configure service vpls sap eth-cfm collect-lmm-stats

Description

This command enables the collection of statistics on the SAP or MPLS SDP binding on which the ETH-LMM test is configured. The collection of LMM statistics must be enabled if a MEP is launching or responding to ETH-LMM packets. If LMM statistics collection is not enabled, the counters in the LMM and LMR PDU do not represent accurate measurements and all measurements should be ignored. The **show sap-using eth-cfm collect-lmm-stats** command and the **show sdp-using eth-cfm collect-lmm-stats command** can be used to display entities that are collecting stats.

The **no** form of this command disables and deletes the counters for this SAP or MPLS SDP binding.

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Default

no collect-lmm-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

collect-lmm-stats

Syntax

[**no**] **collect-lmm-stats**

Context

[Tree] (config>service>ies>if>sap>eth-cfm collect-lmm-stats)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm collect-lmm-stats)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm collect-lmm-stats)

Full Context

configure service ies interface sap eth-cfm collect-lmm-stats

configure service ies interface spoke-sdp eth-cfm collect-lmm-stats

configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-stats

Description

This command enables the collection of statistics on the SAP or MPLS SDP binding on which the ETH-LMM test is configured. The collection of LMM statistics must be enabled if a MEP is launching or responding to ETH-LMM packets. If LMM statistics collection is not enabled, the counters in the LMM and LMR PDU do not represent accurate measurements and all measurements should be ignored. The **show sap-using eth-cfm collect-lmm-stats** command and the **show sdp-using eth-cfm collect-lmm-stats command** can be used to display which entities are collecting stats.

The **no** form of this command disables and deletes the counters for this SAP or MPLS SDP binding.

Default

no collect-lmm-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm collect-lmm-stats
- configure service ies interface sap eth-cfm collect-lmm-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-stats

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collect-lmm-stats

Syntax

collect-lmm-stats

no collect-lmm-stats

Context

[Tree] (config>service>vprn>if>sap>eth-cfm collect-lmm-stats)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm collect-lmm-stats)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm collect-lmm-stats)

Full Context

configure service vprn interface sap eth-cfm collect-lmm-stats

configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-stats

configure service vprn interface spoke-sdp eth-cfm collect-lmm-stats

Description

This command enables the collection of statistics on the SAP or MPLS SDP binding on which the ETH-LMM test is configured. The collection of LMM statistics must be enabled if a MEP is launching or responding to ETH-LMM packets. If LMM statistics collection is not enabled, the counters in the LMM and LMR PDU do not represent accurate measurements and all measurements should be ignored. The **show>service>sap-using>eth-cfm>collect-lmm-stats** command and the **show>service>sdp-using>eth-cfm>collect-lmm-stats** command can be used to display which entities are collecting stats.

The **no** form of this command disables and deletes the counters for this SAP or MPLS SDP binding.

Default

no collect-lmm-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm collect-lmm-stats
- configure service vprn interface sap eth-cfm collect-lmm-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-stats

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10.35 collect-stats

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>subscr-mgmt>sub-prof collect-stats)

Full Context

configure subscriber-mgmt sub-profile collect-stats

Description

When enabled, the agent collects non-RADIUS accounting statistics.

When the **no collect-stats** command is issued the statistics are still accumulated by the IOM cards. However, the CPU will not obtain the results and write them to the billing file. If a subsequent **collect-stats** command is issued then the counters written to the billing file include all the traffic while the **no collect-stats** command was in effect.

Default

collect-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap collect-stats)

[Tree] (config>service>vprn>sub-if>grp-if>sap collect-stats)

Full Context

configure service ies subscriber-interface group-interface sap collect-stats

configure service vprn subscriber-interface group-interface sap collect-stats

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Description

When enabled, the agent collects non-RADIUS accounting statistics on a subscriber profile.

When the **no collect-stats** command is issued the statistics are still accumulated by the IOM cards. However, the CPU does not obtain the results and write them to the billing file. If a subsequent **col**lect-stats command is issued then the counters written to the billing file include all the traffic.

Default

collect-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>service>vpls>spoke-sdp collect-stats)

[Tree] (config>service>vpls>sap collect-stats)

[Tree] (config>service>vpls>mesh-sdp collect-stats)

[Tree] (config>service>ies>if>sap collect-stats)

Full Context

configure service vpls spoke-sdp collect-stats

configure service vpls sap collect-stats

configure service vpls mesh-sdp collect-stats

configure service ies interface sap collect-stats

Description

This command enables accounting and statistical data collection for either the SAP or SDP, network port, or IP interface. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued the statistics are still accumulated by the IOM cards. However, the CPU does not obtain the results and write them to the billing file. If a subsequent **collect-stats** command is issued then the counters written to the billing file include all the traffic while the **no collect-stats** command was in effect.

Default

collect-stats

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Platforms

All

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>card>fp>ingress>network>queue-group collect-stats)

[Tree] (config>card>fp>ingress>access>queue-group collect-stats)

Full Context

configure card fp ingress network queue-group collect-stats

configure card fp ingress access queue-group collect-stats

Description

This command enables the collection of accounting and statistical data for the queue group on the forwarding plane. When applying accounting policies, the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued, the statistics are still accumulated, however, the CPU does not obtain the results and write them to the billing file. If the **collect-stats** command is issued again (enabled), then the counters written to the billing file will include the traffic collected while the **no collect-stats** command was in effect.

Default

no collect-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>port>tdm>ds3>network collect-stats)

[Tree] (config>port>ethernet>network>egr>qgrp collect-stats)

[Tree] (config>port>tdm>e3>network collect-stats)

[Tree] (config>port>ethernet>access>ing>qgrp collect-stats)

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[Tree] (config>port>ethernet collect-stats)

[Tree] (config>port>ethernet>network collect-stats)

[Tree] (config>port>ethernet>access>egr>qgrp collect-stats)

Full Context

configure port tdm ds3 network collect-stats

configure port ethernet network egress queue-group collect-stats

configure port tdm e3 network collect-stats

configure port ethernet access ingress queue-group collect-stats

configure port ethernet collect-stats

configure port ethernet network collect-stats

configure port ethernet access egress queue-group collect-stats

Description

This command enables the collection of accounting and statistical data for the network interface. When applying accounting policies, the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued, the statistics are still accumulated by the XCM/IOM cards, however, the CPU does not obtain the results and write them to the billing file. If the **collect-stats** command is issued again (enabled), then the counters written to the billing file will include the traffic collected while the **no collect-stats** command was in effect.

Default

no collect-stats

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm e3 network collect-stats
- configure port tdm ds3 network collect-stats

All

- configure port ethernet access ingress queue-group collect-stats
- configure port ethernet network egress queue-group collect-stats
- configure port ethernet access egress queue-group collect-stats
- configure port ethernet network collect-stats
- configure port ethernet collect-stats

collect-stats

Syntax

[**no**] **collect-stats**

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Context

[Tree] (config>service>ipipe>sap collect-stats)

[Tree] (config>service>epipe>sap collect-stats)

[Tree] (config>service>epipe>spoke-sdp collect-stats)

[Tree] (config>service>cpipe>sap collect-stats)

Full Context

configure service ipipe sap collect-stats

configure service epipe sap collect-stats

configure service epipe spoke-sdp collect-stats

configure service cpipe sap collect-stats

Description

This command enables accounting and statistical data collection for either the SAP, network port, or IP interface. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued the statistics are still accumulated by the cards. However, the CPU will not obtain the results and write them to the billing file. If a subsequent **collect-stats** command is issued, then the counters written to the billing file include all the traffic while the **no collect-stats** command was in effect.

Default

no collect-stats

Platforms

All

- configure service epipe sap collect-stats
- configure service epipe spoke-sdp collect-stats
- configure service ipipe sap collect-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap collect-stats

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>service>ies>if>spoke-sdp collect-stats)

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Full Context

configure service ies interface spoke-sdp collect-stats

Description

This command enables statistics collection.

Platforms

All

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>service>vprn>if>sap collect-stats)

[Tree] (config>service>vprn>if>spoke-sdp collect-stats)

Full Context

configure service vprn interface sap collect-stats

configure service vprn interface spoke-sdp collect-stats

Description

This command enables accounting and statistical data collection for either an interface SAP or interface SAP spoke SDP, or network port. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued the statistics are still accumulated by the IOM cards. However, the CPU will not obtain the results and write them to the billing file. If a subsequent **collect-stats** command is issued then the counters written to the billing file include all the traffic while the **no collect-stats** command was in effect.

Default

no collect-stats

Platforms

All

collect-stats

Syntax

[**no**] **collect-stats**

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Context

[Tree] (config>router>ldp>egr-stats>fec-pfx collect-stats)

Full Context

configure router ldp egress-statistics fec-prefix collect-stats

Description

This command enables accounting and statistical data collection. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued the statistics are still accumulated by the forwarding engine. However, the CPU does not obtain the results and write them to the billing file. If a subsequent **collect-stats** command is issued, the counters written to the billing file include all the traffic while the **no collect-stats** command was in effect.

Default

collect-stats

Platforms

All

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>router>mpls>lsp-template>egr-stats collect-stats)

[Tree] (config>router>mpls>ingr-stats>p2mp-template-lsp collect-stats)

[Tree] (config>router>mpls>lsp>egr-stats collect-stats)

[Tree] (config>router>mpls>ingr-stats>p2p-template-lsp collect-stats)

[Tree] (config>router>mpls>ingr-stats>lsp collect-stats)

[Tree] (config>router>mpls>lsp>ingr-stats collect-stats)

Full Context

configure router mpls lsp-template egress-statistics collect-stats

configure router mpls ingress-statistics p2mp-template-lsp collect-stats

configure router mpls lsp egress-statistics collect-stats

configure router mpls ingress-statistics p2p-template-lsp collect-stats

configure router mpls ingress-statistics lsp collect-stats

configure router mpls lsp ingress-statistics collect-stats

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Description

This command enables accounting and statistical data collection. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

The **config>router>mpls>ingr-stats>p2mp-template-lsp>collect-stats** command is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

When the **no collect-stats** command is issued, the statistics are still accumulated by the forwarding engine. However, the CPU does not write the results to the billing file. If a subsequent **collect-stats** command is issued, the counters written to the billing file include all the traffic collected while the **no collect-stats** command was in effect.

Default

collect-stats

Platforms

All

- configure router mpls lsp-template egress-statistics collect-stats
- configure router mpls ingress-statistics p2p-template-lsp collect-stats
- configure router mpls ingress-statistics lsp collect-stats
- configure router mpls ingress-statistics p2mp-template-lsp collect-stats
- configure router mpls lsp egress-statistics collect-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure router mpls lsp ingress-statistics collect-stats

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-part collect-stats)

[Tree] (config>app-assure>group>statistics>aa-admit-deny collect-stats)

[Tree] (config>isa>aa-grp>statistics>perform collect-stats)

[Tree] (config>app-assure>group>statistics>app-grp collect-stats)

[Tree] (config>app-assure>group>statistics>aa-sub collect-stats)

[Tree] (config>app-assure>group>statistics>protocol collect-stats)

[Tree] (config>app-assure>group>statistics>app collect-stats)

[Tree] (config>app-assure>group>statistics>aa-sub-study collect-stats)

Full Context

configure application-assurance group statistics aa-partition collect-stats

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configure application-assurance group statistics aa-admit-deny collect-stats

configure isa application-assurance-group statistics performance collect-stats

configure application-assurance group statistics app-group collect-stats

configure application-assurance group statistics aa-sub collect-stats

configure application-assurance group statistics protocol collect-stats

configure application-assurance group statistics application collect-stats

configure application-assurance group statistics aa-sub-study collect-stats

Description

This command enables statistic collection within the applicable context.

Default

no collect-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (config>service>sdp collect-stats)

[Tree] (config>service>pw-template collect-stats)

Full Context

configure service sdp collect-stats

configure service pw-template collect-stats

Description

This command enables accounting and statistical data collection for either the SDP. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no collect-stats** command is issued the statistics are still accumulated by the IOM or XCM cards. However, the CPU will not obtain the results and write them to the billing file. If a subsequent **collect-stats** command is issued then the counters written to the billing file include all the traffic while the **no collect-stats** command was in effect.

Default

no collect-stats

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Platforms

All

collect-stats

Syntax

[**no**] **collect-stats**

Context

[Tree] (conf>router>segment-routing>sr-policies>egress-stats collect-stats)

Full Context

configure router segment-routing sr-policies egress-statistics collect-stats

Description

This command enables statistics collection via the accounting policy.

The **no** form of this command disables the collection of statistics via the accounting policy.

Default

no collect-stats

Platforms

All

10.36 collection-interval

collection-interval

Syntax

collection-interval *minutes*

no collection-interval

Context

[Tree] (config>log>acct-policy collection-interval)

Full Context

configure log accounting-policy collection-interval

Description

This command configures the accounting collection interval.

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Parameters

minutes

Specifies the interval between collections, in minutes.

Values 1 to 120 A range of 1 to 4 is only allowed when the record type is set to SAA.

Platforms

All

10.37 collector

collector

Syntax

collector *ip-address*[**:***port*] [**create**]

no collector *ip-address*[**:***port*]

Context

[Tree] (config>app-assure>group>cflowd collector)

Full Context

configure application-assurance group cflowd collector

Description

This command defines a flow data collector for cflowd data. The IP address of the flow collector must be specified. The UDP port number is an optional parameter. If it is not set, the default of 2055 is used.

Parameters

ip-address

Specifies the IP address of the flow data collector in dotted decimal notation.

port

Specifies the UDP port of flow data collector.

Values 1 to 65535

Default 2055

create

Keyword used to create the flow data collector.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

collector

Syntax

collector router *router-instance* **ip** *ip-address* [**create**]

no collector router *router-instance* **ip** *ip-address*

Context

[Tree] (config>service>ipfix>export-policy collector)

Full Context

configure service ipfix ipfix-export-policy collector

Description

This command defines an external collector node that will collect IPFIX records sent by 7750 SR node. The IPFIX records will be streamed to the collector node using UDP transport. Traffic is originated from a random ephemeral UDP port to the destination port 4739. Up to two collector nodes can be defined for redundancy purposes.

UDP streams are stateless due to the significant volume of transactions. However they do contain 32bit sequence numbers such that packet loss can be identified.

Multiple IPFIX records are sent in a single UDP packet. UDP packet transmission is triggered when the packet size containing IPFIX records exceeds the configured MTU value or the internal timer which is set to 250ms, whichever occurs first.

Parameters

router *router-instance*

Router instance from which the collector node is reachable.

Values

<router-name> | <service-id>

router-name: "Base"

service-id: 1 to 2147483647

ip ip-address

IPv4 address of the external collector node to which IPFIX records will be sent.

create

Keyword used to create the collector instance.

Platforms

All

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collector

Syntax

collector router *router-name* **ip** *ip-address* [**create**]

collector service-name *service-name* **ip** *ip-address* [**create**]

no collector router *router-name* **ip** *ip-address*

no collector service-name *service-name* **ip** *ip-address*

Context

[Tree] (config>service>nat>syslog>syslog-export-policy collector)

Full Context

configure service nat syslog syslog-export-policy collector

Description

This command defines an external collector node that collects syslog records. The syslog records are streamed to the collector node using UDP transport. Traffic is originated from a random ephemeral UDP port to the destination port 514. Up to two collector nodes can be defined for redundancy purposes.

Stateless UDP streams are used as transport due to the significant volume of transactions. However, they do contain 32-bit sequence numbers so packet loss can be identified. The sequence numbers are generated per BB-ISA per collector, and within each stream they are monotonically increased by 1. Overlapping sequence numbers between BB-ISAs can be differentiated by the MDA ID field carried in the syslog message.

Multiple syslog records are sent in a single UDP packet. UDP packet transmission is triggered when the packet size containing syslog records exceeds the configured MTU value or the configurable timer, whichever occurs first.

The **no** form of the command removes the parameters from the configuration.

Parameters

router-name

Specifies the router instances from which the collector node is reachable.

ip-address

Specifies the IPv4 address of the external collector node to which the syslog records are sent.

service-name

Specifies the service name from which the collector node is reachable.

create

Keyword used to create the collector instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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collector

Syntax

collector *ip-address*[:*port*] [**version** *version*]

no collector *ip-address*[:*port*]

Context

[Tree] (config>cflowd collector)

Full Context

configure cflowd collector

Description

This command defines a flow data collector for cflowd data. The IP address and version of the flow collector must be specified. The UDP port number is an optional parameter. If it is not set, the default of 2055 is used for all collector versions. To connect to an IPFIX (version 10) collector using the IPFIX default port, specify port 4739 when defining the collector. A maximum of eight collectors can be configured.

The **no** form of this command removes the flow collector definition from the config and stops the export of data to the collector. The collector needs to be shut down to be deleted.

Parameters

ip-address

Specifies the address of a remote cflowd collector host to receive the exported cflowd data.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x-[interface]

port

Specifies the UDP port number on the remote cflowd collector host to receive the exported cflowd data.

Values 1 to 65535

Default 2055

version

Specifies the version of the flow data collector.

Values 5, 8, 9, 10

Default 5

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Platforms

All

collector

Syntax

collector *collector-id* [**create**]

no collector *collector-id*

Context

[Tree] (config>app-assure>group>cflowd>direct-export collector)

Full Context

configure application-assurance group cflowd direct-export collector

Description

This command configures the Cflowd direct export collector.

The system uses the collectors when the Cflowd admin state shuts down and then re-enabled (**no shutdown** state). The system re-assigns the collectors to the groups or AA-ISAs or when a Cflowd collector ID is created. The collector IDs are used when a new group is added later.

When a collector ID is removed, the groups (AA-ISAs) that are assigned to this collector are removed and assigned to another available collector. The affected ISAs reset their collector statistics as they change to the new collector.

In addition, a Cflowd collector assignment to a group or AA-ISA is done only in the following conditions:

- the admin state is in a **no shutdown** state for the AA group or the AA group Cflowd
- a collector is available under the AA group with at least one address in a **no shutdown** admin state

If an AA group or AA-ISA is assigned a collector, shutting down, or the group unassigns the group from the cflowd collector.

The **no** form of this command removes the collector ID from the configuration.

Parameters

collector-id

Specifies the Cflowd direct export collector ID.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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10.38 color

color

Syntax

color *color*

no color

Context

[Tree] (conf>router>segment-routing>sr-policies>policy color)

Full Context

configure router segment-routing sr-policies static-policy color

Description

This command associates a color value with a statically defined segment routing policy. This is a mandatory parameter and configuration command to enable the segment routing policy; if the color parameter value is not configured, the execution of the **no shutdown** command on the static segment routing policy fails.

The **no** form of this command removes the color association.

Default

no color

Parameters

color

Specifies the color ID.

Values 0 to 4294967295

Platforms

All

color

Syntax

color *color-id*

no color

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Context

[Tree] (config>router>policy-options>policy-statement>entry>from color)

Full Context

configure router policy-options policy-statement entry from color

Description

This command configures an SR Policy color ID as a route policy match criterion.

This match criterion is only used in import policies.

The **no** form of this command removes the configuration.

Parameters

color-id

Specifies the SR policy color ID.

Values 0 to 4294967295

Platforms

All

color

Syntax

color *color-id*

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-policy color)

Full Context

configure oam-pm session ip tunnel mpls sr-policy color

Description

This command configures the color for associating the SR policy with an objective.

Default

color 0

Parameters

color-id

Specifies the color ID.

Values 0 to 4294967295

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Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.39 combined-max-sessions

combined-max-sessions

Syntax

combined-max-sessions *number-of-sessions*

no combined-max-sessions

Context

[Tree] (config>system>security>cli-session-group combined-max-sessions)

[Tree] (config>system>security>profile combined-max-sessions)

Full Context

configure system security cli-session-group combined-max-sessions

configure system security profile combined-max-sessions

Description

This command is used to limit the number of combined SSH/TELNET based sessions available to all users that are part of a specific profile, or to all users of all profiles that are part of the same **cli-session-group**.

The **no** form of this command disables the command and the profile or group limit is not applied to the number of combined sessions.

Default

no combined-max-sessions

Parameters

number-of-sessions

Specifies the maximum number of allowed combined SSH/TELNET based sessions.

Values 0 to 50

Platforms

All

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10.40 command-accounting-during-load

command-accounting-during-load

Syntax

[**no**] **command-accounting-during-load**

Context

[Tree] (config>system>security>management-interface>md-cli command-accounting-during-load)

Full Context

configure system security management-interface md-cli command-accounting-during-load

Description

This command controls command accounting performed on the contents of a file loaded using the MD-CLI **load** or **rollback** command.

When enabled, all commands in the loaded file are logged, which may decrease the system response time with large files.

When disabled, command accounting is not performed during a load or rollback operation, which may increase the system response time by reducing the number of command accounting messages, especially when remote AAA servers are used.

The **load** or **rollback** command itself is always logged.

The **no** form of this command disables command accounting during a load or rollback operation.

Default

command-accounting-during-load

Platforms

All

10.41 command-completion

command-completion

Syntax

command-completion

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Context

[Tree] (config>system>management-interface>cli>md-cli>environment command-completion)

Full Context

configure system management-interface cli md-cli environment command-completion

Description

This command configures keystrokes to trigger command completion.

Platforms

All

10.42 comment

comment

Syntax

comment *comment-string*

[**no**] **comment**

Context

[Tree] (config>app-assure>group>ip-id-asst>pdns>trst-srv comment)

Full Context

configure application-assurance group ip-identification-assist passive-dns trusted-server comment

Description

This command specifies a name or description to associate with the DNS server.

The **no** form of this command removes the name or description given to the DNS server.

Parameters

comment-string

Specifies a name or description, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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comment

Syntax

[**no**] **comment**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>commit-options comment)

Full Context

configure system management-interface cli md-cli environment commit-options comment

Description

This command configures the requirement for a commit comment when committing configuration.

The **no** form of this command does not require a commit comment when committing configuration

Default

no comment

Platforms

All

10.43 commit

commit

Syntax

commit

Context

[Tree] (config>app-assure>group>policy commit)

Full Context

configure application-assurance group policy commit

Description

This command commits changes made during the current editing session. None of the policy changes done will take effect until commit command is issued. If the changes can be successfully committed, no errors detected during the commit during cross-reference verification against exiting application assurance configuration, the editing session will also be closed.

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The newly committed policy takes effect immediately for all new flows, existing flows will transition onto the new policy shortly after the commit.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

commit

Syntax

commit

Context

[Tree] (config>router>bfd commit)

Full Context

configure router bfd commit

Description

This command saves the changes made to a BFD template during an active session and makes the changes active.

Platforms

All

commit

Syntax

commit

Context

[Tree] (config>router>route-next-hop-policy commit)

Full Context

configure router route-next-hop-policy commit

Description

This command saves the changes made to route next-hop templates during an active session.

Default

commit

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Platforms

All

commit

Syntax

commit [**confirmed** *timeout*] [**comment** *comment*]

commit no-checkpoint [**confirmed** *timeout*]

Context

[Tree] (candidate commit)

Full Context

candidate commit

Description

This command applies the changes in the candidate configuration to the active running configuration. The candidate changes will take operational effect.

If a commit operation is successful then all of the candidate changes will take operational effect and the candidate is cleared. If there is an error in the processing of the commit, or a 'commit confirmed' is not confirmed and an auto-revert occurs, then the router will return to a configuration state with none of the candidate changes applied. The operator can then continue editing the candidate and try a commit later.

By default, the SR OS will automatically create a new rollback checkpoint after a commit operation. The rollback checkpoint will contain the new configuration changes made by the commit. An optional **no-checkpoint** keyword can be used to avoid the auto-creation of a rollback checkpoint after a commit.

A commit operation is blocked if a rollback revert is currently being processed.

Parameters

confirmed

specifies that the commit operation (if successful) should be automatically reverted (undone) at the end of the timeout period unless the operator issues the confirm command before the timeout period expires. A rollback checkpoint is created after the commit operation (if successful) and will remain available whether the commit is auto-reverted or not. The contents of the candidate will remain visible (candidate view) and changes to the candidate are blocked until the timeout is completed or the **candidate confirm** command is executed. If the timeout expires and an auto-revert occurs, then the original candidate config will be available in edit-cfg mode.

Standard line-by-line non-transactional configuration commands (including via SNMP) are not blocked during the countdown period and any changes made to the configuration during the countdown period will be rolled back if the timeout expires. The confirmed option is useful when changes are being made that could impact management reachability to the router.

A rollback revert is blocked during the countdown period until the commit has been confirmed.

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timeout

Specifies the auto-revert timeout period, in minutes.

Values 1 to 168

no-checkpoint

Specifies to avoid the automatic creation of a rollback checkpoint for a successful commit.

comment *comment*

Adds a comment up to 255 characters to the automatic rollback checkpoint.

Platforms

All

commit

Syntax

commit

Context

[Tree] (config>system>sync-if-timing commit)

Full Context

configure system sync-if-timing commit

Description

This command saves changes made to the system synchronous interface timing configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

commit

Syntax

commit

Context

[Tree] (config>router>policy-options commit)

Full Context

configure router policy-options commit

Description

This command is required to save changes made to a route policy.

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Platforms

All

commit

Syntax

[**no**] **commit**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization commit)

Full Context

configure system security profile netconf base-op-authorization commit

Description

This command enables the NETCONF <commit> RPC.

The **no** form of this command disables the RPC.

Default

no commit

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

10.44 commit-options

commit-options

Syntax

commit-options

Context

[Tree] (config>system>management-interface>cli>md-cli>environment commit-options)

Full Context

configure system management-interface cli md-cli environment commit-options

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Description

Commands in this context configure commit options.

Platforms

All

10.45 common-name-list

common-name-list

Syntax

common-name-list *name* [**create**]

Context

[Tree] (config>system>security>pki common-name-list)

Full Context

configure system security pki common-name-list

Description

This command configures a list of common names (CNs) that will be used to authenticate X.509.3 certificates. If the CN field of the X.509.3 certificate matches any of the CNs in the list, then the certificate can be used.

Parameters

name

Specifies the name of the CN list, up to 32 characters maximum.

Platforms

All

10.46 community

community

Syntax

community *community-name* [**hash** | **hash2** | **custom**] [**access-permissions**] [**version** *SNMP-version*] [**src-access-list** *list-name*]

no community *community-name* [**hash** | **hash2** | **custom**]

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Context

[Tree] (config>service>vprn>snmp community)

Full Context

configure service vprn snmp community

Description

This command sets the SNMP community name(s) to be used with the associated VPRN instance. These VPRN community names are used to associate SNMP v1/v2c requests with a particular vprn context and to return a reply that contains VPRN-specific data or limit SNMP access to data in a specific VPRN instance.

VPRN snmp communities configured with an access permission of 'r' are automatically associated with the default access group "snmp-vprn-ro" and the "vprn-view" view (read only). VPRN snmp communities configured with an access permission of 'rw' are automatically associated with the default access group "snmp-vprn" and the "vprn-view" view (read/write).

The community in an SNMP v1/v2 request determines the SNMP context (i.e., the vprn# for accessing SNMP tables) and not the VPRN of the incoming interface on which the request was received. When an SNMP request arrives on VPRN 5 interface "ringo" with a destination IP address equal to the "ringo" interface, but the community in the SNMP request is the community configured against VPRN 101, then the SNMP request will be processed using the VPRN 101 context. (the response will contain information about VPRN 101). It is recommended to avoid using a simple series of vprn snmp-community values that are similar to each other (for example, avoid my-vprncomm-1, my-vprn-comm-2, etc).

The **no** form of this command removes the SNMP community name from the given VPRN context.

Parameters

community-name

Specifies the SNMP v1/v2c community name. This is a secret/confidential key used to access SNMP and specify a context (base vs vprn1 vs vprn2).

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

version ***SNMP-version***

Specifies the SNMP version.

Values v1, v2c, both

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access-permissions

Specifies the access rights to MIB objects.

Values **r** — Grants only read access to MIB objects. Creates an association of the community-name with the **snmp-vprn-ro** access group.**rw** — Grants read and write access to MIB objects. Creates an association of the community-name with the **snmp-vprn** access group.

list-name

Configures the **community** to reference a specific **src-access-list** (created under **configure system security snmp**), which will be used to validate the source IP address of all received SNMP requests that use this **community**. Multiple **community** (vprn or base router) and **usm-community** instances can reference the same **src-access-list**.

Platforms

All

community

Syntax

community *comm-id* [*comm-id*]

no community [*comm-id* [*comm-id*]]

Context

[Tree] (config>service>vprn>static-route-entry community)

Full Context

configure service vprn static-route-entry community

Description

This command associates a list of up to 12 BGP communities (any mix of standard, extended, and large communities) with the static route. These communities can be matched in route policies and are automatically added to BGP routes that are created from the static route.

The communities specified at this level of the static route causes communities configured under the next-hop, black-hole, and indirect contexts of the static route to be ignored.

The **no** form of this command removes the association.

Default

no community

Parameters

comm-id

Specifies a BGP community value, up to 72 characters.

Values [*as-num:comm-val* | *well-known-comm* | *ext-comm* | *large-comm*]

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where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - color:co-bits:*color-value*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - *val-in-mbps* — 0 to 16777215
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - *co-bits* — 00, 01, 10 or 11
  - *color-value* — 0 to 4294967295
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

community

Syntax

community *comm-id*

no community [*comm-id*]

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Context

[Tree] (config>service>vprn>static-route-entry>indirect community)

[Tree] (config>service>vprn>static-route-entry>black-hole community)

[Tree] (config>service>vprn>static-route-entry>next-hop community)

Full Context

configure service vprn static-route-entry indirect community

configure service vprn static-route-entry black-hole community

configure service vprn static-route-entry next-hop community

Description

This command associates one BGP community (standard, extended or large) with a next-hop of the static route. This community can be matched in route policies and automatically added to BGP routes that are created from the static route.

Any community specified in one of these contexts is overridden by any communities specified at the prefix level of the static route entry.

The **no** form of this command removes the association.

Default

no community

Parameters

comm-id

Specifies a BGP community value, up to 72 characters.

Values [*as-num:comm-val* | *well-known-comm* | *ext-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - color:co-bits:*color-value*

  where:

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- *target* — route target
- *origin* — route origin
- *ip-address* — a.b.c.d
- *ext-comm-val* — 0 to 4294967295
- *ext-asnum* — 0 to 4294967295
- *val-in-mbps* — 0 to 16777215
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- *co-bits* — 00, 01, 10 or 11
- *color-value* — 0 to 4294967295

- *large-comm — asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

community

Syntax

community *comm-id*

no community [*comm-id*]

Context

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel community)

Full Context

configure service vprn static-route-entry ipsec-tunnel community

Description

This configuration option associates a BGP community with the static route. The community can be matched in route policies and is automatically added to BGP routes exported from the static route.

The **no** form of this command removes the community association.

Default

no community

Parameters

comm-id

Specifies community IDs, up to 72 characters.

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Values [*2 byte asnumber:comm-val* | *well-known-comm*]

where:

- *2 byte as-number* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **no-export** | **no-export-subconfed** | **no-advertise**

Platforms

All

community

Syntax

community *community-name*

no community

Context

[Tree] (config>router>ldp>targeted-session>peer-template community)

[Tree] (config>router>ldp>session-params>peer community)

Full Context

configure router ldp targeted-session peer-template community

configure router ldp session-parameters peer community

Description

This command configures a community name associated with a targeted session to a specified peer. The community is a local configuration for a targeted session. FECs received over a session of a given community are taken to belong to that community, and are redistributed over sessions of the same community.

The SR OS router uses the following rules for community:

- If both the session parameters for a specified peer and targeted peer template that is applied to session have the default configuration then no community applies.
- If the session parameters for a peer have the default configuration, but targeted session peer template has an explicit configuration for community, then the targeted peer template configuration will be used.
- If the session parameters have an explicit configuration for community, and the targeted session peer template has the default configuration, then the session parameter configuration applies.
- If both session parameters and targeted peer template have an explicit configuration for community, then the session parameter configuration is used.

The **no** form of this command removes the community from the session to the peer. FEC subsequently received over the session are treated as having no community.

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Default

no community

Parameters

community-name

Specifies the string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Platforms

All

community

Syntax

community *comm-id*

no community [*comm-id*]

Context

[Tree] (config>router>static-route-entry>indirect community)

[Tree] (config>router>static-route-entry>black-hole community)

[Tree] (config>router>static-route-entry>next-hop community)

Full Context

configure router static-route-entry indirect community

configure router static-route-entry black-hole community

configure router static-route-entry next-hop community

Description

This command associates one BGP community (standard, extended or large) with a next-hop of the static route. This community can be matched in route policies and automatically added to BGP routes that are created from the static route.

Any community specified in one of these contexts is overridden by any communities specified at the prefix level of the static route entry.

The **no** form of this command removes the association.

Default

no community

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Parameters

comm-id

Specifies a BGP community value, up to 72 characters.

Values [*as-num:comm-val* | *well-known-comm* | *ext-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - color:co-bits:*color-value*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - *val-in-mbps* — 0 to 16777215
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - *co-bits* — 00, 01, 10 or 11
  - *color-value* — 0 to 4294967295
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

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community

Syntax

community *comm-id* [*comm-id*]

no community [*comm-id* [*comm-id*]]

Context

[Tree] (config>router>static-route-entry community)

Full Context

configure router static-route-entry community

Description

This command associates a list of up to 12 BGP communities (any mix of standard, extended, and large communities) with the static route. These communities can be matched in route policies and are automatically added to BGP routes that are created from the static route.

The communities specified at this level of the static route causes communities configured under the next-hop, black-hole and indirect contexts of the static route to be ignored.

The **no** form of this command removes the association.

Default

no community

Parameters

comm-id

Specifies a BGP community value, up to 72 characters.

Values [*as-num:comm-val* | *well-known-comm* | *ext-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*

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– color:co-bits:*color-value*

where:

– *target* — route target

– *origin* — route origin

– *ip-address* — a.b.c.d

– *ext-comm-val* — 0 to 4294967295

– *ext-asnum* — 0 to 4294967295

– *val-in-mbps* — 0 to 16777215

– *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)

– *value1* — 0000 to FFFF

– *value2* — 0 to FFFFFFFFFFFF

– *co-bits* — 00, 01, 10 or 11

– *color-value* — 0 to 4294967295

- *large-comm — asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

community

Syntax

community *community-string* [**hash** | **hash2** | **custom**] *access-permissions* [**version** *SNMP-version*] [**src-access-list** *list-name*]

no community *community-string* [**hash** | **hash2** | **custom**]

Context

[Tree] (config>system>security>snmp community)

Full Context

configure system security snmp community

Description

This command creates SNMP community strings for SNMPv1 and SNMPv2c access. This command is used in combination with the predefined access groups and views. To create custom access groups and views and associate them with SNMPv1 or SNMPv2c access use the **usm-community** command.

When configured, community implies a security model for SNMPv1 and SNMPv2c only.

For SNMPv3 security, the **access group** command must be configured.

The **no** form of the command removes the specified community string.

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Parameters

community-string

Configures the SNMPv1 and/or SNMPv2c community string.

Values community-string — Specifies the community string. Allowed values are any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (for example, #, $, spaces), the entire string must be enclosed within double quotes.

hash-key — Up to 33 characters

hash2-key — Up to 96 characters

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

access-permissions

Configures the access permissions for objects in the MIB.

r — Grants only read access to objects in the MIB, except security objects, using the internal "snmp-ro" access group and the "no-security" snmp view.

rw — Grants read and write access to all objects in the MIB, using the internal "snmp-rw" access group and the "no-security" snmp view.

rwa — Grants read and write access to all objects in the MIB, including security, using the internal snmp-rwa access group and the iso snmp view.

mgmt — Assigns a unique SNMP community string for SNMP access via the management router instance. This community uses the internal snmp-mgmt access group and the mgmt snmp view.

vpls-mgmt — Assigns a unique SNMP community string for SNMP access via the vpls-management router instance. This community uses the internal snmp-vpls-mgmt access group and mgmt-view snmp view.

version {v1 | v2c | both}

Configures the scope of the community string to be for SNMPv1, SNMPv2c, or both SNMPv1 and SNMPv2c access.

Default both

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list-name

Configures the **community** to reference a specific **src-access-list**, which will be used to validate the source IP address of all received SNMP requests that use this community. Multiple community, usm-community, or VPRN SNMP community instances can reference the same src-access-list.

Platforms

All

community

Syntax

[**no**] **community** *name*

Context

[Tree] (config>router>policy-options community)

Full Context

configure router policy-options community

Description

This command creates a route policy community list or expression to use in route policy entries. A community list is an unordered set of community values (members). In general a route matches a community list if it has any of the member values. A community expression is a set of community values that are arranged in a logical expression using operators such as AND, OR, and NOT. A route matches a community expression if it satisfies the logic of the expression.

For additional information, see the **expression** and **members** commands in the **config**> **router**>**policy-options**>**community** context.

The **no** form of this command deletes the community list or the provided community ID.

Default

no community

Parameters

name

Specifies the community list name. Allowed values are any string up to 64 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (for example, #, $, spaces), the entire string must be enclosed within double quotes.

Platforms

All

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community

Syntax

community add *name* [*name*]

community remove *name* [*name*]

community replace *name* [*name*]

no community

Context

[Tree] (config>router>policy-options>policy-statement>entry>action community)

[Tree] (config>router>policy-options>policy-statement>default-action community)

Full Context

configure router policy-options policy-statement entry action community

configure router policy-options policy-statement default-action community

Description

This command adds or removes a BGP community list to or from routes matching the route policy statement entry.

If no community list is specified, the community path attribute is not changed.

The community list changes the community path attribute according to the **add** and **remove** keywords.

The **no** form of this command disables the action to edit the community path attribute for the route policy entry.

Default

no community

Parameters

name

Specifies up to 28 names.

add

The specified community list is added to any existing list of communities.

remove

The specified community list is removed from the existing list of communities.

replace

The specified community list replaces any existing community attribute. name — The community list name. Allowed values are any string up to 64 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end"," @variable@end", or "start@variable@".

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Platforms

All

community

Syntax

community *comm-name*

community expression *expression*

no community

Context

[Tree] (config>router>policy-options>policy-statement>entry>from community)

Full Context

configure router policy-options policy-statement entry from community

Description

This command configures a community list as a match criterion for the route policy entry.

If no community list is specified, any community is considered a match.

The **no** form of this command removes the community list match criterion.

Default

no community

Parameters

comm-name

Specifies the community list name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

expression

Specifies that the parameters are applied to routes matching the entry.

Values *expression* is one of the following, up to 900 characters:

<expression> {AND| OR} <expression>

[NOT] (<expression>)

[NOT] "["<comm-name> "]

The following are examples of valid logical expressions:

- "[community_list_A] OR ([community_list_B] AND [community_list_C])"
- "NOT [community_list_A]"
- "[community_list_A] AND [community_list_B] OR [community_list_C]"

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- "NOT ([community_list_A] OR [community_list_B] OR [community_list_C])"

Platforms

All

10.47 community-count

community-count

Syntax

community-count *count* [**equal** | **or-higher** | **or-lower**] [**standard** | **extended** | **large**]

no community-count

Context

[Tree] (config>router>policy-options>policy-statement>entry>from community-count)

Full Context

configure router policy-options policy-statement entry from community-count

Description

This command matches BGP routes based on community length (that is, the number of community members in the COMMUNITY, EXTENDED_COMMUNITY, or LARGE_COMMUNITY the attributes).

If no comparison qualifiers are present (**equal**, **or-higher**, **or-lower**), then **equal** is the implied default.

Without the optional **standard**, **extended**, or **large** keyword, the community length applies to the total number of communities, of all types. If some keywords are present, then only the types specified are counted against the limit.

A non-BGP route does not match a policy entry if it contains the **community-count** command.

Default

no community-count

Parameters

count

Specifies the number of community members.

Values 0 to 1024, or a parameter, up to 32 characters, name delimited by a starting and ending at-sign (@) character

equal

Specifies that matched routes should have the same number of AS path elements as the value specified.

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or-higher

Specifies that matched routes should have the same or a greater number of community members as the value specified.

or-lower

Specifies that matched routes should have the same or a lower number of community members as the value specified.

standard

Specifies that only communities in the COMMUNITY attribute should be counted.

extended

Specifies that only communities in the EXTENDED_COMMUNITY attribute should be counted.

large

Specifies that only communities in the LARGE_COMMUNITY attribute should be counted.

Platforms

All

10.48 compare

compare

Syntax

compare *source1* **to** *source2*

Context

[Tree] (admin compare)

Full Context

admin compare

Description

This command displays the differences between rollback checkpoints and the active operational configuration, with source1 as the base/first file to which source2 is compared.

A compare operation does not check authorization of each line of output. Permission to execute the compare operation from the admin branch of CLI (authorization for the **admin rollback compare** or **admin compare** command itself) should only be given to users who are allowed to view the entire configuration, similar to permissions for **admin display-config**.

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Default

The defaults for source1 and source2 are context aware and differ based on the branch in which the command is executed. In general, the default for source1 matches the context from which the command is issued.

- In the admin node: No defaults. source1 and source2 must be specified.
- In the admin>rollback node:

  source1 default = active-cfg, source2 default = latest-rb

  compare: equivalent to "compare active-cfg to latest-rb”

  compare to source2: equivalent to "compare active-cfg to source2”
- In a config>*xx* node:

  compare to source2: equivalent to "compare active-cfg to source2”

Parameters

source1, source2

Specifies comparison information.

Values **active-cfg** — The current operational configuration that is active in the node.

latest-rb — The most recent rollback checkpoint (the checkpoint file at the configured rollback-location with "*.rb” as the suffix).

rescue — The rescue configuration (at the configured rescue-location).

checkpoint-id — An ID indicating a specific rollback checkpoint. A checkpoint-id of 1 indicates the rollback checkpoint file (at the configured rollback-location) with "*.rb.1” as the suffix, 2 for file "*.rb.2”, and so on.

Platforms

All

compare

Syntax

compare [**to** *checkpoint2*]

compare *checkpoint1* **to** *checkpoint2*

Context

[Tree] (admin>rollback compare)

Full Context

admin rollback compare

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Description

This command can be used in any branch under configure, but not with configure itself. The command syntax, parameter names, and default values are context aware and will differ based on the branch in which the command is executed.

This command displays the differences between rollback checkpoints and the active operational configuration, with checkpoint1 as the base/first file to which checkpoint2 is compared. This command displays the comparison for the configuration context where it is entered and all branches below that context level.

A compare operation does not check authorization of each line of output. Permission to execute the compare operation from the admin branch of CLI (authorization for the **admin rollback compare** or **admin compare** command itself) should only be given to users who are allowed to view the entire configuration, similar to permissions for **admin display-config**.

Default

The defaults for checkpoint1 and checkpoint2 are context-aware and differ based on the branch in which the command is executed. In general, the default for checkpoint1 matches the context from which the command is issued.

- In the admin node: No defaults. checkpoint1 and checkpoint2 must be specified.
- In the admin>rollback node:

  checkpoint1 default = active-cfg, checkpoint2 default = latest-rb

  compare: equivalent to "compare active-cfg to latest-rb”

  compare to checkpoint2: equivalent to "compare active-cfg to checkpoint2”
- In a config>*xx* node:

  compare to checkpoint2: equivalent to "compare active-cfg to checkpoint2”

Parameters

checkpoint1, checkpoint2

Specifies comparison information.

Values **active-cfg** — The current operational configuration that is active in the node.

latest-rb — The most recent rollback checkpoint (the checkpoint file at the configured rollback-location with "*.rb” as the suffix).

rescue — The rescue configuration (at the configured rescue-location).

checkpoint-id — An ID indicating a specific rollback checkpoint. A checkpoint-id of 1 indicates the rollback checkpoint file (at the configured rollback-location) with "*.rb.1” as the suffix, 2 for file "*.rb.2”, and so on.

Platforms

All

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10.49 compare-chain-include

compare-chain-include

Syntax

compare-chain-include *ca-profile-name*

no compare-chain-include

Context

[Tree] (config>ipsec>cert-profile>entry compare-chain-include)

Full Context

configure ipsec cert-profile entry compare-chain-include

Description

This command configures the Certificate Authority (CA) profile that needs to be included in the compare-chain for the entry. This configuration is required in instances where there are multiple overlapping compare-chains, for example, the configured root CA is cross-signed by another CA.

Default

no compare-chain-include

Parameters

ca-profile-name

Specifies the name of the CA profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.50 compare-origin-validation-state

compare-origin-validation-state

Syntax

[**no**] **compare-origin-validation-state**

Context

[Tree] (config>service>vprn>bgp>best-path-selection compare-origin-validation-state)

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Full Context

configure service vprn bgp best-path-selection compare-origin-validation-state

Description

This command enables the comparison of origin validation states during the BGP decision process. When this command is configured, a new step is inserted in the BGP decision process after the removal of invalid routes and before the comparison of Local Preference. This step compares the origin validation state so a BGP route with a "Valid" state is preferred over a BGP route with a "Not-Found" state. A BGP route with a "Not-Found" state is preferred over a BGP route with an "Invalid" state assuming that these routes are considered "usable".

This comparison only applies to BGP routes learned from VPRN BGP peers. It does not apply to any comparison involving BGP-VPN routes that have been imported into the VPRN.

The **no** form of this command causes the new step to be skipped during the BGP decision process.

Default

no compare-origin-validation-state

Platforms

All

compare-origin-validation-state

Syntax

[**no**] **compare-origin-validation-state**

Context

[Tree] (config>router>bgp>best-path-selection compare-origin-validation-state)

Full Context

configure router bgp best-path-selection compare-origin-validation-state

Description

When this command is configured, a new step is inserted in the BGP decision process after removal of invalid routes and before the comparison of Local Preference. The new step compares the RPKI origin validation state so that a BGP route with a 'Valid' state is preferred over a BGP route with a 'Not-Found' state, and a BGP route with a 'Not-Found' state is preferred over a BGP route with an 'Invalid' state assuming that these routes are considered 'usable'.

The new step is skipped when **no compare-origin-validation-state** is configured.

Default

no compare-origin-validation-state

Platforms

All

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10.51 compatibility

compatibility

Syntax

compatibility *mode*

Context

[Tree] (config>port>dwdm>coherent compatibility)

Full Context

configure port dwdm coherent compatibility

Description

This command configures the optical mode and rate of operation.

Parameters

mode

Specifies the optical mode.

Values

long-haul - The port operates in the native long-haul mode.

long-haul-non-diff - The port operates in the native long-haul mode using non-differential encoding.

metro - The port operates in the native metro regional mode.

access - The port operates in the native access mode (80km reach).

interop - The port operates in the third party interop mode.

interop2 - The port operates in the third party interop mode with alternate differential encoding.

interop3 - The port operates in the CFP2-DCO Rev A0 Staircase FEC interop mode.

oif-400g-zr - The port operates in compliance with the OIF 400G ZR implementation agreement (IA). This parameter is only supported for use with 400G ZR and 400G ZR+ pluggable transceiver modules.

open-zrp-ofec1 - The port operates in compliance with the OpenZR + multi-source agreement (MSA) (100GHz spacing). This parameter is only supported for use with 400G ZR and 400G ZR+ pluggable transceiver modules.

open-zrp-ofec2 - The port operates in compliance with the OpenZR+ MSA (75 GHz spacing). This parameter is only supported for use with 400G ZR and 400G ZR+ pluggable transceiver modules.

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Default long-haul

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.52 compatible-rfc1583

compatible-rfc1583

Syntax

[**no**] **compatible-rfc1583**

Context

[Tree] (config>service>vprn>ospf compatible-rfc1583)

Full Context

configure service vprn ospf compatible-rfc1583

Description

This command enables OSPF summary and external route calculations in compliance with RFC 1583 and earlier RFCs.

RFC 1583 and earlier RFCs use a different method to calculate summary and external route costs. To avoid routing loops, all routers in an OSPF domain should perform the same calculation method.

Although it would be favorable to require all routers to run a more current compliance level, this command allows the router to use obsolete methods of calculation.

This command is not supported in OSPF3.

The **no** form of this command enables the post-RFC 1583 method of summary and external route calculation.

Default

compatible-rfc1583 — RFC 1583 compliance is enabled.

Platforms

All

compatible-rfc1583

Syntax

[**no**] **compatible-rfc1583**

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Context

[Tree] (config>router>ospf compatible-rfc1583)

Full Context

configure router ospf compatible-rfc1583

Description

This command enables OSPF summary and external route calculations in compliance with RFC 1583 and earlier RFCs.

RFC 1583 and earlier RFCs use a different method to calculate summary and external route costs. To avoid routing loops, all routers in an OSPF domain should perform the same calculation method.

Although it would be favorable to require all routers to run a more current compliance level, this command allows the router to use obsolete methods of calculation.

The **no** form of this command enables the post-RFC 1583 method of summary and external route calculation.

Default

compatible-rfc1583

Platforms

All

10.53 compatible-version

compatible-version

Syntax

compatible-version *version*

no compatible-version

Context

[Tree] (config>eth-ring compatible-version)

Full Context

configure eth-ring compatible-version

Description

This command configures eth-ring compatibility version for the G.8032 state machine and messages. The default is version 2 and all router switches use this version. If there is a need to interwork with third party devices that only support version 1 this can be set to version 1.

The **no** form of this command set the compatibility version to 2.

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Default

compatible-version 2

Parameters

version

Specifies the version of the G.8032 state machine.

Values 1, 2

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.54 complexity-rules

complexity-rules

Syntax

complexity-rules

Context

[Tree] (config>system>security>password complexity-rules)

Full Context

configure system security password complexity-rules

Description

This command defines a list of rules for configurable password options.

Note:
This command applies to local users.

Platforms

All

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10.55 comprehensive

comprehensive

Syntax

comprehensive

Context

[Tree] (config>app-assure>group>cflowd comprehensive)

Full Context

configure application-assurance group cflowd comprehensive

Description

Commands in this context configure cflowd comprehensive statistics output parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.56 conditional-expression

conditional-expression

Syntax

conditional-expression

Context

[Tree] (config>router>policy-options>policy-statement>entry conditional-expression)

Full Context

configure router policy-options policy-statement entry conditional-expression

Description

This command creates the context to configure a route existence expression.

Platforms

All

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10.57 confederation

confederation

Syntax

confederation *confed-as-num* [**members** *as-number* [*as-number*]]

no confederation *confed-as-num* **members** *as-number* [*as-number*]

no confederation

Context

[Tree] (config>service>vprn confederation)

Full Context

configure service vprn confederation

Description

This command configures the VPRN BGP instance to participate in a BGP confederation. BGP confederations can be used to reduce the number of IBGP sessions required within an AS.

When a VPRN BGP instance is part of a confederation, it can form confederation-EBGP sessions with CE router peers in a different sub-autonomous systems of the same confederation as well as regular EBGP sessions with CE router peers outside the confederation. A VPRN BGP instance that is part of a confederation cannot import or export its routes to the base router instance (as VPN-IP routes).

The **no** form of this command deletes the specified member AS from the confederation. When members are not specified in the no statement, the entire list is removed and confederations is disabled. When the last member of the list is removed, confederations is disabled.

Default

no confederation

Parameters

confed-as-num

The confederation AS number defined as a decimal value.

Values 1 to 4294967295

members *as-number*

The AS number(s) that are members of the confederation, each expressed as a decimal integer. Configure up to 15 members per confed-as-num.

Values 1 to 4294967295

Platforms

All

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confederation

Syntax

confederation *confed-as-num* [**members** *as-number* [*as-number*]]

no confederation *confed-as-num* **members** *as-number* [*as-number*]

no confederation

Context

[Tree] (config>router confederation)

Full Context

configure router confederation

Description

This command creates confederation autonomous systems within an AS.

This technique is used to reduce the number of IBGP sessions required within an AS. Route reflection is another technique that is commonly deployed to reduce the number of IBGP sessions.

The **no** form of this command deletes the specified member AS from the confederation.

When no members are specified in the **no** statement, the entire list is removed and **confederation** is disabled.

When the last member of the list is removed, **confederation** is disabled.

Default

no confederation - no confederations are defined.

Parameters

confed-as-num

Specifies the confederation AS number expressed as a decimal integer.

Values 1 to 65535

as-number

Specifies the AS number of members that are part of the confederation, expressed as a decimal integer. Up to 15 members per *confed-as-num* can be configured.

Values 1 to 65535

Platforms

All

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10.58 confidence

confidence

Syntax

confidence eq *equal-value*

confidence gte *greater-than-or-equal-value*

confidence lt *less-than-value*

Context

[Tree] (config>app-assure>group>policy>charging-filter>entry>match>flow-attribute confidence)

[Tree] (config>app-assure>group>policy>aqp>entry>match>flow-attribute confidence)

Full Context

configure application-assurance group policy charging-filter entry match flow-attribute confidence

configure application-assurance group policy app-qos-policy entry match flow-attribute confidence

Description

This command configures the confidence level of the flow attribute for use as match criteria.

Parameters

eq *equal-value*

Specifies that a successful match occurs when the flow attribute confidence level is equal to the specified value.

Values 0 to 100

gte *greater-than-or-equal-value*

Specifies that a successful match occurs when the flow attribute confidence level is greater than or equal to the specified value.

Values 0 to 100

lt *less-than-value*

Specifies that a successful match occurs when the flow attribute confidence level is less than the specified value.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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10.59 config-backup

config-backup

Syntax

config-backup *count*

no config-backup

Context

[Tree] (config>system config-backup)

Full Context

configure system config-backup

Description

This command configures the maximum number of backup versions maintained for configuration files and BOF.

For example, assume the **config-backup** *count* is set to 5 and the configuration file is called *xyz.cfg.* When the configuration is saved, the file *xyz.cfg* is saved with a 1 extension. Each configuration save increments the numeric extension until the maximum count is reached.

xyz.cfg xyz.cfg.1 xyz.cfg.2 xyz.cfg.3 xyz.cfg.4 xyz.cfg.5

Each classic CLI persistent index file is updated at the same time as the associated configuration file. When the index file is updated, then the save is performed to *xyz.cfg* and the index file is created as *xyz.ndx*. Synchronization between the active and standby CPM is performed for all configurations and their associated persistent index files.

The **no** form of the command returns the configuration to the default value.

Default

config-backup 50

Parameters

count

Specifies the maximum number of backup revisions.

Values 1 to 200

Platforms

All

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10.60 configuration-mode

configuration-mode

Syntax

configuration-mode {**classic** | **mixed** | **model-driven**}

Context

[Tree] (config>system>management-interface configuration-mode)

Full Context

configure system management-interface configuration-mode

Description

This command controls which management interfaces are used for editing and changing the configuration of the router.

Any management interface can be used in any configuration mode (to gather state information or perform operations, for example), but only specific management interfaces (CLI, NETCONF, and so on) are allowed to edit the configuration of the router in different modes. For example, only classic CLI and SNMP can be used to edit the configuration when in classic mode.

Default

configuration-mode model-driven

Parameters

classic

Enables editing of router configuration via classic CLI and SNMP management interfaces, but not using model-driven interfaces.

model-driven

Enables editing of router configuration via model-driven management interfaces (NETCONF with 'Nokia' YANG models, MD-CLI or gRPC), but not using classic interfaces.

mixed

Enables editing of router configuration using a mix of classic CLI and/or model-driven management interfaces (with some restrictions and limitations).

Platforms

All

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10.61 configure

configure

Syntax

configure

Context

[Tree] (configure)

Full Context

configure

Description

Commands in this context edit the system configuration.

Platforms

All

10.62 confirm

confirm

Syntax

confirm

Context

[Tree] (candidate confirm)

Full Context

candidate confirm

Description

This command is used to stop an automatic reversion to the previous configuration after the **candidate commit confirmed** command was used. If the **confirm** command is not executed before the commit confirmed timeout period expires then the previous commit changes will be undone and the previous candidate configuration will be available for editing and a subsequent commit.

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During the countdown the contents of the candidate will remain visible (candidate view) and changes to the candidate are blocked until the timeout is completed or the candidate confirm command is executed. Executing the **confirm** command clears the contents of the candidate and allows editing of the candidate.

Platforms

All

confirm

Syntax

[**no**] **confirm**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>commit-options confirm)

Full Context

configure system management-interface cli md-cli environment commit-options confirm

Description

This command configures the requirement for a confirmed commit when committing configuration.

The **no** form of this command does not require a confirmed commit when committing configuration

Default

no confirm

Platforms

All

10.63 cong-priority-threshold

cong-priority-threshold

Syntax

cong-priority-threshold *preference-level*

no cong-priority-threshold

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle cong-priority-threshold)

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Full Context

configure mcast-management multicast-info-policy bundle cong-priority-threshold

Description

This command defines the preference level threshold where records change from low congestion priority to high congestion priority. Congestion priority is used by the ingress multicast path queues to map packets entering the queue to either the low drop-tail or the MBS drop-tail threshold. If congestion occurs on the queue, the queue depth increases. As the queue depth increases beyond the low drop-tail, packets with low priority congestion priority are discarded. This leaves room in the queue for packets with high congestion priority until the queue reaches the MBS threshold.

The default congestion priority threshold is 4. This means that multicast channels with a preference level of 0 to 3 are treated as having low congestion priority and channels with preference level of 4 to 7 are treated as having a high congestion priority. The **cong-priority-threshold** command can be used to change the default threshold. Any multicast channel with a preference equal to or higher than the configured threshold is treated with high congestion priority.

The **cong-priority-threshold** value is also used by the multicast CAC manager to derive the class of a channel matched by the multicast information policy. Channels with a preference less than the configured threshold are treated as low class and channels with a preference equal to or greater than the threshold is treated as high class.

Changing the **cong-priority-threshold** value causes all channels congestion priority to be reevaluated. Both the ingress multicast path managers and multicast CAC managers must be updated.

The **no** form of this command restores the default congestion priority preference threshold value.

Default

cong-priority-threshold 4

Parameters

preference-level

Specifies the **cong-priority-threshold** where records change from low congestion priority to high congestion priority.

Values 0 to 7

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

10.64 congestion-override

congestion-override

Syntax

congestion-override

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Context

[Tree] (config>app-assure>group>policer congestion-override)

Full Context

configure application-assurance group policer congestion-override

Description

Commands in this context configure per subscriber congestion bandwidth policer override rates.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.65 congestion-override-stage2

congestion-override-stage2

Syntax

congestion-override-stage2

Context

[Tree] (config>app-assure>group>policer congestion-override-stage2)

Full Context

configure application-assurance group policer congestion-override-stage2

Description

Commands in this context configure per-subscriber stage 2 congestion bandwidth policer override rates.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.66 congestion-threshold

congestion-threshold

Syntax

congestion-threshold *percent*

no congestion-threshold

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Context

[Tree] (config>qos>hw-agg-shap-sched-plcy congestion-threshold)

Full Context

configure qos hw-agg-shaper-scheduler-policy congestion-threshold

Description

This command configures the congestion threshold for the hardware aggregate shaper scheduler policy, which, if exceeded, triggers the hardware aggregate scheduler algorithm.

Default

congestion-threshold 90

Parameters

percent

Specifies the congestion threshold as a percentage of the scheduler rate.

Values 0 to 100

Platforms

7750 SR-1, 7750 SR-s

10.67 connect-retry

connect-retry

Syntax

connect-retry *seconds*

no connect-retry

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy connect-retry)

Full Context

configure subscriber-mgmt bgp-peering-policy connect-retry

Description

This command configures the BGP connect retry timer value in seconds.

When this timer expires, BGP tries to reconnect to the configured peer.

The **no** form of this command used at the global level reverts to the default value.

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Default

connect-retry 120

Parameters

seconds

The BGP Connect Retry timer value in seconds, expressed as a decimal integer.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

connect-retry

Syntax

connect-retry *seconds*

no connect-retry

Context

[Tree] (config>service>vprn>bgp>group connect-retry)

[Tree] (config>service>vprn>bgp>group>neighbor connect-retry)

[Tree] (config>service>vprn>bgp connect-retry)

Full Context

configure service vprn bgp group connect-retry

configure service vprn bgp group neighbor connect-retry

configure service vprn bgp connect-retry

Description

This command configures the BGP connect retry timer value in seconds.

When this timer expires, BGP tries to reconnect to the configured peer. This configuration parameter can be set at three levels: global level (applies to all peers), peer-group level (applies to all peers in group) or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command used at the global level reverts to the default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

120 seconds

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Parameters

seconds

Specifies the BGP connect retry timer value in seconds, expressed as a decimal integer.

Values 1 to 65535

Platforms

All

connect-retry

Syntax

connect-retry *seconds*

no connect-retry

Context

[Tree] (config>router>origin-validation>rpki-session connect-retry)

Full Context

configure router origin-validation rpki-session connect-retry

Description

This command configures the time in seconds to wait between one TCP connection attempt that fails and the next attempt. The default (with **no connect-retry**) is 120 seconds.

Default

no connect-retry

Parameters

seconds

Specifies time in seconds.

Values 1 to 65535

Platforms

All

connect-retry

Syntax

connect-retry *seconds*

no connect-retry

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Context

[Tree] (config>router>bgp>group connect-retry)

[Tree] (config>router>bgp>group>neighbor connect-retry)

[Tree] (config>router>bgp connect-retry)

Full Context

configure router bgp group connect-retry

configure router bgp group neighbor connect-retry

configure router bgp connect-retry

Description

This command configures the BGP connect retry timer value in seconds.

When this timer expires, BGP tries to reconnect to the configured peer. This configuration parameter can be set at three levels: global level (applies to all peers), peer-group level (applies to all peers in group) or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command used at the global level reverts to the default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

connect-retry 120

Parameters

seconds

The BGP Connect Retry timer value in seconds expressed as a decimal integer.

Values 1 to 65535

Platforms

All

connect-retry

Syntax

connect-retry *seconds*

no connect-retry

Context

[Tree] (config>bmp>station>connection connect-retry)

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Full Context

configure bmp station connection connect-retry

Description

This command configures the BMP connect retry timer value. When this timer expires, BMP tries to reconnect to the configured monitoring station. This timer is applicable when the connection to the monitoring station is not yet established.

The **no** form of this command reverts to the default value.

Default

connect-retry 120

Parameters

seconds

Specifies the BMP connect retry timer in seconds.

Values 1 to 65535

Platforms

All

10.68 connection

connection

Syntax

connection

Context

[Tree] (config>bmp>station connection)

Full Context

configure bmp station connection

Description

Commands in this context configure connection parameters for the BMP monitoring station.

Platforms

All

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connection

Syntax

[**no**] **connection** *ip-address*

Context

[Tree] (debug>router>pcep>pcc connection)

Full Context

debug router pcep pcc connection

Description

This command debugs PCC connection events.

The **no** form of this command disables debugging.

Parameters

ip-address

Specifies the IP address.

Values ipv4-prefix: a.b.c.d

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

All

connection

Syntax

[**no**] **connection** *ip-address*

Context

[Tree] (debug>router>pcep>pce connection)

Full Context

debug router pcep pce connection

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Description

This command debugs PCE connection events.

The **no** form of this command disables debugging.

Parameters

ip-address

Specifies the IP address.

Values ipv4-prefix: a.b.c.d

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

VSR-NRC

10.69 connection-profile-vlan

connection-profile-vlan

Syntax

connection-profile-vlan *conn-prof-id* [**create**]

no connection-profile-vlan *conn-prof-id*

Context

[Tree] (config connection-profile-vlan)

Full Context

configure connection-profile-vlan

Description

Commands in this context configure the VLAN ranges that will be associated with a service SAP.

Each connection-profile-vlan must be explicitly configured.

Parameters

conn-prof-id

Specifies the connection-profile identifier. This value will be configured in the service along with the SAP when the user associates a VLAN bundle to a single SAP. For example, a

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SAP defined in a dot1q port 1/1/1 that matches all the VLANs defined in the connection-profile-vlan 1 will be created as '**sap 1/1/1:cp-1 create**'.

Values 1 to 8000

Platforms

All

10.70 connection-timer

connection-timer

Syntax

connection-timer *seconds*

no connection-timer

Context

[Tree] (config>aaa>diam>node>peer connection-timer)

[Tree] (config>aaa>diam>node connection-timer)

Full Context

configure aaa diameter node peer connection-timer

configure aaa diameter node connection-timer

Description

This command configures the frequency of attempts to open a TCP connection to each peer within a specific Diameter client node. After a TCP connection fails to be established (because of timeouts of TCP SYN packets) or an existing TCP connection fails, the next attempt to open the connection is tried upon the expiry of the **connection-timer**. There is no limit on the number of attempts.

The **no** form of this command reverts to the default.

Default

connection-timer 30

Parameters

seconds

Specifies the Diameter node connection timer, in seconds.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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10.71 connection-type

connection-type

Syntax

connection-type *connection-type*

no connection-type

Context

[Tree] (config>system>netconf>call-home>netconf-client connection-type)

Full Context

configure system netconf call-home netconf-client connection-type

Description

This command configures the call home connection type.

The **no** form of this command disables the use of the call home connection type.

Default

connection-type persistent

Parameters

connection-type

Keyword to specify the connection mode type.

Default persistent

Platforms

All

10.72 connectivity-association

connectivity-association

Syntax

connectivity-association *ca-name* [**create**]

no connectivity-association *ca-name*

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Context

[Tree] (config>macsec connectivity-association)

Full Context

configure macsec connectivity-association

Description

This command configures a connectivity association. MACsec connectivity associations are applied to a port dot1x configuration to enable MACsec on that port.

The **no** form of this command removes the connectivity association.

Parameters

ca-name

The name of the connectivity association, a string up to 32 characters long.

create

Mandatory while creating an entry.

Platforms

All

10.73 connectivity-verification

connectivity-verification

Syntax

connectivity-verification [**count** *nr-of-attempts*] [**timeout** *timeout-seconds*] [**retry-time** *retry-seconds*]

no connectivity-verification

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile connectivity-verification)

Full Context

configure subscriber-mgmt vrgw brg brg-profile connectivity-verification

Description

This command configures the BRG connectivity verification. The system uses ICMP Echo request messages for connectivity verification.

When the last host associated with a BRG is removed, a ping mechanism is used to verify if the BRG is still active. This command specifies the parameters used in this mechanism.

The **no** form of this command disables the BRG ping mechanism and removes the BRG without verification. Any configured hold time still applies.

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Default

connectivity-verification count 3 timeout 30 retry-time 900

Parameters

nr-of-attempts

Specifies the number of connectivity verification attempts this system makes before a BRG is considered down.

Values 1 to 5

timeout-seconds

Specifies the time, in seconds, after which an unanswered ping is considered failed.

Values 5 to 60

retry-seconds

Specifies the time, in seconds, that the system waits while it considers a BRG down before it starts a new connectivity verification cycle. If a ping succeeds, the mechanism will be retried after this time.

Values 300 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.74 connectivity-verify

connectivity-verify

Syntax

connectivity-verify

Context

[Tree] (config>redundancy>mc>peer>mcr>l3ring>node connectivity-verify)

[Tree] (config>redundancy>mc>peer>mcr>ring connectivity-verify)

Full Context

configure redundancy multi-chassis peer mc-ring l3-ring ring-node connectivity-verify

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify

Description

Commands in this context configure a node connectivity check.

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Platforms

All

10.75 connector

connector

Syntax

connector

Context

[Tree] (config>port connector)

Full Context

configure port connector

Description

Commands in this context configure connector parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.76 consider-system-ip-in-gep

consider-system-ip-in-gep

Syntax

[**no**] **consider-system-ip-in-gep**

Context

[Tree] (config>router>ldp consider-system-ip-in-gep)

Full Context

configure router ldp consider-system-ip-in-gep

Description

When this command is enabled, the system interprets the presence or absence of the system IP and its associated action in the applied Global Export Policies in the same way as for other interfaces' IP addresses. In that case:

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- if the system IP is not present, its FEC will not be exported or it will be withdrawn if it has been exported
- if the system IP is present with "accept", its FEC will be exported
- if the system IP is present with "deny", its FEC will not be exported or it will be withdrawn if it had been exported

Enabling or disabling this command leads to the applied Global Export Policies being reevaluated.

The **no** form of this command causes the system to not interpret the presence or absence of the system IP in applied Global Export Policies, and the FEC for the system IP is exported (default behavior).

Default

no consider-system-ip-in-gep

Platforms

All

10.77 console

console

Syntax

console

Context

[Tree] (config>system>management-interface>cli>md-cli>environment console)

Full Context

configure system management-interface cli md-cli environment console

Description

Commands in this context configure console parameters.

Platforms

All

console

Syntax

console

Context

[Tree] (config>system>security>user-template console)

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[Tree] (config>system>security>user console)

Full Context

configure system security user-template console

configure system security user console

Description

This command creates the context to configure user profile membership for the console (either Telnet or CPM serial port user).

Platforms

All

10.78 console-login

console-login

Syntax

[**no**] **console-login**

Context

[Tree] (config>system>security console-login)

Full Context

configure system security console-login

Description

This command enables logins on the serial console port of the active CPM.

The **no** form of this command disables logins on the serial console port of the active CPM. Boot messages and the **pre-login-message**, if configured, are displayed, but the login prompt is not displayed.

Note: In-band or out-band management access must be configured before console logins are disabled so that users can log in to the system.

Default

no console-login

Platforms

All

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10.79 console-speed

console-speed

Syntax

console-speed *baud-rate*

no console-speed

Context

[Tree] (bof console-speed)

Full Context

bof console-speed

Description

This command configures the console port baud rate.

When this command is issued while editing the BOF file used for the most recent boot, both the BOF file and the active configuration are changed immediately.

The **no** form of this command reverts to the default value.

Default

console-speed 115200

Parameters

baud-rate

Specifies the console port baud rate, expressed as a decimal integer.

Values 9600, 19200, 38400, 57600, 115200

Platforms

7450 ESS, 7750 SR-1, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, 7750 SR-1s, 7750 SR-2s, 7750 SR-7s, 7750 SR-14s, 7950 XRS, VSR

10.80 constellation

constellation

Syntax

constellation gps [**galileo**]

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Context

[Tree] (config>port>gnss constellation)

Full Context

configure port gnss constellation

Description

This command configures the GNSS systems used by the GNSS receiver on platforms containing one or more embedded GNSS receivers.

The GNSS receiver uses GPS by default. GPS must always be enabled when the GNSS receiver is used, and the GNSS receiver can be configured to use additional GNSS systems simultaneously.

Default

gps

Parameters

gps

Enables the use of the American GPS GNSS system. This keyword is always required when using the GNSS receiver.

galileo

Enables the use of the European Galileo GNSS system. This keyword is only supported on 7750 SR FP5 GNSS platforms.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

10.81 contact

contact

Syntax

contact *contact-information*

no contact *contact-information*

Context

[Tree] (config>service>cust contact)

Full Context

configure service customer contact

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Description

This command configures contact information for a customer.

Include any customer-related contact information such as a technician's name or account contract name.

The **no** form of this command removes the contact information from the customer ID.

Default

no contact

Parameters

contact-information

Specifies customer contact information entered as an ASCII character string up to 80 characters in length. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Any printable, seven bit ASCII characters may be used within the string.

Platforms

All

contact

Syntax

contact *contact-name*

no contact

Context

[Tree] (config>system contact)

Full Context

configure system contact

Description

This command creates a text string that identifies the contact name for the device.

Only one contact can be configured, if multiple contacts are configured the last one entered will overwrite the previous entry.

The **no** form of the command reverts to default.

Default

no contact

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Parameters

contact-name

Specifies the contact name character string. The string can be up to 80 characters long. Any printable, seven-bit ASCII characters can be used within the string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

10.82 context

context

Syntax

[**no**] **context**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>prompt context)

Full Context

configure system management-interface cli md-cli environment prompt context

Description

This command displays the current command context in the prompt.

The **no** form of this command suppresses the current command context in the prompt.

Default

context

Platforms

All

10.83 continuous

continuous

Syntax

[**no**] **continuous**

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Context

[Tree] (config>saa>test continuous)

Full Context

configure saa test continuous

Description

This command specifies whether the SAA test is continuous. Once a test is configured as continuous, it cannot be started or stopped with the **oam saa** *test-name* {**start** | **stop**} command.

This option is not applicable to all SAA test types. Support is included for the following types:

- **cpe-ping**
- **dns**
- **eth-cfm-loopback**
- **eth-cfm-two-way-delay**
- **eth-cfm-two-way-slm**
- **icmp-ping** (not applicable to **rapid** type)
- **lsp-ping**
- **mac-ping**
- **sdp-ping**
- **vccv-ping**
- **vprn-ping**

The **no** form of this command disables the continuous execution of the test.

Platforms

All

10.84 control

control

Syntax

control

Context

[Tree] (config>subscr-mgmt>sla-profile control)

Full Context

configure subscriber-mgmt sla-profile control

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Description

This command specifies whether this SLA profile can be used by a session that is set up by a specific control plane.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

control

Syntax

control

Context

[Tree] (config>subscr-mgmt>sub-profile control)

Full Context

configure subscriber-mgmt sub-profile control

Description

Commands in this context configure the subscriber profile to be used by a session that is set up by a specific control plane.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

control

Syntax

control *parameter-name* [*percentage*]

no control *parameter-name*

Context

[Tree] (cfg>card>vir-sch-adj>wrk-perf>manual control)

Full Context

configure card virtual-scheduler-adjustment workload-performance manual control

Description

This command configures the CPU share available for a specific task. Configuring a value below 100.00% reduces the performance of that task.

The **no** form of this command reverts to the default value.

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Default

no control

Parameters

parameter-name

Specifies the name of the task, up to 32 characters.

percentage

Specifies the CPU limit for the task, in percent.

Values 20.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.85 control-channel-status

control-channel-status

Syntax

[**no**] **control-channel-status**

Context

[Tree] (config>service>cpipe>spoke-sdp control-channel-status)

[Tree] (config>service>epipe>spoke-sdp control-channel-status)

[Tree] (config>service>vpls>spoke-sdp control-channel-status)

Full Context

configure service cpipe spoke-sdp control-channel-status

configure service epipe spoke-sdp control-channel-status

configure service vpls spoke-sdp control-channel-status

Description

This command enables the configuration of static pseudowire status signaling on a spoke SDP for which signaling for its SDP is set to OFF.

A control-channel-status **no shutdown** is allowed only if all of the following are true:

- SDP signaling is off.
- The control-word is enabled (the control-word is disabled by default)
- The service type is Epipe, Apipe, VPLS, Cpipe, or IES/VPRN
- Mate SDP signaling is off (in vc-switched services)

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- The pw-path-id is configured for this spoke SDP.

The **no** form of this command removes control channel status signaling from a spoke SDP. It can only be removed if control channel status is shut down.

Default

no control-channel-status

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp control-channel-status

All

- configure service epipe spoke-sdp control-channel-status
- configure service vpls spoke-sdp control-channel-status

control-channel-status

Syntax

control-channel-status

Context

[Tree] (config>service>ies>if>spoke-sdp control-channel-status)

Full Context

configure service ies interface spoke-sdp control-channel-status

Description

This command enables the configuration of static pseudowire status signaling on a spoke-SDP for which signaling for its SDP is set to OFF.

A control-channel-status no shutdown is allowed only if all of the following are true:

- SDP signaling is off.
- The control-word is enabled (the control-word is disabled by default)
- The service type is Epipe, Apipe, VPLS, Cpipe, or IES/VPRN
- Mate SDP signaling is off (in vc-switched services)
- The pw-path-id is configured for this spoke-SDP.

The **no** form of this command removes control channel status signaling from a spoke-SDP. It can only be removed if control channel status is shut down.

Default

no control-channel-status

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Platforms

All

control-channel-status

Syntax

control-channel-status

Context

[Tree] (config>service>vprn>red-if>spoke-sdp control-channel-status)

[Tree] (config>service>vprn>if>spoke-sdp control-channel-status)

Full Context

configure service vprn redundant-interface spoke-sdp control-channel-status

configure service vprn interface spoke-sdp control-channel-status

Description

This command enables the configuration of static pseudowire status signaling on a spoke SDP for which signaling for its SDP is set to OFF.

A control-channel-status no shutdown is allowed only if all of the following are true:

- SDP signaling is off.
- The control-word is enabled (the control-word is disabled by default)
- The service type is Epipe, Apipe, VPLS, Cpipe, or IES/VPRN
- Mate SDP signaling is off (in vc-switched services)
- The pw-path-id is configured for this spoke SDP.

The **no** form of this command removes control channel status signaling from a spoke SDP. It can only be removed if control channel status is shut down.

Default

no control-channel-status

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp control-channel-status

All

- configure service vprn interface spoke-sdp control-channel-status

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control-channel-status

Syntax

control-channel-status

Context

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp control-channel-status)

[Tree] (config>mirror>mirror-dest>spoke-sdp control-channel-status)

Full Context

configure mirror mirror-dest remote-source spoke-sdp control-channel-status

configure mirror mirror-dest spoke-sdp control-channel-status

Description

Commands in this context configure static pseudowire status signaling on a spoke SDP for which signaling for its SDP is set to OFF. For more information about control channel status configuration for the spoke SDP, see the *7450 ESS, 7750 SR, 7950 XRS, and VSR Layer 2 Services and EVPN Guide: VLL, VPLS, PBB, and EVPN Services Guide*.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.86 control-mep

control-mep

Syntax

[**no**] **control-mep**

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep control-mep)

Full Context

configure eth-tunnel path eth-cfm mep control-mep

Description

This command enables the Ethernet tunnel control on the MEP. The use of control-mep command is mandatory for an Ethernet tunnel. MEP detection of failure using CCM may be enabled or disabled independently of the control mep.

The **no** form of this command disables Ethernet ring control.

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Default

no control-mep

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

control-mep

Syntax

[**no**] **control-mep**

Context

[Tree] (config>eth-ring>path>eth-cfm>mep control-mep)

Full Context

configure eth-ring path eth-cfm mep control-mep

Description

This command enables the Ethernet ring control on the MEP. The use of control-mep command is mandatory for a ring. MEP detection of failure using CCM may be enabled or disabled independently of the control mep.

The **no** form of this command disables Ethernet ring control.

Default

no control-mep

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.87 control-tag

control-tag

Syntax

control-tag *qtag*[*.qtag*]

no control-tag

Context

[Tree] (config>eth-tunnel>path control-tag)

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Full Context

configure eth-tunnel path control-tag

Description

This command specifies the VLAN-ID to be used for Ethernet CFM and G.8031 control plane exchanges. If the operator wants to replace an existing control-tag, the parent path needs to be in shutdown state, then deleted and recreated before a new control-tag can be specified.

The **no** form of this command is used just to indicate that a control-tag is not configured. The procedure described above, based on 'no path' command must be used to un-configure/change the control-tag assigned to the path.

Default

no control-tag

Parameters

qtag[.qtag]

Specifies the value of the VLAN ID to be used for the control tag.

Values 0 to 4094, untagged option is not supported, *

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.88 control-word

control-word

Syntax

[**no**] **control-word**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls control-word)

[Tree] (config>service>vpls>bgp-evpn>mpls control-word)

Full Context

configure service epipe bgp-evpn mpls control-word

configure service vpls bgp-evpn mpls control-word

Description

This command enables the transmission and reception of the **control-word**. As defined in RFC 7432, the use of the control-word helps avoid frame disordering.

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It is enabled or disabled for all EVPN-MPLS destinations at the same time.

Default

no control-word

Platforms

All

control-word

Syntax

[**no**] **control-word**

Context

[Tree] (config>service>sdp>binding>pw-port control-word)

Full Context

configure service sdp binding pw-port control-word

Description

This command enables the setting of the control word bit in the label message. Control words are used to distinguish a PW payload (Ethernet) from an IP payload (identified by the first nibble past the bottom MPLS label, either 4 or 6) carried over an MPLS network.

Based on the payload type, the transit MPLS node can make an appropriate load balancing decision. Load balancing can rely on the MPLS labels, or rely on additional fields that are available only in IP header (source and destination IP addresses and ports).

The presence of a control word indicates that the header following the last MPLS label in the frame is not an IP header.

The **no** form of this command disables setting the control word bit in the label message.

Default

no control-word

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

control-word

Syntax

[**no**] **control-word**

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Context

[Tree] (config>service>epipe>spoke-sdp control-word)

[Tree] (config>service>ipipe>spoke-sdp control-word)

[Tree] (config>service>cpipe>spoke-sdp control-word)

Full Context

configure service epipe spoke-sdp control-word

configure service ipipe spoke-sdp control-word

configure service cpipe spoke-sdp control-word

Description

The control word command provides the option to add a control word as part of the packet encapsulation for pseudowire types for which the control word is optional. These are Ethernet pseudowires (Epipe). For the 7750 SR only, ATM N:1 cell mode pseudowires (apipe vc-types atm-vcc and atm-vpc) and VT pseudowire (apipe vc-type atm-cell).

The configuration for the two directions of the pseudowire must match because the control word negotiation procedures described in Section 6.2 of RFC 4447 are not supported. The C-bit in the pseudowire FEC sent in the label mapping message is set to 1 when the control word is enabled. Otherwise, it is set to 0.

The service will only come up if the same C-bit value is signaled in both directions. If a spoke-sdp is configured to use the control word but the node receives a label mapping message with a C-bit clear, the node releases the label with the an "Illegal C-bit" status code as per Section 6.1 of RFC 4447. As soon as the user also enabled the control the remote peer, the remote peer will withdraw its original label and will send a label mapping with the C-bit set to 1 and the VLL service will be up in both nodes. The control word must be enabled to allow MPLS-TP OAM to be used on a static spoke-sdp in a Apipe, Epipe and Cpipe service.

Platforms

All

- configure service ipipe spoke-sdp control-word
- configure service epipe spoke-sdp control-word

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp control-word

control-word

Syntax

[**no**] **control word**

Context

[Tree] (config>service>vpls>spoke-sdp control-word)

[Tree] (config>service>vpls>mesh-sdp control-word)

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Full Context

configure service vpls spoke-sdp control-word

configure service vpls mesh-sdp control-word

Description

This command enables the use of the control word on pseudowire packets in VPLS and enables the use of the control word individually on each mesh SDP or spoke-SDP. By default, the control word is disabled. When the control word is enabled, all VPLS packets, including the BPDU frames, are encapsulated with the control word when sent over the pseudowire. The T-LDP control plane behavior is the same as in the implementation of control word for VLL services. The configuration for the two directions of the Ethernet pseudowire should match. The **no** form of this command reverts the mesh SDP or spoke-SDP to the default behavior of not using the control word. The control word must be enabled to use MPLS-TP OAM on a static spoke-sdp terminating in a VPLS.

Default

no control word

Platforms

All

control-word

Syntax

[**no**] **control-word**

Context

[Tree] (config>service>ies>if>spoke-sdp control-word)

Full Context

configure service ies interface spoke-sdp control-word

Description

This command enables the PW control word on spoke-SDPs terminated on an IES or VPRN interface. The control word must be enabled to allow MPLS-TP OAM on the spoke-sdp

It is only valid for MPLS-TP spoke-SDPs when used with IES and VPRN services.

Default

no control-word

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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control-word

Syntax

[**no**] **control-word**

Context

[Tree] (config>service>vprn>if>spoke-sdp control-word)

[Tree] (config>service>vprn>red-if>spoke-sdp control-word)

Full Context

configure service vprn interface spoke-sdp control-word

configure service vprn redundant-interface spoke-sdp control-word

Description

This command enables the PW control word on spoke SDPs terminated on an IES or VPRN interface. The control word must be enabled to allow MPLS-TP OAM on the spoke SDP

It is only valid for MPLS-TP spoke SDPs when used with IES and VPRN services.

The no form of this command disables the control work on spoke SDPs.

Default

no control-word

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp control-word

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn redundant-interface spoke-sdp control-word

control-word

Syntax

[**no**] **control-word**

Context

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp control-word)

[Tree] (config>mirror>mirror-dest>spoke-sdp control-word)

Full Context

configure mirror mirror-dest remote-source spoke-sdp control-word

configure mirror mirror-dest spoke-sdp control-word

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Description

This command enables the PW control word on spoke SDPs that are part of a mirror-destination.

The control word must be enabled to allow MPLS-TP OAM on a spoke SDP.

It is only valid for spoke SDPs that are part of a mirror service of type **ether**.

The **no** form of this command disables the control word.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure mirror mirror-dest remote-source spoke-sdp control-word

All

- configure mirror mirror-dest spoke-sdp control-word

control-word

Syntax

control-word

Context

[Tree] (config>test-oam>build-packet>header control-word)

Full Context

configure test-oam build-packet header control-word

Description

This command creates a control-word header for inclusion in a build packet instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.89 controlword

controlword

Syntax

[**no**] **controlword**

Context

[Tree] (config>service>pw-template controlword)

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Full Context

configure service pw-template controlword

Description

This command enables the use of the control word on pseudowire packets in VPLS and VPWS and enables the use of the control word individually on each mesh-sdp or spoke-sdp. By default, the control word is disabled. When the control word is enabled, all VPLS/VPWS packets, including the BPDU frames, are encapsulated with the control word when sent over the pseudowire. The T-LDP control plane behavior is the same as in the implementation of control word for VLL services. The configuration for the two directions of the Ethernet pseudowire should match.

The **no** form of the command reverts the mesh SDP or spoke-sdp to the default behavior of not using the control word.

Default

no controlword

Platforms

All

10.90 convergence

convergence

Syntax

convergence

Context

[Tree] (config>service>vprn>bgp convergence)

Full Context

configure service vprn bgp convergence

Description

Commands in this context configure route convergence delay.

Platforms

All

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convergence

Syntax

convergence

Context

[Tree] (config>router>bgp convergence)

Full Context

configure router bgp convergence

Description

Commands in this context configure route convergence delay.

Platforms

All

10.91 convert-file

convert-file

Syntax

convert-file *filename* **to** *output-file-name* **format** {**secure** | **legacy**} [**force**]

Context

[Tree] (admin>certificate convert-file)

Full Context

admin certificate convert-file

Description

This command converts imported certificates and keys in the cf3:/system-pki directory between secure and legacy format.

Parameters

filename

Specifies an existing filename, up to 95 characters.

output-file-name

Specifies the output file name, up to 95 characters. If the output filename already exists, and the **force** keyword is not selected, the system prompts to proceed or abort.

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format

Specifies the target format.

Values secure — Specifies the enhanced secure format

legacy — Specifies the legacy format

force

Forces the conversion even if there is an existing file with the same output filename.

Platforms

All

10.92 cookie

cookie

Syntax

cookie [*cookie1*] [*cookie2*]

no cookie

Context

[Tree] (config>service>epipe>spoke-sdp>egress>l2tpv3 cookie)

[Tree] (config>service>epipe>spoke-sdp>ingress>l2tpv3 cookie)

Full Context

configure service epipe spoke-sdp egress l2tpv3 cookie

configure service epipe spoke-sdp ingress l2tpv3 cookie

Description

This command configures the RX/TX cookie for L2TPv3 spoke SDPs for Epipe services. The RX cookie must match the configured TX cookie on a far-end node, while the TX cookie must match the configured RX cookie on a far-end node. If a mismatch is detected between the configured (far-end binding cookie) to what is received by the local IP address of the SDP a flag is set and must be manually cleared by an operator.

The purpose of the cookie is to provide validation against misconfiguration of service endpoints, and to ensure that the right service egress is being used.

One egress cookie and up to two ingress cookies may be configured per spoke SDP binding. One or two cookies can be configured for matching ingress packets from the far-end node, in order to support cookie rollover without dropping packets. When a cookie is not configured, SR OS assumes a value of 00:00:00:00:00:00:00:00.

A cookie is not mandatory. An operator may delete an egress cookie or either or both ingress cookies.

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Default

no cookie1 cookie2

Parameters

cookie1

Specifies the first cookie, in the form of a 64-bit colon-separated hex value.

cookie2

Specifies the second cookie, in the form of a 64-bit colon-separated hex value.

Platforms

All

cookie

Syntax

cookie *cookie1-value* [*cookie2-value*]

no cookie

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>egress>l2tpv3 cookie)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>ingress>l2tpv3 cookie)

Full Context

configure mirror mirror-dest spoke-sdp egress l2tpv3 cookie

configure mirror mirror-dest remote-source spoke-sdp ingress l2tpv3 cookie

Description

This command configures the RX/TX cookie for L2TPv3 spoke SDPs for the mirror destination. The command can configure L2TPv3 a single cookie for the egress spoke SDP or one or two cookies for the remote source ingress spoke SDP.

The purpose of the cookie is to provide validation against misconfiguration of service endpoints, and to ensure that the right service egress is being used.

When a cookie is not configured, SR OS assumes a value of 00:00:00:00:00:00:00:00. A cookie is not mandatory. An operator may delete the egress cookie or either or both ingress cookies.

Parameters

cookie1-value

Specifies a 64-bit colon separated hex value.

Values xx-xx-xx-xx-xx-xx-xx-xx or xx:xx:xx:xx:xx:xx:xx:xx

cookie2-value

Specifies a second 64-bit colon separated hex value.

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Values xx-xx-xx-xx-xx-xx-xx-xx or xx:xx:xx:xx:xx:xx:xx:xx

Platforms

All

10.93 cookie-length

cookie-length

Syntax

cookie-length {**4** | **8** | **default**}

no cookie-length

Context

[Tree] (config>service>vprn>l2tp>l2tpv3 cookie-length)

[Tree] (config>router>l2tp>l2tpv3 cookie-length)

[Tree] (config>service>vprn>l2tp>group>l2tpv3 cookie-length)

Full Context

configure service vprn l2tp l2tpv3 cookie-length

configure router l2tp l2tpv3 cookie-length

configure service vprn l2tp group l2tpv3 cookie-length

Description

This command configures the length of the optional cookie field.

The **no** form of this command returns the **cookie-length** to a default of **none**.

Default

no cookie-length

Parameters

4

Specifies the cookie length as 4 bytes.

8

Specifies the cookie length as 8 bytes.

default

When specified within the **config>service>vprn>l2tp>group>l2tpv3** context, this is referencing to the **cookie-length** configuration within the **config>service>vprn>l2tp>l2tpv3** context.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.94 cooling-profile

cooling-profile

Syntax

cooling-profile {default | aggressive}

no cooling-profile

Context

[Tree] (config>system>fan-control cooling-profile)

Full Context

configure system fan-control cooling-profile

Description

This command configures the cooling profile used to determine the fan speed.

Nokia recommends that the default setting be used unless aggressive cooling is explicitly required.

The **no** form of this command sets the cooling profile back to the default value.

Default

no cooling-profile

Parameters

default

Specifies the fan speed operates at its default speed.

aggressive

Sets the control point optics temperature to 65 C, which requires a higher fan speed.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se

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10.95 coordinates

coordinates

Syntax

coordinates *coordinates*

no coordinates

Context

[Tree] (config>system coordinates)

Full Context

configure system coordinates

Description

This command creates a text string that identifies the system coordinates for the device location. For example, the command **coordinates** "*37.390 -122.0550*" is read as latitude 37.390 north and longitude 122.0550 west.

Only one set of coordinates can be configured. If multiple coordinates are configured, the last one entered overwrites the previous entry.

The **no** form of the command reverts to the default value.

Parameters

coordinates

Specifies the coordinates describing the device location character string. The string may be up to 80 characters long. Any printable, seven-bit ASCII characters can be used within the string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. If the coordinates are subsequently used by an algorithm that locates the exact position of this node then the string must match the requirements of the algorithm.

Platforms

All

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10.96 copy

copy

Syntax

copy *source-name* **to** *dest-name*

Context

[Tree] (config>service>mrp copy)

Full Context

configure service mrp copy

Description

This command copies existing MRP policy list entries for a specific policy name to another policy name. The **copy** command is a configuration level maintenance tool used to create a new MRP policy using an existing MRP policy.

An error will occur if the destination policy name exists.

Parameters

source-name

Identifies the source MRP policy from which the copy command will attempt to copy. The MRP policy with this name must exist for the command to be successful.

dest-name

Identifies the destination MRP policy to which the copy command will attempt to copy. If the MRP policy with dest-name exist within the system an error message is generated.

Platforms

All

copy

Syntax

copy

Context

[Tree] (config>qos copy)

Full Context

configure qos copy

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Description

Commands in this context copy existing QoS policy entries for a QoS policy-id to another QoS policy-id.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Platforms

All

copy

Syntax

copy

Context

[Tree] (config>filter copy)

Full Context

configure filter copy

Description

This command copies existing filter list entries for a specific filter ID to another filter ID. The **copy** command is a configuration level maintenance tool used to create new filters using existing filters. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword. If **overwrite** is not specified, an error will occur if the destination policy ID exists.

Platforms

All

copy

Syntax

copy *source-file-url dest-file-url* [**force**] [**no-redirect**] [**client-tls-profile** *profile*] [**proxy** *proxy-url*] [**recursive**] [**router** *router-instance]*

Context

[Tree] (file copy)

Full Context

file copy

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Description

This command copies a file or all files in a directory from a source URL to a destination URL. At least one of the specified URLs should be a local URL. The optional wildcard (*) can be used to copy multiple files that share a common (partial) prefix and/or (partial) suffix.

When a file is copied to a destination with the same file name, the original file is overwritten by the new file specified in the operation. The following prompt appears if the destination file already exists:

"Overwrite destination file (y/n)?”

For example:

To copy a file named `srcfile` in a directory called `test` on cf2 in slot B to a file called `destfile` in a directory called production on cf1 in slot A, the syntax is:

```
sr1>file cf2:\ # copy cf2-B/test/srcfile cf1-A/production/destfile
```

To FTP a file named `121201.cfg` in directory `mydir` stored on cf1 in slot A to a network FTP server with IP address 192.0.2.79 in a directory called `backup` with a destination file name of `121201.cfg`, the FTP syntax is:

```
copy cf1-A/mydir/121201.cfg 192.0.2.79/backup/121201.cfg
```

Parameters

source-file-url

Specifies the location of the source file or directory to be copied.

Values

local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length 99 chars max each
remote-url	[{ftp | tftp | sftp | http | https}:///*login*:*pswd*@*remote-locn*/][*file-path*]
	up to 200 characters
	directory length up to 199 characters
remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
	x:x:x:x:x:x:d.d.d.d[*-interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

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dest-file-url

Specifies the destination of the copied file or directory.

force

Keyword to force an immediate copy of the specified file(s). Executes the command without displaying a user prompt message. This command also automatically accepts HTTP redirects unless overridden by the **no-redirect** parameter.

profile

Specifies the TLS client profile configured under **config**>**system**>**security**>**tls**>**client-tls-profile** to use.

proxy-url

Specifies the URL of an HTTP proxy. For example, http://proxy.mydomain.com:8000. This URL must be an HTTP URL and not an HTTPS URL.

no-redirect

Keyword to automatically refuse any HTTP redirects without prompting the user.

recursive

Keyword to recursively copy files and directories. If files or directories already exist, the operator is prompted to overwrite them, unless used in conjunction with the **force** keyword.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

copy

Syntax

copy [*line*]

Context

[Tree] (candidate copy)

Full Context

candidate copy

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Description

This command copies the selected CLI node (which includes all sub-branches) into a temporary buffer that can be used for a subsequent insert. The contents of the temporary buffer are deleted when the operator exits the candidate edit mode.

Parameters

line

Specifies which line to copy.

Values line, offset, **first**, **edit-point**, **last**

line — absolute line number

offset — relative line number to the current edit point. Prefixed with '+' or '-'.

first — keyword to indicate the first line

edit-point — keyword to indicate the current edit point

last — keyword to indicate the last line that is not 'exit'

Platforms

All

copy

Syntax

copy {**user** *source-user* | *profile source-profile*} **to** *destination* [**overwrite**]

Context

[Tree] (config>system>security copy)

Full Context

configure system security copy

Description

This command copies a profile or user from a source profile to a destination profile.

Parameters

source-profile

Specifies an existing profile to copy.

dest-profile

Specifies the copied profile is copied to the destination profile.

overwrite

Specifies that the destination profile configuration is overwritten with the copied source profile configuration. A profile is not overwritten if the **overwrite** command is not specified.

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Platforms

All

10.97 copy-config

copy-config

Syntax

[**no**] **copy-config**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization copy-config)

Full Context

configure system security profile netconf base-op-authorization copy-config

Description

This command enables the NETCONF <copy-config> RPC.

The **no** form of this command disables the RPC.

Default

no copy-config

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

10.98 copy-traffic-class-upon-decapsulation

copy-traffic-class-upon-decapsulation

Syntax

[**no**] **copy-traffic-class-upon-decapsulation**

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel copy-traffic-class-upon-decapsulation)

[Tree] (config>service>ies>interface>ipsec>ipsec-tunnel copy-traffic-class-upon-decapsulation)

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[Tree] (config>ipsec>tnl-temp copy-traffic-class-upon-decapsulation)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel copy-traffic-class-upon-decapsulation)

[Tree] (config>router>if>ipsec>ipsec-tunnel copy-traffic-class-upon-decapsulation)

Full Context

configure service vprn interface ipsec ipsec-tunnel copy-traffic-class-upon-decapsulation

configure service ies interface ipsec ipsec-tunnel copy-traffic-class-upon-decapsulation

configure ipsec tunnel-template copy-traffic-class-upon-decapsulation

configure service vprn interface sap ipsec-tunnel copy-traffic-class-upon-decapsulation

configure router interface ipsec ipsec-tunnel copy-traffic-class-upon-decapsulation

Description

This command copies the traffic class from the outer tunnel IP packet header to the payload IP packet header upon tunnel decapsulation (public to private direction).

The **no** form of this command disables the traffic copying.

Default

copy-traffic-class-upon-decapsulation

Platforms

VSR

- configure router interface ipsec ipsec-tunnel copy-traffic-class-upon-decapsulation
- configure service ies interface ipsec ipsec-tunnel copy-traffic-class-upon-decapsulation
- configure service vprn interface ipsec ipsec-tunnel copy-traffic-class-upon-decapsulation

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template copy-traffic-class-upon-decapsulation
- configure service vprn interface sap ipsec-tunnel copy-traffic-class-upon-decapsulation

10.99 core-connectivity

core-connectivity

Syntax

[**no**] **core-connectivity**

Context

[Tree] (debug>service>id>stp core-connectivity)

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Full Context

debug service id stp core-connectivity

Description

This command enables STP debugging for core connectivity.

The **no** form of the command disables debugging.

Platforms

All

10.100 core-mvpn

core-mvpn

Syntax

[**no**] **core-mvpn** *service-id*

Context

[Tree] (config>service>vprn>mvpn>rpf-select core-mvpn)

Full Context

configure service vprn mvpn rpf-select core-mvpn

Description

This command enables context for VRF extranet mapping for C-instance receivers in this receiver MVPN instance to multicast streams in the specified P-instance core MVPN instance.

Platforms

All

10.101 cores

cores

Syntax

cores *core-count*

no cores

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Context

[Tree] (config>esa>vm cores)

Full Context

configure esa vm cores

Description

This command configures the number of CPU physical cores to be allocated to the ESA-VM instance. If an invalid value is configured for the number of cores, the VM remains in a failed state.

The **no** form of this command removes the core allocation. To modify the number of cores, you must use the **no core** command first.

Parameters

core-count

Specifies the number of cores.

Values 0 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

10.102 correlation-id

correlation-id

Syntax

x-interfaces

Context

[Tree] (config>li>x-interfaces correlation-id)

Full Context

configure li x-interfaces correlation-id

Description

Commands in this context configure the origin of the correlation identifiers.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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10.103 count

count

Syntax

count *value*

no count

Context

[Tree] (config>service>mac-notification count)

Full Context

configure service mac-notification count

Description

This command configures how often MAC notification messages are sent.

Parameters

value

Specifies, in seconds, how often MAC notification messages are sent

Values 1 to 10

Platforms

All

count

Syntax

count *value*

no count

Context

[Tree] (config>service>vpls>mac-notification count)

Full Context

configure service vpls mac-notification count

Description

This command configures how often MAC notification messages are sent.

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Parameters

value

Specifies, in seconds, how often MAC notification messages are sent

Values 1 to 10

Default Inherits the chassis level configuration from **config>service>mac-notification**

Platforms

All

count

Syntax

count *number*

no count

Context

[Tree] (config>system>cron>sched count)

Full Context

configure system cron schedule count

Description

This command configures the total number of times a CRON "interval" schedule is run. For example, if the interval is set to 600 and the count is set to 4, the schedule runs 4 times at 600 second intervals.

Default

no count

Parameters

number

Specifies the number of times the schedule is run.

Values 1 to 65535

Default 65535

Platforms

All

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10.104 cpe-check

cpe-check

Syntax

cpe-check *cpe-ip-address*

no cpe-check [*cpe-ip-address*]

Context

[Tree] (config>service>vprn>static-route-entry>indirect cpe-check)

[Tree] (config>service>vprn>static-route-entry>next-hop cpe-check)

Full Context

configure service vprn static-route-entry indirect cpe-check

configure service vprn static-route-entry next-hop cpe-check

Description

This command enables CPE-check and specifies the IP address of the target CPE device.

This option initiates a background ICMP ping test to the configured target IP address. The IP address can either be an IPv4 address for IPv4 static routes or an IPv6 address for IPv6 static routes. The target-ip-address cannot be in the same subnet as the static route subnet itself to avoid possible circular references. This option is mutually exclusive with BFD support on a given static route.

Note:
A node that is sourcing CPE-check packets waits an additional full interval before taking action, which gives the CPE time to respond. For example, with a **drop-count** of 3 and an interval of 1s, three CPE-check packets are sent out and the node waits for the duration of another interval before acting on the loss. Failure declaration may take extra time depending on the load, interval, and other factors. In line with multitasking, multi-priority operating principles of the node, and the relative priority of **cpe-ping**, the node paces these minor events.

The **no** form of this command disables the **cpe-check** option.

Default

no cpe-check

Parameters

cpe-ip-address

Specifies the IP address of the CPE device.

Platforms

All

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cpe-check

Syntax

cpe-check *cpe-ip-address*

no cpe-check [*cpe-ip-address*]

Context

[Tree] (config>router>static-route-entry>indirect cpe-check)

[Tree] (config>router>static-route-entry>next-hop cpe-check)

Full Context

configure router static-route-entry indirect cpe-check

configure router static-route-entry next-hop cpe-check

Description

This command enables CPE-check and specifies the IP address of the target CPE device.

This option initiates a background ICMP ping test to the configured target IP address. The IP address can either be an IPv4 address for IPv4 static routes or an IPv6 address for IPv6 static routes. The target-ip-address cannot be in the same subnet as the static route subnet itself to avoid possible circular references. This option is mutually exclusive with BFD support on a given static route.

Note:
A node that is sourcing CPE-check packets waits an additional full interval before taking action, which gives the CPE time to respond. For example, with a **drop-count** of 3 and an interval of 1s, three CPE-check packets are sent out and the node waits for the duration of another interval before acting on the loss. Failure declaration may take extra time depending on the load, interval, and other factors. In line with multitasking, multi-priority operating principles of the node, and the relative priority of **cpe-ping**, the node paces these minor events.

The **no** form of this command disables the **cpe-check** option.

Default

no cpe-check

Parameters

cpe-ip-address

Specifies the IP address of the CPE device.

Platforms

All

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cpe-check

Syntax

[**no**] **cpe-check** [*ip-address*]

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry cpe-check)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry cpe-check)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check

Description

This command enables the CPE check and specifies the IP address of the target CPE device.

The **no** form of this command disables the **cpe-check** option.

Default

no cpe-check

Parameters

ip-address

Specifies the IP address of the CPE device.

Values ipv4-prefix: a.b.c.d

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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10.105 cpe-ping

cpe-ping

Syntax

cpe-ping service *service-id* **destination** *ip-address* **source** *ip-address* [**source-mac** *ieee-address*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**ttl** *vc-label-ttl*] [**count** *send-count*] [**return-control**] [**interval** *interval*]

Context

[Tree] (oam cpe-ping)

[Tree] (config>saa>test>type cpe-ping)

Full Context

oam cpe-ping

configure saa test type cpe-ping

Description

This ping utility determines the IP connectivity to a CPE within a specified VPLS service.

Parameters

service-id

Specifies the service ID of the service to diagnose or manage.

Values

service-id: 1 to 2147483647

svc-name: 64 characters maximum

destination *ip-address*

Specifies the IP address to be used as the destination for performing an OAM ping operations.

Values a.b.c.d

source *ip-address*

Specifies an unused IP address in the same network that is associated with the VPLS or PBB Epipe.

Values a.b.c.d

ieee-address

Specifies the source MAC address that is sent to the CPE. If not specified or set to 0, the MAC address configured for the CPM or CFM is used. This parameter is not applicable to CPE ping on Epipes.

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Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

fc-name

Specifies the forwarding class of the MPLS echo request encapsulation.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation for VPLS and the ARP packet for PBB Epipe and Epipe VLLs.

Default out

vc-label-ttl

Specifies the TTL value in the VC label for the OAM MAC request, expressed as a decimal integer.

Values 1 to 255

Default 255

send-count

Specifies the number of messages to send to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message **interval** value must have expired before the next message request is sent.

Values 1 to 100

Default 1

return-control

Specifies the MAC OAM reply to a data plane MAC OAM request be sent using the control plane instead of the data plane. This parameter is only valid for VPLS services.

interval

Specifies the *interval* parameter in seconds, expressed as a decimal integer. This parameter is used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the *interval* is set to 1 second where the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

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Platforms

All

10.106 cpipe

cpipe

Syntax

cpipe *service-id* [**customer** *customer-id*] [**vpn** *vpn-id*] [**vc-type** {**satop-e1** | **satop-t1** | [**vc-switching**]}] [**vc-switching**] [**test**] [**create**] [**name** *name*]

no cpipe *service-id*

Context

[Tree] (config>service cpipe)

Full Context

configure service cpipe

Description

This command configures a Circuit Emulation Services instance.

When creating a service, you must enter the **customer** keyword and specify a *customer-id* to associate the service with a customer. The *customer-id* must already exist, having been created using the **customer** command in the **service** context. After a service has been created with a customer association, it is not possible to edit the customer association. The service must be deleted and re-created with a new customer association.

After a service is created, the use of the **customer** *customer-id* parameter is optional for navigating into the service configuration context. Attempting to edit a service with the incorrect *customer-id* specified results in an error.

By default, no services exist until they are explicitly created with this command.

The **no** form of this command deletes the service instance with the specified *service-id*. The service cannot be deleted until the service has been shutdown.

Parameters

service-id

The unique service identification number or string identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every router on which this service is defined.

Values *service-id*: 1 to 2147483647

svc-name: Specifies an existing service name up to 64 characters in length.

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customer-id

Specifies the customer ID number to be associated with the service. This parameter is required on service creation and optional for service editing or deleting.

Values 1 to 2147483647

vpn vpn-id

Specifies the VPN ID number which allows you to identify virtual private networks (VPNs) by a VPN ID. If this parameter is not specified, the VPN ID uses the same service ID number.

Values 1 to 2147483647

Default null (0)

vc-type

The vc-type defines the type of unstructured or structured circuit emulation service to be configured.

Values **satop-e1**: Unstructured E1 circuit emulation service.

satop-t1: Unstructured DS1 circuit emulation service.

Default satop-e1

vc-switching

Specifies if the pseudowire switching signaling is used for the spoke SDPs configured in this service.

test

Specifies a unique test service type for the service context which contains only a SAP configuration. The test service can be used to test the throughput and performance of a path for MPLS-TP PWs. This parameter applies to the 7450 ESS and 7750 SR only.

create

Keyword used to create the service. The **create** keyword requirement can be enabled/disabled in the **environment**>**create** context.

name name

Configures an optional service name identifier, up to 64 characters, to a given service. This service name can then be used in configuration references, display, and show commands throughout the system. A defined service name can help the service provider or administrator to identify and manage services within the SR OS platforms.

To create a service, you must assign a service ID; however, after it is created, either the service ID or the service name can be used to identify and reference a service.

If a name is not specified at creation time, then SR OS assigns a string version of the *service-id* as the name.

Values *name*: up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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10.107 cpm-filter

cpm-filter

Syntax

cpm-filter

Context

[Tree] (config>system>security cpm-filter)

Full Context

configure system security cpm-filter

Description

Commands in this context enable a CPM filter. A CPM filter is a special line card filter that applies to IP traffic extracted to CPM for processing on the CPM that applies to all traffic extracted to the CPM CPU. The filter can be used to drop and accept packets.

The **no** form of this command disables the CPM filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.108 cpm-http-redirect

cpm-http-redirect

Syntax

cpm-http-redirect

Context

[Tree] (config>system cpm-http-redirect)

Full Context

configure system cpm-http-redirect

Description

Commands in this context configure **cpm-http-redirect** settings for enabling or disabling the **optimized-mode**.

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Platforms
All

10.109 cpm-queue

cpm-queue

Syntax
cpm-queue

Context
[Tree] (config>system>security cpm-queue)

Full Context
configure system security cpm-queue

Description
Commands in this context configure a CPM queue.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.110 cpr-window-size

cpr-window-size

Syntax
cpr-window-size *window-size*

Context
[Tree] (config>port>dwdm>coherent cpr-window-size)

Full Context
configure port dwdm coherent cpr-window-size

Description
This command configures the window size used for carrier phase recovery.

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Default

32

Parameters

window-size

Indicates the number of symbols used for carrier phase recovery algorithm of the receiver. When this parameter is changed, the link bounces because the receiver needs to be reconfigured.

Values 2, 4, 8, 16, 32, 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.111 cpu-alarm

cpu-alarm

Syntax

cpu-alarm high-threshold *high-percentage* **low-threshold** *low-percentage*

no cpu-alarm

Context

[Tree] (config>li>x-interfaces>x3>alarms cpu-alarm)

Full Context

configure li x-interfaces x3 alarms cpu-alarm

Description

This command configures the thresholds for raising the CPU alarm. The low threshold value must be configured with a smaller value than the high threshold.

The **no** form of this command reverts to the default values.

Parameters

high-percentage

Specifies the high threshold value, as a percentage.

Values 1 to 100

Default 100

low-percentage

Specifies the low threshold value, as a percentage.

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Values	0 to 99
Default	0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.112 cpu-protection

cpu-protection

Syntax

cpu-protection

Context

[Tree] (config>sys>security cpu-protection)

Full Context

configure system security cpu-protection

Description

Commands in this context configure CPU protection policies.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

cpu-protection

Syntax

cpu-protection *policy-id* [**mac-monitoring**] | [**eth-cfm-monitoring** [**aggregate**] [**car**]] | [**ip-src-monitoring**]

no cpu-protection

Context

[Tree] (config>service>ies>if>spoke-sdp cpu-protection)

[Tree] (config>service>vprn>sub-if>grp-if>sap cpu-protection)

[Tree] (config>service>vprn>if>sap cpu-protection)

[Tree] (config>service>ies>sub-if>grp-if>sap cpu-protection)

[Tree] (config>service>ies>if>sap cpu-protection)

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[Tree] (config>service>vprn>if>spoke-sdp cpu-protection)

Full Context

configure service ies interface spoke-sdp cpu-protection

configure service vprn subscriber-interface group-interface sap cpu-protection

configure service vprn interface sap cpu-protection

configure service ies subscriber-interface group-interface sap cpu-protection

configure service ies interface sap cpu-protection

configure service vprn interface spoke-sdp cpu-protection

Description

This command assigns an existing CPU protection policy to the SAP or interface. The CPU protection policies are configured in the **config**>**sys**>**security**>**cpuprotection**>**policy** *cpu-protection-policy-id* context.

If no CPU-protection policy is assigned to a SAP, then a default policy is used to limit the overall-rate according to the default policy. The default policy is policy number 254 for access interfaces, 255 for network interfaces and no policy for video interfaces.

The **no** form of this command removes the association of the CPU protection policy from the associated SAP or interface configuration and reverts to the default policy values.

Default

cpu-protection 254 (for access interfaces)

cpu-protection 255 (for network interfaces)

The configuration of no cpu-protection returns the msap-policy to the default policies as shown above.

Parameters

mac-monitoring

Enables per SAP + source MAC address rate limiting using the per-source-rate from the associated cpu-protection policy.

ip-src-monitoring

Enables per SAP + IP source address rate limiting for certain protocol packets using the per-source-rate and include-protocols from the associated cpu-protection policy. The ip-src-monitoring is useful in subscriber management architectures that have routers between the subscriber and the BNG (router). In Layer 3 aggregation scenarios all packets from all subscribers behind the same aggregation router arrives with the same source MAC address and as such the mac-monitoring functionality cannot differentiate traffic from different subscribers.

eth-cfm-monitoring

Enables the Ethernet Connectivity Fault Management cpu-protection extensions on the associated SAP, SDP, or template.

aggregate

applies the rate limit to the sum of the per-peer packet rates.

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car

(Committed Access Rate (CAR) causes Eth-CFM packets to be ignored when enforcing the overall-rate.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

- configure service ies interface spoke-sdp cpu-protection
- configure service ies interface sap cpu-protection
- configure service vprn interface spoke-sdp cpu-protection
- configure service vprn interface sap cpu-protection

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s

- configure service vprn subscriber-interface group-interface sap cpu-protection
- configure service ies subscriber-interface group-interface sap cpu-protection

cpu-protection

Syntax

cpu-protection *policy-id* [**mac-monitoring**] | [**eth-cfm-monitoring** [**aggregate**][**car**]]

no cpu-protection

Context

[Tree] (config>service>vpls>spoke-sdp cpu-protection)

[Tree] (config>service>epipe>sap cpu-protection)

[Tree] (config>service>template>vpls-sap-template cpu-protection)

[Tree] (config>service>vpls>mesh-sdp cpu-protection)

[Tree] (config>service>ipipe>sap cpu-protection)

[Tree] (config>service>vpls>sap cpu-protection)

[Tree] (config>service>epipe>spoke-sdp cpu-protection)

Full Context

configure service vpls spoke-sdp cpu-protection

configure service epipe sap cpu-protection

configure service template vpls-sap-template cpu-protection

configure service vpls mesh-sdp cpu-protection

configure service ipipe sap cpu-protection

configure service vpls sap cpu-protection

configure service epipe spoke-sdp cpu-protection

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Description

Use this command to apply a specific CPU protection policy to the associated SAP, SDP or template. If the mac-monitoring keyword is given then per-MAC-rate limiting should be performed, using the per-source-rate from the associated CPU protection policy.

The CPU protection policies are configured in the **config>sys>security>cpu-protection>policy** *cpu-protection-policy-id* context.

If no CPU protection policy is assigned to a SAP, then a default policy is used to limit the overall-rate according to the default policy. The default policy is policy number 254 for access interfaces, 255 for network interfaces and no policy for video interfaces.

The **no** form of this command reverts to the default values.

Default

cpu-protection 254 (for access interfaces)

cpu-protection 255 (for network interfaces)

Parameters

mac-monitoring

Enables per SAP + source MAC address rate limiting using the per-source-rate from the associated cpu-protection policy.

eth-cfm-monitoring

Enables the Ethernet Connectivity Fault Management cpu-protection extensions on the associated SAP/SDP/template.

aggregate

applies the rate limit to the sum of the per-peer packet rates.

car

(Committed Access Rate) Ignores Eth-CFM packets when enforcing overall-rate.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

cpu-protection

Syntax

cpu-protection *policy-id*

no cpu-protection

Context

[Tree] (config>service>ies>interface cpu-protection)

[Tree] (config>service>vprn>interface cpu-protection)

[Tree] (config>service>vprn>network-interface cpu-protection)

[Tree] (config>router>interface cpu-protection)

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[Tree] (config>service>ies>video-interface cpu-protection)

[Tree] (config>service>vprn>video-interface cpu-protection)

Full Context

configure service ies interface cpu-protection

configure service vprn interface cpu-protection

configure service vprn network-interface cpu-protection

configure router interface cpu-protection

configure service ies video-interface cpu-protection

configure service vprn video-interface cpu-protection

Description

This command assigns an existing CPU protection policy to the associated interface. For these interface types, the per-source rate limit is not applicable.

The CPU protection policies are configured in the **config>sys>security>cpu-protection>policy** *cpu-protection-policy-id* context.

If no CPU-protection policy is assigned to an interface, then the default policy is used to limit the overall-rate. The default policy is policy number 254 for access interfaces, 255 for network interfaces and no policy for video interfaces.

The **no** form of this command reverts to the default values.

Default

cpu-protection 254 (for access interfaces)

cpu-protection 255 (for network interfaces)

no cpu-protection (for video interfaces)

Parameters

policy-id

Specifies an existing CPU protection policy.

Values 1 to 255

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

- configure router interface cpu-protection
- configure service vprn interface cpu-protection
- configure service ies interface cpu-protection
- configure service vprn network-interface cpu-protection

7450 ESS, 7750 SR, 7750 SR-s

- configure service vprn video-interface cpu-protection
- configure service ies video-interface cpu-protection

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cpu-protection

Syntax

cpu-protection *policy-id* [**mac-monitoring**] [**ip-src-monitoring**]

no cpu-protection

Context

[Tree] (config>subscr-mgmt>msap-policy cpu-protection)

Full Context

configure subscriber-mgmt msap-policy cpu-protection

Description

Use this command to apply a specific CPU protection policy to the associated MSAP policy. The specified CPU protection policy is automatically applied to any MSAPs that are create using the MSAP policy.

If no CPU protection policy is assigned to a SAP, then a default policy is used to limit the overall-rate according to the default policy. The default policy is policy number 254 for access interfaces, 255 for network interfaces and no policy for video interfaces.

The **no** form of this command reverts to the default values.

Default

cpu-protection 254 (for access interfaces)

cpu-protection 255 (for network interfaces)

The configuration of no cpu-protection returns the msap-policy to the default policies as shown above.

Parameters

policy-id

Specifies an existing CPU protection policy.

Values 1 to 255

mac-monitoring

Enables per SAP + source MAC address rate limiting using the per-source-rate from the associated cpu-protection policy.

ip-src-monitoring

Enables per SAP + IP source address rate limiting for certain protocol packets using the per-source-rate and included-protocols from the associated cpu-protection policy. The ip-src-monitoring is useful in subscriber management architectures that have routers between the subscriber and the BNG (router). In Layer 3 aggregation scenarios all packets from all subscribers behind the same aggregation router arrives with the same source MAC address and as such the mac-monitoring functionality cannot differentiate traffic from different subscribers.

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Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s

cpu-protection

Syntax

cpu-protection

cpu-protection *policy-id* [**ip-src-monitoring**] [**mac-monitoring**]

Context

[Tree] (config>subscr-mgmt>sap-template cpu-protection)

Full Context

configure subscriber-mgmt sap-template cpu-protection

Description

This command assigns an existing CPU protection policy to the SAP or interface.

CPU protection policies are configured in the **config>sys>security>cpu-protection** context.

Default

cpu-protection 254

Parameters

policy-id

Specifies an existing CPU protection policy is assigned to the SAP or interface.

Values 1 to 255

ip-src-monitoring

Specifies to enable IP source monitoring.

mac-monitoring

Specifies to enable MAC monitoring.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s

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10.113 crc

crc

Syntax

crc {**16** | **32**}

Context

[Tree] (config>port>tdm>e3 crc)

[Tree] (config>port>tdm>ds3 crc)

Full Context

configure port tdm e3 crc

configure port tdm ds3 crc

Description

This command configures the precision of the cyclic redundancy check (CRC).

Default

crc 16 for non-ATM E-3 and DS-3 channel/ports.

crc 32 for ATM E-3 and DS-3 channels/ports. The default cannot be changed.

Parameters

16

Uses 16 bit checksum for the associated port/channel.

32

Uses 32 bit checksum for the associated port/channel.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

10.114 crc-monitor

crc-monitor

Syntax

crc-monitor

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Context

[Tree] (config>port>ethernet crc-monitor)

Full Context

configure port ethernet crc-monitor

Description

This command configures Ethernet CRC Monitoring parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

crc-monitor

Syntax

crc-monitor *host-port-id*

Context

[Tree] (config>esa crc-monitor)

Full Context

configure esa crc-monitor

Description

Commands in this context configure ESA cyclic redundancy check (CRC) monitoring.

Parameters

host-port-id

Specifies the host port ID, up to 18 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

10.115 create

create

Syntax

[**no**] **create**

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Context

[Tree] (environment create)

Full Context

environment create

Description

By default, the **create** command is required to create a new OS entity.

The **no** form of the command disables requiring the **create** keyword.

Default

create

Platforms

All

10.116 create-mpls-tunnel

create-mpls-tunnel

Syntax

[**no**] **create-mpls-tunnel**

Context

[Tree] (config>router>policy-options>policy-statement>entry>action create-mpls-tunnel)

Full Context

configure router policy-options policy-statement entry action create-mpls-tunnel

Description

This command enables the creation of an MPLS tunnel to the BGP next-hop. It is supported for the following address families:

- vpn-ipv4
- vpn-ipv6
- evpn
- label-ipv4
- label-ipv6
- ipv4
- ipv6

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The **no** form of the command disables the creation of an MPLS tunnel.

Default

no create-mpls-tunnel

Platforms

All

10.117 create-subscription

create-subscription

Syntax

[**no**] **create-subscription**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization create-subscription)

Full Context

configure system security profile netconf base-op-authorization create-subscription

Description

This command enables the NETCONF <create-subscription> RPC in the default user profile.

The **base-op-authorization create-subscription** configuration is not pre-emptive, which means that it is checked only at the time of the initial subscription. Configuration changes to the **base-op-authorization** do not cancel any in-progress subscriptions and operators who successfully subscribed continue to receive messages.

The **no** form of this command disables the RPC.

Default

no create-subscription

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

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10.118 create-udp-tunnel

create-udp-tunnel

Syntax

create-udp-tunnel

no create-udp-tunnel

Context

[Tree] (config>router>policy-options>policy-statement>entry>action create-udp-tunnel)

[Tree] (config>router>policy-options>policy-statement>default-action create-udp-tunnel)

Full Context

configure router policy-options policy-statement entry action create-udp-tunnel

configure router policy-options policy-statement default-action create-udp-tunnel

Description

This command instructs the router to create an MPLS-over-UDP tunnel upon receiving BGP routes that match the import policy.

Default

no create-udp-tunnel

Platforms

All

10.119 credential

credential

Syntax

credential

Context

[Tree] (config>ipsec>client-db>client credential)

Full Context

configure ipsec client-db client credential

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Description

Commands in this context configure the parameters used to authenticate peers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.120 credit-control-policy

credit-control-policy

Syntax

credit-control-policy *policy-name* [**create**]

credit-control-policy diameter *policy-name*

no credit-control-policy *policy-name*

Context

[Tree] (config>subscr-mgmt credit-control-policy)

Full Context

configure subscriber-mgmt credit-control-policy

Description

This command creates, configures or deletes a credit control policy.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the policy name, up to 32 characters.

create

Keyword used to create the credit control policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

credit-control-policy

Syntax

credit-control-policy *policy-name*

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no credit-control-policy

Context

[Tree] (config>subscr-mgmt>sla-prof credit-control-policy)

Full Context

configure subscriber-mgmt sla-profile credit-control-policy

Description

This command configures the credit policy for this SLA profile.

Default

no credit-control-policy

Parameters

policy-name

Specifies the credit control policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.121 credit-control-quota

credit-control-quota

Syntax

[**no**] **credit-control-quota**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes credit-control-quota)

Full Context

configure aaa isa-radius-policy acct-include-attributes credit-control-quota

Description

This command includes any unconsumed volume quota in the Alc-Credit-Control-Quota attribute.

The **no** form of this command excludes the Alc-Credit-Control-Quota attribute.

Default

no credit-control-quota

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.122 credit-control-server

credit-control-server

Syntax

credit-control-server radius

no credit-control-server

Context

[Tree] (config>subscr-mgmt>credit-control-policy credit-control-server)

Full Context

configure subscriber-mgmt credit-control-policy credit-control-server

Description

This command configures the credit control server to use. In case of RADIUS, the servers defined in the authentication policy are used. For Diameter, the peers defined in the specified Diameter policy are used.

The **no** form of this command reverts to the default.

Default

credit-control-server radius

Parameters

radius

Specifies to use the RADIUS authentication servers defined in the RADIUS authentication policy in the group interface to report credit usage and obtain new credit.

diameter *policy-name*

Specifies to use the diameter peers specified in the diameter policy to report credit usage and obtain new credit.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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10.123 credit-exhaust-threshold

credit-exhaust-threshold

Syntax

credit-exhaust-threshold *threshold-percentage*

no credit-exhaust-threshold

Context

[Tree] (config>subscr-mgmt>cat-map credit-exhaust-threshold)

Full Context

configure subscriber-mgmt category-map credit-exhaust-threshold

Description

This command specifies the credit exhaust threshold considered to act.

The **no** form of this command reverts the configured value to the default.

Default

credit-exhaust-threshold 100

Parameters

threshold-percentage

Specifies the percentage to use for the credit exhaust threshold.

Values 50 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.124 credit-mcs-interval

credit-mcs-interval

Syntax

credit-mcs-interval *interval*

no credit-mcs-interval

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Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx credit-mcs-interval)

Full Context

configure subscriber-mgmt diameter-application-policy gx credit-mcs-interval

Description

This command configures the usage monitoring between the redundant chassis that is synchronized periodically per Gx session, from the active Gx session to the standby Gx session.

The **no** form of this command reverts to the default value.

Default

credit-mcs-interval 10

Parameters

interval

Specifies the interval time, in minutes, between synchronization moments for syncing volume to the multi-chassis redundant chassis in case of Gx usage monitoring on a CCI that belongs to a multi-chassis redundant host.

Values 5 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.125 credit-type

credit-type

Syntax

credit-type {**volume** | **time**}

no credit-type

Context

[Tree] (config>subscr-mgmt>cat-map credit-type)

Full Context

configure subscriber-mgmt category-map credit-type

Description

This command specifies whether volume or time based accounting is performed.

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The **no** form of this command reverts to the default.

Default

credit-type volume

Parameters

volume

Specifies volume-based accounting.

time

Specifies time-based accounting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.126 credit-type-override

credit-type-override

Syntax

credit-type-override {**volume** | **time**}

no credit-type-override

Context

[Tree] (config>subscr-mgmt>cat-map>category credit-type-override)

Full Context

configure subscriber-mgmt category-map category credit-type-override

Description

This command overrides the **credit-type** configured in the **config>subscr-mgmt>cat-map** context for the given category.

The **no** form of this command reverts to the default.

Parameters

volume

If different than the value specified in the **credit-type** command, the value overrides the credit-type.

time

If different than the value specified in the **credit-type** command, the value overrides the credit-type.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.127 credits

credits

Syntax

credits [**lowercase** *credits*] [**uppercase** *credits*] [**numeric** *credits*] [**special-character** *credits*]

no credits

Context

[Tree] (config>system>security>password>complexity-rules credits)

Full Context

configure system security password complexity-rules credits

Description

The maximum credits given for usage of the different character classes in the local passwords.

The **no** form of this command resets to default.

Default

no credits

Parameters

credits

Specifies the number of credits that can be used for each characters class.

Values 0 to 10

Platforms

All

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10.128 criteria-overrides

criteria-overrides

Syntax

criteria-overrides

Context

[Tree] (config>service>cpipe>sap>ingress criteria-overrides)

[Tree] (config>service>vpls>sap>ingress criteria-overrides)

[Tree] (config>service>vprn>if>sap>ingress criteria-overrides)

[Tree] (config>service>ies>if>sap>ingress criteria-overrides)

[Tree] (config>service>ipipe>sap>ingress criteria-overrides)

[Tree] (config>service>epipe>sap>ingress criteria-overrides)

Full Context

configure service cpipe sap ingress criteria-overrides

configure service vpls sap ingress criteria-overrides

configure service vprn interface sap ingress criteria-overrides

configure service ies interface sap ingress criteria-overrides

configure service ipipe sap ingress criteria-overrides

configure service epipe sap ingress criteria-overrides

Description

Commands in this context configure IPv4 and IPv6 criteria overrides.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

10.129 critical-event

critical-event

Syntax

[**no**] **critical-event**

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Context

[Tree] (config>port>ethernet>efm-oam>link-mon>local-sf-action>info-notification critical-event)

Full Context

configure port ethernet efm-oam link-monitoring local-sf-action info-notification critical-event

Description

This command sets the critical event Flag field in the Information OAMPDU when the local signal failure (sf-threshold) threshold is reached. This is maintained in all subsequent Information OAM PDUs until the situation is cleared.

Interactions: The signal failure threshold triggers these actions.

Default

no critical-event

Platforms

All

critical-event

Syntax

critical-event local-port-action {**log-only** | **out-of-service**}

Context

[Tree] (config>port>ethernet>efm-oam>peer-rdi-rx critical-event)

Full Context

configure port ethernet efm-oam peer-rdi-rx critical-event

Description

This command defines how to react to the reception of a critical event Flag field set in the informational OAMPDU.

Default

critical-event local-port-action out-of-service

Parameters

local-port-action

Defines whether or not the local port will be affected when a critical event is received from a peer.

log-only

Keyword that prevents the port from being affected when the local peer receives a critical event. The critical event will be logged but the port will remain operational.

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out-of-service

Keyword that causes the port to enter a non-operation down state with a port state of link up. The error is logged upon reception of critical event. The port is not available to service data but continues to carry Link OAM traffic to ensure the link is monitored.

Platforms

All

10.130 crl-expiration-warning

crl-expiration-warning

Syntax

crl-expiration-warning *hours* [**repeat** *repeat-hours*]

no crl-expiration-warning

Context

[Tree] (config>system>security>pki crl-expiration-warning)

Full Context

configure system security pki crl-expiration-warning

Description

This command specifies when the systems issues a **BeforeExp** message before a CRL expires. For example, with **certificate-expiration-warning 5**, the system issues a **BeforeExp** message 5 hours before a CRL expires. An optional **repeat** *repeat-hour* parameter enables the system to repeat the **BeforeExp** message every hour until the CRL expires.

If the user only wants **AfterExp**, then **certificate-expiration-warning 0** can be used to achieve this.

BeforeExp and **AfterExp** warnings can be cleared in following cases:

- The CRL is reloaded by the **admin certificate reload** command. In this case, if the reloaded file is not expired, then **AfterExp** is cleared. And, if the reloaded file is outside of configured warning window, then the **BeforeExp** is also cleared.
- When the **ca-profile** is shutdown, then **BeforeExp** and **AfterExp** of corresponding certificates are cleared.
- When **no crl-expiration-warning** command is configured, then all existing **BeforeExp** and **AfterExp** are cleared.
- Users may change the configuration of the **crl-expiration-warning** so that certain CRL are no longer in the warning window. **BeforeExp** of corresponding CRL are cleared.
- If the system time changes so that the new time causes the CRL to no longer be in the warning window, then **BeforeExp** is cleared. If the new time causes an expired CRL to come non-expired, then **AfterExp** is cleared.

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Default

no crl-expiration-warning

Parameters

hours

Specifies the amount of time before a CRL expires when system issues **BeforeExp**

Values 0 to 8760

repeat-hour

Specifies that the system repeats **BeforeExp** every repeat-hour

Values 0 to 8760

Platforms

All

10.131 crl-file

crl-file

Syntax

crl-file *filename*

no crl-file

Context

[Tree] (config>system>security>pki>ca-profile crl-file)

Full Context

configure system security pki ca-profile crl-file

Description

This command specifies the name of a file in cf3:\system-pki\crl as the Certification Revoke List file of the **ca-profile**.

Notes:

- The system performs following checks against configured crl-file when a **no shutdown** command is issued:
  - A valid cert-file of the ca-profile must be already configured.
  - Configured crl-file must be a DER formatted CRLv2 file.
  - All non-optional fields defined in section 5.1 of RFC 5280 must exist and conform to the RFC 5280 defined format.

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– Check the version field to see if its value is 0x1.
– Delta CRL Indicator must not exist (delta CRL is not supported).
– CRL's signature must be verified by using the cert-file of ca-profile.

If any of above checks fail, the **no shutdown** command fails.

- Changing or removing the **crl-file** is only allowed when the **ca-profile** is in a **shutdown** state.

The **no** form of this command removes the filename from the configuration.

Parameters

filename

Specifies the name of CRL file stored in cf3:\system-pki\crl.

Platforms

All

10.132 crl-update

crl-update

Syntax

crl-update ca *ca-profile-name*

Context

[Tree] (admin>certificate crl-update)

Full Context

admin certificate crl-update

Description

This command manually triggers the Certificate Revocation List file (CRL) update for the specified ca-profile.

Using this command requires shutting down the **auto-crl-update**.

Parameters

ca-profile-name

Specifies the name of the Certificate Authority profile.

Platforms

All

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10.133 crl-urls

crl-urls

Syntax

crl-urls

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update crl-urls)

Full Context

configure system security pki ca-profile auto-crl-update crl-urls

Description

Commands in this context configure **crl-urls** parameters. The system allows up to eight URL entries to be configured and tries each URL in order and stop when a qualified CRL is successfully downloaded. A qualified CRL is a valid CRL signed by the CA and is more recent than the existing CRL.

If none of the configured URLs returns a qualified CRL, then:

- If the schedule-type is next-update-based, system will wait for configure retry-interval before it start from beginning of the list again.
- If the schedule-type is periodic, then system will wait till next periodic update time.

If the user wants to manually stop the download, shutting down of auto-crl-retrieval could be used to achieve this.

Platforms

All

10.134 cron

cron

Syntax

cron

Context

[Tree] (config>system cron)

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Full Context

configure system cron

Description

This command creates the context to create scripts, script parameters and schedules which support the Service Assurance Agent (SAA) functions.

CRON features are saved to the configuration file on both primary and backup control modules. If a control module switchover occurs, CRON events are restored when the new configuration is loaded. If a control module switchover occurs during the execution of a cron script, the failover behavior will be determined by the contents of the script.

Platforms

All

cron

Syntax

cron

Context

[Tree] (config>system>security>cli-script>authorization cron)

Full Context

configure system security cli-script authorization cron

Description

Commands in this context configure authorization for the Cron job-scheduler.

Platforms

All

10.135 cross-connect

cross-connect

Syntax

[**no**] **cross-connect**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state cross-connect)

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Full Context

configure subscriber-mgmt wlan-gw ue-query state cross-connect

Description

This command enables matching on cross-connected UEs.

The **no** form of this command disables matching on cross-connected UEs, unless all state matching is disabled.

Default

no cross-connect

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.136 csf-enable

csf-enable

Syntax

[**no**] **csf-enable**

Context

[Tree] (config>lag>eth-cfm>mep csf-enable)

[Tree] (config>port>ethernet>eth-cfm>mep csf-enable)

Full Context

configure lag eth-cfm mep csf-enable

configure port ethernet eth-cfm mep csf-enable

Description

This command configures the reception of Client Signal Fail (CSF) message parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

csf-enable

Syntax

[**no**] **csf-enable**

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Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep csf-enable)

[Tree] (config>service>epipe>sap>eth-cfm>mep csf-enable)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep csf-enable)

[Tree] (config>service>vpls>sap>eth-cfm>mep csf-enable)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep csf-enable)

[Tree] (config>service>ies>if>sap>eth-cfm>mep csf-enable)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm csf-enable)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep csf-enable)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep csf-enable)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep csf-enable)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep csf-enable)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep csf-enable)

Full Context

configure service vpls spoke-sdp eth-cfm mep csf-enable

configure service epipe sap eth-cfm mep csf-enable

configure service ies subscriber-interface group-interface sap eth-cfm mep csf-enable

configure service vpls sap eth-cfm mep csf-enable

configure service vprn subscriber-interface group-interface sap eth-cfm mep csf-enable

configure service ies interface sap eth-cfm mep csf-enable

configure service ies subscriber-interface group-interface sap eth-cfm csf-enable

configure service epipe spoke-sdp eth-cfm mep csf-enable

configure service vprn interface sap eth-cfm mep csf-enable

configure service vpls mesh-sdp eth-cfm mep csf-enable

configure service vprn interface spoke-sdp eth-cfm mep csf-enable

configure service ies interface spoke-sdp eth-cfm mep csf-enable

Description

Commands in this context configure the reception and local processing of ETH-CSF frames.

The **no** form of this command disables the reception of Client Signal Fail (CSF) message parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls sap eth-cfm mep csf-enable
- configure service vpls mesh-sdp eth-cfm mep csf-enable
- configure service ies interface spoke-sdp eth-cfm mep csf-enable
- configure service epipe sap eth-cfm mep csf-enable

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- configure service vprn interface spoke-sdp eth-cfm mep csf-enable
- configure service epipe spoke-sdp eth-cfm mep csf-enable
- configure service vpls spoke-sdp eth-cfm mep csf-enable
- configure service ies interface sap eth-cfm mep csf-enable
- configure service vprn interface sap eth-cfm mep csf-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep csf-enable
- configure service vprn subscriber-interface group-interface sap eth-cfm mep csf-enable
- configure service ies subscriber-interface group-interface sap eth-cfm csf-enable

10.137 csnp-authentication

csnp-authentication

Syntax

[**no**] **csnp-authentication**

Context

[Tree] (config>service>vprn>isis>level csnp-authentication)

[Tree] (config>service>vprn>isis csnp-authentication)

Full Context

configure service vprn isis level csnp-authentication

configure service vprn isis csnp-authentication

Description

This command enables authentication of individual ISIS packets of complete sequence number PDUs (CSNP) type for the VPRN instance.

Platforms

All

csnp-authentication

Syntax

[**no**] **csnp-authentication**

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Context

[Tree] (config>router>isis>level csnp-authentication)

[Tree] (config>router>isis csnp-authentication)

Full Context

configure router isis level csnp-authentication

configure router isis csnp-authentication

Description

This command enables authentication of individual IS-IS packets of complete sequence number PDUs (CSNP) type.

The **no** form of this command suppresses authentication of CSNP packets.

Default

csnp-authentication

Platforms

All

10.138 csnp-interval

csnp-interval

Syntax

csnp-interval *seconds*

no csnp-interval

Context

[Tree] (config>service>vprn>isis>if csnp-interval)

Full Context

configure service vprn isis interface csnp-interval

Description

This command configures the time interval, in seconds, to send complete sequence number (CSN) PDUs from the interface. IS-IS must send CSN PDUs periodically.

The **no** form of this command reverts to the default value.

Default

csnp-interval 10 — CSN PDUs are sent every 10 seconds for LAN interfaces.

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csnp-interval 5 — CSN PDUs are sent every 5 seconds for point-to-point interfaces.

Parameters

seconds

The time interval, in seconds between successive CSN PDUs sent from this interface expressed as a decimal integer.

Values 1 to 65535

Platforms

All

csnp-interval

Syntax

csnp-interval *seconds*

no csnp-interval

Context

[Tree] (config>router>isis>interface csnp-interval)

Full Context

configure router isis interface csnp-interval

Description

This command configures the time interval, in seconds, to send complete sequence number (CSN) PDUs from the interface. IS-IS must send CSN PDUs periodically.

The **no** form of this command reverts to the default value.

Default

csnp-interval 10 — CSN PDUs are sent every 10 seconds for LAN interfaces.

csnp-interval 5 — CSN PDUs are sent every 5 seconds for point-to-point interfaces.

Parameters

seconds

Specifies the time interval, in seconds, between successive CSN PDUs sent from this interface expressed as a decimal integer.

Values 1 to 65535

Platforms

All

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10.139 csnp-on-p2p

csnp-on-p2p

Syntax

[**no**] **csnp-on-p2p**

Context

[Tree] (config>service>vprn>isis csnp-on-p2p)

[Tree] (config>router>isis csnp-on-p2p)

Full Context

configure service vprn isis csnp-on-p2p

configure router isis csnp-on-p2p

Description

This command enables the periodic transmission of CSNP PDUs to point-to-point adjacent systems.

The **no** form of this command disables the periodic transmission of CSNP PDUs to point-to-point adjacent systems.

Default

csnp-on-p2p

Platforms

All

10.140 cspf

cspf

Syntax

[**no**] **cspf**

Context

[Tree] (debug>router>isis cspf)

Full Context

debug router isis cspf

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Description

This command enables debugging for IS-IS cspf.

The **no** form of the command disables debugging.

Platforms

All

cspf

Syntax

cspf [*ip-address*]

no cspf

Context

[Tree] (debug>router>ospf cspf)

Full Context

debug router ospf cspf

Description

This command enables debugging for an OSPF constraint-based shortest path first (CSPF).

Parameters

ip-address

Specifies the IP address for the range used for CSPF.

Platforms

All

10.141 cspf-on-loose-hop

cspf-on-loose-hop

Syntax

[**no**] **cspf-on-loose-hop**

Context

[Tree] (config>router>mpls cspf-on-loose-hop)

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Full Context

configure router mpls cspf-on-loose-hop

Description

This command enables the option to do CSPF calculations until the next loose hop or the final destination of LSP on LSR. On receiving a PATH message on LSR and processing of all local hops in the received ERO, if the next hop is loose, then the LSR node will first do a CSPF calculation until the next loose hop. On successful completion of CSPF calculation, ERO in PATH message is modified to include newly calculated intermediate hops and propagate it forward to the next hop. This allows setting up inter-area LSPs based on ERO expansion method.

Note:
The LSP may fail to set up if this option is enabled on an LSR that is not an area border router and receives a PATH message without proper next loose hop in ERO. The 'cspf-on-loose-hop' configuration is allowed to change dynamically and applied to new LSP setup after change.

Default

no cspf-on-loose-hop

Platforms

All

10.142 cspf-pkt

cspf-pkt

Syntax

cspf-pkt *cspf-pkt* [**detail**]

no cspf-pkt *cspf-pkt*

Context

[Tree] (debug>router>pcep>pce cspf-pkt)

[Tree] (debug>router>pcep>pce>conn cspf-pkt)

Full Context

debug router pcep pce cspf-pkt

debug router pcep pce connection cspf-pkt

Description

This command enables debugging for PCEP PCE or connection packets.

The **no** form of this command disables debugging.

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Parameters

cspf-pkt

Specifies only packets of the specified type are debugged.

Values request | reply | report | update | speaker | connection

detail

Keyword used to specify detailed output.

Platforms

VSR-NRC

10.143 cspf-te

cspf-te

Syntax

cspf-te [**detail**]

no cspf-te

Context

[Tree] (debug>router>pcep>pcc cspf-te)

[Tree] (debug>router>pcep>pcc>conn cspf-te)

Full Context

debug router pcep pcc cspf-te

debug router pcep pcc connection cspf-te

Description

This command debugs Constrained Shortest Path First-Traffic Engineering (CSPF-TE) events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about all events.

Platforms

All

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cspf-te

Syntax

cspf-te [**detail**]

no cspf-te

Context

[Tree] (debug>router>pcep>pce cspf-te)

[Tree] (debug>router>pcep>pce>conn cspf-te)

Full Context

debug router pcep pce cspf-te

debug router pcep pce connection cspf-te

Description

This command debugs Constrained Shortest Path First-Traffic Engineering (CSPF-TE) events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about all events.

Platforms

VSR-NRC

10.144 cumulative-factor

cumulative-factor

Syntax

[**no**] **cumulative-factor** *cumulative-factor*

Context

[Tree] (config>service>template>vpls-template>mac-move>primary-ports cumulative-factor)

[Tree] (config>service>vpls>mac-move>primary-ports cumulative-factor)

[Tree] (config>service>template>vpls-template>mac-move>secondary-ports cumulative-factor)

[Tree] (config>service>vpls>mac-move>secondary-ports cumulative-factor)

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Full Context

configure service template vpls-template mac-move primary-ports cumulative-factor

configure service vpls mac-move primary-ports cumulative-factor

configure service template vpls-template mac-move secondary-ports cumulative-factor

configure service vpls mac-move secondary-ports cumulative-factor

Description

This command defines a factor defining how many mac-relearn measurement periods can be used to measure mac-relearn rate. The rate must be exceeded during the defined number of consecutive periods before the corresponding port is blocked by the mac-move feature. The cumulative-factor of primary ports must be higher than cumulative-factor of secondary ports.

Default

cumulative-factor 2 — secondary ports

cumulative-factor 3 — primary ports

Parameters

factor

Specifies the factor defining the number of mac-relearn measurement periods can be used to measure mac-relearn rate

Values 2 to 10

Platforms

All

10.145 cups

cups

Syntax

[**no**] **cups**

Context

[Tree] (config>subscr-mgmt>sla-profile>control cups)

Full Context

configure subscriber-mgmt sla-profile control cups

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Description

This command enables a session that is set up with remote CUPS control plane handling to use this SLA profile.

The **no** form of this command disables a session that is set up with remote CUPS control- plane handling from using this SLA profile.

Default

no cups

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

cups

Syntax

[**no**] **cups**

Context

[Tree] (config>subscr-mgmt>sub-profile>control cups)

Full Context

configure subscriber-mgmt sub-profile control cups

Description

This command enables a session that is set up with remote CUPS control plane handling to use this subscriber profile.

The **no** form of this command disables a session that is set up with remote CUPS control- plane handling from using this subscriber profile.

Default

no cups

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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10.146 current-hop-limit

current-hop-limit

Syntax

current-hop-limit *limit*

no current-hop-limit

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy current-hop-limit)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv current-hop-limit)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv current-hop-limit)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv current-hop-limit)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv current-hop-limit)

[Tree] (config>service>vprn>router-advert>if current-hop-limit)

Full Context

configure subscriber-mgmt router-advertisement-policy current-hop-limit

configure service vprn subscriber-interface group-interface ipv6 router-advertisements current-hop-limit

configure service vprn subscriber-interface ipv6 router-advertisements current-hop-limit

configure service ies subscriber-interface ipv6 router-advertisements current-hop-limit

configure service ies subscriber-interface group-interface ipv6 router-advertisements current-hop-limit

configure service vprn router-advertisement interface current-hop-limit

Description

This command configures the hop limit to be advertised.

The **no** form of this command returns the command to the default setting.

Default

current-hop-limit 64

Parameters

limit

Specifies the default value to be placed in the current hop limit field in router advertisement policies sent.

Values 0 to 255

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface ipv6 router-advertisements current-hop-limit
- configure subscriber-mgmt router-advertisement-policy current-hop-limit
- configure service vprn subscriber-interface group-interface ipv6 router-advertisements current-hop-limit
- configure service ies subscriber-interface group-interface ipv6 router-advertisements current-hop-limit
- configure service ies subscriber-interface ipv6 router-advertisements current-hop-limit

All

- configure service vprn router-advertisement interface current-hop-limit

current-hop-limit

Syntax

current-hop-limit *number*

no current-hop-limit

Context

[Tree] (config>router>router-advert>if current-hop-limit)

Full Context

configure router router-advertisement interface current-hop-limit

Description

This command configures the current-hop-limit in the router advertisement messages. It informs the nodes on the subnet about the hop-limit when originating IPv6 packets.

Default

current-hop-limit 64

Parameters

number

Specifies the hop limit.

Values 0 to 255. A value of zero means there is an unspecified number of hops.

Platforms

All

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10.147 custom-option

custom-option

Syntax

custom-option *option-number* **address** [*ip-address*]

custom-option *option-number* **address** *ipv6-address* [*ipv6-address*]

custom-option *option-number* **domain** [*domain-string*]

custom-option *option-number* **hex** *hex-string*

custom-option *option-number* **string** *ascii-string*

no custom-option *option-number*

Context

[Tree] (config>service>vprn>dhcp>server>pool>options custom-option)

[Tree] (config>router>dhcp>server>pool>options custom-option)

[Tree] (config>router>dhcp>server>pool>subnet>options custom-option)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options custom-option)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>options custom-option)

Full Context

configure service vprn dhcp local-dhcp-server pool options custom-option

configure router dhcp local-dhcp-server pool options custom-option

configure router dhcp local-dhcp-server pool subnet options custom-option

configure subscriber-mgmt local-user-db ipoe host options custom-option

configure subscriber-mgmt local-user-db ppp host options custom-option

Description

This command configures specific DHCP options. The options defined here can overrule options in the local user database.

The **no** form of the removes the custom option parameters from the configuration.

Parameters

option-number

Specifies up to four option numbers that the DHCP server uses to send the identification strings to the DHCP client.

Values 1 to 254

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ip-address

Specifies the IP address of a host.

Values a.b.c.d

ipv6-address

Specifies the IPv6 address of a host. Applicable to DHCP6 only.

Values

ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

domain-string

Specifies the domain name, up to 127 characters.

hex-string

Specifies the hex value of this option.

Values 0x0 to 0xFFFFFFFF (up to 254 hex nibbles)

ascii-string

Specifies the value of this option, up to 127 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

custom-option

Syntax

custom-option *option-number* **address** [*ipv6-address*]

custom-option *option-number* **domain** [*domain-string*]

custom-option *option-number* **hex** *hex-string*

custom-option *option-number* **string** *ascii-string*

no custom-option *option-number*

Context

[Tree] (config>router>dhcp6>server>pool>options custom-option)

[Tree] (config>router>dhcp6>server>defaults>options custom-option)

[Tree] (config>router>dhcp6>server>pool>prefix>options custom-option)

[Tree] (config>service>vprn>dhcp6>server>pool>prefix>options custom-option)

[Tree] (config>service>vprn>dhcp6>server>pool>options custom-option)

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Full Context

configure router dhcp6 local-dhcp-server pool options custom-option

configure router dhcp6 local-dhcp-server defaults options custom-option

configure router dhcp6 local-dhcp-server pool prefix options custom-option

configure service vprn dhcp6 local-dhcp-server pool prefix options custom-option

configure service vprn dhcp6 local-dhcp-server pool options custom-option

Description

This command configures specific DHCP6 options. The options defined here can overrule options in the local user database.

The **no** form of the removes the custom option parameters from the configuration.

Parameters

option-number

Specifies up to four option numbers that the DHCP6 server uses to send the identification strings to the DHCP6 client.

Values 1 to 254

ipv6-address

Specifies the IPv6 address of a host.

Values

:ipv6-address	x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

domain-string

Specifies the domain name, up to 127 characters.

hex-string

Specifies the hex value of this option.

Values 0x0 to 0xFFFFFFFF (up to 254 hex nibbles)

ascii-string

Specifies the value of this option, up to 127 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server pool prefix options custom-option
- configure router dhcp6 local-dhcp-server pool options custom-option
- configure service vprn dhcp6 local-dhcp-server pool options custom-option

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- configure service vprn dhcp6 local-dhcp-server pool prefix options custom-option

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- configure router dhcp6 local-dhcp-server defaults options custom-option

custom-option

Syntax

custom-option *protocol option-number* **address** *ip-address*

custom-option p*rotocol option-number* **hex** *hex-string*

custom-option *protocol option-number* **string** *ascii-string*

no custom-option *protocol option-number*

Context

[Tree] (config>subscr-mgmt>ppp-policy>options custom-option)

Full Context

configure subscriber-mgmt ppp-policy ppp-options custom-option

Description

This command provides the ability to configure custom PPP options.

Note:
Standard options such as the DNS name is returned from DHCP or RADIUS and be converted to PPP automatically. Compression is not supported.

The **no** form of this command removes the custom options from the configuration.

Parameters

protocol

Specifies a protocol for the custom option.

Values lcp, ipcp, ipv6cp

option-number

Assigns an identifying number for the custom option.

Values 0 to 255

ip-address

Specifies the IP address in the a.b.c.d format.

ascii-string

Specifies an ASCII format string for the custom option up to 127 characters.

hex-string

Specifies a hex value for the custom option.

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Values [0x0 to 0xFFFFFF (up to 254 hex nibbles)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

custom-option

Syntax

custom-option *option-number* **address** [*ip-address*]

custom-option *option-number* **hex** *hex-string*

custom-option *option-number* **string** *ascii-string*

no custom-option *option-number*

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile>dhcp-pool>options custom-option)

Full Context

configure subscriber-mgmt vrgw brg brg-profile dhcp-pool options custom-option

Description

This command configures DHCP options.

Parameters

option-number

Specifies the number of this DHCP option.

ip-address

Specifies the IP address of this option. Up to 4 addresses can be assigned.

hex-string

Specifies the hex value of this option.

Values 0x0 to 0xFFFFFFFF (maximum 254 hex nibbles)

ascii-string

Specifies an ASCII value of this option.

Values 127 characters maximum

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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10.148 custom-protocol

custom-protocol

Syntax

custom-protocol *custom-protocol-id* **ip-protocol-num** *protocol-id* [**create**]

custom-protocol *custom-protocol-id*

no custom-protocol *custom-protocol-id*

Context

[Tree] (config>app-assure>group>policy custom-protocol)

Full Context

configure application-assurance group policy custom-protocol

Description

This command creates and enters configuration context for custom protocols. Custom protocols allow the creation of TCP and UDP-based custom protocols (based on the *ip-protocol-num* option) that employ pattern-match at offset in protocol signature definition.

Operator-configurable custom-protocols are evaluated ahead of any Nokia-provided protocol signature in order of **custom-protocol-id** (the lower ID is matched first in case of flow matching multiple custom-protocols) within the context the protocol is defined.

Custom protocols must be created before they can be used in application definition but do not have to be enabled. To reference a custom protocol in application definition, or any other CLI configuration one must use protocol name that is a concatenation of "custom_" and <custom-protocol-id>, (for example custom_01, custom_02 ... custom_10, and so on). This concatenation is also used when reporting custom protocol statistics.

Parameters

custom-protocol-id

Specifies the index into the protocol list that defines a custom protocol for application assurance.

Values 1 to 10

protocol-id

Specifies the IP protocol to match against for the custom protocol.

Values 6, 17, Protocol numbers accepted in DHB, keywords: tcp, udp

create

Mandatory keyword used when creating custom protocol. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.149 custom-record

custom-record

Syntax

[**no**] **custom-record**

Context

[Tree] (config>subscr-mgmt>acct-plcy custom-record)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record

Description

Commands in this context configure the layout and setting for a custom accounting record associated with this accounting policy.

The **no** form of this command reverts the configured values to the defaults.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

custom-record

Syntax

[**no**] **custom-record**

Context

[Tree] (config>log>acct-policy custom-record)

Full Context

configure log accounting-policy custom-record

Description

Commands in this context configure the layout and setting for a custom accounting record associated with this accounting policy.

The **no** form of this command reverts the configured values to the defaults.

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Platforms

All

10.150 custom-statistics-group

custom-statistics-group

Syntax

custom-statistics-group *group-name* [**create**]

no custom-statistics-group *group-name*

Context

[Tree] (config>subscr-mgmt>sla-profile custom-statistics-group)

Full Context

configure subscriber-mgmt sla-profile custom-statistics-group

Description

This command configures a custom statistics group that reports custom aggregate statistics of selected QoS objects, in addition to the session aggregates.

The **no** form of this command removes the custom statistics group.

Parameters

group-name

Specifies the name of the custom statistics group, up to 32 characters.

create

This keyword is only required when first creating the configuration context. After you create the context you do not need to use the **create** keyword to navigate into the context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

10.151 custom-user-group

custom-user-group

Syntax

custom-user-group*name*

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no custom-user-group

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query custom-user-group)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query custom-user-group

Description

This command specifies to use a custom user group as a filter. A user equipment (UE) can be assigned up to four custom user groups during RADIUS authentication using the Alc-Wlan-Custom-User-Group attribute.

The no form of this command does not select tunnels based on the custom user group.

Parameters

name

Specifies the name of the user group.

Values 1 to 32 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

custom-user-group

Syntax

custom-user-group*name*

no custom-user-group

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query custom-user-group)

Full Context

configure subscriber-mgmt wlan-gw ue-query custom-user-group

Description

This command specifies to use a custom user group as a filter. A user equipment (UE) can be assigned up to four custom user groups during RADIUS authentication using the Alc-Wlan-Custom-User-Group attribute.

The no form of this command does not select UEs based on the custom user group.

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Parameters

name

Specifies the name of the user group.

Values 1 to 32 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

10.152 custom-x-header

custom-x-header

Syntax

custom-x-header *x-header-name*

no custom-x-header

Context

[Tree] (config>app-assure>group>url-filter>icap custom-x-header)

Full Context

configure application-assurance group url-filter icap custom-x-header

Description

This command configures the url-filter ICAP policy to include a new x-header field; the content of the x-header is populated based on AQP url-filter action which can optionally specify the ASO characteristic value to include in the x-header.

Default

no custom-x-header

Parameters

x-header-name

Specifies the name of the x-header added to the ICAP request.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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10.153 customer

customer

Syntax

customer *customer-id* [**create**] [**name** *name*]

no customer *customer-id*

Context

[Tree] (config>service customer)

Full Context

configure service customer

Description

This command creates a customer ID and customer context used to associate information with a particular customer. Services can later be associated with this customer at the service level.

Each *customer-id* must be unique. The **create** keyword must follow each new **customer** *customer-id* entry.

Enter an existing **customer** *customer-id* (without the *create* keyword) to edit the customer's parameters.

An optional customer **name** can be specified and is tied to the **customer-name** in the customer context (setting either **customer-name** or **name** will cause the other to change as well).

The **no** form of this command removes a *customer-id* and all associated information. Before removing a *customer-id*, all references to that customer in all services must be deleted or changed to a different customer ID.

Default

customer 1 always exists on the system and cannot be deleted.

Parameters

customer-id

Specifies the ID number to be associated with the customer, expressed as an integer.

Values *customer-id*: 1 to 2147483647

customer-name: 64 characters maximum

create

This keyword is required when first creating the configuration context. Once the context is created, it is possible to navigate into the context without the **create** keyword.

name name

This parameter configures an optional customer name, up to 64 characters in length, which adds a name identifier to a given customer to then use that customer name in configuration references as well as display and use customer names in show commands throughout

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the system. This helps the service provider/administrator to identify and manage services within the SR OS platforms.

All services are required to assign a customer ID to initially create a customer. However, either the customer ID or the customer name can be used to identify and reference a given customer once it is initially created.

If a name is not specified at creation time, then SR OS assigns a string version of the *customer-id* as the name.

Values *name*: 64 characters maximum

Platforms

All

10.154 customer-id-range

customer-id-range

Syntax

customer-id-range start *customer-id* **end** *customer-id*

no customer-id-range

Context

[Tree] (config>service>md-auto-id customer-id-range)

Full Context

configure service md-auto-id customer-id-range

Description

This command specifies the range of IDs used by SR OS to automatically assign an ID to customers that are created in model-driven interfaces without an ID explicitly specified by the user or client.

A customer created with an explicitly-specified ID cannot use an ID in this range. In the classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD interfaces, the range can be changed, which causes any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **config>service md-auto-id** command for further details.

Default

no customer-id-range

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Parameters

start *customer-id*

Specifies the lower value of the ID range. The value must be less than or equal to the **end** value.

Values 2 to 2147483647

end *customer-id*

Specifies the upper value of the ID range. The value must be greater than or equal to the **start** value.

Values 2 to 2147483647

Platforms

All

10.155 cut-through-packets

cut-through-packets

Syntax

cut-through-packets *cut-through-packets*

Context

[Tree] (debug>app-assure>group>traffic-capture>record cut-through-packets)

Full Context

debug application-assurance group traffic-capture record cut-through-packets

Description

This command records cut-through packet conditions.

Parameters

cut-through-packets

Indicates whether to capture cut-through only packets or cut-through and other packets, or to exclude them all together.

Values exclude, include, only

Default include

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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11 d Commands – Part I

11.1 d-path-ignore

d-path-ignore

Syntax

[**no**] **d-path-ignore**

Context

[Tree] (config>service>system>bgp-evpn>ad-per-evi-routes d-path-ignore)

Full Context

configure service system bgp-evpn ad-per-evi-routes d-path-ignore

Description

This command makes the router ignore the Domain PATH attribute (D-PATH) when BGP computes the best path selection for received routes.

The **no** form of this command considers the D-PATH length and value as a tiebreaker in determining the best-path selection. In accordance with *draft-sr-bess-evpn-dpath*, the router compares the D-PATH attribute received in AD per-EVI routes with the same key as follows:

- The routes with the shortest D-PATH are preferred; therefore, routes not tied for the shortest D-PATH are removed. Routes without D-PATH are considered zero-length D-PATH.
- The routes with the numerically lowest left-most Domain-ID are preferred; therefore, routes not tied for the numerically lowest left-most Domain-ID are removed from consideration.

Default

no d-path-ignore

Platforms

All

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11.2 d-path-length-ignore

d-path-length-ignore

Syntax

[**no**] **d-path-length-ignore**

Context

[Tree] (config>service>vprn d-path-length-ignore)

[Tree] (config>router>bgp>path-selection d-path-length-ignore)

Full Context

configure service vprn d-path-length-ignore

configure router bgp best-path-selection d-path-length-ignore

Description

This command enables and disables the ability of the router to ignore D-PATH domain segment length during best-path selection. At the base router level, this command allows BGP to ignore the D-PATH domain segment length for best-path selection purposes. The D-PATH length is ignored when comparing two VPN routes or two IFL routes within the same RD. However, these VPN/IFL routes are processed in Main-BGP instance.

At the VPRN router level, this command allows the VPRN RTM to ignore the D-PATH domain segment length for best path selection purposes (for routes in VPRN). The user can control whether the D-PATH length is considered when two VPN routes with different RDs are compared.

Best-path selection for EVPN-IFF routes against other owners (for example, EVPN-IFL or IPVPN) still relies on RTM preference. When EVPN-IFF RTM preference matches the RTM preference of another BGP owner, the existing RTM selection applies and D-PATH is not considered, irrespective of the **d-path-length-ignore** configuration.

The **no** form of this command disables the ability to ignore the D-PATH domain segment length.

Default

no d-path-length-ignore

Platforms

All

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11.3 dack-timeout

dack-timeout

Syntax

dack-timeout *dack-timeout*

no dack-timeout

Context

[Tree] (config>app-assure>group>tcp-optimizer dack-timeout)

Full Context

configure application-assurance group tcp-optimizer dack-timeout

Description

This command configures a delayed ACK (DACK) timeout for the TCP optimizer. By entering this command a default of 200 ms timeout is enabled for delayed acknowledgment. This value is not configurable.

The **no** form of this command disables the delayed acknowledgment timeout.

Default

no dack-timeout

Parameters

dack-timeout

Specifies the delayed acknowledgment timeout in ms.

Default 200

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.4 dad-disable

dad-disable

Syntax

[**no**] **dad-disable**

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Context

[Tree] (config>service>ies>if>ipv6 dad-disable)

[Tree] (config>service>vprn>if>ipv6 dad-disable)

[Tree] (config>router>if>ipv6 dad-disable)

Full Context

configure service ies interface ipv6 dad-disable

configure service vprn interface ipv6 dad-disable

configure router interface ipv6 dad-disable

Description

This command disables duplicate address detection (DAD) on the interface. When **dad-disable** is configured on the interface, the router does not perform a DAD check and all IPv6 addresses on the interface immediately enter a preferred state without checking for uniqueness on the interface. This command is useful when an interface enters a looped state during troubleshooting and becomes operationally disabled when the loop is detected; a manual intervention is required to clear the DAD violation.

The **no** form of this command enables duplicate address detection (DAD) on the interface.

Default

no dad-disable

Platforms

All

11.5 dad-snooping

dad-snooping

Syntax

[**no**] **dad-snooping**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>nd dad-snooping)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>nd dad-snooping)

Full Context

configure service ies subscriber-interface group-interface ipv6 nd dad-snooping

configure service vprn subscriber-interface group-interface ipv6 nd dad-snooping

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Description

This command allows the router to populate the neighbor discovery table through snooping subscribers' duplicate address detection messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.6 damp-peer-oscillations

damp-peer-oscillations

Syntax

damp-peer-oscillations [**idle-hold-time** *initial-wait second-wait max-wait*] [**error-interval** *error-interval*]

Context

[Tree] (config>service>vprn>bgp>group damp-peer-oscillations)

[Tree] (config>service>vprn>bgp damp-peer-oscillations)

[Tree] (config>service>vprn>bgp>group>neighbor damp-peer-oscillations)

Full Context

configure service vprn bgp group damp-peer-oscillations

configure service vprn bgp damp-peer-oscillations

configure service vprn bgp group neighbor damp-peer-oscillations

Description

This command controls how long a BGP peer session remains in the idle-state after some type of error causes the session to reset. In the idle state, BGP does not initiate or respond to attempts to establish a new session. Repeated errors that occur a short while after each session reset cause longer and longer hold times in the idle state. This command supports the DampPeerOscillations FSM behavior described in section 8.1 of RFC 4271, *A Border Gateway Protocol 4 (BGP-4).*

The default behavior, which applies when no damp-peer-oscillations is configured, is to immediately transition out of the idle-state after every reset.

Default

no damp-peer-oscillations

Parameters

initial-wait

Specifies the amount of time, in minutes, that a session remains in the idle-state after it has been stable for a while.

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Values 0 to 2048

Default 0

second-wait

Specifies the period of time, in minutes, that is doubled after each repeated session failure that occurs within a relatively short span of time.

Values 0 to 2048

Default 5

max-wait

Specifies the maximum amount of time, in minutes, that a session remains in the idle-state after it has experienced repeated instability.

Values 0 to 2048

Default 60

error-interval

Specifies the interval of time, in minutes after a session reset, during which the session must be error-free in to reset the penalty counter and return to idle-hold-time to initial-wait.

Values 0 to 2048

Default 30

Platforms

All

damp-peer-oscillations

Syntax

damp-peer-oscillations [**idle-hold-time** *initial-wait second-wait max-wait*] [**error-interval** *error-interval*]

Context

[Tree] (config>router>bgp>group damp-peer-oscillations)

[Tree] (config>router>bgp damp-peer-oscillations)

[Tree] (config>router>bgp>group>neighbor damp-peer-oscillations)

Full Context

configure router bgp group damp-peer-oscillations

configure router bgp damp-peer-oscillations

configure router bgp group neighbor damp-peer-oscillations

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Description

This command controls how long a BGP peer session remains in the idle-state after some type of error causes the session to reset. In the idle state, BGP does not initiate or respond to attempts to establish a new session. Repeated errors that occur a short while after each session reset cause longer and longer hold times in the idle state. This command supports the DampPeerOscillations FSM behavior described in section 8.1 of RFC 4271, *A Border Gateway Protocol 4 (BGP-4).*

The default behavior, which applies when no damp-peer-oscillations is configured, is to immediately transition out of the idle-state after every reset.

Default

no damp-peer-oscillations

Parameters

initial-wait

The amount of time, in minutes, that a session remains in the idle-state after it has been stable for a while.

Values 0 to 2048

Default 0

second-wait

A period of time, in minutes, that is doubled after each repeated session failure that occurs within a relatively short span of time.

Values 1 to 2048

Default 5

max-wait

The maximum amount of time, in minutes, that a session remains in the idle-state after it has experienced repeated instability.

Values 1 to 2048

Default 60

error-interval

The interval of time, in minutes after a session reset, during which the session must be error-free in order to reset the penalty counter and return from idle-hold-time to initial-wait.

Values 0 to 2048

Default 30

Platforms

All

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11.7 dampening

dampening

Syntax

dampening

Context

[Tree] (config>port>ethernet dampening)

Full Context

configure port ethernet dampening

Description

Commands in this context configure exponential port dampening for an Ethernet port.

Exponential Port Dampening (EPD) reduces the number of physical link transitions reported to upper layer protocols, potentially reducing upper layer protocol churn caused by a faulty link. Penalties are added against a port whenever the port's physical link state transitions from a link up state to a link down state. When the penalties exceed a configurable threshold, port-up and port-down transitions are no longer advertised to upper layers and the port's operational state will remain down until the penalty amount drops below a configurable reuse threshold. Each transition of link up state to link down state increments the accumulated penalty value by 1000. The accumulated penalties for a port are reduced at an exponential decay rate according to a configurable half-life parameter.

Platforms

All

11.8 damping

damping

Syntax

[**no**] **damping**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy damping)

Full Context

configure subscriber-mgmt bgp-peering-policy damping

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Description

This command enables BGP route damping for learned routes which are defined within the route policy. Use damping to reduce the number of update messages sent between BGP peers and reduce the load on peers without affecting the route convergence time for stable routes. Damping parameters are set via route the policy definition.

The **no** form of this command used at the global level disables route damping.

When damping is enabled and the route policy does not specify a damping profile, the default damping profile is used. This profile is always present and consists of the following parameters:

Half-life:	15 minutes
Max-suppress:	60 minutes
Suppress-threshold:	3000
Reuse-threshold	750

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

damping

Syntax

[**no**] **damping**

Context

[Tree] (config>service>vprn>bgp damping)

[Tree] (config>service>vprn>bgp>group>neighbor damping)

[Tree] (config>service>vprn>bgp>group damping)

Full Context

configure service vprn bgp damping

configure service vprn bgp group neighbor damping

configure service vprn bgp group damping

Description

This command enables BGP route damping for learned routes which are defined within the route policy. Use damping to reduce the number of update messages sent between BGP peers and reduce the load on peers without affecting the route convergence time for stable routes. Damping parameters are set via route policy definition.

The **no** form of this command used at the global level disables route damping.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

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When damping is enabled and the route policy does not specify a damping profile, the default damping profile is used. This profile is always present and consists of the following parameters:

Half-life: 15 minutes

Max-suppress: 60 minutes

Suppress-threshold: 3000

Reuse-threshold: 750

Default

no damping — Learned route damping is disabled.

Platforms

All

damping

Syntax

[**no**] **damping**

Context

[Tree] (config>router>bgp>group>neighbor damping)

[Tree] (config>router>bgp>group damping)

[Tree] (config>router>bgp damping)

Full Context

configure router bgp group neighbor damping

configure router bgp group damping

configure router bgp damping

Description

This command enables BGP route damping for learned routes which are defined within the route policy. Use damping to reduce the number of update messages sent between BGP peers and reduce the load on peers without affecting the route convergence time for stable routes. Damping parameters are set via route policy definition.

The **no** form of this command used at the global level reverts route damping.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

When damping is enabled and the route policy does not specify a damping profile, the default damping profile is used. This profile is always present and consists of the following parameters:

- Half-life: 15 minutes
- Max-suppress: 60 minutes
- Suppress-threshold: 3000

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- Reuse-threshold: 750

Default

no damping

Platforms

All

damping

Syntax

[**no**] **damping** *name*

Context

[Tree] (config>router>policy-options damping)

Full Context

configure router policy-options damping

Description

This command creates a context to configure a route damping profile to use in route policy entries.

The **no** form of this command deletes the named route damping profile.

Default

no damping

Parameters

name

Specifies the damping profile name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

damping

Syntax

damping {*name* | **none**}

no damping

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Context

[Tree] (config>router>policy-options>policy-statement>entry>action damping)

[Tree] (config>router>policy-options>policy-statement>default-action damping)

Full Context

configure router policy-options policy-statement entry action damping

configure router policy-options policy-statement default-action damping

Description

This command configures a damping profile used for routes matching the route policy statement entry.

If no damping criteria is specified, the default damping profile is used.

The **no** form of this command removes the damping profile associated with the route policy entry.

Default

no damping

Parameters

name

The damping profile name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end"," @variable@end", or "start@variable@".

The *name* specified must already be defined.

none

Disables route damping for the route policy.

Platforms

All

11.9 data

data

Syntax

data [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no data

Context

[Tree] (debug>router>pim data)

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Full Context

debug router pim data

Description

This command enables debugging for PIM data exception.

The **no** form of this command disables PIM data exception debugging.

Parameters

grp-ip-address

Debugs information associated with the specified data exception.

Values multicast group address (ipv4, ipv6)

ip-address

Debugs information associated with the specified data exception.

Values source address (ipv4, ipv6)

detail

Debugs detailed IP data exception information.

Platforms

All

data

Syntax

[**no**] **data**

Context

[Tree] (config>subscr-mgmt>git>trigger-packet data)

Full Context

configure subscriber-mgmt group-interface-template trigger-packet data

Description

This command enables data-trigger packets to be processed on dynamic SAPs. Data-trigger packets must also be enabled on the capture SAP.

The **no** form of this command disables the processing of data-trigger packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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11.10 data-delay-interval

data-delay-interval

Syntax

data-delay-interval *seconds*

no data-delay-interval

Context

[Tree] (config>service>vpls>provider-tunnel>selective data-delay-interval)

[Tree] (config>service>vpls>provider-tunnel>inclusive data-delay-interval)

Full Context

configure service vpls provider-tunnel selective data-delay-interval

configure service vpls provider-tunnel inclusive data-delay-interval

Description

This command configures the I-PMSI or S-PMSI data delay timer.

When used in I-PMSI trees, this delay timer allows time for the RSVP control plane to signal and bring up the S2L sub-LSP to each destination PE participating in the VPLS or B-VPLS service. The delay timer starts as soon as the P2MP LSP instance becomes operationally up under the inclusive node, for example, as soon as the first S2L sub-LSP is up. This occurs after configuring the **configure service vpls provider-tunnel inclusive no shutdown** command.

In general, it is started when the P2MP LSP instance transitions from the operationally down state to the up state.

For a mLDP P2MP LSP, the delay timer is started as soon as the P2MP FEC corresponding to the I-PMSI is resolved and installed at the root node. The user must factor in the value configured in the **data-delay-interval** at the root node, as well as any delay configured in the IGP-LDP sync timer on interfaces over the network, using the **configure router interface ldp-sync-timer** command.

This is because the mLDP P2MP LSP may move to a different interface at the expiry of this timer since the routing upstream of the LDP Label Mapping message may change when this timer expires and the interface metric is restored.

At the expiry of this timer, the VPLS or B-VPLS begins forwarding of BUM packets over the P2MP LSP instance even if not all the S2L paths are up.

When used for EVPN S-PMSI trees, the data delay interval determines the time the router takes to switch over the traffic from the Ingress Replication binds to the wildcard S-PMSI or from the wildcard S-PMSI to the S-PMSI, after the S-PMSI is created. This time should account for the time it takes for BGP to propagate the S-PMSI A-D route to the downstream PEs and the time it takes the downstream PEs to join the tree all the way up to the root.

The **no** form of this command reinstates the default value for this delay timer.

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Parameters

seconds

Specifies the delay time value in seconds

Values 3 to 180

Default 15 (inclusive)
3 (selective)

Platforms

All

data-delay-interval

Syntax

data-delay-interval *value*

no data-delay-interval

Context

[Tree] (config>service>vprn>mvpn>pt>selective data-delay-interval)

Full Context

configure service vprn mvpn provider-tunnel selective data-delay-interval

Description

This command specifies the interval, in seconds, before a PE router connected to the source switches traffic from the inclusive provider tunnel to the selective provider tunnel.

This command is not applicable to multi-stream S-PMSI.

The **no** form of this command reverts the value to the default.

Default

data-delay-interval 3

Parameters

value

Specifies the data delay interval, in seconds.

Values 3 to 180

Platforms

All

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data-delay-interval

Syntax

data-delay-interval *value*

no data-delay-interval

Context

[Tree] (config>router>gtm>provider-tunnel>selective data-delay-interval)

Full Context

configure router gtm provider-tunnel selective data-delay-interval

Description

This command specifies the interval, in seconds, before a PBR connected to the source switches traffic from the inclusive provider tunnel to the selective provider tunnel.

This command is not applicable to multi-stream S-PMSIs.

The **no** form of this command reverts the value to the default.

Default

data-delay-interval 3

Parameters

value

Specifies the data delay interval, in seconds.

Values 3 to 180

Default 3

Platforms

All

11.11 data-encapsulation

data-encapsulation

Syntax

[**no**] **data-encapsulation**

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Context

[Tree] (config>service>vprn>msdp data-encapsulation)

Full Context

configure service vprn msdp data-encapsulation

Description

This command configures a rendezvous point (RP) using Multicast Source Discovery Protocol (MSDP) to encapsulate multicast data received in MSDP register messages inside forwarded MSDP source-active messages.

Default

data-encapsulation

Platforms

All

data-encapsulation

Syntax

[**no**] **data-encapsulation**

Context

[Tree] (config>router>msdp data-encapsulation)

Full Context

configure router msdp data-encapsulation

Description

This command configures the rendezvous point (RP) to encapsulate multicast data received from MSDP register messages inside forwarded MSDP SA messages.

The **no** form of this command disables data encapsulation by the RP.

Default

data-encapsulation

Platforms

All

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11.12 data-pattern

data-pattern

Syntax

data-pattern

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl data-pattern)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload data-pattern

Description

Commands in this context configure the data pattern to populate the payload portion of the frame generated by the service activation testhead.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

11.13 data-threshold

data-threshold

Syntax

data-threshold {*c-grp-ip-addr/mask* | *c-grp-ip-addr netmask*} *s-pmsi-threshold* [**pe-threshold-add** *pe-threshold-add*] [**pe-threshold-delete** *pe-threshold-delete*]

data-threshold *c-grp-ipv6-addr/prefix-length s-pmsi-threshold* [**pe-threshold-add** *pe-threshold-add*] [**pe-threshold-delete** *pe-threshold-delete*]

no data-threshold {*c-grp-ip-addr/mask* | *c-grp-ip-addr netmask*}

no data-threshold *c-grp-ipv6-addr/prefix-length*

Context

[Tree] (config>service>vpls>provider-tunnel>selective data-threshold)

[Tree] (config>service>vprn>mvpn>pt>selective data-threshold)

Full Context

configure service vpls provider-tunnel selective data-threshold

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configure service vprn mvpn provider-tunnel selective data-threshold

Description

When used along with MVPN, this command specifies the data rate threshold that triggers the switch from the inclusive provider tunnel to the selective provider tunnel for (C-S, C-G) within the group range. Optionally, PE thresholds to create or delete ng-MVPN S-PMSI may also be specified. Omitting the PE thresholds, preserves the currently set value (or defaults if never set). Multiple statements (one per a unique group) are allowed in the configuration.

This command is not applicable to multi-stream S-PMSI.

This command for S-PMSI trees can also be used in EVPN services. The **data-threshold** command options are used in the same way as in MVPN when applied to EVPN, in particular the rate and PE thresholds.

The **no** form of this command removes the values from the configuration.

Default

no data-threshold

Parameters

group-address/mask

Specifies a multicast group address and netmask length.

c-grp-ip-addr/mask | c-grp-ip-addr netmask

Specifies an IPv4 multicast group address and netmask length or network mask.

c-grp-ipv6-addr/prefix-length

Specifies an IPv6 multicast group address and prefix length.

s-pmsi-threshold

Specifies the rate, in kb/s. If the rate for a (C-S, C-G)) within the specified group range exceeds the threshold, traffic for the (C-S, C-G) is switched to the selective provider tunnel. Threshold 0 is supported. When threshold 0 is configured, the (C-S, C-G) switches to S-PMSI as soon as it is learned in the MVPN and without traffic flowing for that (C-S, C-G).

s-pmsi-threshold-add

Specifies the number of receiver PEs for creating S-PMSI. When the number of receiver PEs for a specified multicast group configuration is non-zero and below the threshold and BW threshold is satisfied, S-PMSI is created.

s-pmsi-threshold-delete

Specifies the number of receiver PEs for deleting S-PMSI. When the number of receiver PEs for a specified multicast group configuration is above the threshold, S-PMSI is deleted and the multicast group is moved to I-PMSI or a wildcard S-PMSI. It is recommended that the delete threshold be significantly larger than the add threshold, to avoid re-signaling of S-PMSI as the receiver PE count fluctuates.

Values

c-grp-ip-addr	: multicast group address a.b.c.d
mask	[4 to 32]
netmask	: a.b.c.d (network bits all 1 and host bits all 0)

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s-pmsi-threshold	: [0 to 4294967294] (threshold in kb/s)
c-grp-ipv6-addr	: multicast ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x [0 to FFFF]H d [0 to 255]D prefix-length [1 to 128]
pe-threshold-add	: [1 to 65535], if never specified, 65535 is used (add threshold always met)
pe-threshold-delete	: [2 to 65535], if never specified, 65535 is used (delete threshold never met)

Platforms

All

data-threshold

Syntax

data-threshold {*c-grp-ip-addr/mask* | *c-grp-ip-addr netmask*} *s-pmsi-threshold* [**pe-threshold-add** *pe-threshold-add*] [**pe-threshold-delete** *pe-threshold-delete*]

data-threshold *c-grp-ipv6-addr/prefix-length s-pmsi-threshold* [**pe-threshold-add** *pe-threshold-add*] [**pe-threshold-delete** *pe-threshold-delete*]

no data-threshold {*c-grp-ip-addr/mask* | *c-grp-ip-addr netmask*}

no data-threshold *c-grp-ipv6-addr/prefix-length*

Context

[Tree] (config>router>gtm>provider-tunnel>selective data-threshold)

Full Context

configure router gtm provider-tunnel selective data-threshold

Description

This command specifies the data rate threshold that triggers the switch from the inclusive provider tunnel to the selective provider tunnel for (C-S, C-G) within the group range. Optionally, PBR thresholds for creating or deleting NG-MVPN S-PMSI may also be specified. Omitting the PBR thresholds preserves currently set values (or defaults if never set). Multiple statements (one per a unique group) are allowed in the configuration.

This command is not applicable to multi-stream S-PMSIs.

The **no** form of this command removes the values from the configuration.

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Default

no data-threshold

Parameters

c-grp-ip-addr/mask | c-grp-ip-addr netmask

Specifies an IPv4 multicast group address and netmask length or network mask.

Values mask: 4 to 32

c-grp-ipv6-addr/prefix-length

Specifies an IPv6 multicast group address and prefix length.

s-pmsi-threshold

Specifies the rate, in kb/s. If the rate for a (C-S, C-G) within the specified group range exceeds the threshold, traffic for the (C-S, C-G) is switched to the selective provider tunnel.

s-pmsi-threshold-add

Specifies the number of receiver PBRs for creating S-PMSI. When the number of receiver PBRs for a specified multicast group configuration is non-zero and below the threshold and BW threshold is satisfied, S-PMSI is created.

s-pmsi-threshold-delete

Specifies the number of receiver PBRs for deleting S-PMSI. When the number of receiver PBRs for a specified multicast group configuration is above the threshold, S-PMSI is deleted and the multicast group is moved to I-PMSI or a wildcard S-PMSI. It is recommended that the delete threshold be significantly larger than the add threshold to avoid re-signaling of S-PMSI as the receiver PBR count fluctuates.

Values

c-grp-ip-addr	multicast group address a.b.c.d
mask	4 to 32
netmask	a.b.c.d (network bits all 1 and host bits all 0)
s-pmsi-threshold	1 to 4294967294 (threshold in kb/s)
c-grp-ipv6-addr	multicast ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x [0 to FFFF]H d [0 to 255]D prefix-length [1 to 128]
pe-threshold-add	1 to 65535 Default: 65535 (delete threshold always met)
pe-threshold-delete	2 to 65535 Default: 65535:(delete threshold always met)

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Platforms

All

11.14 data-tlv-size

data-tlv-size

Syntax

data-tlv-size *octets*

no data-tlv-size

Context

[Tree] (config>oam-pm>session>ethernet>dmm data-tlv-size)

[Tree] (config>oam-pm>session>ethernet>slm data-tlv-size)

Full Context

configure oam-pm session ethernet dmm data-tlv-size

configure oam-pm session ethernet slm data-tlv-size

Description

This command allows the user to add an optional Data TLV to the PDU and increase the frame on the wire by the specified amount.

Note: This command only configures the size of the padding added to the PDU, and not the total size of the frame on the wire.

The **no** form of this command removes the optional Data TLV.

Default

no data-tlv-size

Parameters

octets

Specifies the size, in octets, of the optional Data TLV.

Values 0, 3 to 2000

Default 0

Platforms

All

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11.15 data-trigger

data-trigger

Syntax

data-trigger

Context

[Tree] (config>service>ies>sub-if>grp-if data-trigger)

[Tree] (config>service>vprn>sub-if>grp-if data-trigger)

Full Context

configure service ies subscriber-interface group-interface data-trigger

configure service vprn subscriber-interface group-interface data-trigger

Description

Commands in this context configure data-triggered subscriber management entities.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.16 data-triggered

data-triggered

Syntax

[**no**] data-triggered

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host-mgmt>mac-learning-options data-triggered)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host-mgmt>mac-learning-options data-triggered)

Full Context

configure service ies subscriber-interface group-interface sap static-host-mgmt mac-learning-options data-triggered

configure service vprn subscriber-interface group-interface sap static-host-mgmt mac-learning-options data-triggered

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Description

This command enables learning of MAC addresses from data packets.

The **no** form of this command disables learning of MAC addresses from data packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

data-triggered

Syntax

[**no**] **data-triggered**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state data-triggered)

Full Context

configure subscriber-mgmt wlan-gw ue-query state data-triggered

Description

This command enables matching on UEs currently in a data-triggered state. This query only filters UEs that are currently authenticating due to a data trigger, not UEs that were originally authenticated due to data trigger, such as those in an ESM, DSM, or portal state.

The **no** form of this command disables matching on UEs in a data-triggered state, unless all state matching is disabled.

Default

no data-triggered

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.17 data-triggered-ue-creation

data-triggered-ue-creation

Syntax

data-triggered-ue-creation [**arp**] [**ospf**]

no data-triggered-ue-creation

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Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range data-triggered-ue-creation)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range data-triggered-ue-creation)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range data-triggered-ue-creation

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range data-triggered-ue-creation

Description

This command enables data-triggered subscriber creation for Wi-Fi subscribers. Data-triggered UE creation only works upon receival of TCP and UDP packets.

The **no** form of this command disables the data-triggered subscriber creation for Wi-Fi subscribers.

Default

no data-triggered-ue-creation

Parameters

arp

Keyword to enable the router to authenticate ARP packets from an unknown UE.

ospf

Keyword to enable the system to trigger UE authentication based on OSPFv2 or OSPFv3 packets.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.18 data-triggers

data-triggers

Syntax

[**no**] **data-triggers**

Context

[Tree] (debug>dynsvc data-triggers)

Full Context

debug dynamic-services data-triggers

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Description

Commands in this context configure dynamic services data trigger capture SAP debugging. The **no** form of this command removes all dynamic services data trigger capture SAP debug configurations.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.19 database

database

Syntax

database [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no database

Context

[Tree] (debug>service>id>pim-snooping database)

Full Context

debug service id pim-snooping database

Description

This command enables or disables debugging for the PIM database.

Parameters

grp-ip-address

Debugs information associated with all PIM modules

Values multicast group address (IPv4 or IPv6) or zero

ip-address

Debugs information associated with the specified database

Platforms

All

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11.20 database-export

database-export

Syntax

database-export [**identifier** *id*] [**bgp-ls-identifier** *bgp-ls-id*] [**reachable-ls-only**]

no database-export

Context

[Tree] (config>router>isis database-export)

Full Context

configure router isis database-export

Description

This command configures the population of the extended Traffic Engineering Database (TE-DB) with the link-state information from a specific IGP instance.

This information includes the IGP, TE, and the SR information, prefix SID sub-TLV, adjacency SID sub-TLV, and router SR capability TLV.

The **no** form of this command disables database exportation.

Parameters

id

Specifies an entry ID to export. This parameter is used to uniquely identify the IGP instance in the BGP-LS NLRI when a router has interfaces participating in multiple IGP instances. This parameter defaults to the IGP instance ID assigned by SR OS. However, because the concept of instance ID defined in IS-IS (RFC 6822) is unique within a routing domain while the one specified for OSPF is local subnet significant (RFC 6549), the user can remove any overlap by configuring the **identifier** value to be unique within a specific IGP domain when this router sends the IGP link-state information using BGP-LS.

Values 0 to 18446744073709551615

bgp-ls-id

Specifies a BGP-LS ID to export. This parameter is used, along with the Autonomous System Number (ASN) to correlate the BGP-LS NLRI advertisements of multiple BGP-LS speakers of the same IGP domain. If an NRC-P network domain has multiple IGP domains, BGP-LS speakers within each IGP domain must be configured with the same unique {bgp-ls-identifier, asn} tuple.

The BGP-LS identifier is optional and is only sent in a BGP-LS NLRI if configured in the IGP instance of an IGP domain.

Note: If this IGP instance participates in traffic engineering with RSVP-TE or SR-TE, the **traffic-engineering** command is not strictly required because

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enabling the extended TE-DB populates this information automatically. However, Nokia recommends enabling it to make the configuration consistent with other routers in the network that do not require the enabling of the extended TE-DB.

Values 0 to 4294967295

reachable-ls-only

Keyword to specify that only reachable link-state information is encoded. When this keyword is configured, the router, acting as a BGP-LS producer, must withdraw all link-state objects it has advertised in BGP, in accordance with section 5.9 of RFC 9552. This withdrawal occurs when the node that originated the corresponding LSPs is determined to be unreachable in the IGP based on the failure of a reachability check for that node. This withdrawal operation assists network controllers in assessing a reachable IGP topology, even in networks with segmented areas. For backward compatibility, the default behavior remains unchanged.

Platforms

All

database-export

Syntax

database-export [**identifier** *id*] [**bgp-ls-identifier** *bgp-ls-id*] [**reachable-ls-only**]

no database-export

Context

[Tree] (config>router>ospf3 database-export)

[Tree] (config>router>ospf database-export)

Full Context

configure router ospf3 database-export

configure router ospf database-export

Description

This command enables the population of the extended Traffic Engineering Database (TE-DB) with the link-state information from a specific IGP instance.

This information includes the IGP, TE, and the SR information, prefix SID sub-TLV, adjacency SID sub-TLV, and router SR capability TLV.

The **no** form of this command disables database exportation.

Default

no database-export

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Parameters

id

Specifies an entry ID to export. This parameter is used to uniquely identify the IGP instance in the BGP-LS NLRI when a router has interfaces participating in multiple IGP instances. This parameter defaults to the IGP instance ID assigned by SR OS. The concept of instance ID specified for OSPF is local subnet significant (RFC 6549). The user can remove the router specific overlap by configuring the **identifier** value to be unique within a specific IGP domain when this router sends the IGP link-state information using BGP-LS.

Values 0 to 18446744073709551615

bgp-ls-id

Specifies a BGP-LS ID to export. This parameter is used, along with the ASN, to correlate the BGP-LS NLRI advertisements of multiple BGP-LS speakers of the same IGP domain. If an NRC-P network domain has multiple IGP domains, BGP-LS speakers within each IGP domain must be configured with the same unique {bgp-ls-identifier, asn} tuple.

The BGP-LS identifier is optional and is only sent in a BGP-LS NLRI if configured in the IGP instance of an IGP domain.

Note: If this IGP instance participates in traffic engineering with RSVP-TE or SR-TE, the **traffic-engineering** command is not strictly required because enabling the extended TE-DB populates this information automatically. However, Nokia recommends enabling it to make the configuration consistent with other routers in the network that do not require the enabling of the extended TE-DB.

Values 0 to 4294967295

reachable-ls-only

Keyword to specify that only reachable link-state information is encoded. When this keyword is configured, the router, acting as a BGP-LS producer, must withdraw all link-state objects it has advertised in BGP, in accordance with section 5.9 of RFC 9552. This withdrawal occurs when the node that originated the corresponding LSPs is determined to be unreachable in the IGP based on the failure of a reachability check for that node. This withdrawal operation assists network controllers in assessing a reachable IGP topology, even in networks with segmented areas. For backward compatibility, the default behavior remains unchanged.

Platforms

All

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11.21 database-export-exclude

database-export-exclude

Syntax

[**no**] **database-export-exclude**

Context

[Tree] (config>router>isis>level database-export-exclude)

Full Context

configure router isis level database-export-exclude

Description

This command allows the user to prune the IGP link-state information of a specific IS-IS level from being exported into the extended TE-DB.

The **no** form of this command returns to the default behavior inherited from the database-export command at the IS-IS instance level.

Default

no database-export-exclude

Platforms

All

database-export-exclude

Syntax

[**no**] **database-export-exclude**

Context

[Tree] (config>router>ospf>area database-export-exclude)

[Tree] (config>router>ospf3>area database-export-exclude)

Full Context

configure router ospf area database-export-exclude

configure router ospf3 area database-export-exclude

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Description

This command allows the user to prune the IGP link-state information of a specific OSPF level or OSPF area from being exported into the extended TE-DB. The **no** form of this command returns to the default behavior inherited from the database-export command at the OSPF or OSPF3 instance level.

Default

no database-export-exclude

Platforms

All

11.22 datapath-cpu-high-wmark

datapath-cpu-high-wmark

Syntax

datapath-cpu-high-wmark *high-watermark*

datapath-cpu-high-wmark max

Context

[Tree] (config>app-assure datapath-cpu-high-wmark)

Full Context

configure application-assurance datapath-cpu-high-wmark

Description

This command configures the system-wide high watermark threshold as a percentage of the per-ISA datapath core CPU utilization, where an alarm will be raised by the agent. CPU usage is the average usage across all datapath cores.

Default

datapath-cpu-high-wmark 95

Parameters

high-watermark

Specifies the high watermark for datapath CPU usage alarms.

Values 1 to 100

max

Disables the high watermark for datapath CPU usage alarms

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.23 datapath-cpu-low-wmark

datapath-cpu-low-wmark

Syntax

datapath-cpu-low-wmark *low-watermark*

Context

[Tree] (config>app-assure datapath-cpu-low-wmark)

Full Context

configure application-assurance datapath-cpu-low-wmark

Description

This command configures the system-wide low watermark threshold as a percentage of the per-ISA datapath core CPU utilization, where an alarm will be raised by the agent. CPU usage is the average usage across all datapath cores.

Default

datapath-cpu-low-wmark 90

Parameters

low-watermark

Specifies the low watermark for datapath CPU usage alarms.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.24 day-of-month

day-of-month

Syntax

day-of-month {*day-number* [..*day-number*] **all**}

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no day-of-month

Context

[Tree] (config>system>cron>sched day-of-month)

Full Context

configure system cron schedule day-of-month

Description

This command specifies which days of the month that the schedule will occur. Multiple days of the month can be specified. When multiple days are configured, each of them will cause the schedule to trigger. If a day-of-month is configured without configuring month, weekday, hour, and minute, the event will not execute.

Using the **weekday** command as well as the **day-of-month** command will cause the script to run twice. For example, consider that today is Monday January 1. If Tuesday January 5 is configured, the script will run on Tuesday (tomorrow) as well as January 5 (Friday).

The **no** form of this command removes the specified day-of-month from the list.

Default

no day-of-month

Parameters

day-number

Specifies the positive integers specify the day of the month counting from the first of the month. The negative integers specify the day of the month counting from the last day of the month. For example, configuring **day-of-month -5, 5** in a month that has 31 days will specify the schedule to occur on the 27th and 5th of that month.

Integer values must map to a valid day for the month in question. For example, February 30 is not a valid date.

Values 1 to 31, -31 to -1 (maximum 62 day-numbers)

all

Specifies all days of the month.

Platforms

All

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11.25 db

db

Syntax

db [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no db

Context

[Tree] (debug>router>pim db)

Full Context

debug router pim db

Description

This command enables debugging for PIM database.

The **no** form of this command disables PIM database debugging.

Parameters

grp-ip-address

Debugs information associated with the specified database.

Values multicast group address (ipv4, ipv6) or zero

ip-address

Debugs information associated with the specified database.

Values source address (ipv4, ipv6)

detail

Debugs detailed IP database information.

Platforms

All

db

Syntax

db [**detail**]

no db

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Context

[Tree] (debug>router>pcep>pcc db)

[Tree] (debug>router>pcep>pcc>conn db)

Full Context

debug router pcep pcc db

debug router pcep pcc connection db

Description

This command enables debugging for PCC or connection database events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCC or connection database events.

Platforms

All

db

Syntax

db [**detail**]

no db

Context

[Tree] (debug>router>pcep>pce>conn db)

[Tree] (debug>router>pcep>pce db)

Full Context

debug router pcep pce connection db

debug router pcep pce db

Description

This command enables debugging for PCE or connection database events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCE or connection database events.

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Platforms

VSR-NRC

11.26 dbw-accounting

dbw-accounting

Syntax

[**no**] **dbw-accounting**

Context

[Tree] (config>router>rsvp dbw-accounting)

Full Context

configure router rsvp dbw-accounting

Description

This command enables dark bandwidth accounting and enters the context to configure the associated parameters. When dark bandwidth accounting is enabled, the system polls the dark bandwidth counters, performs sample and average rate computations, and generates IGP-TE updates if required. To enable dark bandwidth accounting, auxiliary MPLS statistics must first be enabled using the command **config>router>mpls>aux-stats**.

The **no** form of this command disables dark bandwidth accounting, resets all global parameters to their default values, and results in an immediate IGP-TE update for which dark bandwidth is null.

Default

no dbw-accounting

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

11.27 dbw-down-threshold

dbw-down-threshold

Syntax

dbw-down-threshold *percent-change* [**bw** *absolute-change*]

no dbw-down-threshold

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Context

[Tree] (config>router>rsvp>interface dbw-down-threshold)

Full Context

configure router rsvp interface dbw-down-threshold

Description

This command sets the minimum change (in percent of the latest advertised value) above which an decrease in MRLB (IS-IS TE sub-TLV 10) or MRB (OSPF TE sub-TLV 7) triggers an IGP-TE update. This configuration only applies to a change in MRLB or MRB caused by dark bandwidth. Other events affecting MRLB/MRB (such as the change of the subscription factor or the loss of link in a LAG over which the RSVP interface is defined) trigger an immediate TE update, regardless of the importance of the impact.

Optionally, the threshold can also be expressed as an absolute value. In this case, the evaluation of the change is made using the percent change and the absolute change. An IGP-TE update is sent if both thresholds are crossed. Changing this parameter in the course of dark bandwidth accounting does not affect the accounting cycle.

By default, the multiplier inherits the global value, unless it is specifically set using this command. The **no** form of this command sets this parameter to inherit the value of the corresponding global parameter.

Parameters

percent-change

Specifies the minimum decrease in MRLB/MRB, expressed in percent.

Values 0 to 100

absolute-change

Specifies the minimum decrease in MRLB/MRB, expressed in Mb/s.

Values 0 to 1000000

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

11.28 dbw-multiplier

dbw-multiplier

Syntax

dbw-multiplier *percent*

Context

[Tree] (config>router>rsvp>dbw-accounting dbw-multiplier)

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Full Context

configure router rsvp dbw-accounting dbw-multiplier

Description

This command sets the dark bandwidth multiplier to the specified value. Choosing 0% will lead to no IGP-TE updates based on dark bandwidth evolution being sent. Changing this parameter in the course of dark bandwidth accounting does not affect the accounting cycle.

Default

dbw-multiplier 100

Parameters

percent

Specifies the multiplier, expressed in percent.

Values 0 to 1000

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

dbw-multiplier

Syntax

dbw-multiplier *percent*

no dbw-multiplier

Context

[Tree] (config>router>rsvp>interface dbw-multiplier)

Full Context

configure router rsvp interface dbw-multiplier

Description

This command sets the dark bandwidth multiplier to the specified value. Choosing 0% will lead to no IGP-TE updates based on dark bandwidth evolution being sent. Changing this parameter in the course of dark bandwidth accounting does not affect the accounting cycle.

By default, the multiplier inherits the global value, unless it is specifically set using this command. The **no** form of this command sets this parameter to inherit the value of the corresponding global parameter.

Parameters

percent

Specifies the multiplier, expressed in percent.

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Values 0 to 1000

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

11.29 dbw-up-threshold

dbw-up-threshold

Syntax

dbw-up-threshold *percent-change* [**bw** *absolute-change*]

no dbw-up-threshold

Context

[Tree] (config>router>rsvp>interface dbw-up-threshold)

Full Context

configure router rsvp interface dbw-up-threshold

Description

This command sets the minimum change (in percent of the latest advertised value) above which an increase in MRLB (IS-IS TE sub-TLV 10) or MRB (OSPF TE sub-TLV 7) triggers an IGP-TE update. This configuration only applies to a change in MRLB or MRB caused by dark bandwidth. Other events affecting MRLB/MRB (such as the change of the subscription factor or the loss of link in a LAG over which the RSVP interface is defined) trigger an immediate TE update, regardless of the importance of the impact.

Optionally, the threshold can also be expressed as an absolute value. In this case, the evaluation of the change uses the percent change and the absolute change. An IGP-TE update is sent if both thresholds are crossed. Changing this parameter in the course of dark bandwidth accounting does not affect the accounting cycle.

By default, the multiplier inherits the global value, unless it is specifically set using this command. The **no** form of this command sets this parameter to inherit the value of the corresponding global parameter.

Parameters

percent-change

Specifies the minimum increase in MRLB/MRB, expressed in percent.

Values 0 to 100

absolute-change

Specifies the minimum increase in MRLB/MRB, expressed in Mb/s.

Values 0 to 1000000

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Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

11.30 ddm-events

ddm-events

Syntax

[**no**] **ddm-events**

Context

[Tree] (config>port ddm-events)

Full Context

configure port ddm-events

Description

This command enables Digital Diagnostic Monitoring (DDM) events for the port.

The **no** form of this command disables DDM events.

Platforms

All

11.31 de-1-out-profile

de-1-out-profile

Syntax

[**no**] **de-1-out-profile**

Context

[Tree] (config>qos>sap-ingress>fc de-1-out-profile)

Full Context

configure qos sap-ingress fc de-1-out-profile

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Description

This command, when enabled on a parent forwarding class, applies a color profile mode to the packets stored in the queue associated with this forwarding class. The queue associated with the parent forwarding class must be of type **profile-mode**.

When this QoS policy is applied to the ingress of a Frame Relay VLL SAP, the system will treat the received FR frames with DE bit set as out-of-profile, regardless of their previous marking as the result of the default classification or on a match with an IP filter. It also adjusts the CIR of the ingress SAP queue to consider out-of-profile frames that were sent while the SAP queue was in the "< CIR" state of the bucket. This makes sure that the CIR of the SAP is achieved.

All received DE = 0 frames that are classified into this parent forwarding class or any of its subclasses have their profile unchanged by enabling this option. That is, the DE = 0 frame profile could be undetermined (default), in-profile, or out-of-profile as per previous classification. The DE = 0 frames that have a profile of undetermined will be evaluated by the system CIR marking algorithm and will be marked appropriately.

The **priority** option, if used, has no effect. All FR VLL DE = 1 frames have their priority automatically set to low while DE = 0 frames have their priority set to high. Furthermore, DE = 1 frames have the drop-preference bit set in the internal header. The internal settings of the priority bit and of the drop-preference bit of the frame is independent of the use of the profile mode.

All other capabilities of the Fpipe service are maintained. This includes remarking of the DE bit on egress SAP, and FR PW control word on egress network port for the packets that were classified into "out-of-profile" at ingress SAP.

This **de-1-out-profile** keyword has an effect when applied to the ingress of a SAP that is part of an Fpipe service. It can also be used on the ingress of an Epipe or VPLS SAP.

The **no** form of this command disables the color profile mode of operation on all SAPs to which this ingress QoS policy is applied.

Default

no de-1-out-profile

Platforms

All

11.32 de-mark

de-mark

Syntax

de-mark [**force** *de-value*]

no demark

Context

[Tree] (config>qos>sap-egress>fc de-mark)

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Full Context

configure qos sap-egress fc de-mark

Description

This command is used to explicitly define the marking of the DE bit for **fc** *fc-name* according to the inplus-profile/in-profile or out-of-profile/exceed-profile status of the packet (*fc-name* may be used to identify the dot1p-value).

If no DE value is present, the default values are used for the marking of the DE bit; for example, 0 for inplus-profile or in-profile packets, 1 for out-of-profile or exceed-profile packets. For more information, refer to the *IEEE 802.1ad-2005 standard*.

In the PBB case, for a Backbone SAP (B-SAP) and for packets originated from a local I-VPLS/PBB-Epipe, the command dictates the marking of the DE bit for both the BVID and ITAG.

If this command is not used, the DE bit should be preserved if an ingress TAG exist; otherwise, set to zero.

If the DE value is included in the command line, this value is to be used for all the packets of this forwarding class regardless of their profile status.

The commands **de-mark-inner** and **de-mark-outer** take precedence over the **de-mark** command if both are specified in the same policy.

Parameters

de-value

Specifies the DE marking value.

Values 0 or 1

Platforms

All

de-mark

Syntax

de-mark [**force** *de-value*]

no de-mark

Context

[Tree] (config>qos>network>egress>fc de-mark)

Full Context

configure qos network egress fc de-mark

Description

This command is used to explicitly define the marking of the DE bit for **fc** *fc-name* according to the inplus-profile or in-profile and out-of-profile or exceed-profile status of the packet (*fc-name* may be used to identify the dot1p value).

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Parameters

de-value

Specifies that this value is to be used for all the packets of this forwarding class regardless of their profile status.

If no DE value is present, the default values are used for the marking of the DE bit; that is, 0 for inplus-profile and in-profile packets, 1 for out-of-profile and exceed-profile packets. For more information, refer to the *IEEE 802.1ad-2005 standard*.

In the PBB case, use the following rules for a network port (B-SDP):

- the outer VID follows the rules for regular SDP
- for packets originating from a local I-VPLS/PBB-Epipe, this command dictates the marking of the DE bit for both the outer (link level) BVID and ITAG; if the command is not used, the DE bit is set to zero.
- for transit packets (B-SAP/B-SDP to B-SDP), the related ITAG bits are preserved, the same as for BVID.

Values 0, 1

Platforms

All

11.33 de-mark-inner

de-mark-inner

Syntax

de-mark-inner [**force** *de-value*]

no de-mark-inner

Context

[Tree] (config>qos>sap-egress>fc de-mark-inner)

Full Context

configure qos sap-egress fc de-mark-inner

Description

This command is used to explicitly define the marking of the DE bit in the inner VLAN tag for **fc** *fc-name* on a QinQ SAP, according to the in- and out-of-profile status of the packet.

If no DE value is present, the default values are used for the marking of the DE bit; for example, 0 for inplus-profile or in-profile packets, 1 for out-of-profile or exceed-profile packets. For more information, refer to the *IEEE 802.1ad-2005 standard*.

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If the DE value is included in the command line, this value is used for all the inner tags of packets of this forwarding class, regardless of their profile status.

This command takes precedence over the **de-mark** command if both are specified in the same policy and over the default action.

The configuration of **qinq-mark-top-only** under the SAP egress takes precedence over the use of the **de-mark-inner** in the policy. That is, the inner VLAN tag is not remarked when **qinq-mark-top-only** is configured (the marking used for the inner VLAN tag is based on the current default, which is governed by the marking of the packet received at the ingress to the system).

If no de-mark commands are used, the DE bit is preserved if an ingress inner tag exists; otherwise, set to 0.

Remarking the inner DE bit is not supported based on the profile result of egress policing.

Parameters

de-value

Specifies the DE marking value.

Values 0 or 1

Platforms

All

11.34 de-mark-outer

de-mark-outer

Syntax

de-mark-outer [**force** *de-value*]

no de-mark-outer

Context

[Tree] (config>qos>sap-egress>fc de-mark-outer)

Full Context

configure qos sap-egress fc de-mark-outer

Description

This command is used to explicitly define the marking of the DE bit in the outer or single VLAN tag on a qinq or dot1q SAP, respectively, according to the in, out, or exceed-profile status of the packet.

If no DE value is present, the default values are used for the marking of the DE bit; for example, 0 for inplus-profile/in-profile packets, 1 for out-of-profile/exceed-profile packets. For more information, refer to the *IEEE 802.1ad-2005 standard*.

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If the DE value is included in the command line, this value is used for all the outer or single tags of packets of this forwarding class, regardless of their profile status.

In the PBB case, for a Backbone SAP (B-SAP) and for packets originated from a local I-VPLS/PBB-Epipe, the command dictates the marking of the DE bit for both the BVID and ITAG.

This command takes precedence over the **de-mark** command if both are specified in the same policy and over the default action.

If no de-mark commands are used, the DE bit is preserved if an ingress outer or single tag exists; otherwise, set to 0.

Parameters

de-value

Specifies the DE marking value.

Values 0 or 1

Platforms

All

11.35 dead-interval

dead-interval

Syntax

dead-interval *seconds*

no dead-interval

Context

[Tree] (config>service>vprn>ospf>area>virtual-link dead-interval)

[Tree] (config>service>vprn>ospf>area>if dead-interval)

[Tree] (config>service>vprn>ospf>area>sham-link dead-interval)

[Tree] (config>service>vprn>ospf3>area>virtual-link dead-interval)

[Tree] (config>service>vprn>ospf3>area>if dead-interval)

Full Context

configure service vprn ospf area virtual-link dead-interval

configure service vprn ospf area interface dead-interval

configure service vprn ospf area sham-link dead-interval

configure service vprn ospf3 area virtual-link dead-interval

configure service vprn ospf3 area interface dead-interval

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Description

This command configures the time, in seconds, that OSPF waits before declaring a neighbor router down. If no Hello packets are received from a neighbor for the duration of the dead interval, the router is assumed to be down. The minimum interval must be two times the Hello interval.

The **no** form of this command reverts to the default value.

Default

dead-interval 40

Parameters

seconds

The dead interval expressed as a decimal integer.

Values 2 to 65535 seconds

Platforms

All

dead-interval

Syntax

dead-interval *seconds*

no dead-interval

Context

[Tree] (config>router>ospf3>area>virtual-link dead-interval)

[Tree] (config>router>ospf>area>interface dead-interval)

[Tree] (config>router>ospf3>area>interface dead-interval)

[Tree] (config>router>ospf>area>virtual-link dead-interval)

Full Context

configure router ospf3 area virtual-link dead-interval

configure router ospf area interface dead-interval

configure router ospf3 area interface dead-interval

configure router ospf area virtual-link dead-interval

Description

This command configures the time, in seconds, that OSPF waits before declaring a neighbor router down. If no hello packets are received from a neighbor for the duration of the dead interval, the router is assumed to be down. The minimum interval must be two times the hello interval.

The **no** form of this command reverts to the default value.

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Default

dead-interval 40

Parameters

seconds

The dead interval expressed in seconds.

Values 2 to 65535

Platforms

All

11.36 dead-timer

dead-timer

Syntax

dead-timer *seconds*

no dead-timer

Context

[Tree] (config>router>pcep>pcc dead-timer)

[Tree] (config>router>pcep>pce dead-timer)

Full Context

configure router pcep pcc dead-timer

configure router pcep pce dead-timer

Description

This command configures the PCEP session dead timer value, which is the amount of time a PCEP speaker (PCC or PCE) will wait after the receipt of the last PCEP message before declaring its peer down.

The keep-alive mechanism is asymmetric, meaning that each PCEP speaker can propose a different dead timer value to its peer to use to detect session timeout.

The **no** form of the command returns the dead timer to the default value.

Default

dead-timer 120

Parameters

seconds

the dead timer value, in seconds

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Values 1 to 255

Platforms

All

- configure router pcep pcc dead-timer

VSR-NRC

- configure router pcep pce dead-timer

11.37 debounce

debounce

Syntax

[**no**] **debounce**

Context

[Tree] (config>redundancy>mc>peer>mc>l3-ring>in-band-control-path debounce)

[Tree] (config>redundancy>mc>peer>mcr>ring>in-band-control-path debounce)

Full Context

configure redundancy multi-chassis peer multi-chassis l3-ring in-band-control-path debounce

configure redundancy multi-chassis peer mc-ring ring in-band-control-path debounce

Description

This command enables the inband control path debouncing. The **no** form of this command disables inband control path debouncing.

The **no** form of this command reverts to the default.

Default

debounce

Platforms

All

debounce

Syntax

debounce *occurrences* [**within** *seconds*]

no debounce

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Context

[Tree] (config>log>event-trigger>event>trigger-entry debounce)

Full Context

configure log event-trigger event trigger-entry debounce

Description

This command configures when to trigger, for example after one or more event occurrences. The number of occurrences of an event can be bounded by a time window or left open.

The **no** form of this command removes the debounce configuration.

Parameters

occurrences

Specifies the number of times an event must occur for EHS to trigger a response.

Values 2 to 15

within *seconds*

Specifies the time window within which a specific event must occur a number of times equivalent to the specified *occurrences* for EHS to trigger a response.

Values 1 to 604800

Platforms

All

11.38 debug

debug

Syntax

debug

Context

[Tree] (debug)

Full Context

debug

Description

Commands in this context specify debugging options.

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Platforms

All

11.39 debug-output

debug-output

Syntax

[**no**] **debug-output**

Context

[Tree] (config>call-trace>trace-profile debug-output)

Full Context

configure call-trace trace-profile debug-output

Description

This command enables output to the debug log. Traced messages are decoded as text and sent to debug logging. This allows for real-time debugging but is not recommended on live systems because of the decode overhead.

This command disables logging to the compact flash. The **debug-output** and **live-output** commands are mutually exclusive.

The **no** form of this command disables output to the debug log.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.40 debug-save

debug-save

Syntax

debug-save [*file-url*]

Context

[Tree] (admin debug-save)

Full Context

admin debug-save

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Description

This command saves existing debug configuration (configuration done under the debug branch of CLI). Debug configurations are not saved by the **admin save** command and not preserved across a node reboot or CPM switchover. The **debug-save** command makes the debug configuration available for the operator to execute after a reboot by using the **exec** command or after a CPM switchover by using the **switchover-exec** command, if desired.

Parameters

file-url

Specifies the file URL location to save the debug configuration. If no file-url is specified then the debug configuration is saved at the same location as the standard configuration file (**bof>primary-config**/**bof>secondary-config**/**bof>tertiary-config**) with the same file name as the standard configuration file but with a .dbg suffix.

Note:
IPv6-address applies only to 7750 SR and 7950 XRS.

Values

file url	local-url | remote-url: 255 chars max
local-url	[*cflash-id*/][*file-path*] 200 chars max, including cflash-id *file-path* 199 chars max
remote-url	[{ftp:// | tftp://}*login*:*pswd*@*remote-locn*/][*file-path*]
	255 chars max
	directory length 99 chars max each
remote-locn	{hostname | ipv4-address | [ipv6-address]}
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

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11.41 decrypt-key

decrypt-key

Syntax

decrypt-key *key* | *hash-key* | *hash2-key* [**hash** | **hash2** | **custom**]

no decrypt-key

Context

[Tree] (config>app-assure>group>url-list decrypt-key)

Full Context

configure application-assurance group url-list decrypt-key

Description

In case the file is encrypted this command is used to configure the decryption key used to read the file.

The **no** form of this command removes the url-list object.

Default

no decrypt-key

Parameters

key* | *hash-key* | *hash2-key

Specifies the Application-Assurance url-list decryption key.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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11.42 def-app-profile

def-app-profile

Syntax

def-app-profile *app-profile-name*

no def-app-profile

Context

[Tree] (config>service>ies>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-app-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt def-app-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-app-profile)

[Tree] (config>service>vpls>sap>sub-sla-mgmt def-app-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt def-app-profile)

[Tree] (config>subscriber-mgmt>msap-policy>sub-sla-mgmt def-app-profile)

Full Context

configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-app-profile

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt def-app-profile

configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-app-profile

configure service vpls sap sub-sla-mgmt def-app-profile

configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-app-profile

configure subscriber-mgmt msap-policy sub-sla-mgmt def-app-profile

Description

This command specifies the default application profile to be used by a subscriber host.

The **no** form of this command removes the application profile name from the configuration.

Parameters

app-profile-name

Specifies an existing application profile to be mapped to the subscriber profile by default up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-app-profile
- configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-app-profile

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7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt msap-policy sub-sla-mgmt def-app-profile
- configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-app-profile
- configure service vpls sap sub-sla-mgmt def-app-profile
- configure service vprn subscriber-interface group-interface sap sub-sla-mgmt def-app-profile

def-app-profile

Syntax

def-app-profile *profile-name*

no def-app-profile

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm def-app-profile)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm def-app-profile)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt def-app-profile

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt def-app-profile

Description

This command configures the default application profile.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

def-app-profile

Syntax

def-app-profile *app-profile-name*

no def-app-profile

Context

[Tree] (config>app-assure>group>transit-ip-policy def-app-profile)

Full Context

configure application-assurance group transit-ip-policy def-app-profile

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Description

This command configures a default application profile.

Default

no def-app-profile

Parameters

app-profile-name

Specifies the application profile name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.43 def-instance-sharing

def-instance-sharing

Syntax

def-instance-sharing {**per-sap** | **per-session**}

Context

[Tree] (config>subscr-mgmt>sla-prof def-instance-sharing)

Full Context

configure subscriber-mgmt sla-profile def-instance-sharing

Description

This command configures the default SLA Profile Instance (SPI) sharing method used for IPoE and PPPoE sessions from the same subscriber, associated with the same SLA profile, and active on the same SAP. The default SPI sharing method can be overwritten per session at initial authentication or mid-session.

Default

def-instance-sharing per-sap

Parameters

per-sap

Specifies that the IPoE and PPP sessions share an SPI.

per-session

Specifies that the IPoE or PPP sessions obtain a dedicated SPI per session.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.44 def-inter-dest-id

def-inter-dest-id

Syntax

def-inter-dest-id string *string*

def-inter-dest-id {**use-top-q**}

no def-inter-dest-id

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt def-inter-dest-id)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt def-inter-dest-id)

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt def-inter-dest-id)

Full Context

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt def-inter-dest-id

configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-inter-dest-id

configure subscriber-mgmt msap-policy sub-sla-mgmt def-inter-dest-id

Description

This command specifies a default destination string for all subscribers associated with the SAP. The command also accepts the **use-top-q** flag that automatically derives the string based on the top most delineating Dot1Q tag from the SAP's encapsulation.

The **no** form of this command removes the default subscriber identification string from the configuration.

Parameters

string

A RADIUS VSA (Alc-Int-Dest-Id-Str, type 28) obtained during the subscriber authentication phase contains the destination string name that is matched against the string defined under the Vport. In this fashion the subscriber host is associated with the corresponding Vport.

Alternatively, the destination string can be defined in LUDB.

use-top-q

This is applicable only to Ethernet ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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def-inter-dest-id

Syntax

def-inter-dest-id {**string** *string* | **use-top-q**}

no def-inter-dest-id

Context

[Tree] (config>service>vpls>sap>sub-sla-mgmt def-inter-dest-id)

Full Context

configure service vpls sap sub-sla-mgmt def-inter-dest-id

Description

This command specifies a default destination string for all subscribers associated with the SAP. The command also accepts the **use-top-q** flag that automatically derives the string based on the top most delineating Dot1Q tag from the SAP's encapsulation.

The **no** form of this command removes the default subscriber identification string from the configuration.

no def-sub-id

Default

no def-inter-dest-id

Parameters

use-top-q

Specifies to derive the string based on the top most delineating Dot1Q tag from the SAP's encapsulation

string *string*

Specifies the subscriber identification applicable for a subscriber host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.45 def-recv-evpn-encap

def-recv-evpn-encap

Syntax

def-recv-evpn-encap {**mpls** | **vxlan**}

no def-recv-evpn-encap

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Context

[Tree] (config>router>bgp>group def-recv-evpn-encap)

[Tree] (config>router>bgp>group>neighbor def-recv-evpn-encap)

Full Context

configure router bgp group def-recv-evpn-encap

configure router bgp group neighbor def-recv-evpn-encap

Description

This command defines how the BGP will treat a received EVPN route without RC5512 BGP encapsulation extended community. If no encapsulation is received, BGP will validate the route as MPLS or VXLAN depending on how this command is configured.

Default

no def-recv-evpn-encap

Parameters

mpls

Specifies that **mpls** is the default encapsulation value in the case where no RFC 5512 extended community is received in the incoming BGP-EVPN route.

vxlan

Specifies that **vxlan** is the default encapsulation value.

Platforms

All

11.46 def-sla-profile

def-sla-profile

Syntax

def-sla-profile *default-sla-profile-name*

no def-sla-profile

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt def-sla-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt def-sla-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt def-sla-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-sla-profile)

[Tree] (config>service>vpls>sap>sub-sla-mgmt def-sla-profile)

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[Tree] (config>service>ies>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-sla-profile)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt def-sla-profile

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt def-sla-profile

configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-sla-profile

configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sla-profile

configure service vpls sap sub-sla-mgmt def-sla-profile

configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sla-profile

Description

This command specifies a default SLA profile for this SAP. The SLA profile must be defined prior to associating the profile with a SAP in the config>subscr-mgmt>sla-profile context.

If a subscriber is not explicitly associated with an SLA profile during the authentication phase, a default profile will be assigned to it.

The **no** form of this command removes the default SLA profile from the SAP configuration.

Parameters

default-sla-profile-name

Specifies a default SLA profile for this SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-sla-profile
- configure service vprn subscriber-interface group-interface sap sub-sla-mgmt def-sla-profile
- configure subscriber-mgmt msap-policy sub-sla-mgmt def-sla-profile
- configure service vpls sap sub-sla-mgmt def-sla-profile

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sla-profile
- configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sla-profile

11.47 def-sub-id

def-sub-id

Syntax

def-sub-id use-auto-id

def-sub-id use-sap-id

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def-sub-id string *sub-id*

no def-sub-id

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt def-sub-id)

[Tree] (config>service>vpls>sap>sub-sla-mgmt def-sub-id)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt def-sub-id)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt def-sub-id)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt def-sub-id

configure service vpls sap sub-sla-mgmt def-sub-id

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt def-sub-id

configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-sub-id

Description

This command specifies the explicit default sub-id for dynamic subscriber hosts (including ARP hosts) in case that the sub-id string is not supplied through RADIUS or LUDB.

The sub-id is assigned to a new subscriber host in the following order of priority:

- RADIUS
- LUDB
- Explicit default – The **def-sub-id** command is used to explicitly set the *sub-id* name of the host as one of the following:
  - The SAP ID to which the new host is associated
  - An explicit string
  - An auto-generated string consisting of the concatenated subscriber identification fields defined under the **subscr-mgmt**>**auto-sub-id-key** node. The fields are taken in the order in which they are configured and are separated by a '|'character. The subscriber host identification fields are separately defined for IPoE and PPPoE host types.
- Implicit default – If the sub-id string is not returned via RADIUS or LUDB and there is no def-sub-id configured, the *sub-id* name is generated as a random 10 character encoded string based on the auto-sub-id-keys. This 10 characters encoded string is unique per chassis as well as in dual-homed environment. It is generated based on auto-sub-id-keys. If auto-sub-id-keys are not explicitly configured, the default ones are:
  - mac, sap-id, or session-id for PPP type hosts
  - mac or sap-id for IPoE type hosts.

This command does not apply to static subscribers.

The **no** form of this command reverts to the default.

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Parameters

use-sap-id

Specifies the sub-id name-id on which the original request for host creation arrived (DHCP Discover, or PADI or ARP Request).

sub-id

Explicitly configured sub-id name up to 32 characters.

use-auto-id

Specifies the concatenated string of auto-sub-id-keys separated by a "| " character.

Default no def-sub-id

Implicit default If the *sub-id string* is not supplied through RADIUS, LUDB, or **def-sub-id** configuration, then a random 10 character encoded sub-id name is generated. This random sub-id name is based on the subscriber identification keys defined under the **subscr-mgmt**>**auto-sub-id-key** node. In case that the auto-sub-id-keys are not defined explicitly, the default ones are:

- mac, sap-id, or session-id for PPPoE type hosts
- mac or sap-id for IPoE type hosts

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

def-sub-id

Syntax

def-sub-id string *sub-id*

def-sub-id use-auto-id

no def-sub-id

Context

[Tree] (config>service>ies>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-sub-id)

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-sub-id)

Full Context

configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sub-id

configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sub-id

Description

This command configures the default subscriber ID. The default is used if no other source (like RADIUS) provides a subscriber identification string.

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Parameters

sub-id

Specifies the default subscriber identification up to 32 characters.

use-auto-id

Specifies that the auto-generated subscriber identification string, is used as the default subscriber identification string.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.48 def-sub-profile

def-sub-profile

Syntax

def-sub-profile *default-subscriber-profile-name*

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt def-sub-profile)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt def-sub-profile

Description

This command specifies a default subscriber profile for an MSAP.

A subscriber profile defines the aggregate QoS for all hosts within a subscriber context. This is done through the definition of the egress and ingress scheduler policies that govern the aggregate SLA for subscriber using the subscriber profile.

The **no** form of this command removes the default SLA profile from the SAP configuration.

Parameters

default-sub-profile

Specifies a default subscriber profile for this SAP up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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def-sub-profile

Syntax

def-sub-profile *default-subscriber-profile-name*

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-sub-profile)

[Tree] (config>service>ies>if>sap>sub-sla-mgmt def-sub-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt def-sub-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap-parameters>sub-sla-mgmt def-sub-profile)

Full Context

configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sub-profile

configure service ies interface sap sub-sla-mgmt def-sub-profile

configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-sub-profile

configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sub-profile

Description

This command specifies a default subscriber profile for this SAP. The subscriber profile must be defined prior to associating the profile with a SAP in the **config>subscr-mgmt>sub-profile** context.

A subscriber profile defines the aggregate QoS for all hosts within a subscriber context. This is done through the definition of the egress and ingress scheduler policies that govern the aggregate SLA for subscriber using the subscriber profile. Subscriber profiles also allow for specific SLA profile definitions when the default definitions from the subscriber identification policy must be overridden.

The **no** form of this command removes the default SLA profile from the SAP configuration.

Parameters

default-sub-profile

Specifies a default subscriber profile for this SAP. The subscriber profile must be defined prior to associating the profile with a SAP in the **config>subscr-mgmt>sub-profile** context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sub-profile
- configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt def-sub-profile

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap sub-sla-mgmt def-sub-profile

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def-sub-profile

Syntax

def-sub-profile *default-subscriber-profile-name*

Context

[Tree] (config>service>vpls>sap>sub-sla-mgmt def-sub-profile)

Full Context

configure service vpls sap sub-sla-mgmt def-sub-profile

Description

This command specifies a default subscriber profile for this SAP. The subscriber profile must be defined prior to associating the profile with a SAP in the **config>subscr-mgmt>sub-profile** context.

A subscriber profile defines the aggregate QoS for all hosts within a subscriber context. This is done through the definition of the egress and ingress scheduler policies that govern the aggregate SLA for subscriber using the subscriber profile. Subscriber profiles also allow for specific SLA profile definitions when the default definitions from the subscriber identification policy must be overridden.

The **no** form of this command removes the default SLA profile from the SAP configuration.

Parameters

default-sub-profile

Specifies a default subscriber profile for this SAP. The subscriber profile must be defined prior to associating the profile with a SAP in the **config>subscr-mgmt>sub-profile** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.49 default

default

Syntax

[**no**] **default**

Context

[Tree] (config>log>accounting-policy default)

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Full Context

configure log accounting-policy default

Description

This command configures the default accounting policy to be used with all SAPs that do not have an accounting policy.

If no access accounting policy is defined on a SAP, accounting records are produced in accordance with the default access policy. If no default access policy is created, then no accounting records will be collected other than the records for the accounting policies that are explicitly configured.

If no network accounting policy is defined on a network port, accounting records will be produced in accordance with the default network policy. If no network default policy is created, then no accounting records will be collected other than the records for the accounting policies explicitly configured.

Only one access accounting policy ID can be designated as the default access policy. Likewise, only one network accounting policy ID can be designated as the default network accounting policy.

The record name must be specified prior to assigning an accounting policy as default.

If a policy is configured as the default policy, then a **no default** command must be issued before a new default policy can be configured.

The **no** form of this command removes the default policy designation from the policy ID. The accounting policy will be removed from all SAPs or network ports that do not have this policy explicitly defined.

Platforms

All

11.50 default-accounting-server-policy

default-accounting-server-policy

Syntax

default-accounting-server-policy *policy-name*

no default-accounting-server-policy

Context

[Tree] (config>service>vprn>radius-proxy>server default-accounting-server-policy)

[Tree] (config>router>radius-proxy>server default-accounting-server-policy)

Full Context

configure service vprn radius-proxy server default-accounting-server-policy

configure router radius-proxy server default-accounting-server-policy

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Description

This command specifies the default radius-server-policy for RADIUS accounting. This policy is used when there is no specific match based on username.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the name of the default RADIUS server policy associated with this RADIUS Proxy server for accounting purposes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.51 default-action

default-action

Syntax

default-action {**bypass-host-creation** | **drop**}

no default-action

Context

[Tree] (config>filter>dhcp-filter default-action)

Full Context

configure filter dhcp-filter default-action

Description

This command specifies the default action for DHCP filters when no entries match.

The **no** form of this command reverts to the default.

Parameters

bypass-host-creation

Specifies to bypass ESM host creation options.

drop

Specifies to drop and not process the DHCP message.

Platforms

All

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default-action

Syntax

default-action bypass-host-creation [**na**] [**pd**]

default-action bypass-host-authentication

default-action drop

no default-action

Context

[Tree] (config>filter>dhcp6-filter default-action)

Full Context

configure filter dhcp6-filter default-action

Description

This command specifies the default action for DHCP6 filters when no entries match.

The bypass action either bypasses both host authentication and ESM creation completely or bypasses host authentication and creation from a DHCPv6 solicit message. Bypassing the DHCPv6 solicit message can delay the host authentication and creation until the DHCPv6 request message.

The **no** form of this command removes the configured default action.

Parameters

bypass-host-creation

Specifies to bypass ESM host creation options.

Values **na** — Bypasses the DHCP NA hosts creation.

pd — Bypasses the DHCP PD hosts creation.

bypass-host-authentication

Specifies that the router bypasses host authentication for both NA and PD hosts and should always be used with bypass host creation.

Note: This filter rule is not supported for MSAP and IPoE sessions.

drop

Specifies that the DHCP6 message is dropped and not processed.

Platforms

All

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default-action

Syntax

default-action {**drop** | **forward**}

no default-action

Context

[Tree] (config>subscr-mgmt>isa-filter default-action)

[Tree] (config>subscr-mgmt>isa-filter>ipv6 default-action)

Full Context

configure subscriber-mgmt isa-filter default-action

configure subscriber-mgmt isa-filter ipv6 default-action

Description

This command specifies what should happen to packets that do not match any of the configured entries.

The **no** form of this command reverts to the default value.

Default

default-action drop

Parameters

drop

Specifies that packets matching the filter entry are dropped.

forward

Specifies that packets matching the filter entry are forwarded.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action {**block** | **allow**}

Context

[Tree] (config>service>mrp>mrp-policy default-action)

Full Context

configure service mrp mrp-policy default-action

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Description

This command specifies the action to be applied to the MMRP attributes (Group B-MACs) whose ISIDs do not match the specified criteria in all of the entries of the mrp-policy.

When multiple **default-action** commands are entered, the last command will overwrite the previous command.

Default

default-action allow

Parameters

block

Specifies that all MMRP attributes will not be declared or registered unless there is a specific mrp-policy entry which causes them to be allowed on this SAP or SDP.

allow

Specifies that all MMRP attributes will be declared and registered unless there is a specific mrp-policy entry which causes them to be blocked on this SAP or SDP.

Platforms

All

default-action

Syntax

default-action {**drop** | **forward**}

no default-action

Context

[Tree] (config>service>vprn>log>filter default-action)

Full Context

configure service vprn log filter default-action

Description

The default action specifies the action that is applied to events when no action is specified in the event filter entries or when an event does not match the specified criteria.

When multiple **default-action** commands are entered, the last command overwrites the previous command.

The **no** form of this command reverts the default action to the default value (forward).

Default

default-action forward — The events which are not explicitly dropped by an event filter match are forwarded.

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Parameters

drop

The events which are not explicitly forwarded by an event filter match are dropped.

forward

The events which are not explicitly dropped by an event filter match are forwarded.

Platforms

All

default-action

Syntax

default-action {**permit** | **deny**} [**event-log** *event-log-name*]

Context

[Tree] (config>app-assure>group>sess-fltr default-action)

Full Context

configure application-assurance group session-filter default-action

Description

This command specifies the default action to take for packets that do not match any filter entries.

The **no** form of this command reverts the default action to the default value (forward).

Default

default-action deny

Parameters

deny

Indicates that packets matching the criteria are denied.

permit

Indicates that packets matching the criteria are permitted.

event-log-name

Specifies the event log name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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default-action

Syntax

default-action direction *direction* [**create**]

no default-action direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg default-action)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type default-action

Description

This command configures a TCA for the counter capturing hits for the specified GTP filter default action. A default action TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action direction *direction* [**create**]

no default-action direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg-gtpv2 default-action)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type-gtpv2 default-action

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Description

This command configures a TCA for the counter capturing hits due to the default action specified for the GTPv2 message type filter. A default action TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action direction *direction* [**create**]

no default-action direction *direction*

Context

[Tree] (config>app-assure>group>stats>tca>gtp-fltr>imsi-apn-filter default-action)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter imsi-apn-filter default-action

Description

This command configures a TCA for the counter capturing hits for the specified GTP IMSI-APN filter default action. A default action TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action direction *direction* [**create**]

Context

[Tree] (config>app-assure>group>statistics>tca>sctp-fltr>ppid default-action)

Full Context

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid default-action

Description

This command configures a TCA for the counter capturing hits for the specified SCTP filter default PPID. A default action TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action direction *direction* [**create**]

no default-action direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>session-filter default-action)

Full Context

configure application-assurance group statistics threshold-crossing-alert session-filter default-action

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Description

This command configures a TCA for the counter capturing hits for the specified session filter default action. A default action TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action {**permit** | **deny**}

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>imsi-apn-fltr default-action)

Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter default-action

Description

This command configures the default action for the IMSI-APN filter.

Default

default-action permit

Parameters

permit

Specifies to permit packets that do not match any message entries.

deny

Specifies to deny packets that do not match any message entries.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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default-action

Syntax

default-action {**permit** | **deny**}

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>msg-gtpv2 default-action)

[Tree] (config>app-assure>group>gtp>gtp-fltr>msg default-action)

Full Context

configure application-assurance group gtp gtp-filter message-type-gtpv2 default-action

configure application-assurance group gtp gtp-filter message-type default-action

Description

This command configures the default action for all GTP message types.

Default

default-action permit

Parameters

permit

Specifies to permit packets that do not match any message entries.

deny

Specifies to deny packets that do not match any message entries.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action {**permit** | **deny**}

Context

[Tree] (config>app-assure>group>sctp-fltr>ppid default-action)

Full Context

configure application-assurance group sctp-filter ppid default-action

Description

This command configures the default action for all SCTP PPIDs.

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Default

default-action permit

Parameters

permit

Specifies to permit packets that do not match any PPID entries.

deny

Specifies to deny packets that do not match any PPID entries.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action {**dnat** | **forward**} [**ip-address** *ip-address*]

Context

[Tree] (config>service>nat>nat-classifier default-action)

Full Context

configure service nat nat-classifier default-action

Description

This command specifies the default action to take for packets in this nat-classifier. The default-action will apply to packet that do not match any configured criteria within nat-classifier. The **no** form of this command equals action forward.

Default

default-action forward

Parameters

dnat

Performs the DNAT function. The destination IP address of the packet traversing the router in the direction from inside to outside is replaced by the configured IP address. Destination port is not translated. In the opposite direction (from outside to inside), the source address in the returning packet is restored to the original value.

forward

The forward action will ensure that the packet is transparently passed through the nat-classifier.

ip-address *ip-address*

The destination IP address that will replace the original IP address in the packet traveling from inside to outside.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action {**accept** | **discard**}

Context

[Tree] (config>router>mcac>policy default-action)

Full Context

configure router mcac policy default-action

Description

This command specifies the action to be applied to multicast streams (channels) when the streams do not match any of the multicast addresses defined in the MCAC policy.

When multiple default-action commands are entered, the last command will overwrite the previous command.

Default

default-action discard

Parameters

accept

Specifies multicast streams (channels) not defined in the MCAC policy will be accepted.

discard

Specifies multicast streams (channels) not defined in the MCAC policy will be dropped.

Platforms

All

default-action

Syntax

default-action fc *fc-name* **profile** {**in** | **out**}

Context

[Tree] (config>qos>network>ingress default-action)

Full Context

configure qos network ingress default-action

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Description

This command defines or edits the default action to be taken for packets that have an undefined DSCP or MPLS EXP bit set. The **default-action** command specifies the forwarding class to which such packets are assigned.

Multiple default-action commands will overwrite each previous default-action command.

Default

default-action fc be profile out

Parameters

fc-name

Specifies the forwarding class name. All packets with DSCP value or MPLS EXP or dot1p bits that are not defined will be placed in this forwarding class.

Values be, l2, af, l1, h2, ef, h1, nc

profile {in | out}

All packets that are assigned to this forwarding class will be considered in-profile or out-of-profile based on this command. In case of congestion, the in-profile packets are preferentially queued over the out-of-profile packets.

Values in, out

Platforms

All

default-action

Syntax

default-action {**drop** | **forward**}

Context

[Tree] (config>filter>ip-filter default-action)

[Tree] (config>filter>ipv6-filter default-action)

[Tree] (config>filter>mac-filter default-action)

Full Context

configure filter ip-filter default-action

configure filter ipv6-filter default-action

configure filter mac-filter default-action

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Description

This command defines the default action to be applied to packets not matching any entry in this ACL filter policy or to packets for that match a PBF/PBR filter entry for which the PBF/PBR target is down and **pbr-down-action-override** per-entry is set to **filter-default-action**.

Default

default-action drop

Parameters

drop

Specifies the default action is to drop a packet.

forward

Specifies the default action is to forward a packet.

Platforms

All

default-action

Syntax

default-action {**drop** | **forward**}

no default-action

Context

[Tree] (config>log>filter default-action)

Full Context

configure log filter default-action

Description

The default action specifies the action that is applied to events when no action is specified in the event filter entries or when an event does not match the specified criteria.

When multiple **default-action** commands are entered, the last command overwrites the previous command.

The **no** form of this command reverts the default action to the default value (forward).

Default

default-action forward

Parameters

drop

The events which are not explicitly forwarded by an event filter match are dropped.

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forward

The events which are not explicitly dropped by an event filter match are forwarded.

Platforms

All

default-action

Syntax

default-action {**permit** | **deny** | **deny-host-unreachable**}

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter default-action)

[Tree] (config>system>security>mgmt-access-filter>ip-filter default-action)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter default-action)

Full Context

configure system security management-access-filter mac-filter default-action

configure system security management-access-filter ip-filter default-action

configure system security management-access-filter ipv6-filter default-action

Description

This command creates the default action for management access in the absence of a specific management access filter match.

The **default-action** is applied to a packet that does not satisfy any match criteria in any of the management access filters. Whenever management access filters are configured, the **default-action** must be defined.

Parameters

permit

Specifies that packets not matching the configured selection criteria in any of the filter entries will be permitted.

deny

Specifies that packets not matching the selection criteria be denied and that an ICMP host unreachable message will not be issued.

deny-host-unreachable

Specifies that packets not matching the selection criteria be denied access and that an ICMP host unreachable message will be issued.

The **deny-host-unreachable** only applies to ip-filter and ipv6filter.

Platforms

All

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default-action

Syntax

default-action {**accept** | **drop**}

Context

[Tree] (config>system>security>cpm-filter default-action)

Full Context

configure system security cpm-filter default-action

Description

This command specifies the action to take on the traffic when there are no filter entry matches. If there are no filter entries defined, the packets received are either dropped or forwarded based on that default action.

Default

default-action accept

Parameters

accept

Specifies that packets matching the filter entry are forwarded.

drop

Specifies that packets matching the filter entry are dropped.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

default-action

Syntax

default-action {**deny-all** | **permit-all** | **none** | **read-only-all**}

Context

[Tree] (config>system>security>profile default-action)

Full Context

configure system security profile default-action

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Description

This command specifies the default action to be applied when no match conditions are met in the list of **profile entry match** commands. It does not apply other parts of the profile such as **grpc rpc-authorization** or **netconf base-op-authorization**.

When a user is a member of multiple profiles, profiles are evaluated in the order that they are configured. Evaluation stops if there is a match, or when the default action of the profile is **deny-all**, **permit-all**, or **read-only-all**. When the profile default action is **none** and if no match conditions are met in the profile, the next profile is evaluated. When the default action of the last profile is **none** and no explicit match is found, the command is denied.

Default

default-action none

Parameters

deny-all

Sets the default of the profile to deny access to all commands.

permit-all

Sets the default of the profile to permit access to all commands.

Note:
In classic CLI but not in MD-CLI the **permit-all** parameter does not change access to **security** commands. Specific entries must be created in a command authorization profile in order to give access to **security** commands. The system populated "administrative" profile contains rules to access **security** commands.

none

Sets the default of the profile to no action. This option is useful to assign multiple profiles to a user.

read-only-all

Sets the default of the profile to allow read-only access to all commands.

Platforms

All

default-action

Syntax

default-action {**accept** | **next-entry** | **next-policy** | **drop** | **reject**}

no default-action

Context

[Tree] (config>router>policy-options>policy-statement default-action)

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Full Context

configure router policy-options policy-statement default-action

Description

Commands in this context configure actions to apply to routes that do not match any entries of a route policy statement.

The **no** form of this command deletes the **default-action** context for the policy statement.

Default

no default-action

Parameters

accept

Specifies that routes not matched by any entry should be allowed or accepted. This parameter provides a context for modifying route properties.

next-entry

Specifies that routes not matched by any entry should be evaluated by the next sequential entry in the policy chain, after route properties are possibly modified by the default action of the current policy.

next-policy

Specifies that routes not matched by any entry should be evaluated by the next sequential policy in the policy chain, after route properties are possibly modified by the default action of the current policy.

drop

Specifies that routes not matched by any entry should be disallowed or rejected. This parameter provides a context for modifying route properties.

reject

Specifies that routes not matched by any entry should be disallowed or rejected. This parameter does not provide a context for modifying route properties.

Platforms

All

default-action

Syntax

default-action allow

default-action block-all

default-action block-http-redirect *http-redirect-name*

no default-action

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Context

[Tree] (config>app-assure>group>url-filter>local-filtering default-action)

[Tree] (config>app-assure>group>url-filter>web-service default-action)

[Tree] (config>app-assure>group>url-filter default-action)

[Tree] (config>app-assure>group>url-filter>icap default-action)

Full Context

configure application-assurance group url-filter local-filtering default-action

configure application-assurance group url-filter web-service default-action

configure application-assurance group url-filter default-action

configure application-assurance group url-filter icap default-action

Description

This command configures a default action for the URL filter. The default action takes effect when the URL filter cannot be used. This may happen in the following scenarios.

- In the case of a local URL list, when the URL list is shutdown or the file is not loaded due to an error.
- In the case of ICAP or web filtering, when all TCP connections are busy or down.

The **no** form of this command removes the **default-action** for the URL filter.

Default

no default-action

Parameters

allow

Specifies to allow traffic.

block-all

Specifies to block traffic.

block-http-redirect ***http-redirect-name***

Specifies to block traffic and redirect the user to an information page, which can be different than the page the user is redirected to when the site they attempted to access was found in the URL filter; this page is configured using the **config**>**aa**>**group**>**url-filter**>**http-redirect** command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

default-action

Syntax

default-action {**deny** | **permit**}

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Context

[Tree] (config>router>l2tp>lac-frag default-action)

[Tree] (config>service>vprn>l2tp>lac-frag default-action)

Full Context

configure router l2tp lac-fragmentation default-action

configure service vprn l2tp lac-fragmentation default-action

Description

This command configures the default action for L2TP sessions.

This setting can be overwritten in the LUDB by using the **configure subscriber-mgmt local-user-db ppp host l2tp lac-fragmentation** command.

Default

default-action deny

Parameters

deny

Keyword that specifies to not perform packet fragmentation for L2TP sessions.

permit

Keyword that specifies to perform packet fragmentation for L2TP sessions.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.52 default-authentication-server-policy

default-authentication-server-policy

Syntax

default-authentication-server-policy *policy-name*

no default-authentication-server-policy

Context

[Tree] (config>router>radius-proxy>server default-authentication-server-policy)

[Tree] (config>service>vprn>radius-proxy>server default-authentication-server-policy)

Full Context

configure router radius-proxy server default-authentication-server-policy

configure service vprn radius-proxy server default-authentication-server-policy

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Description

This command specifies the default radius-server-policy for RADIUS authentication. This policy is used when there is no specific match based on username.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the name of the default RADIUS server policy associated with this RADIUS proxy server for authentication purposes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.53 default-brg-profile

default-brg-profile

Syntax

default-brg-profile *profile-name*

no default-brg-profile

Context

[Tree] (config>service>ies>sub-if>grp-if>brg default-brg-profile)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>brg default-brg-profile)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>brg default-brg-profile)

[Tree] (config>service>vprn>sub-if>grp-if>brg default-brg-profile)

Full Context

configure service ies subscriber-interface group-interface brg default-brg-profile

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg default-brg-profile

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg default-brg-profile

configure service vprn subscriber-interface group-interface brg default-brg-profile

Description

This command indicates that the default BRG profile must be used for new BRGs. This profile can be overridden by RADIUS.

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Parameters

profile-name

Specifies the name of the brg-profile to be applied.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface brg default-brg-profile
- configure service vprn subscriber-interface group-interface brg default-brg-profile

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg default-brg-profile
- configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg default-brg-profile

11.54 default-calltrace-profile

default-calltrace-profile

Syntax

default-calltrace-profile *name*

no default-calltrace-profile

Context

[Tree] (config>subscr-mgmt>pfcp-association default-calltrace-profile)

Full Context

configure subscriber-mgmt pfcp-association default-calltrace-profile

Description

This command configures the default call-trace profile that the BNG-UP uses if the CP enables call trace for a session, but the BNG-UP does not know the signaled profile. If no default is configured and the CP enables call trace with an unknown profile, no trace is started.

The **no** form of this command removes the call-trace profile.

Parameters

name

Specifies the name of the default call-trace profile, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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11.55 default-category-map

default-category-map

Syntax

default-category-map *category-map-name*

no default-category-map

Context

[Tree] (config>subscr-mgmt>credit-control-policy default-category-map)

Full Context

configure subscriber-mgmt credit-control-policy default-category-map

Description

This command configures the default category map.

The **no** form of this command reverts to the default.

Parameters

category-map-name

Specifies the category map name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.56 default-charging-group

default-charging-group

Syntax

default-charging-group *charging-group-name*

no default-charging-group

Context

[Tree] (config>app-assure>group>policy default-charging-group)

Full Context

configure application-assurance group policy default-charging-group

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Description

This command associates a charging group to any applications or app-groups that are not explicitly assigned to a charging group, for an application assurance policy.

The **no** form of this command deletes the default charging group from the configuration.

Default

no default-charging-group

Parameters

charging-group-name

A string of up to 32 characters uniquely identifying an existing charging group in the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.57 default-credit

default-credit

Syntax

default-credit volume *credits* [**bytes** | **kilobytes** | **megabytes** | **gigabytes**]

default-credit time *seconds*

no default-credit

Context

[Tree] (config>subscr-mgmt>cat-map>category default-credit)

Full Context

configure subscriber-mgmt category-map category default-credit

Description

This command configures the default credit values for RADIUS credit control and Diameter Gy application credit control.

For RADIUS credit control, this command configures the default time or volume credit for this category. The default credit is used during initial setup when no quota is received from the RADIUS server.

For Diameter Gy credit control, this command specifies the interim credit assigned to this category (rating group) when Extended Failure Handling (EFH) is enabled. This command is ignored when EFH is disabled.

The **no** form of this command reverts to the default.

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Parameters

volume *credits* [bytes | kilobytes | megabytes | gigabytes]

Specifies the default value for the volume credit and the unit in which the default value is expressed.

Values 1 to 4294967295 (minimum 1 byte)

time *seconds*

Specifies the default value for the time credit, in seconds.

Values 1 to 4294967295 (minimum 1 second)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.58 default-dnat-ip-address

default-dnat-ip-address

Syntax

default-dnat-ip-address *ip-address*

no default-dnat-ip-address

Context

[Tree] (config>service>nat>nat-classifier default-dnat-ip-address)

Full Context

configure service nat nat-classifier default-dnat-ip-address

Description

This command configures the IP address to substitute for the destination IP address of the packets

Default

no default-dnat-ip-address

Parameters

ip-address

Specifies the default DNAP IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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11.59 default-dns

default-dns

Syntax

default-dns *ip-address* [**secondary** *ip-address*]

no default-dns

Context

[Tree] (config>service>ies>sub-if default-dns)

[Tree] (config>service>vprn>sub-if default-dns)

Full Context

configure service ies subscriber-interface default-dns

configure service vprn subscriber-interface default-dns

Description

This command configures last resort IP DNS addresses that can be used for name resolution by IPoE hosts (IA_NA, IA_PD and SLAAC) and PPPoE hosts (IA_NA, IA_PD and SLAAC).

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the IP address of the primary DNS server.

secondary ip-address

Specifies the IP address of the secondary DNS server (optional).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

default-dns

Syntax

default-dns *ipv6-address* [**secondary** *ipv6-address*]

no default-dns

Context

[Tree] (config>service>vprn>sub-if>ipv6 default-dns)

[Tree] (config>service>ies>sub-if>ipv6 default-dns)

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Full Context

configure service vprn subscriber-interface ipv6 default-dns

configure service ies subscriber-interface ipv6 default-dns

Description

This command configures last resort IPv6 DNS addresses that can be used for name resolution by IPoEv6 hosts (IA_NA, IA_PD and SLAAC) and PPPoEv6 hosts (IA_NA, IA_PD and SLAAC).

The **no** form of this command reverts to the default.

Parameters

ipv6-address

Specifies the IPv6 address of the primary DNS server.

secondary ipv6-address

Specifies the IPv6 address of the secondary DNS server (optional).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.60 default-domain

default-domain

Syntax

default-domain *dns-name*

no default-domain

Context

[Tree] (config>service>vprn>dns default-domain)

Full Context

configure service vprn dns default-domain

Description

This command configures the DNS domain name to be added in DNS retries when a DNS query is not replied or an empty DNS reply is received.

The **no** form of this command prevents DNS retries when the DNS query is not replied or an empty DNS reply is received.

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Parameters

dns-name

Specifies the name of the default domain, up to 255 characters. Allowed values for characters are alphabetical (A-Z), numeric (0-9), the minus sign (-), and the period (.). For example, "3gpp-network.org”.

Platforms

All

default-domain

Syntax

default-domain

Context

[Tree] (config>eth-cfm default-domain)

Full Context

configure eth-cfm default-domain

Description

Commands in this context configure MIP creation parameters per index (**bridge-identifier** *bridge-id* **vlan** *vlan-id*) if the MIP creation statement exists as part of the service connection. The mip creation statement must be present on the connection before any configuration can occur for a MIP under this context.
The determining factor for MIP creation is based on the authoritative properties of the **eth-cfm domain association** configuration. The individual indexes in this table are used for MIP creation only when the association context is not authoritative; this includes the lack of association for a matching index.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

11.61 default-fc

default-fc

Syntax

default-fc *fc-name*

no default-fc

Context

[Tree] (config>qos>sap-ingress default-fc)

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Full Context

configure qos sap-ingress default-fc

Description

This command configures the default forwarding class for the policy. If an ingress packet does not match a higher priority (more explicit) classification command, the default forwarding class or subclass if associated with the packet. Unless overridden by an explicit forwarding class classification rule, all packets received on an ingress SAP using this ingress QoS policy are classified to the default forwarding class. Optionally, the default ingress enqueuing priority for the traffic can be overridden as well.

The default forwarding class is best effort (be). The **default-fc** settings are displayed in the **show configuration** and **save** output regardless of inclusion of the **detail** keyword.

Default

default-fc "be”

Parameters

fc-name

Specify the forwarding class name for the queue. The value specified for *fc-name* must be one of the predefined forwarding classes in the system.

The subclass-name parameter is optional and used with the fc-name parameter to define a preexisting subclass. The fc-name and subclass-name parameters must be separated by a period (dot). If subclass-name does not exist in the context of fc -name, an error will occur. If subclass-name is removed using the **no fc** *fc-name.subclass-name* **force** command, the **default-fc** command will automatically drop the *subclass-name* and only use *fc-name* (the parent forwarding class for the subclass) as the forwarding class.

Values

fc: *class*[.*subclass*]

class: be, l2, af, l1, h2, ef, h1, nc

subclass: 29 characters max

Platforms

All

11.62 default-filter-action

default-filter-action

Syntax

default-filter-action *default-action*

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Context

[Tree] (debug>app-assure>group>http-host>filter default-filter-action)

Full Context

debug application-assurance group http-host-recorder filter default-filter-action

Description

This command configures the recorder filter default action to either record or no-record. This parameter applies to http-host values not matching any expressions defined in the filter context.

Parameters

default-action

Specifies the default action.

Values record, no-record

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.63 default-group-interface

default-group-interface

Syntax

default-group-interface *ip-int-name* **service-id** *service-id*

default-group-interface *ip-int-name* **service-name** *svc-name*

no default-group-interface

Context

[Tree] (config>service>vprn>l2tp>group>ppp default-group-interface)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp default-group-interface)

[Tree] (config>router>l2tp>group>tunnel>ppp default-group-interface)

[Tree] (config>router>l2tp>group>ppp default-group-interface)

Full Context

configure service vprn l2tp group ppp default-group-interface

configure service vprn l2tp group tunnel ppp default-group-interface

configure router l2tp group tunnel ppp default-group-interface

configure router l2tp group ppp default-group-interface

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Description

This command configures the group interface where the PPP sessions are established when the authentication server does not specify the group interface.

The **no** form of this command removes the interface name or service ID from the configuration.

Parameters

ip-int-name

Specifies an IP interface name, up to 32 characters.

service-id service-id

Specifies an existing service identification number.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **default-group-interface** *ip-int-name* **service-name** *svc-name* variant can be used in all configuration modes.

Values {*id* | *svc-name*}

id:	1 to 2147483647
svc-name:	up to 64 characters (*svc-name* is an alias for input only. The *svc-name* gets replaced with an id automatically by SR OS in the configuration).

service-name svc-name

Specifies an existing service name up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.64 default-gtp-tunnel-endpoint-limit

default-gtp-tunnel-endpoint-limit

Syntax

default-gtp-tunnel-endpoint-limit direction *direction* [**create**]

no default-gtp-tunnel-endpoint-limit direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter default-gtp-tunnel-endpoint-limit)

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Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter default-gtp-tunnel-endpoint-limit

Description

This command configures a TCA for the counter capturing drops because the GTP endpoint limits create requests exceeding the configured allowed limit (set by the **default-tunnel-endpoint-limit** command). A default-gtp-tunnel-endpoint-limit drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**). The **create** keyword is mandatory when creating a TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.65 default-host

default-host

Syntax

default-host *ipv4-prefix/mask* | *ipv6-prefix/prefix-length* **next-hop** *ipv4-address* | *ipv6-address*

no default-host *ipv4-prefix/mask* | *ipv6-prefix/prefix-length*

Context

[Tree] (config>service>ies>sub-if>grp-if>sap default-host)

[Tree] (config>service>vprn>sub-if>grp-if>sap default-host)

Full Context

configure service ies subscriber-interface group-interface sap default-host

configure service vprn subscriber-interface group-interface sap default-host

Description

This command configures the default-host. More than one default host can be configured per SAP.

The **no** form of this command removes the values from the configuration.

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Parameters

ipv4prefix/prefix-length

Specifies an IPv4 prefix and prefix length.

Values

ipv4-prefix a.b.c.d (host bits must be 0

prefix-length 0 to 32

ipv6-prefix/prefix-length

Specifies an IPv6 prefix and prefix length.

Values

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

prefix-length - [0 to 128]

next-hop

Assigns the next hop IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.66 default-instance

default-instance

Syntax

[**no**] **default-instance**

Context

[Tree] (config>service>vprn>isis>if default-instance)

Full Context

configure service vprn isis interface default-instance

Description

This command enables a non-MI capable router to establish an adjacency and operate with an SR OS in a non-zero instance. If the router does not receive IID-TLVs, it establishes an adjacency in a single instance. Instead of establishing an adjacency in the standard instance 0, the router establishes an adjacency in

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the configured non-zero instance. The router then operates in the configured non-zero instance so that it appears to be in the standard instance 0 to its neighbor. This feature is supported on point-to-point interfaces, broadcast interfaces are not supported.

The **no** form of this command disables the functionality so that the router can only establish adjacencies in the standard instance 0.

Default

no default-instance

Platforms

All

default-instance

Syntax

[**no**] **default-instance**

Context

[Tree] (config>router>isis>interface default-instance)

Full Context

configure router isis interface default-instance

Description

This command enables a non-MI capable router to establish an adjacency and operate with a router in a non-zero instance. If the router does not receive IID-TLVs, it will establish an adjacency in a single instance. Instead of establishing an adjacency in the standard instance 0, the router will establish an adjacency in the configured non-zero instance. The router will then operate in the configured non-zero instance so that it appears to be in the standard instance 0 to its neighbor. This feature is supported on point-to-point interfaces, broadcast interfaces are not supported.

This feature must be configured on the router connected to non-MI capable routers and on all other SR OS routers in the area, so that they receive non-MI LSPs in the correct instance and not in the base instance.

The **no** form of this command disables the functionality so that the router can only establish adjacencies in the standard instance 0.

Default

no default-instance

Platforms

All

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11.67 default-ipv4-multicast-metric

default-ipv4-multicast-metric

Syntax

default-ipv4-multicast-metric *metric*

no default-ipv4-multicast-metric

Context

[Tree] (config>service>vprn>isis>level default-ipv4-multicast-metric)

Full Context

configure service vprn isis level default-ipv4-multicast-metric

Description

This command configures the default metric to be used for the IS-IS interface in the IPv4 multicast topology (MT3).

The **no** form of this command deletes the specified default metric and reverts to using the system default of 10.

Default

default-ipv4-multicast-metric 10

Parameters

metric

Specifies the default metric for interfaces in the IPv4 multicast topology (MT3).

Values 1 to 16777215

Platforms

All

default-ipv4-multicast-metric

Syntax

default-ipv4-multicast-metric *metric*

no default-ipv4-multicast-metric

Context

[Tree] (config>router>isis>level default-ipv4-multicast-metric)

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Full Context

configure router isis level default-ipv4-multicast-metric

Description

This command configures the default metric to be used for the IS-IS interface in the IPv4 multicast topology (MT3).

The **no** form of this command deletes the specified default metric and reverts to using the system default of 10.

Default

default-ipv4-multicast-metric 10

Parameters

metric

Specifies the default metric for interfaces in the IPv4 multicast topology (MT3).

Values 1 to 16777215

Platforms

All

11.68 default-ipv6-multicast-metric

default-ipv6-multicast-metric

Syntax

default-ipv6-multicast-metric *metric*

no default-ipv6-multicast-metric

Context

[Tree] (config>service>vprn>isis>level default-ipv6-multicast-metric)

Full Context

configure service vprn isis level default-ipv6-multicast-metric

Description

This command configures the default metric to be used for the IS-IS interface in the IPv6 multicast topology (MT4).

The **no** form of this command deletes the specified default metric and reverts to using the system default of 10.

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Default

default-ipv6-multicast-metric 10

Parameters

metric

Specifies the default metric for interfaces in the IPv4 multicast topology (MT4).

1 to 16777215

Platforms

All

default-ipv6-multicast-metric

Syntax

default-ipv6-multicast-metric *metric*

no default-ipv6-multicast-metric

Context

[Tree] (config>router>isis>level default-ipv6-multicast-metric)

Full Context

configure router isis level default-ipv6-multicast-metric

Description

This command configures the default metric to be used for the IS-IS interface in the IPv6 multicast topology (MT4).

The **no** form of this command deletes the specified default metric and reverts to using the system default of 10.

Default

default-ipv6-multicast-metric 10

Parameters

metric

Specifies the default metric for interfaces in the IPv4 multicast topology (MT4).

1 to 16777215

Platforms

All

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11.69 default-ipv6-unicast-metric

default-ipv6-unicast-metric

Syntax

default-ipv6-unicast-metric *ipv6 metric*

no default-ipv6-unicast-metric

Context

[Tree] (config>service>vprn>isis>level default-ipv6-unicast-metric)

Full Context

configure service vprn isis level default-ipv6-unicast-metric

Description

This command specifies the default metric for IPv6 unicast.

Default

default-ipv6-unicast-metric 10

Parameters

ipv6-metric

Specifies the default metric for IPv6 unicast.

Values 1 to 16777215

Platforms

All

default-ipv6-unicast-metric

Syntax

default-ipv6-unicast-metric *ipv6 metric*

no default-ipv6-unicast-metric

Context

[Tree] (config>router>isis>level default-ipv6-unicast-metric)

Full Context

configure router isis level default-ipv6-unicast-metric

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Description

This command specifies the default metric for IPv6 unicast.

The **no** form of this command reverts to the default value.

Default

default-ipv6-unicast-metric 10

Parameters

ipv6-metric

Specifies the default metric for IPv6 unicast.

Values 1 to 16777215

Platforms

All

11.70 default-label-preference

default-label-preference

Syntax

default-label-preference [**ebgp** *ebgp label preference*] [**ibgp** *ibgp label preference*]

no default-label-preference

Context

[Tree] (config>router>bgp>group default-label-preference)

[Tree] (config>router>bgp default-label-preference)

[Tree] (config>router>bgp>group>neighbor default-label-preference)

Full Context

configure router bgp group default-label-preference

configure router bgp default-label-preference

configure router bgp group neighbor default-label-preference

Description

This command specifies a route-table preference value to use for EBGP or IBGP routes carrying labeled-unicast prefixes and received from peers covered by the context of the command. Route-table preference comes into play when the route-table has multiple routes for the same IP prefix. In this case the route with the numerically lowest preference value is usually the route that is activated and installed into the IP FIB. By default all BGP routes have a route-table preference value of 170.

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This command overrides the preference value assigned by the **label-preference** command; that other command does not distinguish between EBGP and IBGP routes. Overriding happens even when the default-label-preference value is inherited from a higher level of configuration and competes with an explicitly configured label-preference value at a lower level of configuration in the BGP hierarchy.

Note:
The preference value assigned by the **default-label-preference** command can always be overwritten by a route policy entry that accepts the route with a **preference** command in the action.

The **no** form of the command lets BGP route-table preference for labeled-unicast routes to be controlled by other means.

Default

no default-label-preference

Parameters

ebgp label preference

Specifies the EBGP default preference label value.

Values 0 to 255

ibgp label preference

Specifies the IBGP default preference label value.

Values 0 to 255

Platforms

All

11.71 default-metric

default-metric

Syntax

default-metric *metric*

no default-metric

Context

[Tree] (config>aaa>route-downloader default-metric)

Full Context

configure aaa route-downloader default-metric

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Description

This command sets the default metric that routes imported by the RTM acquires.

The **no** form of this command removes the metric.

Default

default-metric 2

Parameters

metric

Specifies the default metric of the routes imported.

Values 0 to 254

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

default-metric

Syntax

default-metric *ipv4 metric*

no default-metric

Context

[Tree] (config>service>vprn>isis>level default-metric)

Full Context

configure service vprn isis level default-metric

Description

This command specifies the configurable default metric used for all IS-IS interfaces on this level. This value is not used if a metric is configured for an interface.

Default

default-metric 10

Parameters

ipv4 metric

Specifies the default metric for IPv4 unicast.

Values 1 to 16777214

Platforms

All

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default-metric

Syntax

default-metric *metric*

no default-metric

Context

[Tree] (config>service>vprn>ospf3>area>stub default-metric)

[Tree] (config>service>vprn>ospf>area>stub default-metric)

Full Context

configure service vprn ospf3 area stub default-metric

configure service vprn ospf area stub default-metric

Description

This command configures the metric used by the area border router (ABR) for the default route into a stub area. The default metric should only be configured on an ABR of a stub area. An ABR generates a default route if the area is a **stub** area.

The **no** form of this command reverts to the default value.

Default

default-metric 1

Parameters

metric

The metric expressed as a decimal integer for the default route cost to be advertised into the stub area.

Values 1 to 16777214

Platforms

All

default-metric

Syntax

default-metric *ipv4 metric*

no default-metric

Context

[Tree] (config>router>isis>level default-metric)

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Full Context

configure router isis level default-metric

Description

This command specifies the configurable default metric used for all IS-IS interfaces on this level. This value is not used if a metric is configured for an interface.

The **no** form of this command reverts to the default value.

Default

default-metric 10

Parameters

ipv4 metric

Specifies the default metric for IPv4 unicast.

Values 1 to 16777214

Platforms

All

default-metric

Syntax

default-metric *metric*

no default-metric

Context

[Tree] (config>router>ospf>area>stub default-metric)

[Tree] (config>router>ospf3>area>stub default-metric)

Full Context

configure router ospf area stub default-metric

configure router ospf3 area stub default-metric

Description

This command configures the metric used by the area border router (ABR) for the default route into a stub area.

The default metric should only be configured on an ABR of a stub area.

An ABR generates a default route if the area is a **stub** area.

The **no** form of this command reverts to the default value.

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Default

default-metric 1

Parameters

metric

Specifies the metric expressed as a decimal integer for the default route cost to be advertised into the stub area.

Values 1 to 16777214

Platforms

All

11.72 default-msap-policy

default-msap-policy

Syntax

default-msap-policy *policy-name*

no default-msap-policy

Context

[Tree] (config>service>vpls>sap default-msap-policy)

Full Context

configure service vpls sap default-msap-policy

Description

This command specifies the default managed SAP policy to use to create MSAPs when the response from the RADIUS server does not specify a managed SAP policy.

The *policy-name* parameter is only valid for a SAP with the keywords **capture-sap** specified in the SAP's configuration. The **capture-sap** keyword in the SAP configuration captures the SAP where triggering packets is sent to the CPM. Non-triggering packets captured by the capture SAP is dropped.

The managed SAP policy must already be defined in the **config>subscr-mgmt>msap-policy** context.

The **no** form of this command removes the policy-name from the configuration.

Parameters

policy-name

Specifies an existing default managed SAP policy.

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Platforms

All

11.73 default-pap-password

default-pap-password

Syntax

default-pap-password *password* [**hash** | **hash2** | **custom**]

no default-pap-password

Context

[Tree] (config>subscr-mgmt>ppp-policy default-pap-password)

Full Context

configure subscriber-mgmt ppp-policy default-pap-password

Description

This command configures the default PAP password for RADIUS authentication when the Password-Length=0 in the PAP Authenticate-Request.

RADIUS authentication cannot be initiated when the Password-Length=0 in the PAP Authenticate-Request and no default-pap-password is configured. The PPP session terminates in this case.

Parameters

password

Specifies a default PAP password up to 64 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.74 default-path

default-path

Syntax

default-path *path-name*

Context

[Tree] (config>router>mpls>lsp-template default-path)

Full Context

configure router mpls lsp-template default-path

Description

A default path binding must be provided before the LSP template can be used for signaling LSP. The LSP template must be shutdown to modify default-path binding.

Parameters

path-name

Configures the default path binding

Platforms

All

11.75 default-peer

default-peer

Syntax

[**no**] **default-peer**

Context

[Tree] (config>aaa>diam>node>peer default-peer)

Full Context

configure aaa diameter node peer default-peer

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Description

This command designates a peer as a default peer. Traffic that is destined to realms that are not associated with locally configured peers, is sent to the default-peer. In effect, the default peer becomes a default route for Diameter realms.

This command is mandatory in multi-chassis redundancy where the inter-chassis peer is designated as default peer. Then, the SR with no open connections towards agents or servers, forwards all traffic to the inter-peer which maintains, as part of MCS, open connections with agents and servers.

The **no** form of this command reverts to the default.

Default

no default-peer

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

default-peer

Syntax

default-peer

no default-peer

Context

[Tree] (config>service>vprn>msdp>peer default-peer)

[Tree] (config>service>vprn>msdp>group>peer default-peer)

Full Context

configure service vprn msdp peer default-peer

configure service vprn msdp group peer default-peer

Description

This command configures a peer as a default MSDP peer. All SA messages from a default peer are accepted without the usual peer-reverse-path-forwarding (RPF) check.

Unlike the normal multicast RPF checks, the peer-RPF check stops SA messages from looping. See "Peer-RPF check" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Multicast Routing Protocols Guide* for information about the peer-RPF check rules.

The **no** form of this command removes the default peer configuration. All SA messages from a non-default peer must be RPF checked.

Default

no default-peer

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Platforms

All

default-peer

Syntax

[**no**] **default-peer**

Context

[Tree] (config>router>msdp>peer default-peer)

[Tree] (config>router>msdp>group>peer default-peer)

Full Context

configure router msdp peer default-peer

configure router msdp group peer default-peer

Description

This command configures a peer as a default MSDP peer. All SA messages from a default peer are accepted without the usual peer-reverse-path-forwarding (RPF) check.

Unlike the normal multicast RPF checks, the peer-RPF check stops SA messages from looping. See "Peer-RPF check" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Multicast Routing Protocols Guide* for information about the peer-RPF check rules.

The **no** form of this command removes the default peer configuration. All SA messages from a non-default peer must be RPF checked.

Default

no default-peer

Platforms

All

11.76 default-pool

default-pool

Syntax

default-pool *pool-name*

no default-pool

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Context

[Tree] (config>service>ies>sub-if>local-address-assignment default-pool)

[Tree] (config>service>vprn>sub-if>local-address-assignment default-pool)

[Tree] (config>service>vprn>sub-if>grp-if>local-address-assignment default-pool)

[Tree] (config>service>ies>sub-if>grp-if>local-address-assignment default-pool)

Full Context

configure service ies subscriber-interface local-address-assignment default-pool

configure service vprn subscriber-interface local-address-assignment default-pool

configure service vprn subscriber-interface group-interface local-address-assignment default-pool

configure service ies subscriber-interface group-interface local-address-assignment default-pool

Description

This command references a default DHCP address pool for local PPPoX pool management in case that the pool-name is not returned via Radius or LUDB.

Parameters

pool-name

Specifies the name of the local DHCP server pool.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.77 default-preference

default-preference

Syntax

default-preference [**ebgp** *ebgp preference*] [**ibgp** *ibgp preference*]

no default-preference

Context

[Tree] (config>router>bgp>group default-preference)

[Tree] (config>router>bgp>group>neighbor default-preference)

[Tree] (config>router>bgp default-preference)

Full Context

configure router bgp group default-preference

configure router bgp group neighbor default-preference

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configure router bgp default-preference

Description

This command specifies a route-table preference value to use for EBGP or IBGP routes carrying unlabeled prefixes and received from peers covered by the context of the command. Route-table preference comes into play when the route-table has multiple routes for the same IP prefix. In this case, the route with the numerically lowest preference value is usually the route that is activated and installed into the IP FIB. By default all BGP routes have a route-table preference value of 170.

This command overrides the preference value assigned by the **preference** command; that other command does not distinguish between EBGP and IBGP routes. Overriding happens even when the default-preference value is inherited from a higher level of configuration and competes with an explicitly configured preference value at a lower level of configuration in the BGP hierarchy.

Note:
The preference value assigned by the **default-preference** command can always be overwritten by a route policy entry that accepts the route with a **preference** command in the action.

The **no** form of the command lets BGP route-table preference to be controlled by other means.

Default

no default-preference

Parameters

ebgp preference

Specifies the EBGP default preference value.

Values 0 to 255

ibgp preference

Specifies the IBGP default preference value.

Values 0 to 255

Platforms

All

11.78 default-priority

default-priority

Syntax

default-priority {**high** | **low**}

no default-priority

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Context

[Tree] (config>qos>sap-ingress default-priority)

Full Context

configure qos sap-ingress default-priority

Description

This command configures the default enqueuing priority for all packets received on an ingress SAP using this policy. To change the default priority for the policy, the **fc-name** must be defined whether it is being changed or not.

Default

default-priority low

Parameters

high

Setting the enqueuing parameter to **high** for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

low

Setting the enqueuing parameter to **low** for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Platforms

All

11.79 default-profile

default-profile

Syntax

default-profile *profile-name*

no default-profile

Context

[Tree] (config>app-assure>group>url-filter>web-service default-profile)

Full Context

configure application-assurance group url-filter web-service default-profile

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Description

This command configures the default category profile to use when no category profile is explicitly selected for the subscriber.

The **no** form of this command removes the selected default profile configuration.

Default

no default-profile

Parameters

profile-name

Specifies a configured category profile to use as the default profile name, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.80 default-result

default-result

Syntax

default-result {**revoked** | **good**}

no default-result

Context

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn>cert>status-verify default-result)

[Tree] (config>ipsec>trans-mode-prof>dyn>cert>status-verify default-result)

[Tree] (config>service>vprn>if>sap>ipsec-gw>cert>status-verify default-result)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn>cert>status-verify default-result)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn>cert>status-verify default-result)

[Tree] (config>service>ies>if>sap>ipsec-gw>cert>status-verify default-result)

[Tree] (config>router>if>ipsec>ipsec-tun>dyn>cert>status-verify default-result)

Full Context

configure service vprn interface sap ipsec-tunnel dynamic-keying cert status-verify default-result

configure ipsec ipsec-transport-mode-profile dynamic-keying cert default-result

configure service vprn interface sap ipsec-gw cert status-verify default-result

configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert status-verify default-result

configure service ies interface ipsec ipsec-tunnel dynamic-keying cert status-verify default-result

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configure service ies interface sap ipsec-gw cert status-verify default-result

configure router interface ipsec ipsec-tunnel dynamic-keying cert status-verify default-result

Description

This command specifies the default certificate revocation status that is used result when both the primary and secondary CSV methods fail to verify the status.

Default

default-result revoked

Parameters

good

Specifies that the certificate is considered as acceptable.

revoked

Specifies that the certificate is considered as revoked.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-gw cert status-verify default-result
- configure service vprn interface sap ipsec-tunnel dynamic-keying cert status-verify default-result
- configure ipsec ipsec-transport-mode-profile dynamic-keying cert default-result
- configure service ies interface sap ipsec-gw cert status-verify default-result

VSR

- configure router interface ipsec ipsec-tunnel dynamic-keying cert status-verify default-result
- configure service ies interface ipsec ipsec-tunnel dynamic-keying cert status-verify default-result
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert status-verify default-result

default-result

Syntax

default-result *certificate-tls-status*

no default-result

Context

[Tree] (config>system>security>tls>server-tls-profile>status-verify default-result)

[Tree] (config>system>security>tls>client-tls-profile>status-verify default-result)

Full Context

configure system security tls server-tls-profile status-verify default-result

configure system security tls client-tls-profile status-verify default-result

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Description

This command configures the default result of the entity certificate verification in the TLS client or server profile. This command overwrites the EE certificate revocation verification for the TLS client or server profile.

The **no** form of this command leaves the configured default result unchanged.

Default

default-result revoked

Parameters

certificate-tls-status

Specifies the certificate status.

Values **good** — Keyword to specify that the certificate is acceptable.

revoked — Keyword to specify that the certificate is considered revoked.

Platforms

All

11.81 default-retail-svc-id

default-retail-svc-id

Syntax

default-retail-svc-id *service-id*

no default-retail-svc-id

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>vlan-tag-ranges default-retail-svc-id)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>vlan-tag-ranges default-retail-svc-id)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges default-retail-svc-id

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges default-retail-svc-id

Description

This command specifies the id of default retail service if there is no match found in VLAN to retail map configuration (specified by the **vlan** command). For DSM and migrant, this command is only applicable for non-NAT stacks.

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Parameters

service-id

Specifies the identifier of the retail service to be used by default of a value in the retail service map of this interface.

Values 1 to 2147483650

svc-name: up to 64 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.82 default-route-tag

default-route-tag

Syntax

default-route-tag *tag*

no default-route-tag

Context

[Tree] (config>service>vpls>bgp-evpn>mpls default-route-tag)

[Tree] (config>service>vpls>bgp-evpn>srv6 default-route-tag)

[Tree] (config>service>epipe>bgp-evpn>srv6 default-route-tag)

[Tree] (config>service>vpls>bgp-evpn>vxlan default-route-tag)

[Tree] (config>service>vprn>bgp-evpn>mpls default-route-tag)

[Tree] (config>service>epipe>bgp-evpn>mpls default-route-tag)

[Tree] (config>service>epipe>bgp-evpn>vxlan default-route-tag)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 default-route-tag)

Full Context

configure service vpls bgp-evpn mpls default-route-tag

configure service vpls bgp-evpn segment-routing-v6 default-route-tag

configure service epipe bgp-evpn segment-routing-v6 default-route-tag

configure service vpls bgp-evpn vxlan default-route-tag

configure service vprn bgp-evpn mpls default-route-tag

configure service epipe bgp-evpn mpls default-route-tag

configure service epipe bgp-evpn vxlan default-route-tag

configure service vprn bgp-ivpn segment-routing-v6 default-route-tag

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Description

This command configures a route tag that EVPN and IP-VPN use when sending a route to the BGP application (for the corresponding service and BGP instance). If the corresponding BGP EVPN instance is enabled, the command cannot be changed. Additionally, EVPN services can add tags to routes with **proxy-arp/nd>evpn-route-tag** or the route table tag (added using the import policy). Only one tag is passed from EVPN to the BGP for matching on export policies. In case of a conflict with other route tags pushed by EVPN, the default route tag has the least priority.

The following are examples of the conflict priority handling:

- If a service is configured with both **default-route-tag** *X* and **proxy-arp>evpn-route-tag** *Y*, EVPN uses route tag *Y* when sending EVPN proxy-arp routes to the BGP RIB for advertisement.
- If a given IP-prefix route is tagged in the route-table with tag *A* and the R-VPLS, in which the route is advertised, uses *B* as the **default-route-tag**, then EVPN keeps tag *A* when sending the route to the BGP RIB.

The **default-route-tag** configuration is only supported on EVPN and IP-VPN service routes. The route tag for ES and AD per-ES routes is always zero.

The **no** form of this command removes the **default-route-tag** (that is, it sets the route tag to zero).

Default

no default-route-tag

Parameters

tag

Specifies the route tag.

Values 1 to 255

Platforms

All

- configure service epipe bgp-evpn mpls default-route-tag
- configure service epipe bgp-evpn vxlan default-route-tag
- configure service vprn bgp-evpn mpls default-route-tag
- configure service vpls bgp-evpn vxlan default-route-tag
- configure service vpls bgp-evpn mpls default-route-tag

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 default-route-tag
- configure service epipe bgp-evpn segment-routing-v6 default-route-tag

default-route-tag

Syntax

default-route-tag *tag*

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no default-route-tag

Context

[Tree] (config>service>vprn>isis default-route-tag)

Full Context

configure service vprn isis default-route-tag

Description

This command configures the route tag for default route for the router or VPRN service.

Parameters

tag

Assigns a default tag.

Values 1 — 4294967295

Platforms

All

default-route-tag

Syntax

default-route-tag *tag*

no default-route-tag

Context

[Tree] (config>router>isis default-route-tag)

Full Context

configure router isis default-route-tag

Description

This command configures the route tag for default route.

Parameters

tag

Assigns a default tag.

Values 1 to 4294967295

Platforms

All

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default-route-tag

Syntax

default-route-tag *tag*

no default-route-tag

Context

[Tree] (config>service>vprn>bgp-evpn>vxlan default-route-tag)

Full Context

configure service vprn bgp-evpn vxlan default-route-tag

Description

This command configures a route tag that is used when sending a route to the BGP application (for the corresponding service and BGP instance). If the corresponding BGP instance is enabled, the command cannot be changed.

The **no** form of this command removes the default route tag.

Default

no default-route-tag

Parameters

tag

Specifies the route tag.

Values 1 to 255 | 0x01 to 0xff

Platforms

7750 SR-1, 7750 SR-s

11.83 default-route-target

default-route-target

Syntax

[**no**] **default-route-target**

Context

[Tree] (config>router>bgp>group>neighbor default-route-target)

[Tree] (config>router>bgp>group default-route-target)

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Full Context

configure router bgp group neighbor default-route-target

configure router bgp group default-route-target

Description

This command originates the default RTC route (zero prefix length) towards the selected peers.

Default

no default-route-target

Platforms

All

11.84 default-router

default-router

Syntax

default-router *ip-address* [*ip-address*]

no default-router

Context

[Tree] (config>router>dhcp>server>pool>subnet>options default-router)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options default-router)

[Tree] (config>service>vprn>dhcp6>server>pool>subnet default-router)

Full Context

configure router dhcp local-dhcp-server pool subnet options default-router

configure subscriber-mgmt local-user-db ipoe host options default-router

configure service vprn dhcp6 server pool subnet default-router

Description

This command configures the IP address of the default router for a DHCP client. Up to four IP addresses can be specified.

The **no** form of this command removes the address(es) from the configuration.

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Parameters

ip-address

Specifies up to four default router IP addresses. Each address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.85 default-sap

default-sap

Syntax

[**no**] **default-sap**

Context

[Tree] (config>service>vpls>sap>managed-vlan-list default-sap)

Full Context

configure service vpls sap managed-vlan-list default-sap

Description

This command adds a default SAP to the managed VLAN list.

The **no** form of this command removes the default SAP to the managed VLAN list.

Platforms

All

11.86 default-secure-service

default-secure-service

Syntax

default-secure-service *service-id ip-int-name*

no default-secure-service

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Context

[Tree] (config>service>ies>if>sap>ipsec-gw default-secure-service)

[Tree] (config>service>vprn>if>sap>ipsec-gw default-secure-service)

Full Context

configure service ies interface sap ipsec-gw default-secure-service

configure service vprn interface sap ipsec-gw default-secure-service

Description

This command specifies a service ID or service name of the default security service used by this SAP IPsec gateway.

Parameters

service-id

Specifies a default secure service.

Values *service-id*: 1 to 2147483647*svc-name:* An existing service name up to 64 characters.

ip-int-name

The name of private IPsec tunnel interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.87 default-set

default-set

Syntax

default-set *set-id*

no default-set

Context

[Tree] (config>router>mpls>class-forwarding-policy default-set)

Full Context

configure router mpls class-forwarding-policy default-set

Description

This command configures the default forwarding set.

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Parameters

set-id

Specifies the class forwarding set.

Values 1 to 4 (in system profile None/A)
1 to 6 (in system profile B)

Platforms

All

11.88 default-size

default-size

Syntax

default-size

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers>queue-sets default-size)

Full Context

configure qos fp-resource-policy aggregate-shapers queue-sets default-size

Description

Commands in this context configure the default queue-set size for individual object types.

Platforms

7750 SR-1, 7750 SR-s

11.89 default-tag

default-tag

Syntax

default-tag *tag*

no default-tag

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Context

[Tree] (config>aaa>route-downloader default-tag)

Full Context

configure aaa route-downloader default-tag

Description

This command sets the default tag that routes processed by the AAA route downloader will take.

Note:
Any route received with a specific tag retains the specific tag. The tag value is passed to the Route Table Manager and is available as match condition on the export statement of other routing protocols.

The **no** form of this command reverts to the default.

Default

default-tag 0

Parameters

tag

Specifies the default tag of the routes imported.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.90 default-tunnel-endpoint-limit

default-tunnel-endpoint-limit

Syntax

default-tunnel-endpoint-limit *default-endpoint*

no default-tunnel-endpoint-limit

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>gtp-tunnel-database default-tunnel-endpoint-limit)

Full Context

configure application-assurance group gtp gtp-filter gtp-tunnel-database default-tunnel-endpoint-limit

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Description

This command configures the maximum number of GTP endpoints requested in GTP-C messages by using, for example, the PDP Context Create message type.

The **validate-gtp-tunnels** command must be enabled before using this command.

The **no** form of this command sets the limit to 4294967295 (the maximum number of GTP endpoints supported by AA FW minus one).

Default

no default-tunnel-endpoint-limit

Parameters

default-endpoint

Specifies the limit.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.91 default-tunnel-template

default-tunnel-template

Syntax

default-tunnel-template *ipsec-template-identifier*

no default-tunnel-template

Context

[Tree] (config>service>ies>if>sap>ipsec-gw default-tunnel-template)

[Tree] (config>service>vprn>if>sap>ipsec-gw default-tunnel-template)

Full Context

configure service ies interface sap ipsec-gw default-tunnel-template

configure service vprn interface sap ipsec-gw default-tunnel-template

Description

This command configures a default tunnel policy template for the gateway.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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11.92 default-user

default-user

Syntax

default-user *user-name*

no default-user

Context

[Tree] (config>system>security>management-interface>grpc>tls-authentication default-user)

Full Context

configure system security management-interface grpc tls-authentication default-user

Description

This command configures the local user to display for gRPC sessions authenticated using mTLS when no username metadata is sent during authentication. The configured local user is associated with every session that authenticates with mTLS without a username. This username is displayed in several places, for example, in command output like **show users**, YANG state, log messages, and debug messages.

The local user must be configured, but it is not used in mTLS authentication.

The **no** form of this command specifies no default user.

Parameters

user-name

Specifies the local username of the default user for TLS authentication

Platforms

All

11.93 default-user-name

default-user-name

Syntax

default-user-name *ppp-username*

no default-user-name

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Context

[Tree] (config>subscr-mgmt>ppp-policy default-user-name)

Full Context

configure subscriber-mgmt ppp-policy default-user-name

Description

This command configures the default username for authentication when not provided in PAP/CHAP authentication (no Name field in CHAP Response message or Peer-Id-Length=0 in PAP Authenticate-Request).

The PPP session terminates when no username is provided in PAP/CHAP authentication and no default-user-name is configured.

Parameters

ppp-username

Specifies a default username up to 253 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.94 default-value

default-value

Syntax

default-value *value-name*

no default-value

Context

[Tree] (config>app-assure>group>policy>aso>char default-value)

Full Context

configure application-assurance group policy app-service-options characteristic default-value

Description

This command assigns one of the characteristic values as default.

When a default value is specified, app-profile entries that do not explicitly include this characteristic inherit the default value and use it as part of the AQP match criteria based on that app-profile.

A default-value is required for each characteristic. This is evaluated at commit time.

The **no** form of this command removes the default value for the characteristic.

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Parameters

value-name

Specifies the name of an existing characteristic value.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.95 defaults

defaults

Syntax

defaults

Context

[Tree] (config>router>dhcp6>server defaults)

Full Context

configure router dhcp6 local-dhcp-server defaults

Description

Commands in this context configure server default timer and option parameters. These can be overridden on a per-pool and per-prefix basis.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

defaults

Syntax

defaults

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn defaults)

Full Context

configure subscriber-mgmt gtp apn-policy apn defaults

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Description

Commands in this context configure default parameters for the GTP connection that can be used when the parameters are not returned in authentication.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.96 delay

delay

Syntax

delay

Context

[Tree] (config>router>if>if-attribute delay)

Full Context

configure router interface if-attribute delay

Description

Commands in this context configure or apply delay interface attributes such as static delay.

Platforms

All

delay

Syntax

delay *interval*

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>progress-indicator delay)

Full Context

configure system management-interface cli md-cli environment progress-indicator delay

Description

This command sets the delay before the progress indicator is displayed in the MD-CLI.

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Default

delay 500

Parameters

interval

Specifies the delay interval, in milliseconds.

Values 1 to 10000

Platforms

All

delay

Syntax

delay {**min** | **max** | **avg** | **min-of-max** | **max-of-min**}

Context

[Tree] (config>test-oam>link-meas>template delay)

Full Context

configure test-oam link-measurement measurement-template delay

Description

This command configures the type of delay measurement statistic used in both the sample window and aggregate sample window.

The **no** form of this command reverts to the default value.

Default

delay min

Parameters

min

Keyword to use the minimum value of a series of measurements for comparison and reporting.

max

Keyword to use the maximum value of a series of measurements for comparison and reporting.

avg

Keyword to compute the average value of a series of measurements for comparison and reporting.

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min-of-max

Keyword to use the minimum value of all stored maximums for comparison and reporting.

max-of-min

Keyword to use the maximum value of all stored minimums for comparison and reporting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

11.97 delay-event

delay-event

Syntax

delay-event {**forward** | **backward** | **round-trip**} **lowest-bin** *bin-number* **threshold***raise-threshold* [**clear** *clear-threshold*]

no delay-event {**forward** | **backward** | **round-trip**}

Context

[Tree] (config>oam-pm>bin-group>bin-type delay-event)

Full Context

configure oam-pm bin-group bin-type delay-event

Description

This command sets the bin number, the threshold and the direction that is monitored to determine if a delay metric threshold crossing event has occurred or has cleared. It requires a bin number, a rising threshold value and a direction. If the *clear-threshold* value is not specified, the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and without regard to any previous window. When a raise threshold is reached, the log event is generated. Each unique threshold can only be raised once for the threshold within measurement interval. If the optional clear threshold is specified, the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to following measurement intervals. If a threshold crossing event is raised another is not raised until a measurement interval completes, and the clear threshold has not been exceeded. A clear event is raised under that condition. In general, alarms are generated when there is a state change. The thresholds configured are applied to the count in specified bin and all higher number bins.

The **no** form of this command removes thresholding for this delay metric. The complete command must be configured in order to remove the specific threshold.

Parameters

forward

Specifies the threshold is applied to the forward direction bin.

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backward

Specifies the threshold is applied to the backward direction bin.

round-trip

Specifies the threshold is applied to the roundtrip direction bin.

bin-number

Specifies the number of the bin that the threshold is applied to. This bin and all higher bins are monitored to determine if the sum total results in these bins have reached or crossed the configured threshold.

Values 0 to 9

raise-threshold

Specifies the rising numerical value in the range that determines when the event is to be generated, when value reached.

Values 1 to 864000

clear-threshold

Specifies an optional numerical value in the range threshold used to indicate stateful behavior that allows the operator to configure a lower value than the rising threshold that determines when the clear event should be generated. Clear is generated when the end of measurement interval count is less than or equal to the configured value. If this option is not configured the behavior is stateless. Zero means no results can exist in the lower bin or any higher.

Values 0 to 863999

Default Clear threshold disabled

Platforms

All

11.98 delay-event-exclusion

delay-event-exclusion

Syntax

delay-event-exclusion {**forward** | **backward** | **round-trip**} **lowest-bin** *bin-number*

no delay-event-exclusion {**forward** | **backward** | **round-trip**}

Context

[Tree] (config>oam-pm>bin-group>bin-type delay-event-exclusion)

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Full Context

configure oam-pm bin-group bin-type delay-event-exclusion

Description

This optional command allows results from probes that map to the specified bin and higher bins to be excluded from the TCA count. The TCA count is used to determine if a threshold has been reached by the event monitoring function. Individual counters are incremented in the bin, but the counts in the specified bin and higher bins are not included in the TCA threshold computation. A **delay-event** must be configured in the same direction, and the **lowest-bin** configured as part of the **delay-event-exclusion** command must be higher than the lowest bin specified by the corresponding **delay-event** command.

The bin group allows this optional command to be added, modified, or deleted while tests are actively referencing the bin group. The bin group does not need to be shut down during **delay-event-exclusion** configuration. If the values are modified while the active tests are executing, all configured TCAs for the specified direction within the bin group enters a pending (p) state until the start of the next measurement interval. Any existing stateful TCAs that were raised are cleared without creating a log event, and no further processing for the affected TCAs occur in the active window. Depending on timing, the pending state may continue past the adjacent measurement interval until the start of the following measurement interval.

The **no** form of this command does not exclude any values from the configured TCA threshold.

Default

no delay-event-exclusion forward

no delay-event-exclusion backward

no delay-event-exclusion round-trip

Parameters

forward

Specifies the forward direction bin.

backward

Specifies the backward direction bin.

round-trip

Specifies the round-trip direction bin.

bin-number

Specifies the number of the lowest bin that the exclusion is applied to. This bin and all higher bins are excluded from the **delay-event** (TCA) count. If no bin numbers are configured, this command is ignored.

Values 1 to 9

Platforms

All

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11.99 delay-events

delay-events

Syntax

[**no**] **delay-events**

Context

[Tree] (config>oam-pm>session>meas-intvl>event-mon delay-events)

Full Context

configure oam-pm session meas-interval event-mon delay-events

Description

This command enables the monitoring of all configured delay events. Adding this functionality starts the monitoring of the configured delay events at the start of the next measurement interval. If the function is removed using the **no** command, all monitoring of configured delay events, logging, and recording of new events for that session are suspended. Any existing events at the time of the shut down are maintained until the active measurement window in which the removal was performed has completed. The state of this monitoring function can be changed without having to shut down all the tests in the session.

The **no** form of this command disables the monitoring of all configured delay events.

Platforms

All

11.100 delay-metric-limit

delay-metric-limit

Syntax

delay-metric-limit *delay-metric-limit*

no delay-metric-limit

Context

[Tree] (config>router>mpls>lsp>secondary delay-metric-limit)

[Tree] (config>router>mpls>lsp>primary delay-metric-limit)

Full Context

configure router mpls lsp secondary delay-metric-limit

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configure router mpls lsp primary delay-metric-limit

Description

This command configures the upper limit of the delay metric used by the local CSPF in the LSP path computation. The configured limit is used only if the configured metric type is **delay**. (The metric type is configured using the **configure router mpls lsp metric-type** or **configure router mpls lsp-template metric-type** command.)

The **no** form of this command causes the computation to select the lowest latency path if the configured metric type is **delay**.

Default

no delay-metric-limit

Parameters

delay-metric-limit

Specifies the limit, in microseconds.

Values 1 to 16777215

Platforms

All

11.101 delay-normalization

delay-normalization

Syntax

[**no**] **delay-normalization**

Context

[Tree] (config>router>isis>interface delay-normalization)

Full Context

configure router isis interface delay-normalization

Description

Commands in this context configure delay normalization for the interface within the IGP instance.

When configured, the normalized delay is used by the respective TLVs within the IGP link-state packets.

The **no** form of this command removes the delay normalization configuration. When unconfigured, the measured delay is used by the respective TLVs within the IGP link-state packets.

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Default

no delay-normalization

Platforms

All

delay-normalization

Syntax

[**no**] **delay-normalization**

Context

[Tree] (config>router>ospf>area>interface delay-normalization)

Full Context

configure router ospf area interface delay-normalization

Description

Commands in this context configure delay normalization for the interface within the IGP instance.

When configured, the normalized delay is used by the respective TLVs within the IGP link-state packets.

The **no** form of this command removes the delay normalization configuration. When unconfigured, the measured delay is used by the respective TLVs within the IGP link-state packets.

Default

no delay-normalization

Platforms

All

11.102 delay-on-boot

delay-on-boot

Syntax

delay-on-boot *delay*

no delay-on-boot

Context

[Tree] (config>system>grpc delay-on-boot)

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Full Context

configure system grpc delay-on-boot

Description

This command configures the delay timer for gRPC connections. When the timer expires, gRPC becomes operational and connections are accepted. This delay prevents automation from managing the system while it is still converging. This delay prevents automation from managing the system while it is still converging.

The **no** form of this command specifies that connections are accepted after the system boots and gRPC becomes operational.

Default

no delay-on-boot

Parameters

delay

Specifies the delay, in seconds.

Values 1 to 3600

Platforms

All

delay-on-boot

Syntax

delay-on-boot *delay*

no delay-on-boot

Context

[Tree] (config>system>netconf>listen delay-on-boot)

Full Context

configure system netconf listen delay-on-boot

Description

This command configures the delay timer for NETCONF connections. When the timer expires, NETCONF becomes operational and connections are accepted. This delay prevents automation from managing the system while it is still converging.

The **no** form of this command specifies that connections are accepted after the system boots and NETCONF becomes operational.

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Default

no delay-on-boot

Parameters

delay

Specifies the delay, in seconds.

Values 1 to 3600

Platforms

All

delay-on-boot

Syntax

delay-on-boot *delay*

no delay-on-boot

Context

[Tree] (config>system>grpc-tunnel delay-on-boot)

Full Context

configure system grpc-tunnel delay-on-boot

Description

This command configures the delay timer for gRPC tunnels. When the timer expires, gRPC tunnels become operational and connections are accepted. This delay prevents automation from trying to initiate gRPC tunnels while it is still converging.

The **no** form of this command specifies that gRPC tunnels are initiated after the system boots and gPRC becomes operational.

Default

no delay-on-boot

Parameters

delay

Specifies the delay, in seconds.

Values 1 to 3600

Platforms

All

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delay-on-boot

Syntax

delay-on-boot *delay*

no delay-on-boot

Context

[Tree] (config>system>telemetry>persistent-subscriptions delay-on-boot)

Full Context

configure system telemetry persistent-subscriptions delay-on-boot

Description

This command configures the delay timer for gRPC telemetry persistent subscriptions. When the timer expires, gRPC telemetry persistent subscriptions become operational and connections are initiated. This delay prevents the system from trying to establish gRPC persistent subscriptions while it is still converging.

The **no** form of this command specifies that gRPC telemetry persistent subscriptions are initiated after the system boots and gRPC is operational.

Default

no delay-on-boot

Parameters

delay

Specifies the delay, in seconds.

Values 1 to 3600

Platforms

All

delay-on-boot

Syntax

delay-on-boot *delay*

no delay-on-boot

Context

[Tree] (config>system>netconf>call-home>netconf-client delay-on-boot)

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Full Context

configure system netconf call-home netconf-client delay-on-boot

Description

This command configures the delay for call home connections after the system boots.

The **no** form of this command disables the use of the delay after the system boots.

Default

no delay-on-boot

Parameters

delay

Specifies the delay, in seconds, for call home connections after the system boots.

Values 1 to 3600

Platforms

All

11.103 delay-selection

delay-selection

Syntax

delay-selection {static | dynamic | static-preferred | dynamic-preferred}

no delay-selection

Context

[Tree] (config>router>if>if-attr>delay delay-selection)

Full Context

configure router interface if-attribute delay delay-selection

Description

This command selects the delay source to be advertised by the IGP for this interface.

The **no** form of this command reverts to the default value.

Default

delay-selection static-preferred

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Parameters

static

Keyword to use only statically configured delay and ignore dynamic delay measurements generated by **link-measurement**.

dynamic

Keyword to use only dynamic delay measurements generated by **link-measurement** and ignore statically configured delay.

static-preferred

Keyword to prefer the configured static delay over the dynamic delay. If static delay is not configured, the delay reported using **link-measurement** is used.

dynamic-preferred

Keyword to prefer the dynamic reported delay over the statically configured delay. If no dynamic delay has been reported using **link-measurement**, the statically configured delay is used.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

11.104 delay-start-time

delay-start-time

Syntax

delay-start-time *delay*

no delay-start-time

Context

[Tree] (config>subscr-mgmt>acct-plcy delay-start-time)

Full Context

configure subscriber-mgmt radius-accounting-policy delay-start-time

Description

It is recommended to only use this command when **session-accounting** is used. By default, a dual stack subscriber generates a RADIUS accounting interim message for each new host update (IPv4, IPv6 WAN, and IPv6 PD). This command delays the trigger of a RADIUS accounting start message and allows all hosts to connect first. When the delay timer expires, a single RADIUS accounting start message containing all the host currently connected to the BNG is sent to the server. Subsequent host connections will trigger interim-updates if host-update is enabled on session-accounting. For all other accounting modes, this command will delay the trigger of an accounting start when a host connects.

The **no** form of this command reverts to the default.

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Default

no delay-start-time

Parameters

delay

Specifies the accounting start delay, in seconds.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.105 delay-template

delay-template

Syntax

delay-template *delay-template-name*

no delay-template

Context

[Tree] (config>oam-pm>session>ethernet>dmm delay-template)

Full Context

configure oam-pm session ethernet dmm delay-template

Description

This command specifies a reference to a **config>oam-pm>streaming delay-template** for the Ethernet DMM test. It is possible to include a delay template reference that is not configured under **config>oam-pm>streaming**. In this case, result streaming is not in effect. Refer to the **config>oam-pm>streaming delay-template** command for session-to-template interaction behaviors.

The **no** form of this command deletes the delay template from the test.

Default

no delay-template

Parameters

delay-template-name

Specifies the delay template name, up to 64 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

delay-template

Syntax

delay-template *delay-template-name*

no delay-template

Context

[Tree] (config>oam-pm>session>ip>twamp-light delay-template)

Full Context

configure oam-pm session ip twamp-light delay-template

Description

This command specifies a reference to a **config>oam-pm>streaming delay-template** for the IP TWAMP LIGHT test. It is possible to include a delay template reference that is not configured under **config>oam-pm>streaming**. In this case, streaming of results are not in effect. Refer to the **config>oam-pm>streaming delay-template** command for session to template interaction behaviors.

The **no** form of this command deletes the delay template from the test.

Default

no delay-template

Parameters

delay-template-name

Specifies the delay template name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

delay-template

Syntax

delay-template *delay-template-name*

no delay-template

Context

[Tree] (config>oam-pm>session>mpls>dm delay-template)

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Full Context

configure oam-pm session mpls dm delay-template

Description

This command specifies a reference to a **config>oam-pm>streaming delay-template** for the MPLS DM test. It is possible to include a delay template reference that is not configured under **config>oam-pm>streaming**. In this case, streaming of results are not in effect. Refer to the **config>oam-pm>streaming delay-template** command for session to template interaction behaviors.

The **no** form of this command deletes the delay template from the test.

Default

no delay-template

Parameters

delay-template-name

Specifies the delay template name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

delay-template

Syntax

delay-template *template-name* [**create**]

no delay-template *template-name*

Context

[Tree] (config>oam-pm>streaming delay-template)

Full Context

configure oam-pm streaming delay-template

Description

This command specifies a template for streaming delay metrics that can be referenced under the **oam-pm>session** technology delay style test.

The **delay-template** must be configured under the technology delay test **oam-pm>session** to allow the delay specific test to stream results using the configured template attributes.

The **no** form of this command deletes the specified delay template.

Parameters

template-name

Specifies the template name, up to 64 characters.

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create

Creates the template.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

11.106 delay-threshold

delay-threshold

Syntax

delay-threshold *microseconds*

no delay-threshold

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl delay-threshold)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template delay-threshold

Description

This command configures a delay value that is compared to the measured delay at the end of the test to declare the test result. If the measured value is greater than the configured value, the test fails; otherwise, it passes. A measured delay value of zero also causes the test to fail.

The **no** form of this command disables the comparison and ignores the threshold value when declaring the test result.

Default

no delay-threshold

Parameters

microseconds

Specifies the delay value, in microseconds, to compare with the measured value.

Values 1 to 100000000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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11.107 delay-tolerance-interval

delay-tolerance-interval

Syntax

delay-tolerance-interval [*delay-tolerance-interval*]

no delay-tolerance-interval

Context

[Tree] (config>router>isis>if>delay-normalization delay-tolerance-interval)

Full Context

configure router isis interface delay-normalization delay-tolerance-interval

Description

This command configures the interval, in microseconds, used by the IGP between two delay values.

The **no** form of this command reverts to the default.

Default

delay-tolerance-interval 10

Parameters

delay-tolerance-interval

Specifies the delay tolerance interval, in microseconds.

Values 1 to 10000000

Platforms

All

delay-tolerance-interval

Syntax

delay-tolerance-interval [*delay-tolerance-interval*]

no delay-tolerance-interval

Context

[Tree] (config>router>ospf>area>if>delay-normalization delay-tolerance-interval)

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Full Context

configure router ospf area interface delay-normalization delay-tolerance-interval

Description

This command configures the interval used by the IGP between two delay values on the interface.

The **no** form of this command reverts to the default.

Default

delay-tolerance-interval 10

Parameters

delay-tolerance-interval

Specifies the delay tolerance interval, in microseconds.

Values 1 to 10000000

Platforms

All

11.108 delay-var-threshold

delay-var-threshold

Syntax

delay-var-threshold *microseconds*

no delay-var-threshold

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl delay-var-threshold)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template delay-var-threshold

Description

This command configures a delay variation value that is compared to the measured delay variation at the end of the test to declare the test result. If the measured value is greater than the configured value, the test fails; otherwise, it passes.

The **no** form of this command disables the comparison ignores the threshold value when declaring the test result.

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Default

no delay-var-threshold

Parameters

microseconds

Specifies the delay variation value, in microseconds, to compare with the measured value.

Values 1 to 100000000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

11.109 delegated-ipv6-prefix

delegated-ipv6-prefix

Syntax

[**no**] **delegated-ipv6-prefix**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute delegated-ipv6-prefix)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute delegated-ipv6-prefix

Description

This command enables the generation of the **delegated-ipv6-prefix** RADIUS attribute.

The **no** form of this command disables the generation of the **delegated-ipv6-prefix** RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.110 delegated-prefix-length

delegated-prefix-length

Syntax

delegated-prefix-length [**minimum** *prefix-length*] [**maximum** *prefix-length*]

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no delegated-prefix-length

Context

[Tree] (config>service>vprn>dhcp6>server>pool delegated-prefix-length)

[Tree] (config>router>dhcp6>server>pool delegated-prefix-length)

Full Context

configure service vprn dhcp6 local-dhcp-server pool delegated-prefix-length

configure router dhcp6 local-dhcp-server pool delegated-prefix-length

Description

This command configures the delegated prefix length that is used if the DHCPv6 client does not specify a prefix length hint.

The DHCPv6 client prefix length hint is limited by the range specified by the **minimum** and **maximum** parameters. If the hint is smaller than the minimum, the allocated prefix length is equal to the minimum length. If the hint is larger than the maximum, the allocated prefix length is equal to the maximum length.

The **no** form of this command reverts to the default.

Default

delegated-prefix-length 64 minimum 48 maximum 64

Parameters

prefix-length

Specifies the minimum or maximum allowed prefix length, in bits.

Values 48 to 127

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

delegated-prefix-length

Syntax

delegated-prefix-length *bits*

delegated-prefix-length variable

no delegated-prefix-length

Context

[Tree] (config>service>ies>sub-if>ipv6 delegated-prefix-length)

[Tree] (config>service>vprn>sub-if>ipv6 delegated-prefix-length)

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Full Context

configure service ies subscriber-interface ipv6 delegated-prefix-length

configure service vprn subscriber-interface ipv6 delegated-prefix-length

Description

This command configures the subscriber interface level setting for delegated prefix length. The delegated prefix length for a subscriber- interface can be either set to a fixed value that is explicitly configured under the subscriber interface CLI hierarchy or a variable value that can be obtained from various sources. This command can be changed only when no IPv6 prefixes are configured under the **subscriber-interface** context.

The **no** form of this command reverts to the default.

Default

no delegated-prefix-length (the delegated prefix length is 64)

Parameters

bits

Specifies the delegated prefix length in bits. This value is applicable to the entire subscriber interface. In case that the delegated prefix length is also supplied via other means (LUDB, RADIUS or DHCP Server), such supplied value must match the value configured under the **subscriber-interface** context. Otherwise, the prefix instantiation in the router fails.

Values 48 to 64

variable

Specifies that the delegated prefix value can be of any length between 48 to 64. The value itself can vary between the prefixes and is provided at the time of prefix instantiation. The order of priority for the source of the delegated prefix length is:

- LUDB
- RADIUS
- DHCPv6 server

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.111 delete

delete

Syntax

delete *file-url* [**force**] [**no-redirect**] [**client-tls-profile** *profile*] [**proxy** *proxy-url*] [**router** *router-instance*]

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Context

[Tree] (file delete)

Full Context

file delete

Description

This command deletes the specified file.

The optional wildcard (*) can be used to delete multiple files that share a common (partial) prefix and/or (partial) suffix. When the wildcard is entered, the following prompt displays for each file that matches the wildcard:

"Delete file <filename> (y/n)?”

Parameters

file-url

Specifies the file name to delete.

Values

local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
remote-url	[{ftp | sftp | http | https}:///*login*:*pswd*@*remote-locn/*][*file-path*] up to 247 characters directory length up to 99 characters each
remote-locn	[hostname | ipv4-address | [ipv6-address]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*] *x:x:x:x:x:x:d.d.d.d*[*-interface*] *x* - [0 to FFFF]H *d* - [0 to 255]D interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

force

Keyword that forces an immediate deletion of the specified file(s). The command **file delete * force** deletes all the wildcard matching files without displaying a user prompt message. This command also automatically accepts HTTP redirects unless overridden by the **no-redirect** parameter.

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profile

Specifies the TLS client profile configured under **config**>**system**>**security**>**tls**>**client-tls-profile** to use.

proxy-url

Specifies the URL of an HTTP proxy. For example, http://proxy.mydomain.com:8000. This URL must be an HTTP URL and not an HTTPS URL.

no-redirect

Keyword to automatically refuse any HTTP redirects without prompting the user.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

delete

Syntax

delete [*line*]

Context

[Tree] (candidate delete)

Full Context

candidate delete

Description

This command deletes the selected CLI node (which includes all sub-branches). The deleted lines are also copied into a temporary buffer that can be used for a subsequent insert.

Parameters

line

Indicates which line to delete.

Values

line, offset, **first**, **edit-point**, **last**

line	absolute line number

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offset	relative line number to current edit point. Prefixed with '+' or '-'
first	keyword - first line
edit-point	keyword - current edit point
last	keyword - last line that is not 'exit'

Platforms

All

delete

Syntax

delete [{*checkpoint-id* | **rescue** | **latest-rb**}]

Context

[Tree] (admin>rollback delete)

Full Context

admin rollback delete

Description

This command deletes a rollback checkpoint and causes the suffixes to be adjusted (decremented) for all checkpoints older that the one that was deleted (to close the hole in the list of checkpoint files and create room to create another checkpoint).

If **config redundancy rollback-sync** is enabled, a rollback delete will also delete the equivalent checkpoint on the standby CF and shuffle the suffixes on the standby CF.

It is not advised to manually delete a rollback checkpoint (for example, using a **file delete** command). If a rollback checkpoint file is manually deleted without using the **admin rollback delete** command then the suffixes of the checkpoint files are not shuffled, nor is the equivalent checkpoint file deleted from the standby CF. This manual deletion creates a hole in the checkpoint file list until enough new checkpoints have been created to roll the hole off the end of the list.

Parameters

checkpoint-id

An ID indicating a specific rollback checkpoint. A checkpoint-id of 1 indicates the rollback checkpoint file (at the configured rollback location) with *.rb.1 as the suffix, 2 for file *.rb.2, and so on.

Values 1 to 9

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latest-rb

Specifies the most recently created rollback checkpoint (corresponds to the file-url.rb rollback checkpoint file).

rescue

Deletes the rescue checkpoint. No checkpoint suffix numbers are changed.

Platforms

All

11.112 delete-config

delete-config

Syntax

[**no**] **delete-config**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization delete-config)

Full Context

configure system security profile netconf base-op-authorization delete-config

Description

This command enables the NETCONF <delete-config> RPC.

The **no** form of this command disables the RPC.

Default

no delete-config

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

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11.113 delete-pending

delete-pending

Syntax

[**no**] **delete-pending**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state delete-pending)

Full Context

configure subscriber-mgmt wlan-gw ue-query state delete-pending

Description

This command enables matching on UEs that are in a delete-pending state.

The **no** form of this command disables matching on UEs in a delete pending-state, unless all state matching is disabled.

Default

no delete-pending

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.114 delivery-service

delivery-service

Syntax

delivery-service *service-id*

delivery-service name *service-name*

no delivery-service

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel delivery-service)

[Tree] (config>service>ies>if>sap>ip-tunnel delivery-service)

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Full Context

configure service vprn interface sap ip-tunnel delivery-service

configure service ies interface sap ip-tunnel delivery-service

Description

This command sets the delivery service for GRE encapsulated packets associated with a particular GRE tunnel. This is the IES or VPRN service where the GRE encapsulated packets are injected and terminated. The delivery service may be the same service that owns the private tunnel SAP associated with the GRE tunnel. The GRE tunnel does not come up until a valid delivery service is configured.

The **no** form of this command deletes the delivery-service from the GRE tunnel configuration.

Parameters

service-id

Identifies the service used to originate and terminate the GRE encapsulated packets belonging to the GRE tunnel.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **delivery-service name** *service-name* variant can be used in all configuration modes.

Values {*id* | *svc-name*}

id:	1 to 2147483647
svc-name:	up to 64 characters (*svc-name* is an alias for input only. The *svc-name* gets replaced with an id automatically by SR OS in the configuration).

service-name

Identifies the service used to originate and terminate the GRE encapsulated packets belonging to the GRE tunnel.

Values 1 to 64 characters

Platforms

All

11.115 delta-consumed-agg-rate

delta-consumed-agg-rate

Syntax

delta-consumed-agg-rate percent *percent-of-delta-consumed-agg-rate*

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no delta-consumed-agg-rate

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution>above-offered-allowance delta-consumed-agg-rate)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution above-offered-allowance delta-consumed-agg-rate

Description

This command configures the percentage of the delta (from the beginning to the end of the current H-QoS below CIR or above CIR pass) of the aggregate rate consumed by its other members that can be given to a queue at the end of an H-QoS below CIR pass and above CIR pass. This command is only applicable when the port scheduler is configured to use the **above-offered-allowance-control** algorithm, otherwise it is ignored.

The **no** form of this command reverts the **delta-consumed-agg-rate percent** to its default value.

Default

delta-consumed-agg-rate 20.00

Parameters

percent-of-delta-consumed-agg-rate

Specifies the percentage of the delta (over the current H-QoS below CIR or above CIR pass) consumed aggregate rate that can be given to a queue.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

11.116 delta-consumed-higher-tier-rate

delta-consumed-higher-tier-rate

Syntax

delta-consumed-higher-tier-rate percent *percent-of-delta-consumed-high-tier-rate*

no delta-consumed-higher-tier-rate

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution>above-offered-allowance delta-consumed-higher-tier-rate)

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Full Context

configure qos adv-config-policy child-control bandwidth-distribution above-offered-allowance delta-consumed-higher-tier-rate

Description

This command configures the percentage of the delta (from the beginning to the end of the current H-QoS below CIR or above CIR pass) of the higher tier rate consumed by its other members that can be given to a queue at the end of an H-QoS below CIR pass and above CIR pass. Higher tier refers to the Vport aggregate rate and port scheduler level, group, and maximum rates.

This command is only applicable when the port scheduler is configured to use the **above-offered-allowance-control** algorithm, otherwise it is ignored.

The **no** form of this command reverts the **delta-consumed-higher-tier-rate percent** to its default value.

Default

delta-consumed-higher-tier-rate 5.00

Parameters

percent-of-delta-consumed-high-tier-rate

Specifies the percentage of the delta (over the current H-QoS below CIR or above CIR pass) consumed higher tier rate that can be given to a queue.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

11.117 delta-in-use-limit

delta-in-use-limit

Syntax

delta-in-use-limit *limit*

no delta-in-use-limit

Context

[Tree] (config>vrrp>policy delta-in-use-limit)

Full Context

configure vrrp policy delta-in-use-limit

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Description

This command sets a lower limit on the virtual router in-use priority that can be derived from the delta priority control events.

Each *vrrp-priority-id* places limits on the delta priority control events to define the in-use priority of the virtual router instance. Setting this limit prevents the sum of the delta priority events from lowering the in-use priority value of the associated virtual router instances below the configured value.

The limit has no effect on explicit priority control events. Explicit priority control events are controlled by setting the in-use priority to any value between 1 and 254.

Only non-owner virtual router instances can be associated with VRRP priority control policies and their priority control events.

Once the total sum of all delta events is calculated and subtracted from the base **priority** of the virtual router instance, the result is compared to the **delta-in-use-limit** value. If the result is less than the limit, the **delta-in-use-limit** value is used as the virtual router in-use priority value. If an explicit priority control event overrides the delta priority control events, the **delta-in-use-limit** has no effect.

Setting the limit to a higher value than the default of 1 limits the effect of the delta priority control events on the virtual router instance base **priority** value. This allows for multiple priority control events while minimizing the overall effect on the in-use priority.

Changing the *in-use-priority-limit* causes an immediate re-evaluation of the in-use priority values for all virtual router instances associated with this *vrrp-policy-id* based on the current sum of all active delta control policy events.

The **no** form of the command reverts to the default value.

Default

delta-in-use-limit 1 — Specifies the lower limit of 1 for the in-use priority, as modified, by delta priority control events.

Parameters

limit

Specifies the lower limit of the in-use priority base, as modified by priority control policies. The *in-use-priority-limit* has the same range as the non-owner virtual router instance base-priority parameter. If the result of the total delta priority control events minus the virtual router instances base-priority, is less than the *in-use-priority-limit*, the *in-use-priority-limit* value is used as the virtual router instances in-use priority value.

Setting the *in-use-priority-limit* to a value equal to or larger than the virtual router instance *base-priority* prevents the delta priority control events from having any effect on the virtual router instance in-use priority value.

Values 1 to 254

Platforms

All

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11.118 dent-threshold

dent-threshold

Syntax

dent-threshold *threshold*

no dent-threshold

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>sd dent-threshold)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>hd dent-threshold)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>pip dent-threshold)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface sd dent-threshold

configure mcast-management multicast-info-policy video-policy video-interface hd dent-threshold

configure mcast-management multicast-info-policy video-policy video-interface pip dent-threshold

Description

This command sets the threshold value below which the FCC server will dent/drop unicast data sent to the FCC client during a fast channel change. Within the RTP extension header, the packet priority (PRI) (2 bits) and the fine-grained priority (FPRI) (3 bits) indicate the "importance" of the frame as to how essential it is to the video stream.

This parameter is only applicable if the FCC server mode is **dent**.

The **no** form of the command returns the parameter to the default value.

Default

dent-threshold 16 (only B frames are dropped)

Parameters

threshold

Specifies the threshold value is used by the FCC server to compare with the concatenation of the PRI and FPRI to determine whether to send the packet to the FCC client. If the PRI and FPRI expressed as a decimal integer is greater than or equal to the threshold value, the packet will be sent.

Values 1 to 31

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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11.119 deny-list

deny-list

Syntax

[no] deny-list *deny-list-name*

Context

[Tree] (config>app-assure>group>url-filter>local-filtering deny-list)

Full Context

configure application-assurance group url-filter local-filtering deny-list

Description

This command adds a **deny-list** URL list to the local URL filter policy.

The **no** form of this command removes the URL list object.

Default

no deny-list

Parameters

deny-list-name

Specifies the URL list name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

11.120 depleted-event

depleted-event

Syntax

[**no**] **depleted-event**

Context

[Tree] (config>service>vprn>dhcp6>server>pool>prefix>thresholds>minimum-free depleted-event)

[Tree] (config>router>dhcp6>server>pool>prefix>thresholds>minimum-free depleted-event)

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Full Context

configure service vprn dhcp6 local-dhcp-server pool prefix thresholds minimum-free depleted-event

configure router dhcp6 local-dhcp-server pool prefix thresholds minimum-free depleted-event

Description

This command enables the system to send out a warning when the prefix with a configured length is no longer available in the provisioned prefix.

For example, if the prefix 2001:0:0:ffe0::/50 is created at the pool level using the **pd** and **wan-host** parameters, and the threshold for the prefix length is 64, configuring this command enables the system to send out a warning when there is no available /64 that can be allocated out of 2001:0:0:ffe0::/50.

The **no** form of this command disables the warnings.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

depleted-event

Syntax

[**no**] **depleted-event**

Context

[Tree] (config>router>dhcp6>server>pool>thresholds>minimum-free depleted-event)

[Tree] (config>service>vprn>dhcp6>server>pool>thresholds>minimum-free depleted-event)

Full Context

configure router dhcp6 local-dhcp-server pool thresholds minimum-free depleted-event

configure service vprn dhcp6 local-dhcp-server pool thresholds minimum-free depleted-event

Description

This command enables the system to send out warnings when the prefix with the configured length is no longer available in the pool.

The **no** form of this command disables the warnings.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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11.121 derived-id

derived-id

Syntax

derived-id *derived-id-string*

no derived-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident derived-id)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident derived-id)

Full Context

configure subscriber-mgmt local-user-db ppp host host-identification derived-id

configure subscriber-mgmt local-user-db ipoe host host-identification derived-id

Description

This command configures an ASCII string that uniquely identifies a host and is derived by a Python script from packet content available during a DHCP transaction or PPPoE session establishment.

Note:
This command is only used when **derived-id** is configured as one of the **match-list** parameters.

The **no** form of this command removes the derived-id from the configuration.

Parameters

derived-id-string

Specifies the host ID to be derived by a python script from DHCP or PPPoE packets, up to 255 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

11.122 description

description

Syntax

description *description-string*

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no description

Context

[Tree] (config>service>vprn>static-route-entry>follow description)

Full Context

configure service vprn static-route-entry follow description

Description

This command adds a text description for the follow behavior.

The **no** form of this command removes the text description.

Default

no description

Parameters

description-string

Specifies the text description up to 80 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

description

Syntax

description *tiny-description-string*

no description

Context

[Tree] (config>ipsec>static-sa description)

Full Context

configure ipsec static-sa description

Description

This command configures a text description that is stored in the configuration file. The text string is associated with a configuration context to identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

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Parameters

tiny-description-string

Specifies the description character string. Allowed values are any string, up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

description

Syntax

description *short-description-string*

no description

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy description)

[Tree] (config>subscr-mgmt>sap-template description)

[Tree] (config>service>cpipe description)

[Tree] (config>service>vprn>sub-if>grp-if>pppoe description)

[Tree] (config>filter>redirect-policy description)

[Tree] (config>qos>policer-control-policy description)

[Tree] (config>router>bgp>group>neighbor description)

[Tree] (config>eth-tunnel>path description)

[Tree] (config>subscr-mgmt>git description)

[Tree] (config>service>vpls>endpoint description)

[Tree] (config>service>vprn>ripng>group description)

[Tree] (config>qos>fp-resource-policy description)

[Tree] (config>filter>log description)

[Tree] (config>service>ies>if>dhcp description)

[Tree] (config>qos>post-policer-mapping description)

[Tree] (config>service>vprn>bgp>group description)

[Tree] (config>service>ies>aarp-interface>spoke-sdp description)

[Tree] (config>port-xc>pxc description)

[Tree] (config>system>persistence>ancp description)

[Tree] (config>ipsec>trans-mode-prof description)

[Tree] (config>service>ies>sub-if>grp-if>pppoe description)

[Tree] (config>service>vprn>aarp-interface>spoke-sdp description)

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[Tree] (config>filter>match-list>port-list description)
[Tree] (config>qos>policer-control-policy>tier>arbiter description)
[Tree] (config>service>epipe description)
[Tree] (config>service>vprn>red-if>spoke-sdp description)
[Tree] (config>filter>match-list>protocol-list description)
[Tree] (config>system>satellite>eth-sat description)
[Tree] (config>port>ethernet>access>egr>qgrp description)
[Tree] (config>qos>hw-agg-shap-sched-plcy description)
[Tree] (config>card>fp>ingress>network>queue-group description)
[Tree] (config>service>vprn>bgp description)
[Tree] (config>service>vprn>ripng>group>neighbor description)
[Tree] (config>subscr-mgmt>gtp>peer-profile description)
[Tree] (config>subscr-mgmt>pfcp-association description)
[Tree] (config>router>if>eth-cfm>mep description)
[Tree] (config>qos>match-list>port-list description)
[Tree] (config>filter>redirect-policy>destination description)
[Tree] (config>filter>match-list>ipv6-prefix-list description)
[Tree] (config>service>vprn>if>sap description)
[Tree] (config>lag>link-map-profile description)
[Tree] (config>service>vprn>rip>group>neighbor description)
[Tree] (config>system>netconf>call-home>netconf-client description)
[Tree] (config>isa>tunnel-group description)
[Tree] (config>service>vprn>rip description)
[Tree] (config>system>grpc-tunnel>destination-group description)
[Tree] (config>service>ies>if>sap>eth-cfm>mep description)
[Tree] (config>service>vprn>spoke-sdp description)
[Tree] (config>test-oam>lag-meas>template description)
[Tree] (config>filter>ip-exception>entry description)
[Tree] (config>router>mcac>policy>bundle description)
[Tree] (config>router>dhcp6>server>pool description)
[Tree] (config>filter>mac-filter description)
[Tree] (config>service>vprn>l2tp description)
[Tree] (config>eth-tunnel>path>eth-cfm>mep description)
[Tree] (config>router>static-route-entry>indirect description)
[Tree] (config>router>static-route-entry>next-hop description)
[Tree] (config>filter>gre-tun-tmp description)

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[Tree] (config>service>vprn>static-route-entry>next-hop description)

[Tree] (config>service>ies>if>ipv6>dhcp6-relay description)

[Tree] (config>fwd-path-ext>fpe description)

[Tree] (config>router>ripng description)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep description)

[Tree] (config>system>persistence>python-policy-cache description)

[Tree] (config>service>epipe>endpoint description)

[Tree] (config>service>vprn>static-route-entry>black-hole description)

[Tree] (config>router>ripng>group>neighbor description)

[Tree] (config>router>dhcp>server description)

[Tree] (config>qos>match-list>ipv6-prefix-list description)

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel description)

[Tree] (config>system>satellite>local-forward>sap description)

[Tree] (config>qos>network-queue description)

[Tree] (config>router>rip>group description)

[Tree] (config>port>ethernet>network>egr>qgrp description)

[Tree] (config>service>vpls>sap>ipoe-session description)

[Tree] (config>port>ethernet>access>egr>vport description)

[Tree] (config>filter>ip-filter>entry description)

[Tree] (config>filter>ip-filter description)

[Tree] (config>service>ies>sub-if>grp-if>srrp description)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep description)

[Tree] (config>port>ethernet>eth-cfm>mep description)

[Tree] (config>system>satellite>local-forward description)

[Tree] (config>system>script-control>script description)

[Tree] (config>router>bgp>group description)

[Tree] (config>router>origin-validation>rpki-session description)

[Tree] (config>ipsec>client-db>client description)

[Tree] (config>router>mcac>policy description)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel description)

[Tree] (config>redundancy>multi-chassis>peer description)

[Tree] (config>filter>match-list>ip-prefix-list description)

[Tree] (config>card>fp>ingress>access>queue-group description)

[Tree] (config>router>mcac>if-policy description)

[Tree] (config>filter>ip-exception description)

[Tree] (config>router>dhcp6>server description)

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[Tree] (config>router>if>dhcp description)
[Tree] (config>router>rip description)
[Tree] (config>service>ies>sub-if>dhcp description)
[Tree] (config>ipsec>tnl-temp description)
[Tree] (config>subscr-mgmt>rip-plcy description)
[Tree] (config>router>ripng>group description)
[Tree] (config>qos>match-list>ip-prefix-list description)
[Tree] (config>system>persistence>sub-mgmt description)
[Tree] (config>router>network-domains>network-domain description)
[Tree] (config>port>ethernet>access>ing>qgrp description)
[Tree] (config>service>cpipe>endpoint description)
[Tree] (config>filter>mac-filter>entry description)
[Tree] (config>filter>ipv6-filter description)
[Tree] (config>router>if>vrrp description)
[Tree] (config>router>rip>group>neighbor description)
[Tree] (config>service>ies description)
[Tree] (config>system>cron>sched description)
[Tree] (config>filter>ipv6-filter>entry description)
[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay description)
[Tree] (config>router>static-route-entry>black-hole description)
[Tree] (config>router>bgp description)
[Tree] (config>service>vprn>if>sap>ip-tunnel description)
[Tree] (config>system>software-repository description)
[Tree] (config>subscr-mgmt>loc-user-db description)
[Tree] (config>subscr-mgmt>ppp-policy description)
[Tree] (config>service>vprn>if>dhcp description)
[Tree] (config>service>ies>sub-if>ipv6>dhcp6>relay description)
[Tree] (config>router>pcp-server>server description)
[Tree] (config>filter>dhcp-filter description)
[Tree] (config>system>grpc-tunnel>tunnel description)
[Tree] (config>service>ies>if>spoke-sdp description)
[Tree] (config>service>ipipe description)
[Tree] (config>system>persistence>nat-fwd description)
[Tree] (config>service>vprn>ripng description)
[Tree] (config>service>ipipe>endpoint description)
[Tree] (config>router>dhcp>server>pool description)

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[Tree] (config>service>vprn>rip>group description)

[Tree] (config>bmp>station description)

[Tree] (config>app-assure>group>policy>chrg-fltr>entry description)

[Tree] (config>app-assure>group>dns-enrich description)

[Tree] (config>filter>ipv6-exception description)

[Tree] (config>service>ies>if>sap>ip-tunnel description)

[Tree] (config>router>route-next-hop-policy>template description)

[Tree] (config>port>ethernet>egress>hs-sec-shaper description)

[Tree] (config>filter>ipv6-exception>entry description)

[Tree] (config>service>ies>sub-if>grp-if>dhcp description)

[Tree] (config>service>ipipe>spoke-sdp description)

[Tree] (config>subscr-mgmt>acct-plcy description)

[Tree] (config>system>satellite>port-template description)

[Tree] (config>service>epipe>spoke-sdp description)

[Tree] (config>system>persistence>dhcp-server description)

[Tree] (config>router>fad>flex-algo description)

[Tree] (config>filter>policer description)

[Tree] (config>ipsec>ike-policy description)

[Tree] (config>service>vprn>bgp>group>neighbor description)

[Tree] (config>isa>tunnel-mem-pool description)

[Tree] (config>service>vprn>static-route-entry>grt description)

[Tree] (config>ipsec>client-db description)

[Tree] (config>service>vprn>static-route-entry>indirect description)

[Tree] (config>service>sdp>binding>pw-port description)

Full Context

configure subscriber-mgmt idle-timeout-policy description

configure subscriber-mgmt sap-template description

configure service cpipe description

configure service vprn subscriber-interface group-interface pppoe description

configure filter redirect-policy description

configure qos policer-control-policy description

configure router bgp group neighbor description

configure eth-tunnel path description

configure subscriber-mgmt group-interface-template description

configure service vpls endpoint description

configure service vprn ripng group description

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configure qos fp-resource-policy description
configure filter log description
configure service ies interface dhcp description
configure qos post-policer-mapping description
configure service vprn bgp group description
configure service ies aarp-interface spoke-sdp description
configure port-xc pxc description
configure system persistence ancp description
configure ipsec ipsec-transport-mode-profile description
configure service ies subscriber-interface group-interface pppoe description
configure service vprn aarp-interface spoke-sdp description
configure filter match-list port-list description
configure qos policer-control-policy tier arbiter description
configure service epipe description
configure service vprn redundant-interface spoke-sdp description
configure filter match-list protocol-list description
configure system satellite eth-sat description
configure port ethernet access egress queue-group description
configure qos hw-agg-shaper-scheduler-policy description
configure card fp ingress network queue-group description
configure service vprn bgp description
configure service vprn ripng group neighbor description
configure subscriber-mgmt gtp peer-profile description
configure subscriber-mgmt pfcp-association description
configure router interface eth-cfm mep description
configure qos match-list port-list description
configure filter redirect-policy destination description
configure filter match-list ipv6-prefix-list description
configure service vprn interface sap description
configure lag link-map-profile description
configure service vprn rip group neighbor description
configure system netconf call-home netconf-client description
configure isa tunnel-group description
configure service vprn rip description
configure system grpc-tunnel destination-group description
configure service ies interface sap eth-cfm mep description

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configure service vprn spoke-sdp description
configure test-oam lag-ip-measurement lag-ip-measurement-template description
configure filter ip-exception entry description
configure router mcac policy bundle description
configure router dhcp6 local-dhcp-server pool description
configure filter mac-filter description
configure service vprn l2tp description
configure eth-tunnel path eth-cfm mep description
configure router static-route-entry indirect description
configure router static-route-entry next-hop description
configure filter gre-tunnel-template description
configure service vprn static-route-entry next-hop description
configure service ies interface ipv6 dhcp6-relay description
configure fwd-path-ext fpe description
configure router ripng description
configure service ies interface spoke-sdp eth-cfm mep description
configure system persistence python-policy-cache description
configure service epipe endpoint description
configure service vprn static-route-entry black-hole description
configure router ripng group neighbor description
configure router dhcp local-dhcp-server description
configure qos match-list ipv6-prefix-list description
configure service vprn static-route-entry ipsec-tunnel description
configure system satellite local-forward sap description
configure qos network-queue description
configure router rip group description
configure port ethernet network egress queue-group description
configure service vpls sap ipoe-session description
configure port ethernet access egress vport description
configure filter ip-filter entry description
configure filter ip-filter description
configure service ies subscriber-interface group-interface srrp description
configure service ies subscriber-interface group-interface sap eth-cfm mep description
configure port ethernet eth-cfm mep description
configure system satellite local-forward description
configure system script-control script description

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configure router bgp group description
configure router origin-validation rpki-session description
configure ipsec client-db client description
configure router mcac policy description
configure service vprn interface sap ipsec-tunnel description
configure redundancy multi-chassis peer description
configure filter match-list ip-prefix-list description
configure card fp ingress access queue-group description
configure router mcac if-policy description
configure filter ip-exception description
configure router dhcp6 local-dhcp-server description
configure router interface dhcp description
configure router rip description
configure service ies subscriber-interface dhcp description
configure ipsec tunnel-template description
configure subscriber-mgmt rip-policy description
configure router ripng group description
configure qos match-list ip-prefix-list description
configure system persistence subscriber-mgmt description
configure router network-domains network-domain description
configure port ethernet access ingress queue-group description
configure service cpipe endpoint description
configure filter mac-filter entry description
configure filter ipv6-filter description
configure router interface vrrp description
configure router rip group neighbor description
configure service ies description
configure system cron schedule description
configure filter ipv6-filter entry description
configure service vprn subscriber-interface ipv6 dhcp6 relay description
configure router static-route-entry black-hole description
configure router bgp description
configure service vprn interface sap ip-tunnel description
configure system software-repository description
configure subscriber-mgmt local-user-db description
configure subscriber-mgmt ppp-policy description

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configure service vprn interface dhcp description
configure service ies subscriber-interface ipv6 dhcp6 relay description
configure router pcp-server server description
configure filter dhcp-filter description
configure system grpc-tunnel tunnel description
configure service ies interface spoke-sdp description
configure service ipipe description
configure system persistence nat-port-forwarding description
configure service vprn ripng description
configure service ipipe endpoint description
configure router dhcp local-dhcp-server pool description
configure service vprn rip group description
configure bmp station description
configure application-assurance group policy charging-filter entry description
configure application-assurance group dns-enrich description
configure filter ipv6-exception description
configure service ies interface sap ip-tunnel description
configure router route-next-hop-policy template description
configure port ethernet egress hs-secondary-shaper description
configure filter ipv6-exception entry description
configure service ies subscriber-interface group-interface dhcp description
configure service ipipe spoke-sdp description
configure subscriber-mgmt radius-accounting-policy description
configure system satellite port-template description
configure service epipe spoke-sdp description
configure system persistence dhcp-server description
configure router flexible-algorithm-definitions flex-algo description
configure filter policer description
configure ipsec ike-policy description
configure service vprn bgp group neighbor description
configure isa tunnel-member-pool description
configure service vprn static-route-entry grt description
configure ipsec client-db description
configure service vprn static-route-entry indirect description
configure service sdp binding pw-port description

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Description

This command configures a text description that is stored in the configuration file. The text string is associated with a configuration context to identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

Default

no description

Parameters

short-description-string

Specifies the description entered as a character string up to 80 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp local-dhcp-server description
- configure service ies subscriber-interface group-interface pppoe description
- configure service vpls sap ipoe-session description
- configure subscriber-mgmt sap-template description
- configure subscriber-mgmt rip-policy description
- configure subscriber-mgmt pfcp-association description
- configure service vprn subscriber-interface ipv6 dhcp6 relay description
- configure service ies subscriber-interface ipv6 dhcp6 relay description
- configure service vprn redundant-interface spoke-sdp description
- configure system persistence subscriber-mgmt description
- configure router dhcp local-dhcp-server pool description
- configure subscriber-mgmt local-user-db description
- configure service vprn l2tp description
- configure router dhcp6 local-dhcp-server description
- configure subscriber-mgmt group-interface-template description
- configure system persistence dhcp-server description
- configure service ies subscriber-interface group-interface srrp description
- configure service ies subscriber-interface group-interface dhcp description
- configure subscriber-mgmt ppp-policy description
- configure router dhcp6 local-dhcp-server pool description
- configure subscriber-mgmt idle-timeout-policy description
- configure service ies subscriber-interface dhcp description
- configure service vprn subscriber-interface group-interface pppoe description

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- configure subscriber-mgmt radius-accounting-policy description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service sdp binding pw-port description
- configure eth-tunnel path eth-cfm mep description
- configure system satellite local-forward description
- configure system software-repository description
- configure system satellite port-template description
- configure service cpipe endpoint description
- configure system satellite local-forward sap description
- configure test-oam lag-ip-measurement lag-ip-measurement-template description
- configure service ies interface sap eth-cfm mep description
- configure qos match-list port-list description
- configure system satellite eth-sat description
- configure service ies interface spoke-sdp eth-cfm mep description
- configure service cpipe description
- configure port ethernet eth-cfm mep description
- configure router interface eth-cfm mep description
- configure eth-tunnel path description

All

- configure filter redirect-policy destination description
- configure router static-route-entry next-hop description
- configure router flexible-algorithm-definitions flex-algo description
- configure filter ip-filter entry description
- configure port ethernet access egress vport description
- configure router rip description
- configure filter mac-filter description
- configure service vprn rip group neighbor description
- configure service epipe endpoint description
- configure service vprn ripng group description
- configure service ies interface ipv6 dhcp6-relay description
- configure filter log description
- configure service vprn rip description
- configure filter gre-tunnel-template description
- configure port-xc pxc description
- configure service ipipe description
- configure qos network-queue description

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- configure router ripng description
- configure service epipe description
- configure filter dhcp-filter description
- configure router network-domains network-domain description
- configure service ies interface spoke-sdp description
- configure service vprn bgp group description
- configure service vprn static-route-entry ipsec-tunnel description
- configure router ripng group neighbor description
- configure port ethernet access egress queue-group description
- configure filter mac-filter entry description
- configure router rip group neighbor description
- configure redundancy multi-chassis peer description
- configure service vprn static-route-entry indirect description
- configure router route-next-hop-policy template description
- configure service ies interface dhcp description
- configure system script-control script description
- configure filter match-list protocol-list description
- configure router interface vrrp description
- configure router ripng group description
- configure router bgp group neighbor description
- configure system persistence python-policy-cache description
- configure router mcac policy bundle description
- configure filter ipv6-filter entry description
- configure service vprn ripng group neighbor description
- configure qos match-list ip-prefix-list description
- configure filter match-list ip-prefix-list description
- configure bmp station description
- configure router mcac if-policy description
- configure filter redirect-policy description
- configure service vprn interface dhcp description
- configure service vpls endpoint description
- configure service vprn static-route-entry next-hop description
- configure router bgp group description
- configure system netconf call-home netconf-client description
- configure service vprn bgp group neighbor description
- configure service ies description

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- configure filter match-list port-list description
- configure router mcac policy description
- configure router interface dhcp description
- configure qos match-list ipv6-prefix-list description
- configure service vprn rip group description
- configure service vprn static-route-entry grt description
- configure system grpc-tunnel tunnel description
- configure system persistence ancp description
- configure service vprn bgp description
- configure service vprn interface sap description
- configure router static-route-entry indirect description
- configure port ethernet network egress queue-group description
- configure system cron schedule description
- configure service ies interface sap ip-tunnel description
- configure router rip group description
- configure filter ipv6-filter description
- configure service vprn static-route-entry black-hole description
- configure service vprn ripng description
- configure filter match-list ipv6-prefix-list description
- configure filter ip-filter description
- configure service ipipe endpoint description
- configure fwd-path-ext fpe description
- configure service epipe spoke-sdp description
- configure service ipipe spoke-sdp description
- configure router static-route-entry black-hole description
- configure router origin-validation rpki-session description
- configure service vprn interface sap ip-tunnel description
- configure system grpc-tunnel destination-group description
- configure lag link-map-profile description
- configure router bgp description
- configure port ethernet access ingress queue-group description
- configure service vprn spoke-sdp description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos post-policer-mapping description
- configure card fp ingress network queue-group description
- configure qos policer-control-policy tier arbiter description

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- configure filter policer description
- configure qos policer-control-policy description
- configure card fp ingress access queue-group description

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure qos fp-resource-policy description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn aarp-interface spoke-sdp description
- configure application-assurance group dns-enrich description
- configure router pcp-server server description
- configure application-assurance group policy charging-filter entry description
- configure ipsec ike-policy description
- configure ipsec ipsec-transport-mode-profile description
- configure ipsec client-db client description
- configure isa tunnel-group description
- configure system persistence nat-port-forwarding description
- configure isa tunnel-member-pool description
- configure ipsec client-db description
- configure service ies aarp-interface spoke-sdp description
- configure ipsec tunnel-template description
- configure service vprn interface sap ipsec-tunnel description

7750 SR-1, 7750 SR-s

- configure qos hw-agg-shaper-scheduler-policy description

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt gtp peer-profile description

VSR

- configure filter ipv6-exception entry description
- configure filter ip-exception description
- configure filter ip-exception entry description
- configure filter ipv6-exception description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep description

7750 SR-7/12/12e

- configure port ethernet egress hs-secondary-shaper description

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description

Syntax

description *short-description-string*

no description

Context

[Tree] (config>aaa>l2tp-acct-plcy description)

[Tree] (config>app-assure>group>policy>app-filter>entry description)

[Tree] (config>li>li-filter>li-mac-filter description)

[Tree] (config>app-assure>group>http-enrich description)

[Tree] (config>subscr-mgmt>cat-map>category description)

[Tree] (config>subscr-mgmt>pppoe-client-policy description)

[Tree] (config>app-assure>group>transit-prefix-policy description)

[Tree] (config>router>twamp-light>reflector description)

[Tree] (config>li>li-filter>li-ipv6-filter>entry description)

[Tree] (config>router>nat>outside>pool>address-range description)

[Tree] (config>qos>sap-ingress>mac-criteria>entry description)

[Tree] (config>app-assure>group>port-list description)

[Tree] (config>test-oam>link-meas>template description)

[Tree] (config>app-assure>group>gtp>gtp-filter description)

[Tree] (config>service>nat>pcp-server-policy description)

[Tree] (config>service>upnp>upnp-policy description)

[Tree] (config>app-assure>group>tcp-validate description)

[Tree] (config>python>py-policy description)

[Tree] (config>app-assure>group>policy>custom-protocol description)

[Tree] (config>subscr-mgmt>authentication-policy description)

[Tree] (config>app-assure>group>session-filter>entry description)

[Tree] (config>app-assure>group>policer description)

[Tree] (config>li>li-filter>li-ipv6-filter description)

[Tree] (config>service>vprn>radius-proxy>server description)

[Tree] (config>service>vprn>gsmp>group>neighbor description)

[Tree] (config>subscr-mgmt>host-lockout-plcy description)

[Tree] (config>subscr-mgmt>sub-mcac-policy description)

[Tree] (config>qos>network>ingress>ip-criteria>entry description)

[Tree] (config>li>log>log-id description)

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[Tree] (config>app-assure>rad-acct-plcy description)
[Tree] (config>isa>aa-grp description)
[Tree] (config>li>li-filter-block-reservation>li-reserved-block description)
[Tree] (config>li>li-filter>li-ip-filter>entry description)
[Tree] (config>oam-pm>streaming>delay-template description)
[Tree] (config>app-assure>group>transit-ip description)
[Tree] (config>subscr-mgmt>steering-profile description)
[Tree] (config>test-oam>twamp>server>prefix description)
[Tree] (config>app-assure>group>certificate-profile description)
[Tree] (config>service>mac-list description)
[Tree] (config>service>vpls>mesh-sdp description)
[Tree] (config>app-assure>group>policer>tod-override description)
[Tree] (config>service>vprn>sub-if>grp-if>wpp description)
[Tree] (config>subscr-mgmt>sub-ident-pol description)
[Tree] (config>subscr-mgmt>diam-appl-plcy description)
[Tree] (config>service>vprn>gsmp>group description)
[Tree] (config>li>li-filter>li-mac-filter>entry description)
[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry description)
[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters description)
[Tree] (config>subscr-mgmt>sla-profile description)
[Tree] (config>app-assure>aarp description)
[Tree] (config>oam-pm>session description)
[Tree] (config>qos>sap-egress>ip-criteria>entry description)
[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter description)
[Tree] (config>aaa>radius-srv-plcy description)
[Tree] (config>aaa>isa-radius-plcy description)
[Tree] (config>subscr-mgmt>pim-policy description)
[Tree] (config>app-assure>group>http-error-redirect description)
[Tree] (config>app-assure>group>url-filter>web-service>profile description)
[Tree] (config>service>ies>sub-if>grp-if>wlan-gw description)
[Tree] (config>router>policy-options>policy-statement>entry description)
[Tree] (config>service>nat>nat-classifier>entry description)
[Tree] (config>service>vprn>twamp-light>reflector description)
[Tree] (config>service>vpls description)
[Tree] (config>service>vpls>wlan-gw description)
[Tree] (config>router>nat>outside>pool description)

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[Tree] (config>qos>sap-egress description)
[Tree] (config>subscr-mgmt>isa-filter>ipv6>entry description)
[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile description)
[Tree] (config>service>ies>sub-if>grp-if>sap-parameters description)
[Tree] (config>subscr-mgmt>credit-cntrl-plcy description)
[Tree] (config>router>firewall>domain>prefix description)
[Tree] (config>mcast-mgmt>mcast-rprt-dest description)
[Tree] (config>service>nat>nat-policy description)
[Tree] (config>pw-port description)
[Tree] (config>service>vpls>gsmp>group>neighbor description)
[Tree] (cfg>qos>qgrps>ing>qgrp description)
[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session description)
[Tree] (config>aaa>diam>node description)
[Tree] (config>aaa>route-downloader description)
[Tree] (config>isa>nat-group description)
[Tree] (config>app-assure>group>policy>application description)
[Tree] (config>oam-pm>bin-group description)
[Tree] (config>app-assure>group>statistics>aa-sub description)
[Tree] (config>router>nat>inside>sub-ident description)
[Tree] (config>app-assure>group>cflowd>direct-export>collector description)
[Tree] (config>app-assure>group>sctp-filter description)
[Tree] (config>service>vprn>sub-if>grp-if>arp-host description)
[Tree] (config>system>persistence>application-assurance description)
[Tree] (config>cflowd>collector description)
[Tree] (cfg>qos>qgrps>egr>qgrp description)
[Tree] (config>qos>network description)
[Tree] (config>service>nat>up-nat-policy description)
[Tree] (config>app-assure>group>session-filter description)
[Tree] (config>service>vpls>sap description)
[Tree] (config>service>dynsvc>ladb>user description)
[Tree] (config>service>dynsvc>policy description)
[Tree] (config>mcast-mgmt>bandwidth-policy description)
[Tree] (config>app-assure>group>http-redirect description)
[Tree] (config>aaa>radius-script-policy description)
[Tree] (config>service>vprn>twamp-light>reflector>prefix description)
[Tree] (config>aaa>acct-on-off-grp description)

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[Tree] (config>app-assure>group>url-filter description)
[Tree] (config>isa>wlan-gw-group description)
[Tree] (config>service>vprn description)
[Tree] (cfg>qos>qgrps>ing>qgrp>policer description)
[Tree] (config>app-assure>group>ip-prefix-list description)
[Tree] (config>qos>sap-ingress>ip-criteria>entry description)
[Tree] (config>call-trace>trace-profile description)
[Tree] (config>subscr-mgmt>mld-policy description)
[Tree] (config>service>vpls>gsmp>group description)
[Tree] (config>service>nat>firewall-policy description)
[Tree] (config>subscr-mgmt>sub-profile description)
[Tree] (config>router>vrgw>lanext description)
[Tree] (config>router>policy-options>policy-statement description)
[Tree] (config>qos>sap-egress>ipv6-criteria>entry description)
[Tree] (config>macsec>connectivity-association description)
[Tree] (config>mirror>mirror-dest description)
[Tree] (config>service>vpls>sap>dhcp description)
[Tree] (config>app-assure>group>url-filter>icap>server description)
[Tree] (config>qos>network>egress>ip-criteria>entry description)
[Tree] (config>router>twamp-light>reflector>prefix description)
[Tree] (config>service>vprn>nat>outside>pool>address-range description)
[Tree] (config>service>vpls>spoke-sdp description)
[Tree] (config>qos>sap-ingress>policer description)
[Tree] (config>service>vprn>sub-if>grp-if>srrp description)
[Tree] (config>subscr-mgmt>isa-policer description)
[Tree] (config>subscr-mgmt>isa-filter>entry description)
[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext description)
[Tree] (config>app-assure>group>policy>charging-group description)
[Tree] (config>service>nat>map-domain>mapping-rule description)
[Tree] (config>service>vpls>split-horizon-group description)
[Tree] (config>esa description)
[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>network description)
[Tree] (config>service>vprn>radius-server>server description)
[Tree] (config>service>ipfix>ipfix-export-policy description)
[Tree] (config>app-assure>group>policy>app-grp description)
[Tree] (config>python>python-script description)

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[Tree] (config>subscr-mgmt>isa-svc-chain>evpn description)
[Tree] (config>service>vpls>mld-snooping>mvr description)
[Tree] (config>app-assure>group>policy>app-qos-policy>entry description)
[Tree] (config>subscr-mgmt>accu-stats-policy description)
[Tree] (config>app-assure>group>cflowd>collector description)
[Tree] (config>subscr-mgmt>ipoe-session-policy description)
[Tree] (config>app-assure>group>dns-ip-cache description)
[Tree] (config>service>dynsvc>ladb description)
[Tree] (config>service>vprn>ip-mirror-interface>spoke-sdp description)
[Tree] (config>qos>network>egress>ipv6-criteria>entry description)
[Tree] (config>esa>vm description)
[Tree] (config>qos>sap-ingress>ipv6-criteria>entry description)
[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw description)
[Tree] (config>li>x-interfaces>lics>lic description)
[Tree] (config>service>vprn>nat>outside>pool description)
[Tree] (config>app-assure>group>policy>app-profile description)
[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry description)
[Tree] (config>service>vprn>sub-if>grp-if>sap description)
[Tree] (config>subscr-mgmt>isa-filter description)
[Tree] (config>li>li-filter>li-ip-filter description)
[Tree] (config>qos>sap-ingress description)
[Tree] (config>aaa>wpp>portal-groups>portal-group description)
[Tree] (config>mirror>mirror-dest>endpoint description)
[Tree] (config>app-assure>group>http-notification description)
[Tree] (config>vrrp>policy description)
[Tree] (config>service>vprn>firewall>domain>prefix description)
[Tree] (config>subscr-mgmt>host-tracking description)
[Tree] (config>service>nat>nat-classifier description)
[Tree] (config>qos>sap-egress>policer description)
[Tree] (config>mcast-mgmt>multicast-info-policy description)
[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt description)
[Tree] (config>app-assure>group description)
[Tree] (config>qos>network>ingress>ipv6-criteria>entry description)
[Tree] (cfg>qos>qgrps>egr>qgrp>policer description)
[Tree] (config>router>radius-server>server description)
[Tree] (config>app-assure>group>event-log>syslog description)

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[Tree] (config>saa>test description)

[Tree] (config>app-assure>group>url-list description)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle description)

[Tree] (config>router>radius-proxy>server description)

[Tree] (config>subscr-mgmt>cat-map description)

[Tree] (config>port>ethernet>access>egress description)

[Tree] (config>service>vpls>igmp-snooping>mvr description)

Full Context

configure aaa l2tp-accounting-policy description

configure application-assurance group policy app-filter entry description

configure li li-filter li-mac-filter description

configure application-assurance group http-enrich description

configure subscriber-mgmt category-map category description

configure subscriber-mgmt pppoe-client-policy description

configure application-assurance group transit-prefix-policy description

configure router twamp-light reflector description

configure li li-filter li-ipv6-filter entry description

configure router nat outside pool address-range description

configure qos sap-ingress mac-criteria entry description

configure application-assurance group port-list description

configure test-oam link-measurement measurement-template description

configure application-assurance group gtp gtp-filter description

configure service nat pcp-server-policy description

configure service upnp upnp-policy description

configure application-assurance group tcp-validate description

configure python python-policy description

configure application-assurance group policy custom-protocol description

configure subscriber-mgmt authentication-policy description

configure application-assurance group session-filter entry description

configure application-assurance group policer description

configure li li-filter li-ipv6-filter description

configure service vprn radius-proxy server description

configure service vprn gsmp group neighbor description

configure subscriber-mgmt host-lockout-policy description

configure subscriber-mgmt sub-mcac-policy description

configure qos network ingress ip-criteria entry description

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configure li log log-id description
configure application-assurance radius-accounting-policy description
configure isa application-assurance-group description
configure li li-filter-block-reservation li-reserved-block description
configure li li-filter li-ip-filter entry description
configure oam-pm streaming delay-template description
configure application-assurance group transit-ip-policy description
configure subscriber-mgmt steering-profile description
configure test-oam twamp server prefix description
configure application-assurance group certificate-profile description
configure service mac-list description
configure service vpls mesh-sdp description
configure application-assurance group policer tod-override description
configure service vprn subscriber-interface group-interface wpp description
configure subscriber-mgmt sub-ident-policy description
configure subscriber-mgmt diameter-application-policy description
configure service vprn gsmp group description
configure li li-filter li-mac-filter entry description
configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry description
configure service vprn subscriber-interface group-interface sap-parameters description
configure subscriber-mgmt sla-profile description
configure application-assurance aarp description
configure oam-pm session description
configure qos sap-egress ip-criteria entry description
configure subscriber-mgmt isa-service-chaining vas-filter description
configure aaa radius-server-policy description
configure aaa isa-radius-policy description
configure subscriber-mgmt pim-policy description
configure application-assurance group http-error-redirect description
configure application-assurance group url-filter web-service profile description
configure service ies subscriber-interface group-interface wlan-gw description
configure router policy-options policy-statement entry description
configure service nat nat-classifier entry description
configure service vprn twamp-light reflector description
configure service vpls description
configure service vpls wlan-gw description

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configure router nat outside pool description
configure qos sap-egress description
configure subscriber-mgmt isa-filter ipv6 entry description
configure subscriber-mgmt vrgw brg brg-profile description
configure service ies subscriber-interface group-interface sap-parameters description
configure subscriber-mgmt credit-control-policy description
configure router firewall domain prefix description
configure mcast-management mcast-reporting-dest description
configure service nat nat-policy description
configure pw-port description
configure service vpls gsmp group neighbor description
configure qos queue-group-templates ingress queue-group description
configure service vprn subscriber-interface group-interface ipoe-session description
configure aaa diameter node description
configure aaa route-downloader description
configure isa nat-group description
configure application-assurance group policy application description
configure oam-pm bin-group description
configure application-assurance group statistics aa-sub description
configure router nat inside subscriber-identification description
configure application-assurance group cflowd direct-export collector description
configure application-assurance group sctp-filter description
configure service vprn subscriber-interface group-interface arp-host description
configure system persistence application-assurance description
configure cflowd collector description
configure qos queue-group-templates egress queue-group description
configure qos network description
configure service nat up-nat-policy description
configure application-assurance group session-filter description
configure service vpls sap description
configure service dynamic-services local-auth-db user-name description
configure service dynamic-services dynamic-services-policy description
configure mcast-management bandwidth-policy description
configure application-assurance group http-redirect description
configure aaa radius-script-policy description
configure service vprn twamp-light reflector prefix description

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configure aaa acct-on-off-group description
configure application-assurance group url-filter description
configure isa wlan-gw-group description
configure service vprn description
configure qos queue-group-templates ingress queue-group policer description
configure application-assurance group ip-prefix-list description
configure qos sap-ingress ip-criteria entry description
configure call-trace trace-profile description
configure subscriber-mgmt mld-policy description
configure service vpls gsmp group description
configure service nat firewall-policy description
configure subscriber-mgmt sub-profile description
configure router vrgw lanext description
configure router policy-options policy-statement description
configure qos sap-egress ipv6-criteria entry description
configure macsec connectivity-association description
configure mirror mirror-dest description
configure service vpls sap dhcp description
configure application-assurance group url-filter icap server description
configure qos network egress ip-criteria entry description
configure router twamp-light reflector prefix description
configure service vprn nat outside pool address-range description
configure service vpls spoke-sdp description
configure qos sap-ingress policer description
configure service vprn subscriber-interface group-interface srrp description
configure subscriber-mgmt isa-policer description
configure subscriber-mgmt isa-filter entry description
configure service ies subscriber-interface group-interface wlan-gw ranges range vrgw lanext description
configure application-assurance group policy charging-group description
configure service nat map-domain mapping-rule description
configure service vpls split-horizon-group description
configure esa description
configure service ies subscriber-interface group-interface wlan-gw ranges range vrgw lanext network description
configure service vprn radius-server server description
configure service ipfix ipfix-export-policy description
configure application-assurance group policy app-group description

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configure python python-script description
configure subscriber-mgmt isa-service-chaining evpn description
configure service vpls mld-snooping mvr description
configure application-assurance group policy app-qos-policy entry description
configure subscriber-mgmt accu-stats-policy description
configure application-assurance group cflowd collector description
configure subscriber-mgmt ipoe-session-policy description
configure application-assurance group dns-ip-cache description
configure service dynamic-services local-auth-db description
configure service vprn ip-mirror-interface spoke-sdp description
configure qos network egress ipv6-criteria entry description
configure esa vm description
configure qos sap-ingress ipv6-criteria entry description
configure service vprn subscriber-interface group-interface wlan-gw description
configure li x-interfaces lics lic description
configure service vprn nat outside pool description
configure application-assurance group policy app-profile description
configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry description
configure service vprn subscriber-interface group-interface sap description
configure subscriber-mgmt isa-filter description
configure li li-filter li-ip-filter description
configure qos sap-ingress description
configure aaa wpp portal-groups portal-group description
configure mirror mirror-dest endpoint description
configure application-assurance group http-notification description
configure vrrp policy description
configure service vprn firewall domain prefix description
configure subscriber-mgmt host-tracking description
configure service nat nat-classifier description
configure qos sap-egress policer description
configure mcast-management multicast-info-policy description
configure service vprn subscriber-interface group-interface sap sub-sla-mgmt description
configure application-assurance group description
configure qos network ingress ipv6-criteria entry description
configure qos queue-group-templates egress queue-group policer description
configure router radius-server server description

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configure application-assurance group event-log syslog description

configure saa test description

configure application-assurance group url-list description

configure mcast-management multicast-info-policy bundle description

configure router radius-proxy server description

configure subscriber-mgmt category-map description

configure port ethernet access egress description

configure service vpls igmp-snooping mvr description

Description

This command configures a text description that is stored in the configuration file. The text string is associated with a configuration context to identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

Parameters

short-description-string

Specifies the description character string. Allowed values are any string, up to 80 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt ipoe-session-policy description
- configure subscriber-mgmt isa-filter entry description
- configure service vprn radius-proxy server description
- configure service dynamic-services local-auth-db user-name description
- configure subscriber-mgmt isa-filter ipv6 entry description
- configure service vprn subscriber-interface group-interface sap sub-sla-mgmt description
- configure service vprn radius-server server description
- configure aaa route-downloader description
- configure subscriber-mgmt category-map description
- configure service vprn subscriber-interface group-interface arp-host description
- configure subscriber-mgmt vrgw brg brg-profile description
- configure router radius-proxy server description
- configure subscriber-mgmt host-lockout-policy description
- configure aaa acct-on-off-group description
- configure subscriber-mgmt isa-policer description
- configure subscriber-mgmt category-map category description
- configure subscriber-mgmt sub-ident-policy description

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- configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry description
- configure aaa radius-server-policy description
- configure call-trace trace-profile description
- configure service vprn subscriber-interface group-interface srrp description
- configure subscriber-mgmt credit-control-policy description
- configure router radius-server server description
- configure aaa diameter node description
- configure service vprn subscriber-interface group-interface ipoe-session description
- configure subscriber-mgmt pppoe-client-policy description
- configure aaa radius-script-policy description
- configure subscriber-mgmt pim-policy description
- configure subscriber-mgmt authentication-policy description
- configure subscriber-mgmt mld-policy description
- configure subscriber-mgmt sub-profile description
- configure subscriber-mgmt steering-profile description
- configure aaa wpp portal-groups portal-group description
- configure service dynamic-services dynamic-services-policy description
- configure subscriber-mgmt diameter-application-policy description
- configure service vprn subscriber-interface group-interface sap description
- configure service vprn subscriber-interface group-interface wpp description
- configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry description
- configure service dynamic-services local-auth-db description
- configure subscriber-mgmt isa-filter description
- configure subscriber-mgmt accu-stats-policy description
- configure subscriber-mgmt sla-profile description
- configure aaa l2tp-accounting-policy description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy description
- configure application-assurance radius-accounting-policy description
- configure application-assurance group policer tod-override description
- configure service nat pcp-server-policy description
- configure application-assurance group session-filter description
- configure application-assurance group statistics aa-sub description
- configure service vprn nat outside pool address-range description
- configure application-assurance group policy charging-group description

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- configure application-assurance group sctp-filter description
- configure application-assurance aarp description
- configure service nat nat-classifier entry description
- configure application-assurance group gtp gtp-filter description
- configure router nat inside subscriber-identification description
- configure application-assurance group url-list description
- configure subscriber-mgmt isa-service-chaining evpn description
- configure application-assurance group transit-prefix-policy description
- configure application-assurance group url-filter icap server description
- configure system persistence application-assurance description
- configure application-assurance group policy app-profile description
- configure application-assurance group http-notification description
- configure application-assurance group transit-ip-policy description
- configure application-assurance group url-filter web-service profile description
- configure application-assurance group http-redirect description
- configure service nat nat-policy description
- configure application-assurance group policy app-group description
- configure application-assurance group tcp-validate description
- configure application-assurance group dns-ip-cache description
- configure service upnp upnp-policy description
- configure aaa isa-radius-policy description
- configure application-assurance group url-filter description
- configure service vprn nat outside pool description
- configure application-assurance group cflowd direct-export collector description
- configure isa application-assurance-group description
- configure application-assurance group certificate-profile description
- configure service nat nat-classifier description
- configure application-assurance group description
- configure subscriber-mgmt isa-service-chaining vas-filter description
- configure isa nat-group description
- configure application-assurance group policy custom-protocol description
- configure application-assurance group http-enrich description
- configure application-assurance group session-filter entry description
- configure application-assurance group ip-prefix-list description
- configure application-assurance group port-list description
- configure router nat outside pool description

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- configure application-assurance group policy app-filter entry description
- configure application-assurance group policy application description
- configure application-assurance group cflowd collector description
- configure application-assurance group policy app-qos-policy entry description
- configure router nat outside pool address-range description
- configure application-assurance group event-log syslog description
- configure application-assurance group http-error-redirect description
- configure application-assurance group policer description

All

- configure service ipfix ipfix-export-policy description
- configure mirror mirror-dest description
- configure service vprn description
- configure pw-port description
- configure service vpls split-horizon-group description
- configure qos queue-group-templates egress queue-group description
- configure service vpls gsmp group description
- configure service vpls sap dhcp description
- configure li log log-id description
- configure oam-pm session description
- configure li li-filter-block-reservation li-reserved-block description
- configure macsec connectivity-association description
- configure qos sap-egress ipv6-criteria entry description
- configure service vpls sap description
- configure qos network ingress ip-criteria entry description
- configure li li-filter li-mac-filter description
- configure qos queue-group-templates ingress queue-group description
- configure qos network description
- configure mirror mirror-dest endpoint description
- configure python python-script description
- configure qos sap-ingress ipv6-criteria entry description
- configure service vprn gsmp group description
- configure li li-filter li-ipv6-filter description
- configure qos sap-ingress description
- configure mcast-management multicast-info-policy description
- configure service vpls mld-snooping mvr description
- configure service vprn ip-mirror-interface spoke-sdp description

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- configure router policy-options policy-statement entry description
- configure python python-policy description
- configure li li-filter li-ip-filter entry description
- configure li li-filter li-mac-filter entry description
- configure qos sap-ingress mac-criteria entry description
- configure service vpls gsmp group neighbor description
- configure service vpls spoke-sdp description
- configure service vprn gsmp group neighbor description
- configure li li-filter li-ip-filter description
- configure qos network egress ipv6-criteria entry description
- configure mcast-management mcast-reporting-dest description
- configure qos sap-egress description
- configure service vpls mesh-sdp description
- configure service vpls description
- configure saa test description
- configure qos network ingress ipv6-criteria entry description
- configure qos sap-ingress ip-criteria entry description
- configure port ethernet access egress description
- configure service mac-list description
- configure oam-pm bin-group description
- configure mcast-management multicast-info-policy bundle description
- configure qos sap-egress ip-criteria entry description
- configure qos network egress ip-criteria entry description
- configure vrrp policy description
- configure service vpls igmp-snooping mvr description
- configure cflowd collector description
- configure li li-filter li-ipv6-filter entry description
- configure router policy-options policy-statement description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn twamp-light reflector prefix description
- configure li x-interfaces lics lic description
- configure test-oam twamp server prefix description
- configure router twamp-light reflector prefix description
- configure oam-pm streaming delay-template description
- configure test-oam link-measurement measurement-template description
- configure service vprn twamp-light reflector description

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- configure router twamp-light reflector description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure subscriber-mgmt sub-mcac-policy description

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router firewall domain prefix description
- configure isa wlan-gw-group description
- configure router vrgw lanext description
- configure service ies subscriber-interface group-interface sap-parameters description
- configure service vpls wlan-gw description
- configure service vprn firewall domain prefix description
- configure service ies subscriber-interface group-interface wlan-gw description
- configure service vprn subscriber-interface group-interface wlan-gw description
- configure service nat firewall-policy description
- configure service vprn subscriber-interface group-interface sap-parameters description

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

- configure mcast-management bandwidth-policy description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-ingress policer description
- configure qos queue-group-templates egress queue-group policer description
- configure qos queue-group-templates ingress queue-group policer description
- configure qos sap-egress policer description

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

- configure service nat map-domain mapping-rule description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

- configure esa description
- configure esa vm description

description

Syntax

description *short-description-string*

no description

Context

[Tree] (config>log>accounting-policy description)

[Tree] (config>qos>scheduler-policy>tier>scheduler description)

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[Tree] (config>test-oam>sath>accept-crit-tmpl description)

[Tree] (cfg>sys>sec>cpm>mac-filter>entry description)

[Tree] (config>system>security>pki>ca-profile description)

[Tree] (config>eth-ring description)

[Tree] (config>qos>adv-config-policy description)

[Tree] (config>sys>security>cpm-filter>ipv6-filter>entry description)

[Tree] (config>test-oam>sath>svc-test description)

[Tree] (config>qos>hs-scheduler-policy description)

[Tree] (config>service>cust description)

[Tree] (config>system>security>keychain>direction>uni>send>entry description)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer description)

[Tree] (config>isa>video-group description)

[Tree] (config>system>security>keychain description)

[Tree] (config>service>pw-template description)

[Tree] (config>system>security>user>public-keys>ecdsa>ecdsa-key description)

[Tree] (config>eth-ring>path>eth-cfm>mep description)

[Tree] (config>log>file-id description)

[Tree] (config>system>security>keychain>direction>bi>entry description)

[Tree] (config>qos>slope-policy description)

[Tree] (config>service>pw-template>split-horizon-group description)

[Tree] (config>system>security>user>public-keys>rsa>rsa-key description)

[Tree] (config>qos>hs-port-pool-policy description)

[Tree] (config>log>event-handling>handler>action-list>entry description)

[Tree] (config>qos>hs-pool-policy description)

[Tree] (config>qos>port-scheduler-policy description)

[Tree] (config>service>vprn>video-interface description)

[Tree] (config>log>snmp-trap-group description)

[Tree] (config>service>ies>video-interface>channel description)

[Tree] (config>system>telemetry>sensor-groups>sensor-group description)

[Tree] (config>system>telemetry>destination-group description)

[Tree] (config>qos>hs-attachment-policy description)

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry description)

[Tree] (config>grp-encryp>encryp-keygrp description)

[Tree] (config>service>sdp description)

[Tree] (config>sys>security>cpu-protection>policy description)

[Tree] (config>sys>security>cpm-filter>ip-filter>entry description)

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[Tree] (config>log>event-handling>handler description)

[Tree] (config>qos>shared-queue description)

[Tree] (config>log>filter description)

[Tree] (config>log>log-id description)

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry description)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video description)

[Tree] (config>log>event-trigger>event>trigger-entry description)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video description)

[Tree] (config>log>syslog description)

[Tree] (config>system>security>keychain>direction>uni>receive>entry description)

[Tree] (config>service>cust>multi-service-site description)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video description)

[Tree] (config>system>telemetry>persistent-subscriptions>subscription description)

[Tree] (config>test-oam>sath>svc-test>svc-stream description)

[Tree] (config>system>security>dist-cpu-protection>policy description)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry description)

[Tree] (config>service>mrp>mrp-policy>entry description)

[Tree] (config>service>vprn>video-interface>channel description)

[Tree] (config>service>mrp>mrp-policy description)

[Tree] (config>service>ies>video-interface description)

[Tree] (config>log>event-trigger>event description)

[Tree] (config>connection-profile-vlan description)

[Tree] (config>log>filter>entry description)

[Tree] (config>qos>scheduler-policy description)

[Tree] (config>eth-ring>path description)

Full Context

configure log accounting-policy description

configure qos scheduler-policy tier scheduler description

configure test-oam service-activation-testhead acceptance-criteria-template description

configure system security cpm-filter mac-filter entry description

configure system security pki ca-profile description

configure eth-ring description

configure qos adv-config-policy description

configure system security cpm-filter ipv6-filter entry description

configure test-oam service-activation-testhead service-test description

configure qos hs-scheduler-policy description

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configure service customer description
configure system security keychain direction uni send entry description
configure mcast-management multicast-info-policy bundle channel video analyzer description
configure isa video-group description
configure system security keychain description
configure service pw-template description
configure system security user public-keys ecdsa ecdsa-key description
configure eth-ring path eth-cfm mep description
configure log file-id description
configure system security keychain direction bi entry description
configure qos slope-policy description
configure service pw-template split-horizon-group description
configure system security user public-keys rsa rsa-key description
configure qos hs-port-pool-policy description
configure log event-handling handler action-list entry description
configure qos hs-pool-policy description
configure qos port-scheduler-policy description
configure service vprn video-interface description
configure log snmp-trap-group description
configure service ies video-interface channel description
configure system telemetry sensor-groups sensor-group description
configure system telemetry destination-group description
configure qos hs-attachment-policy description
configure system security management-access-filter mac-filter entry description
configure group-encryption encryption-keygroup description
configure service sdp description
configure system security cpu-protection policy description
configure system security cpm-filter ip-filter entry description
configure log event-handling handler description
configure qos shared-queue description
configure log filter description
configure log log-id description
configure system security management-access-filter ip-filter entry description
configure mcast-management multicast-info-policy bundle channel video description
configure log event-trigger event trigger-entry description
configure mcast-management multicast-info-policy bundle channel source-override video description

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configure log syslog description

configure system security keychain direction uni receive entry description

configure service customer multi-service-site description

configure mcast-management multicast-info-policy bundle video description

configure system telemetry persistent-subscriptions subscription description

configure test-oam service-activation-testhead service-test service-stream description

configure system security dist-cpu-protection policy description

configure system security management-access-filter ipv6-filter entry description

configure service mrp mrp-policy entry description

configure service vprn video-interface channel description

configure service mrp mrp-policy description

configure service ies video-interface description

configure log event-trigger event description

configure connection-profile-vlan description

configure log filter entry description

configure qos scheduler-policy description

configure eth-ring path description

Description

This command configures a text description that is stored in the configuration file. The text string is associated with a configuration context to identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

Default

No description is associated with the configuration context.

Parameters

short-description-string

Specifies the description character string. Allowed values are any string, up to 80 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

- configure log snmp-trap-group description
- configure system security management-access-filter mac-filter entry description
- configure log event-trigger event trigger-entry description
- configure qos shared-queue description
- configure qos slope-policy description

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- configure log syslog description
- configure log event-handling handler action-list entry description
- configure log event-handling handler description
- configure system security user public-keys ecdsa ecdsa-key description
- configure system security keychain direction bi entry description
- configure system security dist-cpu-protection policy description
- configure log filter entry description
- configure system telemetry destination-group description
- configure system security pki ca-profile description
- configure service pw-template description
- configure system security keychain description
- configure system security user public-keys rsa rsa-key description
- configure system security keychain direction uni receive entry description
- configure qos port-scheduler-policy description
- configure connection-profile-vlan description
- configure service customer description
- configure qos scheduler-policy tier scheduler description
- configure system security keychain direction uni send entry description
- configure system telemetry sensor-groups sensor-group description
- configure qos adv-config-policy description
- configure system security management-access-filter ipv6-filter entry description
- configure service sdp description
- configure log log-id description
- configure service mrp mrp-policy description
- configure log event-trigger event description
- configure service pw-template split-horizon-group description
- configure log file-id description
- configure qos scheduler-policy description
- configure service mrp mrp-policy entry description
- configure log accounting-policy description
- configure system security management-access-filter ip-filter entry description
- configure service customer multi-service-site description
- configure log filter description
- configure system telemetry persistent-subscriptions subscription description

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure test-oam service-activation-testhead service-test description

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- configure test-oam service-activation-testhead acceptance-criteria-template description
- configure test-oam service-activation-testhead service-test service-stream description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure system security cpm-filter mac-filter entry description
- configure system security cpm-filter ip-filter entry description
- configure eth-ring path description
- configure eth-ring path eth-cfm mep description
- configure eth-ring description
- configure system security cpm-filter ipv6-filter entry description

7750 SR-7/12/12e

- configure qos hs-scheduler-policy description
- configure qos hs-pool-policy description
- configure qos hs-attachment-policy description
- configure qos hs-port-pool-policy description

7450 ESS, 7750 SR, 7750 SR-s

- configure service vprn video-interface description
- configure mcast-management multicast-info-policy bundle channel source-override video description
- configure isa video-group description
- configure service vprn video-interface channel description
- configure mcast-management multicast-info-policy bundle channel video analyzer description
- configure service ies video-interface channel description
- configure mcast-management multicast-info-policy bundle video description
- configure service ies video-interface description
- configure mcast-management multicast-info-policy bundle channel video description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure group-encryption encryption-keygroup description

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

- configure system security cpu-protection policy description

description

Syntax

description *medium-description-string*

no description

Context

[Tree] (config>service>ipipe>sap description)

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[Tree] (config>service>ies>sub-if>grp-if>sap description)

[Tree] (config>port>tdm>e3 description)

[Tree] (config>port>tdm>ds3 description)

[Tree] (config>service>ies>aarp-interface description)

[Tree] (config>service>ies>interface>sap description)

[Tree] (config>service>epipe>sap description)

[Tree] (config>service>cpipe>sap description)

Full Context

configure service ipipe sap description

configure service ies subscriber-interface group-interface sap description

configure port tdm e3 description

configure port tdm ds3 description

configure service ies aarp-interface description

configure service ies interface sap description

configure service epipe sap description

configure service cpipe sap description

Description

This command configures a text description that is stored in the configuration file. The text string is associated with a configuration context to identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

Default

no description

Parameters

medium-description-string

Specifies the description character string. Allowed values are any string, up to 160 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

- configure service epipe sap description
- configure service ipipe sap description
- configure service ies interface sap description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap description

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

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- configure port tdm ds3 description
- configure port tdm e3 description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies aarp-interface description

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap description

description

Syntax

description *medium-description-string*

no description

Context

[Tree] (config>service>vprn>aa-interface>sap description)

[Tree] (config>service>ies>aa-interface>sap description)

Full Context

configure service vprn aa-interface sap description

configure service ies aa-interface sap description

Description

This command creates a text description which is stored in the configuration file to help identify the content of the entity.

The **no** form of this command removes the string from the configuration.

Parameters

medium-description-string

Specifies the text string to describe the entity, up to 160 characters. Allowed values are any string composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

description

Syntax

description *long-description-string*

no description

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Context

[Tree] (config>service>vprn>isis>link-group description)

[Tree] (config>router>isis>link-group description)

Full Context

configure service vprn isis link-group description

configure router isis link-group description

Description

This command creates a text description stored in the configuration file for a configuration context.

The **description** command associates a text string with a configuration context to help identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

Default

no description

Parameters

long-description-string

Specifies the description character string. Allowed values are any string, up to 255-256 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

description

Syntax

description *long-description-string*

no description

Context

[Tree] (config>service>vprn>subscriber-interface description)

[Tree] (config>service>ies>redundant-interface description)

[Tree] (config>service>vprn>aarp-interface description)

[Tree] (config>service>vpls>interface description)

[Tree] (config>service>ies>aa-interface description)

[Tree] (config>service>ies>sub-if>grp-if description)

[Tree] (config>lag description)

[Tree] (config>port description)

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[Tree] (config>service>vprn>red-if description)

[Tree] (config>service>ies>interface description)

[Tree] (config>service>vprn>sub-if>grp-if description)

[Tree] (config>card>mda>flex description)

[Tree] (config>service>vprn>if description)

[Tree] (config>service>vprn>aa-interface description)

[Tree] (config>service>vprn>ip-mirror-interface description)

[Tree] (config>service>ies>sub-if description)

[Tree] (config>service>vprn>nw-if description)

[Tree] (config>router>if description)

[Tree] (config>service>vpls>sap>dhcp6 description)

Full Context

configure service vprn subscriber-interface description

configure service ies redundant-interface description

configure service vprn aarp-interface description

configure service vpls interface description

configure service ies aa-interface description

configure service ies subscriber-interface group-interface description

configure lag description

configure port description

configure service vprn redundant-interface description

configure service ies interface description

configure service vprn subscriber-interface group-interface description

configure card mda flex description

configure service vprn interface description

configure service vprn aa-interface description

configure service vprn ip-mirror-interface description

configure service ies subscriber-interface description

configure service vprn network-interface description

configure router interface description

configure service vpls sap dhcp6 description

Description

This command creates a text description stored in the configuration file for a configuration context.

The **description** command associates a text string with a configuration context to help identify the content in the configuration file.

The **no** form of this command removes the string from the configuration.

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Parameters

long-description-string

Specifies the description character string. Allowed values are any string up to 255-256 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface description
- configure service vprn redundant-interface description
- configure service ies subscriber-interface group-interface description
- configure service vprn subscriber-interface group-interface description
- configure service ies subscriber-interface description
- configure service ies redundant-interface description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn aarp-interface description
- configure service vprn aa-interface description
- configure service ies aa-interface description

All

- configure lag description
- configure service vpls sap dhcp6 description
- configure service vprn network-interface description
- configure port description
- configure service vprn interface description
- configure service ies interface description
- configure service vpls interface description
- configure service vprn ip-mirror-interface description
- configure router interface description

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

- configure card mda flex description

description

Syntax

description *medium-description-string*

no description

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Context

[Tree] (config>eth-tunnel description)

Full Context

configure eth-tunnel description

Description

This command adds a text description for the eth-tunnel.

The **no** form of this command removes the text description.

Default

Eth-tunnel

Parameters

medium-description-string

Specifies the text description up to 160 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

description

Syntax

description *description-string*

no description

Context

[Tree] (config>isa>map-t-group description)

Full Context

configure isa map-t-group description

Description

This command adds a text description for the MAP-T group.

The **no** form of this command removes the text description.

Parameters

description-string

Specifies the text description up to 80 characters.

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Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

description

Syntax

description *description-string*

no description

Context

[Tree] (conf>service>nat>map-domain description)

Full Context

configure service nat map-domain description

Description

This command adds a text description for the MAP domain.

The **no** form of this command removes the text description.

Parameters

description-string

Specifies the text description up to 80 characters.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

description

Syntax

description *description-string*

no description

Context

[Tree] (config>subscr-mgmt>up-resiliency>fsg-template description)

[Tree] (config>port-policy description)

[Tree] (config>isa>lns-group description)

Full Context

configure subscriber-mgmt up-resiliency fate-sharing-group-template description

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configure port-policy description

configure isa lns-group description

Description

This command creates a text description which is stored in the configuration file to help identify the content of the entity.

The **no** form of the command removes the string from the configuration.

Parameters

string

Specifies the description character string. Allowed values are any string composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, and so on.), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt up-resiliency fate-sharing-group-template description

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure port-policy description
- configure isa lns-group description

description

Syntax

[**no**] **description**

Context

[Tree] (config>service>nat>pcp-server-policy>option description)

Full Context

configure service nat pcp-server-policy option description

Description

This command enables/disables support for the **description** option.

Default

no description

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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description

Syntax

description *description-string*

no description

Context

[Tree] (config>bfd>seamless-bfd>reflector description)

Full Context

configure bfd seamless-bfd reflector description

Description

This command specifies a description of a S-BFD reflector.

Parameters

description-string

Specifies the S-BFD reflector description.

Platforms

All

description

Syntax

description *description-string*

no description

Context

[Tree] (config>system>alarm-contact-input description)

Full Context

configure system alarm-contact-input description

Description

This command configures a text description of an alarm contact input pin. The description is stored in the CLI configuration file. It indicates the usage or attribute of the pin, and helps the user to identify the purpose of the pin. The description is included in the log event when the pin changes state.

The **no** form of this command reverts the description string to the default.

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Parameters

description-string

Specifies a printable character string, up to 80 characters.

Default "Pin *x*", where *x* is the alarm contact input pin number.

Platforms

7750 SR-a

description

Syntax

description *description-string*

no description

Context

[Tree] (config>filter>match-list>ipv6-pkt-len-list description)

[Tree] (config>filter>match-list>ip-pkt-len-list description)

Full Context

configure filter match-list ipv6-packet-length-list description

configure filter match-list ip-packet-length-list description

Description

This command configures a description for the packet length list.

The **no** form of this command deletes the description.

Default

no description

Parameters

description-string

Specifies a text description, up to 80 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

description

Syntax

description *description-string*

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no description

Context

[Tree] (config>system>security>ssh>client-known-hosts>host-key description)

Full Context

configure system security ssh client-known-hosts host-key description

Description

This command adds a text description for the host key.

The **no** form of this command removes the text description.

Default

no description

Parameters

description-string

Specifies the text description, up to 80 characters.

Platforms

All

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12 d Commands – Part II

12.1 designated-role

designated-role

Syntax

designated-role {**standby** | **active**}

no designated-role

Context

[Tree] (config>redundancy>multi-chassis>ipsec-domain designated-role)

Full Context

configure redundancy multi-chassis ipsec-domain designated-role

Description

This command sets the designated role for the tunnel group in the IPsec domain.

The **no** form of this command reverts to the default value.

Default

designated-role standby

Parameters

standby

Sets the designated role to standby.

active

Sets the designated role to active.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.2 dest-class

dest-class

Syntax

dest-class *dest-class*

no dest-class

Context

[Tree] (config>router>policy-options>policy-statement>default-action dest-class)

[Tree] (config>router>policy-options>policy-statement>entry dest-class)

Full Context

configure router policy-options policy-statement default-action dest-class

configure router policy-options policy-statement entry dest-class

Description

This command specifies the policy accounting destination class index to associate with matched routes.

Default

no dest-class

Parameters

dest-class

Specifies the destination class.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure router policy-options policy-statement default-action dest-class

All

- configure router policy-options policy-statement entry dest-class

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12.3 dest-global-id

dest-global-id

Syntax

dest-global-id *dest-global-id*

no dest-global-id

Context

[Tree] (config>router>mpls>lsp dest-global-id)

Full Context

configure router mpls lsp dest-global-id

Description

This optional command configures the MPLS-TP Global ID of the far end node of the MPLS-TP LSP. This command is only allowed for MPLS-TP LSPs. Global ID values of 0 indicate that the local node's configured global ID is used. If the local global-id is 0, then the dest-global-id must also be 0. The dest-global-id cannot be changed if an LSP is in use by an SDP.

Default

dest-global-id 0

Parameters

dest-global-id

Specifies the destination global ID.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.4 dest-ip

dest-ip

Syntax

[**no**] **dest-ip** *ip-address*

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Context

[Tree] (config>service>ies>if>sap>ip-tunnel dest-ip)

[Tree] (config>service>vprn>if>sap>ip-tunnel dest-ip)

[Tree] (config>service>vprn>sap>ipsec-tunnel dest-ip)

Full Context

configure service ies interface sap ip-tunnel dest-ip

configure service vprn interface sap ip-tunnel dest-ip

configure service vprn sap ipsec-tunnel dest-ip

Description

This command configures a private IPv4 or IPv6 address of the remote tunnel endpoint. A tunnel can have up to 16 **dest-ip** commands. At least one **dest-ip** address is required in the configuration of a tunnel. A tunnel does not come up operationally unless all **dest-ip** addresses are reachable (part of a local subnet).

Unnumbered interfaces are not supported.

The **no** form of this command deletes the destination IP of the tunnel.

Parameters

ip-address

Specifies the private IPv4 or IPv6 address of the remote IP tunnel endpoint. If this remote IP address is not within the subnet of the IP interface associated with the tunnel then the tunnel will not come up.

Values

<ip-address>	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.5 dest-ip-addr

dest-ip-addr

Syntax

dest-ip-addr *ip-addr***ess**

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no dest-ip-addr

Context

[Tree] (config>mcast-mgmt>mcast-rprt-dest dest-ip-addr)

Full Context

configure mcast-management mcast-reporting-dest dest-ip-addr

Description

This command specifies the IP address of the external node to which IGMP events are exported. The destination IP address can only be reachable from the global routing table (no vrf access).

The **no** form of this command removes the destination address from the configuration.

Parameters

ip-addr

Specifies the IP address of the multicast reporting destination.

Platforms

All

12.6 dest-mac

dest-mac

Syntax

dest-mac {**nearest-bridge** | **nearest-non-tpmr** | **nearest-customer**}

Context

[Tree] (config>port>ethernet>lldp dest-mac)

Full Context

configure port ethernet lldp dest-mac

Description

This command configures destination MAC address parameters.

Default

dest-mac nearest-bridge

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Parameters

nearest-bridge

Specifies to use the nearest bridge.

nearest-non-tpmr

Specifies to use the nearest non-Two-Port MAC Relay (TPMR).

nearest-customer

Specifies to use the nearest customer.

Platforms

All

dest-mac

Syntax

dest-mac *ieee-address*

no dest-mac

Context

[Tree] (config>oam-pm>session>ethernet dest-mac)

Full Context

configure oam-pm session ethernet dest-mac

Description

This command defines the destination MAC address of the peer MEP and sets the destination MAC address in the layer two header to match. This must be a unicast address.

The **no** form of this command removes session parameter.

Parameters

ieee-address

Specifies the Layer 2 unicast MAC address of the destination MEP.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

All

dest-mac

Syntax

dest-mac {**nearest-bridge** | **nearest-non-tpmr** | **nearest-customer**}

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Context

[Tree] (config>lag>lldp-member-template dest-mac)

Full Context

configure lag lldp-member-template dest-mac

Description

This command configures the destination MAC address parameters.

Default

dest-mac nearest-bridge

Parameters

nearest-bridge

Keyword to specify that the nearest bridge should be used.

nearest-non-tpmr

Keyword to specify that the nearest non-Two-Port MAC Relay (TPMR) should be used.

nearest-customer

Keyword to specify that the nearest customer should be used.

Platforms

All

12.7 dest-mac-address

dest-mac-address

Syntax

dest-mac-address *mac-address* [**create**]

no dest-mac-address *mac-address*

Context

[Tree] (config>macsec>mac-policy dest-mac-address)

Full Context

configure macsec mac-policy dest-mac-address

Description

This command specifies the destination MAC address.

The **no** form of this command removes the MAC address.

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Parameters

mac-address

Specifies the value of the MAC address policy.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

create

Mandatory to create the configuration.

Platforms

All

12.8 dest-mac-rewrite

dest-mac-rewrite

Syntax

dest-mac-rewrite *ieee-address*

no dest-mac-rewrite

Context

[Tree] (config>service>vpls>sap>egress dest-mac-rewrite)

Full Context

configure service vpls sap egress dest-mac-rewrite

Description

This commands enables the overwriting of a destination MAC address to an operator-configured value for all unicast packets egressing the specified SAP. The command is intended to be deployed with L2 PBF SAP redirect when a remote end of the SAP interface is an L3 interface with a MAC address different from the MAC address of the non-PBF-ed L3 interface. See Filter Policy in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide* for more details.

The **no** form disables the option.

Default

no dest-mac-rewrite

Parameters

ieee-address

Specifies the MAC address

Values 1xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

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Cannot be all zeros

Platforms

All

12.9 dest-realm-learning

dest-realm-learning

Syntax

[**no**] **dest-realm-learning**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy dest-realm-learning)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx dest-realm-learning)

Full Context

configure subscriber-mgmt diameter-application-policy gy dest-realm-learning

configure subscriber-mgmt diameter-application-policy gx dest-realm-learning

Description

This command configures destination realm learning that is used in outgoing Gx and Gy Credit Control Request (CCR) messages. Destination realm is a mandatory configuration parameter.

The configured destination realm is always used in the initial CCR-I message. The consecutive request message of a Gx or Gy session can use the destination realm as learned from replies within a DIAMETER session (if learning is enabled), or they can ignore the realm from the reply and always use the configured destination realm in Gx and Gy request messages (learning is disabled).

The **no** form of this command ignores the realm from the reply.

Default

dest-realm-learning

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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12.10 dest-tunnel-number

dest-tunnel-number

Syntax

dest-tunnel-number *dest-tunnel-number*

no dest-tunnel-number

Context

[Tree] (config>router>mpls>lsp dest-tunnel-number)

Full Context

configure router mpls lsp dest-tunnel-number

Description

This optional command configures the MPLS-TP tunnel number of the LSP at the far end node of the MPLS-TP LSP. This command is only allowed for MPLS-TP LSPs. If it is not entered, then the system will take the dest-tunnel-number to be the same as the src-tunnel-num for the LSP.

Default

The default value is the configured *src-tunnel-num*.

Parameters

dest-tunnel-number

Specifies the destination tunnel number.

Values 1 to 61440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.11 dest-udp-port

dest-udp-port

Syntax

dest-udp-port *udp-port-number*

no dest-udp-port

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Context

[Tree] (config>oam-pm>session>ip dest-udp-port)

Full Context

configure oam-pm session ip dest-udp-port

Description

This command defines the destination UDP port on outbound TWAMP Light packets sent from the session controller. The destination UDP port must match the UDP port value configured on the TWAMP Light reflector that is responding to this specific TWAMP Light test.

The **no** form of this command removes the destination UDP port setting.

Parameters

udp-port-number

Specifies the UDP source port.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dest-udp-port

Syntax

dest-udp-port *port-number*

Context

[Tree] (config>test-oam>link-meas>template>twl dest-udp-port)

Full Context

configure test-oam link-measurement measurement-template twamp-light dest-udp-port

Description

This command configures the destination UDP port used by the link measurement tests.

Default

dest-udp-port 862

Parameters

port-number

Specifies the destination UDP port copied into the UDP header of each Echo request packet launched for each link measurement test belonging to the specified template.

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Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dest-udp-port

Syntax

dest-udp-port *port-number*

Context

[Tree] (config>test-oam>lag-meas>template>twl dest-udp-port)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light dest-udp-port

Description

This command configures the destination UDP port for the test packets.

Default

dest-udp-port 862

Parameters

port-number

Specifies the destination UDP port number.

Values 1 to 65535

Default 862

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.12 destination

destination

Syntax

destination *ip-address*

no destination

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Context

[Tree] (config>oam-pm>session>ip destination)

Full Context

configure oam-pm session ip destination

Description

This command defines the destination IP address that is assigned to the TWAMP Light packets. The destination address must be included in the prefix list on the session reflector within the configured context in order to allow the reflector to process the inbound TWAMP Light packets.

The **no** form of this command removes the destination parameters.

Parameters

ip-address

Specifies the IP address of the IP peer to which the packet is directed.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

destination

Syntax

destination *ip-address* [**create**]

no destination *ip-address*

Context

[Tree] (config>filter>redirect-policy destination)

Full Context

configure filter redirect-policy destination

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Description

This command defines a destination in a redirect policy. More than one destination can be configured. Whether a destination IPv4/IPv6 address will receive redirected packets depends on the effective priority value after evaluation.

The most preferred destination is programmed in hardware as action forward next-hop. If all destinations are down (as determined by the supported tests), action forward is programmed in hardware. All destinations within a given policy must be either IPv4 or (exclusive) IPv6. The redirect policy with IPv4 destinations configured can only be used by IPv4 filter policies. The redirect policy with IPv6 destinations configured can only be used by IPv6 filter policies.

Default

no destination

Parameters

ip-address

Specifies the IPv4 address (in dotted decimal notation) or IPv6 address to send the redirected traffic to.

Values IPv4 address: ip-address: a.b.c.d

IPv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

Platforms

All

destination

Syntax

destination memory *num-entries*

destination syslog *syslog-id*

no destination

Context

[Tree] (config>filter>log destination)

Full Context

configure filter log destination

Description

This command configures the destination for filter log entries for the filter log ID.

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Filter logs can be sent to either memory (**memory**) or to an existing Syslog server definition (**syslog**).

If the filter log destination is **memory**, the maximum number of entries in the log must be specified.

The **no** form of the command deletes the filter log association.

Default

destination memory 1000

Parameters

memory *num-entries*

Specifies the destination of the filter log ID is a memory log. The *num-entries* value is the maximum number of entries in the filter log expressed as a decimal integer.

Values 10 to 50000

syslog *syslog-id*

Specifies the destination of the filter log ID is a Syslog server. The *syslog-id* parameter is the number of the Syslog server definition.

Values 1 to 10

Platforms

All

destination

Syntax

destination {*ip-address* | *fqdn*} **port** *port* [**create**]

no destination {*ip-address* | *fqdn*} **port** *port*

Context

[Tree] (config>system>telemetry>destination-group destination)

[Tree] (config>system>grpc-tunnel>destination-group destination)

Full Context

configure system telemetry destination-group destination

configure system grpc-tunnel destination-group destination

Description

This command configures a destination IP address and port for a specific destination within a destination group. Up to two destinations can be defined within a destination group. Each destination is an IPv4 address, an IPv6 address, or the Fully Qualified Domain Name (FQDN).

The **no** form of this command removes the destination from the destination group.

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Parameters

ip-address

Specifies the IPv4 address (in dotted decimal notation) or IPv6 address.

Values IPv4 address: ip-address: a.b.c.d

IPv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

fqdn

Specifies the FQDN.

port

Specifies the TCP destination port number.

Values 1 to 65535

create

Keyword used to create a destination.

Platforms

All

destination

Syntax

destination *ip-address*

no destination

Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp>ipv4 destination)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv4 destination

Description

This command configures the unicast IPv4 destination address for the TWAMP Light test packet. When this command is not configured, the destination IPv4 address is auto-assigned for interfaces configured with a prefix length of 30 and 31. All other interface prefix lengths and unnumbered interfaces are unable to auto- assign the destination IPv4 address. If the interface does not use a prefix length of 30 or 31, the destination must be configured.

Deleting a configured destination removes the specified address and causes the source address to be auto-assigned for prefix length of 30 and 31.

Configuration modifications are allowed without administratively disabling the IPv4 protocol.

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The **no** form of this command removes the IPv4 address from the configuration.

Default

no destination

Parameters

ip-address

Specifies the IPv4 destination address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

destination

Syntax

destination *ipv6-address*

no destination

Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp>ipv6 destination)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv6 destination

Description

This command configures the IPv6 destination address of the TWAMP Light test packet. When this command is not configured, no destination address is present and an error is raised to prevent the transmission of the test packet.

The IPv6 protocol can be enabled without addressing. However, the test does not transmit packets.

The link local address must be in the form fe80::/60 in accordance with RFC 4291, *IP Version 6 Addressing Architecture*.

The **no** form of this command removes the IPv6 address from the configuration.

Default

no destination

Parameters

ipv6-address

Specifies the TWAMP Light IPv6 destination address

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Values	ipv6-address:	x:x:x:x:x:x:x:x x - [0 to FFFF]H unicast and link local IPv6 address only

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.13 destination-address

destination-address

Syntax

[**no**] **destination-address** *ip-address*

Context

[Tree] (config>filter>gre-tun-tmp>ipv4 destination-address)

Full Context

configure filter gre-tunnel-template ipv4 destination-address

Description

This command defines one or more destinations for the GRE IP header used to encapsulate the matching IPv4/IPv6 packet.

Traffic matching the associated IPv4 or IPv6 filter are hashed across all available destination address. If no destination address is available, then matching traffic follows the configured **pbr-down-action-override** action, if configured.

The **no** form of this command removes the specified destination IP address configuration from the associated GRE tunnel template.

Parameters

ip-address

Specifies up to 16 IPv4 addresses to be used as the destination address.

Platforms

All

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destination-address

Syntax

destination-address *ip-address*

no destination-address

Context

[Tree] (config>service>vprn>if>ping-template destination-address)

[Tree] (config>service>ies>if>ping-template destination-address)

Full Context

configure service vprn interface ping-template destination-address

configure service ies interface ping-template destination-address

Description

This command configures the address to where the ICMP echo requests are directed to test connectivity. The source of the ICMP echo request is the primary IPv4 address of the interface under which the ping-template is configured. The destination address must be on the same subnet as the source IP address. A configuration warning message displays if the primary IPv4 address and the destination are not on the same subnet, `INFO: PIP #2092 Ping template misconfiguration - destination-address and primary IP address should fall in the same subnet`. Unnumbered interfaces and loopback addresses are not supported.

The **config>service>ies|vprn>interface>ping-template** must be in the no shutdown state to remove or change the **destination-address** *ip-address*.

The **no** form of this command removes the destination address from the configuration.

Parameters

ip-address

Specifies the destination address to where the ICMP echo requests are directed to test connectivity, in a.b.c.d format.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.14 destination-class

destination-class

Syntax

destination-class *dest-index*

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no destination-class

Context

[Tree] (config>service>vprn>static-route-entry>follow destination-class)

Full Context

configure service vprn static-route-entry follow destination-class

Description

This command configures the destination class for this static route. Packets matching this follow route are classified into the indicated destination class.

The **no** form of this command removes the associated destination class from the associated static route follow.

Default

no destination-class

Parameters

dest-index

Specifies the destination index integer value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

destination-class

Syntax

destination-class *index*

no destination-class *index*

no destination-class all

Context

[Tree] (config>router>policy-acct-template destination-class)

Full Context

configure router policy-acct-template destination-class

Description

Commands in this context create a destination class index for the template.

The **no** form of this command removes the index from the configuration.

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Parameters

index

Specifies the destination index value.

Values 1 to 255

all

Deletes all destination class indexes from this configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

destination-class

Syntax

destination-class *dest-index*

no destination-class [*dest-index*]

Context

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel destination-class)

[Tree] (config>service>vprn>static-route-entry>indirect destination-class)

Full Context

configure service vprn static-route-entry ipsec-tunnel destination-class

configure service vprn static-route-entry indirect destination-class

Description

This command configures the policy accounting destination-class index to be used when incrementing accounting statistic for traffic matching the associated static route.

The **no** form of this command removes the associated destination-class from the associated static route nexthop.

Default

no destination-class

Parameters

dest-index

The destination index integer value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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destination-class

Syntax

destination-class *dest-index*

no destination-class

Context

[Tree] (config>filter>ipv6-filter>entry>match destination-class)

[Tree] (config>filter>ip-filter>entry>match destination-class)

Full Context

configure filter ipv6-filter entry match destination-class

configure filter ip-filter entry match destination-class

Description

This command configures the BGP destination-class value match criterion. Filtering egress traffic on **destination-class** requires the **destination-class-lookup** command to be enabled on the interface that the packet ingresses on.

The **no** form of the command removes the destination-class value match criterion.

Default

no destination-class

Parameters

dest-index

Specifies the destination index integer value.

Values 1 to 255

Platforms

All

destination-class

Syntax

destination-class *dest-index*

no destination-class [*dest-index*]

Context

[Tree] (config>router>static-route-entry>next-hop destination-class)

[Tree] (config>router>static-route-entry>indirect destination-class)

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Full Context

configure router static-route-entry next-hop destination-class

configure router static-route-entry indirect destination-class

Description

This command configures the policy accounting destination-class index to be used when incrementing accounting statistic for traffic matching the associated static route.

The **no** form of this command removes the associated destination-class from the associated static route next hop.

Default

no destination-class

Parameters

dest-index

Specifies the destination index integer value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

12.15 destination-class-lookup

destination-class-lookup

Syntax

[**no**] **destination-class-lookup**

Context

[Tree] (config>service>ies>if>ingress destination-class-lookup)

Full Context

configure service ies interface ingress destination-class-lookup

Description

This command enables BGP destination-class lookup for packets on this interface ingress and is supported on FP3-based cards and later. It is used in combination with an IP filter or IPv6 filter **destination-class** to filter traffic egress of the router based on BGP destination classes.

The command is supported on network, IES, VPRN and R-VPLS interfaces. It is not supported on subscriber interfaces, tunnel interfaces or VPRN network interfaces.

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Default

no destination-class-lookup

Platforms

All

destination-class-lookup

Syntax

[**no**] **destination-class-lookup**

Context

[Tree] (config>service>vprn>if>ingress destination-class-lookup)

Full Context

configure service vprn interface ingress destination-class-lookup

Description

This command enables BGP destination-class lookup for packets on this interface ingress and is supported on FP3-based cards and later. It is used in combination with an IP filter or IPv6 filter **destination-class** to filter traffic egress of the router based on BGP destination classes.

The command is supported on network, IES, VPRN and R-VPLS interfaces. It is not supported on subscriber interfaces, tunnel interfaces and VPRN network interfaces.

Default

no destination-class-lookup

Platforms

All

destination-class-lookup

Syntax

[**no**] **destination-class-lookup**

Context

[Tree] (config>router>if>ingress destination-class-lookup)

Full Context

configure router interface ingress destination-class-lookup

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Description

This command enables BGP destination-class lookup for packets on this interface ingress. It is used in combination with an IP filter or IPv6 filter **destination-class** to filter traffic egress of the router based on BGP destination classes.

The command is supported on network, IES, VPRN and R-VPLS interfaces. It is not supported on subscriber interfaces, tunnel interfaces or VPRN network interfaces.

The **no** form of this command reverts to the default value.

Default

no destination-class-lookup

Platforms

All

12.16 destination-group

destination-group

Syntax

destination-group *name* [**create**]

no destination-group *name*

Context

[Tree] (config>system>telemetry destination-group)

[Tree] (config>system>grpc-tunnel destination-group)

Full Context

configure system telemetry destination-group

configure system grpc-tunnel destination-group

Description

Commands in this context configure commands for destination groups.

The **no** form of this command removes the destination group name.

Parameters

name

Specifies the destination group name, up to 32 characters.

create

Keyword used to create a destination group.

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Platforms

All

destination-group

Syntax

destination-group *name*

no destination-group

Context

[Tree] (config>system>grpc-tunnel>tunnel destination-group)

Full Context

configure system grpc-tunnel tunnel destination-group

Description

This command assigns the specified destination group to a gRPC tunnel.

The **no** form of this command removes the specified destionation group from the gRPC tunnel.

Default

no destination-group

Parameters

name

Specifies the destination group name, up to 32 characters

Platforms

All

destination-group

Syntax

destination-group *name*

no destination-group

Context

[Tree] (config>system>telemetry>persistent-subscriptions>subscription destination-group)

Full Context

configure system telemetry persistent-subscriptions subscription destination-group

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Description

This command assigns an existing destination group to the specified persistent subscription. The assigned **destination-group** must already exist before the configured persistent subscription can be activated.

The **no** form of this command removes the destination group name from the persistent subscription.

Parameters

name

Specifies the destination group name, up to 32 characters.

Platforms

All

12.17 destination-ip

destination-ip

Syntax

[**no**] **destination-ip**

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>include destination-ip)

Full Context

configure service nat syslog syslog-export-policy include destination-ip

Description

This command includes the destination IP address in the flow log. The **destination-ip** is significant in Destination Based NAT (DNAT) where the foreign IP address is translated. A foreign IP address is the original IP address toward the destination node and in DNAT it is replaced by the **destination-ip**. More clearly, on the inside (private side), the IP address of the destination node is referred to as foreign IP (original destination IP), and once this address is translated by DNAT, it is referred to as destination IP (translated destination IP) on the outside (public side).

The **no** form of the command disables the feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.18 destination-port

destination-port

Syntax

destination-port [*destination-port*]

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>collector destination-port)

Full Context

configure service nat syslog syslog-export-policy collector destination-port

Description

This command configures the destination port (collector port) to which UDP stream containing the syslog flow records are sent.

Default

destination-port 514

Parameters

destination-port

Specifies the destination port to which UDP streams are sent.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.19 destination-prefix

destination-prefix

Syntax

destination-prefix *ip-prefix/length* [**nat-policy** *nat-policy-name*]

no destination-prefix *ip-prefix/length*

Context

[Tree] (config>service>vprn>nat>inside destination-prefix)

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[Tree] (config>router>nat>inside destination-prefix)

Full Context

configure service vprn nat inside destination-prefix

configure router nat inside destination-prefix

Description

This command configures a destination prefix. An (internal) static route will be created for this prefix. All traffic that hits this route will be subject to NAT. The system will not allow a destination-prefix to be configured if the configured nat-policy refers to an IP pool that resides in the same service (as this would result in a routing loop).

Parameters

ip-prefix

Specifies the IP prefix; host bits must be zero (0).

Values a.b.c.d

length

Specifies the prefix length.

Values 0 to 32

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

destination-prefix

Syntax

destination-prefix *ipv6-prefix/prefix-length* **firewall-policy** *firewall-policy-name*

no destination-prefix *ipv6-prefix/prefix-length*

Context

[Tree] (config>router>nat>inside>nat66 destination-prefix)

[Tree] (config>service>vprn>nat>inside>nat66 destination-prefix)

Full Context

configure router nat inside nat66 destination-prefix

configure service vprn nat inside nat66 destination-prefix

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Description

This command configures a destination prefix. When associated with a destination prefix on the inside, the firewall policy steers traffic to the ESA-VM for large-scale stateful inbound filtering.

Parameters

ipv6-prefix

Specifies the IPv6 prefix.

Values

ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

prefix-length

Specifies the prefix length.

Values 32 to 128

firewall-policy

Keyword used to specify a firewall policy.

firewall-policy-name

Specifies the firewall policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

destination-prefix

Syntax

[**no**] **destination-prefix**

Context

[Tree] (config>cflowd>collector>aggregation destination-prefix)

Full Context

configure cflowd collector aggregation destination-prefix

Description

This command specifies that the aggregation data is based on destination prefix information.

The **no** form removes this type of aggregation from the collector configuration.

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Platforms

All

12.20 detail-level

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

no detail-level

Context

[Tree] (debug>router>local-dhcp-server detail-level)

[Tree] (debug>router>ip>dhcp6 detail-level)

[Tree] (debug>router>ip>dhcp detail-level)

Full Context

debug router local-dhcp-server detail-level

debug router ip dhcp6 detail-level

debug router ip dhcp detail-level

Description

This command debugs the DHCP tracing detail level.

Parameters

low

Displays a low detail level for DHCP debugging.

medium

Displays a medium detail level for DHCP debugging.

high

Displays a high detail level for DHCP debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- debug router local-dhcp-server detail-level

All

- debug router ip dhcp6 detail-level
- debug router ip dhcp detail-level

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detail-level

Syntax

detail-level *detail-level*

Context

[Tree] (debug>router>l2tp>assignment-id>packet detail-level)

[Tree] (debug>router>l2tp>group>packet detail-level)

[Tree] (debug>router>l2tp>packet detail-level)

Full Context

debug router l2tp assignment-id packet detail-level

debug router l2tp group packet detail-level

debug router l2tp packet detail-level

Description

This command configures the L2TP packet debugging level of detail.

Parameters

detail-level

Specifies the detail level.

Values low, high

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

no detail-level

Context

[Tree] (debug>service>id>ppp>packet detail-level)

Full Context

debug service id ppp packet detail-level

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Description

This command specify the detail level of PPP packet debug output.

The **no** form of this command disables debugging.

Parameters

low | medium | high

Specifies the detail level of PPP packet debug output.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

no detail-level

Context

[Tree] (debug>router>radius detail-level)

Full Context

debug router radius detail-level

Description

This command specifies the output detail level of command **debug router radius**.

Default

detail-level medium

Parameters

low

Specifies that the output includes packet type, server address, length, radius-server-policy name.

medium

Specifies all output in low level including the RADIUS attributes in the packet.

high

Specifies all output in medium level including the hex packet dump.

Platforms

All

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detail-level

Syntax

detail-level *detail-level*

Context

[Tree] (debug>router>wpp>portal>packet detail-level)

[Tree] (debug>router>wpp>packet detail-level)

Full Context

debug router wpp portal packet detail-level

debug router wpp packet detail-level

Description

This command specifies the detail level of WPP packet debugging.

Parameters

detail-level

specifies the detail level of WPP packet debugging.

Values high — Specifies a high detail level for WPP packet debugging

low — Specifies a low detail for WPP packet debugging

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

Context

[Tree] (debug>subscr-mgmt>vrgw>brg>pppoe-client>brg-id detail-level)

Full Context

debug subscriber-mgmt vrgw brg pppoe-client brg-id detail-level

Description

This command specifies the amount of detail present in debugging the specified PPPoE client.

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Default

detail-level high

Parameters

low

Specifies a low level of detail during debugging.

medium

Specifies a medium level of detail during debugging.

high

Specifies a high level of detail during debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

no detail-level

Context

[Tree] (debug>service>id>igmp-snooping detail-level)

Full Context

debug service id igmp-snooping detail-level

Description

This command enables and configures the IGMP tracing detail level.

The **no** form of this command disables the IGMP tracing detail level.

Platforms

All

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

no detail-level

Context

[Tree] (debug>service>id>mld detail-level)

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Full Context

debug service id mld-snooping detail-level

Description

This command enables and configures the MLD tracing detail level.

The **no** form of this command disables the MLD tracing detail level.

Platforms

All

detail-level

Syntax

detail-level {**low** | **medium** | **high**}

no detail-level

Context

[Tree] (debug>service>id>dhcp detail-level)

Full Context

debug service id dhcp detail-level

Description

This command configures the DHCP tracing detail level.

The **no** form of the command disables debugging.

Parameters

low

Displays a low detail level for DHCP debugging.

medium

Displays a medium detail level for DHCP debugging.

high

Displays a high detail level for DHCP debugging.

Platforms

All

detail-level

Syntax

detail-level *detail-level*

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Context

[Tree] (debug>router>pcp>pcp-server>packet detail-level)

Full Context

debug router pcp pcp-server packet detail-level

Description

This command configures the packet debugging level of detail.

Parameters

detail-level

Specifies the detail level.

Values low, high

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.21 detailed-acct-attributes

detailed-acct-attributes

Syntax

[**no**] **detailed-acct-attributes**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include detailed-acct-attributes)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute detailed-acct-attributes

Description

This command enables detailed reporting of per queue and per policer octet and packet counters using RADIUS VSAs. Enabled by default. It can be enabled simultaneously with aggregate counters (std-acct-attributes).

The **no** form of this command excludes the detailed counter VSAs from the RADIUS accounting messages.

Default

detailed-acct-attributes

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.22 detect

detect

Syntax

detect num-moves *num-moves* **window** *minutes* [**trusted-mac-move-factor** *factor*]

Context

[Tree] (config>service>vpls>bgp-evpn>mac-duplication detect)

Full Context

configure service vpls bgp-evpn mac-duplication detect

Description

This command modifies the behavior of the **mac-duplication** command, which is always enabled by default. It monitors the number of moves of a MAC address for a period of time (window).

Default

detect num-moves 5 window 3 trusted-mac-move-factor 1

Parameters

num-moves

Identifies the number of MAC moves in a VPLS service. The counter is incremented when a specified MAC is locally relearned in the FDB or flushed from the FDB due to the reception of a better remote EVPN route for that MAC.

Values 3 to 10

Default 5

minutes

Specifies the length of the window in minutes.

Values 1 to 15

Default 3

factor

Specifies the multiplying value used to calculate a MAC duplication event. The *num-moves* value is multiplied by this value to determine the number of moves needed to declare a trusted MAC as duplicate.

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For example, if *num-moves*=5 and *factor*=3, five moves within the window is enough to declare a non-trusted MAC as duplicate. However, 15 moves are needed to declare a trusted MAC as duplicate.

By default, the value of *factor* is 1, which means the factor for a trusted MAC is the same as for a non-trusted MAC. This provides a backwards compatible solution upon upgrade of the node.

Values 1 to 10

Default 1

Platforms

All

12.23 detect-seen-ip

detect-seen-ip

Syntax

[**no**] **detect-seen-ip**

Context

[Tree] (config>app-assure>group>transit-ip-policy detect-seen-ip)

Full Context

configure application-assurance group transit-ip-policy detect-seen-ip

Description

This command enables the detection of transit subscribers based on the IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.24 detection-time

detection-time

Syntax

detection-time *seconds*

no detection-time

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Context

[Tree] (config>sys>security>dist-cpu-protection>policy>protocol>dynamic-parameters detection-time)

Full Context

configure system security dist-cpu-protection policy protocol dynamic-parameters detection-time

Description

When a dynamic enforcing policer is instantiated, it remains allocated until at least a contiguous conforming period of detection-time passes.

Default

detection-time 30

Parameters

seconds

Specifies the detection time.

Values 1 to 128000

Platforms

All

detection-time

Syntax

detection-time *seconds*

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>static-policer detection-time)

Full Context

configure system security dist-cpu-protection policy static-policer detection-time

Description

When a policer is declared as in an "exceed” state, it remains as exceeding until a contiguous conforming period of **detection-time** passes. The **detection-time** only starts after the exceed-action hold-down is complete. If the policer detects another exceed during the detection count down then a hold-down is once again triggered before the policer re-enters the detection time (that is, the countdown timer starts again at the configured value). During the hold-down (and the detection-time), the policer is considered as in an "exceed” state.

Default

detection-time 30

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Parameters

seconds

Specifies the detection time.

Values 1 to 128000

Platforms

All

12.25 deterministic

deterministic

Syntax

deterministic

Context

[Tree] (config>router>nat>inside deterministic)

[Tree] (config>service>vprn>nat>inside deterministic)

Full Context

configure router nat inside deterministic

configure service vprn nat inside deterministic

Description

Commands in this context configure deterministic NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

deterministic

Syntax

deterministic

Context

[Tree] (config>service>vprn>nat>outside>pool deterministic)

Full Context

configure service vprn nat outside pool deterministic

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Description

This command configures deterministic NAT for this pool.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.26 deterministic-med

deterministic-med

Syntax

[**no**] **deterministic-med**

Context

[Tree] (config>service>vprn>bgp>best-path-selection deterministic-med)

Full Context

configure service vprn bgp best-path-selection deterministic-med

Description

This command controls how the BGP decision process compares routes on the basis of MED. When **deterministic-med** is configured, BGP groups paths that are equal up to the MED comparison step based on neighbor AS, and then compares the best path from each group to arrive at the overall best path. This change to the BGP decision process makes best path selection completely deterministic in all cases. Without **deterministic-med**, the overall best path selection is sometimes dependent on the order of the route arrival because of the rule that MED cannot be compared in routes from different neighbor AS.

Default

no deterministic-med

Platforms

All

deterministic-med

Syntax

[**no**] **deterministic-med**

Context

[Tree] (config>router>bgp>best-path-selection deterministic-med)

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Full Context

configure router bgp best-path-selection deterministic-med

Description

This command controls how the BGP decision process compares routes on the basis of MED. When **deterministic-med** is configured, BGP groups paths that are equal up to the MED comparison step based on neighbor AS, and then compares the best path from each group to arrive at the overall best path. This change to the BGP decision process makes best path selection completely deterministic in all cases. Without **deterministic-med**, the overall best path selection is sometimes dependent on the order of the route arrival because of the rule that MED cannot be compared in routes from different neighbor AS.

Default

no deterministic-med

Platforms

All

12.27 deterministic-script

deterministic-script

Syntax

deterministic-script

Context

[Tree] (config>service>nat deterministic-script)

Full Context

configure service nat deterministic-script

Description

This command configures the script generated for deterministic NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.28 device-label

device-label

Syntax

device-label *string*

no device-label

Context

[Tree] (config>system>netconf>call-home>device-labels device-label)

Full Context

configure system netconf call-home device-labels device-label

Description

This command encodes the device label as a NETCONF capability.

The **no** form of this command disables encoding the device label.

Default

no device-label

Parameters

string

Specifies a device label, up to 16 characters.

Platforms

All

12.29 device-labels

device-labels

Syntax

device-labels

Context

[Tree] (config>system>netconf>call-home device-labels)

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Full Context

configure system netconf call-home device-labels

Description

Commands in this context configure device labels for NETCONF Call Home.

Platforms

All

12.30 df-bit-lac

df-bit-lac

Syntax

df-bit-lac {**always** | **never**}

no df-bit-lac

Context

[Tree] (config>service>vprn>l2tp df-bit-lac)

[Tree] (config>router>l2tp df-bit-lac)

Full Context

configure service vprn l2tp df-bit-lac

configure router l2tp df-bit-lac

Description

By default, the LAC df-bit-lac is always set and sends all L2TP packets with the DF bit set to 1. The DF bit is configurable to allow downstream routers to fragment the L2TP packets. The LAC itself will not fragment L2TP packets. L2TP packets that have a larger MTU size than what the LAC egress ports allows are dropped.

The **no** form of this command reverts to the default.

Default

df-bit-lac always

Parameters

always

Specifies that the LAC sends all L2TP packets with the DF bit set to 1.

never

Specifies that the LAC sends all L2TP packets with the DF bit set to 0.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

df-bit-lac

Syntax

df-bit-lac {**always** | **never** | **default**}

no df-bit-lac

Context

[Tree] (config>router>l2tp>group df-bit-lac)

[Tree] (config>service>vprn>l2tp>group df-bit-lac)

[Tree] (config>service>vprn>l2tp>group>tunnel df-bit-lac)

[Tree] (config>router>l2tp>group>tunnel df-bit-lac)

Full Context

configure router l2tp group df-bit-lac

configure service vprn l2tp group df-bit-lac

configure service vprn l2tp group tunnel df-bit-lac

configure router l2tp group tunnel df-bit-lac

Description

By default, the LAC df-bit-lac is set to default and sends all L2TP packets with the DF bit set to 1. The DF bit is configurable to allow downstream routers to fragment the L2TP packets. The LAC will not fragment L2TP packets. L2TP packets that have a larger MTU size than what the LAC egress ports allows are dropped. The configuration of the df-bit can be overridden at different levels: l2tp, tunnel, and group. The configuration at the tunnel level overrides the configuration on both the group and l2tp levels. The configuration at the group level overrides the configuration on l2tp.

The **no** form of this command reverts to the default.

Default

df-bit-lac default

Parameters

always

Specifies that the LAC sends all L2TP packets with the DF bit set to 1.

never

Specifies that the LAC sends all L2TP packets with the DF bit set to 0.

default

Follows the DF-bit configuration specified on upper levels.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.31 dh-group

dh-group

Syntax

dh-group {**1** | **2** | **5** | **14** | **15** | **19** | **20** | **21**}

Context

[Tree] (config>ipsec>ike-transform dh-group)

Full Context

configure ipsec ike-transform dh-group

Description

This command configures the Diffie-Hellman group used in this IKE transform instance.

Default

dh-group 14 (2048-bits)

Parameters

dh-group {1 | 2 | 5 | 14 | 15 | 19 | 20 | 21}

Specifies which key exchange group to use to derive IKE_SA and CHILD_SA keys:

Group 1: 768 bits

Group 2: 1024 bits

Group 5: 1536 bits

Group 14: 2048 bits

Group 15: 3072 bits

Group 19: P-256 ECC Curve, 256 bits

Group 20: P-384 ECC Curve, 384 bits

Group 21: P-512 ECC Curve, 512 bits

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.32 dhcp

dhcp

Syntax

dhcp

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only-sap-parameters dhcp)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp

Description

Commands in this context configure DHCP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp

Syntax

dhcp

Context

[Tree] (config>service>vpls>sap dhcp)

[Tree] (config>service>vprn>sub-if>grp-if dhcp)

[Tree] (config>service>ies>sub-if dhcp)

[Tree] (config>service>vpls>spoke-sdp dhcp)

[Tree] (config>service>ies>if dhcp)

[Tree] (config>service>vprn dhcp)

[Tree] (config>service>ies>sub-if>grp-if dhcp)

[Tree] (config>service>vpls>mesh-sdp dhcp)

[Tree] (config>service>vprn>if dhcp)

[Tree] (config>service>vprn>sub-if dhcp)

Full Context

configure service vpls sap dhcp

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configure service vprn subscriber-interface group-interface dhcp

configure service ies subscriber-interface dhcp

configure service vpls spoke-sdp dhcp

configure service ies interface dhcp

configure service vprn dhcp

configure service ies subscriber-interface group-interface dhcp

configure service vpls mesh-sdp dhcp

configure service vprn interface dhcp

configure service vprn subscriber-interface dhcp

Description

Commands in this context configure DHCP parameters.

Platforms

All

- configure service vprn interface dhcp
- configure service ies interface dhcp
- configure service vpls spoke-sdp dhcp
- configure service vpls mesh-sdp dhcp
- configure service vpls sap dhcp

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn dhcp
- configure service vprn subscriber-interface group-interface dhcp
- configure service ies subscriber-interface dhcp
- configure service vprn subscriber-interface dhcp
- configure service ies subscriber-interface group-interface dhcp

dhcp

Syntax

[**no**] **dhcp** [**interface** *ip-int-name*]

[**no**] **dhcp mac** *ieee-address*

[**no**] **dhcp sap** *sap-id*

Context

[Tree] (debug>router>ip dhcp)

Full Context

debug router ip dhcp

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Description

This command enables DHCP debugging.

The **no** form of this command disables debugging.

Parameters

ip-int-name

Specifies the name of the IP interface, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

All

dhcp

Syntax

dhcp *type* **direction** {**ingress** | **egress**} **script** *script*

no dhcp *type* **direction** {**ingress** | **egress**}

Context

[Tree] (config>python>py-policy dhcp)

Full Context

configure python python-policy dhcp

Description

This command specifies the Python script for the specified DHCPv4 packet type in the specified direction.

Multiple **dhcp** command configurations are allowed in the same Python policy.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type of the event.

Values discover, offer, request, decline, ack, nak, release, inform, force-renew, lease-query, lease-unassigned, lease-unknown, lease-active

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direction {ingress | egress}

Specifies whether the packet is being received by the system or being sent by the system.

script *script*

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

dhcp

Syntax

dhcp

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range dhcp)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range dhcp)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp

Description

Commands in this context create DHCP configuration for WLAN-GW ISA subscribers (such as migrant subscribers).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

dhcp

Syntax

[**no**] **dhcp**

Context

[Tree] (debug>service>id dhcp)

Full Context

debug service id dhcp

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Description

Commands in this context perform DHCP debugging.

The **no** form of the command disables DHCP debugging.

Platforms

All

dhcp

Syntax

dhcp

Context

[Tree] (config>app-assure>group>transit-ip-policy dhcp)

Full Context

configure application-assurance group transit-ip-policy dhcp

Description

This command enables dynamic DHCP-based management of transit aa-subs for the transit-ip-policy. This is mutually exclusive to other types management of transit subs for a given transit-ip-policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dhcp

Syntax

[**no**] **dhcp**

Context

[Tree] (config>service>ies>if>sap>ipsec-gw dhcp)

[Tree] (config>service>vprn>if>sap>ipsec-gw dhcp)

Full Context

configure service ies interface sap ipsec-gw dhcp

configure service vprn interface sap ipsec-gw dhcp

Description

Commands in this context configure DHCPv4-based address assignment for IKEv2 remote-access tunnels.

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The system acts as a DHCPv4 client on behalf of the IPsec client, and also a relay agent to relay DHCPv4 packets to the DHCPv4 server.

DHCPv4 DORA(Discovery/Offer/Request/Ack) exchange happens during IKEv2 remote-access tunnel setup. The system also supports standard renew.

In order to use this feature, the **relay-proxy** must be enabled on the corresponding interface (either the private interface or the interface that has the gi-address as the interface address).

Default

no dhcp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dhcp

Syntax

dhcp

Context

[Tree] (config>router>if dhcp)

Full Context

configure router interface dhcp

Description

Commands in this context configure DHCP parameters.

Platforms

All

dhcp

Syntax

dhcp [**include-user-class**] [**timeout** *timeout*]

dhcp client-id [**string** *ascii-string*] [**hex** *hex-string*] [**include-user-class**] [**timeout** *timeout*]

no dhcp

Context

[Tree] (bof>autoconfigure>ipv4 dhcp)

Full Context

bof autoconfigure ipv4 dhcp

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Description

This command configures the IPv4 DHCP client for OOB management. The OOB management IPv4 can be set using a DHCP server offer.

The **no** form of this command disables IPv4 DHCP OOB management.

Default

no dhcp

Parameters

include-user-class

Specifies to include Option 77 user class data in the offer.

client-id

Specifies to include the client ID for IPv4 Option 61 for auto-discovery. The identifier is opaque and is in string format. By default, this is the chassis serial number.

timeout

Specifies the DHCP offer timeout, in seconds.

Values 1 to 65535

Default 30

ascii-string

Specifies the string format for this option, up to 127 characters.

hex-string

Specifies the hexadecimal format for this option, up to 254 hex nibbles.

Values 0x0 to 0xFFFFFFFF

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

dhcp

Syntax

dhcp [**include-user-class**] [**timeout** *timeout*]

dhcp client-id *duid-type* [**string** *ascii-string*] [**hex** *hex-string*] [**include-user-class**] [**timeout** *timeout*]

no dhcp

Context

[Tree] (bof>autoconfigure>ipv6 dhcp)

Full Context

bof autoconfigure ipv6 dhcp

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Description

This command configures the IPv6 DHCP client for out-of-band (OOB) management. The OOB management IPv6 can be set using a DHCP server offer.

The **no** form of this command disables IPv6 DHCP client OOB management.

Default

no dhcp

Parameters

include-user-class

Specifies to include Option 15 user class data in the offer.

client-id

Specifies to include the client ID for IPv6 DHCP Option 1 for auto-discovery. The identifier is opaque and is in string format. By default, this is the chassis serial number.

seconds

Specifies the DHCP client ID timeout, in seconds.

Values 1 to 65535

duid-type

Specifies the type code of the server DUID.

Values duid-link-local, duid-enterprise

ascii-string

Specifies the string format for this option, up to 124 characters.

hex-string

Specifies the hexadecimal format for this option, up to 248 hex nibbles.

Values 0x0 to 0xFFFFFFFF

timeout

Specifies the DHCP offer timeout, in seconds.

Values 1 to 65535

Default 30

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

dhcp

Syntax

[**no**] **dhcp**

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Context

[Tree] (config>sys>security>cpu-protection>ip>included-protocols dhcp)

Full Context

configure system security cpu-protection ip-src-monitoring included-protocols dhcp

Description

This command includes the extracted IPv4 DHCP packets for ip-src-monitoring. IPv4 DHCP packets will be subject to the per-source-rate of CPU protection policies.

Default

dhcp (Note this is different from the other protocols)

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

12.33 dhcp-client

dhcp-client

Syntax

[**no**] **dhcp-client**

Context

[Tree] (debug>router>l2tp>assignment-id>packet dhcp-client)

[Tree] (debug>router>l2tp>peer>packet dhcp-client)

[Tree] (debug>router>l2tp>group>packet dhcp-client)

[Tree] (debug>router>l2tp>packet dhcp-client)

Full Context

debug router l2tp assignment-id packet dhcp-client

debug router l2tp peer packet dhcp-client

debug router l2tp group packet dhcp-client

debug router l2tp packet dhcp-client

Description

This command enables debugging for DHCP client packet.

The **no** form of this command disables debugging for DHCP client packet.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp-client

Syntax

dhcp-client [**terminate-only**]

no dhcp-client

Context

[Tree] (debug>service>id>ppp>event dhcp-client)

Full Context

debug service id ppp event dhcp-client

Description

This command enable PPP event debug for DHCP client.

The **no** form of this command disables PPP event debugging for the DHCP client.

Parameters

terminate-only

Enables debug for local terminated PPP session.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp-client

Syntax

[**no**] **dhcp-client**

Context

[Tree] (debug>service>id>ppp>packet dhcp-client)

Full Context

debug service id ppp packet dhcp-client

Description

This command enables debugging for specific DHCP client packets.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp-client

Syntax

dhcp-client

Context

[Tree] (config>service>ies>sub-if>grp-if>pppoe dhcp-client)

[Tree] (config>service>vprn>sub-if>grp-if>pppoe dhcp-client)

Full Context

configure service ies subscriber-interface group-interface pppoe dhcp-client

configure service vprn subscriber-interface group-interface pppoe dhcp-client

Description

Commands in this context configure the PPPoE-to-DHCP options.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.34 dhcp-filter

dhcp-filter

Syntax

dhcp-filter *filter-id* [**create**]

no dhcp-filter

Context

[Tree] (config>filter dhcp-filter)

Full Context

configure filter dhcp-filter

Description

Commands in this context create and configure the specified DHCP filter policy.

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Parameters

filter-id

Specifies the DHCP filter policy ID expressed as a decimal integer.

Values 1 to 65535

create

Keyword required to create the configuration context.

Platforms

All

12.35 dhcp-leasetime-threshold

dhcp-leasetime-threshold

Syntax

dhcp-leasetime-threshold [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no dhcp-leasetime-threshold

Context

[Tree] (config>system>persistence>options dhcp-leasetime-threshold)

Full Context

configure system persistence options dhcp-leasetime-threshold

Description

This command configures Dynamic Data Persistence (DDP) compact flash access optimization for DHCP leases.

The DHCP lease-time threshold controls the eligibility of a DHCP lease for persistency updates when no data other than the lease expiry time is to be updated. When the offered lease time of the DHCP lease is less than the configured threshold, the lease is flagged to skip persistency updates and will be installed with its full lease time upon a persistency recovery after a reboot.

The **dhcp-leasetime-threshold** command controls persistency updates for DHCPv4 and DHCPv6 leases for a DHCP relay or proxy and DHCPv4 leases for DHCP snooping (enabled with **subscriber-mgmt**) and a DHCP server (enabled with **dhcp-server**).

The **no** form of the command disables the DHCP lease time threshold.

Default

no dhcp-leasetime-threshold

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Parameters

days

Specifies the threshold in days.

Values 0 to 7305

hours

Specifies the threshold in hours.

Values 0 to 23

minutes

Specifies the threshold in minutes.

Values 0 to 59

seconds

Specifies the threshold in seconds.

Values 0 to 59

Platforms

All

dhcp-leasetime-threshold

Syntax

dhcp-leasetime-threshold [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no dhcp-leasetime-threshold

Context

[Tree] (config>redundancy>multi-chassis>options>sub-mgmt dhcp-leasetime-threshold)

Full Context

configure redundancy multi-chassis options sub-mgmt dhcp-leasetime-threshold

Description

This command configures the DHCP lease time threshold to be eligible for MCS synchronization.

DHCP leases for the **sub-mgmt** MCS applications are eligible to skip synchronization if the committed lease time is less than the active threshold on a multi-chassis peer. The active threshold is the minimum value of the thresholds configured on the nodes at each end of a multi-chassis peer. The threshold is inactive when it is unconfigured on at least one end of the multi-chassis peer.

The **no** form of the command disables the DHCP lease time threshold.

Default

no dhcp-leasetime-threshold

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No threshold is active and all **sub-mgmt** DHCP leases are synchronized.

Parameters

days

Specifies the threshold in days.

Values 0 to 1

hours

Specifies the threshold in hours.

Values 0 to 23

minutes

Specifies the threshold in minutes.

Values 0 to 59

seconds

Specifies the threshold in seconds.

Values 0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.36 dhcp-options

dhcp-options

Syntax

[**no**] **dhcp-options**

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute dhcp-options)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute dhcp-options

Description

This command enables insertion of RADIUS VSA containing all DHCP options from DHCP discover (or DHCP request) message. The VSA contains all DHCP options in a form of the string. If required (the total length of all DHCP options exceeds 255B), multiple VSAs are included.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp-options

Syntax

[**no**] **dhcp-options**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes dhcp-options)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes dhcp-options)

Full Context

configure aaa isa-radius-policy acct-include-attributes dhcp-options

configure aaa isa-radius-policy auth-include-attributes dhcp-options

Description

This command enables insertion of RADIUS VSA containing all dhcp-options from dhcp-discover (or dhcp-request) message. The VSA contains all dhcp-options in a form of the string. If required (the total length of all dhcp-options exceeds 255B), multiple VSAs are included.

Default

no dhcp-options

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.37 dhcp-pool

dhcp-pool

Syntax

dhcp-pool

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile dhcp-pool)

Full Context

configure subscriber-mgmt vrgw brg brg-profile dhcp-pool

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Description

Commands in this context configure per-subscriber IPv4 address pool parameters to be used for address allocation. Pools for different subscribers can overlap. Specific pool parameters can be overridden by RADIUS.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.38 dhcp-python-policy

dhcp-python-policy

Syntax

dhcp-python-policy *policy-name*

no dhcp-python-policy

Context

[Tree] (config>service>vpls>sap dhcp-python-policy)

Full Context

configure service vpls sap dhcp-python-policy

Description

This command specifies the name of the Python policy. The Python policy is created in the **config>python>python-policy** *name* context.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies a Python policy name, up to 32 characters.

Platforms

All

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12.39 dhcp-server

dhcp-server

Syntax

dhcp-server

Context

[Tree] (config>system>persistence dhcp-server)

Full Context

configure system persistence dhcp-server

Description

This command configures DHCP server persistence parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.40 dhcp-triggered

dhcp-triggered

Syntax

[**no**] **dhcp-triggered**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state dhcp-triggered)

Full Context

configure subscriber-mgmt wlan-gw ue-query state dhcp-triggered

Description

This command enables matching on UEs currently in a DHCP-triggered state. This query only filters UEs that are currently authenticating due to a DHCP, DHCPv6, or RS trigger, not RADIUS-authenticated UEs in an ESM, DSM, or portal state that were originally authenticated due to a DHCP, DHCPv6, or RS trigger.

The **no** form of this command disables matching on UEs in a DHCP-triggered state, unless all state matching is disabled.

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Default

no dhcp-triggered

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.41 dhcp-user-db

dhcp-user-db

Syntax

dhcp-user-db *local-user-db-name*

no dhcp-user-db

Context

[Tree] (config>service>vpls>sap dhcp-user-db)

Full Context

configure service vpls sap dhcp-user-db

Description

This command enabled access to LUDB for DHCPv4 hosts under the capture SAP. The name of this local user database must match the name of local user database configured under the **config>service>vprn/ies>sub-if>group-if>dhcp** context.

Parameters

local-user-db

Specifies the name of the local user database name up to 32 characters.

Platforms

All

12.42 dhcp-vendor-class-id

dhcp-vendor-class-id

Syntax

[**no**] **dhcp-vendor-class-id**

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Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute dhcp-vendor-class-id)

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute dhcp-vendor-class-id)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute dhcp-vendor-class-id

configure subscriber-mgmt radius-accounting-policy include-radius-attribute dhcp-vendor-class-id

Description

This command includes the [26-6527-36] Alc-DHCP-Vendor-Class-Id attribute in authentication or RADIUS accounting messages. The content of the DHCP Vendor-Class-Identifier option (60) is mapped in this attribute.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp-vendor-class-id

Syntax

[**no**] **dhcp-vendor-class-id**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes dhcp-vendor-class-id)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes dhcp-vendor-class-id)

Full Context

configure aaa isa-radius-policy auth-include-attributes dhcp-vendor-class-id

configure aaa isa-radius-policy acct-include-attributes dhcp-vendor-class-id

Description

This command includes the "[26-6527-36] Alc-DHCP-Vendor-Class-Id" attribute in authentication or RADIUS accounting messages. The content of the DHCP Vendor-Class-Identifier option (60) is mapped in this attribute.

Default

no dhcp-vendor-class-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.43 dhcp6

dhcp6

Syntax

dhcp6

Context

[Tree] (config>service>vpls>mesh-sdp dhcp6)

[Tree] (config>service>vprn dhcp6)

[Tree] (config>service>vprn>sub-if dhcp6)

[Tree] (config>service>ies>sub-if dhcp6)

[Tree] (config>service>vprn>interface dhcp6)

[Tree] (config>service>ies>if dhcp6)

[Tree] (config>service>ies>sub-if>grp-if dhcp6)

[Tree] (config>service>vprn>sub-if>grp-if dhcp6)

[Tree] (config>service>vpls>spoke-sdp dhcp6)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 dhcp6)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 dhcp6)

[Tree] (config>service>vpls>sap dhcp6)

Full Context

configure service vpls mesh-sdp dhcp6

configure service vprn dhcp6

configure service vprn subscriber-interface dhcp6

configure service ies subscriber-interface dhcp6

configure service vprn interface dhcp6

configure service ies interface dhcp6

configure service ies subscriber-interface group-interface dhcp6

configure service vprn subscriber-interface group-interface dhcp6

configure service vpls spoke-sdp dhcp6

configure service vprn subscriber-interface group-interface ipv6 dhcp6

configure service ies subscriber-interface group-interface ipv6 dhcp6

configure service vpls sap dhcp6

Description

Commands in this context configure DHCPv6 parameters.

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Platforms

All

- configure service ies interface dhcp6
- configure service vprn interface dhcp6
- configure service vpls mesh-sdp dhcp6
- configure service vpls spoke-sdp dhcp6
- configure service vpls sap dhcp6

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp6
- configure service vprn dhcp6
- configure service ies subscriber-interface group-interface ipv6 dhcp6
- configure service ies subscriber-interface dhcp6
- configure service vprn subscriber-interface group-interface dhcp6
- configure service vprn subscriber-interface group-interface ipv6 dhcp6
- configure service vprn subscriber-interface dhcp6

dhcp6

Syntax

dhcp6

Context

[Tree] (config>system dhcp6)

Full Context

configure system dhcp6

Description

Commands in this context configure system-wide DHCPv6 parameters.

Platforms

All

dhcp6

Syntax

[**no**] **dhcp6** [*ip-int-name*]

[**no**] **dhcp6 client-identifier duid** *duid-hex-string* [**mask** *mask-hex-string*]

[**no**] **dhcp6 client-identifier link-layer-address** *lla-hex-string*

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[**no**] **dhcp6 interface** *ip-int-name*

[**no**] **dhcp6 sap** *sap-id*

Context

[Tree] (debug>router>ip dhcp6)

Full Context

debug router ip dhcp6

Description

This command enables DHCPv6 debugging with optional interface, SAP, and client-identifier match criteria to filter the debug output.

The **no** form of this command disables debugging.

Parameters

ip-int-name

Specifies the name of an existing IP interface, up to 32 characters. Up to four DHCPv6 interface match criteria can be specified per routing instance.

client-identifier

Specifies a client identifier option match criteria.

duid duid-hex-string

Specifies a hexadecimal value for an opaque match on the client DUID in the client identifier option. When the actual length of the client DUID is longer than the length of the specified hex-string, only the left most octets are matched. Up to four DHCPv6 client-identifier match criteria can be specified per routing instance.

Values 0x0 to 0xFFFFFFFF (maximum 260 hex nibbles)

mask mask-hex-string

Specifies an optional substring match criteria. When a mask is specified, both hex-string lengths must be equal.

Values 0x0 to 0xFFFFFFFF (maximum 260 hex nibbles)

link-layer-address lla-hex-string

Specifies a hexadecimal value for a link layer address field match of a type 1 (DUID-LLT) or type 3 (DUID-LL) client DUID in the client identifier option. When the actual length of the link layer address field is longer than the length of the specified hex-string, only the left most octets are matched. Up to four DHCPv6 client-identifier match criteria can be specified per routing instance.

Values 0x0 to 0xFFFFFFFF (maximum 252 hex nibbles)

sap-id

Specifies an existing SAP identifier. Up to four DHCPv6 SAP match criteria can be specified per routing instance.

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Platforms

All

dhcp6

Syntax

dhcp6 *type* **direction** {**ingress** | **egress**} **script** *script*

no dhcp6 *type* **direction** {**ingress** | **egress**}

Context

[Tree] (config>python>py-policy dhcp6)

Full Context

configure python python-policy dhcp6

Description

This command specifies the Python script for the specified DHCPv6 packet type in the specified direction.

Multiple **dhcps** command configurations are allowed in the same Python policy.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type of the event.

Values solicit, advertise, request, confirm, renew, rebind, reply, release, decline, reconfigure, info-request, relay-forward, relay-reply

direction {ingress | egress}

Specifies whether the event is incoming or outgoing.

script

Specifies the name of the Python script, up to 32 characters, that will be used to handle the specified message.

Platforms

All

dhcp6

Syntax

dhcp6

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range dhcp6)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range dhcp6)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6

Description

Commands in this context create DHCPv6 configuration for WLAN-GW ISA subscribers.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

dhcp6

Syntax

[**no**] **dhcp6**

Context

[Tree] (config>service>ies>if>sap>ipsec-gw dhcp6)

[Tree] (config>service>vprn>if>sap>ipsec-gw dhcp6)

Full Context

configure service ies interface sap ipsec-gw dhcp6

configure service vprn interface sap ipsec-gw dhcp6

Description

Commands in this context configure DHCPv6-based address assignment for IKEv2 remote-access tunnels.

The system acts as a DHCPv6 client on behalf of the IPsec client, and also acts as a relay agent to relay DHCPv6 packets to the DHCPv6 server.

DHCPv6 exchange happens during IKEv2 remote-access tunnel setup. The system also supports standard renew.

Default

no dhcp6

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.44 dhcp6-address

dhcp6-address

Syntax

dhcp6-address *ipv6-address*

no dhcp6-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query dhcp6-address)

Full Context

configure subscriber-mgmt wlan-gw ue-query dhcp6-address

Description

This command enables matching on UEs with the specified DHCPv6 IA-NA address.

The **no** form of this command disables matching on the IA-NA address.

Default

no dhcp6-address

Parameters

ipv6-address

Specifies the IA-NA address.

Values	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.45 dhcp6-filter

dhcp6-filter

Syntax

dhcp6-filter *filter-id* [**create**]

no dhcp6-filter

Context

[Tree] (config>filter dhcp6-filter)

Full Context

configure filter dhcp6-filter

Description

Commands in this context create and configure the specified DHCPv6 filter policy.

The **no** form of this command reverts to the default.

Parameters

filter-id

Specifies the DHCPv6 filter policy ID expressed as a decimal integer.

Values 1 to 65535

create

Keyword required to create the configuration context.

Platforms

All

12.46 dhcp6-options

dhcp6-options

Syntax

[**no**] **dhcp6-options**

Context

[Tree] (config>subscr-mgmt>auth-plcy>include dhcp6-options)

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Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute dhcp6-options

Description

This command copies DHCPv6 options from received DHCPv6 messages on ingress access and pass them to the RADIUS server in Accept-Request. The messages is carried in the RADIUS VSA Alc-ToServer-Dhcp6-Options.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dhcp6-options

Syntax

[**no**] **dhcp6-options**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes dhcp6-options)

Full Context

configure aaa isa-radius-policy acct-include-attributes dhcp6-options

Description

If a DHCPv6 stack is active for a UE, this attribute defines if options received in the last DHCPv6 message should be reflected.

Default

no dhcp6-options

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

dhcp6-options

Syntax

[**no**] **dhcp6-options**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes dhcp6-options)

Full Context

configure aaa isa-radius-policy auth-include-attributes dhcp6-options

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Description

If authentication was triggered by DHCPv6, this knob defines if options received in that DHCPv6 message should be reflected in the radius Access-Request.

Default

no dhcp6-options

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.47 dhcp6-python-policy

dhcp6-python-policy

Syntax

dhcp6-python-policy *policy-name*

no dhcp6-python-policy

Context

[Tree] (config>service>vpls>sap dhcp6-python-policy)

Full Context

configure service vpls sap dhcp6-python-policy

Description

This command specified the Python policy for DHCPv6 packets sent/received on the capture SAP.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy name

Specifies an existing Python policy name, up to 256 characters.

Platforms

All

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12.48 dhcp6-relay

dhcp6-relay

Syntax

[**no**] **dhcp6-relay**

Context

[Tree] (config>service>vprn>if>ipv6 dhcp6-relay)

[Tree] (config>service>ies>if>ipv6 dhcp6-relay)

Full Context

configure service vprn interface ipv6 dhcp6-relay

configure service ies interface ipv6 dhcp6-relay

Description

Commands in this context configure DHCPv6 relay parameters for the interface.

The **no** form of this command disables DHCPv6 relay.

Platforms

All

12.49 dhcp6-server

dhcp6-server

Syntax

[**no**] **dhcp6-server**

Context

[Tree] (config>service>ies>if>ipv6 dhcp6-server)

[Tree] (config>service>vprn>if>ipv6 dhcp6-server)

Full Context

configure service ies interface ipv6 dhcp6-server

configure service vprn interface ipv6 dhcp6-server

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Description

Commands in this context configure DHCPv6 server parameters for the interface.

The **no** form of this command disables the DHCP6 server.

Platforms

All

12.50 dhcp6-user-db

dhcp6-user-db

Syntax

dhcp6-user-db *local-user-db*

no dhcp6-user-db

Context

[Tree] (config>service>vpls>sap dhcp6-user-db)

Full Context

configure service vpls sap dhcp6-user-db

Description

This command enabled access to LUDB for DHCPv6 hosts under the capture SAP. The name of this LUDB must match the name of the LUDB configured under the **config>service>vprn/ies>sub-if>grp-if>dhcp** hierarchy.

The **no** form of this command reverts to the default.

Parameters

local-user-db

Specifies the name of the local-user-database, up to 32 characters.

Platforms

All

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12.51 dhcpv4

dhcpv4

Syntax

dhcpv4

Context

[Tree] (config>service>vprn>subscriber-mgmt dhcpv4)

[Tree] (config>router>subscriber-mgmt dhcpv4)

Full Context

configure service vprn subscriber-mgmt dhcpv4

configure router subscriber-mgmt dhcpv4

Description

Commands in this context configure DHCPv4 parameters that apply to this routing instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.52 dhcpv4-nat

dhcpv4-nat

Syntax

dhcpv4-nat

Context

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client dhcpv4-nat)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client dhcpv4-nat)

Full Context

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat

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Description

This node enables address pools for DHCPv4 NAT inside addresses. This configuration is only available in wholesale interfaces.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.53 dhcpv6-client

dhcpv6-client

Syntax

dhcpv6-client

Context

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager dhcpv6-client)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager dhcpv6-client)

Full Context

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client

Description

This command configures the DHCPv6 client for the pool manager.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.54 diameter

diameter

Syntax

diameter *type* **direction** {**ingress** | **egress**} **script** *script*

no diameter *type* **direction** {**ingress** | **egress**}

Context

[Tree] (config>python>py-policy diameter)

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Full Context

configure python python-policy diameter

Description

This command specifies the Python script to use for the specified Diameter message type in the specified direction.

Multiple diameter command configurations are allowed in the same Python policy.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type.

Message type	Application	Direction
aaa – AA Answer	Nasreq	ingress
aar – AA Request	Nasreq	egress
asa – Abort Session Answer	Gx, Gy	egress
asr – Abort Session Request	Gx, Gy	ingress
cca – Credit Control Answer	Gx, Gy	ingress
ccr – Credit Control Request	Gx, Gy	egress
cea – Capabilities Exchange Answer	Base	ingress
cer – Capabilities Exchange Request	Base	egress
dpa – Disconnect Peer Answer	Base	ingress/egress
dpr – Disconnect Peer Request	Base	ingress/egress
dwa – Device Watchdog Answer	Base	ingress/egress
dwr – Device Watchdog Request	Base	ingress/egress
raa – Re-Authentication Answer	Gx, Gy	egress
rar – Re-Authentication Request	Gx, Gy	ingress

direction {ingress | egress}

Specifies if the message is incoming or outgoing.

script

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

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diameter

Syntax

diameter

Context

[Tree] (config>aaa diameter)

Full Context

configure aaa diameter

Description

Commands in this context configure Diameter parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

diameter

Syntax

[**no**] **diameter**

Context

[Tree] (debug diameter)

Full Context

debug diameter

Description

This command enables debugging for diameter.

The **no** form of this command disables debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

diameter

Syntax

diameter

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Context

[Tree] (config>app-assure>group>transit-ip diameter)

Full Context

configure application-assurance group transit-ip-policy diameter

Description

Commands in this context configure dynamic Diameter-based management of transit AA subs for the transit IP policy. This is mutually exclusive to other types of management of transit subs for a given transit IP policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.55 diameter-application-policy

diameter-application-policy

Syntax

diameter-application-policy *policy-name*

no diameter-application-policy

Context

[Tree] (config>service>ies>sub-if>grp-if diameter-application-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host diameter-application-policy)

[Tree] (config>service>vpls>sap diameter-application-policy)

[Tree] (config>service>vprn>sub-if>grp-if diameter-application-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host diameter-application-policy)

Full Context

configure service ies subscriber-interface group-interface diameter-application-policy

configure subscriber-mgmt local-user-db ppp host diameter-application-policy

configure service vpls sap diameter-application-policy

configure service vprn subscriber-interface group-interface diameter-application-policy

configure subscriber-mgmt local-user-db ipoe host diameter-application-policy

Description

This command applies the **diameter-application-policy** to the processing of the host attachment requests.

The **no** form of this command reverts to the default value.

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Parameters

policy-name

Specifies the name of the diameter policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt local-user-db ppp host diameter-application-policy
- configure service ies subscriber-interface group-interface diameter-application-policy
- configure subscriber-mgmt local-user-db ipoe host diameter-application-policy
- configure service vprn subscriber-interface group-interface diameter-application-policy

All

- configure service vpls sap diameter-application-policy

diameter-application-policy

Syntax

diameter-application-policy *application-policy-name* [**create**]

no diameter-application-policy *application-policy-name*

Context

[Tree] (config>subscr-mgmt diameter-application-policy)

Full Context

configure subscriber-mgmt diameter-application-policy

Description

Commands in this context create and configure diameter application policy.

The **no** form of this command reverts to the default.

Parameters

application-policy-name

Specifies the name of the diameter policy, up to 32 characters.

create

Specifies the keyword used to create a diameter application policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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12.56 diameter-auth-policy

diameter-auth-policy

Syntax

diameter-auth-policy *name*

no diameter-auth-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host diameter-auth-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host diameter-auth-policy)

Full Context

configure subscriber-mgmt local-user-db ppp host diameter-auth-policy

configure subscriber-mgmt local-user-db ipoe host diameter-auth-policy

Description

This command is used to configure the Diameter NASREQ application policy to use for authentication.

The **no** form of this command reverts to the default.

Parameters

name

Specifies the name of the Diameter NASREQ application policy, up to 32 characters, to use for authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

diameter-auth-policy

Syntax

diameter-auth-policy *diameter-authentication-policy-name*

no diameter-auth-policy

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn diameter-auth-policy)

Full Context

configure subscriber-mgmt gtp apn-policy apn diameter-auth-policy

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Description

This command configures the Diameter authentication policy with which the GTP connection is authenticated.

The **no** form of this command removes the authentication policy. Only new session setups are affected.

Default

no diameter-auth-policy

Parameters

diameter-authentication-policy-name

Specifies the name of the authentication policy to be used, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

diameter-auth-policy

Syntax

diameter-auth-policy *name*

no diameter-auth-policy

Context

[Tree] (config>service>vpls>sap diameter-auth-policy)

Full Context

configure service vpls sap diameter-auth-policy

Description

This command is used to configure the Diameter NASREQ application policy to use for authentication.

The **no** form of this command reverts to the default value.

Parameters

name

Specifies the name of the Diameter NASREQ application policy, up to 32 characters, to use for authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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diameter-auth-policy

Syntax

diameter-auth-policy *name*

no diameter-auth-policy

Context

[Tree] (config>service>ies>sub-if>grp-if diameter-auth-policy)

[Tree] (config>service>vprn>sub-if>grp-if diameter-auth-policy)

Full Context

configure service ies subscriber-interface group-interface diameter-auth-policy

configure service vprn subscriber-interface group-interface diameter-auth-policy

Description

This command is used to configure the Diameter NASREQ application policy to use for authentication.

The **no** form of this command reverts to the default.

Parameters

name

Specifies the name of the Diameter NASREQ application policy, up to 32 characters, to use for authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.57 diameter-node

diameter-node

Syntax

diameter-node *origin-host-string* **destination-realm** *destination-realm-string*

no diameter-node

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy diameter-node)

Full Context

configure subscriber-mgmt diameter-application-policy diameter-node

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Description

This command configures the Diameter node for this Diameter application policy.

Parameters

origin-host-string

Specifies the Origin-Host AVP used by this Diameter policy, up to 80 characters.

destination-realm-string

Specifies the Destination-Realm AVP used by this Diameter policy peer, up to 80 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.58 diffserv-te

diffserv-te

Syntax

diffserv-te [**mam** | **rdm**]

no diffserv-te

Context

[Tree] (config>router>rsvp diffserv-te)

Full Context

configure router rsvp diffserv-te

Description

This command enables Diff-Serv TE on the node.

When this command is enabled, IS-IS and OSPF starts advertising available bandwidth for each TE class configured under the diffserv-te node. This command only takes effect if the operator has already enabled TE at the IS-IS, OSPF, or both routing protocol levels:

configure router isis traffic-engineering

and/or:

configure router ospf traffic-engineering

IGP advertises for each RSVP interface in the system the available bandwidth in each TE class in the unreserved bandwidth TE parameter for that class. In addition, IGP continues to advertise the existing Maximum Reservable Link Bandwidth TE parameter to mean the maximum bandwidth that can be booked on a given interface by all classes. The value advertised is adjusted with the link **subscription** *percentage* factor configured in the **configure router rsvp interface** context.

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The user configures the following parameters for the operation of Diff-Serv:

- Definition of TE classes, TE Class = {Class Type (CT), LSP priority}.
- Mapping of the system forwarding classes to the Diff-Serv Class Type (CT).
- Configuration of the percentage of RSVP interface bandwidth each CT shares, that is, the Bandwidth Constraint (BC).

When Diff-Serv TE is enabled, the system automatically enables the Max Allocation Model (MAM) Admission Control Policy. MAM represents the bandwidth constraint model for the admission control of an LSP reservation to a link.

Each CT shares a percentage of the Maximum Reservable Link Bandwidth through the user-configured Bandwidth Constraint (BC) for this CT. The Maximum Reservable Link Bandwidth is the link bandwidth multiplied by the RSVP interface subscription factor.

The sum of all BC values across all CTs does not exceed the Maximum Reservable Link Bandwidth. In other words, the following rule is enforced:

SUM (BCc) =< Max-Reservable-Bandwidth, 0 <= c <= 7

An LSP of class-type CTc, setup priority p, holding priority h (h=<p), and bandwidth B is admitted into a link if the following condition is satisfied:

B <= Unreserved Bandwidth for TE-Class[i]

where TE-Class [i] maps to < CTc , p > in the definition of the TE classes on the node. The bandwidth reservation is effected at the holding priority, that is, in TE-class [j] = <CTc, h>. Thus, the reserved bandwidth for CTc and the unreserved bandwidth for the TE classes using CTc are updated as follows:

Reserved(CTc) = Reserved(CTc) + B

Unreserved TE-Class [j] = BCc - SUM (Reserved(CTc,q)) for 0<= q <= h

Unreserved TE-Class [i] = BCc - SUM (Reserved(CTc,q)) for 0<= q <= p

The same is done to update the unreserved bandwidth for any other TE class making use of the same CTc. These new values are advertised to the rest of the network at the next IGP-TE flooding.

The Russian Doll Model (RDM) LSP admission control policy allows bandwidth sharing across Class Types. It provides a hierarchical model by which the reserved bandwidth of a CT is the sum of the reserved bandwidths of the numerically equal and higher CTs.

The RDM model is defined using the following equations:

SUM (Reserved (CTc)) <= BCb,

where the SUM is across all values of c in the range b <= c <= (MaxCT - 1), and BCb is the bandwidth constraint of CTb.

BC0= Max-Reservable-Bandwidth, so that

SUM (Reserved(CTc)) <= Max-Reservable-Bandwidth,

where the SUM is across all values of c in the range 0 <= c <= (MaxCT - 1).

When Diff-Serv is disabled on the node, this model degenerates into a single default CT internally with eight preemption priorities and a non-configurable BC equal to the Maximum Reservable Link Bandwidth. This would behave exactly like CT0 with eight preemption priorities and BC= Maximum Reservable Link Bandwidth if Diff-Serv was enabled.

The enabling or disabling of Diff-Serv TE on the system requires the RSVP and MPLS protocol be shutdown.

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The **no** form of this command reverts to the default value.

Default

no diffserv-te

Parameters

mam

Defines the default admission control policy for Diff-Serv LSPs.

rdm

Defines Russian doll model for the admission control policy of Diff-Serv LSPs.

Platforms

All

12.59 digest-type

digest-type

Syntax

digest-type {**default** | **none** | **md5** | **sha1**}

no digest-type

Context

[Tree] (config>service>vprn>l2tp>l2tpv3 digest-type)

[Tree] (config>service>vprn>l2tp>group>l2tpv3 digest-type)

Full Context

configure service vprn l2tp l2tpv3 digest-type

configure service vprn l2tp group l2tpv3 digest-type

Description

This command configures the hashing algorithm used to calculate the message digest.

The **no** form of this command returns the **digest-type** to **none**.

Default

no digest-type

Parameters

none

Specifies that no digest should be used.

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md5

Specifies that the MD5 algorithm should be used.

sha1

Specifies that the SHA1 algorithm should be used.

default

When specified within the **config>service>vprn>l2tp>group>l2tpv3** context, this is referencing to the **digest-type** configuration within the **config>service>vprn>l2tp>l2tpv3** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.60 digital-coherent-optics

digital-coherent-optics

Syntax

[**no**] **digital-coherent-optics**

Context

[Tree] (config>port>transceiver digital-coherent-optics)

Full Context

configure port transceiver digital-coherent-optics

Description

This command specifies if a digital coherent optics module is used for this port.

The **no** form of this command specifies that the optical module used in this port is not a digital coherent optics module.

Default

no digital-coherent-optics

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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12.61 dir

dir

Syntax

dir [*file-url*] [**sort-order** { **d** | **n** | **s**}] [**reverse**] [**router** *router-instance*]

Context

[Tree] (file dir)

Full Context

file dir

Description

This command displays a list of files and subdirectories in a directory.

Parameters

file-url

Specifies the path or directory name.

Use the *file-url* with the optional wildcard (*) to reduce the number of files to list.

sort-order {d | n | s}

Specifies the sort order.

Values d — date
n — name
s — size

reverse

Reverses the sort order.

Default Lists all files in the current working directory.

local-url	[*cflash-id*/][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
remote-url	[{ftp | sftp}://*login*:*pswd*@*remote-locn*/][*file-path*] up to 247 characters directory length up to 99 characters each
remote-locn	[hostname | ipv4-address | [ipv6-address]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]

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	x:x:x:x:x:x:d.d.d.d[*-interface*] *x* - [0 to FFFF]H *d* - [0 to 255]D interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

Output

The following output is an example of directory information.

Output Example

```
A:cses-E12>file cf3:\ # dir
  - dir [<file-url>] [sort-order { d | n | s}] [reverse]

 <file-url>           : <local-url> | <remote-url>
                        local-url      - [<cflash-id>/][<file-path>]
                                         200 chars max, including cflash-id
                                         directory length 99 chars max each
                        remote-url     - [ftp://<login>:<pswd>@<remote-locn>/
                                         ][<file-path>]
                                         255 chars max
                                         directory length 99 chars max each
                        remote-locn    - [ <hostname> | <ipv4-address> |
                                         [<ipv6-address>]]
                        ipv4-address   - a.b.c.d
                        ipv6-address   - x:x:x:x:x:x:x:x[-interface]
                                         x:x:x:x:x:x:d.d.d.d[-interface]
                                         x - [0..FFFF]H
                                         d - [0..255]D
                                         interface - 32 chars max, for link
                                         local addresses
                        cflash-id      - cf1:|cf1-A:|cf1-B:|cf2:|cf2-A:|
                                         cf2-B:|cf3:|cf3-A:|cf3-B:
 < d | n | s>         : Sort order: d - date, n - name, s - size
 <reverse>            : keyword - reverse order
A:cses-E12>file cf3:\ # dir
```


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12.62 direction

direction

Syntax

direction *direction*

Context

[Tree] (debug>router>l2tp>packet direction)

[Tree] (debug>router>l2tp>group>packet direction)

[Tree] (debug>router>l2tp>peer>packet direction)

[Tree] (debug>router>l2tp>assignment-id>packet direction)

Full Context

debug router l2tp packet direction

debug router l2tp group packet direction

debug router l2tp peer packet direction

debug router l2tp assignment-id packet direction

Description

This command enables debugging for packet direction.

Parameters

direction

Specifies the packet direction.

Values ingress, egress, both

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

direction

Syntax

direction {**ingress** | **egress** | **both**}

Context

[Tree] (debug>subscr-mgmt>vrgw>brg>pppoe-client>brg-id direction)

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Full Context

debug subscriber-mgmt vrgw brg pppoe-client brg-id direction

Description

This command specifies if debugging should only include ingress, egress or all messages.

Default

direction both

Parameters

ingress

Specifies that debugging only includes ingress messages.

egress

Specifies that debugging only includes egress messages.

both

Specifies that debugging includes both ingress and egress messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

direction

Syntax

direction *ipsec-direction*

no direction

Context

[Tree] (config>ipsec>static-sa direction)

Full Context

configure ipsec static-sa direction

Description

This command configures the direction for an IPsec manual SA.

The **no** form of this command reverts to the default value.

Default

direction bidirectional

Parameters

ipsec-direction

Identifies the direction to which this static SA entry can be applied.

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Values inbound, outbound, bidirectional

Platforms

All

direction

Syntax

direction *direction*

Context

[Tree] (debug>router>pcp>pcp-server>packet direction)

Full Context

debug router pcp pcp-server packet direction

Description

This command enables debugging for packet direction.

Parameters

direction

Specifies the packet direction.

Values ingress, egress, both

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

direction

Syntax

direction

Context

[Tree] (config>system>security>keychain direction)

Full Context

configure system security keychain direction

Description

This command specifies the data type that indicates the TCP stream direction to apply the keychain.

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Platforms

All

12.63 direction-bit

direction-bit

Syntax

[**no**] **direction-bit**

Context

[Tree] (config>mirror>mirror-dest>encap>layer-3-encap direction-bit)

Full Context

configure mirror mirror-dest encap layer-3-encap direction-bit

Description

This command is used to steal one bit from the intercept-id in the LI-Shim and use it to indicate the direction of traffic flow for an LI session. Using a direction bit may be used by a LI Mediation Gateway to distinguish between the two directions of traffic flow for an LI session when both directions share a common mirror-dest, intercept-id and session-id. If the direction bit is enabled then the Mirror Header Version (2 bit mhv) in the LI-Shim will be set to binary 01, and the next bit after the mhv is set to 0 for ingress traffic and 1 for egress traffic.

For NAT based LI, ingress means the traffic is arriving at the node from the subscriber host (applies to the 7450 ESS and 7750 SR).

No changes are allowed to the **direction-bit** configuration once a gateway is configured.

Platforms

All

direction-bit

Syntax

[**no**] **direction-bit**

Context

[Tree] (config>li>mirror-dest-template>layer-3-encap direction-bit)

Full Context

configure li mirror-dest-template layer-3-encap direction-bit

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Description

This command enables and disables the use of one bit from the interception ID field in the LI-Shim header to be used to indicate the direction of mirrored traffic flow for an LI session. An LI Mediation Gateway can use a direction bit to distinguish between the two directions of traffic flow for an LI session when both directions share a common mirror destination, interception ID, and session ID. If the direction bit is enabled, the Mirror Header Version (2-bit MHV) in the LI-Shim header will be set to binary 01, and the next bit after the MHV is set to 0 for ingress traffic and 1 for egress traffic.

For NAT-based LI, ingress traffic arrives at the node from the subscriber host. No changes are allowed to the direction bit configuration after a gateway is configured.

The **no** form of this command disables the use of the bit as a direction indicator.

Platforms

All

12.64 disable

disable

Syntax

[**no**] **disable**

Context

[Tree] (config>call-trace>location disable)

Full Context

configure call-trace location disable

Description

When configured, the specified compact flash will not be used by call-trace. The **no** form of this command enables the compact flash for use by call-trace.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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12.65 disable-4byte-asn

disable-4byte-asn

Syntax

[**no**] **disable-4byte-asn**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy disable-4byte-asn)

Full Context

configure subscriber-mgmt bgp-peering-policy disable-4byte-asn

Description

This command disables the use of 4-byte ASNs. It can be configured at all 3 level of the hierarchy so it can be specified down to the per peer basis.

If this command is enabled 4-byte ASN support should not be negotiated with the associated remote peer.

The **no** form of this command resets the behavior to the default which is to enable the use of 4-byte ASN.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

disable-4byte-asn

Syntax

[**no**] **disable-4byte-asn**

Context

[Tree] (config>service>vprn>bgp>group disable-4byte-asn)

[Tree] (config>service>vprn>bgp disable-4byte-asn)

[Tree] (config>service>vprn>bgp>group>neighbor disable-4byte-asn)

Full Context

configure service vprn bgp group disable-4byte-asn

configure service vprn bgp disable-4byte-asn

configure service vprn bgp group neighbor disable-4byte-asn

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Description

This command disables the use of 4-byte ASNs. It can be configured at all 3 level of the hierarchy so it can be specified down to the per peer basis.

If this command is enabled 4-byte ASN support should not be negotiated with the associated remote peer(s).

The **no** form of this command resets the behavior to the default which is to enable the use of 4-byte ASN.

Platforms

All

disable-4byte-asn

Syntax

[**no**] **disable-4byte-asn**

Context

[Tree] (config>router>bgp>group disable-4byte-asn)

[Tree] (config>router>bgp>group>neighbor disable-4byte-asn)

[Tree] (config>router>bgp disable-4byte-asn)

Full Context

configure router bgp group disable-4byte-asn

configure router bgp group neighbor disable-4byte-asn

configure router bgp disable-4byte-asn

Description

This command disables the support of 4-byte ASNs. It can be configured at all three levels of the hierarchy so it can be specified down to the per-peer basis.

If this command is enabled, 4-byte ASN support should not be negotiated with the associated remote peers.

The **no** form of this command resets the behavior to the default which is to enable the support of 4-byte ASN.

Default

no disable-4byte-asn

Platforms

All

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12.66 disable-aging

disable-aging

Syntax

[**no**] **disable-aging**

Context

[Tree] (config>service>vpls>vxlan disable-aging)

[Tree] (config>service>vpls>spoke-sdp disable-aging)

[Tree] (config>service>template>vpls-template disable-aging)

[Tree] (config>service>vpls disable-aging)

[Tree] (config>service>vpls>sap disable-aging)

Full Context

configure service vpls vxlan disable-aging

configure service vpls spoke-sdp disable-aging

configure service template vpls-template disable-aging

configure service vpls disable-aging

configure service vpls sap disable-aging

Description

This command disables MAC address aging across a VPLS service, on a VPLS service SAP or spoke-SDP, or VXLAN instance with static binds. Learned MACs can be aged out if no packets are sourced from the MAC address for a period of time (aging time). In each VPLS service instance, there are independent aging timers for local learned MAC and remote learned MAC entries in the VPLS forwarding database (FDB).

The **disable-aging** command turns off aging for local and remote learned MAC addresses. When **no disable-aging** is specified for a VPLS, aging can be disabled for specific SAPs, spoke-SDPs, and VXLAN instances (or any combination) by entering the **disable-aging** command at the appropriate level.

When the **disable-aging command** is entered at the VPLS level, the aging state of individual SAPs or SDPs or VXLAN instance is ignored.

The **no** form of this command enables aging on the VPLS service.

Default

no disable-aging

Except for VXLAN instances, where the **disable-aging** is the default mode

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure service vpls vxlan disable-aging

All

- configure service vpls spoke-sdp disable-aging
- configure service vpls disable-aging
- configure service template vpls-template disable-aging
- configure service vpls sap disable-aging

disable-aging

Syntax

[**no**] **disable-aging**

Context

[Tree] (config>service>pw-template disable-aging)

Full Context

configure service pw-template disable-aging

Description

This command disables MAC address aging across a service.

The **no** form of this command enables aging.

Default

no disable-aging

Platforms

All

12.67 disable-capability-negotiation

disable-capability-negotiation

Syntax

[**no**] **disable-capability-negotiation**

Context

[Tree] (config>service>vprn>bgp>group disable-capability-negotiation)

[Tree] (config>service>vprn>bgp>group>neighbor disable-capability-negotiation)

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Full Context

configure service vprn bgp group disable-capability-negotiation

configure service vprn bgp group neighbor disable-capability-negotiation

Description

This command disables the exchange of capabilities. When command is enabled and after the peering is flapped, any new capabilities are not negotiated and strictly supports IPv4 routing exchanges with that peer.

The **no** form of this command removes this command from the configuration and restores the normal behavior.

Default

no disable-capability-negotiation

Platforms

All

disable-capability-negotiation

Syntax

[**no**] **disable-capability-negotiation**

Context

[Tree] (config>router>bgp>group>neighbor disable-capability-negotiation)

[Tree] (config>router>bgp>group disable-capability-negotiation)

Full Context

configure router bgp group neighbor disable-capability-negotiation

configure router bgp group disable-capability-negotiation

Description

This command disables capability negotiation. When the command is enabled and after the peering is flapped, any new capabilities are not negotiated and will strictly support IPv4 routing exchanges with that peer.

The **no** form of this command removes this command from the configuration and restores the normal behavior.

Default

no disable-capability-negotiation

Platforms

All

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12.68 disable-client-reflect

disable-client-reflect

Syntax

[**no**] **disable-client-reflect**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy disable-client-reflect)

Full Context

configure subscriber-mgmt bgp-peering-policy disable-client-reflect

Description

This command disables the reflection of routes by the route reflector to the group or neighbor. This only disables the reflection of routes from other client peers. Routes learned from non-client peers are still reflected to all clients.

The **no** form re-enables client reflection of routes to all client peers.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

disable-client-reflect

Syntax

[**no**] **disable-client-reflect**

Context

[Tree] (config>service>vprn>bgp>group disable-client-reflect)

[Tree] (config>service>vprn>bgp>group>neighbor disable-client-reflect)

[Tree] (config>service>vprn>bgp disable-client-reflect)

Full Context

configure service vprn bgp group disable-client-reflect

configure service vprn bgp group neighbor disable-client-reflect

configure service vprn bgp disable-client-reflect

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Description

This command disables the reflection of routes by the route reflector to the group or neighbor. This only disables the reflection of routes from other client peers. Routes learned from non-client peers are still reflected to all clients.

The **no** form re-enables client reflection of routes.

Default

no disable-client-reflect

Platforms

All

disable-client-reflect

Syntax

[**no**] **disable-client-reflect**

Context

[Tree] (config>router>bgp>group disable-client-reflect)

[Tree] (config>router>bgp disable-client-reflect)

[Tree] (config>router>bgp>group>neighbor disable-client-reflect)

Full Context

configure router bgp group disable-client-reflect

configure router bgp disable-client-reflect

configure router bgp group neighbor disable-client-reflect

Description

This command determines whether routes received from neighbors considered to be RR clients are reflected to other clients.

The **no** form enables client reflection of routes.

Default

no disable-client-reflect

Platforms

All

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12.69 disable-communities

disable-communities

Syntax

disable-communities [**standard**] [**extended**]

no disable-communities

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy disable-communities)

Full Context

configure subscriber-mgmt bgp-peering-policy disable-communities

Description

This command configures BGP to disable sending communities.

The **no** form of this command reverts to the default.

Parameters

standard

Specifies standard communities that existed before VPRNs or 2547.

extended

Specifies BGP communities used were expanded after the concept of 2547 was introduced, to include handling the VRF target.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

disable-communities

Syntax

disable-communities [**standard**] [**extended**] [**large**]

no disable-communities

Context

[Tree] (config>service>vprn>bgp>group disable-communities)

[Tree] (config>service>vprn>bgp disable-communities)

[Tree] (config>service>vprn>bgp>group>neighbor disable-communities)

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Full Context

configure service vprn bgp group disable-communities

configure service vprn bgp disable-communities

configure service vprn bgp group neighbor disable-communities

Description

This command configures BGP to disable sending standard, extended, or large communities to specific peers.

By default, all communities that are attached to a BGP route (any address family) are not stripped from the route when it is advertised to any type of peer: IBGP, EBGP or confed-EBGP.

Default

no disable-communities

Parameters

standard

Specifies that standard 4-byte communities should be removed.

extended

Specifies that 8-byte extended communities (of all types) should be removed.

large

Specifies that 12-byte large communities should be removed.

Platforms

All

disable-communities

Syntax

disable-communities [**standard**] [**extended**] [**large**]

no disable-communities

Context

[Tree] (config>router>bgp>group>neighbor disable-communities)

[Tree] (config>router>bgp>group disable-communities)

[Tree] (config>router>bgp disable-communities)

Full Context

configure router bgp group neighbor disable-communities

configure router bgp group disable-communities

configure router bgp disable-communities

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Description

This command configures BGP to disable sending standard, extended, or large communities to specific peers.

By default, all communities that are attached to a BGP route (any address family) are not stripped from the route when it is advertised to any type of peer: IBGP, EBGP, or confed-EBGP.

Default

no disable-communities

Parameters

standard

Advertise the Communities attribute to peers.

extended

Advertise the Extended Communities attribute to peers.

large

Advertise the Large Communities attribute to peers.

Platforms

All

12.70 disable-cookies

disable-cookies

Syntax

[**no**] **disable-cookies**

Context

[Tree] (config>subscr-mgmt>ppp-policy disable-cookies)

Full Context

configure subscriber-mgmt ppp-policy disable-cookies

Description

This command disables the use of cookies.

The **no** form of this command enables cookies.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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12.71 disable-explicit-null

disable-explicit-null

Syntax

[**no**] **disable-explicit-null**

Context

[Tree] (config>router>bgp>label-allocation>label-ipv6 disable-explicit-null)

Full Context

configure router bgp label-allocation label-ipv6 disable-explicit-null

Description

This command controls the allocation and use of explicit null MPLS labels with labeled-unicast ipv6 routes.

When this command is enabled (**no disable-explicit-null**), the following behaviors apply:

- during the times when the router is required to act as the BGP next-hop of a label-unicast IPv6 route that it is advertising, it sets the BGP label value to IPv6 explicit null (value 2), forcing a POP behavior for received packets.
- received label-unicast IPv6 routes never create tunnels in TTM that can be used to resolve other BGP routes (with an IPv6 next-hop).
- a received label-unicast IPv6 route can be resolved by a label-ipv4 BGP tunnel that is transported over a stacked tunnel (SR-TE LSP or LDPoRSVP LSP)

When this command is disabled (**disable-explicit-null**), the following behaviors apply:

- during those times when the router is required to act as the BGP next-hop of a label-unicast IPv6 route that it is advertising, it sets the BGP label value to a proper value in the dynamic label range and programs a POP or SWAP operation for that label, depending on the origin of the route and various import policy actions that could apply to the route
- received label-unicast IPv6 routes that have a prefix length of 128 bits are automatically installed in TTM so that they can be used to resolve other (non-labeled-unicast) BGP routes (with an IPv6 next-hop)
- a received label-unicast ipv6 route cannot be resolved by a label-ipv4 BGP tunnel that is transported over a stacked tunnel (SR-TE LSP or LDPoRSVP LSP)
- the label-ipv6 routes used for ECMP towards an IPv6 destination cannot be a mix of routes with regular label values and routes with special (IPv6 explicit null) label values

Changes in the operational status do not cause the BGP sessions of the base router to reset.

Platforms

All

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12.72 disable-fast-external-failover

disable-fast-external-failover

Syntax

[**no**] **disable-fast-external-failover**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy disable-fast-external-failover)

Full Context

configure subscriber-mgmt bgp-peering-policy disable-fast-external-failover

Description

This command configures BGP fast external failover.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

disable-fast-external-failover

Syntax

[**no**] **disable-fast-external-failover**

Context

[Tree] (config>service>vprn>bgp>group>neighbor disable-fast-external-failover)

[Tree] (config>service>vprn>bgp>group disable-fast-external-failover)

[Tree] (config>service>vprn>bgp disable-fast-external-failover)

Full Context

configure service vprn bgp group neighbor disable-fast-external-failover

configure service vprn bgp group disable-fast-external-failover

configure service vprn bgp disable-fast-external-failover

Description

This command configures BGP fast external failover.

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Platforms

All

disable-fast-external-failover

Syntax

[**no**] **disable-fast-external-failover**

Context

[Tree] (config>router>bgp>group>neighbor disable-fast-external-failover)

[Tree] (config>router>bgp>group disable-fast-external-failover)

[Tree] (config>router>bgp disable-fast-external-failover)

Full Context

configure router bgp group neighbor disable-fast-external-failover

configure router bgp group disable-fast-external-failover

configure router bgp disable-fast-external-failover

Description

This command configures BGP fast external failover.

Default

no disable-fast-external-failover

Platforms

All

12.73 disable-graceful-shutdown

disable-graceful-shutdown

Syntax

[**no**] **disable-graceful-shutdown**

Context

[Tree] (config>system>login-control>ssh disable-graceful-shutdown)

Full Context

configure system login-control ssh disable-graceful-shutdown

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Description

This command enables graceful shutdown of SSH sessions.

The **no** form of this command disables graceful shutdown of SSH sessions.

Platforms

All

12.74 disable-ldp-sync

disable-ldp-sync

Syntax

[**no**] **disable-ldp-sync**

Context

[Tree] (config>router>isis disable-ldp-sync)

Full Context

configure router isis disable-ldp-sync

Description

This command disables the IGP-LDP synchronization feature on all interfaces participating in the OSPF or IS-IS routing protocol. When this command is executed, IGP immediately advertises the actual value of the link cost for all interfaces which have the IGP-LDP synchronization enabled if the currently advertised cost is different. It will then disable IGP-LDP synchronization for all interfaces. This command does not delete the interface configuration. The **no** form of this command has to be entered to re-enable IGP-LDP synchronization for this routing protocol.

The **no** form of this command restores the default settings and re-enables IGP-LDP synchronization on all interfaces participating in the OSPF or IS-IS routing protocol and for which the ldp-sync-timer is configured.

Default

no disable-ldp-sync

Platforms

All

disable-ldp-sync

Syntax

[**no**] **disable-ldp-sync**

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Context

[Tree] (config>router>ospf3 disable-ldp-sync)

[Tree] (config>router>ospf disable-ldp-sync)

Full Context

configure router ospf3 disable-ldp-sync

configure router ospf disable-ldp-sync

Description

This command disables the IGP-LDP synchronization feature on all interfaces participating in the OSPF routing protocol. When this command is executed, IGP immediately advertises the actual value of the link cost for all interfaces which have the IGP-LDP synchronization enabled if the currently advertised cost is different. It will then disable IGP-LDP synchronization for all interfaces. This command does not delete the interface configuration. The **no** form of this command has to be entered to re-enable IGP-LDP synchronization for this routing protocol.

The **no** form of this command restores the default settings and re-enables IGP-LDP synchronization on all interfaces participating in the OSPF or IS-IS routing protocol and for which the ldp-sync-timer is configured.

Default

no disable-ldp-sync

Platforms

All

12.75 disable-learning

disable-learning

Syntax

[**no**] **disable-learning**

Context

[Tree] (config>service>template>vpls-template disable-learning)

[Tree] (config>service>vpls>spoke-sdp disable-learning)

[Tree] (config>service>vpls>sap disable-learning)

[Tree] (config>service>vpls disable-learning)

[Tree] (config>service>vpls>vxlan disable-learning)

Full Context

configure service template vpls-template disable-learning

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configure service vpls spoke-sdp disable-learning

configure service vpls sap disable-learning

configure service vpls disable-learning

configure service vpls vxlan disable-learning

Description

This command disables learning of new MAC addresses in the VPLS forwarding database (FDB) for the service instance, SAP instance, spoke-SDP instance, or VXLAN instance.

When **disable-learning** is enabled, new source MAC addresses are not entered in the VPLS service forwarding database. This applies for both local and remote MAC addresses.

When **no disable-learning** is specified for a VPLS on a 7450 ESS, it is possible to disable learning for specific SAPs and/or spoke SDPs by entering the **disable-learning command at the appropriate level.**

When **disable-learning** is disabled, new source MAC addresses are learned and entered into the VPLS forwarding database.

This parameter is mainly used in conjunction with the **discard-unknown** command.

The **no** form of this command enables learning of MAC addresses.

Default

no disable-learning

Normal MAC learning is enabled. The default mode for VXLAN instances is **disable-learning**.

Platforms

All

- configure service vpls disable-learning
- configure service vpls sap disable-learning
- configure service vpls spoke-sdp disable-learning
- configure service template vpls-template disable-learning

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls vxlan disable-learning

disable-learning

Syntax

[**no**] **disable-learning**

Context

[Tree] (config>service>pw-template disable-learning)

Full Context

configure service pw-template disable-learning

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Description

This command enables learning of new MAC addresses.

This parameter is mainly used in conjunction with the **discard-unknown** command.

The **no** form of this command enables learning of MAC addresses.

Default

no disable-learning (Normal MAC learning is enabled)

Platforms

All

12.76 disable-route-table-install

disable-route-table-install

Syntax

[**no**] **disable-route-table-install**

Context

[Tree] (config>router>bgp disable-route-table-install)

Full Context

configure router bgp disable-route-table-install

Description

This command disables the installation of all IPv4, label-ipv4, IPv6 and label-ipv6 routes into the route table and tunnel table associated with the BGP instance.

Configuring this command prevents the advertisement of all IPv4, label-ipv4, IPv6 and label-ipv6 routes if there is a change of the BGP next-hop to one of the router's own addresses. Typically, this is only useful on a router that is a control-plane route reflector (not in the datapath).

The **no** form of the command enables the installation of all IPv4, label-ipv4, IPv6 and label-ipv6 routes into the route table and tunnel table associated with the BGP instance.

Default

no disable-route-table-install

Platforms

All

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disable-route-table-install

Syntax

[**no**] **disable-route-table-install**

Context

[Tree] (config>router>policy-options>policy-statement>entry>action disable-route-table-install)

[Tree] (config>router>policy-options>policy-statement>default-action disable-route-table-install)

Full Context

configure router policy-options policy-statement entry action disable-route-table-install

configure router policy-options policy-statement default-action disable-route-table-install

Description

This command specifies that BGP routes (IPv4, IPv6, label-ipv4, label-ipv6) matching the policy entry (or, depending on the context, the policy's default-action) should not be installed in the route table, tunnel table (in the case of label-ipv4 routes), or IP FIB table.

This policy action has an effect only in BGP peer import policies. This policy action does not prevent the matched routes from contributing toward aggregate routes and does not prevent the matched routes from being advertised, even if next-hop-self has been applied. This means that incorrect use of this feature can blackhole traffic.

Marking label-ipv4 routes with this action does not prevent label-swap (ILM) entries from being programmed when such routes are re-advertised with a new BGP next-hop and label.

The **no** form of this command provides the default behavior of installing routes that are selected as the best path, ECMP path or backup path, depending on the circumstances.

Default

no disable-route-table-install

Platforms

All

12.77 disable-router-alert-check

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

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Context

[Tree] (config>router>igmp>group-interface disable-router-alert-check)

[Tree] (config>router>igmp>if disable-router-alert-check)

[Tree] (config>service>vprn>igmp>group-interface disable-router-alert-check)

[Tree] (config>service>vprn>mld>group-interface disable-router-alert-check)

[Tree] (config>router>mld>group-interface disable-router-alert-check)

Full Context

configure router igmp group-interface disable-router-alert-check

configure router igmp interface disable-router-alert-check

configure service vprn igmp group-interface disable-router-alert-check

configure service vprn mld group-interface disable-router-alert-check

configure router mld group-interface disable-router-alert-check

Description

This command disables router alert checking for IGMP/MLD messages received on this interface.

The **no** form of this command enables router alert checking.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface disable-router-alert-check
- configure service vprn mld group-interface disable-router-alert-check
- configure router mld group-interface disable-router-alert-check
- configure service vprn igmp group-interface disable-router-alert-check

All

- configure router igmp interface disable-router-alert-check

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>router>mld>if disable-router-alert-check)

Full Context

configure router mld interface disable-router-alert-check

Description

This command enables router alert checking for MLD messages received on this interface.

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The **no** form of this command disables router alert checking.

Platforms

All

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>subscr-mgmt>igmp-policy disable-router-alert-check)

Full Context

configure subscriber-mgmt igmp-policy disable-router-alert-check

Description

This command disables router alert checking for IGMP messages received on this interface.

The **no** form of this command reverts to the default value.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>igmp-host-tracking disable-router-alert-check)

Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking disable-router-alert-check

Description

This command disables the IGMP router alert check option.

The **no** form of this command enables the router alert check.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>subscr-mgmt>mld-policy disable-router-alert-check)

Full Context

configure subscriber-mgmt mld-policy disable-router-alert-check

Description

This command disables router alert checking for MLD messages received on this interface.

The **no** form of this command enables router alert checking.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>service>vpls>sap>igmp-snooping disable-router-alert-check)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping disable-router-alert-check)

[Tree] (config>service>vpls>sap>igmp-host-tracking disable-router-alert-check)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping disable-router-alert-check)

[Tree] (config>service>vpls>sap>mld-snooping disable-router-alert-check)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping disable-router-alert-check)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping disable-router-alert-check)

Full Context

configure service vpls sap igmp-snooping disable-router-alert-check

configure service vpls spoke-sdp igmp-snooping disable-router-alert-check

configure service vpls sap igmp-host-tracking disable-router-alert-check

configure service vpls spoke-sdp mld-snooping disable-router-alert-check

configure service vpls sap mld-snooping disable-router-alert-check

configure service vpls mesh-sdp mld-snooping disable-router-alert-check

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configure service vpls mesh-sdp igmp-snooping disable-router-alert-check

Description

This command disables the IGMP or MLD router alert check option.

The **no** form of this command enables the router alert check.

Default

no disable-router-alert-check

Platforms

All

- configure service vpls sap mld-snooping disable-router-alert-check
- configure service vpls mesh-sdp mld-snooping disable-router-alert-check
- configure service vpls spoke-sdp igmp-snooping disable-router-alert-check
- configure service vpls mesh-sdp igmp-snooping disable-router-alert-check
- configure service vpls sap igmp-snooping disable-router-alert-check
- configure service vpls spoke-sdp mld-snooping disable-router-alert-check

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vpls sap igmp-host-tracking disable-router-alert-check

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>service>vprn>igmp>if disable-router-alert-check)

[Tree] (config>service>ies>sub-if>grp-if>sap>igmp-host-tracking disable-router-alert-check)

Full Context

configure service vprn igmp interface disable-router-alert-check

configure service ies subscriber-interface group-interface sap igmp-host-tracking disable-router-alert-check

Description

This command disables the IGMP router alert check option.

The **no** form of this command enables the router alert check.

Platforms

All

- configure service vprn igmp interface disable-router-alert-check

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7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap igmp-host-tracking disable-router-alert-check

disable-router-alert-check

Syntax

[**no**] **disable-router-alert-check**

Context

[Tree] (config>service>vprn>mld>if disable-router-alert-check)

Full Context

configure service vprn mld interface disable-router-alert-check

Description

This command disables router alert checking for MLD messages received on this interface.

The no form of this command enables the router alert checking.

Platforms

All

12.78 disable-selective-fib

disable-selective-fib

Syntax

[**no**] **disable-selective-fib**

Context

[Tree] (config>service>vprn disable-selective-fib)

Full Context

configure service vprn disable-selective-fib

Description

This command specifies whether the system level selective FIB setting is overridden on this instance.

The **no** form of this command enables the selective FIB.

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Default

no disable-selective-fib

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

disable-selective-fib

Syntax

[**no**] **disable-selective-fib**

Context

[Tree] (config>router disable-selective-fib)

Full Context

configure router disable-selective-fib

Description

This command disables the selective FIB.

The **no** form of this command enables the selective FIB.

Default

no disable-selective-fib

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.79 disable-send-bvpls-evpn-flush

disable-send-bvpls-evpn-flush

Syntax

[**no**] **disable-send-bvpls-evpn-flush**

Context

[Tree] (config>service>vpls>sap disable-send-bvpls-evpn-flush)

[Tree] (config>service>vpls>spoke-sdp disable-send-bvpls-evpn-flush)

Full Context

configure service vpls sap disable-send-bvpls-evpn-flush

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configure service vpls spoke-sdp disable-send-bvpls-evpn-flush

Description

This command disables the ISID-based C-MAC flush indication when the corresponding SAP or spoke-SDP enters the operationally down state.

If the **send-bvpls-evpn-flush** is properly enabled, the **no** version of the command enables B-MAC/ISID route updates to be sent when the SAP or spoke-SDP is operationally down.

Default

no disable-send-bvpls-evpn-flush

Platforms

All

12.80 disable-shcv

disable-shcv

Syntax

[**no**] **disable-shcv** [**alarm**] [**hold-time** *seconds*]

Context

[Tree] (config>subscr-mgmt>ancp>policy>port-dwn disable-shcv)

Full Context

configure subscriber-mgmt ancp ancp-policy port-down disable-shcv

Description

When this command is configured, the node suspends SHCV for the hosts defined with this ANCP policy until the access node sends a port-up message. When the **hold-time** parameter is used, the node suspends SHCV for the period of time defined. If the **hold-time** parameter is not defined the node will suspend SHCV until a port-up message is received.

If the optional alarm flag is used, the node sends a SHCV alarm before suspending.

The **no** form of this command reverts to the default.

Parameters

alarm

Specifies that the node sends an alarm before suspending SHCV.

seconds

Specifies the time that the node suspends SHCV.

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Values 0 to 7200

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.81 disable-soft-reset-extension

disable-soft-reset-extension

Syntax

[**no**] **disable-soft-reset-extension**

Context

[Tree] (config>lag>bfd disable-soft-reset-extension)

Full Context

configure lag bfd disable-soft-reset-extension

Description

This command disables the automatic extension of BFD timers during an IOM/IMM soft-reset. Normally, BFD session timers are automatically extended during a soft-reset operation on the IOMs and IMMs to avoid BFD sessions timing out and causing protocol events. However, in some cases this behavior is not desired as it could delay fast re-route transitions if the timers are in place. The **disable-soft-reset-extension** command controls this behavior.

Default

no disable-soft-reset-extension

Platforms

All

12.82 disable-stickiness

disable-stickiness

Syntax

[**no**] **disable-stickiness**

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Context

[Tree] (config>aaa>radius-srv-plcy>servers disable-stickiness)

Full Context

configure aaa radius-server-policy servers disable-stickiness

Description

This command disables a subscriber RADIUS accounting session from sticking with a single server under normal working conditions. If a direct algorithm is used, all subscriber RADIUS sessions will go directly to the server with the lowest configured index. If a failure occurs, a new in-service server with the next lowest index is used. When the original server recovers, if stickiness is not disabled, all existing sessions will continue to use the new server. This command disables stickiness, and as a result, the recovered original RADIUS server will again service every subscriber. If a round-robin algorithm is used and stickiness is not disabled, an accounting session for a particular subscriber (or host, depending on the accounting mode) will stay with the same server. This command removes the stickiness and all subscriber accounting messages will go through the list of servers in a round-robin manner.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.83 disable-targeted-session

disable-targeted-session

Syntax

[**no**] **disable-targeted-session**

Context

[Tree] (config>router>ldp>targ-session disable-targeted-session)

Full Context

configure router ldp targeted-session disable-targeted-session

Description

This command disables support for SDP triggered automatic generated targeted sessions. Targeted sessions are LDP sessions between non-directly connected peers. The discovery messages for an indirect LDP session are addressed to the specified peer and not to the multicast address.

The **no** form of this command enables the set up of any targeted sessions.

Default

no disable-targeted-session

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Platforms

All

12.84 disallow-igp

disallow-igp

Syntax

[**no**] **disallow-igp**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop disallow-igp)

Full Context

configure router static-route-entry indirect tunnel-next-hop disallow-igp

Description

This optional command determines if the associated static route can be resolved via an IGP next-hop in the RTM if no tunnel next-hops are found in TTM.

When configured, the associated static route will not be resolved to an available IGP route in the RTM.

The **no** form of this command returns the behavior to the default, which allows the static route to be resolved via an IGP route in the RTM if no tunnel next-hop can be found in the TTM.

Default

no disallow-igp

Platforms

All

12.85 disallow-sequence-keys

disallow-sequence-keys

Syntax

disallow-sequence-keys *number-of-characters*

no disallow-sequence-keys

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Context

[Tree] (config>system>sec>passwd>compl disallow-sequence-keys)

Full Context

configure system security password complexity-rules disallow-sequence-keys

Description

This command configures the number of consecutive characters that are not allowed to be entered as part of the password on a U.S. English or Korean keyboard. These characters can be lowercase or uppercase letters, or numbers. Special characters are not taken into account. These consecutive characters can be horizontal (left to right) or (right to left) or diagonal (up to bottom or bottom to top). If the number of consecutive characters is equal to or larger than the configured value, the password is disallowed.

For example, if the user attempts to use the password "dsalkjhgfdsa", with this command configured to 8, the system rejects the password because the first consecutive sequence “dsa” is 3 lowercase letters, which passes the check, but the second consecutive sequence is “lkjhgfdsa”, which consists of 9 consecutive lowercase letters and this does not pass the check.

The **no** form of this command removes the restriction on the number of characters.

Default

no disallow-sequence-keys

Parameters

number-of-characters

Specifies the number of characters.

Values 2 to 8

Platforms

All

12.86 discard

discard

Syntax

discard [**now**]

Context

[Tree] (candidate discard)

Full Context

candidate discard

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Description

This command deletes the entire contents of the candidate configuration and exits the edit-cfg mode. Undo cannot be used to recover a candidate that has been discarded with **candidate discard**.

Parameters

now

Avoids a confirmation prompt for the discard.

Platforms

All

12.87 discard-changes

discard-changes

Syntax

[**no**] **discard-changes**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization discard-changes)

Full Context

configure system security profile netconf base-op-authorization discard-changes

Description

This command enables the NETCONF <discard-changes> RPC.

The **no** form of this command disables the RPC.

Default

no discard-changes

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

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12.88 discard-eligible

discard-eligible

Syntax

discard-eligible {**true** | **false**}

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth>c-tag discard-eligible)

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth>s-tag discard-eligible)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet c-tag discard-eligible

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet s-tag discard-eligible

Description

This command configures the marking of the discard eligibility (DEI) bit in the VLAN header.

Default

discard-eligible false

Parameters

true

Keyword to indicate that the frame is discard eligible.

false

Keyword to indicate that the frame is not discard eligible.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

12.89 discard-rx-pause-frames

discard-rx-pause-frames

Syntax

[**no**] **discard-rx-pause-frames**

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Context

[Tree] (config>port>ethernet discard-rx-pause-frames)

Full Context

configure port ethernet discard-rx-pause-frames

Description

This command discards received pause frames. Pause frames are used for local link flow control.

The **no** form of this command processes pause frames upon reception and the transmit side of the receiving port pauses in its transmissions.

Default

no discard-rx-pause-frames

Platforms

All

12.90 discard-unknown

discard-unknown

Syntax

[**no**] **discard-unknown**

Context

[Tree] (config>service>vpls discard-unknown)

[Tree] (config>service>template>vpls-template discard-unknown)

Full Context

configure service vpls discard-unknown

configure service template vpls-template discard-unknown

Description

By default, packets with unknown destination MAC addresses are flooded. If **discard-unknown** is enabled at the VPLS level, packets with unknown destination MAC address will be dropped instead (even when configured FDB size limits for VPLS or SAP are not yet reached).

The **no** form of this command allows flooding of packets with unknown destination MAC addresses in the VPLS.

Default

no discard-unknown

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Platforms

All

12.91 discard-unknown-source

discard-unknown-source

Syntax

[**no**] **discard-unknown-source**

Context

[Tree] (config>service>template>vpls-template discard-unknown-source)

[Tree] (config>service>vpls>spoke-sdp discard-unknown-source)

[Tree] (config>service>template>vpls-sap-template discard-unknown-source)

[Tree] (config>service>vpls>sap discard-unknown-source)

[Tree] (config>service>vpls>vxlan discard-unknown-source)

Full Context

configure service template vpls-template discard-unknown-source

configure service vpls spoke-sdp discard-unknown-source

configure service template vpls-sap-template discard-unknown-source

configure service vpls sap discard-unknown-source

configure service vpls vxlan discard-unknown-source

Description

When this command is enabled, packets received on a SAP, a spoke-SDP, or a static VXLAN instance with an unknown source MAC address will be dropped only if the maximum number of MAC addresses for that SAP or spoke-SDP (see **max-nbr-mac-addr** [**config>service>vpls>sap max-nbr-mac-addr**, **config>service>vpls>spoke-sdp max-nbr-mac-addr**]) has been reached. If **max-nbr-mac-addr** has not been set for the SAP or spoke-SDP, enabling **discard-unknown-source** has no effect.

When disabled, the packets are forwarded based on the destination MAC addresses.

The **no** form of this command causes packets with an unknown source MAC addresses to be forwarded by destination MAC addresses in VPLS.

Default

no discard-unknown-source

Platforms

All

- configure service vpls sap discard-unknown-source

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- configure service template vpls-template discard-unknown-source
- configure service vpls spoke-sdp discard-unknown-source
- configure service template vpls-sap-template discard-unknown-source

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls vxlan discard-unknown-source

discard-unknown-source

Syntax

[**no**] **discard-unknown-source**

Context

[Tree] (config>service>pw-template discard-unknown-source)

Full Context

configure service pw-template discard-unknown-source

Description

When this command is enabled, packets received with an unknown source MAC address will be dropped only if the maximum number of MAC addresses have been reached.

When disabled, the packets are forwarded based on the destination MAC addresses.

The **no** form of this command causes packets with an unknown source MAC addresses to be forwarded by destination MAC addresses.

Default

no discard-unknown-source

Platforms

All

12.92 disconnect

disconnect

Syntax

disconnect [**address** *ip-address* | **session-id** *session-id* | **username** *user-name* | {**console** | **telnet** | **ftp** | **ssh** | **netconf** | **grpc**}]

Context

[Tree] (admin disconnect)

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Full Context

admin disconnect

Description

This command disconnects a user from a session.

Issuing the **disconnect** command without any parameters disconnects the session in which the command was executed.

If any of the session type options (for example, **console, telnet, FTP, SSH**) are specified, only the respective sessions are affected.

If no session type options are specified, all sessions from the IP address or from the specified user are disconnected.

Any task that the user is executing is terminated. FTP files accessed by the user are not removed.

A major severity security log event is created specifying what was terminated and by whom.

By default, no disconnect options are configured.

Parameters

ip-address

Specifies the IP address to disconnect, specified in dotted decimal notation.

Note:
IPv6 is supported on the 7750 SR and 7950 XRS.

Values

ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x* (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

session-id

The model-driven session ID. Can be obtained using the **show system management-interface datastore-locks** [**detail**] command.

user-name

Specifies the name of the user. The name can be up to 32 characters.

console

Disconnects the console session.

telnet

Disconnects the Telnet session.

ftp

Disconnects the FTP session.

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ssh

Disconnects the SSH session.

netconf

Disconnects the NETCONF session.

grpc

Disconnects the gRPC session.

Platforms

All

12.93 discover-delay

discover-delay

Syntax

discover-delay *delay*

no discover-delay

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp>osel discover-delay)

[Tree] (config>service>vprn>sub-if>dhcp>osel discover-delay)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>osel discover-delay)

Full Context

configure service ies subscriber-interface group-interface dhcp offer-selection discover-delay

configure service vprn subscriber-interface dhcp offer-selection discover-delay

configure service vprn subscriber-interface group-interface dhcp offer-selection discover-delay

Description

This command configures the default time to delay DHCP Discover messages. The delay is applied to all DHCP Discover messages for which no per DHCP server or per client MAC delay is configured.

The **no** form of this command removes the delay.

Parameters

delay

Specifies the default time to delay DHCP Discover messages, in deciseconds.

Values 1 to 100

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

discover-delay

Syntax

discover-delay *delay*

no discover-delay

Context

[Tree] (config>service>vprn>sub-if>dhcp>osel>clnt-mac discover-delay)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>osel>clnt-mac discover-delay)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>osel>clnt-mac discover-delay)

Full Context

configure service vprn subscriber-interface dhcp offer-selection client-mac discover-delay

configure service vprn subscriber-interface group-interface dhcp offer-selection client-mac discover-delay

configure service ies subscriber-interface group-interface dhcp offer-selection client-mac discover-delay

Description

This command configures the amount of time to delay DHCP Discover messages from odd or even source MAC addresses.

The **no** form of this command removes the delay.

Parameters

delay

Specifies the amount of time to delay DHCP Discover messages from odd or even source MAC addresses, in deciseconds.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

discover-delay

Syntax

discover-delay *delay*

no discover-delay

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Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>osel>srvr discover-delay)

[Tree] (config>service>vprn>sub-if>dhcp>osel>srvr discover-delay)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>osel>srvr discover-delay)

Full Context

configure service vprn subscriber-interface group-interface dhcp offer-selection server discover-delay

configure service vprn subscriber-interface dhcp offer-selection server discover-delay

configure service ies subscriber-interface group-interface dhcp offer-selection server discover-delay

Description

This command configures the amount of time to delay DHCP Discover messages relayed to the server.

The **no** form of this command removes the delay.

Parameters

delay

Specifies the amount of time to delay DHCP Discover messages relayed to the server, in deciseconds.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

12.94 discovery

discovery

Syntax

discovery [**padi**] [**pado**] [**padr**] [**pads**] [**padt**]

no discovery

Context

[Tree] (debug>service>id>ppp>packet discovery)

Full Context

debug service id ppp packet discovery

Description

This command enables debugging for specific PPP discovery packets.

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Parameters

padi

Enables debugging for PADI PPP discovery packets.

pado

Enables debugging for PADO PPP discovery packets.

padr

Enables debugging for PADR PPP discovery packets.

pads

Enables debugging for PADS PPP discovery packets.

padt

Enables debugging for PADT PPP discovery packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

discovery

Syntax

discovery [**padi**] [**pado**] [**padr**] [**pads**] [**padt**]

Context

[Tree] (debug>subscr-mgmt>vrgw>brg>pppoe-client>brg-id discovery)

Full Context

debug subscriber-mgmt vrgw brg pppoe-client brg-id discovery

Description

This command, limits debugging only to the specified messages in the discovery phase.

Parameters

padi

Limits debugging only to padi messages.

pado

Limits debugging only to pado messages.

padr

Limits debugging only to padr messages.

pads

Limits debugging only to pads messages.

padt

Limits debugging only to padt messages.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

discovery

Syntax

discovery

Context

[Tree] (config>port>ethernet>efm-oam discovery)

Full Context

configure port ethernet efm-oam discovery

Description

This is the top level of the hierarchy containing various discovery parameters that allow the operator to control certain aspects of the negotiation process as well as what action to take when there is a mismatch in peer capabilities.

Platforms

All

12.95 discovery-interval

discovery-interval

Syntax

discovery-interval *interval-secs* [**boot** *interval-secs*]

no discovery-interval

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec discovery-interval)

Full Context

configure redundancy multi-chassis peer mc-ipsec discovery-interval

Description

This command specifies the time interval of tunnel-group stays in the Discovery state. Interval-1 is used as discovery-interval when a new tunnel-group is added to multi-chassis redundancy (mp-ipsec); interval-2 is used as discovery-interval when the system boots up, it is optional, when it is not specified, the interval-1 will be used.

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Default

discovery-interval 300 boot 300

Parameters

interval-secs

Specifies the maximum duration, in seconds, of the discovery interval during which a newly activated multi- chassis IPsec tunnel-group will remain dormant while trying to contact its redundant peer. Groups held dormant in this manner will neither pass traffic nor negotiate security keys. This interval ends when either the redundant peer is contacted and a master election occurs, or when the maximum duration expires.

Values 1 to 1800

boot *interval-secs*

Specifies the maximum duration of an interval immediately following system startup. When the normal discovery interval for a group would expire while the post-boot discovery interval is still active, then the group's discovery interval is extended until the post-boot discovery interval expires. This allows an extension to the normal discovery stage of groups following a chassis reboot, to account for the larger variance in routing.

Values 1 to 1800

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

discovery-interval

Syntax

discovery-interval *seconds*

Context

[Tree] (config>test-oam>link-meas>template>twl>ipv6-dest-disc discovery-interval)

Full Context

configure test-oam link-measurement measurement-template twamp-light ipv6-destination-discovery discovery-interval

Description

This command configures the frequency at which IPv6 peer discovery packets are transmitted when the discovery-timer is active.

The **no** form of the command reverts to the default value.

Default

discovery-interval 10

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Parameters

seconds

Specifies transmission frequency of the discovery packet.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.96 discovery-timer

discovery-timer

Syntax

discovery-timer *seconds*

Context

[Tree] (config>test-oam>link-meas>template>twl>ipv6-dest-disc discovery-timer)

Full Context

configure test-oam link-measurement measurement-template twamp-light ipv6-destination-discovery discovery-timer

Description

This command configures the amount of time to transmit peer discovery packets at the **discovery-interval**. The timer starts when the IPv6 protocols is enabled under the **config**>**router**>**if**>**if-attribute**>**delay**>**dynamic**> **twamp-light**>**ipv6** context. At the expiration of the **discovery-interval** or when a peer is discovered, the probe interval changes to the value configured for the **update-interval**.

The **no** form of the command reverts to the default value.

Default

discovery-timer 60

Parameters

seconds

Specifies the amount of time to remain in discovery phase.

Values 1 to 1800

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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12.97 discriminator

discriminator

Syntax

discriminator *discriminator*

no discriminator

Context

[Tree] (config>bfd>seamless-bfd>reflector discriminator)

Full Context

configure bfd seamless-bfd reflector discriminator

Description

This command specifies the S-BFD discriminator.

The **no** form of this command removes the discriminator.

Parameters

discriminator

Specifies the discriminator value.

Values 524288 to 526335

Platforms

All

discriminator

Syntax

discriminator *discriminator*

no discriminator

Context

[Tree] (config>router>bfd>seamless-bfd>peer discriminator)

Full Context

configure router bfd seamless-bfd peer discriminator

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Description

This command specifies the seamless BFD reflector discriminator for the remote peer node in the mapping table used by seamless BFD sessions initiated on the router.

The **no** form of this command removes the discriminator.

Parameters

discriminator

Specifies the discriminator of the remote node.

Values 1 to 4294967295

Platforms

All

12.98 disjointness-reference

disjointness-reference

Syntax

[no] disjointness-reference

Context

[Tree] (config>router>pcep>pcc>pce-assoc>div disjointness-reference)

Full Context

configure router pcep pcc pce-associations diversity disjointness-reference

Description

This command configures the value conveyed in the P-flag of the DISJOINTNESS-CONFIGURATION TLV. When enabled, it indicates that this LSP path is the reference path for the disjoint set of paths. The PCE must first compute the path of this LSP and then apply the requested disjointness type to compute the path of all other paths in the same diversity association ID.

The **no** form of this command sets the P-flag to false.

Default

P-flag to false

Platforms

All

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12.99 disjointness-type

disjointness-type

Syntax

disjointness-type {**loose** | **strict**}

no disjointness-type

Context

[Tree] (config>router>pcep>pcc>pce-assoc>div disjointness-type)

Full Context

configure router pcep pcc pce-associations diversity disjointness-type

Description

This command configures the disjointness type for the association group.

The **no** form of this command reverts to the default value.

Default

disjointness-type loose

Parameters

loose

Keyword to specify the loose disjointness type.

strict

Keyword to specify the strict disjointness type.

Platforms

All

12.100 dispersion

dispersion

Syntax

dispersion *dispersion*

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Context

[Tree] (config>port>dwdm>coherent dispersion)

Full Context

configure port dwdm coherent dispersion

Description

This command configures the residual chromatic dispersion to be compensated when the coherent receiver is operating in manual dispersion control mode.

Default

0

Parameters

dispersion

Specifies the dispersion compensation.

Values -50000 to 50000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.101 display

display

Syntax

display type {*type*} *url-string* **format** {*format*} [**password** [*32 chars max*]]

Context

[Tree] (admin>certificate display)

Full Context

admin certificate display

Description

This command displays the content of an input file in plain text.

The following list summarizes the formats supported by this command:

- System
  - system format
  - PKCS #12

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  - PKCS #7 PEM encoded
  - PKCS #7 DER encoded
  - RFC 4945
- Certificate Request
  - PKCS #10
- Key
  - system format
  - PKCS #12
- CRL
  - system format
  - PKCS #7 PEM encoded
  - PKCS #7 DER encoded
  - RFC 4945

Parameters

url-string

Specifies the local CF card url of the input file.

Values

url-string	<local-url> [up to 99 characters]
local-url	<cflash-id>/<file-path>
cflash-id	cf1: | cf2: | cf3:

type

Specifies the type of input file.

Values cert, key, crl, cert-request

format

Specifies the format of input file.

Values pkcs10, pkcs12, pkcs7-der, pkcs7-pem, pem, der

password

Specifies the password to decrypt the input file in case that it is an encrypted PKCS#12 file, up to 99 characters.

Platforms

All

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12.102 display-config

display-config

Syntax

display-config [**detail** | **index**]

Context

[Tree] (admin display-config)

Full Context

admin display-config

Description

This command displays the system's running configuration.

By default, only non-default settings are displayed.

Specifying the **detail** option displays all default and non-default configuration parameters.

Parameters

detail

Displays default and non-default configuration parameters.

index

Displays only persistent-indices.

Platforms

All

12.103 display-key

display-key

Syntax

display-key type {**ike** | **esp**} **gateway name** *name* **dynamic-tunnel** *ip-address*: *port*

display-key type {**ike** | **esp**} **tunnel** *ipsec-tunnel-name*

Context

[Tree] (admin>ipsec display-key)

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Full Context

admin ipsec display-key

Description

This command displays existing IKE-SA or CHILD-SA keys..

Note:
This command does not work if **config>ipsec>no show-ipsec-keys** or **no max-history-{esp|ike}-key-records** is configured under corresponding **ipsec-gw** or **ipsec-tunnel**.

Parameters

name

The name, up to 32 characters.

ip-address

The IP address of the remote client.

Values	<ip-address>	ip-address	a.b.c.d
		ipv6-address	x:x:x:x:x:x:x:x
			x:x:x:x:x:x:d.d.d.d
			x - [0 to FFFF]H
			d - [0 to 255]D

port

The port of the remote client.

Values 0 to 65535

ipsec-tunnel-name

The IPsec tunnel name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

Output

The following outputs are examples of the **admin ipsec display-key** command.

Output Example

```
admin ipsec display-key type ike gateway name "rw" dynamic-tunnel 11.1.1.100:500
===============================================================================
IKE-SA history: max-num-records 3 current-num-saved-records 1
                local: 172.16.100.1 remote: 11.1.1.100
record [0]: established time: 01/25/2018 20:51:55
  Initiator-SPI: d67ac71d73656496 Responder-SPI: d67ac71d73656496  Ike Version: 2
  SK_er: aes128, len: 16, val: a5da1c57f09a7eb7dbe9526cd52e2189
  SK_ar: sha1, len: 20, val: c11797bb8ebe5a1fadf46363bf5e763552bb45d0
  SK_ei: aes128, len: 16, val: 467124009cc577a8b23882a81ab9df70
```


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```
  SK_ai: sha1, len: 20, val: 7dfef89bad31cb72d1ca8da2c04a9521993c7f9
```

Output Example

```
admin ipsec display-key type esp gateway name "rw" dynamic-tunnel 11.1.1.100:500

ESP-SA history: max-num-records 48 current-num-saved-records 2ynamic-tunnel 11.1.1.100:500
                local: 172.16.100.1 remote: 11.1.1.100
record [0]: established time: 01/25/2018 20:54:56
  InSpi:  154532(0x00025ba4)
          encr-alg: aes128 len: 16 val: 0xd26aa32d8bd328b1e8332fa5c7b5eeaa
          auth-alg: sha1 len: 20 val: 0x0b37ddb824a43921d3b0ee81a6910eed065a9845
  OutSpi: 3286259439(0xc3e056ef)
          encr-alg: aes128 len: 16 val: 0x3acd95376ce04fcded2e0c80cc4289cf
          alg: sha1 len: 20 val: 0x9f5a46b5cdc572972b44cdbd36b5f824ab060634
record [1]: established time: 01/25/2018 20:51:55
  InSpi:  261186(0x0003fc42)
          encr-alg: aes128 len: 16 val: 0x8bf97675d37de3e3f6e634e3e11fc3aa
          auth-alg: sha1 len: 20 val: 0xf10c0f0821488cc14f8715cc323441fc967a79dd
  OutSpi: 3246917342(0xc18806de)
          encr-alg: aes128 len: 16 val: 0xf36aaaa7a3a09734fe4fc6cd0ac9043e
          alg: sha1 len: 20 val: 0x40c13a444e4fb1d42a13812f70b17041ed0f56ee
```

12.104 dist-cpu-protection

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>subscr-mgmt>msap-policy dist-cpu-protection)

[Tree] (config>service>vprn>sub-if>grp-if>sap dist-cpu-protection)

Full Context

configure subscriber-mgmt msap-policy dist-cpu-protection

configure service vprn subscriber-interface group-interface sap dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to an MSAP policy. The DCP policy is automatically assigned to MSAPs created with this policy. A non-existent DCP policy can be assigned to an **msap-policy** because an MSAP policy is similar to a template that is applied in the MSAP creation. The DCP policy is validated at the time that the MSAP is created, and the MSAP creation is blocked (and an appropriate log event created) if the DCP policy does not exist.

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Note:
For other types of objects (for example, normal non-MSAP SAPs and network interfaces) the DCP policy must exist before it can be assigned to the SAP.

The **no** form of this command removes the policy name from the configuration.

If no dist-cpu-protection policy is assigned to an MSAP policy, then the default access DCP policy (_default-access-policy) is used.

If no DCP functionality is required on the MSAP policy, then an empty DCP policy can be created and explicitly assigned to the MSAP policy.

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>subscr-mgmt>sap-template dist-cpu-protection)

Full Context

configure subscriber-mgmt sap-template dist-cpu-protection

Description

This command assigns a DCP policy to a SAP template. The policy is automatically assigned to SAPs that are autocreated with this SAP template. The **dist-cpu-protection** policy must exit before it is assigned to a SAP template.

The **no** form of this command removes the policy name from the configuration.

If a DCP policy is not assigned to an SAP template, the default access DCP policy (_defaultaccess-policy) is used.

If no DCP functionality is required on the autocreated SAPs, an empty DCP policy can be created and explicitly assigned to the SAP template.

Default

no dist-cpu-protection

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Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>service>epipe>sap dist-cpu-protection)

[Tree] (config>service>cpipe>sap dist-cpu-protection)

[Tree] (config>service>ipipe>sap dist-cpu-protection)

Full Context

configure service epipe sap dist-cpu-protection

configure service cpipe sap dist-cpu-protection

configure service ipipe sap dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to the SAP. Only a valid existing DCP policy can be assigned to a SAP or a network interface (this rule does not apply to templates, such as an **msap-policy** template).

If no dist-cpu-protection policy is assigned to a SAP, then the default access DCP policy (_default-access-policy) is used.

If no DCP functionality is required on the SAP, then an empty DCP policy can be created and explicitly assigned to the SAP.

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters in length

Platforms

All

- configure service epipe sap dist-cpu-protection
- configure service ipipe sap dist-cpu-protection

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- configure service cpipe sap dist-cpu-protection

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>service>vpls>sap dist-cpu-protection)

Full Context

configure service vpls sap dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to the SAP. Only a valid existing DCP policy can be assigned to a SAP or a network interface (this rule does not apply to templates, such as an msap-policy template).

Default

If no dist-cpu-protection policy is assigned to a SAP, then the default access DCP policy (_default-access-policy) is used. If no DCP functionality is required on the SAP, then an empty DCP policy can be created and explicitly assigned to the SAP.

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters in length

Platforms

All

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>service>ies>if>sap dist-cpu-protection)

[Tree] (config>service>ies>sub-if>grp-if>sap dist-cpu-protection)

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Full Context

configure service ies interface sap dist-cpu-protection

configure service ies subscriber-interface group-interface sap dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to the SAP. Only a valid DCP policy can be assigned to a SAP or a network interface. This rule does not apply to templates such as an msap-policy.

Default

If no dist-cpu-protection policy is assigned to an SAP, then the default access DCP policy (default-access-policy) is used. If no DCP functionality is required on the SAP, then an empty DCP policy can be created and explicitly assigned to the SAP policy.

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters in length

Platforms

All

- configure service ies interface sap dist-cpu-protection

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap dist-cpu-protection

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>service>vprn>nw-if dist-cpu-protection)

Full Context

configure service vprn network-interface dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to the network interface. Only a valid created DCP policy can be assigned to a network interface (this rule does not apply to templates such as an msap-policy).

Default

If no dist-cpu-protection policy is assigned to the VPRN network interface, then the default network DCP policy (_default-network-policy) is used.

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If no DCP functionality is required on the VPRN network interface then an empty DCP policy can be created and explicitly assigned to the VPRN network interface.

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters in length

Platforms

All

dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>service>vprn>if>sap dist-cpu-protection)

Full Context

configure service vprn interface sap dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to the SAP. Only a valid created DCP policy can be assigned to a SAP or a network interface (This rule does not apply to templates such as an msap-policy).

Default

If no dist-cpu-protection policy is assigned to an SAP policy, then the default access DCP policy (default-access-policy) is used. If no DCP functionality is required on the SAP policy, then an empty DCP policy can be created and explicitly assigned to the SAP policy.

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters in length

Platforms

All

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dist-cpu-protection

Syntax

dist-cpu-protection *policy-name*

no dist-cpu-protection

Context

[Tree] (config>router>if dist-cpu-protection)

Full Context

configure router interface dist-cpu-protection

Description

This command assigns a Distributed CPU Protection (DCP) policy to the SAP. Only a valid created DCP policy can be assigned to a SAP or a network interface (note that this rule does not apply to templates such as an msap-policy).

If the user does not assign a DCP policy to a router interface, the system uses the default network DCP policy.

Default

no dist-cpu-protection

Parameters

policy-name

Specifies the name of the DCP policy, up to 32 characters in length

Platforms

All

dist-cpu-protection

Syntax

dist-cpu-protection

Context

[Tree] (config>system>security dist-cpu-protection)

Full Context

configure system security dist-cpu-protection

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Description

Commands in this context configure the Distributed CPU Protection (DCP) feature.

Platforms

All

12.105 dist-lag-rate-shared

dist-lag-rate-shared

Syntax

[**no**] **dist-lag-rate-shared**

Context

[Tree] (config>qos>port-scheduler-policy dist-lag-rate-shared)

Full Context

configure qos port-scheduler-policy dist-lag-rate-shared

Description

This command enables sharing of rates when the port on which this port-scheduler-policy is configured is part of a LAG configured in **distribute** mode.

When enabled, the absolute rate values configured as part of the max-rate, PIR/CIR group rates and PIR/CIR level rates are shared across the member ports of the LAG when configured in **distribute** mode.

This command does not have any effect when the port on which this **port-scheduler-policy** is configured is part of a LAG in **link** or **port-fair** mode. Similarly, when rates are configured as a **percent-rate**, this parameter is ignored.

Platforms

All

12.106 distinguisher

distinguisher

Syntax

distinguisher *id*

no distinguisher

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Context

[Tree] (conf>router>segment-routing>sr-policies>policy distinguisher)

Full Context

configure router segment-routing sr-policies static-policy distinguisher

Description

This command associates a distinguisher value with a statically defined segment routing policy. This is a mandatory parameter and configuration command for non-local segment routing policies (for which the **head-end** parameter is set to a value other than "local"). Every non-local segment routing policy must have a unique distinguisher value. When a non-local static segment routing policy is imported into BGP and originated as a BGP route, the configured distinguisher value is copied into the NLRI of the route.

The **no** form of this command removes the distinguisher association.

Default

no distinguisher

Parameters

id

Specifies the distinguisher ID.

Values 1 to 4294967295

Platforms

All

distinguisher

Syntax

distinguisher *distinguisher-id*

no distinguisher

Context

[Tree] (config>router>policy-options>policy-statement>entry>from distinguisher)

Full Context

configure router policy-options policy-statement entry from distinguisher

Description

This command configures an SR Policy distinguisher as a route policy match criterion. This match criterion is only used in import policies.

The **no** form of this command removes the distinguisher ID match criterion from the configuration.

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Parameters

distinguisher-id

Specifies the SR policy distinguisher ID.

Values 0 to 4294967295

Platforms

All

12.107 distributed-sub-mgmt

distributed-sub-mgmt

Syntax

distributed-sub-mgmt

Context

[Tree] (config>service>vprn>wlan-gw distributed-sub-mgmt)

Full Context

configure service vprn wlan-gw distributed-sub-mgmt

Description

Commands in this context configure Distributed Subscriber Management (DSM) for soft GRE group interfaces and for ranges of IEEE 802.1q VLAN tags in soft GRE group interfaces.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

distributed-sub-mgmt

Syntax

distributed-sub-mgmt

Context

[Tree] (config>router>wlan-gw distributed-sub-mgmt)

[Tree] (config>subscr-mgmt>wlan-gw distributed-sub-mgmt)

Full Context

configure router wlan-gw distributed-sub-mgmt

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configure subscriber-mgmt wlan-gw distributed-sub-mgmt

Description

Commands in this context configure profiles, templates and policies that can be applied to DSM subscribers.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

distributed-sub-mgmt

Syntax

[**no**] **distributed-sub-mgmt**

Context

[Tree] (config>isa>wlan-gw-group distributed-sub-mgmt)

Full Context

configure isa wlan-gw-group distributed-sub-mgmt

Description

This command configures the WLAN gateway distributed subscriber management.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

distributed-sub-mgmt

Syntax

distributed-sub-mgmt

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range distributed-sub-mgmt)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range distributed-sub-mgmt)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt

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Description

Commands in this context configure distributed-sub-mgmt configuration per vlan-range. This also includes vlan-range default, which makes this configuration applicable to the **wlan-gw group-interface**.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.108 diversity

diversity

Syntax

[no] diversity *association-name*

Context

[Tree] (config>router>pcep>pcc>pce-assoc diversity)

Full Context

configure router pcep pcc pce-associations diversity

Description

This command creates a named diversity association from which the parameters for the specified diversity association are configured.

The **no** form of the command deletes the specified diversity association.

Parameters

association-name

Specifies the name of the diversity association, up to 32 characters.

Platforms

All

diversity

Syntax

[no] diversity *diversity-assoc-name*

Context

[Tree] (config>router>mpls>lsp-template>pce-assoc diversity)

[Tree] (config>router>mpls>lsp>pce-assoc diversity)

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Full Context

configure router mpls lsp-template pce-associations diversity

configure router mpls lsp pce-associations diversity

Description

This command binds the LSP to a named diversity association. The diversity association must exist under the PCC. Up to five diversity associations can be configured per LSP.

The **no** form of the command removes the LSP binding from the specified diversity association.

Parameters

diversity-assoc-name

Specifies the name of an existing diversity association, up to 32 characters.

Platforms

All

12.109 diversity-type

diversity-type

Syntax

diversity-type {**link** | **node** | **srlg-link** | **srlg-node**}

no diversity-type

Context

[Tree] (config>router>pcep>pcc>pce-assoc>div diversity-type)

Full Context

configure router pcep pcc pce-associations diversity diversity-type

Description

This command configures the diversity type for the association group. This command is mandatory. If the command is not configured, the system does not validate the association configuration.

The **no** form of the command reverts to the default value.

Default

no diversity-type

Parameters

link

Keyword to specify the link diversity type.

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node

Keyword to specify the node diversity type.

srlg-link

Keyword to specify the SRLG-link diversity type.

srlg-node

Keyword to specify the SRLG-node diversity type.

Platforms

All

12.110 divert

divert

Syntax

[**no**] **divert**

Context

[Tree] (config>app-assure>group>policy>app-profile divert)

Full Context

configure application-assurance group policy app-profile divert

Description

This command enables the redirection of traffic to AA ISA for the system-wide forwarding classes diverted to application assurance (**divert-fc**) for AA subscribers using this application profile.

The **no** form of this command stops redirect of traffic to AA ISAs for the AA subscribers using this application profile.

Default

no divert

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.111 divert-fc

divert-fc

Syntax

[**no**] **divert-fc** *fc-name*

Context

[Tree] (config>isa>aa-grp divert-fc)

Full Context

configure isa application-assurance-group divert-fc

Description

This command selects a forwarding class in the system to be diverted to an application assurance engine for this application assurance group. Only traffic to/from subscribers with application assurance enabled is diverted.

To divert multiple forwarding classes, the command needs to be executed multiple times specifying each forwarding class to be diverted at a time.

The **no** form of this command stops diverting of the traffic to an application assurance engine for this application assurance group.

Parameters

fc-name

Creates a class instance of the forwarding class fc-name.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.112 dm

dm

Syntax

dm [**test-id** *test-id*] [**create**]

no dm

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Context

[Tree] (config>oam-pm>session>mpls dm)

Full Context

configure oam-pm session mpls dm

Description

This command assigns an identifier to the DM test and creates the individual test.

The **no** form of this command removes the DM test function from the OAM-PM session.

Parameters

test-id

Specifies the value of the 26-bit test identifier sent as session identifier in the DM PDU.

Values 0 to 67108863

create

Creates the DM test. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.113 dmm

dmm

Syntax

dmm [**test-id** *test-id*] [**create**]

no dmm

Context

[Tree] (config>oam-pm>session>ethernet dmm)

Full Context

configure oam-pm session ethernet dmm

Description

This command configures the test ID to be assigned to the delay test and creates the container to allow configuration of the individual test parameters.

The **no** form of this command removes the DMM test function from the PM Session.

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Parameters

test-id

Specifies the value to be placed in the 4-byte test ID field of an ETH-DMM PDU.

Values 0 to 2147483647 | **auto**

auto - automatically assigns a *test-id*

create

Creates the test.

Platforms

All

12.114 dmr-prefix

dmr-prefix

Syntax

dmr-prefix *dmr-prefix*

no dmr-prefix

Context

[Tree] (config>service>nat>map-domain dmr-prefix)

Full Context

configure service nat map-domain dmr-prefix

Description

This command configures the IPv6 prefix of the BR (dmr-prefix), which is used as a default MAP rule (route) in the CEs. Each MAP domain in the VSR has a unique dmr-prefix.

Parameters

dmr-prefix

Specifies the IPv6 prefix associated with a MAP domain in the BR. The prefix represents a dmr-rule in the CE.

Values <*ipv6-prefix/prefix-length*> :

ipv6-prefix: *x:x:x:x:x:x:x:x* (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

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prefix-length: [0 to 96]

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

12.115 dnat

dnat

Syntax

[no] **dnat**

Context

[Tree] (config>service>nat>nat-policy dnat)

Full Context

configure service nat nat-policy dnat

Description

This command defines context for destination NAT (DNAT) specific configuration under the nat-policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.116 dnat-only

dnat-only

Syntax

dnat-only router *router-instance* **nat-group** *nat-group-id*

no dnat-only

Context

[Tree] (config>service>nat>nat-policy>dnat dnat-only)

Full Context

configure service nat nat-policy dnat dnat-only

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Description

This command configures outside routing context and nat-group in which DNAT translation shout take place. This command is mutually exclusive with the pool command in nat-policy. When DNAT-only is enabled, no source and port NAT (SNAPT) is performed. In other words, only the destination IP address (going from inside to outside) is translated while the source IP address and port are not translated.

Parameters

router *router-instance*

Specifies the routing context on the outside (public side).

nat-group *nat-group-id*

Specifies the NAT group IP.

Values 1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dnat-only

Syntax

dnat-only

Context

[Tree] (config>router>nat>inside dnat-only)

[Tree] (config>service>vprn>nat>inside dnat-only)

Full Context

configure router nat inside dnat-only

configure service vprn nat inside dnat-only

Description

Commands in this context configure the dnat-only parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.117 dns

dns

Syntax

[**no**] **dns**

Context

[Tree] (config>service>vprn dns)

Full Context

configure service vprn dns

Description

Commands in this context configure domain name servers.

The **no** form of this command disables DNS for this service.

Platforms

All

dns

Syntax

dns target-addr *dns-name* **name-server** *ip-address* [**source** *ip-address*] [**count** *send-count*] [**timeout** *timeout*] [**interval** *interval*] [**record-type** {**ipv4-a-record** | **ipv6-aaaa-record**}] [**router-instance** *router-instance*]

Context

[Tree] (config>saa>test>type dns)

[Tree] (oam dns)

Full Context

configure saa test type dns

oam dns

Description

This command performs DNS name resolution. If **ipv4-a-record** is specified, DNS target addresses are queried for A records only. If **ipv6-aaaa-record** is specified, AAAA records are queried first, and if a successful response is not received, the DNS server is queried for A records (applies to the 7750 SR and 7950 XRS).

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Parameters

dns-name

Specifies the DNS domain name, up to 255 characters.

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the **interval** is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message response corresponding to the outstanding message request.

Values 1 to 10

Default 1

ip-address

Specifies the IP address of the primary DNS server.

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: 0 to FFFF]H

d: [0 to 255]D

record-type

Specifies a record type (applies to the 7750 SR and 7950 XRS only).

Values **ipv4-a-record —** A record-specific mapping of a host name to an IPv4 address.

ipv6-aaaa-record — A record-specific mapping to the Internet class that stores a single IPv6 address.

send-count

Specifies the number of messages to send. The **send-count** parameter overrides the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message **interval** value must have expired before the next message request is sent.

Values 1 to 100

Default 1

timeout

Specifies the time, in seconds, to override the default *timeout* value and is the amount of time that the router waits for a message response after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the

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message response is not received. Any response received after the request times out is silently discarded.

Values 1 to 120

Default 5

router-instance

Specifies the preferred method to enter a service name or routing instance from which to launch the DNS query. This value is stored as the service name. This is the only service-linking function allowed for both mixed-mode and model-driven configuration modes.

Values			
	router-name	Base	Specifies a base routing instance
		management	Specifies a management routing instance
		_Base_and_ management	Specifies a base routing instance and a management routing instance: if no response is received from the base, a management routing instance is used.
	vprn-svc-name		Specifies a service name, up to 64 characters

Default _Base_and_management

Platforms

All

dns

Syntax

dns

Context

[Tree] (config>router dns)

Full Context

configure router dns

Description

This command configures the DNS.

Default

dns

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Platforms

All

dns

Syntax

dns

Context

[Tree] (config>system dns)

Full Context

configure system dns

Description

This command configures DNS settings.

Platforms

All

12.118 dns-domain

dns-domain

Syntax

dns-domain *dns-name*

no dns-domain

Context

[Tree] (bof dns-domain)

Full Context

bof dns-domain

Description

This command configures the domain name used when performing DNS address resolution. This is a required parameter if DNS address resolution is required. Only a single domain name can be configured. If multiple domain statements are configured, the last one encountered is used.

The **no** form of this command removes the domain name from the configuration.

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Default

no dns-domain

Parameters

dns-name

Specifies the DNS domain name, up to 178 characters.

Platforms

All

12.119 dns-enrich

dns-enrich

Syntax

dns-enrich *dns-enrich-name* [**create**]

no dns-enrich *dns-enrich-name*

Context

[Tree] (config>app-assure>group dns-enrich)

Full Context

configure application-assurance group dns-enrich

Description

Commands in this context configure the DNS enrichment template.

The **no** form of this command removes the DNS enrichment template.

Default

no dns-enrich

Parameters

dns-enrich-name

Specifies the DNS enrichment object name up to 32 characters.

create

Keyword to create the DNS enrichment object.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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dns-enrich

Syntax

dns-enrich *dns-enrich-name*

no dns-enrich

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action dns-enrich)

Full Context

configure application-assurance group policy app-qos-policy entry action dns-enrich

Description

This command assigns an existing DNS enrichment template as an action to flows matching the specified Application QoS Policy (AQP) entry. This action is applicable only to matched DNS flows.

This command can only be configured in the AQP default sub-policy entries. These entries must meet the following criteria:

- no matching conditions based on information extracted from incoming IP packets (for example, no application or IP address criteria)
- allowed match conditions are:
  - none
  - aa-sub
  - characteristic
  - traffic-direction

The **no** form of this command removes this DNS enrichment from actions on flows that match this AQP entry.

Default

no dns-enrich

Parameters

dns-enrich-name

Specifies the name of the DNS enrichment template.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.120 dns-ip-cache

dns-ip-cache

Syntax

dns-ip-cache *dns-ip-cache-name* [**create**]

no dns-ip-cache *dns-ip-cache-name*

Context

[Tree] (config>app-assure>group dns-ip-cache)

Full Context

configure application-assurance group dns-ip-cache

Description

This command configures a DNS IP cache used to snoop DNS requests generated by subscribers to populate a cache of IP addresses matching a specified list of domain names. In the context of URL content charging strengthening, it is also mandatory to specify a list of trusted DNS servers to populate the DNS IP cache.

Parameters

dns-ip-cache-name

Specifies the Application Assurance DNS IP cache name, up to 32 characters.

create

Specifies a keyword used to create the DNS IP cache.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dns-ip-cache

Syntax

dns-ip-cache *dns-ip-cache-name*

Context

[Tree] (config>app-assure>group>sess-fltr>entry>match dns-ip-cache)

Full Context

configure application-assurance group session-filter entry match dns-ip-cache

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Description

This command configures a DNS IP cache using session filter DST IP match criteria. It is typically combine with an allow action in the context of captive-redirect.

Parameters

dns-ip-cache-name

Specifies the name of the DNS IP cache name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.121 dns-match

dns-match

Syntax

dns-match

Context

[Tree] (config>app-assure>group>dns-ip-cache dns-match)

Full Context

configure application-assurance group dns-ip-cache dns-match

Description

Commands in this context configure match parameters in the DNS IP cache.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.122 dns-options

dns-options

Syntax

[**no**] **dns-options**

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy dns-options)

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Full Context

configure subscriber-mgmt router-advertisement-policy dns-options

Description

Commands in this context configure IPv6 DNS options for SLAAC hosts.

The **no** form of this command returns the command to the default setting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dns-options

Syntax

[**no**] **dns-options**

Context

[Tree] (config>service>vprn>router-advert dns-options)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv dns-options)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv dns-options)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv dns-options)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv dns-options)

[Tree] (config>service>vprn>router-advert>if dns-options)

Full Context

configure service vprn router-advertisement dns-options

configure service vprn subscriber-interface group-interface ipv6 router-advertisements dns-options

configure service ies subscriber-interface group-interface ipv6 router-advertisements dns-options

configure service vprn subscriber-interface ipv6 router-advertisements dns-options

configure service ies subscriber-interface ipv6 router-advertisements dns-options

configure service vprn router-advertisement interface dns-options

Description

Commands in this context configure DNS information for Stateless Address Auto-Configuration (SLAAC) hosts.

When specified at the router-advertisement level in the routing context, this command allows configuration of service-wide parameters. These can then be inherited at the interface level by specifying the **config>service>vprn>router-advert>if>dns-options>include-dns** command.

The **no** form of this command disables configuration of DNS information for Stateless Address Auto-Configuration (SLAAC) hosts.

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Platforms

All

- configure service vprn router-advertisement interface dns-options
- configure service vprn router-advertisement dns-options

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface ipv6 router-advertisements dns-options
- configure service vprn subscriber-interface group-interface ipv6 router-advertisements dns-options
- configure service vprn subscriber-interface ipv6 router-advertisements dns-options
- configure service ies subscriber-interface ipv6 router-advertisements dns-options

dns-options

Syntax

[**no**] **dns-options**

Context

[Tree] (config>router>router-advert>if dns-options)

[Tree] (config>router>router-advert dns-options)

Full Context

configure router router-advertisement interface dns-options

configure router router-advertisement dns-options

Description

Commands in this context configure DNS information for Stateless Address Auto-Configuration (SLAAC) hosts. When specified at the router-advertisement level in the routing context, this command allows configuration of service-wide parameters. These can then be inherited at the interface level by specifying the **config>router>router-advert>if>dns-options>include-dns** command.

The **no** form of this command disables configuration of DNS information for Stateless Address Auto-Configuration (SLAAC) hosts.

Platforms

All

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12.123 dns-server

dns-server

Syntax

dns-server *ip-address* [*ip-address*]

no dns-server

Context

[Tree] (config>service>vprn>dhcp>server>pool>options dns-server)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options dns-server)

[Tree] (config>router>dhcp>server>pool>options dns-server)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>options dns-server)

Full Context

configure service vprn dhcp local-dhcp-server pool options dns-server

configure subscriber-mgmt local-user-db ipoe host options dns-server

configure router dhcp local-dhcp-server pool options dns-server

configure subscriber-mgmt local-user-db ppp host options dns-server

Description

This command configures the IPv4 address of the DNS server.

The **no** form of this command removes the IPv4 address of the DNS server from the configuration.

Parameters

ip-address

Specifies up to four DNS server IP addresses.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dns-server

Syntax

dns-server *ipv6-address* [*ipv6-address*]

no dns-server

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Context

[Tree] (config>service>vprn>dhcp6>server>defaults>options dns-server)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options6 dns-server)

[Tree] (config>router>dhcp6>server>defaults>options dns-server)

[Tree] (config>service>vprn>dhcp6>server>pool>options dns-server)

[Tree] (config>router>dhcp6>server>pool>options dns-server)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>options6 dns-server)

[Tree] (config>service>vprn>dhcp6>server>pool>prefix>options dns-server)

[Tree] (config>router>dhcp6>server>pool>prefix>options dns-server)

Full Context

configure service vprn dhcp6 local-dhcp-server defaults options dns-server

configure subscriber-mgmt local-user-db ipoe host options6 dns-server

configure router dhcp6 local-dhcp-server defaults options dns-server

configure service vprn dhcp6 local-dhcp-server pool options dns-server

configure router dhcp6 local-dhcp-server pool options dns-server

configure subscriber-mgmt local-user-db ppp host options6 dns-server

configure service vprn dhcp6 local-dhcp-server pool prefix options dns-server

configure router dhcp6 local-dhcp-server pool prefix options dns-server

Description

This command configures IPv6 DNS server addresses that can be used for name resolution.

The **no** form of this command removes the IPv6 address of the DNS server from the configuration.

Parameters

ipv6-address

Specifies up to four IPv6 DNS server addresses.

Values ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0 to FFFF]H
d - [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server defaults options dns-server
- configure service vprn dhcp6 local-dhcp-server defaults options dns-server

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn dhcp6 local-dhcp-server pool options dns-server

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- configure service vprn dhcp6 local-dhcp-server pool prefix options dns-server
- configure router dhcp6 local-dhcp-server pool options dns-server
- configure subscriber-mgmt local-user-db ppp host options6 dns-server
- configure router dhcp6 local-dhcp-server pool prefix options dns-server
- configure subscriber-mgmt local-user-db ipoe host options6 dns-server

dns-server

Syntax

dns-server *ip-address*

no dns-server

Context

[Tree] (config>app-assure>group>url-filter>web-service dns-server)

Full Context

configure application-assurance group url-filter web-service dns-server

Description

This command configures the DNS server that is used to resolve the web service host name.

The **no** form of this command removes the DNS server configuration.

Default

no dns-server

Parameters

ip-address

Specifies the IP address of the DNS server to use.

Values a.b.c.d [/mask] (IPv4),
x:x:x:x:x:x:x:x/prefix-length (IPv6)
x:x:x:x:x:x:d.d.d.d
x - [0..FFFF] H
d - [0..255] D
prefix-length [0..128]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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12.124 dnssec

dnssec

Syntax

dnssec

Context

[Tree] (config>system>dns dnssec)

Full Context

configure system dns dnssec

Description

This command configures system Domain Name System Security Extensions (DNSSEC) settings.

Platforms

All

12.125 do-not-fragment

do-not-fragment

Syntax

[**no**] **do-not-fragment**

Context

[Tree] (config>oam-pm>session>ip do-not-fragment)

Full Context

configure oam-pm session ip do-not-fragment

Description

This command configures the Do Not Fragment (DF) bit in the IPv4 header of the TWAMP Light test packet in order to prevent packet fragmentation. This is only applicable to IPv4. IPv6 does not include the bit as part of the specification. This parameter is ignored but not blocked when the address is IPv6.

The **no** form of this command allows packet fragmentation.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.126 dod-label-distribution

dod-label-distribution

Syntax

[**no**] **dod-label-distribution**

Context

[Tree] (config>router>ldp>session-params>peer dod-label-distribution)

Full Context

configure router ldp session-parameters peer dod-label-distribution

Description

This command enables the use of the LDP Downstream-on-Demand (DoD) label distribution procedures.

When this option is enabled, LDP will set the A-bit in the Label Initialization message when the LDP session to the peer is established. When both peers set the A-bit, they will both use the DoD label distribution method over the LDP session (RFC 5036).

This feature can only be enabled on a link-level LDP session and therefore will apply to prefix labels only, not service labels.

As soon as the link LDP session comes up, the router will send a label request to its DoD peer for the FEC prefix corresponding to the peer’s LSR-id. The DoD peer LSR-id is found in the basic Hello discovery messages the peer used to establish the Hello adjacency with the router.

Similarly if the router and the directly attached DoD peer entered into extended discovery and established a targeted LDP session, the router will immediately send a label request for the FEC prefix corresponding to the peer’s LSR-id found in the extended discovery messages.

However, the router will not advertise any <FEC, label> bindings, including the FEC of its own LSR-id, unless the DoD peer requested it using a Label Request Message.

When the DoD peer sends a label request for any FEC prefix, the router will reply with a <FEC, label> binding for that prefix if the FEC was already activated on the router. If not, the router replies with a notification message containing the status code of "no route.” The router will not attempt in the latter case to send a label request to the next-hop for the FEC prefix when the LDP session to this next-hop uses the DoD label distribution mode. Hence the reference to single-hop LDP DoD procedures.

As soon as the link LDP session comes up, the router will send a label request to its DoD peer for the FEC prefix corresponding to the peer’s LSR-id. The DoD peer LSR-id is found in the basic Hello discovery messages the peer used to establish the Hello adjacency with the router.

Similarly if the router and the directly attached DoD peer entered into extended discovery and established a targeted LDP session, the router immediately sends a label request for the FEC prefix corresponding to

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the peer's LSR-id found in the extended discovery messages. Peer address has to be the peer LSR-ID address.

The **no** form of this command disables the DoD label distribution with an LDP neighbor.

Default

no dod-label-distribution

Platforms

All

12.127 domain

domain

Syntax

domain *domain-name* **expression** *expression*

no domain *domain-name*

Context

[Tree] (config>app-assure>group>dns-ip-cache>dns-match domain)

Full Context

configure application-assurance group dns-ip-cache dns-match domain

Description

This command configures a domain expression to populate the DNS IP cache. Up to 32 domains can be configured.

Parameters

domain-name

Specifies the name of the domain expression entry.

expression

Specifies a domain name expression string, up to 64 characters, used to define a pattern match. This domain expression uses the same syntax as the expressions used in app-filters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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domain

Syntax

domain *domain-name* [**nat-group** *nat-group-id*] [**create**]

no domain *domain-name*

Context

[Tree] (config>router>firewall domain)

[Tree] (config>service>vprn>firewall domain)

Full Context

configure router firewall domain

configure service vprn firewall domain

Description

This command configures a domain to contain firewall parameters. Each domain must be assigned to a NAT group where firewall functionality will be performed.

The **no** form of the command removes the domain.

Parameters

create

Mandatory keyword used when creating the domain.

domain-name

Specifies the name of the domain, up to 32 characters maximum.

nat-group-id

Specifies the ID of the NAT group where the firewall functionality will be performed.

Values 1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

domain

Syntax

domain router *router-name* **name** *domain-name*

no domain

Context

[Tree] (config>service>nat>firewall-policy domain)

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Full Context

configure service nat firewall-policy domain

Description

This command specifies a router and domain in the vRGW context to which the firewall policy is applied. All associated traffic must be part of the prefixes specified by this domain. The domain must be configured in the vRGWcontext where firewall protection is applied.

The **no** form of this command removes the domain association from the firewall policy.

Default

no domain

Parameters

domain-name

Specifies the name of the firewall domain, up to 32 characters, in the specified router instance.

router-name

Specifies the name of the router instance to use.

Values *router-name* | *vprn-svc-id*

router-name — "Base", "management"

vprn-svc-id — 1 to 2147483647

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

domain

Syntax

domain *md-index* [**format** *md-name-format*] [**name** *md-name*] **level** *level* [**admin-name** *admin-name*]

domain *md-index*

no domain *md-index*

Context

[Tree] (config>eth-cfm domain)

Full Context

configure eth-cfm domain

Description

This command configures Connectivity Fault Management (CFM) Maintenance Domain (MD) parameters.

The **no** form of this command removes the MD index parameters from the configuration.

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Parameters

md-index

Specifies the MD index value.

Values 1 to 4294967295

md-name-format

Specifies a value that represents the type (format).

Values

dns — Specifies the DNS name format.

mac — X:X:X:X:X:X-u

X — 0 to FF (hexadecimal)

u — 0 to 65535 (decimal)

none — Specifies a Y.1731 domain format and the only format allowed to execute Y.1731 specific functions.

string — Specifies an ASCII string.

Default string

md-name

Specifies a generic MD name, up to 43 characters.

level

Specifies the integer identifying the MD level. Higher numbers correspond to higher maintenance domains, those with the greatest physical reach, with the highest values for customer CFM packets. Lower numbers correspond to lower maintenance domains, those with more limited physical reach, with the lowest values for single bridges or physical links.

Values 0 to 7

admin-name

Specifies a creation time required parameter that allows the operator to assign a name value to the domain container. This is used for information and migration purposes. This value cannot be modified without destroying the domain. If no *admin-name* exists, the configured *md-index* value is converted into a character string to become the *admin-name* reference. When upgrading from a release that does not include the **admin-name** configuration option, the *md-index* is converted into a character string. After an *admin-name* value is assigned, it cannot be modified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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domain

Syntax

domain *domain*

no domain

Context

[Tree] (config>system>ptp domain)

Full Context

configure system ptp domain

Description

This command configures the PTP domain.

Note:
Some profiles may require a domain number in a restricted range. The operator must ensure that the value aligns with the expected range for the profile.

The domain cannot be changed unless PTP is shutdown. If the PTP profile setting is changed, the domain is changed to the default domain for the new PTP profile.

The **no** form of this command reverts to the default configuration. The default value is dependent upon the configured profile, as detailed below.

Default

domain 0 — profile ieee1588-2008

domain 4 — profile g8265dot1-2010

domain 24 — profile g8275dot1-2014

domain 44 — profile g8275dot2-2016

Parameters

domain

Specifies the PTP domain.

Values 0 to 255 for ieee1588-2008
0 to 255 for g8265dot1-2010
24 to 43 for g8275dot1-2014
0 to 255 for g8275dot2-2016

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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domain

Syntax

domain *domain-value*

no domain

Context

[Tree] (config>system>ptp>alternate-profile domain)

Full Context

configure system ptp alternate-profile domain

Description

This command configures the domain number of the alternate profile. This value can only be changed when the alternate profile is shut down.

To configure this command, the specified domain number for the alternate profile must be different from the domain number configured for the primary or other alternate profiles.

The **no** form of this command reverts to the default value. The default value is not dependent on the configured profile.

Default

domain 24

Parameters

domain-value

Specifies the PTP domain.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

domain

Syntax

domain [*value*] [**create**]

no domain [*value*]

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec domain)

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Full Context

configure redundancy multi-chassis peer mc-ipsec domain

Description

This command configures domain information. This command is mutually exclusive to the **tunnel-group** command.

The **no** form of this command removes the multi-chassis IPsec domain value.

Parameters

value

Specifies the domain multi-chassis IPsec domain, up to 255 characters.

create

Keyword used to create the command instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

12.128 domain-id

domain-id

Syntax

domain-id *global-field*:*local-field*

no domain-id

Context

[Tree] (config>service>vprn>bgp-ipvpn>srv6 domain-id)

[Tree] (config>service>epipe>bgp-evpn>srv6 domain-id)

[Tree] (config>service>epipe>bgp-evpn>mpls domain-id)

[Tree] (config>service>vprn>bgp-evpn>mpls domain-id)

[Tree] (config>service>vprn>bgp-evpn>srv6 domain-id)

[Tree] (config>service>vprn>bgp-ipvpn>mpls domain-id)

Full Context

configure service vprn bgp-ipvpn segment-routing-v6 domain-id

configure service epipe bgp-evpn segment-routing-v6 domain-id

configure service epipe bgp-evpn mpls domain-id

configure service vprn bgp-evpn mpls domain-id

configure service vprn bgp-evpn segment-routing-v6 domain-id

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configure service vprn bgp-ipvpn mpls domain-id

Description

This command specifies the domain ID that identifies the network from which a BGP route was received before that route is exported to a different neighbor. The domain ID is part of a domain, represented as *domain-id*:*isf_safi_type* in the D-PATH attribute, as described in *draft-ietf-bess-evpn-ipvpn-interworking*. The D-PATH attribute is modified by gateway routers, where a gateway is defined as a PE where a VPRN is instantiated, and that VPRN advertises or receives routes from multiple BGP owners (for example, EVPN-IFL and BGP-IPVPN) or multiple instances of the same owner (for example, VPRN with two BGP-IPVPN instances).

In the following example, consider that a gateway receives prefix P in an EVPN-IFL instance with the following D-PATH from neighbor N:

Seg Len=1 / 65000:1:128

If the router imports the route in VPRN-1, BGP-EVPN SRv6 instance with domain 65000:2, it readvertises it to its BGP-IPVPN MPLS instance as follows:

Seg Len=2 / 65000:2:70 / 65000:1:128

That is, the gateway prepends the local domain ID and family to the D-PATH before readvertising the route into a different instance.

The D-PATH attribute is used on gateways to detect loops (for received routes where the D-PATH contains a local domain ID) and to make BGP best-path selection decisions based on the D-PATH length (shorter D-PATH is preferred).

The command is also supported in Epipe services with two instances. As in the case of multi-instance VPRN services, the configured domain ID in an Epipe instance is prepended to the AD per EVI route redistributed to the other instance.

The **no** form of this command removes the configured domain ID.

Default

no domain-id

Parameters

global-field:local-field

Specifies the domain ID.

Values *4byte-GlobalAdminValue:2byte-LocalAdminValue*

4byte-GlobalAdminValue:	0 to 4294967295
2byte-LocalAdminValue	0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-ipvpn segment-routing-v6 domain-id
- configure service epipe bgp-evpn segment-routing-v6 domain-id
- configure service vprn bgp-evpn segment-routing-v6 domain-id

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All

- configure service vprn bgp-ipvpn mpls domain-id
- configure service epipe bgp-evpn mpls domain-id
- configure service vprn bgp-evpn mpls domain-id

domain-id

Syntax

domain-id *global-field*:*local-field*

no domain-id

Context

[Tree] (config>service>vprn>bgp-evpn>vxlan domain-id)

Full Context

configure service vprn bgp-evpn vxlan domain-id

Description

This command configures the D-PATH domain ID. The domain ID identifies the network from which the BGP route was received before the RTM advertises it to a different neighbor. The domain ID is part of a domain, represented as domain-id:isf_safi_type in the D-PATH attribute, as described in *draft-ietf-bess-evpn-ipvpn-interworking*. Gateway routers modify the D-PATH attribute. A gateway is a PE where a VPRN is instantiated. The VPRN in this case advertises or receives routes from multiple BGP owners (for example, EVPN-IFL and BGP-IPVPN) or multiple instances of the same owner (for example, VPRN with two BGP-IPVPN instances).

Gateways use the D-PATH attribute to detect loops (for received routes where the D-PATH contains a local domain ID) and to make BGP best-path selection decisions based on the D-PATH length (shorter D-PATH is preferred).

The **no** form of this command removes the configured domain ID.

Default

no domain-id

Parameters

global-field:local-field

Specifies the domain ID.

Values *4byte-GlobalAdminValue:2byte-LocalAdminValue*

4byte-GlobalAdminValue:	0 to 4294967295
2byte-LocalAdminValue	0 to 65535

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Platforms

7750 SR-1, 7750 SR-s

12.129 domain-name

domain-name

Syntax

domain-name *domain-name*

no domain-name

Context

[Tree] (config>service>vprn>dhcp6>server>pool>prefix>options domain-name)

[Tree] (config>router>dhcp6>server>pool>prefix>options domain-name)

[Tree] (config>router>dhcp6>server>defaults>options domain-name)

[Tree] (config>router>dhcp6>server>pool>options domain-name)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options domain-name)

[Tree] (config>router>dhcp>server>pool>options domain-name)

[Tree] (config>service>vprn>dhcp>server>pool>options domain-name)

[Tree] (config>service>vprn>dhcp6>server>pool>options domain-name)

Full Context

configure service vprn dhcp6 local-dhcp-server pool prefix options domain-name

configure router dhcp6 local-dhcp-server pool prefix options domain-name

configure router dhcp6 local-dhcp-server defaults options domain-name

configure router dhcp6 local-dhcp-server pool options domain-name

configure subscriber-mgmt local-user-db ipoe host options domain-name

configure router dhcp local-dhcp-server pool options domain-name

configure service vprn dhcp local-dhcp-server pool options domain-name

configure service vprn dhcp6 local-dhcp-server pool options domain-name

Description

This command configures the default domain for a DHCP client that the router uses to complete unqualified host names (without a dotted-decimal domain name).

The **no** form of this command removes the name from the configuration.

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Parameters

domain-name

Specifies the domain name for the client, up to 127 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn dhcp6 local-dhcp-server pool prefix options domain-name
- configure service vprn dhcp6 local-dhcp-server pool options domain-name
- configure router dhcp6 local-dhcp-server pool options domain-name
- configure router dhcp local-dhcp-server pool options domain-name
- configure router dhcp6 local-dhcp-server pool prefix options domain-name
- configure service vprn dhcp local-dhcp-server pool options domain-name
- configure subscriber-mgmt local-user-db ipoe host options domain-name

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server defaults options domain-name

12.130 dot1p

dot1p

Syntax

dot1p *dot1p-priority* [**fc** *fc-name*] [**priority** {**low** | **high**}]

no dot1p *dot1p-priority*

Context

[Tree] (config>qos>sap-ingress dot1p)

Full Context

configure qos sap-ingress dot1p

Description

This command explicitly sets the forwarding class or subclass or enqueuing priority when a packet is marked with a *dot1p-priority* specified. Adding a dot1p rule on the policy forces packets that match the *dot1p-priority* specified to override the forwarding class and enqueuing priority based on the parameters included in the dot1p rule. When the forwarding class is not specified in the rule, a matching packet preserves (or inherits) the existing forwarding class derived from earlier matches in the classification hierarchy. When the enqueuing priority is not specified in the rule, a matching packet preserves (or inherits) the existing enqueuing priority derived from earlier matches in the classification hierarchy.

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The *dot1p-priority* is derived from the most significant three bits in the IEEE 802.1q or IEEE 802.1p header. The three dot1p bits define 8 Class-of-Service (CoS) values commonly used to map packets to per-hop QoS behavior.

The **no** form of this command removes the explicit dot1p classification rule from the SAP ingress policy. Removing the rule on the policy immediately removes the rule on all ingress SAPs using the policy.

Parameters

dot1p-priority

This value is a required parameter that specifies the unique IEEE 802.1p value that will match the dot1p rule. If the command is executed multiple times with the same *dot1p-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of eight dot1p rules are allowed on a single policy.

Values 0 to 7

fc *fc-name*

Specifies the value given for the *fc-name* parameter must be one of the predefined forwarding classes in the system. Specifying the fc-name is optional. When a packet matches the rule, the forwarding class is only overridden when the **fc** *fc-name* parameter is defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

priority

This parameter overrides the default enqueuing priority for all packets received on an ingress SAP using this policy that match this rule. Specifying the priority is optional. When a packet matches the rule, the enqueuing priority is only overridden when the priority parameter is defined on the rule. If the packet matches and priority is not explicitly defined in the rule, the enqueuing priority is inherited based on previous rule matches.

Default Inherits the priority defined by the default-priority statement.

high

This parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **high** for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

low

This parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **low** for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Platforms

All

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dot1p

Syntax

dot1p *dot1p-value* [*dot1p-mask*]

no dot1p

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match dot1p)

Full Context

configure qos sap-ingress mac-criteria entry match dot1p

Description

The IEEE 802.1p value to be used as the match criterion.

Use the **no** form of this command to remove the dot1p value as the match criterion.

Default

no dot1p

Parameters

dot1p-value

Specifies the IEEE 802.1p value in decimal.

Values 0 to 7

dot1pmask

This 3-bit mask can be configured using the following formats.

Table 27: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	D	4
Hexadecimal	0xH	0x4
Binary	0bBBB	0b100

To select a range from 4 up to 7, specify *p-value* of 4 and a *mask* of 0b100 for value and mask.

Values 0 to 7 (decimal hex or binary)

Default 7

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Platforms

All

dot1p

Syntax

dot1p *dot1p-value* [**fc** *fc-name*] [**profile** {**in** | **out** | **use-de** | **exceed** | **inplus**}]

no dot1p *dot1p-value*

Context

[Tree] (config>qos>sap-egress dot1p)

Full Context

configure qos sap-egress dot1p

Description

This command defines a specific dot1p value that must be matched to perform the associated reclassification actions. If an egress packet on the SAP matches the specified dot1p value, the forwarding class or profile may be overridden. By default, the forwarding class and profile of the packet is derived from ingress classification and profiling functions.

The dot1p priority is derived from the most significant three bits in the IEEE 802.1q or IEEE 802.1p header. The three dot1p bits define 8 Class-of-Service (CoS) values commonly used to map packets to per-hop QoS behavior.

The reclassification actions from a dot1p reclassification rule may be overridden by a DSCP, IP precedence, or IP flow matching event.

The **fc** keyword is optional. When specified, the egress classification rule will overwrite the forwarding class derived from ingress. The new forwarding class is used for egress remarking and queue mapping decisions. If a DSCP, IP precedence, IPv6 criteria, or IP criteria match occurs after the dot1p match, the new forwarding class may be overridden by the higher priority match actions. If the higher priority match actions do not specify a new FC, the FC from the dot1p match will be used.

The **profile** keyword is optional. When specified, the egress classification rule will overwrite the profile of the packet derived from ingress. The new profile value is used for egress remarking and queue congestion behavior. If a DSCP, IP precedence, IPv6 criteria, or IP criteria match occurs after the dot1p match, the new profile may be overridden by the higher priority match actions. If the higher priority match actions do not specify a new profile, the profile from the dot1p match will be used.

The **no** form of this command removes the reclassification rule from the SAP egress QoS policy.

Parameters

dot1p-value

This value is a required parameter that specifies the unique IEEE 802.1p value that will match the dot1p rule. If the command is executed multiple times with the same *dot1p-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

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A maximum of eight dot1p rules are allowed on a single policy.

Values 0 to 7

fc *fc-name*

Specifies the value given for the *fc-name* parameter must be one of the predefined forwarding classes in the system. Specifying the FC name is optional. When a packet matches the rule, the forwarding class is only overridden when the **fc** *fc-name* parameter is defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

profile {in | out | use-de | exceed | inplus}

Specifies the profile reclassification action is optional. When specified, packets matching the dot1p value will be explicitly reclassified to the profile specified regardless of the ingress profiling decision. The explicit profile reclassification may be overwritten by a DSCP, IP precedence, IPv6 criteria, or IP criteria reclassification match. To remove the profile reclassification action for the specified dotp1 value, the **dot1p** command must be re-executed without the profile reclassification action defined.

Values **in** — Specifies that any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out — Specifies that any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

use-de — Specifies that the DE bit is used to determine the profile of the packet (in-profile is used when DE = 0 and out-of-profile is used when DE = 1).

exceed — Specifies that any packets matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus — Specifies that any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

Platforms

All

dot1p

Syntax

dot1p {*dot1p-value* | **in-profile** *dot1p-value* **out-profile** *dot1p-value* [**exceed-profile** *dot1p-value*]}

no dot1p

Context

[Tree] (config>qos>sap-egress>fc dot1p)

Full Context

configure qos sap-egress fc dot1p

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Description

This command explicitly defines the egress IEEE 802.1p (dot1p) bits marking for *fc-name*. When the marking is set, all packets of *fc-name* that have either an IEEE 802.1q or IEEE 802.1p encapsulation use the explicitly defined *dot1p-value*. If the egress packets for *fc-name* are not IEEE 802.1q or IEEE 802.1p encapsulated, the dot1p command has no effect.

The optional **in-profile** *dot1p-value* **out-profile** *dot1p-value* [**exceed-profile** *dot1p-value*] parameters added to the existing **dot1p** command adds the capability to mark on an egress SAP the in, out, and exceed-profile status via a certain dot1p combination, similarly with the DE options. All inplus-profile traffic is marked with the same value as in-profile traffic.

When the **in-profile** keyword is added, the **out-profile** keyword must be specified; however, **exceed-profile** is optional. If the optional **exceed-profile** *dot1p-value* is not included, any exceed-profile traffic will be marked with the same dot1p value as configured for the out-of-profile traffic.

The command with the additional structure may be used on the SAP when the internal in, out, and exceed-profile status needs to be communicated to an access network or customer device that does not support the DE bit.

When these commands are used, the DE bit or the equivalent field is left unchanged by the egress processing if a tag exists. If a new tag is added, the related DE bit is set to 0.

When the previous command (**dot1p** *dot1p-value*) is used without the new structure, it means that the dot1p value is used for the entire forwarding class, as it did before. The two versions of the command are mutually exclusive.

The in-profile or out-of-profile/exceed-profile status may be indicated via the DE bit setting if the **de-mark** command is used. The DE value used for exceed-profile is the same as that used for out-of-profile.

In the PBB case, for a Backbone SAP (B-SAP) and for packets originated from a local I-VPLS/PBB-Epipe, the command dictates the marking of the dot1p bits for both the BVID and ITAG.

The commands **dot1p-inner** and **dot1p-outer** take precedence over the **dot1p** command if both are specified in the same policy.

The **no** form of this command sets the IEEE 802.1p or IEEE 802.1q priority bits to 0.

Default

no dot1p

Parameters

in-profile *dot1p-value*

Specifies the 802.1p value to set for in-profile frames in this forwarding class.

Values 0 to 7

out-profile *dot1p-value*

Specifies the 802.1p value to set for out-profile frames in this forwarding class.

Values 0 to 7

exceed-profile *dot1p-value*

Specifies the 802.1p value to set for exceed-profile frames in this forwarding class.

Values 0 to 7

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Platforms

All

dot1p

Syntax

dot1p *dot1p-priority* **fc** *fc-name* **profile** {**in** | **out** | **use-de**}

no dot1p

Context

[Tree] (config>qos>network>ingress dot1p)

Full Context

configure qos network ingress dot1p

Description

This command explicitly sets the forwarding class or enqueuing priority and profile of the packet when a packet is marked with a *dot1p-priority* specified. Adding a dot1p rule on the policy forces packets that match the *dot1p-priority* specified to override and be assigned to the forwarding class and enqueuing priority and profile of the packet, based on the parameters included in the dot1p rule. When the forwarding class is not specified in the rule, a matching packet preserves (or inherits) the existing forwarding class derived from earlier matches in the classification hierarchy. When the enqueuing priority is not specified in the rule, a matching packet preserves (or inherits) the existing enqueuing priority derived from earlier matches in the classification hierarchy.

The *dot1p-priority* is derived from the most significant three bits in the IEEE 802.1q or IEEE 802.1p header. The three dot1p bits define 8 Class-of-Service (CoS) values commonly used to map packets to per-hop Quality of Service (QoS) behavior.

The **no** form of this command removes the explicit dot1p classification rule from the policy. Removing the rule on the policy immediately removes the rule on all ingress SAPs using the policy.

Parameters

dot1p-priority

This value is a required parameter that specifies the unique IEEE 802.1p value that will match the dot1p rule. If the command is executed multiple times with the same *dot1p-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of eight dot1p rules are allowed on a single policy.

Values 0 to 7

fc-name

Specifies the value given for the *fc-name* parameter must be one of the predefined forwarding classes in the system. Specifying the *fc-name* is optional. When a packet matches the rule, the forwarding class is only overridden when the **fc** *fc-name* parameter is

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defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

Values be, l2, af, l1, h2, ef, h1, nc

profile {in | out | use-de}

All packets that are assigned to this forwarding class will be considered in-profile or out-of-profile based on this command or will use the DE bit to determine the profile of the packets (in-profile is used when DE = 0 and out-of-profile is used when DE = 1). In case of congestion, the in-profile packets are preferentially queued over the out-of-profile packets.

Platforms

All

dot1p

Syntax

dot1p *dot1p-priority*

no dot1p

Context

[Tree] (config>qos>network>egress>fc dot1p)

Full Context

configure qos network egress fc dot1p

Description

This command is used whenever the dot1p bits are set to a common value regardless of the internal profile of the packets. Although it is not mandatory, this command should be used in combination with the **de-mark** command to enable the marking of the DE bit according to the internal profile of the packet.

This command acts as a shortcut for configuring the two existing commands with the same dot1p priority.

The **dot1p** *dot1p-priority* command is saved in the configuration as **dot1p-in-profile** *dot1p-priority* and **dot1p-out-profile** *dot1p-priority*. The inplus-profile traffic is marked with the same value as in-profile traffic. The exceed-profile traffic is marked with the same value as out-of-profile traffic.

Platforms

All

dot1p

Syntax

dot1p *dot1p-value* [*dot1p-mask*]

no dot1p

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Context

[Tree] (config>filter>mac-filter>entry>match dot1p)

Full Context

configure filter mac-filter entry match dot1p

Description

Configures an IEEE 802.1p value or range to be used as a MAC filter match criterion.

When a frame is missing the 802.1p bits, specifying an dot1p match criterion will fail for the frame and result in a non-match for the MAC filter entry.

The **no** form of the command removes the criterion from the match entry.

Egress **dot1p** value matching will only match if the customer payload contains the 802.1p bits. For example, if a packet ingresses on a null encapsulated SAP and the customer packet is IEEE 802.1Q or 802.1p tagged, the 802.1p bits will be present for a match evaluation. On the other hand, if a customer tagged frame is received on a dot1p encapsulated SAP, the tag will be stripped on ingress and there will be no 802.1p bits for a MAC filter match evaluation; in this case, any filter entry with a dot1p match criterion specified will fail.

Default

no dot1p

Parameters

dot1p-value

Specifies the IEEE 802.1p value in decimal.

Values 0 to 7

dot1p-mask

Specifies a 3-bit mask that can be configured using the decimal integer, hexadecimal or binary format.

Table 28: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	D	4
Hexadecimal	0xH	0x4
Binary	0bBBB	0b100

To select a range from 4 up to 7 specify *dot1p-value* of 4 and a *dot1p-mask* of 0b100 for value and mask.

Default 7 (decimal)

Values 1 to 7 (decimal)

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Platforms

All

dot1p

Syntax

dot1p *dot1p-value* [*dot1p-mask*]

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match dot1p)

Full Context

configure system security management-access-filter mac-filter entry match dot1p

Description

This command configures Dot1p match conditions.

Table 29: Management Access Filter dot1p Mask Format

Format Style	Format Syntax	Example
Decimal	D	4
Hexadecimal	0xH	0x4
Binary	0bBBB	0b100

Parameters

dot1p-value

Specifies the IEEE 802.1p value in decimal.

Values 0 to 7

mask

Specifies the 3-bit mask can be configured using the following formats.

Platforms

All

dot1p

Syntax

dot1p *dot1p-name*

no dot1p

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Context

[Tree] (config>test-oam>icmp>ping-template dot1p)

Full Context

configure test-oam icmp ping-template dot1p

Description

This command specifies values of the outer and inner dot1p bits for the VLAN when dot1q or qinq encapsulation is used. This field is not exposed to egress QoS policies.

The **no** form of this command reverts to the default value.

Default

dot1p 7

Parameters

dot1p-name

Specifies the IEEE 802.1p value in decimal format.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dot1p

Syntax

dot1p *dot1p-priority*

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth>c-tag dot1p)

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth>s-tag dot1p)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet c-tag dot1p

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet s-tag dot1p

Description

This command configures the priority code point (dot1p) value for the VLAN.

Default

dot1p 7

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Parameters

dot1p-priority

Specifies the dot1p value.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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13 d Commands – Part III

13.1 dot1p-in-profile

dot1p-in-profile

Syntax

dot1p-in-profile *dot1p-priority*

no dot1p-in-profile

Context

[Tree] (config>qos>network>egress>fc dot1p-in-profile)

Full Context

configure qos network egress fc dot1p-in-profile

Description

This command specifies dot1p in-profile mappings. The inplus-profile traffic is marked with the same value as in-profile traffic.

The **no** form of this command resets the configuration to the default in-profile *dot1p-priority* setting for *policy-id* 1.

Parameters

dot1p-priority

Specifies the unique IEEE 802.1p value that will match the dot1p rule. If the command is executed multiple times with the same *dot1p-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of eight dot1p rules are allowed on a single policy.

Values 0 to 7

Platforms

All

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13.2 dot1p-inner

dot1p-inner

Syntax

dot1p-inner *dot1p-value*

dot1p-inner in-profile*dot1p-value* **out-profile** *dot1p-value* [**exceed-profile** *dot1p-value*]

no dot1p-inner

Context

[Tree] (config>qos>sap-egress>fc dot1p-inner)

Full Context

configure qos sap-egress fc dot1p-inner

Description

This command explicitly configures the egress inner VLAN tag IEEE 802.1p (dot1p) bits marking for the forwarding class name. When the marking is set, all packets of the forwarding class name that have either an inner IEEE 802.1q or IEEE 802.1p encapsulation on a QinQ SAP will use the explicitly defined *dot1p-value*. If the egress packets for the forwarding class are not IEEE 802.1q or IEEE 802.1p QinQ encapsulated, this command has no effect.

The optional **in-profile** *dot1p-value*, **out-profile** *dot1p-value*, and **exceed-profile** *dot1p-value* parameters on the **dot1p-inner** command add the capability to mark the in-profile and out-of-profile status on an egress QinQ SAP. The command with the additional parameters may be used on the SAP when the internal in-profile, out-of-profile, and exceed-profile status needs to be communicated to an access network or customer device that does not support the DE bit. When the in-profile keyword is added, the rest of the structure must be specified. All inplus-profile traffic is marked with the same value as in-profile traffic.

When these commands are used, the DE bit or the equivalent field is left unchanged by the egress processing if an inner tag exists. If a new inner tag is added, the related DE bit is set to 0. The inplus/in, out, or exceed-profile status may be indicated using the DE bit setting if the **de-mark** or **de-mark-inner** command is used.

The two versions of the command (with and without parameters) are mutually exclusive.

This command takes precedence over the **configure qos sap-ingress dot1p** command if both are specified in the same policy, and over the default action where the marking is taken from a packet received at ingress.

The configuration of **qinq-mark-top-only** under the SAP egress takes precedence over the use of the **dot1p-inner** command in the policy; that is, the inner VLAN tag is not remarked when **qinq-mark-top-only** is configured. The marking used for the inner VLAN tag is based on the current default, which is governed by the marking of the packet received at the ingress to the system.

The **no** form of this command sets the inner IEEE 802.1p or IEEE 802.1q priority bits to 0.

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Default

no dot1p-inner

Parameters

dot1p-value

Specifies the 802.1p value to set for in-profile frames in this forwarding class.

Values 0 to 7

in-profile *dot1p-value*

Specifies the 802.1p value to set for in-profile frames in this forwarding class.

Values 0 to 7

out-profile *dot1p-value*

Specifies the 802.1p value to set for out-of-profile frames in this forwarding class.

Values 0 to 7

exceed-profile *dot1p-value*

Specifies the 802.1p value to set for exceed-profile frames in this forwarding class.

Values 0 to 7

Platforms

All

13.3 dot1p-out-profile

dot1p-out-profile

Syntax

dot1p-out-profile *dot1p-priority*

no dot1p-out-profile

Context

[Tree] (config>qos>network>egress>fc dot1p-out-profile)

Full Context

configure qos network egress fc dot1p-out-profile

Description

This command specifies dot1p out-of-profile mappings.

The exceed-profile traffic is marked with the same value as out-of-profile traffic.

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The **no** form of this command resets the configuration to the default out-profile *dot1p-priority* setting for *policy-id* 1.

Parameters

dot1p-priority

Specifies the unique IEEE 802.1p value that will match the dot1p rule. If the command is executed multiple times with the same *dot1p-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of eight dot1p rules are allowed on a single policy.

Values 0 to 7

Platforms

All

13.4 dot1p-outer

dot1p-outer

Syntax

dot1p-outer {*dot1p-value* | **in-profile** *dot1p-value* **out-profile** *dot1p-value* [**exceed-profile** *dot1p-value*]}

no dot1p-outer

Context

[Tree] (config>qos>sap-egress>fc dot1p-outer)

Full Context

configure qos sap-egress fc dot1p-outer

Description

This command explicitly defines the egress outer or single VLAN tag IEEE 802.1p (dot1p) bits marking for *fc-name*. When the marking is set, all packets of fc-name that have either an outer or single IEEE 802.1q or IEEE 802.1p encapsulation on a qinq or a dot1p SAP, respectively, will use the explicitly defined *dot1p-value*. If the egress packets for *fc-name* are not IEEE 802.1q or IEEE 802.1p encapsulated, this command has no effect.

The optional **in-profile** *dot1p-value* **out-profile** *dot1p-value* [**exceed-profile** *dot1p-value*] parameters on the dot1p-outer command add the capability to mark the in, out, and exceed-profile status on an egress qinq or dot1p SAP. The command with the additional parameters may be used on the SAP when the internal in, out, and exceed-profile status needs to be communicated to an access network or customer device that does not support the DE bit.

When the **in-profile** keyword is added, the **out-profile** keyword must be specified; however, **exceed-profile** is optional. If the optional **exceed-profile** *dot1p-value* is not included, any exceed-profile traffic will

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be marked with the same dot1p value as configured for the out-of-profile traffic. All inplus-profile traffic is marked with the same value as in-profile traffic.

When these commands are used, the DE bit or the equivalent field is left unchanged by the egress processing if a single or outer tag exists. If a new tag is added, the related DE bit is set to 0. The in, out, or exceed-profile status may be indicated via the setting of the DE bit setting if the **de-mark(-outer)** command is used. The DE value used for inplus is the same as that used for in-profile and the one used for exceed-profile is the same as that used for out of profile.

In the PBB case, for a Backbone SAP (B-SAP) and for packets originated from a local I-VPLS/PBB-Epipe, the command dictates the marking of the dot1p bits for both the BVID and ITAG.

The two versions of the command (with and without parameters) are mutually exclusive.

This command takes precedence over the **dot1p** command if both are specified in the same policy, and over the default action where the marking is taken from a packet received at ingress.

The **no** form of the command sets the IEEE 802.1p or IEEE 802.1q priority bits to 0.

Default

no dot1p-outer

Parameters

dot1p-value

Specifies the 802.1p value to set for in-profile frames in this forwarding class.

Values 0 to 7

in-profile *dot1p-value*

Specifies the 802.1p value to set for in-profile frames in this forwarding class.

Values 0 to 7

out-profile *dot1p-value*

Specifies the 802.1p value to set for out-of-profile frames in this forwarding class.

Values 0 to 7

exceed-profile *dot1p-value*

Specifies the 802.1p value to set for exceed-profile frames in this forwarding class.

Values 0 to 7

Platforms

All

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13.5 dot1q

dot1q

Syntax

dot1q

Context

[Tree] (config>service>system>bgp-evpn>eth-seg dot1q)

Full Context

configure service system bgp-evpn ethernet-segment dot1q

Description

This command creates the dot1q context for q-tag additions to the port or LAG virtual ES.

Platforms

All

dot1q

Syntax

dot1q

Context

[Tree] (config>test-oam>build-packet>header dot1q)

[Tree] (debug>oam>build-packet>packet>field-override>header dot1q)

Full Context

configure test-oam build-packet header dot1q

debug oam build-packet packet field-override header dot1q

Description

This command creates a Dot1Q header and enables the context to define the associated parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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13.6 dot1q-etype

dot1q-etype

Syntax

dot1q-etype *value*

no dot1q-etype

Context

[Tree] (config>port>ethernet dot1q-etype)

Full Context

configure port ethernet dot1q-etype

Description

This command specifies the Ethertype expected when the port's encapsulation type is dot1q. Dot1q encapsulation is supported only on Ethernet interfaces.

The **no** form of this command reverts to the default value.

Parameters

value

Specifies the Ethertype to expect, in either decimal or hex.

Values 1536 to 65535 (0x0600 to 0xffff)

Default If the encap-type is dot1p, then the default is 0x8100. If the encap-type is qinq, then the default is 0x8100.

Platforms

All

dot1q-etype

Syntax

dot1q-etype *dot1q-etype*

no dot1q-etype

Context

[Tree] (config>pw-port dot1q-etype)

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Full Context

configure pw-port dot1q-etype

Description

This command configures the Dot1q Ethertype on the PW port. The PW port is used to extract a customer's Ethernet traffic that is transported in a tunnel over an IP/MPLS network. The **dot1q-etype** represents the first two bytes (TPID) in the 802.1Q header of a single-tagged Ethernet frame or the inner 802.1Q header of the double-tagged Ethernet frame inside the tunnel.

The **no** form of this command removes the configuration.

Parameters

dot1q-etype

The value for the **dot1q-etype** field, in hexadecimal format.

Values 0x0600..0xFFFF

Default 0x8100

Platforms

All

13.7 dot1x

dot1x

Syntax

dot1x

Context

[Tree] (config>port>ethernet dot1x)

Full Context

configure port ethernet dot1x

Description

This command enables access to the context to configure port-specific 802.1x authentication attributes. This context can only be used when configuring a Fast Ethernet, Gigabit or 10-Gb Ethernet LAN ports on an appropriate MDA.

Platforms

All

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dot1x

Syntax

[**no**] **dot1x**

Context

[Tree] (config>system>security dot1x)

Full Context

configure system security dot1x

Description

This command creates the context to configure 802.1x network access control on the router.

The **no** form of this command removes the 802.1x configuration.

Platforms

All

13.8 down

down

Syntax

down ip *seconds* [**init-only**]

no down ip

down ipv6 *seconds* [**init-only**]

no down ipv6

Context

[Tree] (config>router>if>hold-time down)

[Tree] (config>service>vpls>if>hold-time down)

[Tree] (config>service>ies>sub-if>hold-time down)

[Tree] (config>service>vprn>nw-if>hold-time down)

[Tree] (config>service>vprn>if>hold-time down)

[Tree] (config>service>vprn>sub-if>hold-time down)

[Tree] (config>service>ies>red-if>hold-time down)

[Tree] (config>service>ies>if>hold-time down)

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[Tree] (config>service>vprn>red-if>hold-time down)

Full Context

configure router interface hold-time down

configure service vpls interface hold-time down

configure service ies subscriber-interface hold-time down

configure service vprn network-interface hold-time down

configure service vprn interface hold-time down

configure service vprn subscriber-interface hold-time down

configure service ies redundant-interface hold-time down

configure service ies interface hold-time down

configure service vprn redundant-interface hold-time down

Description

This command causes a delay in the activation of the associated IP interface by the specified number of seconds. The delay is invoked whenever the system attempts to bring the associated IP interface up, unless the **init-only** option is configured. If the **init-only** option is configured, the delay is only applied when the IP interface is first configured or after a system reboot.

The **no** form of this command removes the command from the active configuration and removes the delay in activating the associated IP interface. If the configuration is removed during a delay period, the currently running delay will continue until it completes.

Default

no down ip

Parameters

seconds

The time delay, in seconds, to make the interface operational.

Values 1 to 1200

init-only

Specifies that the **down** delay is only applied when the interface is configured or after a reboot.

Values 1 to 1200

Platforms

All

- configure service vprn network-interface hold-time down
- configure service vprn interface hold-time down
- configure router interface hold-time down
- configure service ies interface hold-time down

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- configure service vpls interface hold-time down

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- configure service vprn redundant-interface hold-time down
- configure service vprn subscriber-interface hold-time down
- configure service ies redundant-interface hold-time down
- configure service ies subscriber-interface hold-time down

13.9 down-link

down-link

Syntax

down-link gbr *rate* **mbr** *rate*

no down-link

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>pgw>qos down-link)

[Tree] (config>subscr-mgmt>gtp>peer-profile>mme>qos down-link)

[Tree] (config>subscr-mgmt>gtp>peer-profile>ggsn>qos down-link)

Full Context

configure subscriber-mgmt gtp peer-profile pgw qos down-link

configure subscriber-mgmt gtp peer-profile mme qos down-link

configure subscriber-mgmt gtp peer-profile ggsn qos down-link

Description

This command configures the down-link bitrate in kb/s to be used in the GTP messages.

The **no** form of this command reverts to the default.

Default

down-link gbr 2000 mbr 2000

down-link gbr 2000 mbr 2000 - for ggsn

down-link gbr 0 mbr 0 - for mme and pgw

Parameters

gbr *rate*

Specifies the downlink Guaranteed Bit Rate (GBR) to be used in the GTP messages as QOS IE (GTPv1) or Bearer QOS (GTPv2).

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mbr *rate*

Specifies the downlink Maximum Bit Rate (MBR) to be used in the GTP messages as QOS IE (GTPv1) or Bearer QOS (GTPv2).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.10 down-on-internal-error

down-on-internal-error

Syntax

down-on-internal-error [**tx-disable**]

no down-on-internal-error

Context

[Tree] (config>port>ethernet down-on-internal-error)

Full Context

configure port ethernet down-on-internal-error

Description

This command configures the system to bring a port operationally down in the event the system has detected internal MAC transmit errors (Int MAC Tx Errs).

Default

no down-on-internal-error

Parameters

tx-disable

Specifies that the laser should be disabled if an internal MAC transmit error is encountered. When used, this option requires that the operator explicitly cycle the admin state of the port to clear the error and re-enable the laser.

Platforms

All

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13.11 down-on-peer-tldp-pw-status-faults

down-on-peer-tldp-pw-status-faults

Syntax

down-on-peer-tldp-pw-status-faults

no down-on-peer-tldp-pw-status-faults

Context

[Tree] (config>service>epipe>pw-port down-on-peer-tldp-pw-status-faults)

Full Context

configure service epipe pw-port down-on-peer-tldp-pw-status-faults

Description

This command enables the PW port configured on an Epipe to go locally operationally down if any of the following status bits are received on a mate spoke-SDP across an FPE:

- 0x00000001 - Pseudowire Not Forwarding
- 0x00000002 - Local Attachment Circuit (ingress) Receive Fault
- 0x00000004 - Local Attachment Circuit (egress) Transmit Fault
- 0x00000008 - Local PSN-facing PW (ingress) Receive Fault
- 0x00000010 - Local PSN-facing PW (egress) Transmit Fault

The **no** form of the command specifies that the mate PW status fault bits are not taken into account in the operational state of the PW port.

Default

no down-on-peer-tldp-pw-status-faults

Platforms

All

13.12 down-threshold

down-threshold

Syntax

down-threshold *percent-change* [**bw** *absolute-change*]

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Context

[Tree] (config>router>rsvp>dbw-accounting down-threshold)

Full Context

configure router rsvp dbw-accounting down-threshold

Description

This command sets the minimum change (in percent of the latest advertised value) above which a decrease in Maximum Reservable Link Bandwidth (MRLB) (IS-IS TE sub-TLV 10) or Maximum Reservable Bandwidth (MRB) (OSPF TE sub-TLV 7) triggers an IGP-TE update. This configuration only applies to a change in MRLB or MRB caused by dark bandwidth. Other events affecting MRLB/MRB (such as the change of the subscription factor or the loss of link in a LAG over which the RSVP interface is defined) trigger an immediate TE update, regardless of the importance of the impact.

Optionally, the threshold can also be expressed as an absolute value. In this case, the evaluation of the change is made using the percent change and the absolute change. An IGP-TE update is sent if both of these thresholds are crossed. Changing this parameter in the course of dark bandwidth accounting does not affect the accounting cycle.

Default

down-threshold 0

Parameters

percent-change

Specifies the minimum decrease in MRLB/MRB, expressed in percent.

Values 0 to 100

absolute-change

Specifies the minimum decrease in MRLB/MRB, expressed in Mb/s.

Values 0 to 1000000

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

13.13 down-timeout

down-timeout

Syntax

[**no**] **down-timeout**

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Context

[Tree] (config>aaa>radius-srv-plcy>servers>health-check down-timeout)

Full Context

configure aaa radius-server-policy servers health-check down-timeout

Description

This command determines the interval to wait for a RADIUS reply message from the RADIUS server before a RADIUS server is declared out-of-service. By default, the value of the down-timeout is the number of retries multiplied by the timeout interval. Each host will use the configured timeout and retry value under the AAA RADIUS server policy.

timeout refers to the waiting period before the next retry attempt.

retry refers the number of times the host will attempt to contact the RADIUS server.

If a RADIUS server is declared out-of-service, the host pending retry attempts will move on to the next RADIUS server.

The **no** form of this command reverts to the default.

Parameters

minutes

Specifies the timer to wait, in minutes, before declaring the RADIUS server that is down.

Values 1 to 5

seconds

Specifies the timer to wait, in seconds, before declaring the RADIUS server that is down.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.14 down-when-looped

down-when-looped

Syntax

down-when-looped

Context

[Tree] (config>port>ethernet down-when-looped)

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Full Context

configure port ethernet down-when-looped

Description

This command configures Ethernet loop detection attributes.

Platforms

All

13.15 downlink

downlink

Syntax

downlink aggregate-rate

downlink arbiter *arbiter-name*

downlink policer *policer-id*

downlink queue *queue-id*

downlink scheduler *scheduler-name*

no downlink

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn>ambr-qos-mapping downlink)

Full Context

configure subscriber-mgmt gtp apn-policy apn ambr-qos-mapping downlink

Description

When enabled, the downlink rate in the APN-AMBR IE in an incoming GTP message is interpreted as a rate override for the specified egress QoS object. For queues and policers, the PIR is overridden.

This override uses standard SR OS QoS overrides. Therefore, a subsequent Gx/RADIUS-based override removes this override.

The **no** form of this command disables the override mechanism.

Default

no downlink

Parameters

aggregate-rate

Specifies the aggregate rate.

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arbiter-name

Specifies the name of the arbiter to be overridden, up to 32 characters.

policer-id

Specifies the ID of the policer to be overridden.

Values 1 to 63

queue-id

Specifies the ID of the queue to be overridden.

Values 1 to 8

scheduler-name

Specifies the name of the scheduler to be overridden, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.16 downlink-mbr-gbr

downlink-mbr-gbr

Syntax

downlink-mbr-gbr aggregate-rate

downlink-mbr-gbr arbiter *arbiter-name*

downlink-mbr-gbr policer *policer-id*

downlink-mbr-gbr queue *queue-id*

downlink-mbr-gbr scheduler *scheduler-name*

no downlink-mbr-gbr

Context

[Tree] (config>subscr-mgmt>sla-prof>pfcp>seq downlink-mbr-gbr)

Full Context

configure subscriber-mgmt sla-profile pfcp-mappings session-qer downlink-mbr-gbr

Description

This command configures the downlink MBR/GBR to QoS override mapping.

The **no** form of the command disables the downlink MBR/GBR mapping.

Default

no downlink-mbr-gbr

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Parameters

aggregate-rate

Maps the MBR/GBR to a rate override for the aggregate rate.

arbiter-name

Specifies the arbiter target of the MBR/GBR override. The arbiter name can be up to 32 characters.

policer-id

Specifies the policer ID target of the MBR/GBR override.

Values 1 to 63

queue-id

Specifies the queue ID target of the MBR/GBR override.

Values 1 to 8

scheduler-name

Specifies the scheduler name target of the MBR/GBR override. The scheduler name can be up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.17 download-interval

download-interval

Syntax

download-interval *minutes*

no download-interval

Context

[Tree] (config>aaa>route-downloader download-interval)

Full Context

configure aaa route-downloader download-interval

Description

This command sets the time interval, in minutes, that the system waits for between two consecutive runs of the route-download process. The time is counted from the start-time of the run, thus, if an route-download process is still ongoing by the time the timer expires, the process will restart from count=1.

The **no** form of this command reverts to the default value.

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Default

download-interval 720

Parameters

minutes

Specifies the time interval, in minutes, between the start of the last route downloader run and the start of the next route downloader run.

Values 1 to 1440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.18 downstream-ip-filter

downstream-ip-filter

Syntax

downstream-ip-filter *filter-id*

no downstream-ip-filter

Context

[Tree] (config>service>vprn>nat>inside downstream-ip-filter)

Full Context

configure service vprn nat inside downstream-ip-filter

Description

This command assigns an IPv4 filter policy to the downstream NAT interface. This filter is applied to downstream traffic after the NAT function is applied but before it enters the inside VPRN instance.

The **no** form of the command removes the filter from the configuration.

Default

no downstream-ip-filter

Parameters

filter-id

Specifies an existing IPv4 filter policy. Values can be expressed either as a decimal integer or as an ASCII string of up to 64 characters.

Values 1 to 65535, or ASCII string of up to 64 characters

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

downstream-ip-filter

Syntax

downstream-ip-filter *filter-id*

no downstream-ip-filter

Context

[Tree] (config>router>nat>outside downstream-ip-filter)

[Tree] (config>service>vprn>nat>outside downstream-ip-filter)

Full Context

configure router nat outside downstream-ip-filter

configure service vprn nat outside downstream-ip-filter

Description

This command specifies a filter to apply to the downstream traffic after routing in the outside virtual router instance and before the NAT function; it is useful for traffic that bypasses the egress filters applied in the inside virtual router instance, such as DS-Lite traffic.

The **no** form of the command removes the filter from the configuration.

Default

no downstream-ip-filter

Parameters

filter-id

Specifies a filter up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.19 downstream-ipv6-filter

downstream-ipv6-filter

Syntax

downstream-ipv6-filter *filter-id*

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no downstream-ipv6-filter

Context

[Tree] (config>service>vprn>nat>outside downstream-ipv6-filter)

[Tree] (config>router>nat>outside downstream-ipv6-filter)

Full Context

configure service vprn nat outside downstream-ipv6-filter

configure router nat outside downstream-ipv6-filter

Description

This command configures the ipv6-filter for downstream traffic. This filter is applied to downstream traffic after it leaves the outside virtual router instance but before the NAT function is applied. This is useful for shared v6 filters that apply to all v6 DSM hosts.

The **no** form of the command removes the filter from the configuration.

Default

no downstream-ipv6-filter

Parameters

filter-id

Specifies an IPv6 filter up to 64 characters in length.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.20 downstream-map-tlv

downstream-map-tlv

Syntax

downstream-map-tlv *downstream-map-tlv*

no downstream-map-tlv

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy downstream-map-tlv)

Full Context

configure saa test type-multi-line lsp-trace sr-policy downstream-map-tlv

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Description

This command configures the downstream mapping TLV that provides a mechanism for the sender and responder nodes to exchange and validate interface and label stack information for each downstream hop in the path of the LDP FEC an RSVP LSP, or a BGP IPv4 or IPv6 label route.

The following downstream mapping TLVs are supported: the original Downstream Mapping (DSMAP) TLV defined in RFC 4379 (obsoleted by RFC 8029) and the Downstream Detailed Mapping (DDMAP) TLV defined in RFC 6424.

The **no** form of this command removes the configuration.

Parameters

downstream-map-tlv

Specifies which format of the downstream mapping TLV to use in the LSP trace packet. The DSMAP TLV is the original format in RFC 4379 (obsoleted by RFC 8029). The DDMAP is the new enhanced format specified in RFC 6424. The user can also choose not to include the downstream mapping TLV by entering the value **none**. When **lsp-trace** is used on a MPLS-TP LSP (static option), it can only be executed if the control-channel is set to none. In addition, the DSMAP/DDMAP TLV is only included in the echo request message if the egress interface is either a numbered IP interface or an unnumbered IP interface. The TLV is not included if the egress interface is of type **unnumbered-mpls-tp**.

Values ddmap: Sends a detailed downstream mapping TLV.

dsmap: Sends a downstream mapping TLV.

none: No mapping TLV is sent.

Default Inherited from global configuration of downstream mapping TLV in option **mpls-echo-request-downstream-map {dsmap | ddmap}**.

Platforms

All

13.21 downstream-nodes

downstream-nodes

Syntax

[**no**] **downstream-nodes** *downstream-nodes-index*

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls downstream-nodes)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls downstream-nodes

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Description

This command configures a downstream node entry for the replication segment. A replication segment can have multiple downstream nodes used at a replication node where there are multiple outgoing interfaces or protection next hops.

The **no** form of this command removes the specified entry from the replication segment.

Parameters

downstream-nodes-index

Specifies the next-hop ID.

Values 1 to 4096

Platforms

All

downstream-nodes

Syntax

[**no**] **downstream-nodes** *downstream-nodes-index*

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>srv6 downstream-nodes)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-v6 downstream-nodes

Description

This command configures a downstream node entry for the replication segment. The downstream node is equivalent to an outgoing interface. On a replication node, a replication segment can have multiple downstream nodes, each of which has outgoing interfaces or protection next hops.

The **no** form of this command removes the specified entry from the replication segment.

Parameters

downstream-nodes-index

Specifies the next-hop ID.

Values 1 to 4096

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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13.22 dpd

dpd

Syntax

dpd [**interval** *interval*] [**max-retries** *max-retries*] [**reply-only**]

no dpd

Context

[Tree] (config>ipsec>ike-policy dpd)

Full Context

configure ipsec ike-policy dpd

Description

This command controls the dead peer detection mechanism.

The **no** form of this command removes the parameters from the configuration.

Default

no dpd

Parameters

interval

Specifies the DPD interval, in seconds. Since more time is necessary to determine if there is incoming traffic, the actual time needed to bring down the tunnel is larger than the DPD interval multiplied by max-retries.

Values 10 to 300

Default 30

max-retries

Specifies the maximum number of retries before the tunnel is removed.

Values 2 to 5

Default 3

reply-only

Specifies whether to initiate a DPD request if there is an incoming ESP or IKE packet. Issuing the command without the reply-only keyword does not initiate a DPD request if there is an incoming ESP packet.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.23 dr-activation-timer

dr-activation-timer

Syntax

dr-activation-timer *seconds*

Context

[Tree] (config>service>vpls>bind>evpn-mcast-gateway dr-activation-timer)

Full Context

configure service vpls allow-ip-int-bind evpn-mcast-gateway dr-activation-timer

Description

This command configures the designated router (DR) activation timer for the EVPN gateway.

After the DR activation timer expires, each provider edge router (PE) runs the MEG or PEG DR election. The timer allows the PE to collect Inclusive Multicast Ethernet Tag routes from other MEG/PEG gateways and avoid running the DR election multiple times. The DR triggers the MEG/PEG first-hop and last-hop router actions on the router.

Default

dr-activation-timer 3

Parameters

seconds

Specifies DR election wait time, in seconds.

Values 0 to 100

Platforms

All

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13.24 drain

drain

Syntax

[**no**] **drain**

Context

[Tree] (config>service>vprn>dhcp>server>pool>subnet drain)

Full Context

configure service vprn dhcp local-dhcp-server pool subnet drain

Description

This command means no new leases can be assigned from this subnet and existing leases are cleaned up upon renew/rebind.

The **no** form of this command means the subnet is active and new leases can be assigned from it.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

drain

Syntax

[**no**] **drain**

Context

[Tree] (config>router>nat>outside>pool>address-range drain)

[Tree] (config>service>vprn>nat>outside>pool>address-range drain)

Full Context

configure router nat outside pool address-range drain

configure service vprn nat outside pool address-range drain

Description

This command starts or stops draining this NAT address range. When an address-range is being drained, it will not be used to serve new hosts. Existing hosts, however, will still be able to use the address that was assigned to them even if it is being drained. An address-range can only be deleted if the parent pool is shut down or if the range itself is effectively drained (hosts are no longer using the addresses).

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.25 drop

drop

Syntax

[**no**] **drop**

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action drop)

Full Context

configure application-assurance group policy app-qos-policy entry action drop

Description

This command configures the drop action on flows matching this AQP entry. When enabled, all flow traffic matching this AQP entry will be dropped. When drop action is part of a set of multiple actions to be applied to a single flow as result of one or more AQP entry match, drop action will be performed first and no other action will be invoked on that flow.

The **no** form of this command disables the drop action on flows matching this AQP entry.

Default

no drop

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

drop

Syntax

drop

drop packet-length {**lt** | **gt** | **eq**} *packet-length-value*

drop packet-length range *packet-length-value packet-length-value*

drop pattern expression *expression* **mask** *mask* **offset-type** *offset-type* **offset-value** *offset-value*

drop ttl {**lt** | **gt** | **eq**} *ttl-value*

drop ttl range *ttl-value ttl-value*

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Context

[Tree] (config>filter>ip-filter>entry>action drop)

Full Context

configure filter ip-filter entry action drop

Description

This command configures the drop action for the traffic that matches this filter entry.

Traffic can, also, be dropped based on *pkt-length*, *packet-length range*, *ttl*, *ttl range*, or a pattern of conditional match criteria.

Packets that match the filter entry match criteria, and not the conditional match criteria value, are implicitly forwarded with no further match in the following filter entries.

For pattern match:

- the expression is left-aligned for odd number bytes, for example, the expression 0xABC is programmed 0x0ABC in the line card
- the 'data' offset requires protocol UDP or TCP to be selected in the filter entry match criteria.

Parameters

packet-length

Specifies drop packets matching both the filter entry match criteria and the *packet-length value* defined in the **drop** action statement. Packets matching the filter entry match criteria and not matching the *packet-length* value, as defined in the **drop** action statement, are implicitly forwarded with no further match in the following filter entries.

Values lt — Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt — Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq — Specifies "equal to”.

packet-length-value

Specifies the packet length value for the rate limit action.

Values 0 to 65535

range

Specifies an inclusive range. When **range** is used, the start of the range (the first value entered) must be smaller than the end of the range (the second value entered).

expression

Specifies the hexadecimal pattern to match; up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

mask

Specifies the mask for the pattern expression, up to eight bytes.

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Values 0x0000000000000001 to 0xffffffffffffffff

offset-type

Specifies the starting point reference for the offset-value of this pattern.

Values layer-3, layer-4, data, dns-qtype

offset-value

Specifies the offset value for the pattern expression. Dns-qtype supports offset value of 0.

Values 0 to 255

ttl-value

Specifies drop packets matching both the filter entry match criteria and the TTL value defined in the drop action statement. Packets matching the filter entry match criteria and not matching the TTL value, as defined in the drop action statement, are implicitly forwarded with no further match in the following filter entries.

Values 0 to 255

Platforms

All

drop

Syntax

drop

drop hop-limit {**lt** | **gt** | **eq**} *hop-limit-value*

drop hop-limit range hop-limit-value *hop-limit-value*

drop pattern expression *expression* **mask** *mask* **offset-type** *offset-type* **offset-value** *offset-value*

drop payload-length {**lt** | **gt** | **eq**} *payload-length-value*

drop payload-length range *payload-length-value payload-length-value*

Context

[Tree] (config>filter>ipv6-filter>entry>action drop)

Full Context

configure filter ipv6-filter entry action drop

Description

This command configures the drop action for the traffic that matches this filter entry.

Traffic can, also, be dropped based on *payload-length*, *payload-length range*, *hop-limit*, *hop-limit range*, or a pattern of conditional match criteria.

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Packets that match the filter entry match criteria, but do not match the conditional match criteria value, are implicitly forwarded with no further match in the following filter entries.

For pattern match:

- the expression is left-aligned for the odd number bytes, for example, the expression 0xABC is programmed 0x0ABC in the line card
- the 'data' offset requires protocol UDP or TCP to be selected in the filter entry match criteria

Parameters

hop-limit

Specifies the hop-limit value for the drop action.

Values lt — Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

eq — Specifies "equal to”.

gt — Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

hop-limit-value

Specifies the hop-limit value for the drop action.

Values 0 to 255

range

Specifies an inclusive range. When the **range** parameter is used, the start of the range (the first value entered) must be smaller than the end of the range (the second value entered).

expression

Specifies the hexadecimal pattern to match; up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

mask

Specifies the mask for the pattern expression, up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

offset-type

Specifies the starting point reference for the offset-value of this pattern.

Values layer-3, layer-4, data, dns-qtype

offset-value

Specifies the offset value for the pattern expression. Dns-qtype supports offset value of 0.

Values 0 to 255

payload-length

Specifies drop packets matching both the filter entry match criteria and the payload-length-value defined in the drop action statement. Packets matching the filter entry match criteria

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and not matching the payload-length-value, as defined in the drop action statement, are implicitly forwarded with no further match in the following filter entries.

Values lt — Specifies "less than". The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt — Specifies "greater than". The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq — Specifies "equal to".

payload-length-value

Specifies the payload length value for the drop action.

Values 0 to 65535

Platforms

All

drop

Syntax

drop

Context

[Tree] (config>filter>mac-filter>entry>action drop)

Full Context

configure filter mac-filter entry action drop

Description

This command sets the MAC filter entry action to drop.

Platforms

All

13.26 drop-count

drop-count

Syntax

drop-count *count*

no drop-count

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Context

[Tree] (config>service>vprn>static-route-entry>next-hop>cpe-check drop-count)

[Tree] (config>service>vprn>static-route-entry>indirect>cpe-check drop-count)

Full Context

configure service vprn static-route-entry next-hop cpe-check drop-count

configure service vprn static-route-entry indirect cpe-check drop-count

Description

This optional parameter specifies the number of consecutive ping-replies that must be missed to declare the CPE down and to deactivate the associated static route.

Default

drop-count 3

Parameters

count

An integer count value.

Values 1 to 255

Platforms

All

drop-count

Syntax

drop-count *consecutive-failures* [**hold-down** *seconds*]

no drop-count

Context

[Tree] (config>filter>redirect-policy>dest>ping-test drop-count)

Full Context

configure filter redirect-policy destination ping-test drop-count

Description

This command specifies the number of consecutive requests that must fail for the destination to be declared unreachable and the time to hold destination unreachable before repeating tests.

Default

drop-count 3 hold-down 0

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Parameters

consecutive-failures

Specifies the number of consecutive ping test failures before declaring the destination down.

Values 1 to 60

hold-down *seconds*

Specifies the amount of time, in seconds, that the system should be held down if any of the test has marked it unreachable.

Values 0 to 86400

Platforms

All

drop-count

Syntax

drop-count *count*

no drop-count

Context

[Tree] (config>router>static-route-entry>indirect>cpe-check drop-count)

[Tree] (config>router>static-route-entry>next-hop>cpe-check drop-count)

Full Context

configure router static-route-entry indirect cpe-check drop-count

configure router static-route-entry next-hop cpe-check drop-count

Description

This optional parameter specifies the number of consecutive ping-replies that must be missed to declare the CPE down and to deactivate the associated static route.

Default

drop-count 3

Parameters

count

Specifies the integer count value.

Values 1 to 255

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Platforms

All

drop-count

Syntax

drop-count *count*

no drop-count

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check drop-count)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check drop-count)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check drop-count

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check drop-count

Description

This command configures the number of consecutive ping replies that must be missed to declare the CPE down.

Default

drop-count 3

Parameters

count

Specifies the count value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

drop-count

Syntax

drop-count *count*

no drop-count

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Context

[Tree] (config>vrrp>policy>priority-event>host-unreachable drop-count)

Full Context

configure vrrp policy priority-event host-unreachable drop-count

Description

This command configures the number of consecutively sent ICMP echo request messages that must fail before the host unreachable priority control event is set.

The **drop-count** command is used to define the number of consecutive message send attempts that must fail for the **host-unreachable** priority event to enter the set state. Each unsuccessful attempt increments the event's consecutive message drop counter. With each successful attempt, the event's consecutive message drop counter resets to zero.

If the event's consecutive message drop counter reaches the **drop-count** value, the **host-unreachable** priority event enters the set state.

The event's **hold-set** value defines how long the event must stay in the set state even when a successful message attempt clears the consecutive drop counter. The event is not cleared until the consecutive drop counter is less than the **drop-count** value and the **hold-set** timer has a value of zero (expired).

The **no** form of the command reverts to the default value.

Default

drop-count 3 — 3 consecutive ICMP echo request failures are required before the host unreachable priority control event is set.

Parameters

count

The number of ICMP echo request message attempts that must fail for the event to enter the set state. It also defines the threshold so a lower consecutive number of failures can clear the event state.

Values 1 to 60

Platforms

All

13.27 drop-extracted-traffic

drop-extracted-traffic

Syntax

drop-extracted-traffic

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Context

[Tree] (config>filter>ipv6-filter>entry>action drop-extracted-traffic)

[Tree] (config>filter>ip-filter>entry>action drop-extracted-traffic)

Full Context

configure filter ipv6-filter entry action drop-extracted-traffic

configure filter ip-filter entry action drop-extracted-traffic

Description

This command specifies that a packet matching this filter entry is dropped if extracted to the CPM. Packets matching the filter entry match criteria and not extracted to the CPM are forwarded with no further match in the following filter entries.

Platforms

All

13.28 drop-routes-with-srv6-tlvs

drop-routes-with-srv6-tlvs

Syntax

[no] drop-routes-with-srv6-tlvs

Context

[Tree] (config>router>bgp>group>srv6>route drop-routes-with-srv6-tlvs)

[Tree] (config>router>bgp>group>neighbor>srv6>route drop-routes-with-srv6-tlvs)

Full Context

configure router bgp group segment-routing-v6 route-advertisement drop-routes-with-srv6-tlvs

configure router bgp group neighbor segment-routing-v6 route-advertisement drop-routes-with-srv6-tlvs

Description

This command configures the router to drop and not advertise BGP routes (that belong to any address family) with SRv6 TLVs.

The **no** form of this command configures the router to advertise BGP routes with SRv6 TLVs.

Default

no drop-routes-with-srv6-tlvs

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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13.29 drop-tail

drop-tail

Syntax

drop-tail

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2>prim-path>queue drop-tail)

[Tree] (config>mcast-mgmt>bw-plcy>t2>sec-path>queue drop-tail)

Full Context

configure mcast-management bandwidth-policy t2-paths primary-path queue-parameters drop-tail

configure mcast-management bandwidth-policy t2-paths secondary-path queue-parameters drop-tail

Description

Commands in this context configure queue drop-tail parameters.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

drop-tail

Syntax

drop-tail

Context

[Tree] (config>service>vpls>sap>egress>queue-override>queue drop-tail)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue drop-tail)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue drop-tail)

[Tree] (config>service>vpls>sap>ingress>queue-override>queue drop-tail)

Full Context

configure service vpls sap egress queue-override queue drop-tail

configure service ies interface sap ingress queue-override queue drop-tail

configure service ies interface sap egress queue-override queue drop-tail

configure service vpls sap ingress queue-override queue drop-tail

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Description

Commands in this context configure queue drop tail parameters.

Platforms

All

drop-tail

Syntax

drop-tail

Context

[Tree] (config>port>eth>access>ing>qgrp>qover>q drop-tail)

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q drop-tail)

[Tree] (config>port>eth>access>egr>qgrp>qover>q drop-tail)

Full Context

configure port ethernet access ingress queue-group queue-overrides queue drop-tail

configure port ethernet network egress queue-group queue-overrides queue drop-tail

configure port ethernet access egress queue-group queue-overrides queue drop-tail

Description

Commands in this context configure queue drop tail parameters.

Platforms

All

drop-tail

Syntax

drop-tail

Context

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue drop-tail)

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue drop-tail)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue drop-tail)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue drop-tail)

[Tree] (config>service>epipe>sap>egress>queue-override>queue drop-tail)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue drop-tail)

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Full Context

configure service ipipe sap ingress queue-override queue drop-tail

configure service cpipe sap ingress queue-override queue drop-tail

configure service ipipe sap egress queue-override queue drop-tail

configure service epipe sap ingress queue-override queue drop-tail

configure service epipe sap egress queue-override queue drop-tail

configure service cpipe sap egress queue-override queue drop-tail

Description

Commands in this context configure queue drop tail parameters.

Platforms

All

- configure service epipe sap ingress queue-override queue drop-tail
- configure service ipipe sap egress queue-override queue drop-tail
- configure service epipe sap egress queue-override queue drop-tail
- configure service ipipe sap ingress queue-override queue drop-tail

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress queue-override queue drop-tail
- configure service cpipe sap egress queue-override queue drop-tail

drop-tail

Syntax

drop-tail

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue drop-tail)

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue drop-tail)

Full Context

configure service vprn interface sap egress queue-override queue drop-tail

configure service vprn interface sap ingress queue-override queue drop-tail

Description

Commands in this context configure queue drop tail parameters.

Platforms

All

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drop-tail

Syntax

drop-tail

Context

[Tree] (config>qos>sap-ingress>queue drop-tail)

[Tree] (config>qos>sap-egress>queue drop-tail)

Full Context

configure qos sap-ingress queue drop-tail

configure qos sap-egress queue drop-tail

Description

Commands in this context configure queue drop tail parameters.

Platforms

All

drop-tail

Syntax

drop-tail

Context

[Tree] (config>qos>network-queue>queue drop-tail)

Full Context

configure qos network-queue queue drop-tail

Description

Commands in this context configure queue drop tail parameters.

Platforms

All

drop-tail

Syntax

drop-tail

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Context

[Tree] (config>qos>qgrps>egr>qgrp>queue drop-tail)

[Tree] (config>qos>qgrps>ing>qgrp>queue drop-tail)

Full Context

configure qos queue-group-templates egress queue-group queue drop-tail

configure qos queue-group-templates ingress queue-group queue drop-tail

Description

Commands in this context configure queue drop-tail parameters.

Platforms

All

drop-tail

Syntax

drop-tail

Context

[Tree] (config>qos>shared-queue>queue drop-tail)

Full Context

configure qos shared-queue queue drop-tail

Description

Commands in this context configure queue drop tail parameters.

Platforms

All

13.30 drop-unidentified-traffic

drop-unidentified-traffic

Syntax

[**no**] **drop-unidentified-traffic**

Context

[Tree] (config>service>vprn>nat>inside>subscriber-identification drop-unidentified-traffic)

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[Tree] (config>router>nat>inside>subscriber-identification drop-unidentified-traffic)

Full Context

configure service vprn nat inside subscriber-identification drop-unidentified-traffic

configure router nat inside subscriber-identification drop-unidentified-traffic

Description

When this command denies address translation to subscribers that have not been identified via accounting messages sent by BNG and received by Radius accounting proxy. This command has effect only in Subscriber Aware Application.

Default

no drop-unidentified-traffic

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.31 drop-zero-ipv4-checksum

drop-zero-ipv4-checksum

Syntax

[**no**] **drop-zero-ipv4-checksum**

Context

[Tree] (config>router>nat>inside>nat64 drop-zero-ipv4-checksum)

[Tree] (config>service>vprn>nat>inside>nat64 drop-zero-ipv4-checksum)

Full Context

configure router nat inside nat64 drop-zero-ipv4-checksum

configure service vprn nat inside nat64 drop-zero-ipv4-checksum

Description

This command enables the NAT64 node to drop received UDP datagrams with zero IPv4 checksum. By default, checksum is re-calculated for non-fragmented datagrams.

The **no** form of the command disables the command.

Default

disabled

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.32 dropped-only

dropped-only

Syntax
[**no**] **dropped-only**

Context
[Tree] (debug>subscr-mgmt>vrgw>brg>pppoe-client>brg-id dropped-only)

Full Context
debug subscriber-mgmt vrgw brg pppoe-client brg-id dropped-only

Description
This command specifies that only packets that are dropped by the vRGW will be shown in debugging.

Default
dropped-only

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.33 ds3

ds3

Syntax
[**no**] **ds3** [*sonet-sdh-index*]

Context
[Tree] (config>port>tdm ds3)

Full Context
configure port tdm ds3

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Description

Commands in this context configure DS-3 parameters. DS-3 lines provide a speed of 44.736 Mb/s and is also frequently used by service providers. DS-3 lines carry 28 DS-1 signals and a 44.736 Mb/s data rate.

A DS-3 connection typically supports data rates of about 43 Mb/s. A T-3 line actually consists of 672 individual channels, each supporting 64 kb/s. T-3 lines are used mainly by Service Providers to connect to the Internet backbone and for the backbone itself.

Depending on the MDA type, the DS-3 parameters must be disabled if clear channel is enabled by default (for example, on the m12-ds3 MDA). Clear channel is a channel that uses out-of-band signaling, not in-band signaling, so the channel's entire bit rate is available. Channelization must be explicitly specified. Note that if DS-3 nodes are provisioned on a channelized SONET/SDH MDA you must provision the parent STS-1 SONET/STM0 SDH path first.

North America uses the T-Carrier system while Europe uses the E-Carrier system of transmission, using multiples of the DS system. Digital signals are carried inside the carrier systems.

The **no** form of this command disables DS-3 capabilities.

Parameters

sonet-sdh-index

Specifies the components making up the specified SONET/SDH Path. Depending on the type of SONET/SDH port the *sonet-sdh-index* must specify more path indexes to specify the payload location of the path. The *sonet-sdh-index* differs for SONET and SDH ports.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

13.34 dsap

dsap

Syntax

dsap *dsap-value* [*dsap-mask*]

no dsap

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match dsap)

Full Context

configure qos sap-ingress mac-criteria entry match dsap

Description

Configures an Ethernet 802.2 LLC DSAP value or range for an ingress SAP QoS policy match criterion.

This is a 1-byte field that is part of the 802.2 LLC header of the IEEE 802.3 Ethernet Frame.

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The snap-pid field, etype field, ssap, and dsap fields are mutually exclusive and cannot be part of the same match criteria.

Use the **no** form of this command to remove the dsap value as the match criterion.

Default

no dsap

Parameters

dsap-value

The 8-bit dsap match criteria value in hexadecimal.

Values 0x00 to 0xFF (hex)

dsap-mask

This is optional and can be used when specifying a range of dsap values to use as the match criteria.

This 8-bit mask can be configured using the following formats.

Table 30: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDD	240
Hexadecimal	0xHH	0xF0
Binary	0bBBBBBBBB	0b11110000

Values 0x00 to 0xFF (hex)

Default FF

Platforms

All

dsap

Syntax

dsap *dsap-value* [*dsap-mask*]

no dsap

Context

[Tree] (config>filter>mac-filter>entry>match dsap)

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Full Context

configure filter mac-filter entry match dsap

Description

Configures an Ethernet 802.2 LLC DSAP value or range for a MAC filter match criterion.

This is a one-byte field that is part of the 802.2 LLC header of the IEEE 802.3 Ethernet Frame.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria.

Use the **no** form of the command to remove the dsap value as the match criterion.

Default

no dsap

Parameters

dsap-value

Specifies the 8-bit dsap match criteria value which can be expressed in decimal integer, hexadecimal or binary format.

Values 0 to 255

dsap-mask

Specifies an optional parameter that may be used when specifying a range of dsap values to use as the match criteria.

This 8 bit mask can be configured using the decimal integer, hexadecimal or binary formats described in the following table.

Table 31: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDD	240
Hexadecimal	0xHH	0xF0
Binary	0bBBBBBBBB	0b11110000

Default 255 (exact match)
0x00 to 0xFF

Values 0 to 255

Platforms

All

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dsap

Syntax

dsap *dsap-value* [*dsap-mask*]

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match dsap)

Full Context

configure system security management-access-filter mac-filter entry match dsap

Description

This command configures DSAP match conditions.

Parameters

dsap-value

Specifies the 8-bit DSAP match criteria value in hexadecimal.

Values 0x00 to 0xFF (hex)

mask

Specifies a range of DSAP values to use as the match criteria.

This 8 bit mask can be configured using the formats described in Table 32: Format Styles:

Table 32: Format Styles

Format Style	Format Syntax	Example
Decimal	DDD	240
Hexadecimal	0xHH	0xF0
Binary	0bBBBBBBBB	0b11110000

Default FF (hex) (exact match)

Values 0x00 to 0xFF

Platforms

All

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13.35 dscp

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match dscp)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match dscp)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match dscp)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match dscp)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match dscp

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match dscp

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match dscp

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match dscp

Description

This command configures DSCP match conditions.

The **no** form of this command reverts to the default.

Parameters

dscp-name

Specifies the DSCP name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dscp

Syntax

dscp *dscp-name*

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no dscp

Context

[Tree] (config>service>ies>if>sap>ip-tunnel dscp)

Full Context

configure service ies interface sap ip-tunnel dscp

Description

This command sets the DSCP code-point in the outer IP header of encapsulated packets associated with a particular tunnel.

The **no** form of this command copies the DSCP value from the inner IP header (after remarking by the private tunnel SAP egress qos policy) to the outer IP header.

Default

no dscp

Parameters

dscp

Specifies the DSCP code-point to be used.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dscp

Syntax

dscp *dscp-name* **fc** *fc-name*

no dscp *dscp-name*

Context

[Tree] (config>router>sgt-qos dscp)

[Tree] (config>service>vprn>sgt-qos dscp)

Full Context

configure router sgt-qos dscp

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configure service vprn sgt-qos dscp

Description

This command creates a mapping between the DiffServ Code Point (DSCP) of the self-generated traffic and the forwarding class.

Self-generated traffic that matches the specified DSCP will be assigned to the corresponding forwarding class. Multiple commands can be entered to define the association of some or all 64 DSCPs to the forwarding class.

All DSCP names that define a DSCP value must be explicitly defined.

The **no** form of this command removes the DSCP-to-forwarding class association.

Parameters

dscp-name

Specifies the name of the DSCP to be associated with the forwarding class. DiffServ code point can only be specified by its name and only an existing DiffServ code point can be specified. The software provides names for the well-known code points.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

fc *fc-name*

Specifies the forwarding class name. All packets with a DSCP value or MPLS EXP bit that are not defined will be placed in this forwarding class.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel dscp)

Full Context

configure service vprn interface sap ip-tunnel dscp

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Description

This command sets the DSCP code-point in the outer IP header of GRE encapsulated packets associated with a particular GRE tunnel. The default, set using the **no** form of this command, is to copy the DSCP value from the inner IP header (after remarking by the private tunnel SAP egress qos policy) to the outer IP header.

Default

no dscp

Parameters

dscp

Specifies the DSCP code-point to be used.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dscp

Syntax

dscp in-profile *dscp-name* **out-profile** *dscp-name*

no dscp

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action>remark dscp)

Full Context

configure application-assurance group policy app-qos-policy entry action remark dscp

Description

Commands in this context configure DSCP remark action or actions on flows matching this AQP entry. When enabled, all packets for all flows matching this AQP entry will be remarked to the configured DSCP name.

DSCP remark can only be applied when the entry remarks forwarding class or forwarding class and priority. In-profile and out-of profile of a given packet for DSCP remark is assessed after all AQP policing and priority remarking actions took place.

The **no** form of this command stops DSCP remarking action on flows matching this AQP entry.

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Default

no dscp

Parameters

in-profile *dscp-name*

Specifies the DSCP name to use to remark in-profile flows that match this policy.

out-profile *dscp-name*

Specifies the DSCP name to use to remark out-of-profile flows that match this policy.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dscp

Syntax

dscp {**eq** | **neq**} *dscp-name*

no dscp

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match dscp)

[Tree] (config>app-assure>group>sess-fltr>entry>match dscp)

Full Context

configure application-assurance group policy app-qos-policy entry match dscp

configure application-assurance group session-filter entry match dscp

Description

This command adds a DSCP name to the match criteria used by this entry.

The no form of this command removes dscp from match criteria for this entry.

Default

no dscp

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Parameters

eq

Specifies that the value configured and the value in the flow are equal.

neq

Specifies that the value configured differs from the value in the flow.

dscp-name

Specifies the DSCP name to be used in the match.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>test-oam>build-packet>header>ipv4 dscp)

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv4 dscp)

Full Context

configure test-oam build-packet header ipv4 dscp

debug oam build-packet packet field-override header ipv4 dscp

Description

This command defines the DSCP value to be used in the IPv4 header.

The **no** form of this command reverts to the default.

Default

dscp be

Parameters

dscp-name

Specifies the DSCP value to be used in the IPv4 header.

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Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>test-oam>build-packet>header>ipv6 dscp)

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv6 dscp)

Full Context

configure test-oam build-packet header ipv6 dscp

debug oam build-packet packet field-override header ipv6 dscp

Description

This command defines the DSCP value to be used in the IPv6 header.

The **no** form of this command removes the DSCP name.

Parameters

dscp-name

Specifies the DSCP value to be used in the IPv6 header.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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dscp

Syntax

dscp *dscp-name*

dscp resolve

Context

[Tree] (config>oam-pm>session>ip dscp)

Full Context

configure oam-pm session ip dscp

Description

This command can be used to explicitly configure the DSCP value to the specified *dscp-name*, or to use the configured **fc** and **profile** values to derive the DSCP value from the egress network QoS policy 1.

Default

dscp resolve

Parameters

dscp-name

Specifies the Diffserv code point name.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

resolve

Specifies to use the configured **fc** and **profile** values to derive the DSCP value from the egress network QoS policy 1.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dscp

Syntax

dscp *dscp-name*

no dscp

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Context

[Tree] (config>oam-pm>session>mpls dscp)

Full Context

configure oam-pm session mpls dscp

Description

This command can be used to explicitly configure the DSCP value that is carried in the DM PDU. This value is not used on the launch point or the reflector to influence the QoS behavior on the network elements. The frame itself has no IP information because it uses the General Associated Channel Header (G-Ach). The fc and profile values are used to influence QoS behavior on the launch point and the responder.

The **no** form of this command reverts the dscp carried in the DM PDU to default.

Default

dscp be

Parameters

dscp-name

Specifies the Diffserv code point name.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5,nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41,af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Values be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dscp

Syntax

dscp *dscp-name* [*dscp-name*] **fc** *fc-name* [**priority** {**low** | **high**}]

no dscp *dscp-name* [*dscp-name*]

Context

[Tree] (config>qos>sap-ingress dscp)

Full Context

configure qos sap-ingress dscp

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Description

This command explicitly sets the forwarding class or subclass or enqueuing priority when a packet is marked with the DiffServ Code Point (DSCP) value contained in the *dscp-name*. A list of up to eight dscp-names can be entered on a single command. The lists of dscp-names within the configuration are managed by the system to ensure that each list does not exceed eight names. Entering more than eight dscp-names with the same parameters (**fc**, **priority**) will result in multiple lists being created. Conversely, multiple lists with the same parameters (fc, priority) are merged and the lists repacked to a maximum of eight per list if DSCP names are removed or the parameters changed so the multiple lists use the same parameters. Also, if a subset of a list is entered with different parameters, then a new list will be created for the subset. When the list is stored in the configuration, the DSCP names are sorted by their DSCP value in ascending numerical order; consequently, the order in the configuration may not be exactly what the user entered.

Adding a DSCP rule on the policy forces packets that match the DSCP value specified to override the forwarding class and enqueuing priority based on the parameters included in the DSCP rule. When the forwarding class is not specified in the rule, a matching packet preserves (or inherits) the existing forwarding class derived from earlier matches in the classification hierarchy. When the enqueuing priority is not specified in the rule, a matching packet preserves (or inherits) the existing enqueuing priority derived from earlier matches in the classification hierarchy.

The DSCP value (referred to here by *dscp-name*) is derived from the most significant six bits in the IPv4 header ToS byte field (DSCP bits) or the Traffic Class field from the IPv6 header. If the packet does not have an IP header, DSCP-based matching is not performed. The six DSCP bits define 64 DSCP values used to map packets to per-hop Quality of Service (QoS) behavior. The most significant three bits in the IP header ToS byte field are also commonly used in a more traditional manner to specify an IP precedence value, causing an overlap between the precedence space and the DSCP space. Both IP precedence and DSCP classification rules are supported.

DSCP rules have a higher match priority than IP precedence rules and where a *dscp-name* DSCP value overlaps an *ip-prec-value*, the DSCP rule takes precedence.

The **no** form of this command removes the specified the *dscp-names* from the explicit DSCP classification rule in the SAP ingress policy. As *dscp-names* are removed, the system repacks the lists of *dscp-names* with the same parameters (up to eight per list). As the **no** command does not have any additional parameters, it is possible to remove multiple *dscp-names* from multiple DSCP statements having different parameters with one command. If a *dscp-name* specified in a **no** command does not exist in any DSCP statement, then the command is aborted at that point with an error message displayed; any DSCP names in the list before the failed entry will be processed as normal but the processing will stop at the failed entry so that the remainder of the list is not processed.

Removing the *dscp-name* from the policy immediately removes the DSCP name on all ingress SAPs using the policy.

Parameters

dscp-name

The DSCP name is a required parameter that specifies the unique IP header ToS byte DSCP bits value that will match the DSCP rule. If the command is executed multiple times with the same *dscp-name*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of 64 DSCP rules are allowed on a single policy and a maximum of eight *dscp-names* can be specified in a single statement.

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The specified name must exist as a *dscp-name*. SR OS software provides names for the well-known code points; these can be shown using the **show qos dscp-table** command.

fc *fc-name*

The value given for *fc-name* must be one of the predefined forwarding classes in the system. Specifying the *fc-name* is optional. When a packet matches the rule, the forwarding class is only overridden when the **fc** *fc-name* parameter is defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

The *subclass-name* parameter is optional and used with the *fc-name* parameter to define a preexisting subclass. The *fc-name* and *subclass-name* parameters must be separated by a period (.). If *subclass-name* does not exist in the context of *fc-name*, an error will occur. If *subclass-name* is removed using the **no fc** *fc-name.subclass-name* **force** command, the **default-fc** command will automatically drop the *subclass-name* and only use *fc-name* (the parent forwarding class for the subclass) as the forwarding class.

Values

fc: *class*[.*subclass*]

class: be, l2, af, l1, h2, ef, h1, nc

subclass: 29 characters max

Default Inherit (when **fc** *fc-name* is not defined, the rule preserves the previous forwarding class of the packet).

priority

This parameter overrides the default enqueuing priority for all packets received on an ingress SAP using this policy that match this rule. Specifying the priority is optional. When a packet matches the rule, the enqueuing priority is only overridden when the priority parameter is defined on the rule. If the packet matches and priority is not explicitly defined in the rule, the enqueuing priority is inherited based on previous rule matches.

Default Inherits the priority defined by the default-priority statement.

high

This parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **high** for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

low

This parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **low** for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Platforms

All

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dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match dscp)

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match dscp)

[Tree] (config>qos>sap-egress>ipv6-criteria>entry>match dscp)

[Tree] (config>qos>sap-egress>ip-criteria>entry>match dscp)

Full Context

configure qos sap-ingress ipv6-criteria entry match dscp

configure qos sap-ingress ip-criteria entry match dscp

configure qos sap-egress ipv6-criteria entry match dscp

configure qos sap-egress ip-criteria entry match dscp

Description

This command configures a DSCP code point to be used as a SAP QoS policy match criterion.

The **no** form of this command removes the DSCP match criterion.

Default

no dscp

Parameters

dscp-name

Specifies a dscp name that has been previously mapped to a value using the **dscp-name** command. The DiffServ code point can only be specified by its name.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

All

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dscp

Syntax

dscp *dscp-name* [*dscp-name*] [**fc** *fc-name*] [**profile** {**in** | **out** | **exceed** | **inplus**}]

no dscp *dscp-name* [*dscp-name*]

Context

[Tree] (config>qos>sap-egress dscp)

Full Context

configure qos sap-egress dscp

Description

This command defines IP Differentiated Services Code Point (DSCP) names that must be matched to perform the associated reclassification actions. The specified name must exist as a DSCP name. SR OS software provides names for the well-known code points. A list of up to eight DSCP names can be entered on a single command. The lists of DSCP names within the configuration are managed by the system to ensure that each list does not exceed eight names. Entering more than eight DSCP names with the same parameters (**fc** and **profile**) results in multiple lists being created. Conversely, multiple lists with the same parameters (**fc** and **profile**) are merged and the lists repacked to a maximum of eight per list if DSCP names are removed or the parameters changed so the multiple lists use the same parameters. Also, if a subset of a list is entered with different parameters, a new list is created for the subset. When the list is stored in the configuration, the DSCP names are sorted by their DSCP value in ascending numerical order; consequently, the order in the configuration may not be exactly what the user entered.

If an egress packet on the SAP matches an IP DSCP value corresponding to a specified DSCP name, the forwarding class, profile egress queue accounting behavior may be overridden. By default, the forwarding class and profile of the packet is derived from ingress classification and profiling functions. Matching a DSCP-based reclassification rule will override all IP precedence-based reclassification rule actions.

The IP DSCP bits used to match against DSCP reclassification rules come from the Type of Service (ToS) field within the IPv4 header or the traffic class field from the IPv6 header. If the packet does not have an IP header, DSCP-based matching is not performed.

The reclassification actions from a DSCP reclassification rule may be overridden by an IP flow match event.

The **fc** keyword is optional. When specified, the egress classification rule will overwrite the forwarding class derived from ingress. The new forwarding class is used for egress remarking and queue mapping decisions. If an IP criteria match occurs after the DSCP match, the new forwarding class may be overridden by the higher priority match actions. If the higher priority match actions do not specify a new fc, the fc from the dscp match will be used.

The **profile** keyword is optional. When specified, the egress classification rule will overwrite the profile of the packet derived from ingress. The new profile value is used for egress remarking and queue congestion behavior. If an IP criteria match occurs after the DSCP match, the new profile may be overridden by the higher priority match actions. If the higher priority match actions do not specify a new profile, the profile from the DSCP match will be used.

The **no** form of this command removes the specified the *dscp-names* from the reclassification rule in the SAP egress QoS policy. As *dscp-names* are removed, the system repacks the lists of *dscp-names* with

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the same parameters (up to 8 per list). As the **no** command does not have any additional parameters, it is possible to remove multiple *dscp-names* from multiple DSCP statements having different parameters with one command. If a *dscp-name* specified in a **no** command does not exist in any DSCP statement, the command is aborted at that point with an error message displayed. Any *dscp-names* in the list before the failed entry will be processed as normal but the processing will stop at the failed entry so that the remainder of the list is not processed.

Parameters

dscp-name

The *dscp-name* parameter is required when defining a DSCP reclassification rule. The specified name must exist as a DSCP name. A maximum of eight DSCP names can be specified in a single statement. SR OS software provides names for the well-known code points, which can be shown using the **show qos dscp-table** command.

***fc-name*:**

The **fc** reclassification action is optional. When specified, packets matching the IP DSCP value corresponding to a specified *dscp-name* will be explicitly reclassified to the forwarding class specified as *fc-name* regardless of the ingress classification decision. The explicit forwarding class reclassification may be overwritten by an IP criteria reclassification match. The **fc** name defined must be one of the eight forwarding classes supported by the system. To remove the forwarding class reclassification action for the specified DSCP value, the **dscp** command must be re-executed without the **fc** reclassification action defined.

Values be, l1, af, l2, h1, ef, h2 or nc

counter-id

Specifies the counter ID.

profile

The profile reclassification action is optional. When specified, packets matching the IP DSCP value corresponding to a specified *dscp-name* will be explicitly reclassified to the specified profile regardless of the ingress profiling decision. The explicit profile reclassification may be overwritten by an IPv6 criteria or IP criteria reclassification match. To remove the profile reclassification action for the specified *dscp-name*, the **dscp** command must be re-executed without the profile reclassification action defined.

in

Specifies that any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out

Specifies that any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

exceed

Specifies that when **exceed** is specified, any packets matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus

Specifies that any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

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Platforms

All

dscp

Syntax

dscp {*dscp-name* | **in-profile** *dscp-name* **out-profile** *dscp-name* [**exceed-profile** *dscp-name*]}

no dscp

Context

[Tree] (config>qos>sap-egress>fc dscp)

Full Context

configure qos sap-egress fc dscp

Description

This command configures a DSCP to be used for remarking packets from the specified FC. If the optional **exceed-profile**, **in-profile**, or **out-profile** keyword is specified, the command will remark different DSCP depending on whether the packet was classified to be exceed, in-profile, or out-of-profile ingress to the node. All inplus-profile traffic is marked with the same value as in-profile traffic.

Default

no dscp

Parameters

dscp-name

Specifies a DSCP name that has been previously mapped to a value using the **dscp-name** command. The DSCP can only be specified by its name.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

exceed-profile *dscp-name*

This optional parameter specifies the DSCP name to be used to remark the traffic that is exceed-profile. If not specified, this defaults to the same value configured for **out-profile** parameter.

in-profile *dscp-name*

Specifies the DSCP name to be used to remark the traffic that is in-profile.

out-profile *dscp-name*

Specifies the DSCP name to be used to remark the traffic that is out-of-profile.

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Platforms

All

dscp

Syntax

dscp *dscp-name* **fc** *fc-name* **profile** {**in** | **out**}

no dscp

Context

[Tree] (config>qos>network>ingress dscp)

Full Context

configure qos network ingress dscp

Description

This command creates a mapping between the DiffServ Code Point (DSCP) of the network ingress traffic and the forwarding class.

Ingress traffic that matches the specified DSCP will be assigned to the corresponding forwarding class. Multiple commands can be entered to define the association of some or all 64 DiffServ code points to the forwarding class. For undefined code points, packets are assigned to the forwarding class specified under the **default-action** command.

The **no** form of this command removes the DiffServ code point-to-forwarding class association. The **default-action** then applies to that code point value.

Parameters

dscp-name

The name of the DiffServ code point to be associated with the forwarding class. DiffServ code point can only be specified by its name and only an existing DiffServ code point can be specified. The software provides names for the well-known code points.

The system-defined names available are as follows. The system-defined names must be referenced as all lowercase, exactly as shown in the first column in Table 33: Default DSCP Names to DSCP Value Mapping and Table 34: Default Class Selector Code Points to DSCP Value Mapping.

Additional names-to-code point value associations can be added using the '**dscp-name** *dscp-name dscp-value*' command.

The actual mapping is being done on the *dscp-value*, not the *dscp-name* that references the *dscp-value*. If a second *dscp-name* that references the same *dscp-value* is mapped within the policy, an error will occur. The second name will not be accepted until the first name is removed.

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Table 33: Default DSCP Names to DSCP Value Mapping

DSCP Name	DSCP Value Decimal	DSCP Value Hexadecimal	DSCP Value Binary
nc1	48	0x30	0b110000
nc2	56	0x38	0b111000
ef	46	0x2e	0b101110
af41	34	0x22	0b100010
af42	36	0x24	0b100100
af43	38	0x26	0b100110
af31	26	0x1a	0b011010
af32	28	0x1c	0b011100
af33	30	0x1d	0b011110
af21	18	0x12	0b010010
af22	20	0x14	0b010100
af23	22	0x16	0b010110
af11	10	0x0a	0b001010
af12	12	0x0c	0b001100
af13	14	0x0e	0b001110
default	0	0x00	0b000000

Table 34: Default Class Selector Code Points to DSCP Value Mapping

DSCP Name	DSCP Value Decimal	DSCP Value Hexadecimal	DSCP Value Binary
cs7	56	0x38	0b111000
cs6	48	0X30	0b110000
cs5	40	0x28	0b101000
cs4	32	0x20	0b100000
cs3	24	0x18	0b011000
cs2	16	0x10	0b010000

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DSCP Name	DSCP Value Decimal	DSCP Value Hexadecimal	DSCP Value Binary
cs1	08	0x8	0b001000

fc-name

Enter this required parameter to specify the *fc-name* with which the code point will be associated.

Values be, l2, af, l1, h2, ef, h1, nc

profile {in | out}

Enter this required parameter to indicate whether the DiffServ code point value is the in-profile or out-of-profile value. For every DSCP value defined, the profile must be indicated. If a DSCP value is not mapped, the default-action forwarding class and profile state will be used for that value.

DSCP values mapping to forwarding classes Expedited (ef), High-1 (h1) and Network-Control (nc) can only be set to in-profile.

DSCP values mapping to forwarding class "be" can only be set to out-of-profile.

Values in, out

Platforms

All

dscp

Syntax

dscp *dscp-name* **fc** *fc-name* **profile** {**in** | **out** | **exceed** | **inplus**}

no dscp *dscp-name*

Context

[Tree] (config>qos>network>egress dscp)

Full Context

configure qos network egress dscp

Description

This command configures an IP Differentiated Services Code Point (DSCP) value that must be matched to perform the associated reclassification actions. If an egress packet on an IES/VPRN interface spoke SDP, on a CSC network interface in a VPRN, or on a network interface that the network QoS policy is applied to, matches the specified IP DSCP value, the forwarding class and profile may be overridden.

By default, the forwarding class and profile of the packet are derived from ingress classification and profiling functions. Matching a DHCP-based reclassification rule will override all IP precedence-based reclassification rule actions.

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The IP DSCP bits used to match against DSCP reclassification rules come from the Type of Service (ToS) field within the IPv4 header or the Traffic Class field from the IPv6 header. If the packet does not have an IP header, DSCP-based matching is not performed.

The configuration of egress DSCP classification and the configuration of an egress IP criteria or IPv6 criteria entry statement within a network QoS policy are mutually exclusive.

The IP precedence- and DSCP-based reclassification are supported on a network interface, on a CSC network interface in a VPRN, and on a PW used in an IES or VPRN spoke interface. The CLI will block the application of a network QoS policy with the egress reclassification commands to the spoke SDP part of a Layer 2 service.

Conversely, the CLI will not allow the user to add the egress reclassification commands to a network QoS policy if the policy is being used by a Layer 2 spoke SDP.

The egress reclassification commands will only take effect if the redirection of the spoke SDP or CSC interface to use an egress port queue group succeeds. For example, the following CLI command would be successful:

config>**service**>**vprn**>**if**>**spoke-sdp**>**egress**> **qos** *network-policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

config>**service**>**ies**>**if**>**spoke-sdp>egress**> **qos** *network-policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

config>service>vprn>nw-if>qos *network-policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

If the redirection command fails, the PW will use the network QoS policy assigned to the network IP interface, however any reclassification in the network QoS policy applied to the network interface will be ignored.

The **no** form of this command removes the egress reclassification rule.

Parameters

dscp-name

be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

fc fc-name

be, l2, af, l1, h2, ef, h1, nc

***profile* {*in* | *out* | *exceed* | *inplus*}**

The profile reclassification action is mandatory. When specified, packets matching the DSCP value will be explicitly reclassified to the profile specified regardless of the ingress profiling decision. To remove the profile reclassification action for the specified DSCP value, the **no dscp** command must be executed.

in - Specifies that any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out - Specifies that any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

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exceed - Specifies that any packets matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus - Specifies that any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

Platforms

All

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>qos>network>ingress>ipv6-criteria>entry>match dscp)

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match dscp)

[Tree] (config>qos>network>egress>ip-criteria>entry>match dscp)

[Tree] (config>qos>network>ingress>ip-criteria>entry>match dscp)

Full Context

configure qos network ingress ipv6-criteria entry match dscp

configure qos network egress ipv6-criteria entry match dscp

configure qos network egress ip-criteria entry match dscp

configure qos network ingress ip-criteria entry match dscp

Description

This command configures a DSCP to be used as a network QoS policy match criterion.

The **no** form of this command removes the DSCP match criterion.

Parameters

dscp-name

Specifies a DSCP name that has been previously mapped to a value using the **dscp-name** command. The DSCP can only be specified by its name.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

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Platforms

All

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>filter>ipv6-filter>entry>match dscp)

[Tree] (config>filter>ip-filter>entry>match dscp)

Full Context

configure filter ipv6-filter entry match dscp

configure filter ip-filter entry match dscp

Description

This command configures a DiffServ Code Point (DSCP) name to be used as an IP filter match criterion.

The **no** form of the command removes the DSCP match criterion.

Default

no dscp

Parameters

dscp-name

Configures a DSCP name. The DiffServ code point may only be specified by its name.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

All

dscp

Syntax

dscp *dscp-name*

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no dscp

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match dscp)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match dscp)

Full Context

configure system security cpm-filter ipv6-filter entry match dscp

configure system security cpm-filter ip-filter entry match dscp

Description

This command configures a DiffServ Code Point (DSCP) name to be used as an IP filter match criterion.

The **no** form of this command removes the DSCP match criterion.

Default

no dscp

Parameters

dscp-name

Configures a dscp name that has been previously mapped to a value using the **dscp-name** command. The DiffServ code point may only be specified by its name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dscp

Syntax

dscp *dscp-name*

no dscp

Context

[Tree] (config>test-oam>icmp>ping-template dscp)

Full Context

configure test-oam icmp ping-template dscp

Description

This command specifies the DSCP to be carried in the IP header. This value is not exposed to egress QoS policies. This command uses well-known DSCP names.

The **no** form of this command reverts to the default value.

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Default

dscp nc1

Parameters

dscp-name

Specifies the DSCP name, up to 32 characters.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dscp

Syntax

dscp *dscp-name*

Context

[Tree] (config>test-oam>link-meas>template>twl dscp)

Full Context

configure test-oam link-measurement measurement-template twamp-light dscp

Description

This command configures the DSCP to be copied into the IP header of each TWAMP Light echo request packet launched for the test.

Default

dscp nc1

Parameters

dscp-name

Specifies the DSCP code point to be used.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dscp

Syntax

dscp *dscp-name*

Context

[Tree] (config>test-oam>lag-meas>template>twl dscp)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light dscp

Description

This command configures the DSCP in the IP header of the launched TWAMP Light packet.

Default

dscp nc1

Parameters

dscp-name

Specifies the DSCP code-point name.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Default nc1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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13.36 dscp-in-profile

dscp-in-profile

Syntax

dscp-in-profile *dscp-name*

no dscp-in-profile

Context

[Tree] (config>qos>network>egress>fc dscp-in-profile)

Full Context

configure qos network egress fc dscp-in-profile

Description

This command specifies the in-profile DSCP name for the forwarding class. The corresponding DSCP value will be used for all IP packets that require marking at egress on this forwarding class queue, and that are in-profile. The inplus-profile traffic is marked with the same value as in-profile traffic.

When multiple DSCP names are associated with the forwarding class at network egress, the last name entered will overwrite the previous value.

The **no** form of this command resets the configuration to the factory default in-profile DSCP name setting for *policy-id* 1.

Parameters

dscp-name

Specifies the system- or user-defined, case-sensitive *dscp-name.*

Values Any defined system- or user-defined *dscp-name*

Platforms

All

13.37 dscp-out-profile

dscp-out-profile

Syntax

dscp-out-profile *dscp-name*

no dscp-out-profile

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Context

[Tree] (config>qos>network>egress>fc dscp-out-profile)

Full Context

configure qos network egress fc dscp-out-profile

Description

This command specifies the out-of-profile DSCP name for the forwarding class. The corresponding DSCP value will be used for all IP packets requiring marking the egress on this forwarding class queue that are out-of-profile. The exceed-profile traffic is marked with the same value as out-of-profile traffic.

When multiple DSCP names are associated with the forwarding class at network egress, the last name entered will overwrite the previous value.

The **no** form of this command resets the configuration to the factory default out-of-profile DSCP name setting for *policy-id* 1.

Default

Policy-id 1:	Factory setting
Policy-id 2 to 65535:	Policy-id setting

Parameters

dscp-name

Specifies the system- or user-defined, case-sensitive *dscp-name.*

Values Any defined system- or user-defined *dscp-name*

Platforms

All

13.38 dslite-lsn-sub

dslite-lsn-sub

Syntax

[**no**] **dslite-lsn-sub router** *router-instance* **b4** *ipv6-prefix*

Context

[Tree] (config>li>li-source>nat dslite-lsn-sub)

Full Context

configure li li-source nat dslite-lsn-sub

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Description

This command configures the Dual-Stack Lite LSN subscriber source.

The **no** form of this command removes the value from the configuration.

Parameters

router-instance

Specifies the router instance the pool belongs to, either by router name or service ID.

Values *router-name*: "Base" or "management"

Default Base

ipv6-prefix

Specifies the IPv6 address.

Values

ipv6-prefix:	<prefix>/<length>
prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x to [0 to FFFF]H
	d to [0 to 255]D
<length>	[0 to 128]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.39 dslite-max-subscriber-limit

dslite-max-subscriber-limit

Syntax

dslite-max-subscriber-limit *max*

no dslite-max-subscriber-limit

Context

[Tree] (config>router>nat>inside>dslite dslite-max-subscriber-limit)

[Tree] (config>service>vprn>nat>inside dslite-max-subscriber-limit)

Full Context

configure router nat inside dslite dslite-max-subscriber-limit

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configure service vprn nat inside dslite-max-subscriber-limit

Description

This command sets the value for the number of high order bits of the source IPv6 address that will be considered as DS-Lite subscriber. The remaining bits of the source IPv6 address will be masked off, effectively aggregation all IPv6 source addresses under the configured prefix length into a single DS-Lite subscriber. Source IPv4 addresses/ports of the traffic carried within the DS-Lite subscriber will be translated into a single outside IPv4 address and the corresponding deterministic port-block (port-blocks can be extended).

The range of values for subscriber-prefix-length in non-deterministic DS-Lite is limited from 32 to 64 (a prefix will be considered as a DS-Lite subscriber) or it can be set to a value of 128 (the source IPv6 address is considered as a DS-Lite subscriber).

In cases where deterministic DS-Lite is enabled in a giver inside routing context, the range of values of the subscriber-prefix-length depends on the value of dslite-max-subscriber-limit parameter as follows:

subscriber-prefix-length – n = [32..64,128]

where n = log2(dslite-max-subscriber-limit)

[or in an alternate form: dslite-max-subscriber-limit = 2^n.]

In other words the largest prefix length for the deterministic DS-Lite subscriber will be 32+n, where n = log2(dslite-max-subscriber-limit). The subscriber prefix length can extend up to 64 bits. Beyond 64 bits for the subscriber prefix length, there only one value is allowed: 128. In the case n must be 0, which means that the mapping between B4 elements (or IPv6 address) and the IPv4 outside addresses is in 1:1 ratio (no sharing of outside IPv4 addresses).

This parameter can be changed only when there are no deterministic prefixes configured in the same routing context.

Default

128

Parameters

max

In non-deterministic DS-Lite this value can be 32 to 64,128, assuming that the deterministic DS-Lite is not concurrently enabled in the same inside routing context.

In case that deterministic DS-Lite is enabled, this value can be within the range [(32+n)..64,128] where n = log2(dslite-max-subscriber-limit). The value of 128 is allowed only when n=0 (each subscriber is mapped to a single outside IPv4 IP address).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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13.40 dsm

dsm

Syntax

[**no**] **dsm**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>ue-state dsm)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query ue-state dsm

Description

This command enables matching on DSM UEs.

The **no** form of this command disables matching on DSM UEs, unless UE state matching is disabled altogether.

Default

no dsm

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

dsm

Syntax

[**no**] **dsm**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state dsm)

Full Context

configure subscriber-mgmt wlan-gw ue-query state dsm

Description

This command enables matching on UEs in a DSM state.

The **no** form of this command disables matching on UEs in a DSM state, unless all state matching is disabled.

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Default

no dsm

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.41 dsm-ip-filter

dsm-ip-filter

Syntax

dsm-ip-filter *dsm-ip-filter-name*

no dsm-ip-filter

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm dsm-ip-filter)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm dsm-ip-filter)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt dsm-ip-filter

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt dsm-ip-filter

Description

This command configures an IP filter that is distributed on ISA cards.

This command specifies the IP filter applied to all UEs corresponding to default vlan-range (such as a group-interface) or the specified vlan-range. The IP filter can be created in the **config>subscr-mgmt>isa-filter** context, and can contain up to 1024 match entries. The IP filter can be overridden per UE from RADIUS via access-accept or COA.

The **no** form of this command reverts to the default.

Parameters

dsm-ip-filter-name

Specifies the identifier of the distributed-sub-mgmt IP filter.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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13.42 dsm-subscriber

dsm-subscriber

Syntax

[**no**] **dsm-subscriber mac** *mac-address*

Context

[Tree] (config>li>li-source>wlan-gw dsm-subscriber)

Full Context

configure li li-source wlan-gw dsm-subscriber

Description

This command configures the DSM UE source.

Parameters

mac-address

Specifies the MAC address.

Values mac-addr: xx:xx:xx:xx:xx:xx **example:** 00:0c:f1:99:85:b8
or XX:XX:XX:XX:XX:XX **example:** 00-0C-F1-99-85-B8

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.43 dsmap

dsmap

Syntax

dsmap *if-num*

no dsmap

Context

[Tree] (config>router>mpls>lsp>protect-tp-path>mep dsmap)

[Tree] (config>router>mpls>lsp>working-tp-path>mep dsmap)

[Tree] (config>router>mpls>lsp>transit-path>reverse-path>mip dsmap)

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[Tree] (config>router>mpls>lsp>transit-path>forward-path>mip dsmap)

Full Context

configure router mpls lsp protect-tp-path mep dsmap

configure router mpls lsp working-tp-path mep dsmap

configure router mpls lsp transit-path reverse-path mip dsmap

configure router mpls lsp transit-path forward-path mip dsmap

Description

This command is used to configure the values to use in the DSMAP TLV sent by a node in an LSP Trace echo request for a static MPLS-TP LSP. A node sending a DSMAP TLV will include the in-if-num and out-if-num values. Additionally, it will include the out-label for the LSP in the Label TLV for the DSMAP in the echo request message.

The **no** form of this command equals to a value 0 (this means no interface validation will be performed).

Default

no dsmap

Parameters

if-num

This is a 32-bit value corresponding to the expected ingress interface if-num used by an MPLS-TP LSP for the next hop downstream.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.44 dst-ip

dst-ip

Syntax

dst-ip {*ipv6-address* | *prefix-length*}

dst-ip {*ip-address/mask* | *ip-address netmask*

no dst-ip

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match dst-ip)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match dst-ip)

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Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match dst-ip

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match dst-ip

Description

This command configures the destination IP match condition.

The **no** form of this command reverts to the default.

Parameters

ip-address/mask

Specifies the IPv4 address and mask.

Values

ip-address	a.b.c.d
mask	0 to 32

netmask

Specifies the mask, expressed as a dotted quad.

Values a.b.c.d

ipv6-address

Specifies the IPv6 address (applies only to the 7750 SR).

Values

ipv6-address	x:x:x:x:x:x:x:x (where x is [0 to FFFF]H)
	:x:x:x:x:x:d.d.d.d (where d is [0 to 255]D)

prefix-length

Specifies the prefix length (applies only to the 7750 SR).

Values 1 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dst-ip

Syntax

dst-ip *ip-address*

no dst-ip

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Context

[Tree] (config>redundancy>mc>peer>mcr>ring>in-band-control-path dst-ip)

[Tree] (config>redundancy>mc>peer>mcr>node>cv dst-ip)

[Tree] (config>redundancy>mc>peer>mc>l3-ring>in-band-control-path dst-ip)

Full Context

configure redundancy multi-chassis peer mc-ring ring in-band-control-path dst-ip

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify dst-ip

configure redundancy multi-chassis peer multi-chassis l3-ring in-band-control-path dst-ip

Description

This command specifies the destination IP address used in the inband control connection. If the address is not configured, the ring cannot become operational.

Default

no dst-ip

Parameters

ip-address

Specifies the destination IP address.

Values a.b.c.d (no multicast address)

Platforms

All

dst-ip

Syntax

dst-ip *ip-prefix/length*

no dst-ip

Context

[Tree] (config>subscr-mgmt>isa-filter>ipv6>entry>match dst-ip)

[Tree] (config>subscr-mgmt>isa-filter>entry>match dst-ip)

Full Context

configure subscriber-mgmt isa-filter ipv6 entry match dst-ip

configure subscriber-mgmt isa-filter entry match dst-ip

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Description

This command specifies that the packet's destination IP address must match the specified IP prefix and mask.

The **no** form of this command disables the match on the destination IP.

Parameters

ip-prefix/length

Specifies the IP prefix to match.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dst-ip

Syntax

dst-ip *ip-address* **protocol** *ip-protocol* **dst-port** *port-number*

dst-ip *ip-address* **protocol** *ip-protocol* **dst-port** *port-number* **prefix-length** *prefix-length*

no dst-ip *ip-address* **protocol** *ip-protocol* **dst-port** *port-number*

Context

[Tree] (config>subscr-mgmt>http-rdr-plcy>fwd-entries dst-ip)

Full Context

configure subscriber-mgmt http-redirect-policy forward-entries dst-ip

Description

This command configures traffic flow to be forwarded via match in the redirect policy.

Parameters

ip-address

Specifies the IPv4 or IPv6 address to match the destination address in the IP header of the traffic received from the subscriber.

prefix-length

Specifies the length of the prefix specified by the ip-address.

Values 1 to 128 for IPv6

1 to 32 for IPv4

ip-protocol

Specifies the protocol to match the IP protocol in the IP header of the traffic received from the subscriber.

Values tcp, udp

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port-number

Specifies the port to match the destination port in the HTTP request.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

dst-ip

Syntax

dst-ip {**eq** | **neq**} *ip-address*

dst-ip {**eq** | **neq**} **ip-prefix-list** *ip-prefix-list-name*

no dst-ip

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match dst-ip)

Full Context

configure application-assurance group policy app-qos-policy entry match dst-ip

Description

This command specifies a destination IP address to use as match criteria.

Default

no dst-ip

Parameters

eq

Specifies that a successful match occurs when the flow matches the specified address or prefix.

neq

Specifies that a successful match occurs when the flow does not match the specified address or prefix.

ip-address

Specifies a valid unicast address.

Values

ipv4-address	a.b.c.d[/mask]
	mask - [1..32]
ipv6-address	x:x:x:x:x:x:x:x/prefix-length
	x:x:x:x:x:x:d.d.d.d

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x - [0..FFFF]H

d - [0..255]D

prefix-length [1..128]

ip-prefix-list-name

Specifies the name of an IP prefix list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dst-ip

Syntax

dst-ip *ip-address*

dst-ip dns-ip-cache *dns-ip-cache-name*

dst-ip ip-prefix-list *ip-prefix-list-name*

no dst-ip

Context

[Tree] (config>app-assure>group>sess-fltr>entry>match dst-ip)

Full Context

configure application-assurance group session-filter entry match dst-ip

Description

This command configures the destination IP address to match.

Default

no dst-ip

Parameters

ip-address

Specifies a valid unicast address.

Values

ipv4-address	a.b.c.d[/mask]
	mask - [1..32]
ipv6-address	x:x:x:x:x:x:x:x/prefix-length
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H

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d - [0..255]D

prefix-length [1..128]

dns-ip-cache-name

Specifies the name of the dns-ip-cache policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dst-ip

Syntax

dst-ip {**eq** | **neq**} *ip-address*

no dst-ip

Context

[Tree] (debug>app-assure>group>traffic-capture>match dst-ip)

Full Context

debug application-assurance group traffic-capture match dst-ip

Description

This command configures debugging on a destination IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dst-ip

Syntax

dst-ip {ip-address/mask | *ip-address ipv4-address-mask*}

Context

[Tree] (config>li>li-filter>li-ip-filter>entry>match dst-ip)

Full Context

configure li li-filter li-ip-filter entry match dst-ip

Description

This command configures destination IP address LI filter match criterion.

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The **no** form of this command removes any configured destination IP address. The match criterion is ignored.

Parameters

ip-address

Specifies any address specified as dotted quad.

Values a.b.c.d

mask

Specifies eight 16-bit hexadecimal pieces representing bit match criteria.

Values 1 to 32

ipv4-address-mask

Specifies a mask expressed in dotted quad notation.

Values 0.0.0.0 to 255.255.255.255

Platforms

All

dst-ip

Syntax

dst-ip {*ipv6-address*/*prefix-length* | *ipv6-address ipv6-address-mask*}

no dst-ip

Context

[Tree] (config>li>li-filter>li-ipv6-filter>entry>match dst-ip)

Full Context

configure li li-filter li-ipv6-filter entry match dst-ip

Description

This command configures destination IPv6 address LI filter match criterion.

The **no** form of this command removes any configured destination IPv6 address. The match criterion is ignored.

Parameters

ipv6-address

Specifies any IPv6 address entered as:.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

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x - [0 to FFFF]H

d - [0 to 255]D

prefix-length

Specifies the prefix length.

Values 1 to 128

ipv6-address-mask

Specifies any IPv6 address mask expressed as:

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

All

dst-ip

Syntax

dst-ip {*ip-address/mask* | *ip-address* [*ipv4-address-mask*] | **ip-prefix-list** *prefix-list-name*}

no dst-ip

Context

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match dst-ip)

[Tree] (config>qos>sap-egress>ip-criteria>entry>match dst-ip)

Full Context

configure qos sap-ingress ip-criteria entry match dst-ip

configure qos sap-egress ip-criteria entry match dst-ip

Description

This command configures a destination address range to be used as a SAP QoS policy match criterion.

To match on the IPv4 destination address, specify the address and its associated mask, e.g., 10.1.0.0/16. The conventional notation of 10.1.0.0 255.255.0.0 can also be used for IPv4.

The **no** form of this command removes the destination IPv4 address match criterion.

Default

no dst-ip

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Parameters

ip-address

Specifies the destination IPv4 address specified in dotted decimal notation.

Values ip-address: a.b.c.d

mask

Specifies the length in bits of the subnet mask.

Values 1 to 32

ipv4-address-mask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (dotted quad equivalent of mask length)

prefix-list-name

Specifies the IPv4 prefix list name, a string of up to 32 printable ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

dst-ip

Syntax

dst-ip {*ipv6-address/prefix-length* | *ipv6-address ipv6-address-mask* | **ipv6-prefix-list** *ipv6-prefix-list-name*}

no dst-ip

Context

[Tree] (config>qos>sap-egress>ipv6-criteria>entry>match dst-ip)

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match dst-ip)

Full Context

configure qos sap-egress ipv6-criteria entry match dst-ip

configure qos sap-ingress ipv6-criteria entry match dst-ip

Description

This command configures a destination address range to be used as a SAP QoS policy match criterion.

To match on the IPv6 destination address, specify the address and its associated mask, for example, 2001:db8:1000::/64.

The **no** form of this command removes the destination IPv6 address match criterion.

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Default

no dst-ip

Parameters

ipv6-address

Specifies the IPv6 address for the IP match criterion in hexadecimal digits (applies to the 7750 SR and 7950 XRS).

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D

prefix-length

Specifies the IPv6 prefix length for the IPv6 address expressed as a decimal integer (applies to the 7750 SR and 7950 XRS).

Values 1 to 128

ipv6-address-mask

Specifies the IPv6 address mask.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D

ipv6-prefix-list-name

Specifies the IPv6 prefix list name, a string of up to 32 printable ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

dst-ip

Syntax

dst-ip {*ip-address/mask* | *ip-address ipv4-address-mask* | **ip-prefix-list** *ip-prefix-list-name*}

dst-ip {*ipv6-address/mask* | *ipv6-address ipv6-address-mask* | **ipv6-prefix-list** *ipv6-prefix-list-name*}

no dst-ip

Context

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match dst-ip)

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[Tree] (config>qos>network>ingress>ipv6-criteria>entry>match dst-ip)

[Tree] (config>qos>network>ingress>ip-criteria>entry>match dst-ip)

[Tree] (config>qos>network>egress>ip-criteria>entry>match dst-ip)

Full Context

configure qos network egress ipv6-criteria entry match dst-ip

configure qos network ingress ipv6-criteria entry match dst-ip

configure qos network ingress ip-criteria entry match dst-ip

configure qos network egress ip-criteria entry match dst-ip

Description

This command configures a destination address range to be used as a network QoS policy match criterion.

To match on the destination address, specify the address and its associated mask, for example, when specifying an IPv4 address, 10.1.0.0/16 or 10.1.0.0 255.255.0.0 can be used.

The **no** form of this command removes the destination IP address match criterion.

Parameters

ip-address

Specifies the source IPv4 address specified in dotted decimal notation.

Values ip-address: a.b.c.d

mask

Specifies the length in bits of the subnet mask.

Values 1 to 32

ipv4-address-mask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (dotted quad equivalent of mask length)

ip-prefix-list-name

Specifies an IPv4 prefix list which contains IPv4 address prefixes to be matched.

Values A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

ipv6-address

Specifies the IPv6 prefix for the IP match criterion in hex digits.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H

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d: [0 to 255]D

mask

Specifies the length of the IPv6 address expressed as a decimal integer.

Values 1 to 128

ipv6-address-mask

Specifies the eight 16-bit hexadecimal pieces representing bit match criteria.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

ipv6-prefix-list-name

Specifies an IPv6 prefix list which contains IPv6 address prefixes to be matched.

Values A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

All

dst-ip

Syntax

IPv4:

dst-ip {*ip-address/mask* | *ip-address ipv4-address-mask* | **ip-prefix-list** *prefix-list-name*}

IPv6:

dst-ip {*ipv6-address/prefix-length* | *ipv6-address ipv6-address-mask* | **ipv6-prefix-list** *prefix-list-name*}

no dst-ip

Context

[Tree] (config>filter>ip-filter>entry>match dst-ip)

[Tree] (config>filter>ipv6-filter>entry>match dst-ip)

[Tree] (config>filter>ip-exception>entry>match dst-ip)

[Tree] (config>filter>ipv6-exception>entry>match dst-ip)

Full Context

configure filter ip-filter entry match dst-ip

configure filter ipv6-filter entry match dst-ip

configure filter ip-exception entry match dst-ip

configure filter ipv6-exception entry match dst-ip

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Description

This command configures a destination address range to be used as a filter policy match criterion.

To match on the destination address, specify the address and its associated mask, e.g., 10.1.0.0/16. The conventional notation of 10.1.0.0 255.255.0.0 can also be used for IPv4.

The **no** form of this command removes the destination IPv4 or IPv6 address match criterion.

Default

no dst-ip

Parameters

ip-address

Specifies the destination IPv4 address in dotted decimal notation.

Values a.b.c.d

mask

Specifies the length in bits of the subnet mask.

Values 1 to 32

ipv4-address-mask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (dotted quad equivalent of mask length)

ip-prefix-listor ipv6-prefix-list prefix-list-name

Specifies to use a list of IP prefixes, which is a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

ipv6-address

Specifies the IPv6 prefix for the IP match criterion in hex digits.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

prefix-length

Specifies the IPv6 prefix length for the *ipv6-address* as a decimal integer.

Values 1 to 128

ipv6-address-mask

Specifies the eight 16-bit hexadecimal pieces representing bit match criteria.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

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d: [0..255]D

Platforms

All

- configure filter ipv6-filter entry match dst-ip
- configure filter ip-filter entry match dst-ip

VSR

- configure filter ipv6-exception entry match dst-ip
- configure filter ip-exception entry match dst-ip

dst-ip

Syntax

dst-ip *ip-address/mask*

dst-ip *ip-address netmask*

dst-ip ip-prefix-list *ip-prefix-list-name*

no dst-ip

Context

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match dst-ip)

Full Context

configure system security cpm-filter ip-filter entry match dst-ip

Description

This command configures a destination IP address range to be used as an IP filter match criterion.

To match on the destination IP address, specify the address and its associated mask, for example, 10.1.0.0/16. The conventional notation of 10.1.0.0 255.255.0.0 may also be used.

The **no** form of this command removes the destination IP address match criterion.

Default

no dst-ip

Parameters

ip-address

Specifies the IP address for the IP match criterion in dotted decimal notation.

Values 0.0.0.0 **to** 255.255.255.255

ip-prefix-list

Creates a list of IPv4 prefixes for match criteria in IPv4 ACL and CPM filter policies.

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ip-prefix-list-name

A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

mask

Specifies the subnet mask length expressed as a decimal integer.

Values 1 to 32

netmask

Specifies the dotted quad equivalent of the mask length.

Values 0.0.0.0 to 255.255.255.255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dst-ip

Syntax

dst-ip [*ipv6-address /prefix-length*] [**ipv6-prefix-list** *ipv6-prefix-list-name*]

no dst-ip

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match dst-ip)

Full Context

configure system security cpm-filter ipv6-filter entry match dst-ip

Description

This command configures a destination IPv6 address range to be used as an IPv6 filter match criterion.

To match on the destination IPv6 address, specify the address.

The **no** form of this command removes the destination IP address match criterion.

This command only applies to the 7750 SR and 7950 XRS.

Default

no dst-ip

Parameters

ipv6-address/prefix-length

Specifies the IPv6 address for the IPv6 match criterion in dotted decimal notation. An IPv6 IP address is written as eight 4-digit (16-bit) hexadecimal numbers separated by colons. One string of zeros per address can be left out, so that 2001:db8::0:217A is the same as 2001:db8:0:0:0:0:0:217A.

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Values

x:x:x:x:x:x:x:x (eight 16-bit pieces)		
x:x:x:x:x:x:d.d.d.d		
	x:	[0 to .FFFF]H
	d:	[0 to 255]D
prefix-length:	1 to 128	

ipv6-prefix-list

Creates a list of IPv4 prefixes for match criteria in IPv4 ACL and CPM filter policies.

ipv6-prefix-list-name

Specifies a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.45 dst-ipv4-address

dst-ipv4-address

Syntax

dst-ipv4-address *a.b.c.d*

no dst-ipv4-address

Context

[Tree] (config>test-oam>build-packet>header>ipv4 dst-ipv4-address)

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv4 dst-ipv4-address)

Full Context

configure test-oam build-packet header ipv4 dst-ipv4-address

debug oam build-packet packet field-override header ipv4 dst-ipv4-address

Description

This command defines the destination IPv4 address to be used in the IPv4 header.

The **no** form of this command removes the destination IPv4 address value.

Default

dst-ipv4-address 0.0.0.0

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Parameters

a.b.c.d

Specifies the IPv4 destination address to be used in the IPv4 header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.46 dst-ipv6-address

dst-ipv6-address

Syntax

dst-ipv6-address *ipv6-address*

no dst-ipv6-address

Context

[Tree] (config>test-oam>build-packet>header>ipv6 dst-ipv6-address)

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv6 dst-ipv6-address)

Full Context

configure test-oam build-packet header ipv6 dst-ipv6-address

debug oam build-packet packet field-override header ipv6 dst-ipv6-address

Description

This command defines the destination IPv6 address to be used in the IPv6 header.

The **no** form of this command removes the IPv6 address.

Parameters

ipv6-address

Specifies the IPv6 destination address to be used in the IPv6 header.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	0 to FFFF]H
	d:	[0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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13.47 dst-mac

dst-mac

Syntax

dst-mac *ieee-address* [*ieee-address-mask*]

no dst-mac

Context

[Tree] (config>li>li-filter>li-mac-filter>entry>match dst-mac)

Full Context

configure li li-filter li-mac-filter entry match dst-mac

Description

This command configures a destination MAC address or range to be used as a MAC filter match criterion.

The **no** form of this command removes the destination mac address as the match criterion.

Parameters

ieee-address

Specifies the 48-bit IEEE mac address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit

ieee-address-mask

Specifies a 48-bit mask. The following table describes the format styles to configure the 48-bit mask.

Table 35: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDDDDDDDDDDDD	281474959933440
Hexadecimal	0xHHHHHHHHHHHH	0x0FFFFF000000
Binary	0bBBBBBBB...B	0b11110000...B

To configure so that all packets with a destination MAC OUI value of 00-03-FA are subject to a match condition then the entry should be specified as: 003FA000000 0xFFFFFF000000

Default **0xFFFFFFFFFFFF** (exact match)

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Values 0x00000000000000 — 0xFFFFFFFFFFFF

Platforms

All

dst-mac

Syntax

dst-mac *ieee-address* [*ieee-address-mask*]

no dst-mac

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match dst-mac)

Full Context

configure qos sap-ingress mac-criteria entry match dst-mac

Description

Configures a destination MAC address or range to be used as a Service Ingress QoS policy match criterion.

The **no** form of this command removes the destination MAC address as the match criterion.

Default

no dst-mac

Parameters

ieee-address

The MAC address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit

ieee-address-mask

A 48-bit mask to match a range of MAC address values.

This 48-bit mask can be configured using the following formats.

Table 36: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDDDDDDDDDDDD	281474959933440
Hexadecimal	0xHHHHHHHHHHHH	0xFFFFFF000000

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Format Style	Format Syntax	Example
Binary	0bBBBBBBB...B	0b11110000...B

All packets with a source MAC OUI value of 00-03-FA, subject to a match condition, should be specified as: 0003FA000000 0x0FFFFF000000

Values 0x00000000000000 to 0xFFFFFFFFFFFF (hex)

Default 0xFFFFFFFFFFFF

Platforms

All

dst-mac

Syntax

dst-mac *ieee-address* [*ieee-address-mask*]

no dst-mac

Context

[Tree] (config>filter>mac-filter>entry>match dst-mac)

Full Context

configure filter mac-filter entry match dst-mac

Description

Configures a destination MAC address or range to be used as a MAC filter match criterion.

The **no** form of the command removes the destination mac address as the match criterion.

Default

no dst-mac

Parameters

ieee-address

Specifies the MAC address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit. Note that both upper and lower case are supported.

ieee-address-mask

Specifies a 48-bit mask to match a range of MAC address values.

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To configure so that all packets with a destination MAC OUI value of 00:03:FA are subject to a match condition then the entry should be specified as: 00:03:FA:00:00:00 FF:FF:FF:00:00:00.

Default ff:ff:ff:ff:ff:ff (exact match)

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH
where H is a hexadecimal digit. to 0xFFFFFFFFFFFF
Note that both upper and lower case are supported.

Platforms

All

dst-mac

Syntax

dst-mac *ieee-address* [*ieee-address-mask*]

no dst-mac

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match dst-mac)

Full Context

configure system security management-access-filter mac-filter entry match dst-mac

Description

This command configures the destination MAC match condition.

Parameters

ieee-address

Specifies the MAC address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit

mask

Specifies a 48-bit mask to match a range of MAC address values.

Platforms

All

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dst-mac

Syntax

dst-mac *ieee-address*

no dst-mac

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth dst-mac)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet dst-mac

Description

This command configures the unicast destination MAC address to use in the frame generated by the service activation testhead.

The **no** form of this command indicates that the MAC address is not used by the testhead.

Default

no dst-mac

Parameters

ieee-address

Specifies the unicast destination MAC address as a hexadecimal string.

Values 6-byte unicast MAC address using the notation xx:xx:xx:xx:xx:xx, in the range of 0 to 9 and a to f

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

13.48 dst-mac-address

dst-mac-address

Syntax

dst-mac-address *ieee-address*

no dst-mac-address

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>ethernet dst-mac-address)

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[Tree] (config>test-oam>build-packet>header>ethernet dst-mac-address)

Full Context

debug oam build-packet packet field-override header ethernet dst-mac-address

configure test-oam build-packet header ethernet dst-mac-address

Description

This command defines the destination MAC address for the Ethernet header.

The **no** form of this command deletes the configured MAC address.

Default

dst-mac-address 00:00:00:00:00:00

Parameters

ieee-address

Specifies the destination Ethernet MAC address to be used in the Ethernet header. Specifies the 48-bit MAC address.

Values xx:xx:xx:xx:xx:xx

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.49 dst-port

dst-port

Syntax

dst-port {**lt** | **gt** | **eq**} *dst-port-number*

dst-port range *start end*

no dst-port

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match dst-port)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match dst-port)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match dst-port)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match dst-port)

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Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match dst-port

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match dst-port

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match dst-port

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match dst-port

Description

This command configures the destination port match condition.

The **no** form of this command reverts to the default.

Parameters

lt* | *gt* | *eq

Specifies the operator.

dst-port-number

Specifies the destination port number as a decimal hex or binary.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dst-port

Syntax

dst-port *operator port-number*

no dst-port

Context

[Tree] (config>subscr-mgmt>isa-filter>entry>match dst-port)

[Tree] (config>subscr-mgmt>isa-filter>ipv6>entry>match dst-port)

Full Context

configure subscriber-mgmt isa-filter entry match dst-port

configure subscriber-mgmt isa-filter ipv6 entry match dst-port

Description

This command specifies that the packet's UDP/TCP dst-port must match a specific value. This command is not valid in a match context that is not specific to UDP or TCP.

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The **no** form of this command removes matching of the layer-4 port.

Parameters

operator

Specifies that the only supported value is eq (equal to). The destination port value must be equal to the *port-number* value.

port-number

Specifies the number of the port to match.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dst-port

Syntax

dst-port *tcp-port*

no dst-port

Context

[Tree] (config>subscr-mgmt>http-rdr-plcy dst-port)

Full Context

configure subscriber-mgmt http-redirect-policy dst-port

Description

This command specifies the port to match the destination port in the HTTP request.

HTTP traffic that does not match this port, is not redirected.

The **no** form of this command reverts to the default.

Default

dst-port 80

Parameters

tcp-port

Specifies the TCP port.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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dst-port

Syntax

dst-port {**eq** | **neq**} *port-num*

dst-port {**eq** | **neq**} **port-list** *port-list-name*

dst-port {**eq** | **neq**} **range** *start-port-num end-port-num*

no dst-port

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match dst-port)

Full Context

configure application-assurance group policy app-qos-policy entry match dst-port

Description

This command specifies a destination TCP/UDP port, destination port list, or destination range to use as match criteria.

The **no** form of this command removes the parameters from the configuration.

Default

no dst-port

Parameters

eq

Specifies that a successful match occurs when the flow matches the specified port.

neq

Specifies that a successful match occurs when the flow does not match the specified port.

port-num

Specifies the destination port number.

Values 0 to 65535

start-port-num end-port-num

Specifies the start or end destination port number.

Values 0 to 65535

port-list-name

Specifies a named port-list, up to 32 characters, containing a set of ports or ranges of ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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dst-port

Syntax

dst-port {**eq** | **gt** | **lt**} *port-num*

dst-port port-list *port-list-name*

dst-port range *start-port-num end-port-num*

no dst-port

Context

[Tree] (config>app-assure>group>sess-fltr>entry>match dst-port)

Full Context

configure application-assurance group session-filter entry match dst-port

Description

This command specifies a destination TCP/UDP port, destination port list, or destination range to use as match criteria.

The **no** form of this command removes the parameters from the configuration.

Default

no dst-port

Parameters

eq

Specifies that a successful match occurs when the flow matches the specified port.

gt

Specifies all port numbers greater than the port-number match.

lt

Specifies all port numbers less than the port-number match.

port-num

Specifies the destination port number.

Values 0 to 65535

start-port-num end-port-num

Specifies the start or end destination port number.

Values 0 to 65535

port-list-name

Specifies a named port-list, up to 32 characters, containing a set of ports or ranges of ports.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dst-port

Syntax

dst-port {**eq** | **neq**} *port-num*

no dst-port

Context

[Tree] (debug>app-assure>group>traffic-capture>match dst-port)

Full Context

debug application-assurance group traffic-capture match dst-port

Description

This command configures debugging on a destination port.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

dst-port

Syntax

dst-port {**lt** | **gt** | **eq**} *dst-port-number*

dst-port range *dst-port-number dst-port-number*

no dst-port

Context

[Tree] (config>li>li-filter>li-ipv6-filter>entry>match dst-port)

[Tree] (config>li>li-filter>li-ip-filter>entry>match dst-port)

Full Context

configure li li-filter li-ipv6-filter entry match dst-port

configure li li-filter li-ip-filter entry match dst-port

Description

This command configures a destination TCP or UDP port number or port range for an IP LI filter match criterion. Note that an entry containing Layer 4 match criteria will not match non-initial (second, third, and so on) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The **no** form of this command removes the destination port match criterion.

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Parameters

lt

Specifies all port numbers less than *dst-port-number* match.

gt

Specifies all port numbers greater than *dst-port-number* match.

eq

Specifies that *dst-port-number* must be an exact match.

dst-port-number

Specifies an inclusive range of port numbers to be used as a match criteria. The destination port numbers *start-port* and *end-port* are expressed as decimal integers.

Values [0..65535]D
[0x0..0xFFFF]H
[0b0..0b1111111111111111]B

Platforms

All

dst-port

Syntax

dst-port {**lt** | **gt** | **eq**} *dst-port-number*

dst-port range *start end*

no dst-port

Context

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match dst-port)

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match dst-port)

[Tree] (config>qos>sap-egress>ipv6-criteria>entry>match dst-port)

[Tree] (config>qos>sap-egress>ip-criteria>entry>match dst-port)

Full Context

configure qos sap-ingress ip-criteria entry match dst-port

configure qos sap-ingress ipv6-criteria entry match dst-port

configure qos sap-egress ipv6-criteria entry match dst-port

configure qos sap-egress ip-criteria entry match dst-port

Description

This command configures a destination TCP or UDP port number or port range for a SAP QoS policy match criterion.

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The **no** form of this command removes the destination port match criterion.

Default

no dst-port

Parameters

{lt | gt | eq} *dst-port-number*

The TCP or UDP port numbers to match, specified as less than (**lt**), greater than (**gt**), or equal to (**eq**) to the destination port value, specified as a decimal integer.

Values 1 to 65535 (decimal)

range *startend*

The range of TCP or UDP port values to match, specified as between the *start* and *end* destination port values inclusive.

Values 1 to 65535 (decimal)

Platforms

All

dst-port

Syntax

dst-port {**lt** | **gt** | **eq**} *dst-port-number*

dst-port port-list *port-list-name*

dst-port range *start end*

no dst-port

Context

[Tree] (config>qos>network>egress>ip-criteria>entry>match dst-port)

[Tree] (config>qos>network>ingress>ipv6-criteria>entry>match dst-port)

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match dst-port)

[Tree] (config>qos>network>ingress>ip-criteria>entry>match dst-port)

Full Context

configure qos network egress ip-criteria entry match dst-port

configure qos network ingress ipv6-criteria entry match dst-port

configure qos network egress ipv6-criteria entry match dst-port

configure qos network ingress ip-criteria entry match dst-port

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Description

This command configures a destination TCP or UDP port number, port range, or a port list for a network QoS policy match criterion.

The **no** form of this command removes the destination port match criterion.

Parameters

lt

Keyword used to specify TCP or UDP port numbers to match that are less than the destination port value.

gt

Keyword used to specify TCP or UDP port numbers to match that are greater than the destination port value.

eq

Keyword used to specify TCP or UDP port numbers to match that are equal to the destination port value.

dst-port-number

Specifies the TCP or UDP port numbers to match, specified as less than (lt), greater than (gt), or equal to (eq) the destination port value, specified as a decimal integer.

Values 1 to 65535

port-list-name

Specifies a port list name, up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

start

Specifies the starting range of TCP or UDP port values to match.

Values 1 to 65535

end

Specifies the end range of TCP or UDP port values to match.

Values 1 to 65535

Platforms

All

dst-port

Syntax

dst-port {**lt** | **gt** | **eq**} *dst-port-number*

dst-port port-list *port-list-name*

dst-port range *dst-port-number dst-port-number*

no dst-port

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Context

[Tree] (config>filter>ipv6-filter>entry>match dst-port)

[Tree] (config>filter>ipv6-exception>entry>match dst-port)

[Tree] (config>filter>ip-exception>entry>match dst-port)

[Tree] (config>filter>ip-filter>entry>match dst-port)

Full Context

configure filter ipv6-filter entry match dst-port

configure filter ipv6-exception entry match dst-port

configure filter ip-exception entry match dst-port

configure filter ip-filter entry match dst-port

Description

This command configures a destination TCP, UDP, or SCTP port number or port range for an IP filter or IP exception match criterion. An entry containing Layer 4 non-zero match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information. Similarly an entry containing the "**dst-port eq** 0" match criterion, may match non-initial fragments when the destination port value is not present in a packet fragment and other match criteria are also met.

The **no** form of the command removes the destination port match criterion.

Default

no dst-port

Parameters

lt

Specifies that all port numbers less than the *dst-port-number* match.

gt

Specifies that all port numbers greater than the *dst-port-number* match.

eq

Specifies that the *dst-port-number* must be an exact match.

dst-port-number

Specifies the destination port number to be used as a match criteria expressed as a decimal integer, as well as in hexadecimal or binary format. The following value is for decimal integer format only.

Values 0 to 65535

port-list-name

Specifies to use a list of ports referred to by *port-list-name*, which is a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

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dst-port-number dst-port-number

Specifies inclusive port range between two *dst-port-number* values.

Platforms

All

- configure filter ipv6-filter entry match dst-port
- configure filter ip-filter entry match dst-port

VSR

- configure filter ipv6-exception entry match dst-port
- configure filter ip-exception entry match dst-port

dst-port

Syntax

dst-port *value* [*mask*]

no dst-port

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry dst-port)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry dst-port)

Full Context

configure system security management-access-filter ip-filter entry dst-port

configure system security management-access-filter ipv6-filter entry dst-port

Description

This command configures a destination TCP or UDP port number or port range for a management access filter match criterion.

The **no** form of this command removes the destination port match criterion.

Parameters

value

Specifies the destination TCP or UDP port number as match criteria.

Values 1 **to** 65535 (decimal)

mask

Specifies the mask used to specify a range of destination port numbers as the match criterion.

This 16 bit mask can be configured using the formats described in Table 37: Format Styles to Configure Mask:

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Table 37: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDDDD	63488
Hexadecimal	0xHHHH	0xF800
Binary	0bBBBBBBBBBBBBBBB	0b1111100000000000

To select a range from 1024 up to 2047, specify 1024 0xFC00 for value and mask.

Default **65535** (exact match)

Values 1 to 65535 (decimal)

Platforms

All

dst-port

Syntax

dst-port [*tcp/udp port-number*] [*mask*]

dst-port port-list *port-list-name*

dst-port range *tcp/udp port-number tcp/udp port-number*

no dst-port

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match dst-port)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match dst-port)

Full Context

configure system security cpm-filter ipv6-filter entry match dst-port

configure system security cpm-filter ip-filter entry match dst-port

Description

This command specifies the TCP/UDP port or port name to match the destination-port of the packet.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The **no** form of this command removes the destination port match criterion.

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Default

no dst-port

Parameters

tcp/udp port-number

Specifies the destination port number to be used as a match criteria expressed as a decimal integer.

Values 0 to 65535 (accepted in decimal hex or binary)

port-list-name

Specifies the port list name to be used as a match criteria for the destination port.

mask

Specifies the 16 bit mask to be applied when matching the destination port.

Values [0x0000 to 0xFFFF] | [0 to 65535] | [0b0000000000000000 to 0b1111111111111111]

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.50 dst-port-range

dst-port-range

Syntax

dst-port-range start *port-number* **end** *port-number*

no dst-port-range

Context

[Tree] (config>service>nat>nat-classifier>entry>match dst-port-range)

Full Context

configure service nat nat-classifier entry match dst-port-range

Description

This command configures a destination TCP or UDP port number or port range.

Note that an entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd,etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The **no** form of the command removes the destination port match criterion.

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Default

dst-port-range start 0 end 65535

Parameters

start *port-number*

Specifies the start of the port range expressed as a decimal integer.

Values 0 to 65535

end *port-number*

Specifies the end of the port range expressed as a decimal integer.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.51 dst-tcp-port

dst-tcp-port

Syntax

dst-tcp-port *tcp-port*

no dst-tcp-port

Context

[Tree] (config>test-oam>build-packet>header>tcp dst-tcp-port)

Full Context

configure test-oam build-packet header tcp dst-tcp-port

Description

This command defines the destination TCP port to be used in the test TCP header.

The **no** form of this command reverts to the default.

Default

dst-tcp-port 0

Parameters

tcp-port

Specifies the destination TCP port to be used in the test TCP header.

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Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dst-tcp-port

Syntax

dst-tcp-port *tcp-port*

no dst-tcp-port

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>tcp dst-tcp-port)

Full Context

debug oam build-packet packet field-override header tcp dst-tcp-port

Description

This command defines the destination TCP port to be used in the TCP header.

The **no** form of this command reverts to the default.

Default

no override

Parameters

tcp-port

Specifies the destination TCP port to be used in the TCP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.52 dst-udp-port

dst-udp-port

Syntax

dst-udp-port *udp-port*

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no dst-udp-port

Context

[Tree] (config>test-oam>build-packet>header>udp dst-udp-port)

Full Context

configure test-oam build-packet header udp dst-udp-port

Description

This command defines the destination TCP port to be used in the test TCP header.

The **no** form of this command reverts to the default.

Default

dst-udp-port 0

Parameters

udp-port

Specifies the destination UDP port to be used in the test UDP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dst-udp-port

Syntax

dst-udp-port *udp-port*

no dst-udp-port

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>udp dst-udp-port)

Full Context

debug oam build-packet packet field-override header udp dst-udp-port

Description

This command defines the destination TCP port to be used in the TCP header.

The **no** form of this command reverts to the default.

Default

no override

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Parameters

udp-port

Specifies the destination UDP port to be used in the UDP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.53 dst-zone

dst-zone

Syntax

[**no**] **dst-zone** {*std-zone-name* | *non-std-zone-name*}

Context

[Tree] (config>system>time dst-zone)

Full Context

configure system time dst-zone

Description

This command configures the start and end dates and offset for summer time or daylight savings time to override system defaults or for user defined time zones.

When configured, the time is adjusted by adding the configured offset when summer time starts and subtracting the configured offset when summer time ends.

If the time zone configured is listed in the Time Zones section, then the starting and ending parameters and offset do not need to be configured with this command unless it is necessary to override the system defaults. The command returns an error if the start and ending dates and times are not available either the Time Zones section on or entered as optional parameters in this command.

Up to five summer time zones may be configured, for example, for five successive years or for five different time zones. Configuring a sixth entry will return an error message. If no summer (daylight savings) time is supplied, it is assumed no summer time adjustment is required.

The **no** form of the command removes a configured summer (daylight savings) time entry.

Parameters

std-zone-name

Specifies the standard time zone name. The standard name must be a system-defined zone in the Time Zones section. For zone names in the table that have an implicit summer time setting, for example MDT for Mountain Daylight Saving Time, the remaining **start-**

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date, **end-date** and **offset** parameters need to be provided unless it is necessary to override the system defaults for the time zone.

Values ADT, NDT, AKDT, CDT, CEST, EDT, EEST, MDT, NZDT, PDT, WEST

non-std-zone-name

Specifies the non-standard time zone name. Create a user-defined name created using the zone. The name can be a maximum of 5 characters in length.

Platforms

All

13.54 dual-stack-lite

dual-stack-lite

Syntax

dual-stack-lite

Context

[Tree] (config>service>vprn>nat dual-stack-lite)

[Tree] (config>router>nat>inside dual-stack-lite)

Full Context

configure service vprn nat dual-stack-lite

configure router nat inside dual-stack-lite

Description

Commands in this context configure Dual-Stack Lite (DS-Lite) NAT parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.55 dual-stack-lite-address

dual-stack-lite-address

Syntax

dual-stack-lite-address *ipv6-address*

no dual-stack-lite-address

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Context

[Tree] (config>router>pcp-server>server dual-stack-lite-address)

Full Context

configure router pcp-server server dual-stack-lite-address

Description

This command configures the inside dual stack lite AFTR address.

The **no** form of this command reverts to the default value.

Default

no dual-stack-lite-address

Parameters

ipv6-address

Specifies the IPv6 address.

Values	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.56 duid

duid

Syntax

duid *duid* [**iaid** *iaid*]

no duid

Context

[Tree] (config>service>ies>if>ipv6>dhcp6>pfx-delegate>prefix duid)

Full Context

configure service ies interface ipv6 dhcp6-server prefix-delegation prefix duid

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Description

This command configures the DHCP Unique Identifier (DUID) of the DHCP client.

The **no** form of this command reverts to the default.

Default

duid 2

Parameters

duid

Specifies the ID of the requesting router, up to a maximum of 128 hex values. If set to a non-zero value the prefix defined will only be delegated to this router. If set to zero, the prefix is delegated to any requesting router.

iaid

Specifies the identity association identification (IAID) from the requesting router that needs to match to delegate the prefix defined in this row. If set to 0 no match on the received IAID is done.

Values 1 to 4294967295

Platforms

All

13.57 duid-en

duid-en

Syntax

duid-en *hex-string*

no duid-en

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident duid-en)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification duid-en

Description

This command configures the hexadecimal value for use in matching against the concatenation of enterprise number and identifier fields of DHCPv6 option CLIENTID (1) with DUID type = 2 (assigned by the vendor based on the enterprise number) in the DHCPv6 client message.

The **no** form of this command removes the client ID type duid-en from the configuration.

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Default

no duid-en

Parameters

hex-string

Specifies the string in hexadecimal format, up to 254 hex nibbles.

Values 0x0 to 0xFFFFFFFF

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.58 duid-ll-llt

duid-ll-llt

Syntax

duid-ll-llt *ieee-address*

no duid-ll-llt

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident duid-ll-llt)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification duid-ll-llt

Description

This command configures the value for use in matching against the link-layer address field of DHCPv6 option CLIENTID (1) with DUID type = 3 (based on link-layer address) or DUID type = 1 (based on link-layer address plus time) and hardware type = 1 (Ethernet) in the DHCPv6 client message. For DUID type = 1, the time field is ignored.

The **no** form of this command removes the client ID type duid-ll-llt from the configuration.

Default

no duid-ll-llt

Parameters

ieee-address

Specifies the unicast MAC address of the client ID. This value cannot be all zeros.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.59 dup-detect

dup-detect

Syntax

dup-detect [**anti-spoof-mac** *mac-address*] **window** *minutes* **num-moves** *count* **hold-down** [*minutes* | **max**]

dup-detect anti-spoof-mac *mac-address* **window** *minutes* **num-moves** *count* **hold-down** [*minutes* | **max**] [**static-black-hole**]

Context

[Tree] (config>service>vpls>proxy-arp dup-detect)

[Tree] (config>service>vpls>proxy-nd dup-detect)

Full Context

configure service vpls proxy-arp dup-detect

configure service vpls proxy-nd dup-detect

Description

This command enables a mechanism that detects duplicate IPs and ARP/ND spoofing attacks. Attempts (relevant to dynamic and EVPN entry types) to add the same IP (different MAC) are monitored for **window** <*minutes*>. When <*count*> is reached within that **window**, the proxy-ARP/ND entry for the suspected IP is marked as duplicate. An alarm is also triggered. This condition is cleared when **hold-down** time expires (max does not expire) or a **clear** command is issued.

If the **anti-spoof-mac** is configured, the proxy-ARP/ND offending entry's MAC is replaced with this <*mac-address*> and advertised in an unsolicited GARP/NA for local SAP/SDP-bindings, and in EVPN to remote PEs. This mechanism assumes that the same **anti-spoof-mac** is configured in all the PEs for the same service and that traffic with destination **anti-spoof-mac** received on SAPs/SDP-bindings will be dropped. An ingress **mac-filter** may be configured to drop traffic to the **anti-spoof-mac**.

The **anti-spoof-mac** can also be combined with the **static-black-hole** option. To use a black-hole MAC entry for the **anti-spoof-mac** function in a proxy-ARP/ND service, the following must be configured:

- **static-black-hole** option for the **anti-spoof-mac**
- a static black-hole MAC using the same MAC address used for the **anti-spoof-mac: static-mac mac** <*mac-address*> **create black-hole** command.

When both **anti-spoof-mac** and **static-black-hole** commands are configured, the MAC is advertised in EVPN as Static. Locally, the MAC will be shown in the FDB as CStatic and associated with a black-hole.

The combination of the **anti-spoof-mac** and the **static-black-hole** options ensures that any frame arriving in the system with MAC DA=**anti-spoof-mac** will be discarded, regardless of the ingress endpoint type (SAP/SDP-binding or EVPN) and without the need for a filter.

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If the user wants to redirect the traffic with MAC DA=**anti-spoof-mac** instead of discarding it, redirect filters should be configured on SAPs/SDP-bindings instead of the **static-black-hole** option.

If the **static-black-hole** option is not configured for the **anti-spoof-mac**, the behavior is as follows:

- The **anti-spoof-mac** is not programmed in the FDB.
- Any attempt to add a Static MAC (or any other MAC) with the **anti-spoof-mac** value will be rejected by the system.
- A mac-filter is needed to discard traffic with MAC DA=**anti-spoof-mac**.

Any changes to the configuration of **anti-spoof-mac** require proxy-arp or proxy-nd to first be shut down. Refer to "ARP/ND Snooping and Proxy Support" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Layer 2 Services and EVPN Guide: VLL, VPLS, PBB, and EVPN* for more information.

Default

dup-detect window 3 num-moves 5 hold-down 9

Parameters

window *minutes*

Specifies the window size in minutes.

Values 1 to 15

Default 3

count

Specifies the number of moves required so that an entry is declared duplicate.

Values 3 to 10

Default 5

hold-down *minutes*

Specifies the hold-down time for a duplicate entry.

Values 2 to 60

Default 9

hold-down max

Specifies permanent hold-down time for a duplicate entry.

mac-address

Specifies the optional anti-spoof-mac to use.

Platforms

All

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13.60 duplex

duplex

Syntax

duplex {**full** | **half**}

Context

[Tree] (config>port>ethernet duplex)

Full Context

configure port ethernet duplex

Description

This command configures the duplex of a Fast Ethernet port when autonegotiation is disabled.

This configuration command allows for the configuration of the duplex mode of a Fast Ethernet port. If the port is configured to autonegotiate this parameter is ignored.

Default

duplex full

Parameters

full

Sets the link to full duplex mode.

half

Sets the link to half duplex mode.

Platforms

All

duplex

Syntax

duplex {**full** | **half**}

Context

[Tree] (bof duplex)

Full Context

bof duplex

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Description

This command configures the duplex mode of the CPM management Ethernet port when autonegotiation is disabled in the running configuration and the Boot Option File (BOF). If the port is configured to autonegotiate this parameter will be ignored.

Parameters

full

Sets the link to full duplex mode.

half

Sets the link to half duplex mode.

Platforms

All

13.61 dwdm

dwdm

Syntax

dwdm

Context

[Tree] (config>port dwdm)

Full Context

configure port dwdm

Description

This command configures the Dense Wavelength Division Multiplexing (DWDM) parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.62 dying-gasp

dying-gasp

Syntax

[**no**] **dying-gasp**

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Context

[Tree] (config>port>ethernet>efm-oam>link-mon>local-sf-action>info-notification dying-gasp)

Full Context

configure port ethernet efm-oam link-monitoring local-sf-action info-notification dying-gasp

Description

This command sets the dying gasp Flag field in the Information OAM PDU when the local signal failure (sf-threshold) threshold is reached. This will be maintained in all subsequent Information OAM PDUs until the situation is cleared.

Interactions: The signal failure threshold will trigger these actions.

Default

no dying-gasp

Platforms

All

dying-gasp

Syntax

dying-gasp local-port-action {**log-only** | **out-of-service**}

Context

[Tree] (config>port>ethernet>efm-oam>peer-rdi-rx dying-gasp)

Full Context

configure port ethernet efm-oam peer-rdi-rx dying-gasp

Description

This command defines how to react to the reception of a dying gasp Flag field set in the informational OAMPDU.

Default

dying-gasp local-port-action out-of-service

Parameters

local-port-action

Defines whether or not the local port will be affected when a dying gasp event is received from a peer.

log-only

Keyword that prevents the port from being affected when the local peer receives a dying gasp. The dying gasp will be logged but the port will remain operational.

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out-of-service

Keyword that causes the port to enter a non-operation down state with a port state of link up. The error will be logged upon reception of dying gasp. The port will not be available to service data but will continue to carry Link OAM traffic to ensure the link is monitored.

Platforms

All

13.63 dying-gasp-tx-on-reset

dying-gasp-tx-on-reset

Syntax

[**no**] **dying-gasp-tx-on-reset**

Context

[Tree] (config>system>ethernet>efm-oam dying-gasp-tx-on-reset)

[Tree] (config>port>ethernet>efm-oam dying-gasp-tx-on-reset)

Full Context

configure system ethernet efm-oam dying-gasp-tx-on-reset

configure port ethernet efm-oam dying-gasp-tx-on-reset

Description

This command enables generation of the Information OAM PDU off-cycle when the soft reset notification is received by the EFM application. The local port state remains under the control of the Soft Reset application and does not change based on this EFM function. If the port is operationally up then the local node will continue to consider the port as available for service data and forwarding. If the upstream node requires notification to route around the local node undergoing the soft reset, notification must be sent to those nodes. This is a disruptive function.

This command is disabled by default at the system level and enabled by default at the port level. The combination of the system-level and port-level configuration determines if the dying gasp on soft reset function is active on individual ports. Both the system-level and port-level commands must be enabled in order to support generation of the Information OAM PDU for soft reset. If either is disabled, dying gasp is not active on those ports. This functionality must be enabled prior to the soft reset.

When both **grace-tx-enable** and **dying-gasp-tx-on-reset** are active on the same port, **grace-tx-enable** takes precedence when a soft reset is invoked if the Peer Vendor OUI being received is 00:16:4d (ALU) or the configured **config>port>ethernet>efm-oam grace-vendor-oui** value. The **grace-tx-enable** command should not be configured if the Nokia Vendor Specific Grace TLV is not supported on the remote peer, including Nokia 7750 SR equipment prior to release 11.0 R4.

Default

config>system>ethernet>efm-oam>no dying-gasp-tx-on-reset

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config>port>ethernet>efm-oam>dying-gasp-tx-on-reset

Platforms

All

13.64 dynamic

dynamic

Syntax

dynamic *ip-address* [**create**]

no dynamic *ip-address*

Context

[Tree] (config>service>vpls>proxy-arp dynamic)

[Tree] (config>service>vpls>proxy-nd dynamic)

Full Context

configure service vpls proxy-arp dynamic

configure service vpls proxy-nd dynamic

Description

This command creates a dynamic IP that can be associated to a MAC list. The configured dynamic IP is only converted to a dynamic entry when the resolve process for the IP has passed successfully.

A summary of the IP resolution process is as follows:

- A resolve message is sent for the configured IP as soon as the dynamic IP is configured. The message is sent with a configurable frequency of 1 to 60 minutes (using the **resolve** command); the default value is 5 minutes. The actual resolve interval is a "tittered" value of the configured interval.
- The resolve message is an ARP-request or NS message flooded to all the non-EVPN endpoints in the service, irrespective of the status of the **unknown-arp-request-flood-evpn** or **unknown-ns-flood-evpn** commands. The router sends resolve messages at the configured frequency until a dynamic entry for the IP is created in the proxy-ARP or proxy-ND table. The IP entry is created only if all of the following conditions are true.
  - An ARP, GARP, or NA message is received for the configured IP.
  - The associated MAC exists in the configured MAC list for the IP.

    If the MAC list is empty or not configured, the router does not create an entry for the IP.
- After a dynamic entry is created in the proxy-ARP or proxy-ND table, the IP->MAC entry is advertised in the EVPN.

The **no** form of the command deletes the dynamic IP and the associated proxy-ARP or proxy-ND entry, if it exists.

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Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values ip-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

where:

x: [0 to FFFF]H

d: [0 to 255]D

Platforms

All

dynamic

Syntax

dynamic

Context

[Tree] (config>router>if>if-attr>delay dynamic)

Full Context

configure router interface if-attribute delay dynamic

Description

Commands in this context configure dynamic link measurement delay options for the IP interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

13.65 dynamic-arp-populate

dynamic-arp-populate

Syntax

[**no**] **dynamic-arp-populate**

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Context

[Tree] (config>service>vpls>proxy-arp dynamic-arp-populate)

Full Context

configure service vpls proxy-arp dynamic-arp-populate

Description

This command enables the addition of dynamic entries to the proxy-ARP table (disabled by default). When executed, the system will populate proxy-ARP entries from snooped GARP/ARP messages on SAPs/SDP-bindings. These entries will be shown as dynamic.

When disabled, dynamic-arp entries will be flushed from the proxy-ARP table. Enabling dynamic-arp-populate is only recommended in networks with a consistent configuration of this command in all the PEs.

Default

no dynamic-arp-populate

Platforms

All

13.66 dynamic-bgp

dynamic-bgp

Syntax

[**no**] **dynamic-bgp**

Context

[Tree] (config>router>static-route-entry>black-hole dynamic-bgp)

Full Context

configure router static-route-entry black-hole dynamic-bgp

Description

This optional command controls the behavior of the associated static route so that if a matching BGP route to the same exact prefix is present in BGP, the static route's nexthop is set to the BGP's nexthop value. If there is no matching active BGP route, the static route's nexthop is set to be a black-hole nexthop.

Default

no dynamic-bgp

Platforms

All

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13.67 dynamic-bypass

dynamic-bypass

Syntax

dynamic-bypass [**enable** | **disable**]

no dynamic-bypass

Context

[Tree] (config>router>mpls dynamic-bypass)

Full Context

configure router mpls dynamic-bypass

Description

This command disables the creation of dynamic bypass LSPs in FRR. One or more manual bypass LSPs must be configured to protect the primary LSP path at the PLR nodes.

Default

dynamic-bypass enable

Platforms

All

13.68 dynamic-ca

dynamic-ca

Syntax

[**no**] **dynamic-ca**

Context

[Tree] (config>system>security>pki dynamic-ca)

Full Context

configure system security pki dynamic-ca

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Description

This command configures dynamic sub-CA support for IPsec, which allows the system to authenticate the IPsec peer using a certificate without provisioning the peer's sub-CAs locally, if the peer sends sub-CA certificates during IKEv2 exchanges.

The **no** form of this command disables dynamic sub-CA support for IPsec.

Default

no dynamic-ca

Platforms

All

13.69 dynamic-cost

dynamic-cost

Syntax

[**no**] **dynamic-cost**

Context

[Tree] (config>lag dynamic-cost)

Full Context

configure lag dynamic-cost

Description

This command enables OSPF or ISIS costing of a Link Aggregation Group (LAG) based on the available aggregated, operational bandwidth.

The path cost is dynamically calculated based on the interface bandwidth. OSPF path cost can be changed through the interface metric or the reference bandwidth.

If dynamic cost is configured, then costing is applied based on the total number of links configured and the cost advertised is inversely proportional to the number of links available at the time. This is provided that the number of links that are up exceeds the configured LAG threshold value at which time the configured threshold action determines if, and at what cost, this LAG will be advertised.

For example: Assume a physical link in OSPF has a cost associated with it of 100, and the LAG consists of four physical links. The cost associated with the logical link is 25. If one link fails then the cost would automatically be adjusted to 33.

If dynamic cost is not configured and OSPF autocost is configured, then costing is applied based on the total number of links configured. This cost will remain static provided the number of links that are up exceeds the configured LAG threshold value at which time the configured threshold action determines if and at what cost this LAG will be advertised.

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If dynamic-cost is configured and OSPF autocost is not configured, the cost is determined by the cost configured on the OSPF metric provided the number of links available exceeds the configured LAG threshold value at which time the configured threshold action determines if this LAG will be advertised.

If neither dynamic-cost nor OSPF autocost are configured, the cost advertised is determined by the cost configured on the OSPF metric provided the number of links available exceeds the configured LAG threshold value at which time the configured threshold action determines if this LAG will be advertised.

The **no** form of this command removes dynamic costing from the LAG.

Default

no dynamic-cost

Platforms

All

13.70 dynamic-egress-label-limit

dynamic-egress-label-limit

Syntax

[**no**] **dynamic-egress-label-limit**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls dynamic-egress-label-limit)

[Tree] (config>service>vprn>bgp-evpn>mpls dynamic-egress-label-limit)

[Tree] (config>service>vprn>bgp-ipvpn>mpls dynamic-egress-label-limit)

[Tree] (config>service>epipe>bgp-evpn>mpls dynamic-egress-label-limit)

Full Context

configure service vpls bgp-evpn mpls dynamic-egress-label-limit

configure service vprn bgp-evpn mpls dynamic-egress-label-limit

configure service vprn bgp-ipvpn mpls dynamic-egress-label-limit

configure service epipe bgp-evpn mpls dynamic-egress-label-limit

Description

This command relaxes the egress MPLS label limit check when resolving BGP next hops in the tunnel table.

For VPRN services, the OAM label is never computed and, therefore, one more egress label is allowed.

For EVPN (Epipe and VPLS) services, the system only computes the control word and ESI label if they are used. For the control word, the system reduces the egress label limit by one label if the control word

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is configured in the service. When configured, the ESI label is not counted for Epipes or VPLS services without an ES.

The **no** form of this command, for EVPN, Epipe, and VPLS services, always accounts for the ESI label and control word.

Default

no dynamic-egress-label-limit

Platforms

All

13.71 dynamic-enforcement-policer-pool

dynamic-enforcement-policer-pool

Syntax

[**no**] **dynamic-enforcement-policer-pool** *number-of-policers*

Context

[Tree] (config>card>fp>ingress>dist-cpu-protection dynamic-enforcement-policer-pool)

Full Context

configure card fp ingress dist-cpu-protection dynamic-enforcement-policer-pool

Description

This command reserves a set of policers for use as dynamic enforcement policers for the Distributed CPU Protection (DCP) feature. Policers are allocated from this pool and instantiated as per-object-per-protocol dynamic enforcement policers after a local monitor is triggered for an object (such as a SAP or Network Interface). Any change to this configured value automatically clears the high water mark, timestamp, and failed allocation counts as seen under "show card x fp y dist-cpu-protection" and in the tmnxFpDcpDynEnfrcPlcrStatTable in the TIMETRA-CHASSIS-MIB. Decreasing this value to below the currently used/allocated number causes all dynamic policers to be returned to the free pool (and traffic returns to the local monitors).

Default

no dynamic-enforcement-policer-pool

Parameters

number-of-policers

specifies the number of policers to be reserved.

Values 1000 to 32000

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Platforms

All

13.72 dynamic-fields

dynamic-fields

Syntax

[**no**] **dynamic-fields**

Context

[Tree] (config>app-assure>group>cflowd>volume>template dynamic-fields)

[Tree] (config>app-assure>group>cflowd>tcp-perf>template dynamic-fields)

[Tree] (config>app-assure>group>cflowd>comp>template dynamic-fields)

Full Context

configure application-assurance group cflowd volume template dynamic-fields

configure application-assurance group cflowd tcp-performance template dynamic-fields

configure application-assurance group cflowd comprehensive template dynamic-fields

Description

Commands in this context configure which fields are included in the exported cflowd template.

The **no** form of this command removes all configured dynamic fields from the template.

Note:
This command is only supported if the **dynamic** option is configured in the **field-selection** command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.73 dynamic-keying

dynamic-keying

Syntax

[**no**] **dynamic-keying**

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Context

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel dynamic-keying)

[Tree] (config>ipsec>trans-mode-prof dynamic-keying)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel dynamic-keying)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel dynamic-keying)

[Tree] (config>router>if>ipsec>ipsec-tunnel dynamic-keying)

Full Context

configure service ies interface ipsec ipsec-tunnel dynamic-keying

configure ipsec ipsec-transport-mode-profile dynamic-keying

configure service vprn interface sap ipsec-tunnel dynamic-keying

configure service vprn interface ipsec ipsec-tunnel dynamic-keying

configure router interface ipsec ipsec-tunnel dynamic-keying

Description

This command enables dynamic keying for the IPsec tunnel.

The **no** form of this command disables dynamic keying.

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel dynamic-keying
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying
- configure router interface ipsec ipsec-tunnel dynamic-keying

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec ipsec-transport-mode-profile dynamic-keying
- configure service vprn interface sap ipsec-tunnel dynamic-keying

13.74 dynamic-mbs

dynamic-mbs

Syntax

[**no**] **dynamic-mbs**

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue dynamic-mbs)

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Full Context

configure qos queue-group-templates egress queue-group queue dynamic-mbs

Description

This command enables support for dynamically modifying the MBS size of a queue using HQoS in order to maintain the maximum latency for traffic in the queue based on the queue's configured MBS and the ratio of its operational PIR to its administrative PIR. As the HQoS algorithm updates the operational PIR, by reducing or increasing it, the MBS of the queue is adjusted accordingly.

The configuration of dynamic MBS and the configuration of queue depth monitoring (**monitor-queue-depth** command) are mutually exclusive. Queue depth monitoring is an override on the queue where the queue group is applied.

The **no** form of this command disables dynamic MBS resizing.

Default

no dynamic-mbs

Platforms

All

13.75 dynamic-nd-populate

dynamic-nd-populate

Syntax

[**no**] **dynamic-nd-populate**

Context

[Tree] (config>service>vpls>proxy-nd dynamic-nd-populate)

Full Context

configure service vpls proxy-nd dynamic-nd-populate

Description

This command enables the addition of dynamic entries to the proxy-ND table. The command is disabled by default. When executed, the system will populate proxy-ND entries from snooped Neighbor Advertisement (NA) messages on SAPs/SDP-bindings, in addition to the entries coming from EVPN (if the EVPN is enabled). These entries will be shown as dynamic, as opposed to EVPN entries or static entries.

When disabled, dynamic-ND entries will be flushed from the proxy-ND table. Enabling **dynamic-nd-populate** is only recommended in networks with a consistent configuration of this command in all the PEs.

Default

no dynamic-nd-populate

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Platforms
All

13.76 dynamic-neighbor

dynamic-neighbor

Syntax
dynamic-neighbor

Context
[Tree] (config>service>vprn>bgp>group dynamic-neighbor)

Full Context
configure service vprn bgp group dynamic-neighbor

Description
Commands in this context configure dynamic BGP sessions for a peer group.

Platforms
All

dynamic-neighbor

Syntax
dynamic-neighbor

Context
[Tree] (config>router>bgp>group dynamic-neighbor)

Full Context
configure router bgp group dynamic-neighbor

Description
Commands in this context configure dynamic BGP sessions for a peer group.

Platforms
All

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13.77 dynamic-neighbor-limit

dynamic-neighbor-limit

Syntax

dynamic-neighbor-limit *peers*

no dynamic-neighbor-limit

Context

[Tree] (config>service>vprn>bgp dynamic-neighbor-limit)

[Tree] (config>service>vprn>bgp>group dynamic-neighbor-limit)

Full Context

configure service vprn bgp dynamic-neighbor-limit

configure service vprn bgp group dynamic-neighbor-limit

Description

This command configures the maximum number of dynamic BGP sessions that are accepted from remote peers associated with the entire BGP instance or a specific peer group. If accepting a new dynamic session would cause either the group limit or the instance limit to be exceeded, then the new session attempt is rejected and a Notification message is sent back to the remote peer.

The **no** form of this command removes the limit on the number of dynamic sessions.

Default

no dynamic-neighbor-limit

Parameters

peers

Specifies the maximum number of dynamic BGP sessions.

Values 1 to 8192

Platforms

All

dynamic-neighbor-limit

Syntax

dynamic-neighbor-limit *peers*

no dynamic-neighbor-limit

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Context

[Tree] (config>router>bgp dynamic-neighbor-limit)

[Tree] (config>router>bgp>group dynamic-neighbor-limit)

Full Context

configure router bgp dynamic-neighbor-limit

configure router bgp group dynamic-neighbor-limit

Description

This command configures the maximum number of dynamic BGP sessions that will be accepted from remote peers associated with the entire BGP instance or a specific peer group. If accepting a new dynamic session would cause either the group limit or the instance limit to be exceeded, then the new session attempt is rejected and a Notification message is sent back to the remote peer.

The **no** form of this command removes the limit on the number of dynamic sessions.

Default

no dynamic-neighbor-limit

Parameters

peers

Specifies the maximum number of dynamic BGP sessions.

Values 1 to 8192

Platforms

All

13.78 dynamic-parameters

dynamic-parameters

Syntax

dynamic-parameters

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>protocol dynamic-parameters)

Full Context

configure system security dist-cpu-protection policy protocol dynamic-parameters

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Description

The dynamic-parameters are used to instantiate a dynamic enforcement policer for the protocol when the associated **local-monitoring-policer** is considered as exceeding its rate parameters (at the end of a minimum monitoring time of 60 seconds).

Platforms

All

13.79 dynamic-policer

dynamic-policer

Syntax

dynamic-policer

Context

[Tree] (config>qos>sap-egress dynamic-policer)

[Tree] (config>qos>sap-ingress dynamic-policer)

Full Context

configure qos sap-egress dynamic-policer

configure qos sap-ingress dynamic-policer

Description

Commands in this context configure common properties for dynamic-policers. Dynamic policers are instantiated and terminated on demand due to an action request submitted by the policy server (for example, using a Gx interface). The actions types behind dynamic policers are typically related to rate-limiting or volume monitoring. The dynamic-policers can be instantiated on demand at any time during the lifetime of the sla-profile instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.80 dynamic-ports

dynamic-ports

Syntax

[**no**] **dynamic-ports**

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Context

[Tree] (config>service>nat>nat-policy>port-limits dynamic-ports)

Full Context

configure service nat nat-policy port-limits dynamic-ports

Description

This command specifies the maximum number of ports per outside IP address for an LSN44 pool with flexible port allocation. This command limits the number of ports per protocol on an outside IP address for a subscriber regardless of the pool pairing mode.

The **no** form of this command removes the limit on the number of dynamic ports.

Default

65536

Parameters

num-ports

Specifies the maximum number of ports per outside IP address for an LSN44 pool with flexible port allocation.

Values 1 to 65536

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.81 dynamic-queue

dynamic-queue

Syntax

dynamic-queue

Context

[Tree] (config>qos>sap-egress dynamic-queue)

Full Context

configure qos sap-egress dynamic-queue

Description

Commands in this context configure dynamically-created queues for subscriber-management applications such as 5G FWA sessions. The configuration options in this context are the same as for static queues

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configured in the **configure qos sap-egress queue** context, but they are automatically applied to dynamically-created queues.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.82 dynamic-service

dynamic-service

Syntax

[**no**] **dynamic-service**

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range dynamic-service)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range dynamic-service)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dynamic-service

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dynamic-service

Description

This command configures the router to dynamically assign the WLAN-GW subscriber to a VPLS service, based on RADIUS authentication reply attributes. This feature is used in conjunction with the **configure service vpls wlan-gw wlan-gw-group** command.

The **no** form of the command disables the router from dynamically assigning the WLAN-GW subscriber to a VPLS service.

See "Dynamic VPLS service" in the *7450 ESS, 7750 SR, and VSR Triple Play Service Delivery Architecture Guide* for more information about the dynamic VPLS service feature.

Default

no dynamic-service

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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13.83 dynamic-services

dynamic-services

Syntax

dynamic-services

Context

[Tree] (config>service>vpls>sap dynamic-services)

Full Context

configure service vpls sap dynamic-services

Description

Commands in this context configure dynamic services parameters on a capture SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dynamic-services

Syntax

dynamic-services

Context

[Tree] (config>service dynamic-services)

Full Context

configure service dynamic-services

Description

Commands in this context configure dynamic data services. Only available on systems with multi-core CPM (CPM3 or up).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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dynamic-services

Syntax

[**no**] **dynamic-services**

Context

[Tree] (debug dynamic-services)

Full Context

debug dynamic-services

Description

Commands in this context configure dynamic services debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.84 dynamic-services-policy

dynamic-services-policy

Syntax

dynamic-services-policy *dynsrv-policy-name* [**create**]

no dynamic-services-policy *dynsrv-policy-name*

Context

[Tree] (config>service>dynsvc dynamic-services-policy)

Full Context

configure service dynamic-services dynamic-services-policy

Description

This command creates a new dynamic services policy that can be used to create dynamic data services.

The **no** form of this command removes the dynamic services policy from the configuration. This is only allowed when there are no active dynamic data services referencing this policy.

Parameters

dynsrv-policy-name

Specifies a unique name of a dynamic services policy up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

dynamic-services-policy

Syntax

dynamic-services-policy *name*

no dynamic-services-policy

Context

[Tree] (config>service>dynsvc>ladb>user>idx dynamic-services-policy)

[Tree] (config>service>vpls>sap>dyn-svc dynamic-services-policy)

Full Context

configure service dynamic-services local-auth-db user-name index dynamic-services-policy

configure service vpls sap dynamic-services dynamic-services-policy

Description

This command specifies the local configured dynamic data service policy to use for provisioning (local authentication database context) or authentication (**capture-sap** context) of this dynamic service. If not specified, the dynamic services policy with the name **default** is used. If the default policy does not exist, then the dynamic data service setup or authentication fails.

The **no** form of this command removes the dynamic services policy from the configuration.

Parameters

name

Specifies a dynamic services policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

13.85 dynamic-topology-discover

dynamic-topology-discover

Syntax

[**no**] **dynamic-topology-discover**

Context

[Tree] (config>service>vprn>gsmp>group>ancp dynamic-topology-discover)

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[Tree] (config>service>vpls>gsmp>group>ancp dynamic-topology-discover)

Full Context

configure service vprn gsmp group ancp dynamic-topology-discover

configure service vpls gsmp group ancp dynamic-topology-discover

Description

This command enables the ANCP dynamic topology discovery capability.

The **no** form of this command disables the feature.

Platforms

All

13.86 dynamic-tunnel-redundant-next-hop

dynamic-tunnel-redundant-next-hop

Syntax

dynamic-tunnel-redundant-next-hop *ip-address*

no dynamic-tunnel-redundant-next-hop

Context

[Tree] (config>service>ies>if dynamic-tunnel-redundant-next-hop)

[Tree] (config>service>vprn>if dynamic-tunnel-redundant-next-hop)

Full Context

configure service ies interface dynamic-tunnel-redundant-next-hop

configure service vprn interface dynamic-tunnel-redundant-next-hop

Description

This command configures a redundant next-hop address on a public or private IPsec interface (with a public or private tunnel SAP) for dynamic IPsec tunnel in 1:1 MC-IPsec. A standby node uses the specified next-hop address to shunt traffic to the master in case it receives traffic destined to a tunnel endpoint address. The standby tunnel group needs to be operationally up for the feature to work.

The next-hop address is resolved in the routing table of a corresponding service.

The **no** form of this command reverts to the default value.

Default

no dynamic-tunnel-redundant-next-hop

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Parameters

ip-address

Specifies the dynamic ISA tunnel redundant next-hop address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

13.87 dynmldp

dynmldp

Syntax

dynmldp [**detail**]

no dynmldp

Context

[Tree] (debug>router>pim dynmldp)

Full Context

debug router pim dynmldp

Description

This command enables debugging for dynamic MLDP.

The **no** form of this command disables dynamic MLDP debugging.

Parameters

detail

Debugs detailed dynamic MLDP information.

Platforms

All

13.88 dynsvc-password

dynsvc-password

Syntax

dynsvc-password *password* [**hash** | **hash2**]

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no dynsvc-password

Context

[Tree] (config>system>security>password dynsvc-password)

Full Context

configure system security password dynsvc-password

Description

Note:
See also the description for the **enable-dynamic-services-config** command.

This command allows a user with admin permissions to configure a system wide password which enables a user to enter a special dynamic services configuration mode.

The minimum length of the password is determined by the **minimum-length** command. The complexity requirements for the password are determined by the **complexity** command.

The **no** form of this command removes the dynsvc password from the configuration.

Parameters

password

Configures the password which enables a user to enter a special dynamic services configuration mode. The maximum length can be up to 20 characters if unhashed, 32 characters if hashed, 54 characters if the **hash2** keyword is specified.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

Platforms

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14 e Commands – Part I

14.1 e-counters

e-counters

Syntax

e-counters [**all**]

no e-counters

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue e-counters)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue e-counters)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters

Description

Commands in this context configure egress counter parameters for this custom record.

The **no** form of this command reverts to the default.

Parameters

all

Includes all counters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

e-counters

Syntax

e-counters [**all**]

no e-counters

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Context

[Tree] (config>log>acct-policy>cr>ref-queue e-counters)

[Tree] (config>log>acct-policy>cr>queue e-counters)

[Tree] (config>log>acct-policy>cr>policer e-counters)

[Tree] (config>log>acct-policy>cr>ref-policer e-counters)

Full Context

configure log accounting-policy custom-record ref-queue e-counters

configure log accounting-policy custom-record queue e-counters

configure log accounting-policy custom-record policer e-counters

configure log accounting-policy custom-record ref-policer e-counters

Description

This command configures egress counter parameters for this custom record.

The **no** form of this command reverts all egress counters to their default value.

Default

e-counters

Parameters

all

Specifies that all egress counters should be included.

Platforms

All

14.2 e3

e3

Syntax

[**no**] **e3** [*sonet-sdh-index*]

Context

[Tree] (config>port>tdm e3)

Full Context

configure port tdm e3

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Description

Commands in this context configure E-3 parameters. E-3 lines provide a speed of 44.736 Mb/s and is also frequently used by service providers. E-3 lines carry 16 E-1 signals with a data rate of 34.368 Mb/s.

An E-3 connection typically supports data rates of about 43 Mb/s. An E-3 line actually consists of 672 individual channels, each supporting 64 kb/s. E-3 lines are used mainly by Service Providers to connect to the Internet backbone and for the backbone itself.

Depending on the MDA type, the E-3 parameters must be disabled if clear channel is enabled by default (for example, on the m12-ds3e3 MDA). Clear channel is a channel that uses out-of-band signaling, not in-band signaling, so the channel's entire bit rate is available. Channelization must be explicitly specified. Note that if E-3 nodes are provisioned on the channelized SONET/SDH MDA you must provision the parent STS-1 SONET/STM0 SDH path first.

North America uses the T-Carrier system while Europe uses the E-Carrier system of transmission, using multiples of the DS system. Digital signals are carried inside the carrier systems.

The **no** form of this command disables E-3 capabilities.

Parameters

sonet-sdh-index

Specifies the components making up the specified SONET/SDH Path. Depending on the type of SONET/SDH port the *sonet-sdh-index* must specify more path indexes to specify the payload location of the path. The *sonet-sdh-index* differs for SONET and SDH ports.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

14.3 ea-length

ea-length

Syntax

ea-length *ea-bits-length*

no ea-length

Context

[Tree] (config>service>nat>map-domain>mapping-rule ea-length)

Full Context

configure service nat map-domain mapping-rule ea-length

Description

This command configures the length of EA bits in the MAP rule. The **no ea-length** statement sets the **ea-length** to 0.

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Default

no ea-length

Parameters

ea-bits-length

Specifies the length of the EA bits.

Values 1 to 48

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

14.4 eapol-destination-address

eapol-destination-address

Syntax

eapol-destination-address *mac*

no eapol-destination-address

Context

[Tree] (config>port>ethernet>dot1x>macsec>sub-port eapol-destination-address)

Full Context

configure port ethernet dot1x macsec sub-port eapol-destination-address

Description

The EAPoL destination MAC address uses a destination multicast MAC address of 01:80:C2:00:00:03. Some networks cannot tunnel this packet over the network and consume these packets, causing the MKA session to fail. This command can change the destination MAC of the EAPoL to the unicast address of the MACsec peer, and as such, the EAPoL and MKA signaling will be unicasted between two peers.

The **no** form of this command returns the value to the default.

Default

no eapol-destination-address

Parameters

mac

Specifies the desired destination MAC address to be used by the EAPOL MKA packets of this sub-port.

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Values aa:bb:cc:dd:ee:ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers.

Platforms

All

14.5 ebgp-default-reject-policy

ebgp-default-reject-policy

Syntax

ebgp-default-reject-policy [**import**] [**export**]

no ebgp-default-reject-policy

Context

[Tree] (config>service>vprn>bgp ebgp-default-reject-policy)

[Tree] (config>service>vprn>bgp>group ebgp-default-reject-policy)

[Tree] (config>service>vprn>bgp>group>neighbor ebgp-default-reject-policy)

Full Context

configure service vprn bgp ebgp-default-reject-policy

configure service vprn bgp group ebgp-default-reject-policy

configure service vprn bgp group neighbor ebgp-default-reject-policy

Description

This command configures the default import and export policy behavior for EBGP neighbors.

The **no** form of this command removes the default import and export policy behavior.

Default

no ebgp-default-reject-policy

Parameters

import

Specifies the default reject import policy for EBGP neighbors.

export

Specifies the default reject export policy for EBGP neighbors.

Platforms

All

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ebgp-default-reject-policy

Syntax

ebgp-default-reject-policy [**import**] [**export**]

no ebgp-default-reject-policy

Context

[Tree] (config>router>bgp>group ebgp-default-reject-policy)

[Tree] (config>router>bgp ebgp-default-reject-policy)

[Tree] (config>router>bgp>group>neighbor ebgp-default-reject-policy)

Full Context

configure router bgp group ebgp-default-reject-policy

configure router bgp ebgp-default-reject-policy

configure router bgp group neighbor ebgp-default-reject-policy

Description

This command configures the default import and export policy behavior for EBGP neighbors.

The **no** form of this command removes the default import and export policy behavior.

Default

no ebgp-default-reject-policy

Parameters

import

Specifies the default reject import policy for EBGP neighbors.

export

Specifies the default reject export policy for EBGP neighbors.

Platforms

All

14.6 ebgp-ibgp-equal

ebgp-ibgp-equal

Syntax

ebgp-ibgp-equal [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**]

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no ebgp-ibgp-equal

Context

[Tree] (config>service>vprn>bgp>best-path-selection ebgp-ibgp-equal)

Full Context

configure service vprn bgp best-path-selection ebgp-ibgp-equal

Description

This command instructs the BGP decision process to ignore the difference between EBGP and IBGP routes in selecting the best path and eligible multipaths (if multipath and ECMP are enabled). The result is a form of EIBGP load-balancing in a multipath scenario.

The operator can apply the behavior selectively to only certain types of routes by specifying one or more address family names in the command.

The **no** form of this command configures the router in the BGP decision process to prefer an EBGP learned route over an IBGP learned route.

Default

no ebgp-ibgp-equal

Parameters

ipv4

Specifies that the command should be applied to unlabeled unicast IPv4 routes.

ipv6

Specifies that the command should be applied to unlabeled unicast IPv6 routes.

label-ipv4

Specifies that the command should be applied to labeled IPv4 routes.

label-ipv6

Specifies that the command should be applied to labeled IPv6 routes.

Platforms

All

ebgp-ibgp-equal

Syntax

ebgp-ibgp-equal [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**] [**vpn-ipv4**] [**vpn-ipv6**] [**evpn**]

no ebgp-ibgp-equal

Context

[Tree] (config>router>bgp>best-path-selection ebgp-ibgp-equal)

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Full Context

configure router bgp best-path-selection ebgp-ibgp-equal

Description

This command instructs the BGP decision process to ignore the difference between EBGP and IBGP routes in selecting the best path and eligible multipaths (if multipath and ECMP are enabled). The result is a form of EIBGP load balancing in a multipath scenario.

The behavior can be applied selectively to only certain types of routes by specifying one or more address family names in the command. If no families are specified, this command applies to IPv4, IPv6, label-IPv4, label-IPv6, VPN-IPv4, VPN-IPv6, and EVPN routes.

The **no** form of this command configures the router in the BGP decision process to prefer an EBGP learned route over an IBGP learned route.

Default

no ebgp-ibgp-equal

Parameters

ipv4

Specifies that the command should be applied to unlabeled unicast IPv4 routes.

ipv6

Specifies that the command should be applied to unlabeled unicast IPv6 routes.

label-ipv4

Specifies that the command should be applied to labeled unicast IPv4 routes.

label-ipv6

Specifies that the command should be applied to labeled unicast IPv6 routes.

vpn-ipv4

Specifies that the command should be applied to IPv4 VPN routes.

vpn-ipv6

Specifies that the command should be applied to IPv6 VPN routes.

evpn

Specifies that the command should be applied to EVPN routes.

Platforms

All

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14.7 ecdsa

ecdsa

Syntax

ecdsa

Context

[Tree] (config>system>security>user>public-keys ecdsa)

Full Context

configure system security user public-keys ecdsa

Description

This command allows the user to enter the context to configure ECDSA public keys.

Platforms

All

14.8 ecdsa-key

ecdsa-key

Syntax

ecdsa-key *key-id* [**create**]

no ecdsa-key *key-id*

Context

[Tree] (config>system>security>user>public-keys>ecdsa ecdsa-key)

Full Context

configure system security user public-keys ecdsa ecdsa-key

Description

This command creates an ECDSA public key and associates it with the username. Multiple public keys can be associated with the user. The key ID is used to identify these keys for the user.

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Parameters

create

Keyword used to create an ECDSA key. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

key-id

Specifies the key identifier.

Values 1 to 32

Platforms

All

14.9 echo

echo

Syntax

echo [*text-to-echo*] [*extra-text-to-echo*] [*more-text*]

Context

[Tree] (echo)

Full Context

echo

Description

This command echoes arguments on the command line. The primary use of this command is to allow messages to be displayed to the screen in files executed with the **exec** command.

Parameters

text-to-echo

Specifies a text string to be echoed, up to 256 characters.

extra-text-to-echo

Specifies more text to be echoed, up to 256 characters.

more-text

Specifies more text to be echoed, up to 256 characters.

Platforms

All

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14.10 echo-receive

echo-receive

Syntax

echo-receive *echo-interval*

no echo-receive

Context

[Tree] (config>router>bfd>bfd-template echo-receive)

Full Context

configure router bfd bfd-template echo-receive

Description

This command sets the minimum echo receive interval, in milliseconds, for a session. This is not used by a BFD session for MPLS-TP.

The **no** form of this command reverts to the default value.

Default

echo-receive 100

Parameters

echo-interval

Specifies the echo receive interval.

Values 100 ms to 100,000 ms in 1 ms increments

Default 100

Platforms

All

14.11 ecmp

ecmp

Syntax

ecmp *max-ecmp-routes*

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Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel ecmp)

[Tree] (config>service>vpls>bgp-evpn>mpls ecmp)

[Tree] (config>service>epipe>bgp-evpn>srv6 ecmp)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel ecmp)

[Tree] (config>service>vpls>bgp-evpn>srv6 ecmp)

[Tree] (config>service>vpls>bgp-evpn>vxlan ecmp)

[Tree] (config>service>epipe>bgp-evpn>vxlan ecmp)

[Tree] (config>service>epipe>bgp-evpn>mpls ecmp)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel ecmp

configure service vpls bgp-evpn mpls ecmp

configure service epipe bgp-evpn segment-routing-v6 ecmp

configure service epipe bgp-evpn mpls auto-bind-tunnel ecmp

configure service vpls bgp-evpn segment-routing-v6 ecmp

configure service vpls bgp-evpn vxlan ecmp

configure service epipe bgp-evpn vxlan ecmp

configure service epipe bgp-evpn mpls ecmp

Description

When configured in a VPLS service, this command controls the number of paths that are allowed to reach a specified MAC address when that MAC in the FDB is associated to a remote all-active multihomed ES.

The configuration of two or more ECMP paths to a specified MAC enables the aliasing function described in RFC 7432.

When used in an Epipe service, this command controls the number of paths that are allowed to reach a specified remote Ethernet tag that is associated to an ES destination.

Default

ecmp 1

Parameters

max-ecmp-routes

Specifies the number of paths allowed to the same multihomed MAC address or Ethernet tag.

Values 1 to 32

Platforms

All

- configure service epipe bgp-evpn mpls auto-bind-tunnel ecmp

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- configure service vpls bgp-evpn mpls auto-bind-tunnel ecmp
- configure service vpls bgp-evpn vxlan ecmp
- configure service epipe bgp-evpn vxlan ecmp
- configure service vpls bgp-evpn mpls ecmp
- configure service epipe bgp-evpn mpls ecmp

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 ecmp
- configure service epipe bgp-evpn segment-routing-v6 ecmp

ecmp

Syntax

ecmp *max-ecmp-routes*

no ecmp

Context

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel ecmp)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel ecmp)

Full Context

configure service vprn bgp-evpn mpls auto-bind-tunnel ecmp

configure service vprn bgp-ipvpn mpls auto-bind-tunnel ecmp

Description

This command configures the maximum number of tunnels that may be used as ECMP next-hops for the VPRN. This value overrides any values that are configured using the **config**>**service**>**vprn**>**ecmp** command.

The **no** form of this command removes the configured overriding value, and the value configured using the **config**>**service**>**vprn**>**ecmp** command is used.

Default

ecmp 1

Parameters

max-ecmp-routes

Specifies the maximum number of tunnels that may be used as ECMP next-hops for the VPRN.

Values 1 to 32

Default 1

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Platforms

All

ecmp

Syntax

ecmp *max-ecmp-routes*

no ecmp

Context

[Tree] (config>router ecmp)

Full Context

configure router ecmp

Description

This command enables ECMP and configures the number of routes for path sharing; for example, the value 2 means two equal cost routes are used for cost sharing.

ECMP can be used only for routes with the same preference and same protocol.

If available ECMP routes at the best preference exceed the maximum ECMP routes allowed, the system selects by using the following criteria:

1. The system selects the lowest next hop router ID.
2. If the next hop goes to the same neighbor, the system selects the next hop with the lowest interface index.

The **no** form of this command disables ECMP path sharing. If ECMP is disabled and multiple routes are available at the best preference and equal cost, the route with the lowest next-hop IP address is used.

Default

no ecmp

Parameters

max-ecmp-routes

Specifies the maximum number of equal cost routes allowed on this routing table instance, expressed as a decimal integer. Setting ECMP *max-ecmp-routes* to 1 yields the same result as entering **no ecmp**.

Values 1 to 128

Platforms

All

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ecmp

Syntax

ecmp *max-ecmp-routes*

no ecmp

Context

[Tree] (config>service>vprn ecmp)

Full Context

configure service vprn ecmp

Description

This command enables ECMP and configures the number of routes for path sharing. For example, the value of 2 means that two equal cost routes are used for cost sharing.

ECMP groups form when the system routes to the same destination with equal cost values. Routing table entries can be entered manually (as static routes), or they can be formed when neighbors are discovered and routing table information is exchanged by routing protocols. The system can balance traffic across the groups with equal costs.

ECMP can only be used for routes learned with the same preference and same protocol.

If available ECMP routes at the best preference exceed the maximum ECMP routes allowed, the system selection is based on the following criteria:

1. The system selects the lowest next hop router ID.
2. If the next hop goes to the same neighbor, the system selects the next hop with the lowest interface index.

The **no** form of this command disables ECMP path sharing. If ECMP is disabled and multiple routes are available at the best preference and equal cost, the newly updated route is used.

Default

no ecmp

Parameters

max-ecmp-routes

Specifies the maximum number of routes for path sharing.

Values 1 to 128

Platforms

All

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ecmp

Syntax

ecmp

Context

[Tree] (config>service>vprn>auto-bind-tunnel ecmp)

Full Context

configure service vprn auto-bind-tunnel ecmp

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

14.12 ecmp-opt-threshold

ecmp-opt-threshold

Syntax

ecmp-opt-threshold *preference-level*

no ecmp-opt-threshold

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle ecmp-opt-threshold)

Full Context

configure mcast-management multicast-info-policy bundle ecmp-opt-threshold

Description

This command defines the preference level threshold where multicast ECMP path management can dynamically optimize channels based on topology or bandwidth events. If the channels preference is equal to or less than the ecmp-opt-threshold, ECMP can move the channel between ECMP paths when bandwidth distribution events happen. Channels with a preference level higher than the threshold are moved during these events.

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The default ECMP optimization limit threshold is 7. This means that multicast channels with a preference level of 0 to 7 (all channels) are allowed to move between ECMP paths. The ecmp-opt-threshold command can be used to change the default threshold.

Changing the threshold causes all channels ECMP optimization eligibility to be reevaluated.

The **no** form of this command restores the default ECMP optimization preference threshold value.

Default

ecmp-opt-threshold 7

Parameters

preference-level

The preference-level parameter is required when specifying the ecmp-opt-threshold. An integer value from 0 to 7 must be specified.

Values 0 to 7

Platforms

All

14.13 ecmp-unequal-cost

ecmp-unequal-cost

Syntax

[**no**] **ecmp-unequal-cost**

Context

[Tree] (config>service>vprn ecmp-unequal-cost)

Full Context

configure service vprn ecmp-unequal-cost

Description

This command relaxes the constraint that ECMP multipaths must have the same IGP cost to reach the BGP next-hop. When VPN routes for the same IP prefix are imported into a VPRN service, they are eligible to be used as multipaths. The resulting route is programmed as an ECMP IP route.

The BGP best path selection algorithm is the basis for choosing the set of imported VPN routes that can be combined to form an ECMP route. Normally (unless an **ignore-nh-metric** command is configured), the BGP decision process gives higher preference to VPN routes with a lower next-hop cost if other, more significant criteria, are tied. In these circumstances, a VPN route cannot be an eligible multipath if it does not have the same next-hop cost as the best VPN route. Configuring this command removes this restriction and allows the multipaths to have different (meaning lower) next-hop costs than the best route. This broadens the applicability of multipath and can result in better load balancing in the network.

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This command applies only to the following types of routes imported by a VPRN.

- vpn-ipv4
- vpn-ipv6
- mcast-vpn-ipv4
- mcast-vpn-ipv6

The **no** form of this command restores the default behavior that requires next-hop costs of multipaths to be equal, unless the next-hop cost is completely removed from the BGP decision process.

Default

ecmp-unequal-cost

Platforms

All

14.14 ecn

ecn

Syntax

ecn *ecn-setting*

no ecn

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action>remark ecn)

Full Context

configure application-assurance group policy app-qos-policy entry action remark ecn

Description

This command enables the remark of ECN bits in the IP header on flows matching this AQP entry. When enabled, all packets for all flows matching this AQP entry are remarked to the configured ECN name value.

The **no** form of this command stops the ECN remarking action on packets belonging to flows matching this AQP entry.

Default

no ecn

Parameters

ecn-setting

Specifies the ECN remark action for flows matching this entry.

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Values not-capable-transport – remark the ECN value to 00
capable-transport-1 – remark the ECN value to 01
capable-transport-0 – remark the ECN value to 10
congestion-experienced – remark the ECN value to 11

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

14.15 ect-algorithm

ect-algorithm

Syntax

ect-algorithm fid-range *fid-range* {**low-path-id**| **high-path-id**}

Context

[Tree] (config>service>vpls>spb>level ect-algorithm)

Full Context

configure service vpls spb level ect-algorithm

Description

This command configures the ect-algorithm associated with a FID. Names are:

- low-path-id
- high-path-id

The algorithm for low-path-id chooses the path with the lowest metric and uses the sum of each Bridge-ID to break-ties (in this case preferring the lowest bridge identifiers).

The algorithm for high-path-id choose the path with the lowest metric and the sum of each Bridge-ID (after each one is modified by the algorithm mask) to break-ties (in this case preferring the highest bridge identifiers).

A Forwarding Identifier (FID) is an abstraction of the IEEE 802.1 SPB Base VID and represents the VLAN (B-VPLS) in IS-IS LSPs. B-VPLS services with the same FID share B-MACs and I-SIDs. (the SAP encapsulation VLAN tag may be set to the same value as the FID or to any other valid VLAN tag). One or more FIDs can be associated with an ECT-algorithm by using the FID range. User B-VPLS services may share the same FID as the control B-VPLS or use independent FIDs where each FID has an assigned ect-algorithm. B-VPLS services with i-vpls services must have an independent FID. B-VPLS services with only PBB Epipes may share FIDs with other B-VPLS services including the control B-VPLS service.

The ect-algorithm is associated with the FID and can only be changed only when there are no VPLS, SAPs or SDP bindings associated with the FID. The FID must be independent from the FID assigned to other services.

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Default

ect-algorithm fid-range 1-4095 low-path-id

Parameters

name

low-path-id, high-path-id.

fid-range

Range of Forwarding Identifier values.

Values 1 to 4095

Platforms

All

14.16 edge-port

edge-port

Syntax

[**no**] **edge-port**

Context

[Tree] (config>service>vpls>sap>stp edge-port)

[Tree] (config>service>vpls>spoke-sdp>stp edge-port)

[Tree] (config>service>template>vpls-sap-template>stp edge-port)

Full Context

configure service vpls sap stp edge-port

configure service vpls spoke-sdp stp edge-port

configure service template vpls-sap-template stp edge-port

Description

This command configures the SAP or SDP as an edge or non-edge port. If **auto-edge** is enabled for the SAP, this value will be used only as the initial value.

Note:
The function of the **edge-port** command is similar to the **rapid-start** command. It tells RSTP that it is on the edge of the network (for example, there are no other bridges connected to that port) and, as a consequence, it can immediately transition to a forwarding state if the port becomes available.

RSTP, however, can detect that the actual situation is different from what **edge-port** may indicate.

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Initially, the value of the SAP or spoke-SDP parameter is set to edge-port. This value will change if:

- A BPDU is received on that port. This means that after all there is another bridge connected to this port. Then the edge-port becomes disabled.
- If auto-edge is configured and no BPDU is received within a certain period of time, RSTP concludes that it is on an edge and enables the edge-port.

The **no** form of this command returns the edge port setting to the default value.

Default

no edge-port

Platforms

All

edge-port

Syntax

[**no**] **edge-port**

Context

[Tree] (config>service>pw-template>stp edge-port)

Full Context

configure service pw-template stp edge-port

Description

This command configures the SAP or SDP as an edge or non-edge port. If **auto-edge** is enabled for the SAP, this value will be used only as the initial value.

Note:
On the 7750 SR and the 7950 XRS, the function of the **edge-port** command is similar to the **rapid-start** command. It tells RSTP that it is on the edge of the network (for example, there are no other bridges connected to that port) and, as a consequence, it can immediately transition to a forwarding state if the port becomes available.

RSTP, however, can detect that the actual situation is different from what **edge-port** may indicate.

Initially, the value of the SAP or spoke SDP parameter is set to edge-port. This value will change if:

- A BPDU is received on that port. This means that after all there is another bridge connected to this port. Then the edge-port becomes disabled.
- If auto-edge is configured and no BPDU is received within a certain period of time, RSTP concludes that it is on an edge and enables the edge-port.

The **no** form of this command returns the edge port setting to the default value.

Default

no edge-port

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Platforms

All

14.17 edit

edit

Syntax

edit [**exclusive**]

Context

[Tree] (candidate edit)

Full Context

candidate edit

Description

This command enables the edit-cfg mode where changes can be made to the candidate configuration and sets the edit-point to the end of the candidate. In edit-cfg mode the CLI prompt contains **edit-cfg** near the root of the prompt. Commands in the **candidate** CLI branch, except **candidate edit**, are available only when in edit-cfg mode.

Parameters

exclusive

Allows a user to exclusively create a candidate configuration by blocking other users (and other sessions of the same user) from entering edit-cfg mode. Exclusive edit-cfg mode can only be entered if the candidate configuration is empty and no user is in edit-cfg mode. Once a user is in exclusive edit-cfg mode no other users/sessions are allowed in edit-cfg mode. The user must either commit or discard the exclusive candidate before leaving exclusive edit-cfg mode. If the CLI session times out while a user is in exclusive edit-cfg mode then the contents of the candidate are discarded. The **admin disconnect** command can be used to force a user to disconnect (and to clear the contents of the candidate) if they have the candidate locked.

Platforms

All

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14.18 edit-config

edit-config

Syntax

[**no**] **edit-config**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization edit-config)

Full Context

configure system security profile netconf base-op-authorization edit-config

Description

This command enables the NETCONF <edit-config> RPC.

The **no** form of this command disables the RPC.

Default

no edit-config

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

14.19 ee-revocation

ee-revocation

Syntax

ee-revocation primary *primary* **secondary** *secondary*

Context

[Tree] (config>system>security>tls>client-tls-profile>status-verify ee-revocation)

[Tree] (config>system>security>tls>server-tls-profile>status-verify ee-revocation)

Full Context

configure system security tls client-tls-profile status-verify ee-revocation

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configure system security tls server-tls-profile status-verify ee-revocation

Description

This command configures the method used to verify the revocation status of the TLS end-entity (EE) certificate.

Parameters

primary

Specifies the primary method.

Values ocsp, crl

Default crl

secondary

Specifies the secondary method.

Values ocsp, crl, none

Default none

Platforms

All

14.20 efm

efm

Syntax

efm *port-id* **local-loopback** {**start** | **stop**}

efm *port-id* **remote-loopback** {**start** | **stop**}

Context

[Tree] (oam efm)

Full Context

oam efm

Description

This command enables Ethernet in the First Mile (EFM) OAM tests loopback tests on the specified port. The EFM OAM remote loopback OAMPDU is sent to the peering device to trigger remote loopback.

When EFM OAM is disabled or shutdown on a port, the dying gasp flag for the OAMPDU is set for the OAMPDUs sent to the peer. This speeds up the peer loss detection time.

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Parameters

port-id

Specifies the port ID.

Note:
On the 7950 XRS, The XMA ID takes the place of the MDA.

port-id	*slot*/*mda*/*port* [.*channel*]	
eth-sat-id	esat-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

local-loopback {start | stop}

Specifies whether to start or stop local loopback tests on the specified port.

remote-loopback {start | stop}

Specifies whether to start or stop remote Ethernet in the First Mile (EFM) OAM loopback tests on the specified port. The EFM OAM remote loopback OAMPDU is sent to the peering device to trigger remote loopback.

For EFM OAM tunneling to function properly, EFM OAM tunneling should be configured for VLL services or a VPLS service with two SAPs only.

Platforms

All

14.21 efm-oam

efm-oam

Syntax

efm-oam

Context

[Tree] (config>port>ethernet efm-oam)

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Full Context

configure port ethernet efm-oam

Description

This command configures EFM-OAM attributes.

Platforms

All

14.22 egr-ip-load-balancing

egr-ip-load-balancing

Syntax

egr-ip-load-balancing {**source** | **destination** | **inner-ip**}

no egr-ip-load-balancing

Context

[Tree] (config>service>ies>if>load-balancing egr-ip-load-balancing)

Full Context

configure service ies interface load-balancing egr-ip-load-balancing

Description

This command specifies whether to include the source address or destination address or both in the LAG/ECMP hash on IP interfaces. Additionally, when l4-load-balancing is enabled, the command also applies to the inclusion of source/destination port in the hash inputs.

The **no** form of this command includes both source and destination parameters.

Default

no egr-ip-load-balancing

Parameters

source

Specifies using the source address and, if l4-load balancing is enabled, the source port in the hash, ignore destination address/port.

destination

Specifies using the destination address and, if l4-load balancing is enabled, the destination port in the hash, ignore source address/port.

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inner-ip

Specifies using the inner IP header parameters instead of the outer IP header parameters in the LAG/ECMP hash for IPv4 encapsulated traffic.

Platforms

All

egr-ip-load-balancing

Syntax

egr-ip-load-balancing {**source** | **destination** | **inner-ip**}

no egr-ip-load-balancing

Context

[Tree] (config>service>vprn>if>nw-if>load-balancing egr-ip-load-balancing)

[Tree] (config>service>vprn>if>load-balancing egr-ip-load-balancing)

Full Context

configure service vprn interface nw-if load-balancing egr-ip-load-balancing

configure service vprn interface load-balancing egr-ip-load-balancing

Description

This command specifies whether to include the source address or destination address or both in the LAG/ECMP hash on IP interfaces. Additionally, when l4-load-balancing is enabled, the command also applies to the inclusion of source/destination port in the hash inputs.

The **no** form of this command includes both source and destination parameters.

Default

no egr-ip-load-balancing

Parameters

source

Specifies using the source address and (if l4-load balancing is enabled) source port in the hash, ignore destination address/port.

destination

Specifies using the destination address and (if l4-load balancing is enabled) destination port in the hash, ignore source address/port.

inner-ip

Specifies use of the inner IP header parameters instead of outer IP header parameters in LAG/ECMP hash for IPv4 encapsulated traffic.

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Platforms

All

egr-ip-load-balancing

Syntax

egr-ip-load-balancing {**source** | **destination** | **inner-ip**}

no egr-ip-load-balancing

Context

[Tree] (config>router>if>load-balancing egr-ip-load-balancing)

Full Context

configure router interface load-balancing egr-ip-load-balancing

Description

This command specifies whether to include source address or destination address or both in LAG/ECMP hash on IP interfaces. Additionally, when l4-load-balancing is enabled the command applies also to inclusion of source/destination port in the hash inputs.

The **no** form of this command includes both source and destination parameters.

Default

no egr-ip-load-balancing

Parameters

source

Specifies using source address and (if l4-load balancing is enabled) source port in the hash, ignore destination address/port

destination

Specifies using destination address and (if l4-load balancing is enabled) destination port in the hash, ignore source address/port.

inner-ip

Specifies use of the inner IP header parameters instead of outer IP header parameters in LAG/ECMP hash for IPv4 encapsulated traffic.

Platforms

All

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14.23 egr-percentage-of-rate

egr-percentage-of-rate

Syntax

egr-percentage-of-rate *egr-rate-percentage*

no egr-percentage-of-rate

Context

[Tree] (config>port>modify-buffer-allocation-rate egr-percentage-of-rate)

Full Context

configure port modify-buffer-allocation-rate egr-percentage-of-rate

Description

The **egr-percentage-of-rate** command increases or decreases the active bandwidth associated with the egress port that affects the amount of egress buffer space managed by the port. Changing a ports active bandwidth using the **egr-percentage-of-rate** command is an effective means of artificially lowering the buffers managed by one egress port and giving them to other egress ports on the same MDA.

The **egr-percentage-of-rate** command accepts a percentage value that increases or decreases the active bandwidth based on the defined percentage. A value of 50% causes the active bandwidth to be reduced by 50%. A value of 150% causes the active bandwidth to be increased by 50%. Values from 1 to 1000 percent are supported.

A value of 100 (the default value) is equivalent to executing the **no egr-percentage-of-rate** command and restores the egress active rate to the normal value.

The **no** form of this command removes any artificial increase or decrease of the egress active bandwidth used for egress buffer space allocation to the port. The **no egr-percentage-of-rate** command sets the egress rate percentage to 100%.

Parameters

egr-rate-percentage

The *egr-rate-percentage* parameter is required and specifies the percentage value used to modify the current egress active bandwidth of the port. This does not actually change the bandwidth available on the port in any way. The defined *egr-rate-percentage* parameter is multiplied by the egress active bandwidth of the port. A value of 150 results in an increase of 50% (1.5 x Rate).

Values 1 to 1000

Default 100 (no change to active rate)

Platforms

All

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14.24 egr-vtep

egr-vtep

Syntax

egr-vtep {*ip-address* | *ipv6-address*}

no egr-vtep

Context

[Tree] (config>service>epipe>vxlan egr-vtep)

[Tree] (config>service>vpls>vxlan egr-vtep)

Full Context

configure service epipe vxlan egr-vtep

configure service vpls vxlan egr-vtep

Description

This command configures the static destination VTEP IP used when originating VXLAN packets for the service.

Parameters

ip-address

Specifies the IPv4 address used as the destination VTEP when originating VXLAN packets for the service.

ipv6-address

Specifies the IPv6 address used as the destination VTEP when originating VXLAN packets for the service.

Platforms

All

- configure service epipe vxlan egr-vtep

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls vxlan egr-vtep

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14.25 egr-weight

egr-weight

Syntax

egr-weight access *access-weight* **network** *network-weight*

no egr-weight

Context

[Tree] (config>port>hybrid-buffer-allocation egr-weight)

Full Context

configure port hybrid-buffer-allocation egr-weight

Description

This command configures the sharing of the egress buffers allocated to a hybrid port among the access and network contexts. By default, it is split equally between network and access.

The **no** form of this command reverts to the default values for the egress access and network weights.

Parameters

access-weight

Specifies the access weight as an integer.

Values 0 to 100

Default 50

network-weight

Specifies the network weight as an integer.

Values 0 to 100

Default 50

Platforms

All

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14.26 egress

egress

Syntax

egress

Context

[Tree] (config>subscr-mgmt>ancp>ancp-policy egress)

Full Context

configure subscriber-mgmt ancp ancp-policy egress

Description

Commands in this context configure egress ANCP policy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax

egress

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only egress)

[Tree] (config>subscr-mgmt>msap-policy>ies-vprn egress)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters egress

configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters egress

Description

Commands in this context configure egress policies for Managed SAPs (MSAPs).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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egress

Syntax

egress

Context

[Tree] (config>subscr-mgmt>sla-prof>aggregate-qos-stats egress)

Full Context

configure subscriber-mgmt sla-profile aggregate-qos-stats egress

Description

Commands in this context configure which types of egress QoS objects are used to calculate the total egress aggregate statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax

egress

Context

[Tree] (config>subscr-mgmt>sla-prof>csg egress)

Full Context

configure subscriber-mgmt sla-profile custom-statistics-group egress

Description

Commands in this context configure the types of egress QoS object statistics that are used to calculate the custom statistics. This can include static queues and policers that are configured in a QoS SAP-egress policy, and dynamic queues and policers that are created on demand, according to the needs of the session.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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egress

Syntax

egress

Context

[Tree] (config>service>vprn>if>spoke-sdp egress)

[Tree] (config>service>vprn>red-if>spoke-sdp egress)

Full Context

configure service vprn interface spoke-sdp egress

configure service vprn redundant-interface spoke-sdp egress

Description

This command configures egress SDP parameters.

Platforms

All

- configure service vprn interface spoke-sdp egress

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp egress

egress

Syntax

egress

Context

[Tree] (config>subscr-mgmt>sla-profile egress)

Full Context

configure subscriber-mgmt sla-profile egress

Description

Commands in this context configure egress parameters for the SLA profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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egress

Syntax

egress

Context

[Tree] (config>service>vpls>sap egress)

[Tree] (config>service>ies>sub-if>grp-if>sap egress)

[Tree] (config>service>vprn>sub-if>grp-if>sap egress)

[Tree] (config>service>ies>if>sap egress)

Full Context

configure service vpls sap egress

configure service ies subscriber-interface group-interface sap egress

configure service vprn subscriber-interface group-interface sap egress

configure service ies interface sap egress

Description

Commands in this context configure egress Quality of Service (QoS) policies and filter policies.

If no QoS policy is defined, the system default QoS policy is used for egress processing. If no egress filter is defined, no filtering is performed.

Platforms

All

- configure service vpls sap egress
- configure service ies interface sap egress

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap egress
- configure service ies subscriber-interface group-interface sap egress

egress

Syntax

egress

Context

[Tree] (config>service>vpls>mesh-sdp egress)

[Tree] (config>service>vpls>spoke-sdp egress)

[Tree] (config>service>ies>red-if>spoke-sdp egress)

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[Tree] (config>service>ies>if>spoke-sdp egress)

Full Context

configure service vpls mesh-sdp egress

configure service vpls spoke-sdp egress

configure service ies redundant-interface spoke-sdp egress

configure service ies interface spoke-sdp egress

Description

Commands in this context configure egress SDP parameters.

Platforms

All

- configure service vpls mesh-sdp egress
- configure service vpls spoke-sdp egress
- configure service ies interface spoke-sdp egress

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies redundant-interface spoke-sdp egress

egress

Syntax

egress

Context

[Tree] (config>port>ethernet>network egress)

[Tree] (config>port>ethernet>access egress)

Full Context

configure port ethernet network egress

configure port ethernet access egress

Description

This command configures Ethernet access egress port parameters.

Platforms

All

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egress

Syntax

egress

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw egress)

Full Context

configure service ies subscriber-interface group-interface wlan-gw egress

Description

Commands in this context configure egress QoS parameters for wlan-gw tunnels.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax

egress

Context

[Tree] (config>port>access egress)

[Tree] (config>card>mda>access egress)

[Tree] (config>card>mda>network egress)

[Tree] (config>port>network egress)

Full Context

configure port access egress

configure card mda access egress

configure card mda network egress

configure port network egress

Description

Commands in this context configure egress buffer pool parameters which define the percentage of the pool buffers that are used for CBS calculations and specify the slope policy that is configured in the **config>qos>slope-policy** context.

On the MDA level, network and access egress pools are only allocated on channelized MDAs.

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Platforms
All

egress

Syntax
egress

Context
[Tree] (config>card>fp egress)

Full Context
configure card fp egress

Description
This command enables access to the egress **fp** CLI context.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

egress

Syntax
egress

Context
[Tree] (config>port>ethernet egress)

Full Context
configure port ethernet egress

Description
This command configures Ethernet egress port parameters.

Platforms
All

egress

Syntax
egress

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Context

[Tree] (config>service>sdp>binding>pw-port egress)

Full Context

configure service sdp binding pw-port egress

Description

Commands in this context configure PW port egress side parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

egress

Syntax

egress

Context

[Tree] (config>service>cpipe>sap egress)

[Tree] (config>service>epipe>sap egress)

[Tree] (config>service>ipipe>sap egress)

Full Context

configure service cpipe sap egress

configure service epipe sap egress

configure service ipipe sap egress

Description

Commands in this context configure egress SAP parameters.

If no sap-egress QoS policy is defined, the system default sap-egress QoS policy is used for egress processing.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress

All

- configure service ipipe sap egress
- configure service epipe sap egress

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egress

Syntax

egress

Context

[Tree] (config>service>ipipe>spoke-sdp egress)

[Tree] (config>service>cpipe>spoke-sdp egress)

[Tree] (config>service>epipe>spoke-sdp egress)

Full Context

configure service ipipe spoke-sdp egress

configure service cpipe spoke-sdp egress

configure service epipe spoke-sdp egress

Description

This command configures the egress SDP context.

Platforms

All

- configure service epipe spoke-sdp egress
- configure service ipipe spoke-sdp egress

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp egress

egress

Syntax

egress

Context

[Tree] (config>service>epipe>pw-port egress)

Full Context

configure service epipe pw-port egress

Description

Commands in this context configure PW-port egress-side parameters

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Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

egress

Syntax
egress

Context
[Tree] (config>service>template>epipe-sap-template egress)

Full Context
configure service template epipe-sap-template egress

Description
Commands in this context configure egress filter policies.

Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax
egress

Context
[Tree] (config>service>ies>aarp-interface>spoke-sdp egress)

Full Context
configure service ies aarp-interface spoke-sdp egress

Description
Commands in this context configure the egress for a spoke SDP.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax
egress

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Context

[Tree] (config>service>ies>if>vpls egress)

Full Context

configure service ies interface vpls egress

Description

The egress node under the vpls binding is used to define the optional sap-egress QoS policy that will be used for reclassifying the egress forwarding class or profile for routed packets associated with the IP interface on the attached VPLS or I-VPLS service context.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>service>vprn>aarp-interface>spoke-sdp egress)

Full Context

configure service vprn aarp-interface spoke-sdp egress

Description

Commands in this context configure the egress for a spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax

egress

Context

[Tree] (config>service>vprn>nw-if egress)

Full Context

configure service vprn network-interface egress

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Description

Commands in this context configure egress network filter policies for the interface.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>service>vprn>if>sap egress)

Full Context

configure service vprn interface sap egress

Description

Commands in this context configure egress SAP Quality of Service (QoS) policies and filter policies.

If no sap-egress QoS policy is defined, the system default sap-egress QoS policy is used for egress processing. If no egress filter is defined, no filtering is performed.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>service>vprn>if>vpls egress)

Full Context

configure service vprn interface vpls egress

Description

The egress node under the vpls binding is used to define the optional sap-egress QoS policy that will be used for reclassifying the egress forwarding class or profile for routed packets associated with the IP interface on the attached VPLS service context.

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Platforms

All

egress

Syntax

egress

Context

[Tree] (config>service>ies>aa-interface>sap egress)

[Tree] (config>service>vprn>aa-interface>sap egress)

Full Context

configure service ies aa-interface sap egress

configure service vprn aa-interface sap egress

Description

Commands in this context configure egress parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax

egress

Context

[Tree] (config>isa>aa-grp>qos egress)

Full Context

configure isa application-assurance-group qos egress

Description

Commands in this context configure IOM port-level Quality of Service for this application assurance group in the egress direction (traffic entering an application assurance engine).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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egress

Syntax

egress

Context

[Tree] (config>service>vprn>video-interface>video-sap egress)

[Tree] (config>service>ies>video-interface>video-sap egress)

Full Context

configure service vprn video-interface video-sap egress

configure service ies video-interface video-sap egress

Description

Commands in this context configure egress parameters for the service's video SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

egress

Syntax

egress

Context

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp egress)

[Tree] (config>mirror>mirror-dest>spoke-sdp egress)

Full Context

configure mirror mirror-dest remote-source spoke-sdp egress

configure mirror mirror-dest spoke-sdp egress

Description

Commands in this context configure spoke SDP egress parameters.

Platforms

All

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egress

Syntax

[**no**] **egress**

Context

[Tree] (config>mirror>mirror-dest>sap egress)

Full Context

configure mirror mirror-dest sap egress

Description

This command enables access to the context to associate an egress SAP Quality of Service (QoS) policy with a mirror destination SAP.

If no QoS policy is defined, the system default SAP egress QoS policy is used for egress processing.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>qos>network egress)

Full Context

configure qos network egress

Description

This command is used to enter the CLI node that creates or edits egress policy entries that specify the forwarding class queues to be instantiated when this policy is applied to the network port.

The forwarding class and profile state mapping to in- and out-of-profile DiffServ Code Points (DSCPs), dot1p, and MPLS EXP bits mapping for all labeled packets are also defined in this context.

All service packets are aggregated into DiffServ-based egress queues on the network interface. The service packets are transported either with IP GRE encapsulation or over a MPLS LSP. The exception is with the IES service. In this case, the actual customer IP header has the DSCP field mapped.

All out-of-profile service packets are marked with the corresponding out-of-profile DSCP, dot1p, or the EXP bit value at network egress. All the in-profile service ingress packets are marked with the corresponding in-profile DSCP, dot1p, or EXP bit value based on the forwarding class to which they belong. The exceed-

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profile traffic is marked with the same value as out-of-profile traffic and the inplus-profile traffic is marked with the same value as in-profile traffic.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>qos>queue-group-templates egress)

Full Context

configure qos queue-group-templates egress

Description

Commands in this context configure QoS egress queue groups. Egress queue group templates can be applied to egress Ethernet ports to create an egress queue group.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>router>if egress)

Full Context

configure router interface egress

Description

This command enables access to the context to configure egress network filter policies for the IP interface. If an egress filter is not defined, no filtering is performed.

Platforms

All

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egress

Syntax

egress

Context

[Tree] (config>service>cust>multi-service-site egress)

Full Context

configure service customer multi-service-site egress

Description

Commands in this context configure the egress node associate an existing scheduler policy name with the customer site. The egress node is an entity to associate commands that complement the association.

Platforms

All

egress

Syntax

egress

Context

[Tree] (config>service>pw-template egress)

Full Context

configure service pw-template egress

Description

Commands in this context configure spoke SDP binding egress filter parameters.

Platforms

All

egress

Syntax

egress

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Context

[Tree] (config>subscr-mgmt>sub-prof egress)

Full Context

configure subscriber-mgmt sub-profile egress

Description

Commands in this context configure subscriber profile egress setting parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

egress

Syntax

egress

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy egress)

Full Context

configure subscriber-mgmt idle-timeout-policy egress

Description

Commands in this context configure subscriber management idle timout policy egress parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.27 egress-amplifier-gain

egress-amplifier-gain

Syntax

egress-amplifier-gain *egress-amplifier-gain*

no egress-amplifier-gain

Context

[Tree] (configure>port>transceiver>optical-line-system egress-amplifier-gain)

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Full Context

configure port transceiver optical-line-system egress-amplifier-gain

Description

This command configures the gain for the egress amplifier.

The **no** form of this command sets the gain for the egress amplifier to the default.

Default

no egress-amplifier-gain

Parameters

egress-amplifier-gain

Specifies the gain for the amplifier in decibels.

Values 0 to 25.00 dB

Default 25.00 dB

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.28 egress-counter-map

egress-counter-map

Syntax

egress-counter-map policer *policer-id* **traffic-type** {**unicast** | **multicast** | **broadcast**} [**create**]

egress-counter-map queue *queue-id* **traffic-type** {**unicast** | **multicast** | **broadcast**} [**create**]

no egress-counter-map policer *policer-id*

no egress-counter-map queue *queue-id*

Context

[Tree] (config>sflow egress-counter-map)

Full Context

configure sflow egress-counter-map

Description

This command configures the egress counter map for sFlow. The map must be configured so sFlow agent understands how to interpret data collected against SAP queues and policers. Multiple queues and policers can be mapped to the same **traffic-type** using separate line entries.

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The **no** form of this command deletes a SAP policy queue/policer from the map.

Parameters

policer-id

Specifies the policer ID in a SAP egress QoS policy. If the SAP policy does not have a policer with the specified ID, the map entry will be ignored for this SAP.

Values 1 to 8

queue-id

Specifies the queue ID in a SAP egress QoS policy. If the SAP policy does not have a queue with the specified ID, the map entry will be ignored for this SAP.

Values 1 to 8

Platforms

7750 SR, 7750 SR-s, 7950 XRS

14.29 egress-engineering

egress-engineering

Syntax

egress-engineering

no egress-engineering

Context

[Tree] (config>router>bgp>group>neighbor egress-engineering)

[Tree] (config>router>bgp>group egress-engineering)

Full Context

configure router bgp group neighbor egress-engineering

configure router bgp group egress-engineering

Description

Commands in this context configure egress engineering on a specific neighbor or all neighbors in a BGP group.

If egress engineering is not configured in the neighbor context, the configuration is inherited from the group context.

The **no** form of this command removes the egress engineering configuration.

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Default

no egress-engineering

Platforms

All

14.30 egress-fc

egress-fc

Syntax

egress-fc *fc-name*

no egress-fc

Context

[Tree] (config>qos>sap-ingress>fc egress-fc)

Full Context

configure qos sap-ingress fc egress-fc

Description

This command configures the forwarding class to be used by the egress QoS processing. It overrides the forwarding class determined by ingress classification but not the QoS Policy Propagation via BGP.

The forwarding class or forwarding subclass can be overridden.

The new egress forwarding class is applicable to both SAP egress and network egress.

Default

no egress-fc

Parameters

fc-name

Specifies the forwarding class name to be used by the egress QoS processing.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

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14.31 egress-ip-filter-entries

egress-ip-filter-entries

Syntax

[**no**] **egress-ip-filter-entries**

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl egress-ip-filter-entries)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries

Description

Commands in this context configure the egress IP filter parameters.

The **no** form of this command reverts to the default.

Default

egress-ip-filter-entries

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.32 egress-ipv6-filter-entries

egress-ipv6-filter-entries

Syntax

[**no**] **egress-ipv6-filter-entries**

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl egress-ipv6-filter-entries)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries

Description

Commands in this context configure the egress IPv6 filter parameters.

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The **no** form of this command reverts to the default.

Default

egress-ipv6-filter-entries

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.33 egress-pbr

egress-pbr

Syntax

egress-pbr {**default-load-balancing** | **l4-load-balancing**}

no egress-pbr

Context

[Tree] (config>filter>ipv6-filter>entry egress-pbr)

[Tree] (config>filter>ip-filter>entry egress-pbr)

Full Context

configure filter ipv6-filter entry egress-pbr

configure filter ip-filter entry egress-pbr

Description

This command specifies that the configured PBR action is applicable to egress processing. The command should only be enabled in ACL policies used by residential subscribers. Enabling **egress-pbr** on filters not deployed for residential subscribers is not blocked but may lead to unexpected behavior and should be avoided.

The **no** form of this command removes the **egress-pbr** designation of the filter entry's action.

Default

no egress-pbr

Parameters

default-load-balancing

Sets load-balancing to the default (hash based on SA/DA of the packet).

l4-load-balancing

Includes TCP/UDP port (if available) in the hash.

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Platforms

All

14.34 egress-peer-engineering

egress-peer-engineering

Syntax

egress-peer-engineering

no egress-peer-engineering

Context

[Tree] (config>router>bgp egress-peer-engineering)

Full Context

configure router bgp egress-peer-engineering

Description

Commands in this context configure EPE parameters in BGP.

The **no** form of this command removes the EPE parameters from the BGP context.

Default

no egress-peer-engineering

Platforms

All

14.35 egress-peer-engineering-label-unicast

egress-peer-engineering-label-unicast

Syntax

[**no**] **egress-peer-engineering-label-unicast**

Context

[Tree] (config>router>bgp>group>neighbor egress-peer-engineering-label-unicast)

[Tree] (config>router>bgp>group egress-peer-engineering-label-unicast)

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Full Context

configure router bgp group neighbor egress-peer-engineering-label-unicast

configure router bgp group egress-peer-engineering-label-unicast

Description

This command enables the generation of a label-unicast route for each /32 or /128 prefix that corresponds to the BGP neighbor or group address in the scope of the command. These routes can be advertised to other routers to recursively resolve unlabeled BGP routes for AS external destinations. They support the Egress Peer Engineering (EPE) use case.

The **no** form of this command disables the generation of EPE label-unicast routes.

Default

no egress-peer-engineering-label-unicast

Platforms

All

14.36 egress-policer

egress-policer

Syntax

egress-policer [*policer-name*]

no egress-policer

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm egress-policer)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm egress-policer)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt egress-policer

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt egress-policer

Description

This command specifies the egress policer applied to all UEs corresponding to default vlan-range (such as, group-interface) or the specified vlan-range. The policer can be created in the **config>subscr-mgmt>isa-policer** context. The egress policer can be overridden per UE from RADIUS via access-accept or COA.

The **no** form of this command reverts to the default.

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Parameters

policer-name

Specifies the identifier of the distributed-sub-mgmt policer for egress traffic up to 256 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

14.37 egress-port-queue-overrides

egress-port-queue-overrides

Syntax

egress-port-queue-overrides

Context

[Tree] (config>port>ethernet>network egress-port-queue-overrides)

Full Context

configure port ethernet network egress-port-queue-overrides

Description

Commands in this context configure Ethernet network egress port queue override parameters.

Platforms

All

14.38 egress-rate

egress-rate

Syntax

egress-rate *sub-rate*

no egress-rate

Context

[Tree] (config>port>ethernet egress-rate)

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Full Context

configure port ethernet egress-rate

Description

This command configures the rate of traffic leaving the network. The configured *sub-rate* uses packet-based accounting. An event log is generated each time the egress rate is modified unless the port is part of a LAG.

The **no** form of this command returns the value to the default.

Default

no egress-rate

Parameters

sub-rate

Specifies the egress rate in kb/s.

Values 1 to 100000000

Platforms

All

14.39 egress-rate-modify

egress-rate-modify

Syntax

egress-rate-modify agg-rate-limit

egress-rate-modify scheduler *scheduler-name*

no egress-rate-modify

Context

[Tree] (config>subscr-mgmt>trk-plcy egress-rate-modify)

Full Context

configure subscriber-mgmt host-tracking-policy egress-rate-modify

Description

This command specifies the egress-rate modification that is to be applied.

The **no** form of this command reverts to the default value.

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Parameters

agg-rate-limit

Specifies to use the egress rate limit.

scheduler-name

Specifies the scheduler name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

egress-rate-modify

Syntax

egress-rate-modify [**agg-rate-limit** | **scheduler** *scheduler-name*]

no egress-rate-modify

Context

[Tree] (config>subscr-mgmt>igmp-policy egress-rate-modify)

Full Context

configure subscriber-mgmt igmp-policy egress-rate-modify

Description

This command is used to apply HQoS Adjustment to a subscriber. HQoS Adjustment is needed when multicast traffic flow for the subscriber is dissociated from subscriber host queues. Multicast redirection is typical such case although it can be applied in direct IPoE subscriber per-sap replication mode.

The channel bandwidth definition policy is defined in the mcac policy under the **config>router>mcac>policy** context. The policy is applied under the redirected interface or under the group-interface.

In order for HQoS Adjustment to take effect, sub-mcac-policy must be in a no shutdown mode and applied under the sub-profile even if mcac is not deployed.

The **no** form of this command reverts to the default value.

Parameters

agg-rate-limit

Specifies the aggregate14 rate modification to be applied. The subscriber's bandwidth is capped via the **agg-rate-limit** command in the sub-profile or with a Change of Authorization (CoA) request. This bandwidth cap is dynamically adjusted according to the multicast channel definition and channel association with the host via IGMP.

scheduler-name

Specifies the schedule name. The subscriber's bandwidth is capped via the scheduling-policy in the sub-profile or with a Change of Authorization (CoA) request. HQoS Adjustment will modify the rate of the scheduler defined in the scheduling policy or configured via CoA.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

egress-rate-modify

Syntax

egress-rate-modify agg-rate-limit

egress-rate-modify scheduler *scheduler-name*

no egress-rate-modify

Context

[Tree] (config>subscr-mgmt>mld-policy egress-rate-modify)

Full Context

configure subscriber-mgmt mld-policy egress-rate-modify

Description

This command configures the egress rate modification.

The **no** form of this command removes the values from the configuration.

Parameters

agg-rate-limit

Specifies that the maximum total rate for all subscriber egress queues for each subscriber associated with the policy.

scheduler-name

Specifies the scheduler to be applied for egress rate modification.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

egress-rate-modify

Syntax

[**no**] **egress-rate-modify**

Context

[Tree] (config>port>ethernet>access>egress>vport egress-rate-modify)

Full Context

configure port ethernet access egress vport egress-rate-modify

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Description

This command applies HQoS Adjustment to a Vport. HQoS Adjustment refers to the dynamic adjustment of the rate limit at an QoS enforcement point within a Nokia router when the multicast traffic stream is disjointed from the unicast traffic stream. This QoS enforcement point within the router represents the physical point further down in the access part of the network where the two streams join each other and potentially can cause congestion.

An example would be a PON port which is shared amongst subscriber's multicast traffic (single copy of each channel) and subscriber's unicast traffic. The bandwidth control point for this PON port resides in the upstream Nokia BNG node in the form of a Vport. In the case where the multicast delivery method of the BNG utilizes redirection, the multicast traffic in the BNG will flow outside of the subscriber or the Vport context and thus will bypass any bandwidth enforcement in the Nokia router. To correct this, a Vport bandwidth adjustment is necessary in the router that will account for the multicast bandwidth consumption that is bypassing Vport in the router but is present in the PON port whose bandwidth is controlled by Vport.

An estimate of the multicast bandwidth consumption on the PON port can be made at the Vport level based on the IGMP messages sourced from the subscribers behind the PON port. This process is called HQoS Adjustment.

A multicast channel bandwidth is subtracted from or added to the Vport rate limit according to the received IGMP Join/Leave messages and the channel bandwidth definition policy associated with the Vport (indirectly through a group-interface). Since the multicast traffic on the PON port is shared amongst subscribers behind this PON port, only the first IGMP Join or the last IGMP Leave per multicast channel is tracked for the purpose of the Vport bandwidth modification.

The Vport rate that will be affected by this functionality depends on the configuration:

- In case the **agg-rate** within the Vport is configured, its value will be modified based on the IGMP activity associated with the subscriber under this Vport.
- In case the port-scheduler-policy within the Vport is referenced, the max-rate defined in the corresponding port-scheduler-policy will be modified based on the IGMP activity associated with the subscriber under this Vport.

The channel bandwidth definition policy is defined in the mcac policy in the **config>router>mcac>policy** context. The policy is applied under the group-interface or in case of redirection under the redirected-interface.

The rates in effect can be displayed with the following two commands:

```
show port 1/1/5 vport name
qos scheduler-hierarchy port port-id vport vport-name
```

The configuration of a scheduler policy under a Vport, which is only applicable to Ethernet interfaces, is mutually exclusive with the configuration of the **egress-rate-modify** parameter.

Context: HQoS Adjustment for Vport is disabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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14.40 egress-scheduler-override

egress-scheduler-override

Syntax

egress-scheduler-override [**create**]

no egress-scheduler-override

Context

[Tree] (config>port>sonet-sdh>path egress-scheduler-override)

[Tree] (config>port>tdm>e3 egress-scheduler-override)

[Tree] (config>port>tdm>ds3 egress-scheduler-override)

[Tree] (config>port>ethernet egress-scheduler-override)

Full Context

configure port sonet-sdh path egress-scheduler-override

configure port tdm e3 egress-scheduler-override

configure port tdm ds3 egress-scheduler-override

configure port ethernet egress-scheduler-override

Description

This command applies egress scheduler overrides. When a port scheduler is associated with an egress port, it is possible to override the following parameters:

- The **max-rate** allowed for the scheduler.
- The maximum **rate** for each priority level 8 through 1.
- The CIR associated with each priority level 8 through 1.

See the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for command syntax and usage for the **port-scheduler-policy** command.

The **no** form of this command removes all override parameters from the egress port or channel scheduler context. Once removed, the port scheduler reverts all rate parameters back to the parameters defined on the port-scheduler-policy associated with the port.

Parameters

create

Mandatory while creating an entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh path egress-scheduler-override

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7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm e3 egress-scheduler-override
- configure port tdm ds3 egress-scheduler-override

All

- configure port ethernet egress-scheduler-override

14.41 egress-scheduler-policy

egress-scheduler-policy

Syntax

egress-scheduler-policy *port-sched-plcy*

no egress-scheduler-policy

Context

[Tree] (config>port-policy egress-scheduler-policy)

Full Context

configure port-policy egress-scheduler-policy

Description

This command references a port scheduler policy that is defined under the **config**>**qos**>**port-scheduler-policy**> hierarchy. Port schedulers are instantiated on carrier IOMs towards all ISAs that are part of the lns-group.

The no form of the command removes the port scheduler policy from the configuration.

Default

no egress-scheduler-policy

Parameters

port-sched-plcy

Specifies the egress scheduler policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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egress-scheduler-policy

Syntax

egress-scheduler-policy *port-scheduler-policy-name*

no egress-scheduler-policy

Context

[Tree] (config>port>tdm>ds3 egress-scheduler-policy)

[Tree] (config>port>sonet-sdh>path egress-scheduler-policy)

[Tree] (config>port>ethernet egress-scheduler-policy)

[Tree] (config>port>tdm>e3 egress-scheduler-policy)

Full Context

configure port tdm ds3 egress-scheduler-policy

configure port sonet-sdh path egress-scheduler-policy

configure port ethernet egress-scheduler-policy

configure port tdm e3 egress-scheduler-policy

Description

This command enables the provisioning of an existing port-scheduler-policy to a port or channel.

The egress-scheduler-override node allows for the definition of the scheduler overrides for a specific port or channel.

When a port scheduler is active on a port or channel, all queues and intermediate service schedulers on the port are subject to receiving bandwidth from the scheduler. Any policers, queues, or schedulers with port-parent associations are mapped to the appropriate port priority levels based on the port-parent command parameters. Any policers, queues, or schedulers that do not have a port-parent or valid intermediate scheduler parent defined are treated as orphaned and are handled based on the port scheduler policies default or explicit orphan behavior.

The port scheduler maximum rate and priority level rate parameters may be overridden to allow unique values separate from the port-scheduler-policy-name attached to the port or channel. Use the **egress-scheduler-override** command to specify the port or channel specific scheduling parameters.

The **no** form of this command removes a port scheduler policy from an egress port or channel. Once the scheduler policy is removed, all orphaned policers, queues, and schedulers revert to a free running state governed only by the local queue or scheduler parameters. This includes any queues or schedulers with a port-parent association.

Parameters

port-scheduler-policy-name

Specifies an existing port-scheduler-policy configured in the **config>qos** context. The name can be up to 32 characters.

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Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 egress-scheduler-policy
- configure port tdm e3 egress-scheduler-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh path egress-scheduler-policy

All

- configure port ethernet egress-scheduler-policy

14.42 egress-statistics

egress-statistics

Syntax

egress-statistics

Context

[Tree] (config>router>ldp egress-statistics)

Full Context

configure router ldp egress-statistics

Description

Commands in this context enter the LDP FEC prefix for the purpose of enabling egress data path statistics at the ingress LER for this FEC.

Platforms

All

egress-statistics

Syntax

[**no**] **egress-statistics**

Context

[Tree] (config>router>mpls>lsp egress-statistics)

[Tree] (config>router>mpls>lsp-template egress-statistics)

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Full Context

configure router mpls lsp egress-statistics

configure router mpls lsp-template egress-statistics

Description

This command configures statistics in the egress data path of an originating LSP at a head-end node. The user must execute the no shutdown for this command to effectively enable statistics.

Note:
SR-TE LSP egress statistics are not supported on VSR.

The same set of counters is updated for packets forwarded over any path of the RSVP-TE LSP and over the lifetime of the LSP. In steady state, the counters are updated for packets forwarded over the active path of the LSP. The active path can be the primary path, one of the secondary paths, the FRR detour path, or the FRR bypass path when the head-end node is also the PLR.

For SR-TE LSPs, egress statistics are collected independently for each path (primary, backup standby or not), and are preserved on switchover (except for non-standby).

LSP egress statistics are collected if the head-end node is also the Penultimate-Popping Hop (PHP) node for a single-hop LSP using an implicit null egress label.

RSVP-TE LSP statistics are not collected on a dynamic or a static bypass tunnel itself.

Statistics collection on two labels of the stack is possible. Please refer to **config>system>ip>mpls>label-stack-statistics-count**.

The **no** form of this command disables the statistics in the egress data path and removes the accounting policy association from the LSP.

Default

no egress-statistics

Platforms

All

egress-statistics

Syntax

[**no**] **egress-statistics**

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy egress-statistics)

Full Context

configure router mpls forwarding-policies forwarding-policy egress-statistics

Description

This command configures egress statistics in an MPLS forwarding policy.

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The **no** form of this command removes any egress statistics in a forwarding policy.

Default

no egress-statistics

Platforms

All

egress-statistics

Syntax

egress-statistics

Context

[Tree] (config>router>ospf>segm-rtng egress-statistics)

[Tree] (config>router>isis>segm-rtng egress-statistics)

[Tree] (config>router>ospf3>segm-rtng egress-statistics)

Full Context

configure router ospf segment-routing egress-statistics

configure router isis segment-routing egress-statistics

configure router ospf3 segment-routing egress-statistics

Description

Commands in this context configure the egress statistics for IGP SIDs.

Platforms

All

egress-statistics

Syntax

[**no**] **egress-statistics**

Context

[Tree] (config>router>segment-routing>sr-policies egress-statistics)

Full Context

configure router segment-routing sr-policies egress-statistics

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Description

This command administratively enables the collection of egress traffic statistics for all segment routing policies.

The **no** form of this command disables egress traffic statistics collection for all segment routing policies.

Default

no egress-statistics

Platforms

All

egress-statistics

Syntax

[**no**] **egress-statistics**

Context

[Tree] (config>router>policy-options>policy-statement>default-action egress-statistics)

[Tree] (config>router>policy-options>policy-statement>entry>action egress-statistics)

Full Context

configure router policy-options policy-statement default-action egress-statistics

configure router policy-options policy-statement entry action egress-statistics

Description

This command enables the allocation of statistical indexes to BGP-LU route entries that are programmed on an egress data path.

The **no** form of this command disables the allocation of statistical indexes to BGP-LU entries.

Default

no egress-statistics

Platforms

All

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14.43 egress-xpl

egress-xpl

Syntax

egress-xpl

Context

[Tree] (config>card>mda egress-xpl)

Full Context

configure card mda egress-xpl

Description

Commands in this context configure **egress-xpl** settings used by the **fail-on-error** feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.44 eibgp-loadbalance

eibgp-loadbalance

Syntax

[**no**] **eibgp-loadbalance**

Context

[Tree] (config>service>vprn>bgp eibgp-loadbalance)

Full Context

configure service vprn bgp eibgp-loadbalance

Description

This command enables eiBGP load sharing so routes with both MP-BGP and IPv4 next-hops can be used simultaneously.

In order for this command to be effective, the **ecmp** and **multipath** commands for the associated VPRN instance must also be configured to allow for multiple routes to the same destination.

The **no** form of this command used at the global level reverts to default values.

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Default

no eibgp-loadbalance

Platforms

All

14.45 eler-enh-load-balancing

eler-enh-load-balancing

Syntax

[**no**] **eler-enh-load-balancing**

Context

[Tree] (config>system>load-balancing eler-enh-load-balancing)

Full Context

configure system load-balancing eler-enh-load-balancing

Description

This command enables load balancing of non-IP traffic ingressing at the eLER based on the outer MPLS label stack. When this command is enabled, the eLER load-balances the incoming traffic using one of the following options:

- the entropy label if EL/ELI is present
- the hash label (BoS) if the hash label is present in the MPLS label stack

If both the hash label and EL/ELI are present, the eLER load-balances the incoming traffic using the hash label in the MPLS label stack.

Note:

- Enhanced load balancing is operational only in cards using FP4 or higher. For cards with FP3 or lower, this command is available in the CLI but has no effect when configured.
- The 7450 ESS, 7750 SR, 7950 XRS, and VSR do not support use of the entropy label and hash label at the same time. Consequently, both these labels may only be present in the same packet at the same time if the packet is received from a third-party device in the network.

The **no** form of this command disables load balancing based on the outer MPLS label stack.

Default

no eler-enh-load-balancing

Platforms

All

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14.46 elevation-mask-angle

elevation-mask-angle

Syntax

elevation-mask-angle *degrees*

Context

[Tree] (config>port>gnss elevation-mask-angle)

Full Context

configure port gnss elevation-mask-angle

Description

This command configures the elevation mask angle, which provides a method of filtering satellites used by the system. This command is supported on platforms that have one or more embedded GNSS receivers.

Satellites with low elevation may provide degraded accuracy because of the long signal path through the atmosphere. Signals from satellites below the configured minimum satellite elevation are not used.

Note:
Nokia recommends not to configure an elevation mask angle below 10°.

Default

10

Parameters

degrees

Specifies the elevation mask angle in degrees from the horizon.

Values 0 to 89

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

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14.47 elmi

elmi

Syntax

elmi

Context

[Tree] (config>port>ethernet elmi)

Full Context

configure port ethernet elmi

Description

This command configures Ethernet Local Management Interface (E-LMI) parameters for the Ethernet port. E-LMI is only supported on Ethernet access ports with Dot1q encapsulation type.

Platforms

All

14.48 embed-filter

embed-filter

Syntax

embed-filter *ip-filter-id* [**offset** *offset*] [{**active** | **inactive**}]

no embed-filter *ip-filter-id*

embed-filter *ipv6-filter-id* [**offset** *offset*] [{**active** | **inactive**}]

no embed-filter *ipv6-filter-id*

embed-filter flowspec [**group** *group-id*] [**router** {*router-instance* | **service-name** *vprn-service-name*}] [**offset** *offset*] [{**active** | **inactive**}]

no embed-filter flowspec [**group** *group-id*]

Context

[Tree] (config>filter>ip-filter embed-filter)

[Tree] (config>filter>ipv6-filter embed-filter)

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Full Context

configure filter ip-filter embed-filter

configure filter ipv6-filter embed-filter

Description

This command embeds a previously defined IPv4, IPv6, or MAC embedded filter policy into this exclusive, template, or system filter policy at the specified offset value. Rules derived from the BGP FlowSpec can also be embedded into template filter policies only.

The **embed-filter flowspec** form of this command enables the embedding of rules derived from BGP FlowSpec routes into the filter policy that is being configured. The optional **group** parameter specifies that only FlowSpec routes tagged with an interface-set extended community containing this group ID should be selected for embedding. The optional **router** parameter specifies the routing instance source of the BGP FlowSpec routes; if the parameter is not specified, the routing instance is derived automatically from the context in which the filter policy is applied.

The **no embed-filter flowspec** form of this command removes the FlowSpec filter embedding from this filter policy.

The **no embed-filter** *filter-id* form of this command removes the embedding from this filter policy.

See the description of embedded filter policies in this guide for further operational details.

Parameters

ip-filter-id

Specifies a previously defined IPv4 policy for embedding in this filter.

ipv6-filter-id

Specifies a previously defined IPv6 policy for embedding in this filter.

offset

Specifies that an embedded filter entry X will have an entry X + offset in the embedding filter.

Values 0 to 2097151

Default 0

active

Specifies that embedded filter entries are to be included in this embedding filter policy and activated on applicable line cards—default if no keyword is specified and omitted from **info** command output (but not **info detail**), or when saving the configuration.

inactive

Specifies that no embedded filter policy entries are to be included in this embedding filter policy. The embedding is configured but will not do anything.

flowspec

This keyword indicates that rules derived from BGP FlowSpec routes should be embedded into (or removed from, in case of the **no** form) the filter.

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group-id

Specifies that only FlowSpec routes with an interface-set extended community with this value of *group-id* should be selected for embedding.

Values 0 to 16383

router-instance

Specifies a router instance.

vprn-service-name

Specifies the VPRN service name used for embedding FlowSpec rules.

service-name

Specifies an existing VPRN or VPLS service name up to 64 characters that the embedding filter can be used for.

Platforms

All

14.49 embedded-rp

embedded-rp

Syntax

embedded-rp

Context

[Tree] (config>service>vprn>pim>rp>ipv6 embedded-rp)

Full Context

configure service vprn pim rp ipv6 embedded-rp

Description

This command enables context to configure IPv6 embedded RP parameters.

Platforms

All

embedded-rp

Syntax

[**no**] **embedded-rp**

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Context

[Tree] (config>router>pim>rp>ipv6 embedded-rp)

Full Context

configure router pim rp ipv6 embedded-rp

Description

Commands in this context configure embedded RP parameters.

Embedded RP is required to support IPv6 inter-domain multicast because there is no MSDP equivalent in IPv6.

The detailed protocol specification is defined in RFC 3956, *Embedding the Rendezvous Point (RP) Address in an IPv6 Multicast Address*. This RFC describes a multicast address allocation policy in which the address of the RP is encoded in the IPv6 multicast group address, and specifies a PIM-SM group-to-RP mapping to use the encoding, leveraging, and extending unicast-prefix-based addressing. This mechanism not only provides a simple solution for IPv6 inter-domain ASM but can be used as a simple solution for IPv6 intra-domain ASM with scoped multicast addresses as well. It can also be used as an automatic RP discovery mechanism in those deployment scenarios that would have previously used the Bootstrap Router protocol (BSR).

The **no** form of this command disables embedded RP.

Platforms

All

14.50 emulated-server

emulated-server

Syntax

emulated-server *ip-address*

no emulated-server

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>proxy emulated-server)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>proxy emulated-server)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>proxy-server emulated-server)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>proxy-server emulated-server)

[Tree] (config>service>vprn>if>dhcp>proxy-server emulated-server)

[Tree] (config>service>ies>if>dhcp>proxy-server emulated-server)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy-server emulated-server)

[Tree] (config>service>vpls>sap>dhcp>proxy-server emulated-server)

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Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp proxy-server emulated-server

configure service vprn subscriber-interface ipv6 dhcp6 proxy emulated-server

configure service ies subscriber-interface group-interface dhcp proxy-server emulated-server

configure service vprn subscriber-interface group-interface dhcp proxy-server emulated-server

configure service vprn interface dhcp proxy-server emulated-server

configure service ies interface dhcp proxy-server emulated-server

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server emulated-server

configure service vpls sap dhcp proxy-server emulated-server

Description

This command configures the IP address which is used as the DHCP server address in the context of the SAP. Typically, the configured address should be in the context of the subnet represented by the service.

The **no** form of this command reverts to the default setting. The local proxy server will not become operational without the emulated-server address being specified.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the emulated server's IP address. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server emulated-server
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp proxy-server emulated-server
- configure service vprn subscriber-interface group-interface dhcp proxy-server emulated-server
- configure service ies subscriber-interface group-interface dhcp proxy-server emulated-server

All

- configure service vprn interface dhcp proxy-server emulated-server
- configure service ies interface dhcp proxy-server emulated-server
- configure service vpls sap dhcp proxy-server emulated-server

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14.51 enable

enable

Syntax

[no] enable

Context

[Tree] (config>port>access>egress>pool>monitor-depth enable)

[Tree] (config>card>fp>ingress>network>pool>monitor-depth enable)

[Tree] (config>port>access>ingress>pool>monitor-depth enable)

[Tree] (config>port>network>egress>pool>monitor-depth enable)

Full Context

configure port access egress pool monitor-pool-depth enable

configure card fp ingress network pool monitor-pool-depth enable

configure port access ingress pool monitor-pool-depth enable

configure port network egress pool monitor-pool-depth enable

Description

This command enables buffer pool monitoring.

The **no** form of this command disables buffer pool monitoring.

Default

no enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

enable

Syntax

[**no**] **enable**

Context

[Tree] (config>app-assure>group>ip-id-asst>pos-app-id enable)

Full Context

configure application-assurance group ip-identification-assist positive-app-id enable

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Description

This command configures the router to use the positive application identification mechanism. This mechanism causes the router to add the IP addresses of the global applications learned through AA analysis into the IP identification assist cache. The router uses the harvested IP addresses to build its internal application-IP database.

The **no** form of this command configures the router to use only DNS to harvest IP addresses.

Default

enable

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

14.52 enable-admin

enable-admin

Syntax

enable-admin

Context

[Tree] (enable-admin)

Full Context

enable-admin

Description

See the description for the **admin-password** command. If the **admin-password** is configured in the **config>system>security>password** context, then any user can enter a special administrative mode by entering the **enable-admin** command.

enable-admin is in the default profile. By default, all users are given access to this command.

Once the **enable-admin** command is entered, the user is prompted for a password. If the password matches, the user is given unrestricted access to all the commands.

The minimum length of the password is determined by the **minimum-length** command. The complexity requirements for the password are determined by the **complexity** command.

The following shows a password configuration example:

```
A:ALA-1>config>system>security# info
----------------------------------------------
...
            password
                aging 365
                minimum-length 8
                attempts 5 time 5 lockout 20
```


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```
                admin-password "rUYUz9XMo6I" hash
            exit
...
-------------------------------------------
A:ALA-1>config>system>security#
```

There are two ways to verify that a user is in the enable-admin mode:

- show users — administrator can know which users are in this mode
- Enter the **enable-admin** command again at the root prompt and an error message will be returned.

```
*A:node-1# show users
===============================================================================
User                              Type      Login time           Idle time
  Session ID   From
===============================================================================
                                  Console         --             3d 10:16:12 --
  6            --
admin                             SSHv2     12OCT2018 20:44:15   0d 00:00:00 A-
 #83           192.168.0.10
admin                             SSHv2     12OCT2018 21:09:25   0d 00:05:10 --
  84           192.168.0.10
-------------------------------------------------------------------------------
Number of users: 2
'#' indicates the current active session
'A' indicates user is in admin mode
===============================================================================
*A:node-1# enable-admin
MINOR: CLI Already in admin mode.
*A:node-1#
```

Platforms

All

14.53 enable-admin-control

enable-admin-control

Syntax

enable-admin-control

Context

[Tree] (config>system>security>password enable-admin-control)

Full Context

configure system security password enable-admin-control

Description

Enable the user to become a system administrator.

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Note:
This command applies to users on RADIUS, TACACS, and LDAP.

Platforms

All

14.54 enable-asm-mdt

enable-asm-mdt

Syntax

[**no**] **enable-asm-mdt**

Context

[Tree] (config>service>vprn>mvpn>pt>selective enable-asm-mdt)

Full Context

configure service vprn mvpn provider-tunnel selective enable-asm-mdt

Description

This command enables Data MDT with PIM-ASM mode on the receiver PE node. PIM-ASM or PIM-SSM operation mode is derived based on the locally configured SSM range on the node.

If asm-mode is disabled using this command, then PIM-SSM mode is enabled for all groups, independent of the configured SSM range on the node.

Platforms

All

14.55 enable-bfd-leaf

enable-bfd-leaf

Syntax

[**no**] **enable-bfd-leaf**

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>rsvp enable-bfd-leaf)

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Full Context

configure service vprn mvpn provider-tunnel inclusive rsvp enable-bfd-leaf

Description

This command enables unidirectional multi-point BFD session on a receiver (leaf) PE node for upstream fast failure detection over RSVP-TE P2MP LSP.

Platforms

All

enable-bfd-leaf

Syntax

[**no**] **enable-bfd-leaf**

Context

[Tree] (configure>service>vprn>mvpn>provider-tunnel>inclusive>p2mp-sr enable-bfd-leaf)

Full Context

configure service vprn mvpn provider-tunnel inclusive p2mp-sr enable-bfd-leaf

Description

This command enables unidirectional multipoint BFD sessions on a receiver (leaf) PE node for upstream fast failure detection over P2MP SR tree LSP.

The **no** form of this command disables unidirectional multipoint BFD sessions.

Default

no enable-bfd-leaf

Platforms

All

14.56 enable-bfd-root

enable-bfd-root

Syntax

enable-bfd-root *transmit-interval* [**multiplier** *multiplier*]

no enable-bfd-root

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Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>rsvp enable-bfd-root)

Full Context

configure service vprn mvpn provider-tunnel inclusive rsvp enable-bfd-root

Description

This command enables unidirectional multi-point BFD session on a sender (Root) PE node for upstream fast failure detection over RSVP-TE P2MP LSP.

Parameters

transmit-interval

Sets the transmit interval, in milliseconds.

Values 10 to 100000

Default 100

multiplier

Sets the multiplier for the BFD session.

Values 3 to 20

Default 3

Platforms

All

enable-bfd-root

Syntax

enable-bfd-root *transmit-interval* [**multiplier** *multiplier*]

no enable-bfd-root

Context

[Tree] (configure>service>vprn>mvpn>pt>inclusive>p2mp-sr enable-bfd-root)

Full Context

configure service vprn mvpn provider-tunnel inclusive p2mp-sr enable-bfd-root

Description

This command enables a unidirectional multi-point BFD session on a sender (Root) PE node for upstream fast failure detection over P2MP SR tree LSP. The node uses the multiplier and the transmit interval parameters to calculate the detection time, which is the period of time without receiving BFD packets after which the session failure is determined.

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Default

no enable-bfd-root

Parameters

transmit-interval

Sets the transmit interval, in milliseconds.

Values 10 to 100000

Default 300

multiplier

Sets the multiplier for the transmit interval of the BFD session.

Values 3 to 20

Default 3

Platforms

All

14.57 enable-bgp-vpn-backup

enable-bgp-vpn-backup

Syntax

enable-bgp-vpn-backup [**ipv4**] [**ipv6**]

no enable-bgp-vpn-backup

Context

[Tree] (config>service>vprn enable-bgp-vpn-backup)

Full Context

configure service vprn enable-bgp-vpn-backup

Description

This command allows BGP-VPN routes imported into the VPRN to be used as backup paths for IPv4 or IPv6 BGP-learned prefixes.

Parameters

ipv4

Allows BGP-VPN routes to be used as backup paths for IPv4 prefixes.

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ipv6

Allows BGP-VPN routes to be used as backup paths for IPv6 prefixes.

Platforms

All

14.58 enable-console-access

enable-console-access

Syntax

[**no**] **enable-console-access**

Context

[Tree] (config>system>satellite>eth-sat enable-console-access)

Full Context

configure system satellite eth-sat enable-console-access

Description

This command enables access to a satellite console interface for additional debugging purposes.

When configured through the 7750 SR, 7450 ESS, and 7950 XRS host CLI, the 7210 SAS console port is enabled to perform the debug function. Console commands are limited to specific show commands and no configuration or operational changes can be made using the 7210 console.

The **no** form of this command disables satellite console interface access.

Default

no enable-console-access

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.59 enable-dscp-prec-remarking

enable-dscp-prec-remarking

Syntax

[**no**] **enable-dscp-prec-remarking**

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Context

[Tree] (config>qos>sap-egress>policer enable-dscp-prec-remarking)

Full Context

configure qos sap-egress policer enable-dscp-prec-remarking

Description

This command enables DSCP/precedence remarking based on the profile state of a packet being forwarded by a SAP or subscriber egress policer. The DSCP/precedence can be remarked to a value independent of, or separately based on, the packet's profile, if the packet has an exceed, in-profile, or out-of-profile state.

Default

no enable-dscp-prec-remarking

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

14.60 enable-dynamic-services-config

enable-dynamic-services-config

Syntax

[**no**] **enable-dynamic-services-config**

Context

[Tree] (enable-dynamic-services-config)

Full Context

enable-dynamic-services-config

Description

Note:
See also the description for the **dynsvc-password** command.

If the dynsvc-password is configured in the **config>system>security>password** context, then any user can enter a special dynamic services configuration mode by entering the **enable-dynamic-services-config** command.

The **enable-dynamic-services-config** command is not in the default profile. To give access to this command, the user must belong to the administrative profile or a new profile should be created.

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Once the **enable-dynamic-services-config** command is entered, the user is prompted for a password. If the password matches, the user is given access to the dynamic services configuration. Access to static configuration is in this case prohibited.

To verify that a user is in the **enable-dynamic-services-config** mode, use the **show users** command. Users in the **enable-dynamic-services-config** mode lists the letter "D" next to the user's CLI session.

The **no** form of this command disables the dynamic services configuration mode for this user.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.61 enable-exceed-pir

enable-exceed-pir

Syntax

[**no**] **enable-exceed-pir**

Context

[Tree] (config>qos>sap-egress>policer enable-exceed-pir)

Full Context

configure qos sap-egress policer enable-exceed-pir

Description

This command enables the forwarding of packets with an exceed-profile state and traffic exceeding the PIR for a SAP egress or a network egress queue group (configured in the egress queue group template) policer. This traffic is forwarded as exceed-profile instead of being dropped. This parameter is not supported when **policers-hqos-manageable** is configured in the SAP egress QoS policy.

Default

no enable-exceed-pir

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

enable-exceed-pir

Syntax

[**no**] **enable-exceed-pir**

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Context

[Tree] (cfg>qos>qgrps>egr>qgrp>policer enable-exceed-pir)

Full Context

configure qos queue-group-templates egress queue-group policer enable-exceed-pir

Description

This command enables the forwarding of traffic exceeding the PIR for a SAP egress or a network egress queue group (configured in the egress queue group template) policer. This traffic is forwarded as exceed-profile instead of being dropped.

Default

no enable-exceed-pir

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

14.62 enable-fc-collection

enable-fc-collection

Syntax

[**no**] **enable-fc-collection**

Context

[Tree] (config>oam-pm>session>ethernet>lmm enable-fc-collection)

Full Context

configure oam-pm session ethernet lmm enable-fc-collection

Description

This command enables the ETH-LMM test within the OAM-PM session to collect per-FC counters. This command must be used in combination with the **collect-lmm-fc-stats** command for the entity over which the source MEP is defined. The **config**>**oam-pm**>**session**>**ethernet**>**priority** value must match the numerical value that represents the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE).

The OAM-PM infrastructure does not validate that the proper counting mode has been configured on the entity that is linked to the source MEP, and does not validate that the FC and priority have been configured. The **show**>**eth-cfm**>**collect-lmm-fc-stats** command may be used to display the entities and the FCs on those entities that have established individual FC counters.

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Sessions that launch from the same source MEP must use the same counting model; either **collect-lmm-fc-stats** for individual counters for the defined FCs, or **collect-lmm-stats** for a single all-encompassing counter.

Individual OAM-PM sessions must be configured if multiple Ethernet LMM tests are required for different FCs. Cross-session validation occurs to ensure that a source MEP does not include multiple tests that are using the same priority.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Platforms

All

14.63 enable-graceful-shutdown

enable-graceful-shutdown

Syntax

[**no**] **enable-graceful-shutdown**

Context

[Tree] (config>system>login-control>telnet enable-graceful-shutdown)

Full Context

configure system login-control telnet enable-graceful-shutdown

Description

This command enables graceful shutdown of telnet sessions.

The **no** form of this command disables graceful shutdown of telnet sessions.

Platforms

All

14.64 enable-grt

enable-grt

Syntax

[**no**] **enable-grt**

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Context

[Tree] (config>service>vprn>grt-lookup enable-grt)

Full Context

configure service vprn grt-lookup enable-grt

Description

This command enables the functions required for looking up routes in the Global Route Table (GRT) when the lookup in the local VRF fails. If this command is enabled without the use of a **static-route** option (as subcommand to this parent), a lookup in the local VRF is preferred over the GRT. When the local VRF returns no route table lookup matches, the result from the GRT is preferred.

The **no** form of this command disables the lookup in the GRT when the lookup in the local VRF fails.

Default

no enable-grt

Platforms

All

14.65 enable-icmp-vse

enable-icmp-vse

Syntax

[**no**] **enable-icmp-vse**

Context

[Tree] (config>system enable-icmp-vse)

Full Context

configure system enable-icmp-vse

Description

This command enables vendor specific extensions to ICMP.

Default

no enable-icmp-vse

Platforms

All

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14.66 enable-ingress-stats

enable-ingress-stats

Syntax

[**no**] **enable-ingress-stats**

Context

[Tree] (config>router>if enable-ingress-stats)

[Tree] (config>service>vprn>if enable-ingress-stats)

[Tree] (config>service>vprn>nw-if enable-ingress-stats)

[Tree] (config>service>ies>if enable-ingress-stats)

[Tree] (config>service>ies>sub-if>grp-if enable-ingress-stats)

[Tree] (config>service>vprn>sub-if>grp-if enable-ingress-stats)

Full Context

configure router interface enable-ingress-stats

configure service vprn interface enable-ingress-stats

configure service vprn network-interface enable-ingress-stats

configure service ies interface enable-ingress-stats

configure service ies subscriber-interface group-interface enable-ingress-stats

configure service vprn subscriber-interface group-interface enable-ingress-stats

Description

This command enables the collection of ingress interface IP statistics for the associated interface. This command is only applicable to IP statistics, and not to uRPF statistics.

If enabled, the following statistics are collected:

- IPv4 offered packets
- IPv4 offered octets
- IPv6 offered packets
- IPv6 offered octets

The **no** form of this command disables the collection of ingress interface IP statistics for the associated interface. When disabled, the "in-packets" statistics field in the **statistics** command output is always 0.

Note:
Octet statistics for IPv4 and IPv6 at IP interfaces include the Layer 2 frame overhead.

Default

no enable-ingress-stats

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Platforms

All

- configure service vprn network-interface enable-ingress-stats
- configure service vprn interface enable-ingress-stats
- configure router interface enable-ingress-stats
- configure service ies interface enable-ingress-stats

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface enable-ingress-stats
- configure service vprn subscriber-interface group-interface enable-ingress-stats

14.67 enable-inter-as-vpn

enable-inter-as-vpn

Syntax

[**no**] **enable-inter-as-vpn**

Context

[Tree] (config>router>bgp enable-inter-as-vpn)

Full Context

configure router bgp enable-inter-as-vpn

Description

This command specifies whether VPNs can exchange routes across autonomous system boundaries, providing model B connectivity.

The **no** form of this command disallows ASBRs to advertise VPRN routes to their peers in other autonomous systems.

Default

no enable-inter-as-vpn

Platforms

All

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14.68 enable-mac-accounting

enable-mac-accounting

Syntax

[**no**] **enable-mac-accounting**

Context

[Tree] (config>service>ies>if enable-mac-accounting)

Full Context

configure service ies interface enable-mac-accounting

Description

This command enables MAC accounting functionality on this interface.

The **no** form of this command disables MAC accounting functionality on this interface.

Platforms

All

enable-mac-accounting

Syntax

[**no**] **enable-mac-accounting**

Context

[Tree] (config>service>vprn>if enable-mac-accounting)

Full Context

configure service vprn interface enable-mac-accounting

Description

This command enables MAC accounting functionality on this interface.

The **no** form of this command disables MAC accounting functionality on this interface.

Platforms

All

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enable-mac-accounting

Syntax

[**no**] **enable-mac-accounting**

Context

[Tree] (config>router>if enable-mac-accounting)

Full Context

configure router interface enable-mac-accounting

Description

This command enables MAC Accounting functionality for the interface.

Default

no enable-mac-accounting

Platforms

All

14.69 enable-mdt-spt

enable-mdt-spt

Syntax

[**no**] **enable-mdt-spt**

Context

[Tree] (config>router>pim enable-mdt-spt)

Full Context

configure router pim enable-mdt-spt

Description

This command enables SPT switchover for default MDT. On enable, PIM instance resets all MDTs and re-initiate setup.

The **no** form of this command disables SPT switchover for default MDT. On disable, PIM instance resets all MDTs and re-initiate setup.

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Default

no enable-mdt-spt

Platforms

All

14.70 enable-notification

enable-notification

Syntax

enable-notification

no enable-notification

Context

[Tree] (config>service>vprn>bgp>graceful-restart enable-notification)

[Tree] (config>service>vprn>bgp>group>graceful-restart enable-notification)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart enable-notification)

Full Context

configure service vprn bgp graceful-restart enable-notification

configure service vprn bgp group graceful-restart enable-notification

configure service vprn bgp group neighbor graceful-restart enable-notification

Description

When this command is present, the graceful restart capability sent by this router indicates support for NOTIFICATION messages. If the peer also supports this capability then the session can be restarted gracefully (while preserving forwarding) if either peer sends a NOTIFICATION message due to some type of event or error.

Default

no enable-notification

Platforms

All

enable-notification

Syntax

enable-notification

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no enable-notification

Context

[Tree] (config>router>bgp>graceful-restart enable-notification)

[Tree] (config>router>bgp>group>graceful-restart enable-notification)

[Tree] (config>router>bgp>group>neighbor>graceful-restart enable-notification)

Full Context

configure router bgp graceful-restart enable-notification

configure router bgp group graceful-restart enable-notification

configure router bgp group neighbor graceful-restart enable-notification

Description

When this command is present, the graceful restart capability sent by this router indicates support for NOTIFICATION messages. If the peer also supports this capability, then the session can be restarted gracefully (while preserving forwarding) if either peer needs to send a NOTIFICATION message due to some type of event or error.

Default

no enable-notification

Platforms

All

14.71 enable-origin-validation

enable-origin-validation

Syntax

enable-origin-validation [**ipv4**] [**ipv6**] [**label-ipv4**]

no enable-origin-validation

Context

[Tree] (config>service>vprn>bgp>group>neighbor enable-origin-validation)

[Tree] (config>service>vprn>bgp>group enable-origin-validation)

Full Context

configure service vprn bgp group neighbor enable-origin-validation

configure service vprn bgp group enable-origin-validation

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Description

When this command is added to the configuration of a group or neighbor, it causes every inbound IPv4, IPv6, and label-IPv4 route from that peer to be marked with one of the following origin validation states:

- Valid (0)
- Not-Found (1)
- Invalid (2)

By default (when no family parameter is present in the command) or when all the family options are specified, all unicast IPv4 (AFI1/SAFI1), label-IPv4 (AFI1/SAFI4), and unicast IPv6 (AFI2/SAFI1) routes are evaluated to determine their origin validation states. When only a subset of the family options are present, then only the corresponding address family routes are evaluated.

This command applies to all types of VPRN BGP peers, generally, it should only be applied to EBGP peers and groups that contain only EBGP peers.

The **no** form of this command disables the inspection of received routes from the peer to determine origin validation state.

Default

no enable-origin-validation

Parameters

ipv4

Enables origin validation processing for unlabeled unicast IPv4 routes.

ipv6

Enables origin validation processing for unlabeled unicast IPv6 routes.

label-ipv4

Enables origin validation processing for labeled IPv4 routes.

Platforms

All

enable-origin-validation

Syntax

enable-origin-validation [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**]

no enable-origin-validation

Context

[Tree] (config>router>bgp>group>neighbor enable-origin-validation)

[Tree] (config>router>bgp>group enable-origin-validation)

Full Context

configure router bgp group neighbor enable-origin-validation

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configure router bgp group enable-origin-validation

Description

When the **enable-origin-validation** command is added to the configuration of a group or neighbor, it causes every inbound IPv4 or IPv6 route from that peer to be marked with one of the following origin validation states:

- Valid (0)
- Not-Found (1)
- Invalid (2)

By default (when neither the ipv4 or ipv6 option is present in the command) or when both the ipv4 and ipv6 options are specified, all unicast IPv4 (AFI1/SAFI1), label-IPv4 (AFI1/SAFI4), unicast IPv6 (AFI2/SAFI1), and label-IPv6 (AFI2/SAFI4) routes are evaluated to determine their origin validation states. When only the ipv4 or ipv6 option is present, only the corresponding address family routes (unlabeled and labeled) are evaluated.

The **enable-origin-validation** command applies to all types of BGP peers, but as a general rule, it should only be applied to EBGP peers and groups that contain only EBGP peers.

Default

no enable-origin-validation

Parameters

ipv4

Enables origin validation processing for unlabeled unicast IPv4 routes.

ipv6

Enables origin validation processing for unlabeled unicast IPv6 routes.

label-ipv4

Enables origin validation processing for labeled IPv4 routes.

label-ipv6

Enables origin validation processing for labeled IPv6 routes.

Platforms

All

14.72 enable-peer-tracking

enable-peer-tracking

Syntax

[**no**] **enable-peer-tracking**

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Context

[Tree] (config>service>vprn>bgp enable-peer-tracking)

[Tree] (config>service>vprn>bgp>group>neighbor enable-peer-tracking)

[Tree] (config>service>vprn>bgp>group enable-peer-tracking)

Full Context

configure service vprn bgp enable-peer-tracking

configure service vprn bgp group neighbor enable-peer-tracking

configure service vprn bgp group enable-peer-tracking

Description

This command enables BGP peer tracking.

Default

no enable-peer-tracking

Platforms

All

enable-peer-tracking

Syntax

[**no**] **enable-peer-tracking**

Context

[Tree] (config>router>bgp>group>neighbor enable-peer-tracking)

[Tree] (config>router>bgp>group enable-peer-tracking)

[Tree] (config>router>bgp enable-peer-tracking)

Full Context

configure router bgp group neighbor enable-peer-tracking

configure router bgp group enable-peer-tracking

configure router bgp enable-peer-tracking

Description

This command enables BGP peer tracking. BGP peer tracking allows a BGP peer to be dropped immediately if the route used to resolve the BGP peer address is removed from the IP routing table and there is no alternative available. The BGP peer will not wait for the holdtimer to expire; therefore, the BGP re-convergence process is accelerated.

The **no** form of this command disables peer tracking.

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Default

no enable-peer-tracking

Platforms

All

14.73 enable-rr-vpn-forwarding

enable-rr-vpn-forwarding

Syntax

[**no**] **enable-rr-vpn-forwarding**

Context

[Tree] (config>router>bgp enable-rr-vpn-forwarding)

Full Context

configure router bgp enable-rr-vpn-forwarding

Description

When this command is configured all received VPN-IP routes, regardless of route target, are imported into the dummy VRF, where the BGP next-hops are resolved. The **label-route-transport-tunnel** under **config>router>bgp>next-hop-resolution** determines what types of tunnels are eligible to resolve the next-hops. If a received VPN-IP route from IBGP peer X is resolved and selected as best so that it can be re-advertised to an IBGP peer Y, and the BGP next-hop is modified towards peer Y (by using the next-hop-self command in Y's group or neighbor context or by using a next-hop action in an export policy applied to Y) then BGP allocates a new VPRN service label value for the route, signals that new label value to Y and programs the IOM to do the corresponding label swap operation. The supported combinations of X and Y are outlined below:

- from X (client) to Y (client)
- from X (client) to Y (non-client)
- from X (non-client) to Y (client)

The **no** form of this command causes the re-advertisement of a VPN-IP route between one IBGP peer and another IBGP peer does not cause a new VPRN service label value to be signaled and programmed even if the BGP next-hop is changed through group/neighbor configuration or policy.

Nokia recommends leaving this command disabled for scaling and convergence reasons.

Default

no enable-rr-vpn-forwarding

Platforms

All

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14.74 enable-statistics

enable-statistics

Syntax

[**no**] **enable-statistics**

Context

[Tree] (config>service>nat>map-domain>mapping-rule enable-statistics)

Full Context

configure service nat map-domain mapping-rule enable-statistics

Description

This commnd enables detailed statistics collection per MAP rule.

This command must be enabled for each rule requiring detailed statistics tracking.

The **no** form of this command disables detailed statistics collection.

Default

no enable-statistics

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

14.75 enable-subconfed-vpn-forwarding

enable-subconfed-vpn-forwarding

Syntax

[**no**] **enable-subconfed-vpn-forwarding**

Context

[Tree] (config>router>bgp enable-subconfed-vpn-forwarding)

Full Context

configure router bgp enable-subconfed-vpn-forwarding

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Description

This command configures BGP to keep VPN-IPv4 and VPN-IPv6 routes within a subconfederation and allow a **next-hop-self** command to create label swap forwarding entries.

When this is enabled, the base router BGP instance retains all received VPN-IPv4 and VPN-IPv6 routes, even those with route targets not matching any VRF import policy of any locally configured VPRN. In addition, when this leaf is enabled and base router BGP is configured to apply a **next-hop-self** command to a peer of any type (EBGP, IBGP, or confed-EBGP), the VPN-IPv4 and VPN-IPv6 routes are advertised to the peer with a new BGP label and next-hop, and a label-swap forwarding entry is programmed.The preceding behaviors are applied when the **enable-inter-as-vpn** or the **enable-rr-vpn-forwarding** commands, both under the **configure router bgp** context, are also enabled in the same BGP instance and regardless of whether the base router has a confederation configuration.

The **no** form of this command disables subconfederation VPN forwarding.

Default

no enable-subconfed-vpn-forwarding

Platforms

All

14.76 enable-tech

enable-tech

Syntax

[**no**] **enable-tech**

Context

[Tree] (admin enable-tech)

Full Context

admin enable-tech

Description

This command enables the **kernel**, **shell**, and **vmhost** commands. These commands are used only by Nokia technical support for troubleshooting.

The **no** form of this command disables these commands.

Platforms

All

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14.77 enable-triggered-hosts

enable-triggered-hosts

Syntax

[**no**] **enable-triggered-hosts**

Context

[Tree] (config>service>vprn>sub-if>grp-if>wpp enable-triggered-hosts)

[Tree] (config>service>ies>sub-if>grp-if>wpp enable-triggered-hosts)

Full Context

configure service vprn subscriber-interface group-interface wpp enable-triggered-hosts

configure service ies subscriber-interface group-interface wpp enable-triggered-hosts

Description

This command enables system to auto creates ESM hosts upon successful WPP authentication. The default host must be configured under SAP on the subscriber SAP to redirect unauthenticated client traffic to the web portal.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.78 encap

encap

Syntax

encap

Context

[Tree] (config>mirror>mirror-dest encap)

Full Context

configure mirror mirror-dest encap

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Description

Commands in this context configure encapsulation options for the mirrored traffic. Note that the use of **encap** is mutually exclusive with SAP or spoke SDP options in the same mirror destination. Only one type of encapsulation can be specified for a single mirror destination. Slicing and encap are mutually exclusive in the same **mirror-dest** context.

Platforms

All

14.79 encap-defined-qos

encap-defined-qos

Syntax

encap-defined-qos

Context

[Tree] (config>service>vpls>sap>egress encap-defined-qos)

Full Context

configure service vpls sap egress encap-defined-qos

Description

This command creates a new QoS sub-context in B-VPLS SAP egress context. The user can define encapsulation groups, referred to as encap-group, based on the ISID value in the packet's encapsulation and assign a QoS policy and a scheduler policy or aggregate rate limit to the group.

Platforms

All

14.80 encap-group

encap-group

Syntax

encap-group *group-name* [**type** *group-type*] [**qos-per-member**] [**create**]

no encap-group *group-name*

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Context

[Tree] (config>service>vpls>sap>egress>encap-defined-qos encap-group)

Full Context

configure service vpls sap egress encap-defined-qos encap-group

Description

This command defines an encapsulation group which consists of a group of ISID values. All packets forwarded on the egress of a B-VPLS SAP which payload header matches one of the ISID value in the encap-group will use the same QoS policy instance and scheduler policy or aggregate rate limit instance.

The user adds or removes members to the encap-group one at a time or as a range of contiguous values using the member command. However, when the qos-per-member option is enabled, members must be added or removed one at a time. These members are also referred to as ISID contexts.

The user can configure one or more encap-groups in the egress context of the same B-SAP, therefore defining different ISID values and applying each a different SAP egress QoS policy, and optionally a different scheduler policy/**agg-rate**. ISID values are unique within the context of a B-SAP. The same ISID value cannot be re-used in another encap-group under the same B-SAP but can be re-used in an encap-group under a different B-SAP. Finally, if the user adds to an encap-group an ISID value which is already a member of this encap-group, the command causes no effect. The same if the user attempts to remove an ISID value which is not a member of this encap-group.

Once a group is created, the user will assign a SAP egress QoS policy, and optionally a scheduler policy or aggregate rate limit, using the following commands:

config>service>vpls>sap>egress>encap-defined-qos>encap-group>qos *sap-egress-policy-id*

config>service>vpls>sap>egress>encap-defined-qos>encap-group>scheduler-policy *scheduler-policy-name*

config>service>vpls>sap>egress>encap-defined-qos>encap-group>agg-rate *kilobits-per-second*

A SAP egress QoS policy must first be assigned to the created encap group before the user can add members to this group. Conversely, the user cannot perform the **no qos** command until all members are deleted from the encap-group.

An explicit or the default SAP egress QoS policy continues to be applied to the entire B-SAP but this will serve to create the set of egress queues which are used to store and forward a packet which does not match any of the defined ISID values in any of the encap-groups for this SAP.

Only the queue definition and fc-to-queue mapping from the encap-group SAP egress QoS policy is applied to the ISID members. All other parameters configurable in a SAP egress QoS policy must be inherited from egress QoS policy applied to the B-SAP.

Furthermore, any other CLI option configured in the egress context of the B-SAP continues to apply to packets matching a member of any encap-group defined in this B-SAP.

The keyword **qos-per-member** allows the user to specify that a separate queue set instance and scheduler/**agg-rate** instance will be created for each ISID value in the encap-group. By default, shared instances will be created for the entire encap-group.

When the B-SAP is configured on a LAG port, the ISID queue instances defined by all the encap-groups applied to the egress context of the SAP will be replicated on each member link of the LAG. The set of scheduler/**agg-rate** instances will be replicated per link or per IOM or XMA depending if the adapt-qos option is set to link/port-fair mode or distribute mode. This is the same behavior as that applied to the entire B-SAP in the current implementation.

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The **no** form of this command deletes the encap-group.

Parameters

group-name

Specifies the name of the encap-group and can be up to 32 ASCII characters in length

type

Specifies the type of the encapsulation ID used by this encap-group

Values isid

qos-per-member

Specifies that a separate queue set instance and scheduler/**agg-rate** instance will be created for each ISID value in the encap-group

Platforms

All

14.81 encap-match

encap-match

Syntax

encap-match {**all-encap** | **double-tag** *encap-value* | **single-tag** *encap-value* | **untagged**}

no encap-match

Context

[Tree] (config>port>ethernet>dot1x>macsec>sub-port encap-match)

Full Context

configure port ethernet dot1x macsec sub-port encap-match

Description

This command defines the sub-set of traffic on this port affected by this MACsec sub-port.

In order to establish an end-to-end communication between the remote MACsec peers encrypting VLAN-tagged traffic, the MKA packets have to be able to travel over the network following the same path as the encrypted traffic. MKA packets are generated with specific tags depending on the traffic match criteria configured, as shown in Table 38: MKA Packet Generation .

The **no** form of this command removes all traffic sub-set definitions from the MACsec sub-port.

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Table 38: MKA Packet Generation

Configuration	Config Example (<s-tag>.<c-tag>)	MKA Packet Generation	Traffic pattern match/behavior
PORT all-encap	Config>port>ethernet>dot1x>macsec Sub-port 10 encap-match all-encap ca-name 10	untagged MKA packet	Matches all traffic on the port, including untagged, single-tag, double-tag. This is the Release 15.0 default behavior.
Untagged	Config>port>ethernet>dot1x>macsec Sub-port 1 encap-match untagged ca-name 2	untagged MKA packet	Matches only untagged traffic on the port
802.1Q single S-TAG (specific S-TAG)	Config>port>ethernet>dot1x>macsec Sub-port 2 encap-match dot1q 1 ca-name 3	MKA packet generated with S-TAG=1	Matches only single-tag traffic on port with tag ID of 1
802.1Q single S-TAG (any S-TAG)	Config>port>ethernet>dot1x>macsec Sub-port 3 encap-match dot1q * ca-name 4	untagged MKA packet	Matches any single-tag traffic on port
802.1ad double tag (both tag have specific TAGs)	Config>port>ethernet>dot1x>macsec Sub-port 4 encap-match qinq 1.1 ca-name 5	MKA packet generated with S-tag=1 and C-TAG=1	Matches only double-tag traffic on port with service tag of 1 and customer tag of 1
802.1ad double tag (specific S-TAG, any C-TAG)	Config>port>ethernet>dot1x>macsec Sub-port 6 encap-match qinq 1.* ca-name 7	MKA packet generated with S-TAG=1	Matches only double-tag traffic on port with service tag of 1 and customer tag of any
802.1ad double tag (any S-TAG, any C-TAG	Config>port>ethernet>dot1x>macsec Sub-port 7 encap-match double-tag *.* ca-name 8	untagged MKA packet	Matches any double-tag traffic on port

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Default

encap-match all-encap

Parameters

all-encap

Specifies that all traffic patterns are matched including untagged, single-tag or double-tag, and all will be encrypted.

untagged

Specifies that only untagged traffic are matched and encrypted.

single-tag

Specifies that only dot1q traffic are matched. Either all single tag traffic can be matched, by using *, or a specific dot1q tag can be matched.

double-tag

Specifies that only qinq traffic are matched. The service tag can be specifically matched or a wild card match (*.*) can be used.

encap-value

Specifies the type and value of the packet encapsulation to match for this MACsec sub-port.

Type	Parameter
all-encap	—
untagged	—
dot1q	[*| s] (s = 0..4094)
qinq	[*.*| s.*| s.c] (s and c = 0..4094)

where:

- S = service tag
- C = customer tag

Platforms

All

14.82 encap-offset

encap-offset

Syntax

encap-offset [**type** *type*]

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no encap-offset

Context

[Tree] (config>subscr-mgmt>sub-profile>egress encap-offset)

Full Context

configure subscriber-mgmt sub-profile egress encap-offset

Description

This command enables the adjustment of the queue and subscriber aggregate rate based on the last mile Ethernet or ATM encapsulation.

The data path computes the adjusted frame size real-time for each serviced packet from a queue by adding the actual packet size to the fixed offset provided by CPM for this queue and variable AAL5 padding.

When this command is enabled, the fixed packet offset is derived from the encapsulation type value signaled in the Access-loop-encapsulation sub-TLV in the Vendor-Specific PPPoE Tags or DHCP Relay Options as per RFC 4679. If the user specifies an encapsulation type with the command, this value is used as the default value for all hosts of this subscriber until a host session signaled a valid value. The signaled value is applied to this host only and the remaining hosts of this subscriber continue to use the user entered default type value if configured, or no offset is applied. However, hosts of the same subscriber using the same SLA profile and which are on the same SAP will share the same instance of FC queues. In this case, the last valid encapsulation value signaled by a host of that same instance of the SAP egress QoS policy will override any previous signaled or configured value.

If the user manually applied a constant byte offset to each packet serviced by the queue by configuring the packet-byte-offset, it will have no effect on the net offset computed for the packet. This net offset is stored in the subscriber host table.

The procedures for handling signaling changes or configuration changes affecting the subscriber profile are as follows:

The avg-frame-size parameter in the subscriber profile is ignored.

If the user specifies an encapsulation type with the command, this value is used as the default value for all hosts of this subscriber until a host session signaled a valid value. The signaled value is applied to this host and other hosts of the same subscriber sharing the same SLA profile and which are on the same SAP. The remaining hosts of this subscriber continue to use the user entered default type value if configured, or no offset is applied.

If the user enables/disables the encap-offset option, or changes the parameter value of the encap-offset option, CPM immediately triggers a re-evaluation of subscribers hosts using the corresponding subscriber profile and an update the IOM with the new fixed offset value.

If a subscriber has a static host or an ARP host, the subscriber host continues to use the user-configured default encapsulation type value or the last valid encapsulation value signaled in the PPPoE tags or DHCP relay options by other hosts of the same subscriber which use the same SLA profile instance. If none was signaled or configured, then no rate adjustment is applied.

When the encap-offset option is configured in the subscriber profile, the subscriber host queue rates, that is, CLI and operational PIR and CIR as well as queue bucket updates, the queue statistics, that is, forwarded, dropped, and HQoS offered counters use the last-mile frame-over-the-wire format. The scheduler policy CLI and operational rates also use LM-FoW format. The port scheduler max-rate and the priority level rates and weights, if a Weighted Scheduler Group is used, are always entered in CLI and

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interpreted as local port frame-over-the-wire rates. The same is true for an agg-rate-limit applied to a Vport. Finally the subscriber agg-rate-limit is entered in CLI as last-mile frame-over-the-wire rate. The system maintains a running average frame expansion ratio for each queue to convert queue rates between these two formats.

The **no** form of this command reverts to the default.

Parameters

type

The name of the default encapsulation used for all host queues of a subscriber in the absence of a valid value signaled in the PPPoE tags.

Values pppoa-llc, pppoa-null, pppoeoa-llc, pppoeoa-llc-fcs, pppoeoa-llc-tagged, pppoeoa-llc-tagged-fcs, pppoeoa-null, pppoeoa-null-fcs, pppoeoa-null-tagged, pppoeoa-null-tagged-fcs, ipoa-llc, ipoa-null, ipoeoa-llc, ipoeoa-llc-fcs, ipoeoa-llc-tagged, ipoeoa-llc-tagged-fcs, ipoeoa-null, ipoeoa-null-fcs, ipoeoa-null-tagged, ipoeoa-null-tagged-fcs, pppoe, pppoe-tagged, ipoe, ipoe-tagged

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

encap-offset

Syntax

encap-offset [**type** *encap-type*]

no encap-offset

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>access-loop-encapsulation encap-offset)

Full Context

configure subscriber-mgmt local-user-db ppp host access-loop-encapsulation encap-offset

Description

This command is applicable within the LAC/LNS context. It provides the last mile link encapsulation information that is needed for proper (shaping) rate calculations and interleaving delay in the last mile.

The encapsulation value will be taken from the following sources in the order of priority:

- Statically provisioned value in local user database (LUDB).
- RADIUS
- PPPoE tags on LAC or ICRQ message (RFC 5515) on LNS

In case that the encapsulation information is not provided by any of the existing means (LUDB, RADIUS, AVP signaling, PPPoE Tags), then by default pppoea-null encapsulation will be in effect.

The following values are supported encapsulation values on LNS in the 7750 SR.

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encap-type:

pppoa-llc	LLC (NLPID) PPPoA encapsulation.
pppoa-null	VC-MUX PPPoA encapsulation.
pppoeoa-llc	LLC/SNAP based bridged Ethernet PPPoEoA encapsulation without FCS.
pppoeoa-llc-fcs	LLC/SNAP based bridged Ethernet PPPoEoA encapsulation with FCS.
pppoeoa-null	VC-MUX PPPoEoA encapsulation without FCS.
pppoeoa-null-fcs	VC-MUX PPPoEoA encapsulation with FCS.
pppoe	PPPoE encapsulation.
pppoe-tagged	Tagged PPPoE Encapsulation.

The values are not supported encapsulation values on LNS in the 7750 SR.

pppoeoa-llc-tagged

pppoeoa-llc-tagged-fcs

pppoeoa-null-tagged

pppoeoa-null-tagged-fcs

ipoa-llc

ipoa-null

ipoeeoa-llc

ipoeoa-llc-fcs

ipoeoa-llc-tagged

ipoeoa-llc-tagged-fcs

ipoeoa-null

ipoeoa-null-fcs

ipoeoa-null-tagged

ipoeoa-null-tagged-fcs

ipoe

ipoe-tagged

Default

no encap-offset

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

14.83 encap-tag-range

encap-tag-range

Syntax

encap-tag-range start-tag *start-tag* **end-tag** *end-tag*

no encap-tag-range

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident encap-tag-range)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident encap-tag-range)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification encap-tag-range

configure subscriber-mgmt local-user-db ppp host host-identification encap-tag-range

Description

This command specifies a range of encapsulation tags as the host identifications. The encapsulation tag is dot1q or qinq on Ethernet port.

For dot1q, the start/end-tag is single number, range from 0-4094; for QinQ, the start/end-tag format is x.y, x or y could be "*", which means ignore inner or outer tag.

Note:
This command is only used when **encap-tag-range** is configured as one of the **match-list** parameters.

The **no** form of this command removes the encapsulation tag range from the configuration.

Parameters

start-tag *start-tag*

Specifies the value of the start label in the range of SAPs allowed on this host.

Values	*start-tag*	dot1q	qtag1
		qinq	(qtag1.qtag2 | qtag1.* | *.qtag2)

end-tag *end-tag*

Specifies the value of the end label in the range of SAPs allowed on this host.

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Values	*end-tag*	dot1q	qtag1
		qinq	(qtag1.qtag2 | qtag1.* | *.qtag2)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.84 encap-tag-separate-range

encap-tag-separate-range

Syntax

encap-tag-separate-range outer *outer-encap-range* **inner** *inner-encap-range*

no encap-tag-separate-range

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident encap-tag-separate-range)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident encap-tag-separate-range)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification encap-tag-separate-range

configure subscriber-mgmt local-user-db ppp host host-identification encap-tag-separate-range

Description

This command specifies a range of encapsulation tags as the host identifications.

Note:
This command is only used when **encap-tag-separate-range** is configured as one of the **match-list** parameters.

The **no** form of this command removes the range of encapsulation tags from the configuration.

Default

no encap-tag-separate-range

Parameters

outer-encap-range

Specifies the value of the outer encapsulation tag range.

Values *start-qtag* - *end-qtag*

start-qtag: 0 to 4094

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end-qtag: 0 to 4094

inner-encap-range

Specifies the value of the inner encapsulation tag range.

Values *start-qtag* - *end-qtag*

start-qtag: 0 to 4094

end-qtag: 0 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.85 encap-type

encap-type

Syntax

encap-type {**default** | **null** | **dot1q** | **qinq**}

no encap-type

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap encap-type)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap encap-type)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw l2-access-points l2-ap encap-type

configure service ies subscriber-interface group-interface wlan-gw l2-access-points l2-ap encap-type

Description

If different from default, this command overrides the value specified by **l2-ap-encap-type** on wlan-gw level. See the description of l2-ap-encap-type for more detail. This value can only be changed while the l2-ap is shut down.

The **no** form of this command sets the default value.

Default

encap-type default

Parameters

default

Specifies to use the value specified by l2-ap-encap-type.

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null

Specifies to use both the SAP and the AP are not VLAN-tagged.

dot1q

Specifies to use either the AP or the SAP uses one VLAN tag.

qinq

Up to two VLAN tags are used by the AP or SAP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

encap-type

Syntax

encap-type {**dot1q** | **null** | **qinq**}

no encap-type

Context

[Tree] (config>port>ethernet encap-type)

Full Context

configure port ethernet encap-type

Description

This command configures the encapsulation method used to distinguish customer traffic on an Ethernet access port, or different VLANs on a network port.

The **no** form of this command restores the default.

Default

encap-type null

Parameters

dot1q

Ingress frames carry 802.1Q tags where each tag signifies a different service.

null

Ingress frames will not use any tags to delineate a service. As a result, only one service can be configured on a port with a null encapsulation type.

qinq

Specifies QinQ encapsulation.

Platforms

All

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encap-type

Syntax

encap-type {**cem**}

Context

[Tree] (config>port>tdm>e3 encap-type)

[Tree] (config>port>tdm>ds3 encap-type)

Full Context

configure port tdm e3 encap-type

configure port tdm ds3 encap-type

Description

This command configures the encapsulation method used to on the specified port, path, or channel. This parameter can be set on both access and network ports.

The **no** form of this command restores the default.

Default

encap-type bcp-null

Parameters

cem

Specifies that on circuit emulation MDAs, only the **cem** encap-type is supported. All other values are blocked with an appropriate warning. The **cem** encap-type is not supported on other MDAs and are blocked with an appropriate warning.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

encap-type

Syntax

encap-type {**dot1q** | **null** | **qinq**}

no encap-type

Context

[Tree] (config>lag encap-type)

Full Context

configure lag encap-type

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Description

This command configures the encapsulation method used to distinguish customer traffic on a LAG. The encapsulation type is configurable on a LAG port. The LAG port and the port member encapsulation types must match when adding a port member.

If the encapsulation type of the LAG port is changed, the encapsulation type on all the port members will also change. The encapsulation type can be changed on the LAG port only if there is no interface associated with it. If the MTU is set to a non-default value, it will be reset to the default value when the encap type is changed.

The **no** form of this command restores the default.

Default

encap-type null — All traffic on the port belongs to a single service or VLAN.

Parameters

dot1q

Ingress frames carry 802.1Q tags where each tag signifies a different service.

null

Ingress frames will not use any tags to delineate a service. As a result, only one service can be configured on a port with a null encapsulation type.

qinq

Specifies QinQ encapsulation.

Platforms

All

encap-type

Syntax

encap-type {**dot1q**| **qinq**}

no encap-type

Context

[Tree] (config>eth-tunnel>ethernet encap-type)

Full Context

configure eth-tunnel ethernet encap-type

Description

This command configures the encapsulation method used to distinguish customer traffic on a LAG. The encapsulation type is configurable on a LAG port. The LAG port and the port member encapsulation types must match when adding a port member.

If the encapsulation type of the LAG port is changed, the encapsulation type on all the port members will also change. The encapsulation type can be changed on the LAG port only if there is no interface

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associated with it. If the MTU is set to a non-default value, it will be reset to the default value when the encap type is changed.

The **no** form of this command reverts to the default.

Default

encap-type dot1q

Parameters

dot1q

Specifies that frames carry 802.1Q tags where each tag signifies a different service.

qinq

Specifies the qinq encapsulation method.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

encap-type

Syntax

encap-type {**dot1q** | **qinq**}

no encap-type

Context

[Tree] (config>pw-port encap-type)

Full Context

configure pw-port encap-type

Description

This command configures the encapsulation type on a PW port. Customer Ethernet frames can be single-tagged or double-tagged, and this command determines the number of tags that the SR OS will check (and strip) on PW-SAP ingress and insert on PW-SAP egress.

The **no** form of this command removes the configuration.

Parameters

dot1q

Specifies that the encapsulation type is dot1q; used when the customer's Ethernet frame is single-tagged.

qinq

Specifies that the encapsulation type is qinq; used when the customer's Ethernet frame is double-tagged.

Default dot1q

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Platforms

All

14.86 encapsulated-ip-mtu

encapsulated-ip-mtu

Syntax

encapsulated-ip-mtu *bytes*

no encapsulated-ip-mtu

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel encapsulated-ip-mtu)

[Tree] (config>router>if>ipsec>ipsec-tunnel encapsulated-ip-mtu)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel encapsulated-ip-mtu)

[Tree] (config>service>ies>if>sap>ip-tunnel encapsulated-ip-mtu)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel encapsulated-ip-mtu)

[Tree] (config>ipsec>tnl-temp encapsulated-ip-mtu)

[Tree] (config>service>vprn>if>sap>ipsec-tun encapsulated-ip-mtu)

Full Context

configure service vprn interface sap ip-tunnel encapsulated-ip-mtu

configure router interface ipsec ipsec-tunnel encapsulated-ip-mtu

configure service ies interface ipsec ipsec-tunnel encapsulated-ip-mtu

configure service ies interface sap ip-tunnel encapsulated-ip-mtu

configure service vprn interface ipsec ipsec-tunnel encapsulated-ip-mtu

configure ipsec tunnel-template encapsulated-ip-mtu

configure service vprn interface sap ipsec-tunnel encapsulated-ip-mtu

Description

This command specifies the maximum size of encapsulated tunnel packet for the ipsec-tunnel, ip-tunnel, or the dynamic tunnels terminated on the ipsec-gw. If the encapsulated IPv4 or IPv6 tunnel packet exceeds the **encapsulated-ip-mtu**, then the system fragments the packet against the encapsulated-ip-mtu.

The **no** form of this command reverts to the default.

Default

no encapsulated-ip-mtu

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Parameters

bytes

Specifies the maximum size in bytes.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel encapsulated-ip-mtu
- configure ipsec tunnel-template encapsulated-ip-mtu
- configure service ies interface sap ip-tunnel encapsulated-ip-mtu
- configure service vprn interface sap ip-tunnel encapsulated-ip-mtu

VSR

- configure service vprn interface ipsec ipsec-tunnel encapsulated-ip-mtu
- configure service ies interface ipsec ipsec-tunnel encapsulated-ip-mtu
- configure router interface ipsec ipsec-tunnel encapsulated-ip-mtu

14.87 encode

encode

Syntax

encode type *type* **key** *key*

encode type *type* **key** *hash-key* **hash**

encode type *type* **key** *hash2-key* **hash2**

encode type *type* **key** *custom-key* **custom**

encode type *type* **cert-profile** *cert-profile-name*

no encode

Context

[Tree] (config>app-assure>group>http-enrich>field encode)

Full Context

configure application-assurance group http-enrich field encode

Description

This command configures the encoding applied to the HTTP header enrichment field.

The **no** form of this command removes the encoding.

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Default

no encode

Parameters

type

Specifies whether the parameters are hashed with MD5, encrypted with RC4 or AES using the configured key, or if certificate-based encryption is used with RSA.

Values md5, rc4, certificate, cert-base64, rc4md5-base64, aes128, aes256, aes128cbc, aes256cbc

key

Specifies the key string, 64 characters maximum.

hash-key

Specifies the first hashed key.

hash-key2

Specifies the second hashed key.

hash

Specifies that the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies that the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

cert-profile-name

Specifies the name of the certificate profile to use. This profile must have already been created using the **certificate-profile** command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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14.88 encoding

encoding

Syntax

encoding *encoding*

no encoding

Context

[Tree] (config>system>telemetry>persistent-subscriptions>subscription encoding)

Full Context

configure system telemetry persistent-subscriptions subscription encoding

Description

This command configures the encoding type that is used for telemetry notifications in accordance with the definitions in the gNMI OpenConfig standard.

Default

encoding json

Parameters

encoding

Specifies the encoding type.

Values json, bytes, proto

Platforms

All

14.89 encrypt

encrypt

Syntax

encrypt {**on** | **off**}

Context

[Tree] (bof encrypt)

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Full Context

bof encrypt

Description

This command enables and disables encryption of the BOF using AES256 and SHA256.

When the BOF is encrypted on the compact flash, it is still reachable using the BOF interactive menu during node startup, and fields can be modified using the BOF interactive menu.

Default

encrypt off

Parameters

on

Enables BOF encryption

off

Disables BOF encryption

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

14.90 encryption-group

encryption-group

Syntax

encrytion-group *group-name* [**create**]

no encryption-group *group-name*

Context

[Tree] (config>anysec>mpls>svc-enc encryption-group)

Full Context

configure anysec mpls service-encryption encryption-group

Description

This command configures an encryption group, which contains a set of tunnels that use a single connectivity association and its PSK.

The **no** form of this command removes the encryption group.

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Parameters

group-name

Specifies the encryption group name, up to 32 characters.

create

Mandatory keyword to create an encryption group.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

encryption-group

Syntax

encryption-group *group-name* [**create**]

no encryption-group *group-name*

Context

[Tree] (config>anysec>mpls>tnl-enc encryption-group)

Full Context

configure anysec mpls tunnel-encryption encryption-group

Description

This command creates an encryption group.

An encryption group is a group of LSPs that use the same CA and preshared keys (PSK). For ease of PSK management, SR OS allows a group of LSPs to use the same CA with same PSKs. The PSK is used to secure the SAK for distribution to other PEERs.

Note: Although the LSPs are unidirectional, ANYsec is a bidirectional concept where a pair of LSPs between two peers are encrypted and decrypted. Each pair of LSP uses its own SAK for maximum security, though they may share the same CA and PSK with all other LSPs in the encryption group to secure the SAK.

The **no** form of this command removes the encryption group.

Parameters

group-name

Specifies the encryption group name, up to 32 characters.

create

Keyword used to create an encryption group.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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encryption-group

Syntax

encryption-group *group-name* **peer** *ip-address* **detail**

Context

[Tree] (debug>anysec encryption-group)

Full Context

debug anysec encryption-group

Description

This command debugs ANYsec encryption groups.

Parameters

group-name

Specifies the encryption group name, up to 32 characters.

ip-address

Specifies a peer IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

detail

Keyword used to specify detailed information.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

14.91 encryption-key

encryption-key

Syntax

encryption-key *key* [**hash** | **hash2** | **custom**]

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no encryption-key

Context

[Tree] (bof encryption-key)

Full Context

bof encryption-key

Description

This command creates a key to be used by AES256 and SHA256 for configuration file encryption and hashing. This key is used for all configuration files (primary, secondary, and tertiary).

After creating or deleting a key, use the **admin save** command to save the configuration file with the current encryption key state.

The **no** form of this command deletes the encryption key.

Default

no encryption-key

Parameters

key

Specifies the encryption key.

If the **hash**, **hash2**, or **custom** parameter is not configured, the key is entered in plaintext and the key length must be between 8 and 32 characters. A plaintext key cannot contain embedded nulls or end with " hash", " hash2", or " custom".

If the **hash**, **hash2**, or **custom** parameter is configured, the key is hashed and the key length must be between 1 and 64 characters.

hash

Keyword to specify that the key is entered in an encrypted form.

hash2

Keyword to specify that the key is entered in a more complex encrypted form. The **hash2** encryption scheme is node-specific and the key cannot be transferred between nodes.

custom

Keyword to specify that the key uses custom encryption.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

encryption-key

Syntax

encryption-key *key* [**hash** | **hash2** | **custom**]

no encryption-key

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Context

[Tree] (config>log encryption-key)

Full Context

configure log encryption-key

Description

This command specifies the encryption key used by AES-256-CTR for log file encryption. The encryption key is used for all local log files on the system.

The **no** form of this command deletes the encryption key.

Default

no encryption-key

Parameters

key

Specifies the encryption key.

If the **hash**, **hash2**, or **custom** parameter is not configured, the key is entered in plaintext and the key length must be between 8 and 32 characters. A plaintext key cannot contain embedded nulls or end with " hash", " hash2", or " custom".

If the **hash**, **hash2**, or **custom** parameter is configured, the key is hashed and the key length must be between 1 and 64 characters.

hash

Keyword to specify that the key is entered in an encrypted form.

hash2

Keyword to specify that the key is entered in a more complex encrypted form. The **hash2** encryption scheme is node-specific and the key cannot be transferred between nodes.

custom

Keyword to specify that the key uses custom encryption.

Platforms

All

14.92 encryption-keygroup

encryption-keygroup

Syntax

encryption-keygroup *keygroup-id* **direction** *direction*

no encryption-keygroup direction *direction*

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Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>group-encryption encryption-keygroup)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>group-encryption encryption-keygroup)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw group-encryption encryption-keygroup

configure service ies subscriber-interface group-interface wlan-gw group-encryption encryption-keygroup

Description

This command binds an encryption key-group to a WLAN-GW soft-GRE group interface. When configured in the inbound direction, received packets must be encrypted using one of the valid security-associations configured for the key-group. When configured in the outbound direction, L2oMPLSoGRE packets egressing the node use the "active-outbound-sa" associated with the key-group configured.

The **no** form of this command removes the encryption keygroup from the inbound or outbound group interface.

Parameters

keygroup-id

Specifies the ID number or name of the keygroup.

Values 1 to 127, *keygroup-name* up to 64 characters

direction

Applies the keygroup to the inbound or outbound direction of a service.

Values inbound | outbound

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

encryption-keygroup

Syntax

encryption-keygroup *keygroup-id* **direction** {**inbound** | **outbound**}

no encryption-keygroup direction {**inbound** | **outbound**}

Context

[Tree] (config>router>if>group-encryption encryption-keygroup)

Full Context

configure router interface group-encryption encryption-keygroup

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Description

This command is used to bind a key group to a router interface for inbound or outbound packet processing. When configured in the outbound direction, packets egressing the router use the **active-outbound-sa** associated with the configured key group. When configured in the inbound direction, received packets must be encrypted using one of the valid security associations configured for the key group.

The **no** form of this command removes the key group from the router interface in the specified direction.

Default

no encryption-keygroup direction inbound

no encryption-keygroup direction outbound

Parameters

keygroup-id

The ID number of the key group being configured.

Values 1 to 127, *keygroup-name* (64 characters maximum)

inbound

Binds the key group in the inbound direction.

outbound

Binds the key group in the outbound direction.

Platforms

VSR

encryption-keygroup

Syntax

encryption-keygroup *keygroup-id* [**create**]

no encryption-keygroup *keygroup-id*

Context

[Tree] (config>grp-encryp encryption-keygroup)

Full Context

configure group-encryption encryption-keygroup

Description

This command is used to create a key group. Once the key group is created, use the command to enter the key group context or delete a key group.

The **no** form of the command removes the key group. Before using the **no** form, the key group association must be deleted from all services that are using this key group.

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Parameters

keygroup-id

The number or name of the key group being referenced.

Values 1 to 15, or *keygroup-name* (up to 64 characters)

create

Creates a key group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

encryption-keygroup

Syntax

encryption-keygroup *keygroup-id* **direction** {**inbound** | **outbound**}

no encryption-keygroup direction {**inbound** | **outbound**}

Context

[Tree] (config>service>vprn encryption-keygroup)

[Tree] (config>service>pw-template encryption-keygroup)

[Tree] (config>service>sdp encryption-keygroup)

Full Context

configure service vprn encryption-keygroup

configure service pw-template encryption-keygroup

configure service sdp encryption-keygroup

Description

This command is used to bind a key group to an SDP, VPRN service, or PW template for inbound or outbound packet processing. When configured in the outbound direction, packets egressing the node use the **active-outbound-sa** associated with the key group configured. When configured in the inbound direction, received packets must be encrypted using one of the valid security associations configured for the key group. Services using the SDP will be encrypted.

The encryption (enabled or disabled) configured on an SDP used to terminate a Layer 3 spoke SDP of a VPRN always overrides any VPRN-level configuration for encryption.

Encryption is enabled after the outbound direction is configured.

For PW template changes, the following **tools** command must be executed after the configuration changes are made: **tools**>**perform**>**service**>**eval-pw-template**>**allow-service-impact**. This command applies the changes to services that use the PW template.

The **no** form of the command removes the key group from the SDP or service in the specified direction (inbound or outbound).

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Parameters

keygroup-id

Specifies the number of the key group being configured.

Values 1 to 15 or *keygroup-name* (up to 64 characters)

direction {inbound | outbound}

Specifies the direction of the service that the key group will be bound to.

Platforms

VSR

14.93 encryption-label

encryption-label

Syntax

encryption-label *label*

no encryption-label

Context

[Tree] (config>anysec>mpls>svc-enc>enc-grp encryption-label)

Full Context

configure anysec mpls service-encryption encryption-group encryption-label

Description

This command configures the encryption label that identifies the specified encryption group to the network. The encryption label is unique within the network and used to uniquely identify the encrypting node or encryption group used to encrypt a tunnel. For scaling purposes, the encrypting node can use a single encryption label for all encryption groups.

The **no** form of this command removes the encryption group label.

The label must be assigned from the reserved label space block assigned to ANYsec.

Default

encryption-label 0

Parameters

label

Specifies the encryption label within the dynamic label range.

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Note: The label must be within the range of the reserved label block for the encryption SID.

Values 16 to 1048575

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

encryption-label

Syntax

encryption-label *label*

no encryption-label

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp encryption-label)

Full Context

configure anysec mpls tunnel-encryption encryption-group encryption-label

Description

This command creates an encryption group label ID.

The encryption SID uniquely identifies the encrypting node within a network to avoid double encryption scenarios. The encryption SID can be assigned per encryption group. However, all encryption groups can have the same encryption SID. To save label space, Nokia recommends limiting the number of encryption SIDs within a network. To configure the encryption SID, a **reserved-label-block** command must be configured under the **anysec** context. The encryption SID is programmed at the bottom of the stack with S bit set.

The **no** form of this command removes the encryption group label.

Default

encryption-label 0

Parameters

label

Specifies the encryption group label ID.

Values 0 to 1048575

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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14.94 encryption-offset

encryption-offset

Syntax

encryption-offset *encryption-offset*

no encryption-offset

Context

[Tree] (config>macsec>connectivity-association encryption-offset)

Full Context

configure macsec connectivity-association encryption-offset

Description

This command specifies the offset of the encryption in MACsec packet.

The encryption-offset is distributed by MKA (Key-server) to all parties.

It is signaled via MACsec capabilities. There are four basic settings for this. Table 39: MACsec Basic Settings breaks down the settings.

Table 39: MACsec Basic Settings

Setting	Description
0	MACsec is not implemented
1	Integrity without confidentiality
2	The following are supported: • Integrity without confidentiality • Integrity and confidentiality with a confidentiality offset of 0
3	The following are supported: • Integrity without confidentiality • Integrity and confidentiality with a confidentiality offset of 0, 30, or 50

Note:

1. SR OS supports setting (3) Integrity without confidentiality and Integrity and confidentiality with a confidentiality offset of 0, 30, or 50.

The **no** form of this command rejects all arriving traffic whether MACsec is secured or not.

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Default

encryption-offset 0

Parameters

encryption-offset

Specifies the encryption.

Values 0 — encrypt the entire payload
30 — leave the IPv4 header in clear
50 — leave the IPv6 header in clear

Platforms

All

14.95 end

end

Syntax

end *end-week end-day end-month hours-minutes*

Context

[Tree] (config>system>time>dst-zone end)

Full Context

configure system time dst-zone end

Description

This command configures start of summer time settings.

Default

end first sunday january 00:00

Parameters

end-week

Specifies the starting week of the month when the summer time ends.

Values first, second, third, fourth, last

Default first

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end-day

Specifies the starting day of the week when the summer time ends.

Values sunday, monday, tuesday, wednesday, thursday, friday, saturday

Default sunday

end-month

Specifies the starting month of the year when the summer time takes effect.

Values january, february, march, april, may, june, july, august, september, october, november, december

Default january

hours-minutes

Specifies the time at which the summer time ends, in hh:mm format.

Values hours: 00 to 23

minutes: 00 to 59

Default 00:00

Platforms

All

end

Syntax

[**no**] **end** *function-value*

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func end)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end

Description

Commands in this context configure the value and attributes of SRv6 End SID function of a locator. The End SID function encodes the basic behavior of a prefix or a node SID.

The End SID function for each SRH mode must be statically allocated. The value is not automatically allocated by default.

The **no** form of this command removes the specified End function.

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Parameters

function-value

Specifies an SRv6 End SID function value. Up to eight values can be configured per locator. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.96 end-dt2m

end-dt2m

Syntax

end-dt2m [*function-value*]

no end-dt2m

Context

[Tree] (config>service>vpls>srv6>locator>function end-dt2m)

Full Context

configure service vpls segment-routing-v6 locator function end-dt2m

Description

This command configures the SRv6 End.DT2M behavior and function value that is associated to the SRv6 instance in the service. This means that decapsulation and table lookup for IPv6 prefixes occurs in the VPLS service.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt2m

Parameters

function-value

Specifies the optional static function value that is associated to the function behavior. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. If not configured, the system allocates a value dynamically. Auto-allocated service function values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

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Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.97 end-dt2u

end-dt2u

Syntax

end-dt2u [*function-value*]

no end-dt2u

Context

[Tree] (config>service>vpls>srv6>locator>function end-dt2u)

Full Context

configure service vpls segment-routing-v6 locator function end-dt2u

Description

This command configures the SRv6 End.DT2U behavior and function value that is associated to the SRv6 instance in the service. This means that decapsulation and table lookup for IPv6 prefixes occurs in the VPLS service.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt2m

Parameters

function-value

Specifies the optional static function value that is associated to the function behavior. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. If not configured, the system allocates a value dynamically. Auto-allocated service function values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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14.98 end-dt4

end-dt4

Syntax

end-dt4 [*function-value*]

no end-dt4

Context

[Tree] (config>service>vprn>srv6>locator>function end-dt4)

Full Context

configure service vprn segment-routing-v6 locator function end-dt4

Description

This command configures the SRv6 End.DT4 behavior and function value that is associated to the SRv6 instance in the service. This implies decapsulation and table lookup for IPv4 prefixes in the VPRN.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt4

Parameters

function-value

Specifies the optional static function value that is associated to the function behavior. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. If not configured, the system allocates a value dynamically. Auto-allocated service function values have an upper range limited by the maximum service function length of 20 bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

end-dt4

Syntax

end-dt4 [*function-value*]

no end-dt4

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Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func end-dt4)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-dt4

Description

This command configures the SRv6 End.DT4 behavior and function value associated with the base routing instance. This implies decapsulation and table lookup for IPv4 prefixes in the base routing table. These prefixes can be static routes or routes advertised in BGP.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt4

Parameters

function-value

Specifies the SRv6 End.DT4 function value. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. Auto-allocated service function values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.99 end-dt46

end-dt46

Syntax

end-dt46 [*function-value*]

no end-dt46

Context

[Tree] (config>service>vprn>srv6>locator>function end-dt46)

Full Context

configure service vprn segment-routing-v6 locator function end-dt46

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Description

This command configures the SRv6 End.DT46 behavior and function value that is associated to the SRv6 instance in the service. This means that decapsulation and table lookup for IPv4 and IPv6 prefixes occurs in the VPRN service.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt46

Parameters

function-value

Specifies the optional static function value that is associated to the function behavior. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. If not configured, the system allocates a value dynamically. Auto-allocated service function values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

end-dt46

Syntax

end-dt46 [*function-value*]

no end-dt46

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func end-dt46)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-dt46

Description

This command configured the SRv6 End.DT46 function behavior and value associated with the base routing instance. This implies decapsulation and table lookup for IPv4 and IPv6 prefixes in the base routing table. These prefixes can be static routes or routes advertised in BGP.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt46

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Parameters

function-value

Specifies the SRv6 End.DT46 function value. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. Auto-allocated service function values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.100 end-dt6

end-dt6

Syntax

end-dt6 [*function-value*]

no end-dt6

Context

[Tree] (config>service>vprn>srv6>locator>function end-dt6)

Full Context

configure service vprn segment-routing-v6 locator function end-dt6

Description

This command configures the SRv6 End.DT6 behavior and function value that is associated to the SRv6 instance in the service. This means that decapsulation and table lookup for IPv6 prefixes occurs in the VPRN service.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt6

Parameters

function-value

Specifies the optional static function value that is associated to the function behavior. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. If not configured, the system allocates a value dynamically. Auto-allocated service function

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values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

end-dt6

Syntax

[**no**] **end-dt6**

end-dt6 [*function-value*]

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func end-dt6)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-dt6

Description

This command configures the SRv6 End.DT6 function behavior and value associated with the base routing instance. This means that decapsulation and table lookup for IPv6 prefixes occurs in the base routing table. These prefixes can be static routes or routes advertised in BGP.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dt6

Parameters

function-value

Specifies the SRv6 End.DT6 function value. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**. Auto-allocated service function values have an upper range limited by the maximum service function length of 20-bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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14.101 end-dx2

end-dx2

Syntax

end-dx2 [*function-value*]

no end-dx2

Context

[Tree] (config>service>epipe>srv6>locator>function end-dx2)

Full Context

configure service epipe segment-routing-v6 locator function end-dx2

Description

This command configures the SRv6 End.DX2 behavior and function value that is associated with the SRv6 instance in the service, which means that decapsulation and cross-connect to the egress SAP occurs in the Epipe service.

The **no** form of this command removes the function behavior and value from the configuration.

Default

no end-dx2

Parameters

function-value

Specifies the optional static function value that is associated with the function behavior. Statically allocated functions of all SID types in a locator have their upper range limited by the **config>router>segment-routing>srv6>loc>static-function max-entries**. If not configured, the system allocates a value dynamically. Auto-allocated service function values have an upper range limited by the maximum service function length of 20 bits that is used in the datapath lookup for service functions.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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14.102 end-marker-count

end-marker-count

Syntax

end-marker-count *packets*

no end-marker-count

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile end-marker-count)

Full Context

configure subscriber-mgmt gtp peer-profile end-marker-count

Description

This command specifies the number of end marker packets that are sent when it is certain no more packets will be sent over the corresponding GTP-U tunnel, such as after a completed mobility event.

The **no** form of this command reverts the value to the default.

Default

end-marker-count 1

Parameters

packets

Specifies the number of end marker packets to send.

Values 0 to 5

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

14.103 end-of-data

end-of-data

Syntax

[**no**] **end-of-data**

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Context

[Tree] (debug>router>rpki-session>packet end-of-data)

Full Context

debug router rpki-session packet end-of-data

Description

This command enables debugging for end of data RPKI packets.

The **no** form of this command disables debugging for end of data RPKI packets.

Platforms

All

14.104 end-station-only

end-station-only

Syntax

[**no**] **end-station-only**

Context

[Tree] (config>service>vpls>mrp>mmrp end-station-only)

Full Context

configure service vpls mrp mmrp end-station-only

Description

This command configures the end-station-only. This option prevents MMRP messages from being generated or processed. It is useful in case all the MMRP entries for the B-VPLS are static.

Platforms

All

14.105 end-time

end-time

Syntax

end-time [*date* | *day-name*] *time*

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no end-time

Context

[Tree] (config>system>cron>sched end-time)

Full Context

configure system cron schedule end-time

Description

This command is used concurrently with type **periodic** or **calendar**. Using the type of **periodic**, end-time determines at which interval the schedule will end. Using the type of **calendar**, end-time determines on which date the schedule will end.

When **no end-time** is specified, the schedule runs forever.

Default

no end-time

Parameters

date

Specifies the date to schedule a command.

Values YYYY:MM:DD in year:month:day number format

day-name

Specifies the day of the week to schedule a command.

Values sunday, monday, tuesday, wednesday, thursday, friday, saturday

time

Specifies the time of day to schedule a command.

Values hh:mm

Platforms

All

end-time

Syntax

end-time *date hours-minutes* [**UTC**]

end-time {**now** | **forever**}

no end-time

Context

[Tree] (config>system>security>keychain>direction>uni>receive>entry end-time)

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Full Context

configure system security keychain direction uni receive entry end-time

Description

This command specifies the calendar date and time after which the key specified by the authentication key is no longer eligible to sign or authenticate the protocol stream.

Default

end-time forever

Parameters

date

Specifies the calendar date after which the key specified by the authentication key is no longer eligible to sign or authenticate the protocol stream in the YYYY/MM/DD format. When no year is specified the system assumes the current year.

hours-minutes

Specifies the time after which the key specified by the authentication key is no longer eligible to sign or authenticate the protocol stream in the hh:mm[:ss] format. Seconds are optional, and if not included, assumed to be 0.

UTC

Indicates that time is given with reference to Coordinated Universal Time in the input.

now

Specifies a time equal to the current system time.

forever

Specifies that the key is always active.

Platforms

All

14.106 end-x

end-x

Syntax

[**no**] **end-x** *function-value*

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func end-x)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-x

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Description

Commands in this context configure the attributes of the End.X SID function associated with a P2P interface. The End.X SID function encodes the behavior of an adjacency SID.

A static function value can be configured for each combination of SRH mode and protection type.

For a given interface, the static function value associated with the same combination of protection type and SRH mode overrides any corresponding automatically allocated function value (**end-x-auto-allocate** command configuration).

If more than one value is configured for an interface and combination of SRH mode and protection type, they are all advertised in IS-IS.

When used in remote TI-LFA repair tunnel programming, IS-IS uses rules to select one End.X value from the multiple values received in IS-IS link advertisements.

Values assigned to loopback and system interfaces are not advertised in IS-IS.

End.X SID functions for adjacencies over broadcast interfaces are always automatically allocated based on the configuration of the **end-x-auto-allocate** command.

The **no** form of this command removes the function value from the configuration.

Parameters

function-value

Specifies the SRv6 End.X function. Statically allocated functions of all SID types in a locator have their value upper range limited by parameter **locator function-length static-function max-entries**.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.107 end-x-auto-allocate

end-x-auto-allocate

Syntax

[**no**] **end-x-auto-allocate srh-mode** *srh-mode* **protection** *protection*

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func end-x-auto-allocate)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-x-auto-allocate

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Description

This command adds a list entry for the automatic allocation of the End.X SID function for all adjacencies over all network interfaces on the router (P2P and broadcast interfaces). Auto-allocated End.X SID function values have a range up to the maximum value of parameter **function-length** in a locator configuration.

A list entry is a combination of the protection type and the SRH mode. Any combinations in addition to the maximum number of entries supported by this command must be allocated statically for each P2P interface. The maximum number of entries in this list is two.

When no list entries are configured, no End.X function values are automatically allocated by default for a locator.

Note:
Any change to this list causes a reallocation of new function values to all interfaces on the router that results in flooding them to the network and triggers a new SPF in all routers.

The **no** form of this command removes a list entry.

Parameters

srh-mode

Specifies the SRH mode for the SID.

Values psp — Penultimate Segment Pop (PSP) of the SRH

usp — Ultimate Segment Pop (USP) of the SRH

psp-usd — Supports both PSP of the SRH and Ultimate Segment Decapsulation (USD) on the same SID

usp-usd — Supports both USP of the SRH and USD on the same SID

psp-usp-usd — Supports PSP and USP of the SRH with USD on the same SID

protection

Specifies if the adjacency SID is protected.

Values protected, unprotected

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.108 endpoint

endpoint

Syntax

endpoint ip *ip-address*

endpoint mac *ieee-address*

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endpoint system-ip

endpoint system-mac

no endpoint

Context

[Tree] (config>router>l2tp>group>mlppp endpoint)

[Tree] (config>router>l2tp>group>tunnel>mlppp endpoint)

[Tree] (config>service>vprn>l2tp>group>mlppp endpoint)

[Tree] (config>subscr-mgmt>ppp-policy>mlppp endpoint)

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp endpoint)

Full Context

configure router l2tp group mlppp endpoint

configure router l2tp group tunnel mlppp endpoint

configure service vprn l2tp group mlppp endpoint

configure subscriber-mgmt ppp-policy mlppp endpoint

configure service vprn l2tp group tunnel mlppp endpoint

Description

When configured under the l2tp hierarchy, this command is applicable to LNS.

Within the ppp-policy, this command is applicable only to LAC.

The endpoint, according to RFC 1990, represents the system transmitting the packet. It is used during MLPPPoX negotiation phase to distinguish this peer from all others.

In the case that the client rejects the endpoint option during LCP negotiation, the LAC and the LNS must be able to negotiate the LCP session without the endpoint option.

The **no** form of this command disables sending endpoint option in LCP negotiation.

Parameters

ip-address

Specifies the IPv4 address (class 2).

system-ip

Specifies to use the system IPv4 address (class 2).

ieee-address

Specifies the MAC address of the interface (class 3).

system-mac

Specifies to use the MAC address of the system (class 3).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

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endpoint

Syntax

endpoint *endpoint-name* [**create**]

no endpoint *endpoint-name*

Context

[Tree] (config>service>ipipe endpoint)

[Tree] (config>service>cpipe endpoint)

[Tree] (config>service>epipe endpoint)

Full Context

configure service ipipe endpoint

configure service cpipe endpoint

configure service epipe endpoint

Description

This command configures a service endpoint.

Parameters

endpoint-name

Specifies an endpoint name.

Platforms

All

- configure service epipe endpoint
- configure service ipipe endpoint

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe endpoint

endpoint

Syntax

endpoint *endpoint-name* [**create**]

no endpoint

Context

[Tree] (config>service>vpls endpoint)

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Full Context

configure service vpls endpoint

Description

This command configures a service endpoint.

Parameters

endpoint-name

Specifies an endpoint name up to 32 characters in length

create

This keyword is mandatory while creating a service endpoint

Platforms

All

endpoint

Syntax

endpoint *ip-address*

no endpoint

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy endpoint)

Full Context

configure router mpls forwarding-policies forwarding-policy endpoint

Description

This command configures the endpoint address for an MPLS forwarding policy.

The policy allows the user to forward unlabeled packets over a set of user-defined direct (with option to push a label stack) or indirect next hops. Routes are bound to an endpoint policy when their next hop matches the endpoint address of the policy.

The **no** form of the command removes the endpoint from the MPLS forwarding policy.

Parameters

ip-address

Specifies the destination IPv4 or IPv6 address.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)

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x:x:x:x:x:x:d.d.d.d

x - [0..FFFF]H

d - [0..255]D

Platforms

All

endpoint

Syntax

endpoint *endpoint-name* [**create**]

no endpoint *endpoint-name*

Context

[Tree] (config>mirror>mirror-dest>sap endpoint)

[Tree] (config>mirror>mirror-dest endpoint)

Full Context

configure mirror mirror-dest sap endpoint

configure mirror mirror-dest endpoint

Description

This command configures a service end point. A mirror service supports two implicit endpoints managed internally by the system. The following applies to endpoint configurations.

Up to two named endpoints may be created per service mirror or LI service. The endpoint name is locally significant to the service mirror or LI service.

- Objects (SAPs or SDPs) may be created on the service mirror or LI with the following limitations:
  - two implicit endpoint objects (without explicit endpoints defined)
  - one implicit and multiple explicit object with the same endpoint name
  - multiple explicit objects each with one of two explicit endpoint names
- All objects become associated implicitly or indirectly with the implicit endpoints 'x' and 'y'.
- Objects may be created without an explicit endpoint defined.
- Objects may be created with an explicit endpoint defined.
- Objects without an explicit endpoint may have an explicit endpoint defined without deleting the object.
- Objects with an explicit endpoint defined may be dynamically moved to another explicit endpoint or may have the explicit endpoint removed.

Creating an object without an explicit endpoint:

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- If an object on a mirror or LI service has no explicit endpoint name associated, the system attempts to associate the object with implicit endpoint 'x' or 'y'.
- The implicit endpoint cannot have an existing object association.
- If both 'x' and 'y' are available, 'x' is selected.
- If an 'x' or 'y' association cannot be created, the object cannot be created.

Creating an object with an explicit endpoint name:

- The endpoint name must exist on the mirror or LI service.
- If this is the first object associated with the endpoint name:
  - the object is associated with either implicit endpoint 'x' or 'y'
  - the implicit endpoint cannot have an existing object associated
  - if both 'x' and 'y' are available, 'x' is selected
  - if 'x' or 'y' is not available, the object cannot be created
  - the implicit endpoint is now associated with the named endpoint
  - f this is not the first object associated with the endpoint name:
  - the object is associated with the named endpoint's implicit association

Changing an object’s implicit endpoint to an explicit endpoint name

- If the explicit endpoint name is associated with an implicit endpoint, the object is moved to that implicit endpoint
- If the object is the first to be associated with the explicit endpoint name:
  - the object is associated with either implicit endpoint 'x' or 'y'
  - the implicit endpoint cannot have an existing object associated (except this one)
  - if both 'x' and 'y' are available, 'x' is selected
  - if 'x' or 'y' is not available, the object cannot be moved to the explicit endpoint
  - if moved, the implicit endpoint is now associated with the named endpoint

Changing an object’s explicit endpoint to another explicit endpoint name

- If the new explicit endpoint name is associated with an implicit endpoint, the object is moved to that implicit endpoint
- If the object is the first to be associated with the new explicit endpoint name:
  - the object is associated with either implicit endpoint 'x' or 'y'
  - the implicit endpoint cannot have an existing object associated (except this one)
  - if both 'x' and 'y' are available, 'x' is selected
  - if 'x' or 'y' is not available, the object cannot be moved to the new endpoint
  - if moved, the implicit endpoint is now associated with the named endpoint

An explicitly named endpoint can have a maximum of one SAP and one ICB. Once a SAP is added to the endpoint, only one more object of type ICB sdp is allowed. The ICB sdp cannot be added to the endpoint if the SAP is not part of a MC-LAG instance. Conversely, a SAP which is not part of a MC-LAG instance cannot be added to an endpoint which already has an ICB sdp.

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An explicitly named endpoint which does not have a SAP object can have a maximum of four SDPs which can include any of the following: a single primary SDP, one or many secondary SDPs with precedence, and a single ICB SDP.

The user can only add a SAP configured on a MC-LAG instance to this endpoint. Conversely, the user will not be able to change the mirror service type away from mirror service without first deleting the MC-LAG SAP.

The **no** form of this command removes the association of a SAP or an SDP with an explicit endpoint name. When removing an objects explicit endpoint association:

- The system attempts to associate the object with implicit endpoint 'x' or 'y'.
- The implicit endpoint cannot have an existing object association (except this one).
- If both 'x' and 'y' are available, 'x' is selected.
- If an 'x' or 'y' association cannot be created, the explicit endpoint cannot be removed.

Parameters

endpoint-name

Specifies the endpoint name.

create

Mandatory keyword to create this entry.

Platforms

All

endpoint

Syntax

endpoint *ip-address*

no endpoint

Context

[Tree] (conf>router>segment-routing>sr-policies>policy endpoint)

Full Context

configure router segment-routing sr-policies static-policy endpoint

Description

This command associates an IPv4 or IPv6 endpoint address with a statically-defined segment routing policy. This association is mandatory when enabling an SR segment-routing policy.

The endpoint address 0.0.0.0 is a special value that matches all BGP next-hops. To use it, the BGP route must have a color-extended community with the color-only bits set to '01' or '10'.

The **no** form of this command removes the endpoint association.

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Default

no endpoint

Parameters

ip-address

Specifies the endpoint IP address to be associated with the statically-defined segment-routing policy.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

Platforms

All

endpoint

Syntax

endpoint *ip-address*

no endpoint

Context

[Tree] (config>router>policy-options>policy-statement>entry>from endpoint)

Full Context

configure router policy-options policy-statement entry from endpoint

Description

This command configures an SR Policy endpoint address as a route policy match criterion. This match criterion is only used in import policies.

The **no** form of this command removes the endpoint IP match criterion from the configuration.

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values ipv4-address:

- a.b.c.d

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ipv6-address:

- x:x:x:x:x:x:x:x [-interface]
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

endpoint

Syntax

endpoint *ip-address*

no endpoint

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-policy endpoint)

Full Context

configure oam-pm session ip tunnel mpls sr-policy endpoint

Description

This command configures the unicast IPv4 or globally routable IPv6 address endpoint of the tunnel.

The **no** form of this command removes IPv4 or IPv6 address.

Default

no endpoint

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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15 e Commands – Part II

15.1 endstation-vid-group

endstation-vid-group

Syntax

endstation-vid-group *id* **vlan-id** *startvid-endvid*

no endstation-vid-group *id*

Context

[Tree] (config>service>vpls>mrp>mvrp endstation-vid-group)

Full Context

configure service vpls mrp mvrp endstation-vid-group

Description

This command specifies the range of VLAN IDs that are controlled by MVRP on the port associated with the parent SAP. When the command is present under a certain SAP, the MVRP will treat the associated virtual port as an end-station.

MVRP endstation behavior means that configuration of a new data SAP with the outer tag in the configured endstation-vid-group will generate down that virtual port a MVRP declaration for the new [outer] VLAN attribute. Also registration received for the VLAN attribute in the range will be accepted but not propagated in the rest of MVRP context.

VPLS-groups are not allowed under the associated Management VPLS (M-VPLS) when the endstation is configured under one SAP. VPLS-groups can be supported in the chassis using a different M-VPLS.

The **no** form of this command removes the specified group id.

Default

no endstation-vid-group

Parameters

id

Specifies the range index

Values 1 to 4094

startvid-endvid

Specifies the range of VLANs to be controlled by MVRP

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Values 1 to 4094

Platforms

All

15.2 enforce-diffserv-lsp-fc

enforce-diffserv-lsp-fc

Syntax

[**no**] **enforce-diffserv-lsp-fc**

Context

[Tree] (config>service>sdp>class-forwarding enforce-diffserv-lsp-fc)

Full Context

configure service sdp class-forwarding enforce-diffserv-lsp-fc

Description

This command enables checking by RSVP that a Forwarding Class (FC) mapping to an LSP under the SDP configuration is compatible with the Diff-Serv Class Type (CT) configuration for this LSP.

When the user enables this option, the service manager inquires with RSVP if the FC is supported by the LSP. RSVP checks if the FC maps to the CT of the LSP, for example, the default class-type value or the class-type value entered at the LSP configuration level.

If RSVP did not validate the FC, then the service manager will return an error and the check has failed. In this case, packets matching this FC will be forwarded over the default LSP. Any addition of an LSP to an SDP that will not satisfy the FC check will also be rejected.

The service manager does not validate the default-lsp FC-to-CT mapping. Whether or not the FC is validated, the default-lsp will always end up being used in this case.

RSVP will not allow the user to change the CT of the LSP until no SDP with class-based forwarding enabled and the **enforce-diffserv-lsp-fc** option enabled is using this LSP. All other SDPs using this LSP are not concerned by this rule.

The SDP will continue to enforce the mapping of a single LSP per FC. However, when **enforce-diffserv-lsp-fc** enabled, RSVP will also enforce the use of a single CT per FC as per the user configured mapping in RSVP.

If class-forwarding is enabled but **enforce-diffserv-lsp-fc** is disabled, forwarding of the service packets will continue to be based on the user entered mapping of FC to LSP name without further validation as per the existing implementation. The CT of the LSP does not matter in this case.

If class-forwarding is not enabled on the SDP, forwarding of the service packets will continue to be based on the ECMP/LAG hash routine. The CT of the LSP does not matter in this case.

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The **no** form of this command reverts to the default value which is to use the user entered mapping of FC to LSP name.

Default

no enforce-diffserv-lsp-fc

Platforms

All

15.3 enforce-first-as

enforce-first-as

Syntax

enforce-first-as

Context

[Tree] (config>service>vprn>bgp>group>neighbor enforce-first-as)

[Tree] (config>service>vprn>bgp enforce-first-as)

[Tree] (config>service>vprn>bgp>group enforce-first-as)

Full Context

configure service vprn bgp group neighbor enforce-first-as

configure service vprn bgp enforce-first-as

configure service vprn bgp group enforce-first-as

Description

When this command is configured so that it applies to an EBGP session, all routes (belonging to all address families) that are received from the EBGP peer are checked to ensure that the most recent autonomous system number (ASN) in the AS_PATH attribute of each route matches the configured **peer-as** of the session; if it does not match, then either the session is reset (if **update-fault-tolerance** is not enabled) or the session is left up but the route is treated as withdrawn (if **update-fault-tolerance** is enabled).

Enabling or disabling this command on a session that is already up does not flap the session. When **enforce-first-as** is enabled, previously received routes are not checked for compliance with the rule. Enforcement applies only to routes received after the command is enabled and stops when the command is disabled.

Platforms

All

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enforce-first-as

Syntax

enforce-first-as

Context

[Tree] (config>router>bgp enforce-first-as)

[Tree] (config>router>bgp>group>neighbor enforce-first-as)

[Tree] (config>router>bgp>group enforce-first-as)

Full Context

configure router bgp enforce-first-as

configure router bgp group neighbor enforce-first-as

configure router bgp group enforce-first-as

Description

When this command is configured so that it applies to an EBGP session, all routes (belonging to all address families) that are received from the EBGP peer are checked to ensure that the most recent autonomous system number (ASN) in the AS_PATH attribute of each route matches the configured **peer-as** of the session; if it does not match, then either the session is reset (if **update-fault-tolerance** is not enabled) or the session is left up but the route is treated as withdrawn (if **update-fault-tolerance** is enabled).

Enabling or disabling this command on a session that is already up does not flap the session. When **enforce-first-as** is enabled, previously received routes are not checked for compliance with the rule. Enforcement applies only to routes received after the command is enabled and stops when the command is disabled.

Platforms

All

15.4 enforce-strict-tunnel-tagging

enforce-strict-tunnel-tagging

Syntax

[**no**] **enforce-strict-tunnel-tagging**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel enforce-strict-tunnel-tagging)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel enforce-strict-tunnel-tagging)

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[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel enforce-strict-tunnel-tagging)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel enforce-strict-tunnel-tagging

configure service vpls bgp-evpn mpls auto-bind-tunnel enforce-strict-tunnel-tagging

configure service vprn bgp-evpn mpls auto-bind-tunnel enforce-strict-tunnel-tagging

Description

This command forces the system to only consider LSPs marked with an admin tag for next hop resolution. Untagged LSPs are not considered.

The **no** form of this command reverts to default value. While tagged RSVP and SR-TE LSPs are considered first, the system can fall back to using untagged LSPs of other types and does not exclude them depending on the **auto-bind-tunnel** configuration.

Default

no enforce-strict-tunnel-tagging

Platforms

All

enforce-strict-tunnel-tagging

Syntax

[**no**] **enforce-strict-tunnel-tagging**

Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family enforce-strict-tunnel-tagging)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family enforce-strict-tunnel-tagging)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family enforce-strict-tunnel-tagging

configure router bgp next-hop-resolution labeled-routes transport-tunnel family enforce-strict-tunnel-tagging

Description

This command forces the system to only consider LSPs marked with an **admin-tag** for next-hop resolution. Untagged LSPs are not be considered.

The **no** form of this command reverts to the default behavior. While tagged RSVP and SR-TE LSPs will be considered first, the system can fall back to using tagged LSPs that are not explicitly excluded by a route admin tag policy and untagged LSPs of other types and not exclude them.

Default

no enforce-strict-tunnel-tagging

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Platforms

All

enforce-strict-tunnel-tagging

Syntax

enforce-strict-tunnel-tagging

Context

[Tree] (config>service>vprn>auto-bind-tunnel enforce-strict-tunnel-tagging)

Full Context

configure service vprn auto-bind-tunnel enforce-strict-tunnel-tagging

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

15.5 enforce-test-session-start-time

enforce-test-session-start-time

Syntax

[**no**] **enforce-test-session-start-time**

Context

[Tree] (config>test-oam>twamp>server enforce-test-session-start-time)

Full Context

configure test-oam twamp server enforce-test-session-start-time

Description

This command configures the router to check the signalled test-session start time against the server time and discard TWAMP test packets that arrive before the negotiated test-session start time.

The **no** form of this command configures the router to process all TWAMP test packets without checking the test-session start time against the server time.

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Default

enforce-test-session-start-time

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.6 enforce-unique-if-index

enforce-unique-if-index

Syntax

[**no**] **enforce-unique-if-index**

Context

[Tree] (config>system>ip enforce-unique-if-index)

Full Context

configure system ip enforce-unique-if-index

Description

This command enables the options to force the creation of IP interface indexes so that they are globally unique across all routing contexts. In addition, the command ensures that any interface created using SNMP also has a system-wide unique IP interface index.

If this command is issued but the system has previously existing interface indexes that conflict, the command will be rejected until all the conflicts are removed. Pre-existing persistency tables should also be removed before enabling this system option.

The **no** form of the command disables this option and returns the system to the default behavior.

Default

no enforce-unique-if-index

Platforms

All

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15.7 enforce-untagged-route

enforce-untagged-route

Syntax

enforce-untagged-route {**none** | **untagged-tunnel**}

Context

[Tree] (config>router>bgp>next-hop-res>lbl-routes>transport-tunn>family enforce-untagged-route)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family enforce-untagged-route

Description

This command configures the enforcement of BGP routes with no administrative tag policy applied by modifying the next-hop resolution behavior for autobind services.

Default

enforce-untagged-route none

Parameters

none

Keyword to specify that untagged routes can bind to tagged or untagged LSPs.

untagged-tunnel

Keyword to specify that untagged routes can only bind to LSPs with no administrative tags configured. If both tagged and untagged tunnels to the next hop exist, the system only considers untagged tunnels. If no untagged tunnels to the next hop exist, the resolution of untagged routes also fails. This keyword may be used in combination with the **enforce-strict-tunnel-tagging** command, in which case tagged routes resolve to tagged LSPs and untagged routes only resolve to untagged LSPs.

Platforms

All

enforce-untagged-route

Syntax

enforce-untagged-route {**none** | **untagged-tunnel**}

Context

[Tree] (config>router>bgp>next-hop-res>shortcut-tunn>family enforce-untagged-route)

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Full Context

configure router bgp next-hop-resolution shortcut-tunnel family enforce-untagged-route

Description

This command configures the enforcement of BGP routes with no administrative tag policy applied by modifying the next-hop resolution behavior for autobind services.

Default

enforce-untagged-route none

Parameters

none

Keyword to specify that untagged routes can bind to tagged or untagged LSPs.

untagged-tunnel

Keyword to specify that untagged routes can only bind to LSPs with no administrative tags configured. If both tagged and untagged tunnels to the next hop exist, the system only considers untagged tunnels. If no untagged tunnels to the next hop exist, the resolution of untagged routes also fails. This keyword may be used in combination with the **enforce-strict-tunnel-tagging** command, in which case tagged routes resolve to tagged LSPs and untagged routes only resolve to untagged LSPs.

Platforms

All

enforce-untagged-route

Syntax

enforce-untagged-route {**none** | **untagged-tunnel**}

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel enforce-untagged-route)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel enforce-untagged-route

Description

This command configures the enforcement of BGP routes with no administrative tag policy applied by modifying the next-hop resolution behavior for autobind services.

Default

enforce-untagged-route none

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Parameters

none

Keyword to specify that untagged routes can bind to tagged or untagged LSPs.

untagged-tunnel

Keyword to specify that untagged routes can only bind to LSPs with no administrative tags configured. If both tagged and untagged tunnels to the next hop exist, the system only considers untagged tunnels. If no untagged tunnels to the next hop exist, the resolution of untagged routes also fails. This keyword may be used in combination with the **enforce-strict-tunnel-tagging** command, in which case tagged routes resolve to tagged LSPs and untagged routes only resolve to untagged LSPs.

Platforms

All

enforce-untagged-route

Syntax

enforce-untagged-route {**none** | **untagged-tunnel**}

Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel enforce-untagged-route)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel enforce-untagged-route

Description

This command configures the enforcement of BGP routes with no administrative tag policy applied by modifying the next-hop resolution behavior for autobind services.

Default

enforce-untagged-route none

Parameters

none

Keyword to specify that untagged routes can bind to tagged or untagged LSPs.

untagged-tunnel

Keyword to specify that untagged routes can only bind to LSPs with no administrative tags configured. If both tagged and untagged tunnels to the next hop exist, the system only considers untagged tunnels. If no untagged tunnels to the next hop exist, the resolution of untagged routes also fails. This keyword may be used in combination with the **enforce-strict-tunnel-tagging** command, in which case tagged routes resolve to tagged LSPs and untagged routes only resolve to untagged LSPs.

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Platforms

All

enforce-untagged-route

Syntax

enforce-untagged-route {**none** | **untagged-tunnel**}

Context

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel enforce-untagged-route)

Full Context

configure service vprn bgp-evpn mpls auto-bind-tunnel enforce-untagged-route

Description

This command configures the enforcement of BGP routes with no administrative tag policy applied by modifying the next-hop resolution behavior for autobind services.

Default

enforce-untagged-route none

Parameters

none

Keyword to specify that untagged routes can bind to tagged or untagged LSPs.

untagged-tunnel

Keyword to specify that untagged routes can only bind to LSPs with no administrative tags configured. If both tagged and untagged tunnels to the next hop exist, the system only considers untagged tunnels. If no untagged tunnels to the next hop exist, the resolution of untagged routes also fails. This keyword may be used in combination with the **enforce-strict-tunnel-tagging** command, in which case tagged routes resolve to tagged LSPs and untagged routes only resolve to untagged LSPs.

Platforms

All

enforce-untagged-route

Syntax

enforce-untagged-route {**none** | **untagged-tunnel**}

Context

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel enforce-untagged-route)

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Full Context

configure service vprn bgp-ipvpn mpls auto-bind-tunnel enforce-untagged-route

Description

This command configures the enforcement of BGP routes with no administrative tag policy applied by modifying the next-hop resolution behavior for autobind services.

Default

enforce-untagged-route none

Parameters

none

Keyword to specify that untagged routes can bind to tagged or untagged LSPs.

untagged-tunnel

Keyword to specify that untagged routes can only bind to LSPs with no administrative tags configured. If both tagged and untagged tunnels to the next hop exist, the system only considers untagged tunnels. If no untagged tunnels to the next hop exist, the resolution of untagged routes also fails. This keyword may be used in combination with the **enforce-strict-tunnel-tagging** command, in which case tagged routes resolve to tagged LSPs and untagged routes only resolve to untagged LSPs.

Platforms

All

15.8 enforcement

enforcement

Syntax

enforcement {**static** *policer-name* | **dynamic** {*mon-policer-name* | **local-mon-bypass**}}

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>protocol enforcement)

Full Context

configure system security dist-cpu-protection policy protocol enforcement

Description

This command configures the enforcement method for the protocol.

Default

enforcement dynamic local-mon-bypass

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Parameters

static

Specifies that the protocol is always enforced using a **static-policer**. Multiple protocols can reference the same **static-policer**. Packets of protocols that are statically enforced bypass any local monitors.

policer name

Specifies which **static-policer** to use.

dynamic

Specifies that a specific enforcement policer for this protocol for this SAP/object is instantiated when the associated **local-monitoring-policer** is determined to be in a nonconforming state (at the end of a minimum monitoring time of 60 seconds to reduce thrashing).

mon-policer-name

Specifies which **local-monitoring-policer** to use.

local-mon-bypass

This parameter is used to not include packets from this protocol in the local monitoring function, and when the local-monitor "trips", do not instantiate a dynamic enforcement policer for this protocol.

Platforms

All

15.9 engineID

engineID

Syntax

[**no**] **engineID** *engine-id*

Context

[Tree] (config>system>snmp engineID)

Full Context

configure system snmp engineID

Description

This command sets the SNMP engine ID that uniquely identifies the SNMPv3 node.If unconfigured, the system uses an engine ID based on the information from the system backplane.If the SNMP engine ID is changed, the current configuration must be saved and a reboot must be executed. Otherwise, the previously configured SNMP communities and logger trap-target notify communities will not be valid for the new engine ID.

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Note:
Changing the SNMP engine ID invalidates all SNMPv3 MD5 and SHA security digest keys, which may render the node unmanageable.

When replacing a chassis, configure the new router to use the same engine ID as the previous router. This preserves SNMPv3 security keys and allows management stations to use their existing authentication keys for the new router.

Ensure that the engine ID of each router is unique. A management domain can only maintain one instance of a specific engine ID.

The **no** form of the command configures the router to use the default value.

Parameters

engine-id

Specifies an identifier from 10 to 64 hexadecimal digits (5 to 32 octet number), uniquely identifying this SNMPv3 node. This string is used to access this node from a remote host with SNMPv3.

Platforms

All

15.10 enhanced-distribution

enhanced-distribution

Syntax

[**no**] **enhanced-distribution**

Context

[Tree] (config>cflowd enhanced-distribution)

Full Context

configure cflowd enhanced-distribution

Description

This command enables the inclusion of the ingress port ID into the hash algorithm used to distribute cflowd sample traffic to cflowd processes running on the 7950 XRS CPM. By including this new attribute, cflowd may see better distribution of flows across processing tasks if there is a limited number of IP interfaces on which sampling is performed, but those interfaces use LAGs with a large number of port members.

By enabling this option, the same flow may be captured multiple times if packets are received on multiple ingress ports.

This command is only applicable to cflowd running on a 7950 XRS platform.

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The **no** form of this command removes the command from the configuration and disables the inclusion of the ingress port ID in the cflowd hash algorithm.

Default

no enhanced-distribution

Platforms

7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

15.11 enqueue-on-pir-zero

enqueue-on-pir-zero

Syntax

[**no**] **enqueue-on-pir-zero**

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution enqueue-on-pir-zero)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution enqueue-on-pir-zero

Description

This command is used to enable queuing of new packets when H-QoS determines that a queue should stop forwarding (operational PIR set to zero). The default behavior is to allow the queue to continue to use the previously determined operational PIR and set the queue's MBS (Maximum Burst Size) to zero. This prevents new packets from being admitted to the queue until the PIR zero case terminates. The new behavior when **enqueue-on-pir-zero** is enabled is to set the operational PIR to zero and leave the queue's MBS set to the normal value.

This command overrides the **limit-pir-zero-drain** command.

The **no** form of this command reverts to default behavior.

Platforms

All

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15.12 enroll

enroll

Syntax

enroll est-profile *name* **key** *key-filename* **output** *output-cert-filename* [**hash-alg** *hash algorithm*] **subject-dn** *subject-dn* [**domain-name** *domain-names*] [**ip-addr** *ip-address* **|** *ipv6-address*] [**validate-cert-chain**] [**force**]

Context

[Tree] (admin>certificate>est enroll)

Full Context

admin certificate est enroll

Description

This command enrolls a new certificate with Certificate Authority (CA) by the EST protocol specified with the **est-profile** *name* parameter with a imported private key specified by the **key** *key-filename* parameter.

The **est-profile** *name* specifies the authentication between the system and EST server.

The **hash-alg** *hash-algorithm*, **subject-dn** *subject-dn*, **domain-name** *domain-names*, and **ip-addr** *ip-address* parameters are used to generate the Certificate Signing Request (CSR) in the EST request message. The **domain-name** *domain-names* and **ip-addr** *ip-address* parameters are used as subject alternative names.

If **validate-cert-chain** is specified, the system validates the certificate's chain of result certificate before importing it. The "certificate chain" is the chain of all the certificates from the result certificate to the issuing CA. The "result certificate" is the new certificate returned by EST server.

The result certificate is imported and saved with the filename specified by the **output** *output-cert-filename*. If **force** is specified, the system overwrites the existing file with same name as the *output-cert-filename*.

Parameters

name

Specifies EST profile name, up to 32 characters

key-filename

Specifies the filename of a key, up to 95 characters

output-cert-filename

Specifies the output certificate filename, up to 200 characters

hash-algorithm

Specifies the hash algorithm used in a certificate request.

Values sha1, sha224, sha256, sha384, sha512

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subject-dn

Specifies the distinguish name, up to 256 characters, used as the subject in a certificate request, including:

- C-Country
- ST-State
- O-Organization name
- OU-Organization Unit name
- CN-common name

This parameter is formatted as a text string including any of the preceding attributes. The attribute and its value is linked by using "=", and "," is used to separate different attributes.

For example: C=US,ST=CA,O=ALU,CN=SR12

Values attr1=val1,attr2=val2

where: attrN={C | ST | O | OU | CN}, up to 256 characters

domain-names

Specifies domain names, up to 512 characters, separated by commas

ip-address

Specifies an IPv4 or IPv6 address string, up to 64 characters

validate-cert-chain

Specifies that the system validates the certificate's chain of result certificate before importing it

force

Specifies that the system overwrites the existing file with same *output-cert-filename*

Platforms

All

15.13 enter

enter

Syntax

[**no**] **enter**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>command-completion enter)

Full Context

configure system management-interface cli md-cli environment command-completion enter

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Description

This command enables completion on the enter character.

The **no** form of this command reverts to the default value.

Default

enter

Platforms

All

15.14 entropy-label

entropy-label

Syntax

[**no**] **entropy-label**

Context

[Tree] (config>service>ipipe>spoke-sdp entropy-label)

[Tree] (config>service>vpls>mesh-sdp entropy-label)

[Tree] (config>service>vpls>bgp-evpn>mpls entropy-label)

[Tree] (config>service>pw-template entropy-label)

[Tree] (config>service>epipe>bgp-evpn>mpls entropy-label)

[Tree] (config>service>vpls>spoke-sdp entropy-label)

[Tree] (config>service>epipe>spoke-sdp entropy-label)

Full Context

configure service ipipe spoke-sdp entropy-label

configure service vpls mesh-sdp entropy-label

configure service vpls bgp-evpn mpls entropy-label

configure service pw-template entropy-label

configure service epipe bgp-evpn mpls entropy-label

configure service vpls spoke-sdp entropy-label

configure service epipe spoke-sdp entropy-label

Description

This command enables or disables the use of entropy labels for spoke SDPs.

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If **entropy-label** is configured, the entropy label and ELI are inserted in packets for which at least one LSP in the stack for the far-end of the tunnel used by the service has advertised entropy-label-capability. If the tunnel is RSVP type, **entropy-label** can also be controlled under the **config>router>mpls** or **config>router>mpls>lsp** contexts.

The entropy label and hash label features are mutually exclusive. The entropy label cannot be configured on a spoke SDP or service where the hash label feature has already been configured.

Default

no entropy-label

Platforms

All

entropy-label

Syntax

[**no**] **entropy-label**

Context

[Tree] (config>service>ies>if>spoke-sdp entropy-label)

Full Context

configure service ies interface spoke-sdp entropy-label

Description

This command enables the use of entropy labels on a spoke-SDP bound to an IES interface.

If **entropy-label** is configured, the entropy label and ELI are inserted in packets for which at least one LSP in the stack for the far-end of the tunnel used by the service has advertised entropy-label-capability. If the tunnel is RSVP, **entropy-label** can also be controlled under the **config>router>mpls** or **config>router>mpls>lsp** contexts.

The entropy label and hash label features are mutually exclusive. The entropy label cannot be configured on a spoke-sdp or service where the hash label feature has already been configured.

Default

no entropy-label

Platforms

All

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entropy-label

Syntax

[**no**] **entropy-label**

Context

[Tree] (config>service>vprn entropy-label)

[Tree] (config>service>vprn>if>spoke-sdp entropy-label)

Full Context

configure service vprn entropy-label

configure service vprn interface spoke-sdp entropy-label

Description

This command enables or disables the use of entropy labels for spoke SDPs on a VPRN.

If **entropy-label** is configured, the entropy label and ELI are inserted in packets for which at least one LSP in the stack for the far-end of the tunnel used by the service has advertised entropy-label-capability. If the tunnel is RSVP type, **entropy-label** can also be controlled under the **config>router>mpls** or **config>router>mpls>lsp** contexts.

The entropy label and the hash label features are mutually exclusive. The entropy label cannot be configured on a spoke SDP or service where the hash label feature has already been configured.

Default

no entropy-label

Platforms

All

entropy-label

Syntax

entropy-label

[**no**] **entropy-label**

Context

[Tree] (config>service>sdp>binding>pw-port entropy-label)

Full Context

configure service sdp binding pw-port entropy-label

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Description

This command enables entropy label insertion on the PW port.

If this command is configured, the entropy label and ELI are inserted in packets for which at least one LSP in the stack for the far-end of the tunnel used by the service has advertised entropy label capability.

- If the tunnel is of type RSVP or SR-TE, the **entropy-label** must be enabled under the **config**>**router**>**mpls** or **config**>**router**>**mpls**>**lsp** contexts.
- If the tunnel is of type SR-ISIS, SR-OSPF or SR-TE, the **override-tunnel-elc** command must be configured under the **config**>**router**>**isis** or **config**>**router**>**ospf** contexts.
- If the tunnel is LDP, the entropy-level capability is configured under the **configure**>**router**>**ldp** context.

The entropy label is only applicable to PW ports bound to a static port, and not to ports using an FPE.

The **no** form of this command disables the entropy label insertion on the PW port.

Default

no entropy-label

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

entropy-label

Syntax

entropy-label {**rsvp-te** | **sr-te**} {**force-disable** | **enable**}

Context

[Tree] (config>router>mpls entropy-label)

Full Context

configure router mpls entropy-label

Description

This command configures the use of entropy labels for MPLS.

The entropy label (EL) and entropy label indicator (ELI) require the insertion of two additional labels in the label stack. In some cases, this may result in an unsupported label stack depth or large changes in the label stack depth during the lifetime of an LSP (for example, due to switching from a primary path with ELC enabled to a secondary path for which the far end has not signaled ELC).

This command provides control at the head end of an RSVP LSP or SR-TE LSP as to whether an EL is inserted on an LSP by ignoring the ELC signaled from the far-end LER, and to control how the additional label stack depth is accounted for.

By default, regardless of the value set for entropy label capability at the egress node, the ingress LER considers the EL and ELI in the label stack while sending the information to the TTM and NHLFE. The application using the LSP does not insert an EL and ELI in the label stack unless the far-end signals ELC and the application is configured to insert an entropy label.

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When **entropy-label** is set to **force-disable**, the ingress LER does not consider EL and ELC in the label stack when sending the information to the TTM and NHLFE. Therefore, the system marks the TTM and NHLFE as ELC not supported, and applications do not insert an EL or ELI.

The **entropy-label** command value changes at either the MPLS level or the LSP level. The new operational value does not take effect until the LSP is re-signaled. A **shutdown** and **no shutdown** of the LSP is required to enable the new value.

The user can use the **clear** command or bounce MPLS itself (**shutdown**/**no shutdown**) to force the new value to take effect for a large numbers of LSPs.

Default

entropy-label rsvp-te enable

Parameters

rsvp-te

Applies the **entropy-label** command to RSVP LSPs.

sr-te

Applies the **entropy-label** command applies to SR-TE LSPs.

force-disable

Specifies that the ingress LER will not consider the EL and ELI in the label stack while sending the information to the TTM and NHLFE. The system marks the TTM and NHLFE as ELC not supported, and applications do not insert an EL or ELI in the label stack.

enable

Specifies that the ingress LER will consider what is signaled from the egress node for ELC for marking the NHLFE, while the TTM is always marked. Although applications only insert the entropy label if the far end signals ELC, the additional two labels of the EL and ELI are always accounted for.

Platforms

All

entropy-label

Syntax

entropy-label {**force-disable** | **enable** | **inherit**}

Context

[Tree] (config>router>mpls>lsp entropy-label)

[Tree] (config>router>mpls>lsp-template entropy-label)

Full Context

configure router mpls lsp entropy-label

configure router mpls lsp-template entropy-label

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Description

This command configures the use of entropy labels for an LSP.

The entropy label (EL) and entropy label indicator (ELI) require the insertion of two additional labels in the label stack. In some cases, this may result in an unsupported label stack depth or large changes in the label stack depth during the lifetime of an LSP (for example, due to switching from a primary path with ELC enabled to a secondary path for which the far end has not signaled ELC).

This command provides control at the head end of an RSVP LSP or SR-TE LSP over whether an entropy label is inserted on an LSP by overriding the ELC signaled from the far-end LER, and control over how the additional label stack depth is accounted for.

By default, the value of **entropy-labe**l is inherited from the MPLS level. The command under the LSP context provides a means to override the default MPLS behavior on a per-LSP basis. For auto-LSPs, it can only be configured in LSP templates of type one-hope-p2p and mesh-p2p.

Under the LSP context, when the value of **entropy-label** is set to **enable**, the ingress LER will take into consideration what is signaled from the egress node for ELC when marking the NHLFE as entropy-label-capable. Since the value of **entropy-label** is set to **enable** at the LSP level, the system will always mark it in the TTM as entropy-label-capable regardless of the signaled value, in order to ensure that the potential additional label stack depth is accounted for. In this scenario, the TTM and NHLFE can be out of synchronization based on what is configured at the egress node. That is, the application will always account for the entropy label and ELI in the label stack without taking into consideration the signaled value of ELC.

When **entropy-labe**l is set to **force-disable**, the ingress LER will not consider EL and ELI in the label stack while sending the information to the TTM and NHLFE, regardless of what the far end signals. Therefore, the system will mark the TTM and NHLFE as ELC not supported, and applications will not insert an EL or ELI.

When the value of **entropy-label** changes at either the MPLS level or the LSP level, the new operational value will not take effect until the LSP is re-signaled. A **shutdown** and **no shutdown** of the LSP is required to enable the new value.

The user can use the **clear** command or bounce MPLS itself (**shutdown** and **no shutdown**) to force the new value to take effect for a large numbers of LSPs.

Default

entropy-label inherit

Parameters

force-disable

Indicates that the ingress LER will not consider the entropy label and ELI in the label stack while sending the information to the TTM and NHLFE. The system will mark the TTM and NHLFE as ELC not supported, and applications will not insert an EL or ELI in the label stack.

enable

Indicates that the ingress LER will take into consideration what is signaled from the egress node for ELC for marking the NHLFE, while the TTM is always marked. Therefore, although applications will only insert the entropy label if the far end signals ELC, the additional two labels of the entropy label EL and ELI are always accounted for.

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inherit

Indicates that the value of **entropy-label** is inherited from the setting in the MPLS context.

Platforms

All

entropy-label

Syntax

[**no**] **entropy-label**

Context

[Tree] (config>router entropy-label)

Full Context

configure router entropy-label

Description

If **entropy-label** is configured, the Entropy label and Entropy Label Indicator is inserted on packets for which at least one LSP in the stack for the far-end of the LDP or RSVP tunnel used by an IGP or BGP shortcut has advertised entropy-label-capability. If the tunnel is of type RSVP, then **entropy-label** must also have been enabled under **config>router>mpls** or **config>router>mpls>lsp**.

This configuration will result in other traffic that is forwarded over an LDP or RSVP LSP for which this router is the LER, and for which there is no explicit service endpoint on this router, to have the EL/ELI enabled, subject to the LSP far-end advertising entropy-label-capability. An example of such traffic includes packets arriving on a stitched LDP LSP forwarded over an RSVP LSP.

Default

no entropy-label

Platforms

All

entropy-label

Syntax

entropy-label

Context

[Tree] (config>router>isis entropy-label)

[Tree] (config>router>ospf entropy-label)

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Full Context

configure router isis entropy-label

configure router ospf entropy-label

Description

Commands in this context configure entropy label capabilities for the routing protocol.

Platforms

All

entropy-label

Syntax

entropy-label {**force-disable** | **enable**}

no entropy-label

Context

[Tree] (config>router>isis>segm-rtng entropy-label)

[Tree] (config>router>ospf>segm-rtng entropy-label)

Full Context

configure router isis segment-routing entropy-label

configure router ospf segment-routing entropy-label

Description

This command instructs the system to ignore any received IGP advertisements of entropy label capability relating to remote nodes in the network. It also prevents a user from configuring **override-tunnel-elc** for the IGP instance.

The **no** version of this command enables the processing of any received IGP advertisements of entropy label capability.

Default

entropy-label enable

Parameters

force-disable

Forces the system to ignore any received entropy label capability signaled in the IGP.

enable

Enables the system to process any received entropy label capability signaled in the IGP.

Platforms

All

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15.15 entropy-label-capability

entropy-label-capability

Syntax

[**no**] **entropy-label-capability**

Context

[Tree] (config>router>rsvp entropy-label-capability)

[Tree] (config>router>ldp entropy-label-capability)

Full Context

configure router rsvp entropy-label-capability

configure router ldp entropy-label-capability

Description

This command enables or disables ELC for RSV.

If **entropy-label-capability** is configured, then the system will signal (using the procedures specified in RFC 6790) that it is capable of receiving and processing the entropy label and ELI on incoming packets of RSVP and LDP LSPs.

If **no entropy-label-capability** is configured, then the system will not signal ELC. If an ELI is exposed on a packet where the tunnel label is popped at the termination of that LSP, and an entropy label is not configured, then the packet will be dropped.

Default

no entropy-label-capability

Platforms

All

15.16 entry

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

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Context

[Tree] (config>filter>dhcp-filter entry)

[Tree] (config>filter>dhcp6-filter entry)

Full Context

configure filter dhcp-filter entry

configure filter dhcp6-filter entry

Description

This command configures DHCP filter entries.

The **no** form of this command removes the entry from the configuration.

Parameters

entry-id

Specifies the entry ID.

Values 1 to 65535

create

This keyword is required when first creating the DHCP filter entry. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

All

entry

Syntax

entry *id* [**create**]

no entry *id*

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter entry)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry

Description

This command configures an entry in the VAS filter.

The **no** form of this command removes the entry ID from the configuration.

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Parameters

id

Specified an entry in the VAS filter.

Values 0 to 4294967295

create

Keyword used to create the entry ID instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry key *ancp-string* **customer** *customer-id* **multi-service-site** *customer-site-name* **ancp-policy** *policy-name*

entry key *ancp-string* **sap** *sap-id* **ancp-policy** *policy-name*

no entry key *ancp-string* **customer** *customer-id* **multi-service-site** *customer-site-name*

no entry key *ancp-string* **sap** *sap-id*

Context

[Tree] (config>subscr-mgmt>ancp>static-map entry)

Full Context

configure subscriber-mgmt ancp ancp-static-map entry

Description

This command configures an ANCP name. When ANCP is configured to provide rate adaptation without the use of enhanced subscriber management, this command will define how to map an ANCP key (usually the circuit-id of the DSLAM port) to either a SAP and a scheduler name (when a Multi-Service Site (MSS) is not used) or a customer, site and scheduler name when MSS is used.

Different ANCP names may be used with the same SAPs or customer ID/MSS combinations to allow schedulers within the policy to be mapped to the ANCP names. An ANCP string and SAP combination may reference only one ancp-policy. An ANCP string and customer and site-name combination may reference a single ancp-policy.

The **no** form of this command reverts to the default.

Parameters

ancp-string

Specifies the ASCII representation of the DSLAM circuit-id name, up to 63 characters.

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customer-id

Specifies the associated existing customer ID.

Values 1 to 2147483647

customer-site-name

Specifies the associated customer's configured MSS name, up to 32 characters.

policy-name

Specifies an existing ANCP policy name, up to 32 characters.

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6 entry)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6 entry)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip entry)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip entry)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry

Description

This command configures the IP filter entry.

The **no** form of this command reverts to the default.

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Parameters

entry-id

Specifies the entry ID.

Values 1 to 65535

create

Keyword used to create an entry. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry key *sub-ident-string* [**sub-profile** *sub-profile-name*] [**alias** *sub-alias-string*] [**sla-profile** *sla-profile-name*] [**app-profile** *app-profile-name*]

no entry key *sub-ident-string*

Context

[Tree] (config>subscr-mgmt>explicit-sub-map entry)

Full Context

configure subscriber-mgmt explicit-subscriber-map entry

Description

This command configures a subscriber identification string.

The **no** form of this command reverts to the default.

Parameters

sub-ident-string

Specifies the profile string, up to 32 characters.

sub-profile-name

Specifies an existing subscriber profile name, up to 32 characters.

sub-alias-string

Specifies an alias for the subscriber identification string, up to 64 characters.

sla-profile-name

Specifies an existing SLA profile, up to 32 characters.

app-profile-name

Specifies an app profile name up to 256 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry key *app-profile-string* **app-profile** *app-profile-name*

no entry key *app-profile-string*

Context

[Tree] (config>subscr-mgmt>sub-ident-pol>app-profile-map entry)

Full Context

configure subscriber-mgmt sub-ident-policy app-profile-map entry

Description

This command configures an application profile string.

The **no** form of this command removes the values from the configuration.

Parameters

app-profile-string

Specifies the application profile string up to 16 characters.

app-profile-name

Specifies the application profile name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry key *sla-profile-string* **sla-profile** *sla-profile-name*

no entry key *sla-profile-string*

Context

[Tree] (config>subscr-mgmt>sub-prof>sla-profile-map entry)

[Tree] (config>subscr-mgmt>sub-ident-pol>sla-profile-map entry)

Full Context

configure subscriber-mgmt sub-profile sla-profile-map entry

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configure subscriber-mgmt sub-ident-policy sla-profile-map entry

Description

This command configures an SLA profile string. Each subscriber identification string can be provisioned into a subscriber mapping table providing an explicit mapping of the string to a specific subscriber profile. This allows certain subscribers to be directly mapped to the appropriate subscriber profile in the event that the default mappings are not desired for the subscriber.

An explicit mapping of a subscriber identification string to a subscriber profile cannot be defined with the subscriber profile name default. It is possible for the subscriber identification string to be entered in the mapping table without a defined subscriber profile which can result in the explicitly defined subscriber to be associated with the subscriber profile named default.

Explicitly mapping a subscriber identification string to a subscriber profile will cause an existing active subscriber associated with the string to be reassigned to the newly mapped subscriber profile. An explicit mapping overrides all default subscriber profile definitions.

Attempting to delete a subscriber profile that is currently defined as in an explicit subscriber identification string mapping will fail.

The system will fail the removal attempt of an explicit subscriber identification string mapping to a subscriber profile definition when an active subscriber is using the mapping and cannot be reassigned to a defined default non-provisioned subscriber profile.

The **no** form of this command reverts to the default.

Parameters

sla-profile-string

Identifies the SLA profile string, up to 32 characters.

sla-profile-name

Identifies the SLA profile name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry key *sub-profile-string* **sub-profile** *sub-profile-name*

no entry key *sub-profile-string*

Context

[Tree] (config>subscr-mgmt>sub-ident-pol>sub-profile-map entry)

Full Context

configure subscriber-mgmt sub-ident-policy sub-profile-map entry

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Description

This command configures a subscriber profile string.

The **no** form of this command reverts to the default.

Parameters

sub-profile-string

Specifies the subscriber profile string, up to 32 characters.

sub-profile-name

Specifies the subscriber profile name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

[**no**] **entry direction** *direction* **type** *type* **id** *id*

Context

[Tree] (config>subscr-mgmt>accu-stats-policy entry)

Full Context

configure subscriber-mgmt accu-stats-policy entry

Description

This command defines the direction of the policer or queue to the stored and accumulated policy.

The **no** form of this command removes the entry.

Parameters

direction

Specifies the direction of the queue or policer.

Values egress, ingress

type

Specifies whether the entry is for a queue or policer.

Values queue, policer

id

Specifies the queue or policer ID.

Values 1 to 63

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>subscr-mgmt>isa-filter>ipv6 entry)

[Tree] (config>subscr-mgmt>isa-filter entry)

Full Context

configure subscriber-mgmt isa-filter ipv6 entry

configure subscriber-mgmt isa-filter entry

Description

This command creates a new entry for this filter. When processing a packet, entries are matched in order, starting with the lowest entry-id. A maximum of 128 IPv4 and 128 IPv6 DSM filter entries are allowed.

The **no** form of this command removes the specified entry from the ISA filter.

Parameters

entry-id

Specifies the numeric identifier for the filter entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry [*entry*] [**prefix-string** *prefix-string*] [**accounting-server-policy** *policy-name*] [**authentication-server-policy** *policy-name*] [**suffix-string** *suffix-string*]

no entry [*entry*]

Context

[Tree] (config>service>vprn>radius-proxy>server>attribute-matching entry)

[Tree] (config>router>radius-proxy>server>attribute-matching entry)

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Full Context

configure service vprn radius-proxy server attribute-matching entry

configure router radius-proxy server attribute-matching entry

Description

This command matches the specified prefix or suffix string with the selected accounting server policy or authentication server policy.

Parameters

entry

Specifies an entry ID.

Values 1 to 32

prefix-string

Specifies the prefix string for matching up to 128 characters. If the suffix-string is also used, the combined length cannot exceed 126 characters.

suffix-string

Specifies the suffix string for matching up to 126 characters. If the prefix-string is also used, the combined length cannot exceed 126 characters.

policy-name

Specifies the RADIUS accounting or authentication policy up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>service>mrp>mrp-policy entry)

Full Context

configure service mrp mrp-policy entry

Description

This command creates or edits an mrp-policy entry. Multiple entries can be created using unique entry-id numbers within the policy. The implementation exits the policy on the first match found and executes the actions in accordance with the accompanying action command. For this reason, entries must be sequenced correctly from most to least explicit. An entry may not have any match criteria defined (in which

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case, everything matches) but must have at least the keyword action for it to be considered complete. Entries without the action keyword will be considered incomplete and therefore will be rendered inactive.

The **no** form of this command removes the specified entry from the mrp-policy. Entries removed from the mrp-policy are immediately removed from all services where the policy is applied.

Parameters

entry-id

An entry-id uniquely identifies a match criteria and the corresponding action. It is recommended that multiple entries be given entry-ids in staggered increments. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

Values 1 to 65535

create

Keyword; required when first creating the configuration context. When the context is created, one can navigate into the context without the create keyword.

Platforms

All

entry

Syntax

entry *range-entry-id* [**create**]

no entry *range-entry-id*

Context

[Tree] (config>service>vpls>isid-policy entry)

Full Context

configure service vpls isid-policy entry

Description

This command creates or edits an ISID policy entry. Multiple entries can be created using unique entry-id numbers within the ISID policy.

entry-id — Specifies an entry-id uniquely identifies a ISID range and the corresponding actions. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

The following rules govern the usage of multiple entry statements:

- overlapping values are allowed:
  - isid from 301 to 310
  - isid from 305 to 315
  - isid 316

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- the minimum and maximum values from overlapping ranges are considered and displayed. The above entries will be equivalent with "isid from 301 to 316” statement.
- there is no consistency check with the content of ISID statements from other entries. The entries will be evaluated in the order of their IDs and the first match will cause the implementation to execute the associated action for that entry.

no isid - removes all the previous statements under one entry.

no isid value | from value to higher-value - removes a specific ISID value or range. Must match a previously used positive statement: for example, if the command "isid 16 to 100” was used using "no isid 16 to 50”, it will not work but "no isid 16 to 100 will be successful.

Values 1 to 65535

Default

no entry

Parameters

range-entry-id

Specifies the ID of the ISID policy to be created or edited

Values 1 to 8191

create

Required when first creating the configuration context. Once the context is created, one can navigate into the context without the create keyword.

Platforms

All

entry

Syntax

entry *entry-id* [**name** *entry-name*]

no entry *entry-id*

Context

[Tree] (config>service>vprn>log>filter entry)

Full Context

configure service vprn log filter entry

Description

This command is used to create or edit an event filter entry. Multiple entries may be created using unique *entry-id* values. The SR OS implementation exits the filter on the first match found and executes the action in accordance with the action command.

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Comparisons are performed in an ascending entry ID order. When entries are created, they should be arranged sequentially from the most explicit entry to the least explicit. Matching ceases when a packet matches an entry. The entry action is performed on the packet, either drop or forward. To be considered a match, the packet must meet all the conditions defined in the entry.

An entry may not have any match criteria defined (in which case, everything matches) but must have at least the keyword action for it to be considered complete. Entries without the action keyword will be considered incomplete and are rendered inactive.

By default, no filter entries are defined. Entries must be explicitly configured.

The **no** form of this command removes the specified entry from the event filter. Entries removed from the event filter are immediately removed from all log-id's where the filter is applied.

Default

No event filter entries are defined. An entry must be explicitly configured.

Parameters

entry-id

The entry ID uniquely identifies a set of match criteria corresponding action within a filter. Entry ID values should be configured in staggered increments so you can insert a new entry in an existing policy without renumbering the existing entries.

Values 1 to 999

name entry-name

Configures an optional entry name for the event filter, up to 64 characters, that can be used to refer to the entry after it is created.

Platforms

All

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>app-assure>group>policy>app-filter entry)

Full Context

configure application-assurance group policy app-filter entry

Description

This command creates an application filter entry.

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App filter entries are an ordered list, the lowest numerical entry that matches the flow defines the application for that flow.

An application filter entry or entries configures match attributes of an application.

The **no** form of this command deletes the specified application filter entry.

Parameters

entry-id

Specifies an integer that identifies an app-filter entry.

Values 1 to 65535

create

Keyword used to create the entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>app-assure>group>policy>aqp entry)

Full Context

configure application-assurance group policy app-qos-policy entry

Description

This command creates an application QoS policy entry. A flow that matches multiple Application QoS policies (AQP) entries will have multiple AQP entries actions applied. When a conflict occurs for two or more actions, the action from the AQP entry with the lowest numerical value takes precedence.

The **no** form of this command deletes the specified application QoS policy entry.

Parameters

entry-id

An integer identifying the AQP entry.

Values 1 to 65535

create

Mandatory keyword creates the entry. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>app-assure>group>sess-fltr entry)

Full Context

configure application-assurance group session-filter entry

Description

This command configures a particular Application-Assurance session filter match entry. Every session filter can have zero or more session filter match entries. An application filter entry or entries configures match attributes of an application.

The **no** form of this command deletes the specified entry.

Parameters

entry-id

Specifies an integer that identifies the entry.

Values 1 to 65535

create

Keyword used to create the entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **direction** *direction* [**create**]

no entry *entry-id* **direction** *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg entry)

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Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type entry

Description

This command configures a TCA for the counter capturing hits for the specified GTP filter entry. A GTP filter entry TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

Parameters

entry-id

Specifies the GTP filter message-type entry identifier.

Values 1 to 255

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **direction** *direction* [**create**]

no entry *entry-id* **direction** *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg-gtpv2 entry)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type-gtpv2 entry

Description

This command configures a TCA for the counter capturing hits for the specified GTPv2 message type filter entry. A GTP filter entry TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating an entry TCA.

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Parameters

entry-id

Specifies the GTP filter message-type-gtpv2 entry identifier.

Values 516 to 770

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **direction***direction* [**create**]

no entry *entry-id* **direction** *direction*

Context

[Tree] (config>app-assure>group>stats>tca>gtp-fltr>imsi-apn-filter entry)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter imsi-apn-filter entry

Description

This command configures a TCA for the counter capturing hits for the specified IMSI-APN filter entry. A GTP IMSI-APN filter entry TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating an entry TCA.

Parameters

entry-id

Specifies the identifier for the IMSI-APN filter entry.

Values 1031 to 2030

direction

Specifies the traffic direction.

Values from-sub, to-sub

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create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **direction** *direction* [**create**]

no entry *entry-id* **direction** *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>sctp-fltr>ppid entry)

Full Context

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid entry

Description

This command configures a TCA for the counter capturing hits for the specified SCTP filter PPID entry. An SCTP filter entry TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a TCA.

Parameters

entry-id

Specifies the SCTP filter PPID entry identifier.

Values 1 to 255

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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entry

Syntax

entry *entry-id* **direction** *direction* [**create**]

no entry *entry-id* **direction** *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>session-filter entry)

Full Context

configure application-assurance group statistics threshold-crossing-alert session-filter entry

Description

This command configures a TCA for the counter capturing hits for the specified session filter entry. A session filter entry TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a TCA.

Parameters

entry-id

Specifies the SCTP filter PPID entry identifier.

Values 1 to 65535

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>imsi-apn-fltr entry)

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Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter entry

Description

This command configures an entry within the IMSI-APN filter to allow for IMSI-APN match and action configuration.

Parameters

entry-id

Specifies the index into the IMSI-APN list that defines a custom filtering action.

Values 1031 to 2030

create

Keyword used to create the entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **value** *gtp-message-value* **action** {**permit** | **deny**}

no entry *entry-id*

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>msg entry)

Full Context

configure application-assurance group gtp gtp-filter message-type entry

Description

This command configures an entry for a specific GTPv1 message type value.

Parameters

entry-id

Specifies the index into the GTP message value list that defines a custom message-type action.

Values 1 to 255

gtp-message-value

Specifies the GTPv1 message type, either as a numeric value or as a string.

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Values 1 to 255 or 256 characters {echo-request, echo-response, error-indication, g-pdu, supported-extension-headers-notification}

permit | deny

Specifies the action to take for packets that match this GTP filter message entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **value** *gtpv2-message-value* **action** {**permit** | **deny**}

no entry *entry-id*

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>msg-gtpv2 entry)

Full Context

configure application-assurance group gtp gtp-filter message-type-gtpv2 entry

Description

This command configures an entry for a specific GTPv2 message type value.

Default

entry permit

Parameters

entry-id

Specifies the index into the GTP message value list that defines a custom message-type action.

Values 516 to 770

gtpv2-message-value

Specifies the GTPv2 message type, either as a numeric value or as a string.

Values 1 to 255 or 256 characters (such as: echo-request, echo-response, create-session-request, modify-bearer-request, change-notification-request, change-notification-response, modify-bearer-response, create-session-response, delete-session-request, delete-session-response, remote-ue-report-notification, remote-ue-report-acknowledge)

permit | deny

Specifies the action to take for packets that match this GTP filter message entry.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **value** *ppid-value* **action** {**permit** | **deny**}

no entry *entry-id*

Context

[Tree] (config>app-assure>group>sctp-fltr>ppid entry)

Full Context

configure application-assurance group sctp-filter ppid entry

Description

This command specifies if an SCTP PPID value is allowed or not.

The **no** form of this command removes this PPID. In which case, the default action for the **sctp-filter>ppid** is applied.

Parameters

entry-id

Specifies the SCTP filter PPID entry identifier.

ppid-value

Specifies the PPID value, either as numeric value or as a string.

Values 0 to 4294967295 D, 256 chars max

action {permit | deny}

Specifies to allow or deny the configured PPID.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

entry *entry-id*

no entry *entry-id*

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Context

[Tree] (config>app-assure>group>transit-prefix-policy entry)

Full Context

configure application-assurance group transit-prefix-policy entry

Description

This command configures the index to a specific entry of a transit prefix policy.

The **no** form of this command removes the entry ID from the transit prefix policy configuration.

Parameters

entry-id

Specifies a transit prefix policy entry.

Values 1 to 4294967295

create

Keyword used when creating an entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>ipsec>cert-profile entry)

Full Context

configure ipsec cert-profile entry

Description

This command configures the certificate profile entry information

The **no** form of this command removes the *entry-id* value from the cert-profile configuration.

Parameters

entry-id

Specifies the entry ID.

Values 1 to 8

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>ipsec>ts-list>local entry)

[Tree] (config>ipsec>ts-list>remote entry)

Full Context

configure ipsec ts-list local entry

configure ipsec ts-list remote entry

Description

This command creates a new TS-list entry or enables the context to configure an existing TS-list entry.

The **no** form of this command removes the entry from the local or remote configuration.

Parameters

entry-id

Specifies the entry ID

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>service>vprn>ipsec>sec-plcy entry)

[Tree] (config>router>ipsec>sec-plcy entry)

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Full Context

configure service vprn ipsec security-policy entry

configure router ipsec security-policy entry

Description

This command configures an IPsec security policy entry.

Parameters

entry-id

Specifies the IPsec security policy entry.

Values 1 to 32

create

Keyword used to create the security policy entry instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec security-policy entry

VSR

- configure router ipsec security-policy entry

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>service>nat>nat-classifier entry)

Full Context

configure service nat nat-classifier entry

Description

This command creates or edits a nat-classifier entry. Multiple entries can be created using unique entry-id numbers within the nat-classifier. Entries must be sequenced from most to least explicit. An entry may not have any match criteria defined, in which case all UDP traffic will be matched. In case that the action is not explicitly configured, a default-action will be applied.

The **no** form of the command removes the specified entry from the filter. Entries removed from the nat-classifier are immediately removed from all entities to which the nat-classifier is applied.

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Parameters

entry-id

Specifies an entry-id that uniquely identifies a match criteria and the corresponding action. It is recommended that multiple entries be given entry-ids in staggered increments. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *li-entry-id* [**create**]

no entry *li-entry-id*

Context

[Tree] (config>li>li-filter>li-mac-filter entry)

[Tree] (config>li>li-filter>li-ipv6-filter entry)

[Tree] (config>li>li-filter>li-ip-filter entry)

Full Context

configure li li-filter li-mac-filter entry

configure li li-filter li-ipv6-filter entry

configure li li-filter li-ip-filter entry

Description

This command creates or edits a Lawful Interception filter entry. Multiple entries can be created using unique entry-id numbers within the filter.

An entry in an LI filter always has an implicit action of "forward”.

The **no** form of this command removes the specified entry from the filter. Entries removed from the filter are immediately removed from all services or network ports where the associated filter is applied.

LI filter entries can be used as li-source entries.

The entry numbers for LI filters serve purely as keys for managing the entries (deleting entries, and so on). The order of LI filter entries is not guaranteed to match the entry numbers and the software may reorder entries. Operators must use LI entries in a manner such that relative order of the LI entries amongst themselves is not important.

The **no** form of this command removes the LI entry ID from the configuration.

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Parameters

li-entry-id

Identifies the Lawful Interception filter entry.

Values 1 to 65536

Platforms

All

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>qos>sap-egress>ip-criteria entry)

[Tree] (config>qos>sap-ingress>ipv6-criteria entry)

[Tree] (config>qos>sap-ingress>ip-criteria entry)

[Tree] (config>qos>sap-egress>ipv6-criteria entry)

[Tree] (config>qos>sap-ingress>mac-criteria entry)

Full Context

configure qos sap-egress ip-criteria entry

configure qos sap-ingress ipv6-criteria entry

configure qos sap-ingress ip-criteria entry

configure qos sap-egress ipv6-criteria entry

configure qos sap-ingress mac-criteria entry

Description

This command is used to create or edit an IP, IPv6, or MAC criteria entry for the policy. Multiple entries can be created using unique *entry-id* numbers.

The list of flow criteria is evaluated in a top-down manner with the lowest entry ID at the top and the highest entry ID at the bottom. If the defined match criteria for an entry within the list matches the information in the egress packet, the system stops matching the packet against the list and performs the matching entries reclassification actions. If none of the entries match the packet, the IP flow reclassification list has no effect on the packet.

An entry is not populated in the list unless the action command is executed for the entry. An entry that is not populated in the list has no effect on egress packets. If the action command is executed without any explicit reclassification actions specified, the entry is populated in the list allowing packets matching the entry to exit the list, preventing them from matching entries lower in the list. Since this is the only flow

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reclassification entry that the packet matched and this entry explicitly states that no reclassification action is to be performed, the matching packet will not be reclassified.

The **no** form of this command removes the specified entry from the policy. Entries removed from the policy are immediately removed from all services where that policy is applied.

Parameters

entry-id

The *entry-id,* expressed as an integer, uniquely identifies a match criterion and the corresponding action. It is recommended that multiple entries be given *entry-ids* in staggered increments. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

An entry cannot have any match criteria defined (in which case, everything matches) but must have at least the keyword **action fc** *fc-name* for it to be considered complete. Entries without the action keyword will be considered incomplete and, therefore, will be rendered inactive.

Values 1 to 65535

create

Required parameter when creating a flow entry when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the flow entry already exists.

Platforms

All

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>qos>network>ingress>ip-criteria entry)

[Tree] (config>qos>network>egress>ipv6-criteria entry)

[Tree] (config>qos>network>egress>ip-criteria entry)

[Tree] (config>qos>network>ingress>ipv6-criteria entry)

Full Context

configure qos network ingress ip-criteria entry

configure qos network egress ipv6-criteria entry

configure qos network egress ip-criteria entry

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configure qos network ingress ipv6-criteria entry

Description

This command is used to create or edit an IP or IPv6 criteria entry for the policy. Multiple entries can be created using unique entry numbers.

The list of flow criteria is evaluated in a top-down manner with the lowest entry ID at the top and the highest entry ID at the bottom. If the defined match criteria for an entry within the list matches the information in the packet, the system stops matching the packet against the list and performs the matching entries reclassification actions. If none of the entries match the packet, the IP flow reclassification list has no effect on the packet.

An entry is not populated in the list unless the action command is executed for the entry. An entry that is not populated in the list has no effect on ingress packets. If the **action** command is executed without any explicit reclassification actions specified, the entry is populated in the list allowing packets matching the entry to exit the list, preventing them from matching entries lower in the list. Since this is the only flow reclassification entry that the packet matched, and this entry explicitly states that no reclassification action is to be performed, the matching packet will not be reclassified.

The configuration of egress prec/DSCP classification and the configuration of an egress IP criteria or IPv6 criteria entry statement within a network QoS policy are mutually exclusive.

Network QoS policies containing egress **ip-criteria** or **ipv6-criteria entry** statements are only applicable to network interfaces. Configuration of **ip-criteria** or **ipv6-criteria entry** statements in a network egress QoS policy and the application of the policy on any object other than a GRT network interface are mutually exclusive.

The **no** form of this command removes the specified entry from the policy. Entries removed from the policy are immediately removed from all services to which that policy is applied.

Parameters

entry-id

The entry identifier, expressed as an integer, uniquely identifies a match criterion and the corresponding action. It is recommended that multiple entries be given entry identifiers in staggered increments. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

An entry cannot have any match criteria defined (in which case, everything matches) but must have at least the keyword **action fc fc-name profile** *profile* for it to be considered complete. Entries without the action keyword will be considered incomplete and will be rendered inactive.

Values 1 to 65535

create

Required parameter when creating a flow entry when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled, and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the flow entry already exists.

Platforms

All

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entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>filter>ip-filter entry)

[Tree] (config>filter>ipv6-exception entry)

[Tree] (config>filter>ipv6-filter entry)

[Tree] (config>filter>ip-exception entry)

[Tree] (config>filter>mac-filter entry)

Full Context

configure filter ip-filter entry

configure filter ipv6-exception entry

configure filter ipv6-filter entry

configure filter ip-exception entry

configure filter mac-filter entry

Description

This command creates or edits an IPv4, IPv6, MAC, IP exception filter, or IPv6 exception filter entry. Multiple entries can be created using unique *entry-id* numbers within the filter. Entries must be sequenced from most to least explicit.

An entry may not have any match criteria defined (in which case everything matches) but must have at least the keyword **action** for it to be considered complete. Entries without the **action** keyword will be considered incomplete and hence will be rendered inactive.

The **no** form of the command removes the specified entry from the filter. Entries removed from the filter are immediately removed from all services or network ports where that filter is applied.

Parameters

entry-id

Uniquely identifies a match criteria and the corresponding action. It is recommended that multiple entries be given *entry-id* in staggered increments. This allows users to insert a new entry in an existing policy without requiring to renumbering all the existing entries. The parameter is expressed as a decimal integer.

Values 1 to 2097151

create

This keyword is required to create the configuration context. Once the context is created, the user can enable the context with or without the **create** keyword.

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Platforms

All

- configure filter ip-filter entry
- configure filter mac-filter entry
- configure filter ipv6-filter entry

VSR

- configure filter ipv6-exception entry
- configure filter ip-exception entry

entry

Syntax

entry *entry-id* [**name** *entry-name*]

no entry *entry-id*

Context

[Tree] (config>log>filter entry)

Full Context

configure log filter entry

Description

This command creates or edits an event filter entry. Multiple entries can be created using unique *entry-id* values. The SR OS implementation exits the filter on the first match found and executes the action in accordance with the **action** command.

Comparisons are performed in an ascending entry ID order. When entries are created, they should be arranged sequentially from the most explicit entry to the least explicit. Matching ceases when a packet matches an entry. The entry action is performed on the packet, either drop or forward. To be considered a match, the packet must meet all the conditions defined in the entry.

An entry may not have any match criteria defined (in which case, everything matches) but must have at least the keyword action for it to be considered complete. Entries without the action keyword will be considered incomplete and are rendered inactive.

By default, no filter entries are defined. Entries must be explicitly configured.

The **no** form of this command removes the specified entry from the event filter. Entries removed from the event filter are immediately removed from all log-id's where the filter is applied.

Parameters

entry-id

The entry ID uniquely identifies a set of match criteria corresponding action within a filter. Entry ID values should be configured in staggered increments so you can insert a new entry in an existing policy without renumbering the existing entries.

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Values 1 to 999

name entry-name

Configures an optional entry name for the event filter, up to 64 characters, that can be used to refer to the entry after it is created.

Platforms

All

entry

Syntax

[**no**] **entry** *entry-id*

Context

[Tree] (config>log>event-handling>handler>action-list entry)

Full Context

configure log event-handling handler action-list entry

Description

This command configures an EHS handler action-list entry. A handler can have multiple actions where each action, for example, could request the execution of a different script. When the handler is triggered it will walk through the list of configured actions.

The **no** form of this command removes the specified EHS handler action-list entry.

Parameters

entry-id

Specifies the identifier of the EHS handler entry.

Values 1 to 1500

Platforms

All

entry

Syntax

[**no**] **entry** *entry-id*

Context

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter entry)

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[Tree] (config>system>security>mgmt-access-filter>mac-filter entry)

[Tree] (config>system>security>mgmt-access-filter>ip-filter entry)

Full Context

configure system security management-access-filter ipv6-filter entry

configure system security management-access-filter mac-filter entry

configure system security management-access-filter ip-filter entry

Description

This command is used to create or edit a management access IP(v4), IPv6, or MAC filter entry. Multiple entries can be created with unique *entry-id* numbers. The OS exits the filter upon the first match found and executes the actions according to the respective action command. For this reason, entries must be sequenced correctly from most to least explicit.

An entry may not have any match criteria defined (in which case, everything matches) but must have at least the keyword **action** defined to be considered complete. Entries without the **action** keyword are considered incomplete and inactive.

The **no** form of this command removes the specified entry from the management access filter.

Parameters

entry-id

Specifies an entry ID uniquely identifies a match criteria and the corresponding action. It is recommended that entries are numbered in staggered increments. This allows users to insert a new entry in an existing policy without having to renumber the existing entries.

Values 1 to 9999

Platforms

All

entry

Syntax

entry *entry-id*

Context

[Tree] (config>sys>sec>cpm>ip-filter entry)

[Tree] (config>sys>sec>cpm>mac-filter entry)

[Tree] (config>sys>sec>cpm>ipv6-filter entry)

Full Context

configure system security cpm-filter ip-filter entry

configure system security cpm-filter mac-filter entry

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configure system security cpm-filter ipv6-filter entry

Description

This command specifies a particular CPM filter match entry. Every CPM filter must have at least one filter match entry. Entries are created and deleted by user.

The default match criteria is match none.

Parameters

entry-id

Identifies a CPM filter entry as configured on this system.

Values 1 to 131072

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

entry

Syntax

entry *entry* **levels** *levels* **opcodes** *opcodes* **rate** *packet-rate-limit*

no entry

Context

[Tree] (config>sys>security>cpu-protection>policy>eth-cfm entry)

Full Context

configure system security cpu-protection policy eth-cfm entry

Description

Builds the specific match and rate criteria. Up to ten entries may exist in up to four CPU protection policies.

The **no** form of this command reverses the match and rate criteria configured.

Default

no entry

Parameters

rate

Specifies a packet rate limit in frames per second, where a "0” means drop all.

Values 1 to 100

level

Specifies a domain level.

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Values all: Wildcard entry level
range: 0 to 7: within specified range, multiple ranges allowed
number: 0 to 7: specific level number, may be combined with range

opcode

Specifies an operational code that identifies the application.

Values range: 0 to 255: within specified range, multiple ranges allowed
number: 0 to 255: specific level number, may be combined with range

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

entry

Syntax

[**no**] **entry** *entry-id*

Context

[Tree] (config>system>security>profile entry)

Full Context

configure system security profile entry

Description

This command is used to create a user profile entry.

More than one entry can be created with unique *entry-id* numbers. Exits when the first match is found and executes the actions according to the accompanying **action** command. Entries should be sequenced from most explicit to least explicit.

An entry may not have any match criteria defined (in which case, everything matches) but must have at least the keyword **action** for it to be considered complete.

The **no** form of this command removes the specified entry from the user profile.

Parameters

entry-id

Specifies an entry-id that uniquely identifies a user profile command match criteria and a corresponding action. If more than one entry is configured, the *entry-ids* should be numbered in staggered increments to allow users to insert a new entry without requiring renumbering of the existing entries.

Values 1 to 9999

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Platforms

All

entry

Syntax

entry *entry-id* [**key** *authentication-key* | *hash-key* | *hash2-key* | *custom-key* [**hash** | **hash2** | **custom**] **algorithm** *algorithm*]

no entry *entry-id*

Context

[Tree] (config>system>security>keychain>direction>uni>receive entry)

[Tree] (config>system>security>keychain>direction>uni>send entry)

[Tree] (config>system>security>keychain>direction>bi entry)

Full Context

configure system security keychain direction uni receive entry

configure system security keychain direction uni send entry

configure system security keychain direction bi entry

Description

This command defines a specific key in the keychain. Entries are defined by an entry ID. A keychain must have valid entries for the TCP Enhanced Authentication or TCP-AO mechanism to work.

The **no** form of this command removes the entry from the keychain. If the entry is the active entry for sending, this causes a new active key to be selected (if one is available, using the youngest key rule). If it is the only possible key to send, the system rejects the command with an error indicating the configured key is the only available send key. If the key is one of the eligible keys for receiving, it is removed. If the key is the only possible eligible key, the command is accepted, and an error indicating that this is the only eligible key is generated.

Parameters

entry-id

Specifies an entry that represents a key configuration to be applied to a keychain.

Values 0 to 63, null-key

key

Specifies a key ID which is used along with *keychain-name* and **direction** to uniquely identify this particular key entry.

authentication-key

Specifies the *authentication-key* that is used by the encryption algorithm. The key is used to sign and authenticate a protocol packet.

The *authentication-key* can be any combination of letters or numbers.

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Values If the algorithm is based on AES and the specified key is not the exact length required by the associated algorithm, the following steps are taken, depending on the protocol:

- For protocols using TCP-AO (BGP, LDP, and PCEP), the key is processed as described in RFC 4615. All key lengths are valid.
- For all other protocols (OSPF, IS-IS, RSVP, NTP, and MACsec), if the key is shorter than the required length, the key is padded with zeros; if it is longer, it is truncated.

For algorithms based on AES-128, the required key length is 16 bytes.

For algorithms based on AES-256, the required key length is 32 bytes.

In all other cases, all key lengths are valid and the specified key is not padded nor truncated.

algorithm

Specifies an enumerated integer that indicates the encryption algorithm to be used by the key defined in the keychain.

Values aes-128-cmac-96 — Specifies an algorithm based on the AES standard for TCP authentication (TCP-AO and TCP Enhanced Authentication) for BGP, LDP, and PCEP.

aes-128-cmac-128 — Specifies an algorithm based on the AES standard, as described in RFC 4493 for NTP.

aes-128-gcm-16 — Specifies an algorithm used for MCS.

hmac-sha-1-96 — Specifies an algorithm based on SHA-1 for RSVP-TE and TCP authentication for LDP.

message-digest — Specifies the MD5 hash used for OSPF.

hmac-md5 — Specifies the MD5 hash used for IS-IS and RSVP-TE.

password – Specifies a simple password authentication for OSPF, IS-IS, and RSVP-TE.

hmac-sha-1 — Specifies the SHA-1 algorithm for OSPF, IS-IS, and RSVP-TE.

hmac-sha-256 — Specifies the SHA-256 algorithm for OSPF and IS-IS.

hmac-sha-256-96 — Specifies the HMAC-SHA-256-96 algorithm support for TCP-AO.

hmac-sha-256-128 — Specifies the HMAC-SHA-256-128 algorithm support for TCP-AO.

hash-key | hash2-key | custom-key

Specifies the hash key. The key can be any combination of ASCII characters up to 33 for the *hash-key* and 96 characters for the *hash2-key* (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

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hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies a custom hash version is used while saving the configuration files.

Platforms

All

entry

Syntax

entry *entry-id* [**create**]

no entry *entry-id*

Context

[Tree] (config>system>security>tls>cert-profile entry)

Full Context

configure system security tls cert-profile entry

Description

This command configures an entry for the TLS certificate profile. A certificate profile may have up to eight entries. Currently, TLS uses the entry with the smallest ID number when responding to server requests.

The **no** form of the command deletes the specified entry.

Parameters

entry-id

Specifies the identification number of the TLS certificate profile entry.

Values 1 to 8

create

Keyword used to create the TLS certificate profile entry.

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Platforms

All

entry

Syntax

entry *entry-id* **expression** *regular-expression*

no entry *entry-id*

Context

[Tree] (config>router>policy-options>as-path-group entry)

Full Context

configure router policy-options as-path-group entry

Description

This command creates the context to edit route policy entries within an autonomous system path group.

Multiple entries can be created using unique entries. The router exits the filter when the first match is found and executes the action specified. For this reason, entries must be sequenced correctly from most to least explicit.

An entry does not require matching criteria defined (in which case, everything matches) but must at least define an action in order to be considered complete. Entries without an action are considered incomplete and will be rendered inactive.

The **no** form of this command removes the specified entry from the autonomous system path group.

Parameters

entry-id

Specifies the entry ID expressed as a decimal integer. An *entry-id* uniquely identifies match criteria and the corresponding action. Nokia recommends that multiple entries be given *entry-ids* in staggered increments. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

Values 1 to 128

regular-expression

Specifies the AS path group regular expression. Allowed values are any string up to 255 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

An AS path in a BGP route matches an AS path group, if the pattern of the path matches the concatenation of all regular expressions in the group. A regular expression incorporates terms and operators that use the terms. An individual AS number is an elementary term in the AS path regular expression. More complex terms can be built from elementary terms. The following are key operators supported by SR OS:

- .

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- *
- ?
- {n}
- {m,n}
- {m, }

To reverse the match criteria when specifying a list of ranges or single values using square brackets, use the non-match operator (^) before the elements within the square brackets.

Platforms

All

entry

Syntax

entry *entry-id*

no entry

Context

[Tree] (config>router>policy-options>policy-statement entry)

Full Context

configure router policy-options policy-statement entry

Description

This command creates the context to edit route policy entries within the route policy statement.

Multiple entries can be created using unique entries. The router exits the filter when the first match is found and executes the action specified. For this reason, entries must be sequenced correctly from most to least explicit.

An entry does not require matching criteria defined (in which case, everything matches) but must have at least define an action in order to be considered complete. Entries without an action are considered incomplete and will be rendered inactive.

The **no** form of this command removes the specified entry from the route policy statement.

Parameters

entry-id

Specifies the entry ID expressed as a decimal integer. An *entry-id* uniquely identifies match criteria and the corresponding action. It is recommended that multiple entries be given *entry-ids* in staggered increments. This allows users to insert a new entry in an existing policy without requiring renumbering of all the existing entries.

Values 1 to 128

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Platforms

All

entry

Syntax

entry *entry-id* **expression** *hostname* **category** *category*

no entry *entry-id*

Context

[Tree] (config>app-assure>group>url-filter>web-service>classification-overrides entry)

Full Context

configure application-assurance group url-filter web-service classification-overrides entry

Description

This command creates a classification override, manually setting the category of a hostname.

The **no** form of this command removes the classification override entry.

Default

no entry

Parameters

entry-id

Specifies the classification of the override entry.

Values 1 to 65535

hostname

Specifies the hostname of the configured override category, up to 255 characters.

category

Specifies the override category, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry *entry-id* **[create]**

no entry *entry-id*

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Context

[Tree] (config>app-assure>group>policy>charging-filter entry)

Full Context

configure application-assurance group policy charging-filter entry

Description

This command configures a charging filter entry. Charging filter entries are an ordered list; the lowest numerical entry that matches the flow, defines the charging filter for this flow.

The **no** form of this command removes the specified entry.

Default

no entry

Parameters

entry-id

Specifies the entry identifier.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

entry

Syntax

entry [**cak** *connectivity-association-key* | *hash-key* | *hash2-key* | *custom-key* [**hash** | **hash2** | **hash3** | **custom**] **ckn** *cak-name* **algorithm** *algorithm*]

no entry *entry-id*

Context

[Tree] (config>system>security>keychain>macsec entry)

Full Context

configure system security keychain macsec entry

Description

This command configures a specific key entry in the keychain. Entries are defined by an entry ID. Each MACsec key entry creates a dedicated MKA for that key entry. MKA uses the key entry's CAK and its encryption algorithm to secure the SAK between peers.

The **no** form of this command removes the entry from the keychain. If the entry is the active entry used for sending data, this causes the selection of a new active key (if one is available) using the youngest key rule. The MACsec key entry with an ID of 0 can be configured with a tolerance of forever and can be used

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as a backup key entry. If at the begin time of any key entry there is a problem with establishing MKA, the keychain may fallback to the backup key entry.

Default

no entry

Parameters

entry-id

Specifies an entry that represents a key configuration to be applied to a keychain.

Values 0 to 63

connectivity-association-key

Specifies the *connectivity-association-key* used by the encryption algorithm. The CAK and encryption algorithm are used to secure the SAK by encrypting it between the peers. Both peers must be configured with the same CAK for the same key entry.

The *connectivity-association-key* can be specified in hexadecimal characters.

Values For algorithms based on AES-128, the required key length is 32 hexadecimal characters.

For algorithms based on AES-256, the required key length is 64 hexadecimal characters.

hash-key* | *hash2-key* | *custom-key

Specifies the hash key. The key can be any combination of up to 33 ASCII characters for the *hash-key* and 96 characters for the *hash2-key* (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but for security reasons, the actual unencrypted key value is not provided.

hash

Keyword that specifies the key is entered in an encrypted form. If the **hash**, **hash2**, or **hash3** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash**, **hash2**, **hash3** parameter specified.

hash2

Keyword that specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash**, **hash2**, or **hash3** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash**, **hash2**, or **hash3** parameter specified.

hash3

Keyword that specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash3** encrypted variable cannot be copied and pasted. If the **hash**, **hash2**, or **hash3** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored

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in encrypted form in the configuration file with the **hash**, **hash2**, or **hash3** parameter specified.

custom

Keyword that specifies a custom hash version is used while saving the configuration files.

algorithm

Specifies the encryption algorithm used by the MKA to secure the SAK.

Values aes-128-cmac-128 — Specifies an algorithm based on AES-CMAC and the key size of 128 bits.

aes-256-cmac-256 — Specifies an algorithm based on AES-CMAC and the key size of 256 bits.

cak-name

Specifies the CAK name, up to 64 hexadecimal characters.

Platforms

All

15.17 entry-size

entry-size

Syntax

entry-size *size*

no entry-size

Context

[Tree] (config>python>py-policy>cache entry-size)

Full Context

configure python python-policy cache entry-size

Description

This command configures the maximum size of the data structure that can be stored in a single Python cache entry which includes both a value and key.

When requesting to store a data structure, the size of the serialized object is compared with the value specified. If larger, the object will not be stored and Python will return exception.

The **no** form of this command reverts to the default.

Default

entry-size 256

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Parameters

size

Configures the maximum accepted size of a single cache entry.

Values 32 to 2048

Platforms

All

15.18 environment

environment

Syntax

environment

Context

[Tree] (environment)

Full Context

environment

Description

Commands in this context configure classic CLI session environment parameters.

Platforms

All

environment

Syntax

environment

Context

[Tree] (config>system>management-interface>cli>md-cli environment)

Full Context

configure system management-interface cli md-cli environment

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Description

Commands in this context configure MD-CLI session environment parameters.

Platforms

All

15.19 epipe

epipe

Syntax

epipe *service-id* **customer** *customer-id* [**vpn** *vpn-id*] [**vc-switching**] [**create**] **name** [*name*] [**flexible-cross-connect**]

epipe *service-id* [**test**] [**create**] [**name** *name*] [**flexible-cross-connect**]

no epipe *service-id*

Context

[Tree] (config>service epipe)

Full Context

configure service epipe

Description

This command configures an Epipe service instance or a point-to-point Epipe service. An Epipe connects two endpoints defined as SAPs. Both SAPs may be defined in one 7450 ESS, 7750 SR, or 7950 XRS or they may be defined in separate devices connected over the service provider network. When the endpoint SAPs are separated by the service provider network, the far-end SAP is generalized into an SDP. This SDP describes a destination and the encapsulation method used to reach it.

No MAC learning or filtering is provided on an Epipe.

To create a service, enter the **customer** keyword and specify a preexisting *customer-id* to associate the service. The *customer-id* must have been previously created using the **customer** command in the **service** context. After a service is associated with a customer, the association cannot be edited. The service must be deleted and recreated with a new customer association.

After a service is created, using the **customer** *customer-id* to navigate to the service configuration context is optional. Attempting to edit a service using an incorrect *customer-id* results in an error.

By default, no Epipe services exist until they are explicitly created with this command.

The **no** form of this command deletes the Epipe service instance with the specified *service-id*. The service cannot be deleted until the service is shut down.

Cpipe services are enabled on the 7450 ESS.

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Parameters

service-id

Specifies the unique service identification number or string identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every 7450 ESS, 7750 SR, or 7950 XRS on which this service is defined.

Values *service-id*: 1 to 2147483647

svc-name: up to 64 characters

customer-id

Specifies the customer ID number to be associated with the service. This parameter is required on service creation and optional for service editing or deleting.

Values 1 to 2147483647

vpn-id

Specifies the VPN ID number, which allows you to identify VPNs by VPN ID. If this parameter is not specified, the VPN ID uses the same service ID number.

Values 1 to 2147483647

Default null (0)

vc-switching

Keyword that specifies the pseudowire switching signaling is used for the spoke SDPs configured in this service.

test

Keyword used to create a unique test service type for the service context that contains a SAP configuration only. The test service can be used to test the throughput and performance of a path for MPLS-TP PWs. This parameter applies to 7450 ESS and 7750 SR only.

create

Keyword used to create the service instance. The **create** keyword requirement can be enabled/disabled in the **environment create** context.

name

Specifies an optional service name identifier, up to 64 characters, to a specific service. This service name can then be used in configuration references and **show** commands throughout the system. A defined service name can help the service provider or administrator to identify and manage services within the SR OS platforms.

To create a service, you must assign a service ID. However, after it is created, either the service ID or the service name can be used to identify and reference a service.

If a name is not specified at creation, SR OS assigns a string version of the *service-id* as the name.

Values *name*: up to 64 characters

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flexible-cross-connect

Keyword to specify the FXC mode, which allows the configuration of two or more SAPs on the same Epipe.

Platforms

All

15.20 epipe-sap-template

epipe-sap-template

Syntax

epipe-sap-template *name*

no epipe-sap-template

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap epipe-sap-template)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap epipe-sap-template)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw l2-access-points l2-ap epipe-sap-template

configure service ies subscriber-interface group-interface wlan-gw l2-access-points l2-ap epipe-sap-template

Description

This command specifies which SAP parameter template should be applied to the l2-ap SAP. This can only be changed when the l2-ap is shut down.

The **no** form of this command removes the template, the SAP will use default parameters.

Parameters

name

Specifies the name of the template to use

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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epipe-sap-template

Syntax

epipe-sap-template *name* [**create**]

no epipe-sap-template *name*

Context

[Tree] (config>service>template epipe-sap-template)

Full Context

configure service template epipe-sap-template

Description

This command specifies which SAP parameter template should be applied to the l2-ap SAP. This can only be changed when the l2-ap is shutdown.

The no form of this command removes the template, the SAP will use default parameters.

Parameters

name

Specifies the SAP template name associated with this template.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

15.21 error

error

Syntax

[**no**] **error** [**neighbor** *ip-int-name* | *ip-address*]

Context

[Tree] (debug>router>rip error)

Full Context

debug router rip error

Description

This command enables debugging for RIP errors.

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Parameters

ip-int-name* | *ip-address

Debugs the RIP errors sent on the neighbor IP address or interface.

Platforms

All

error

Syntax

[**no**] **error** [**neighbor** *ip-int-name* | *ipv6-address*]

Context

[Tree] (debug>router>ripng error)

Full Context

debug router ripng error

Description

This command enables debugging for RIPng errors.

Parameters

ip-int-name*| *ipv6-address

Debugs the RIPng errors sent on the neighbor IP address or interface.

Platforms

All

error

Syntax

[**no**] **error**

Context

[Tree] (debug>router>pcep>pcc>conn error)

[Tree] (debug>router>pcep>pcc error)

Full Context

debug router pcep pcc connection error

debug router pcep pcc error

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Description

This command enables debugging for PCC or connection errors.

The **no** form of this command disables debugging.

Platforms

All

error

Syntax

[**no**] **error**

Context

[Tree] (debug>router>pcep>pce error)

[Tree] (debug>router>pcep>pce>conn error)

Full Context

debug router pcep pce error

debug router pcep pce connection error

Description

This command enables debugging for PCE or connection errors.

The **no** form of this command disables debugging.

Platforms

VSR-NRC

15.22 error-code

error-code

Syntax

error-code *error-code* [**custom-msg-size** *custom-msg-size*]

no error-code *error-code*

Context

[Tree] (config>app-assure>group>http-error-redirect error-code)

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Full Context

configure application-assurance group http-error-redirect error-code

Description

This command refers to which HTTP status codes a redirect action is applied. Only messages with sizes less than that configured here (custom-msg-size) are eligible for redirect action.

The no form of this command removes the parameters from the configuration.

Parameters

error-code

Specifies the error code for an HTTP error redirect.

Values 0 to 4294967295, of which 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 451, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 730, 731, and 735 are supported for redirect

custom-msg-size

Specifies the maximum message size above which redirect will not be done.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

15.23 error-drop

error-drop

Syntax

error-drop [**event-log** *event-log-name*]

no error-drop

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action error-drop)

Full Context

configure application-assurance group policy app-qos-policy entry action error-drop

Description

This command configures a drop action for error flows (bad IP checksums, tcp/udp port 0, and so on).

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Default

no error-drop

Parameters

event-log-name

Specifies the event log name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

error-drop

Syntax

error-drop direction *direction* [**create**]

no error-drop direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca error-drop)

Full Context

configure application-assurance group statistics threshold-crossing-alert error-drop

Description

This command configures a TCA for the counter capturing error drops. An error drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating an error-drop TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the error drop TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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15.24 error-handling

error-handling

Syntax

error-handling

Context

[Tree] (config>service>vprn>bgp>group error-handling)

[Tree] (config>service>vprn>bgp error-handling)

[Tree] (config>service>vprn>bgp>group>neighbor error-handling)

Full Context

configure service vprn bgp group error-handling

configure service vprn bgp error-handling

configure service vprn bgp group neighbor error-handling

Description

This command specifies whether the error handling mechanism for optional transitive path attributes is enabled for this peer group.

Platforms

All

error-handling

Syntax

error-handling

Context

[Tree] (config>router>bgp error-handling)

[Tree] (config>router>bgp>group error-handling)

[Tree] (config>router>bgp>group>neighbor error-handling)

Full Context

configure router bgp error-handling

configure router bgp group error-handling

configure router bgp group neighbor error-handling

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Description

This command specifies whether updated BGP error handling procedures should be applied.

Platforms

All

15.25 error-handling-action

error-handling-action

Syntax

error-handling-action {**continue** | **block**}

no error-handling-action

Context

[Tree] (config>subscr-mgmt>credit-control-policy error-handling-action)

Full Context

configure subscriber-mgmt credit-control-policy error-handling-action

Description

This command configures the error handling action for the policy.

The **no** form of this command reverts to the default.

Default

error-handling-action continue

Parameters

continue

Specifies to continue when an error occurs in the CC determination.

block

Specifies to block when an error occurs in the CC determination.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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15.26 error-report

error-report

Syntax

[**no**] **error-report**

Context

[Tree] (debug>router>rpki-session>packet error-report)

Full Context

debug router rpki-session packet error-report

Description

This command enables debugging for error report RPKI packets.

The **no** form of this command disables debugging for error report RPKI packets.

Platforms

All

15.27 errored-frame

errored-frame

Syntax

errored-frame

Context

[Tree] (config>port>ethernet>efm-oam>link-monitoring errored-frame)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame

Description

The context used to define errored frame parameters including thresholds, and windows of time to which the error count will be compared. An errored frame is counted when there is any frame error detected by the Ethernet physical layer. This excludes jumbo frames above 9192 bytes which are dropped prior to this function.

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Platforms

All

15.28 errored-frame-period

errored-frame-period

Syntax

errored-frame-period

Context

[Tree] (config>port>ethernet>efm-oam>link-monitoring errored-frame-period)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-period

Description

The context used to define errored frame parameters including thresholds, and windows of received packets to which the error count will be compared. An errored frame is counted when there is any frame error detected by the Ethernet physical layer. This excludes jumbo frames above 9192 bytes which are dropped prior to this function. The received packet count will be checked every one second to see if the window has been reached.

Platforms

All

15.29 errored-frame-seconds

errored-frame-seconds

Syntax

errored-frame-seconds

Context

[Tree] (config>port>ethernet>efm-oam>link-monitoring errored-frame-seconds)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-seconds

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Description

This command defines the errored frame seconds parameters including thresholds, and windows of time to which the error count will be compared. An errored second is any second in which a single frame error occurred. An errored frame is counted when there is any frame error detected by the Ethernet physical layer. This excludes jumbo frames above 9192 bytes that are dropped prior to this function.

Platforms

All

15.30 errored-symbols

errored-symbols

Syntax

errored-symbols

Context

[Tree] (config>port>ethernet>efm-oam>link-monitoring errored-symbols)

Full Context

configure port ethernet efm-oam link-monitoring errored-symbols

Description

This command defines the symbol error parameters including thresholds, and windows of time (converted to symbols in that time) to which the error count will be compared. A symbol error occurs when any encoded symbol is in error and independent of frame counters.

Platforms

All

15.31 errors

errors

Syntax

[**no**] **errors**

Context

[Tree] (debug>dynsvc>scripts>script>event errors)

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[Tree] (debug>dynsvc>scripts>inst>event errors)

[Tree] (debug>dynsvc>scripts>event errors)

Full Context

debug dynamic-services scripts script event errors

debug dynamic-services scripts instance event errors

debug dynamic-services scripts event errors

Description

This command enables/disables the generation of a specific dynamic data service script debugging event output: errors.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

15.32 es-activation-timer

es-activation-timer

Syntax

es-activation-timer *seconds*

no es-activation-timer

Context

[Tree] (config>service>system>bgp-evpn>eth-seg es-activation-timer)

Full Context

configure service system bgp-evpn ethernet-segment es-activation-timer

Description

This command configures the Ethernet Segment activation timer for a specified Ethernet Segment. The **es-activation-timer** delays the activation of a specified **ethernet-segment** on a specified PE that has been elected as DF (Designated Forwarder). Only when the **es-activation-timer** has expired, the SAP/SDP-binding associated to an **ethernet-segment** can be activated (in case of single-active multi-homing) or added to the default-multicast-list (in case of all-active multi-homing).

If **no es-activation-timer** is configured, the system uses the value configured in the **config>redundancy>bgp-evpn-multi-homing>es-activation-timer** context, if configured. Otherwise the system uses a default value of 3 seconds.

Default

no es-activation-timer

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Parameters

seconds

Specifies the number of seconds for the **es-activation-timer**.

Values 0 to 100

Default 3

Platforms

All

es-activation-timer

Syntax

es-activation-timer *seconds*

Context

[Tree] (config>redundancy>bgp-evpn-multi-homing es-activation-timer)

Full Context

configure redundancy bgp-evpn-multi-homing es-activation-timer

Description

This command configures the global Ethernet-Segment activation timer. The **es-activation-timer** delays the activation of a specified Ethernet-Segment on a specified PE that has been elected as DF (Designated Forwarder). Only when the **es-activation-timer** has expired, the SAP/SDP-binding associated to an Ethernet-Segment can be activated (in case of single-active multi-homing) or added to the default-multicast-list (in case of all-active multi-homing).

The **es-activation-timer** configured at the Ethernet-Segment level supersedes this global **es-activation-timer**.

Default

es-activation-timer 3

Parameters

seconds

Specifies the number of seconds for the **es-activation-timer**.

Values 0 to 100

Platforms

All

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15.33 es-orig-ip

es-orig-ip

Syntax

es-orig-ip *ip-address*

no es-orig-ip

Context

[Tree] (config>service>system>bgp-evpn>eth-seg es-orig-ip)

Full Context

configure service system bgp-evpn ethernet-segment es-orig-ip

Description

This command modifies the Originating IP field advertised in the ES route for a given Ethernet Segment. By default, the Originating IP is the system-ip of the PE. However, this value can be changed to the IPv4 or IPv6 address configured with this command.

With the **es-orig-ip** configured, ES shutdown is required, for the following cases:

- When adding Local ES routes, the command changes how the ES routes are added to the candidate list; the configured IP address is added, instead of the system-ip.
- When advertising local ES routes, the configured IP address is used for the orig-ip of the route.

The **no** form of the command changes the originating IP address back to the system-ip.

Default

no es-orig-ip

Parameters

ip-address

Specifies an IPv4 or IPv6 address.

Values {*ip-address* | *ipv6-address*}

Platforms

All

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15.34 esa

esa

Syntax

esa *esa-id* [**create**]

no esa *esa-id*

Context

[Tree] (config esa)

Full Context

configure esa

Description

This command configures or creates an ESA instance with an identifier.

The **no** form of this command removes the ESA from the system.

Parameters

esa-id

Specifies the ESA identifier.

Values 1 to 16

create

Mandatory keyword used when creating an ESA instance in the config context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

15.35 esa-vm

esa-vm

Syntax

[**no**] **esa-vm** [*esa-id*/*vm-id*] [**weight** *1..1000*]

Context

[Tree] (config>isa>tunnel-group esa-vm)

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Full Context

configure isa tunnel-group esa-vm

Description

This command configures the tunnel ESA-VM for the tunnel group. The ISA and ESA-VM cannot coexist in the same tunnel group.

The **no** form of this command removes the ESA-VM from the tunnel group.

Parameters

esa-id

Specifies the ESA id.

Values 1 to 16

vm-id

Specifies the VM id.

Values 1 to 4

1..1000

Specifies the ESA-VM weight.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

esa-vm

Syntax

[**no**] **esa-vm** [*esa-id/vm-id*] [**weight** *1..1000*]

Context

[Tree] (config>isa>tunnel-mem-pool esa-vm)

Full Context

configure isa tunnel-member-pool esa-vm

Description

This command configures the tunnel ESA-VM for the tunnel member pool. The ISA and ESA-VM cannot coexist in the same tunnel member group.

The **no** form of this command removes the ESA-VM from the tunnel member pool.

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Parameters

esa-id

Specifies the ESA ID.

Values 1 to 16

vm-id

Specifies the VM ID.

Values 1 to 4

1..1000

Specifies the ESA-VM weight.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

esa-vm

Syntax

esa-vm *vapp-id* [**drain**]

no esa-vm *vapp-id*

Context

[Tree] (config>isa>lns-group esa-vm)

Full Context

configure isa lns-group esa-vm

Description

This command specifies the ISA and ESA VM to be used in the LNS group.

Parameters

vapp-id

Displays the ID of the configured ESA and ESA VM.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

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drain

Specifies the draining of the ESA VM. The drain function gracefully redirects subscribers to other ESA VMs as it does not allow new subscribers to use the ESA VM. Eventually, the ESA VM will not service any subscriber and can be decommissioned gracefully.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

esa-vm

Syntax

[**no**] **esa-vm** *vapp-id*

Context

[Tree] (config>isa>wlan-gw-group esa-vm)

Full Context

configure isa wlan-gw-group esa-vm

Description

This command configures the ESA VM for the WLAN-GW group. It requires group redundancy to be configured in MDA mode.

Parameters

vapp-id

Specifies the ID of the ESA and ESA VM to configure.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s

esa-vm

Syntax

[**no**] **esa-vm** *vapp-id*

Context

[Tree] (config>isa>nat-group esa-vm)

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Full Context

configure isa nat-group esa-vm

Description

This command assigns an ESA-VM to a NAT group.

Parameters

vapp-id

Specifies the ESA and VM identifying a provisioned BB ISA.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

esa-vm

Syntax

[**no**] **esa-vm** *vapp-id*

Context

[Tree] (config>isa>video-group esa-vm)

Full Context

configure isa video-group esa-vm

Description

This command assigns an ESA-VM to a video group.

The **no** form of this command removes the specified ESA-VM from the video group.

Default

no esa-vm

Parameters

vapp-id

Specifies the ESA and VM ID of the configured ESA-VM.

Values

vapp-id:	*esa-id*/*vm-id*

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esa-id	1 to 16
vm-id	1 to 4

Platforms

7750 SR, 7750 SR-s

esa-vm

Syntax

[**no**] **esa-vm** *vapp-id*

Context

[Tree] (config>isa>map-t-group esa-vm)

Full Context

configure isa map-t-group esa-vm

Description

This command associates an ESA-VM with the MAP-T group.

The **no** form of this command removes the association.

Parameters

vapp-id

Specifies the ESA used by the ISA NAT MAP-T group.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

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15.36 esi

esi

Syntax

esi *value*

no esi

Context

[Tree] (config>service>system>bgp-evpn>eth-seg esi)

Full Context

configure service system bgp-evpn ethernet-segment esi

Description

This command configures the 10-byte Ethernet Segment identifier (ESI) associated to the Ethernet-Segment that will be signaled in the BGP-EVPN routes. The ESI value cannot be changed unless the Ethernet-Segment is shutdown. Reserved esi values (0 and MAX-ESI) are not allowed.

Default

no esi

Parameters

value

Specifies the 10-byte esi.

Values 00-11-22-33-44-55-66-77-88-99

Using any of these separators ('-',':')

Platforms

All

15.37 esm

esm

Syntax

[**no**] **esm**

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Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>ue-state esm)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query ue-state esm

Description

This command enables matching on ESM UEs.

The **no** form of this command disables matching on DSM UEs, unless UE state matching is disabled altogether.

Default

no esm

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

esm

Syntax

[**no**] **esm**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state esm)

Full Context

configure subscriber-mgmt wlan-gw ue-query state esm

Description

This command enables matching on UEs in an ESM state.

The **no** form of this command disables matching on UEs in an ESM state, unless all state matching is disabled.

Default

no esm

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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15.38 esmc-tunnel

esmc-tunnel

Syntax

[**no**] **esmc-tunnel**

Context

[Tree] (config>port>ethernet>ssm esmc-tunnel)

Full Context

configure port ethernet ssm esmc-tunnel

Description

This command allows ESMC frames that are received into the Ethernet port to be tunneled in an Epipe or VPLS service. This is not recommended because it breaks the concepts inherent in Synchronous Ethernet, however it is required for compliance to MEF 6.1.1 EPL Option 2.

The **no** form of this command extracts the ESMC frames upon reception by the port. The ESMC frames are not tunneled through the service.

Default

no esmc-tunnel

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.39 esp-auth-algorithm

esp-auth-algorithm

Syntax

esp-auth-algorithm {**null** | **md5** | **sha1** | **sha256** | **sha384** | **sha512** | **aes-xcbc** | **auth-encryption**}

no esp-auth-algorithm

Context

[Tree] (config>ipsec>transform esp-auth-algorithm)

Full Context

configure ipsec ipsec-transform esp-auth-algorithm

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Description

This command configures the hashing algorithm used for the ESP authentication function. Both ends of a manually configured tunnel must share the same configuration parameters for the IPsec tunnel to enter the operational state.

The **no** form of this command disables the authentication.

Default

esp-auth-algorithm sha256

Parameters

null

Keyword that specifies the high-speed null algorithm, which does nothing. This is the same as not having encryption turned on. This is a very fast algorithm specified in RFC 2410, which provides no authentication.

md5

Keyword that specifies the **hmac-md5** algorithm for authentication.

sha1

Keyword that specifies the **hmac-sha1** algorithm for authentication.

sha256

Keyword that specifies the **sha256** algorithm for authentication.

sha384

Keyword that specifies the **sha384** algorithm for authentication.

sha512

Keyword that specifies the **sha512** algorithm for authentication.

aes-xcbc

Keyword that specifies the **aes-xcbc** algorithm for authentication.

auth-encryption

Keyword that specifies authentication encryption. This parameter must be configured when the **esp-encryption-algorithm** command is either **aes-gcm** or **aes-gmac**.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

esp-auth-algorithm

Syntax

esp-auth-algorithm {**sha256** | **sha512**}

no esp-auth-algorithm

Context

[Tree] (config>grp-encryp>encryp-keygrp esp-auth-algorithm)

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Full Context

configure group-encryption encryption-keygroup esp-auth-algorithm

Description

This command specifies the hashing algorithm used to perform authentication on the Encapsulating Security Payload (ESP) within NGE packets for services configured using this key group. All SPI entries must be deleted before the **no** form of the command may be entered or the **esp-auth-algorithm** value changed from its current value.

The **no** form of the command reverts to the default value.

Default

esp-auth-algorithm sha256

Parameters

sha256

Configures the ESP to use the HMAC-SHA-256 algorithm for authentication.

sha512

Configures the ESP to use the HMAC-SHA-512 algorithm for authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

15.40 esp-encryption-algorithm

esp-encryption-algorithm

Syntax

esp-encryption-algorithm {**null** | **des** | **3des** | **aes128** | **aes192** | **aes256**| **aes128-gcm8** | **aes128-gcm12** | **aes128-gcm16** | **aes192-gcm8** | **aes192-gcm12** | **aes192-gcm16** | **aes256-gcm8** | **aes256-gcm12** | **aes256-gcm16** | **null-aes128-gmac** | **null-aes192-gmac** | **null-aes256-gmac**}

no esp-encryption-algorithm

Context

[Tree] (config>ipsec>transform esp-encryption-algorithm)

Full Context

configure ipsec ipsec-transform esp-encryption-algorithm

Description

This command configures the encryption used by the CHILD_SA.

For IPsec tunnels to come up, both ends need to be configured with the same encryption algorithm.

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The **no** form of this command removes the specified encryption algorithm.

Note:
When **aes-gcm** or **aes-gmac** is configured:

- the **esp-auth-algorithm** command must be set to **auth-encryption**
- the system does not include the authentication algorithm in the ESP proposal of the SA payload
- the **ipsec-transform** command cannot be used for manual keying

Default

esp-encryption-algorithm aes128

Parameters

null

Keyword that specifies the high-speed null algorithm, which does nothing. This is the same as not having encryption turned on.

des

Keyword that specifies the 56-bit DES algorithm for encryption. It is a weak algorithm, in terms of security strength, and not recommended if a stronger algorithm, like aes128, can be used.

3des

Keyword that specifies the 3DES algorithm for encryption. It is a weak algorithm, in terms of security strength, and not recommended if a stronger algorithm, like aes128 can be used.

aes128

Keyword that specifies the AES algorithm, with a block size of 128 bits, for encryption.

aes192

Keyword that specifies the AES algorithm, with a block size of 192 bits.

aes256

Keyword that specifies the AES algorithm, with a block size of 256 bits.

aes128-gcm8

Keyword that specifies the AES-GCM algorithm, with a 128-bit key size and an 8-byte ICV, for encryption and authentication.

aes128-gcm12

Keyword that specifies the AES-GCM, with a 128-bit key size and a 12-byte ICV, for encryption and authentication.

aes128-gcm16

Keyword that specifies the AES-GCM algorithm, with a 128-bit key size and a 16-byte ICV, for encryption and authentication.

aes192-gcm8

Keyword that specifies the AES-GCM algorithm, with a 192-bit key size and an 8-byte ICV, for encryption and authentication.

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aes192-gcm12

Keyword that specifies the AES-GCM algorithm, with a 192-bit key size and a 12-byte ICV, for encryption and authentication.

aes192-gcm16

Keyword that specifies the AES-GCM algorithm, with a 192-bit key size and a 16-byte ICV, for encryption and authentication.

aes256-gcm8

Keyword that specifies the AES-GCM algorithm, with a 256-bit key size and an 8-byte ICV, for encryption and authentication.

aes256-gcm12

Keyword that specifies the AES-GCM algorithm, with a 256-bit key size and a 12-byte ICV, for encryption and authentication.

aes128-gcm16

Keyword that specifies the AES-GCM algorithm, with a 256-bit key size and a 16-byte ICV, for encryption and authentication.

null-aes128gmac

Keyword that specifies the AES-GMAC algorithm, with a 128-bit key size, for authentication only.

null-aes192gmac

Keyword that specifies the AES-GMAC algorithm, with a 192-bit key size, for authentication only.

null-aes256gmac

Keyword that specifies the AES-GMAC algorithm, with a 256-bit key size, for authentication only.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

esp-encryption-algorithm

Syntax

esp-encryption-algorithm {**aes128** | **aes256**}

no esp-encryption-algorithm

Context

[Tree] (config>grp-encryp>encryp-keygrp esp-encryption-algorithm)

Full Context

configure group-encryption encryption-keygroup esp-encryption-algorithm

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Description

This command specifies the encryption algorithm used to perform encryption on the Encapsulating Security Payload (ESP) within NGE packets for services configured using this key group. All SPI entries must be deleted before the **no** form of the command may be entered or the **esp-encryption-algorithm** value changed from its current value.

The **no** form of the command resets the parameter to the default value.

Default

esp-encryption-algorithm aes128

Parameters

aes128

Configures the AES algorithm with a block size of 128 bits—a very strong algorithm choice.

aes256

Configures the AES algorithm with a block size of 256 bits—the strongest available version of AES.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

15.41 esp-ext-hdr

esp-ext-hdr

Syntax

esp-ext-hdr {**true** | **false**}

no esp-ext-hdr

Context

[Tree] (config>filter>ipv6-filter>entry>match esp-ext-hdr)

Full Context

configure filter ipv6-filter entry match esp-ext-hdr

Description

This command enables match on existence of ESP Extension Header in the IPv6 filter policy.

The **no** form of this command ignores ESP Extension Header presence/absence in a packet when evaluating match criteria of a given filter policy entry.

Default

no esp-ext-hdr

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Parameters

true

Matches a packet with an ESP Extension Header.

false

Matches a packet without an ESP Extension Header.

Platforms

All

15.42 ess-system-type

ess-system-type

Syntax

[**no**] **ess-system-type**

Context

[Tree] (bof ess-system-type)

Full Context

bof ess-system-type

Description

This command allows a new RoHS compliant 7750 SR-12 or 7750 SR-7 chassis to operate as an 7450 ESS-12 or 7450 ESS-7 system.

After entering this command, the system must be rebooted for the change to take effect.

If the RoHS compliant 7750 SR-12 or 7750 SR-7 chassis is operating as an 7450 ESS system, it can operate with either the 7750 SR or 7450 ESS CPM (subject to SR OS support) but both should always be the same type. See the SR OS release notes for information about the cards supported in 7750 SR and 7450 ESS.

In addition, the system can operate with supported 7450 ESS or 7750 SR IOMs, MDAs, and IMMs.

The **no** form of this command disables this mode of operation and returns the system to a 7750 SR chassis type operation on the next reboot.

Default

no ess-system-type

Platforms

7750 SR-7/12

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15.43 est

est

Syntax
est

Context
[Tree] (admin>certificate est)

Full Context
admin certificate est

Description
Commands in this context configure Enrollment over Secure Transport (EST) parameters.

Platforms
All

15.44 eth-bn

eth-bn

Syntax
eth-bn

Context
[Tree] (config>port>ethernet>eth-cfm>mep eth-bn)

Full Context
configure port ethernet eth-cfm mep eth-bn

Description
Commands in this context configure Ethernet Bandwidth Notification (ETH-BN) message handling.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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15.45 eth-bn-egress-rate-changes

eth-bn-egress-rate-changes

Syntax

eth-bn-egress-rate-changes

no eth-bn-egress-rate-changes

Context

[Tree] (config>port>ethernet eth-bn-egress-rate-changes)

Full Context

configure port ethernet eth-bn-egress-rate-changes

Description

This command allows rate changes received in ETH-BN messages on a port-based MEP to update the egress rate used on the port. The egress rate is capped by the minimum of the configured **egress-rate** and the maximum port rate, and the minimum egress rate is 1 kb/s. The **no** form of this command returns the value to the default.

Default

no eth-bn-egress-rate-changes

Platforms

All

15.46 eth-cfm

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>eth-tunnel>path eth-cfm)

Full Context

configure eth-tunnel path eth-cfm

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Description

Commands in this context configure ETH-CFM parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>lag eth-cfm)

[Tree] (config>port>ethernet eth-cfm)

Full Context

configure lag eth-cfm

configure port ethernet eth-cfm

Description

Commands in this context configure 802.1ag CFM parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>service>ipipe>sap eth-cfm)

[Tree] (config>service>epipe>sap eth-cfm)

[Tree] (config>service>epipe eth-cfm)

[Tree] (config>service>epipe>spoke-sdp eth-cfm)

Full Context

configure service ipipe sap eth-cfm

configure service epipe sap eth-cfm

configure service epipe eth-cfm

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configure service epipe spoke-sdp eth-cfm

Description

Commands in this context configure ETH-CFM parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>service>vpls>sap eth-cfm)

[Tree] (config>service>vpls eth-cfm)

[Tree] (config>service>vpls>mesh-sdp eth-cfm)

[Tree] (config>service>vpls>spoke-sdp eth-cfm)

Full Context

configure service vpls sap eth-cfm

configure service vpls eth-cfm

configure service vpls mesh-sdp eth-cfm

configure service vpls spoke-sdp eth-cfm

Description

Commands in this context configure ETH-CFM parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>service>ies>sub-if>grp-if>sap eth-cfm)

[Tree] (config>service>ies>if>spoke-sdp eth-cfm)

[Tree] (config>service>ies>if>sap eth-cfm)

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[Tree] (config>service>ies eth-cfm)

Full Context

configure service ies subscriber-interface group-interface sap eth-cfm

configure service ies interface spoke-sdp eth-cfm

configure service ies interface sap eth-cfm

configure service ies eth-cfm

Description

Commands in this context configure ETH-CFM parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies eth-cfm
- configure service ies interface sap eth-cfm
- configure service ies interface spoke-sdp eth-cfm

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap eth-cfm)

[Tree] (config>service>vprn eth-cfm)

[Tree] (config>service>vprn>if>sap eth-cfm)

[Tree] (config>service>vprn>if>spoke-sdp eth-cfm)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm

configure service vprn eth-cfm

configure service vprn interface sap eth-cfm

configure service vprn interface spoke-sdp eth-cfm

Description

Commands in this context configure ETH-CFM parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm
- configure service vprn eth-cfm
- configure service vprn interface spoke-sdp eth-cfm

eth-cfm

Syntax

eth-cfm

Context

[Tree] (debug eth-cfm)

Full Context

debug eth-cfm

Description

Commands in this context configure ETH-CFM debugging functions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>router>if eth-cfm)

Full Context

configure router interface eth-cfm

Description

Commands in this context configure ETH-CFM parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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eth-cfm

Syntax
eth-cfm

Context
[Tree] (config>eth-ring>path eth-cfm)

Full Context
configure eth-ring path eth-cfm

Description
Commands in this context configure ETH-CFM parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax
eth-cfm

Context
[Tree] (config eth-cfm)

Full Context
configure eth-cfm

Description
Commands in this context configure 802.1ag CFM parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax
[**no**] **eth-cfm**

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Context

[Tree] (config>sys>security>cpu-protection>policy eth-cfm)

Full Context

configure system security cpu-protection policy eth-cfm

Description

Provides the construct under which the different entries within CPU policy can define the match criteria and overall arrival rate of the Ethernet Configuration and Fault Management (ETH-CFM) packets at the CPU.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth eth-cfm)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet eth-cfm

Description

Commands in this context configure the ETH-CFM source MEP for the service activation test stream.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

15.47 eth-cfm-linktrace

eth-cfm-linktrace

Syntax

eth-cfm-linktrace {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**ttl** *ttl-value*] [**fc** {*fc-name*} [**profile** {**in** | **out**}]] [**count** *send-count*] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (config>saa>test>type eth-cfm-linktrace)

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Full Context

configure saa test type eth-cfm-linktrace

Description

This command configures a CFM linktrace test in SAA.

Parameters

mac-address

Specifies the Layer 2 unicast MAC address of the destination MEP.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID as an alternative to the static *mac-address*. When the **remote-mepid** parameter is used in place of the *mac-address*, the domain and association information of the **source mep** for the test is used to check for a locally-stored unicast MAC address for the peer. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

ttl-value

Specifies the maximum number of hops traversed in the linktrace.

Values 1 to 255

Default 64

fc-name

Specifies the forwarding class of the MPLS echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

Values be, l2, af, l1, h2, ef, h1, nc

Default nc

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profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation.

Default in

send-count

Specifies the number of messages to send, expressed as a decimal integer. The **count** parameter is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message **interval** value must be expired before the next message request is sent.

Values 1 to 10

Default 1

timeout

Specifies the time, to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of the time out, the test is marked complete and no more packets are processed for any of those request probes.

Values 1 to 10

Default 5

interval

Specifies the time, in seconds, to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

Values 1 to 10

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.48 eth-cfm-loopback

eth-cfm-loopback

Syntax

eth-cfm-loopback {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**size** *data-size*] [**fc** {*fc-name*} [**profile** {**in** | **out**}]] [**count** *send-count*] [**timeout** *timeout*] [**interval** *interval*]

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Context

[Tree] (config>saa>test>type eth-cfm-loopback)

Full Context

configure saa test type eth-cfm-loopback

Description

This command configures an Ethernet CFM loopback test in SAA.

Parameters

mac-address

Specifies the Layer 2 unicast MAC address of the destination MEP.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID as an alternative to the static *mac-address*. When the **remote-mepid** parameter is used in place of the *mac-address*, the domain and association information of the **source mep** for the test is used to check for a locally-stored unicast MAC address for the peer. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

data-size

This is the size of the data portion of the data TLV. If 0 is specified, no data TLV is added to the packet.

Values 0 to 1500

Default 0

fc-name

Specifies the **fc** parameter that is used to indicate the forwarding class of the MPLS echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

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Values be, l2, af, l1, h2, ef, h1, nc

Default nc

profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation.

Default in

send-count

Specifies the number of messages to send, expressed as a decimal integer. The **count** parameter is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message **interval** value must be expired before the next message request is sent.

Values 1 to 100

Default 1

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of time out, the test is marked complete and no more packets are processed for any of those request probes.

Values 1 to 10

Default 5

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

Values 1 to 10

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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15.49 eth-cfm-two-way-delay

eth-cfm-two-way-delay

Syntax

eth-cfm-two-way-delay {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**fc** {*fc-name*} [**profile** {**in** | **out**}]] [**count** *send-count*] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (config>saa>test>type eth-cfm-two-way-delay)

Full Context

configure saa test type eth-cfm-two-way-delay

Description

This command configures an Ethernet CFM two-way delay test in SAA.

Parameters

mac-address

Specifies the Layer 2 unicast MAC address of the destination MEP.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID as an alternative to the static *mac-address*. When the **remote-mepid** parameter is used in place of the *mac-address*, the domain and association information of the **source mep** for the test is used to check for a locally-stored unicast MAC address for the peer. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

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fc-name

Specifies the **fc** parameter that is used to indicate the forwarding class of the MPLS echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

Values be, l2, af, l1, h2, ef, h1, nc

Default nc

send-count

Specifies the number of messages to send, expressed as a decimal integer. The count parameter is used to override the default number of message requests sent. The message interval value must be expired before the next message request is sent.

Values 1 to 100

Default 1

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of time out, the test is marked complete and no more packets are processed for any of those request probes.

Values 1 to 10

Default 5

interval

Specifies the time, in seconds, expressed as a decimal integer. This parameter is used to configure the spacing between probes within a test run.

Values 0.1 to 0.9, 1 to 10

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.50 eth-cfm-two-way-slm

eth-cfm-two-way-slm

Syntax

eth-cfm-two-way-slm {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**fc** {*fc-name*} [**profile** {**in** | **out**}]] [**count** *send-count*] [**size** *data-size*] [**timeout** *timeout*] [**interval** *interval*]

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Context

[Tree] (config>saa>test>type eth-cfm-two-way-slm)

Full Context

configure saa test type eth-cfm-two-way-slm

Description

This command configures an Ethernet CFM two-way SLM test in SAA.

Parameters

mac-address

Specifies the Layer 2 unicast MAC address of the destination MEP.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID as an alternative to the static *mac-address*. When the **remote-mepid** parameter is used in place of the *mac-address*, the domain and association information of the **source mep** for the test is used to check for a locally-stored unicast MAC address for the peer. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

fc-name

Specifies the **fc** parameter that is to indicate the forwarding class of the MPLS echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

Values be, l2, af, l1, h2, ef, h1, nc

Default nc

profile {in | out}

The profile state of the MPLS echo request encapsulation.

Default in

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send-count

Specifies the number of messages to send, expressed as a decimal integer. The count parameter is used to override the default number of message requests sent. The message interval value must be expired before the next message request is sent.

Values 1 to 1000

Default 1

data-size

Specifies the size of the data portion of the data TLV. If 0 is specified, no data TLV is added to the packet.

Values 0 to 1500

Default 0

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of the time out, the test is marked complete and no more packets are processed for any of those request probes.

Values 1 to 10

Default 5

interval

Specifies the time, in seconds, used to configure the spacing between probes within a test run.

Values 0.1 to 0.9, 1 to 10

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.51 eth-ed

eth-ed

Syntax

eth-ed

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Context

[Tree] (config>lag>eth-cfm>mep>grace eth-ed)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace eth-ed)

[Tree] (config>port>ethernet>eth-cfm>mep>grace eth-ed)

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace eth-ed)

Full Context

configure lag eth-cfm mep grace eth-ed

configure eth-ring path eth-cfm mep grace eth-ed

configure port ethernet eth-cfm mep grace eth-ed

configure eth-tunnel path eth-cfm mep grace eth-ed

Description

Commands in this context configure ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-ed

Syntax

eth-ed

Context

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace eth-ed)

Full Context

configure service ipipe sap eth-cfm mep grace eth-ed

configure service epipe sap eth-cfm mep grace eth-ed

configure service epipe spoke-sdp eth-cfm mep grace eth-ed

Description

Commands in this context configure ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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eth-ed

Syntax

eth-ed

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>vpls>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace eth-ed)

Full Context

configure service vpls spoke-sdp eth-cfm mep grace eth-ed

configure service vpls mesh-sdp eth-cfm mep grace eth-ed

configure service vpls eth-cfm mep grace eth-ed

configure service vpls sap eth-cfm mep grace eth-ed

Description

Commands in this context configure ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-ed

Syntax

eth-ed

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace eth-ed)

Full Context

configure service ies interface sap eth-cfm mep grace eth-ed

configure service ies interface spoke-sdp eth-cfm mep grace eth-ed

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed

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Description

Commands in this context configure ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep grace eth-ed
- configure service ies interface sap eth-cfm mep grace eth-ed

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed

eth-ed

Syntax

eth-ed

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace eth-ed)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace eth-ed)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed

configure service vprn interface sap eth-cfm mep grace eth-ed

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed

Description

Commands in this context configure ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed
- configure service vprn interface sap eth-cfm mep grace eth-ed

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed

eth-ed

Syntax

eth-ed

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Context

[Tree] (config>router>if>eth-cfm>mep>grace eth-ed)

Full Context

configure router interface eth-cfm mep grace eth-ed

Description

Commands in this context configure ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.52 eth-ring

eth-ring

Syntax

eth-ring *ring-id*

no eth-ring

Context

[Tree] (config>service>vpls eth-ring)

Full Context

configure service vpls eth-ring

Description

This command configures a VPLS SAP to be associated with an Ethernet ring. The SAP port ID is associated with the corresponding Ethernet ring path configured on the same port ID. The encapsulation type must be compatible with the Ethernet ring path encapsulation.

The **no** form of this command removes the Ethernet ring association from this SAP.

Default

no eth-ring

Parameters

ring-id

Specifies the ring ID.

Values 1 to 128

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Platforms

All

eth-ring

Syntax

eth-ring *ring-index*

no eth-ring

Context

[Tree] (config eth-ring)

Full Context

configure eth-ring

Description

This command configures a G.8032 protected Ethernet ring. G.8032 Rings may be configured as major rings with two paths (a&b) or as sub-rings with two paths, or in the case of an interconnection node a single path.

The **no** form of this command deletes the Ethernet ring specified by the ring-id.

Default

no eth-ring

Parameters

ring-index

Specifies the ring ID.

Values 1 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.53 eth-sat

eth-sat

Syntax

eth-sat *sat-id* [**create**]

no eth-sat *sat-id*

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Context

[Tree] (config>system>satellite eth-sat)

Full Context

configure system satellite eth-sat

Description

This command enables the specified Ethernet satellite configuration context.

The **no** form of the command deletes the specified Ethernet satellite.

Parameters

sat-id

Specifies the satellite ID for the associated Ethernet satellite.

Values 1 to 20

create

Creates a new Ethernet satellite context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-sat

Syntax

eth-sat *sat-id*

Context

[Tree] (admin>satellite eth-sat)

Full Context

admin satellite eth-sat

Description

This command can be used to perform administrative functions on the specified Ethernet-satellite chassis.

Parameters

sat-id

Specifies the Ethernet-satellite chassis.

Values 1 to 20

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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15.54 eth-tag

eth-tag

Syntax

eth-tag *tag-value*

no eth-tag

Context

[Tree] (config>service>epipe>bgp-evpn>local-attachment-circuit eth-tag)

[Tree] (config>service>epipe>bgp-evpn>remote-attachment-circuit eth-tag)

Full Context

configure service epipe bgp-evpn local-attachment-circuit eth-tag

configure service epipe bgp-evpn remote-attachment-circuit eth-tag

Description

This command configures the Ethernet tag value. When configured in the **local-attachment-circuit** context, the system uses the value in the advertised AD per-EVI route sent for the attachment circuit. When configured in the **remote-attachment-circuit** context the system compares that value with the eth-tag value of the imported AD per-EVI routes for the service. If there is a match, the system creates an EVPN destination for the Epipe.

Parameters

tag-value

Specifies the Ethernet tag value of the attachment circuit.

Values 1 to 16777215

Platforms

All

15.55 eth-test

eth-test

Syntax

eth-test {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*] [**data-length** *data-length*]

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Context

[Tree] (oam>eth-cfm eth-test)

Full Context

oam eth-cfm eth-test

Description

This command initiates an ETH-CFM test. The implementation supports a single ETH-TST PDU to check unidirectional reachability, launched from a source MEP and terminated on the remote MEP with no response PDU toward the source.

Parameters

mac-address

Specifies a unicast destination MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID of the peer within the association. The domain and association information are derived from the **source mep** for the session. The Layer 2 IEEE MAC address is resolved from previously-learned remote MAC addressing, derived from the reception and processing of the ETH-CC PDU. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

priority

Specifies the priority of the frame. The priority can be manipulated by QoS policies.

Values 0 to 7

Default 7

data-length

Specifies the size of the padding to be added to the frame.

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Values	64 to 1500
Default	64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.56 eth-test-enable

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep eth-test-enable)

Full Context

configure eth-tunnel path eth-cfm mep eth-test-enable

Description

This command enables eth-test functionality on MEP. For this test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

oam eth-cfm eth-test *mac-address* **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*] [**data-length** *data-length*]

A check is done for both the provisioning and test to ensure the MEP is an Y.1731 MEP (MEP provisioned with domain format none, association format icc-based). If not, the operation fails. An error message in the CLI and SNMP will indicate the problem.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>lag>eth-cfm>mep eth-test-enable)

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[Tree] (config>router>if>eth-cfm>mep eth-test-enable)

[Tree] (config>port>ethernet>eth-cfm>mep eth-test-enable)

Full Context

configure lag eth-cfm mep eth-test-enable

configure router interface eth-cfm mep eth-test-enable

configure port ethernet eth-cfm mep eth-test-enable

Description

For this test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

oam eth-cfm eth-test *mac-address* mep *mep-id* domain *md-index* association *ma-index* [priority *priority*] [data-length *data-length*]

The **no** form of this command disables eth-test capabilities.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep eth-test-enable)

[Tree] (config>service>ipipe>sap>eth-cfm>mep eth-test-enable)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep eth-test-enable)

Full Context

configure service epipe sap eth-cfm mep eth-test-enable

configure service ipipe sap eth-cfm mep eth-test-enable

configure service epipe spoke-sdp eth-cfm mep eth-test-enable

Description

For this test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

oam eth-cfm eth-test *mac-address* mep *mep-id* domain *md-index* association *ma-index* [priority *priority*] [data-length *data-length*]

A check is performed for both the provisioning and test to ensure the MEP is an Y.1731 MEP (MEP provisioned with domain format none, association format icc-based). If not, the operation fails. An error message in the CLI and SNMP indicates the problem.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>service>vpls>sap>eth-cfm>mep eth-test-enable)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep eth-test-enable)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep eth-test-enable)

Full Context

configure service vpls sap eth-cfm mep eth-test-enable

configure service vpls spoke-sdp eth-cfm mep eth-test-enable

configure service vpls mesh-sdp eth-cfm mep eth-test-enable

Description

For ETH-test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

oam eth-cfm eth-test *mac-address* **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*] [**data-length** *data-length*]

A check is done for both the provisioning and test to ensure the MEP is an Y.1731 MEP (MEP provisioned with domain format none, association format icc-based). If not, the operation fails. An error message in the CLI and SNMP will indicate the problem.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep eth-test-enable)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep eth-test-enable)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep eth-test-enable)

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Full Context

configure service ies interface sap eth-cfm mep eth-test-enable

configure service ies subscriber-interface group-interface sap eth-cfm mep eth-test-enable

configure service ies interface spoke-sdp eth-cfm mep eth-test-enable

Description

For ETH-test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

oam eth-cfm eth-test *mac-address* **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*] [**data-length** *data-length*]

A check is done for both the provisioning and test to ensure the MEP is an Y.1731 MEP (MEP provisioned with domain format none, association format icc-based). If not, the operation fails. An error message in the CLI and SNMP will indicate the problem.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep eth-test-enable
- configure service ies interface spoke-sdp eth-cfm mep eth-test-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep eth-test-enable

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm eth-test-enable)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep eth-test-enable)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep eth-test-enable)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm eth-test-enable

configure service vprn interface sap eth-cfm mep eth-test-enable

configure service vprn interface spoke-sdp eth-cfm mep eth-test-enable

Description

This command enables eth-test functionality on MEP. For this test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

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oam eth-cfm eth-test *mac-address* mep *mep-id* domain *md-index* association *ma-index* [**priority** *priority*] [**data-length** *data-length*]

A check is done for both the provisioning and test to ensure the MEP is an Y.1731 MEP (MEP provisioned with domain format none, association format icc-based). If not, the operation fails. An error message in the CLI and SNMP will indicate the problem.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm eth-test-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep eth-test-enable
- configure service vprn interface spoke-sdp eth-cfm mep eth-test-enable

eth-test-enable

Syntax

[**no**] **eth-test-enable**

Context

[Tree] (config>eth-ring>path>eth-cfm>mep eth-test-enable)

Full Context

configure eth-ring path eth-cfm mep eth-test-enable

Description

This command enables eth-test functionality on MEP. For this test to work, operators need to configure ETH-test parameters on both sender and receiver nodes. The ETH-test is then performed using the following OAM commands:

oam eth-cfm eth-test *mac-address* mep *mep-id* domain *md-index* association *ma-index* [priority *priority*] [data-length *data-length*]

A check is done for both the provisioning and test to ensure the MEP is an Y.1731 MEP (MEP provisioned with domain format none, association format icc-based). If not, the operation fails. An error message in the CLI and SNMP will indicate the problem.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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15.57 eth-tunnel

eth-tunnel

Syntax

eth-tunnel

Context

[Tree] (config>service>vprn>l2tp>group eth-tunnel)

[Tree] (config>service>vprn>l2tp eth-tunnel)

[Tree] (config>router>l2tp eth-tunnel)

[Tree] (config>router>l2tp>group eth-tunnel)

Full Context

configure service vprn l2tp group eth-tunnel

configure service vprn l2tp eth-tunnel

configure router l2tp eth-tunnel

configure router l2tp group eth-tunnel

Description

Commands in this context configure Ethernet tunnel client parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

eth-tunnel

Syntax

[**no**] **eth-tunnel** *tunnel-index*

Context

[Tree] (config eth-tunnel)

Full Context

configure eth-tunnel

Description

This command configures a G.8031 protected Ethernet tunnel.

The **no** form of this command deletes the Ethernet tunnel specified by the tunnel-id.

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Parameters

tunnel-index

Specifies the tunnel index.

Values 1 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-tunnel

Syntax

eth-tunnel *tunnel-id*

Context

[Tree] (config>service>vpls eth-tunnel)

Full Context

configure service vpls eth-tunnel

Description

This command associates a BVPLS SAP with the global Ethernet tunnel object specified by tunnel-id. Only one-to-one mapping between SAP and Ethernet tunnel is supported in the initial implementation. The global eth-tunnel tunnel-id with at least a member port must be configured in advance for the command to be successful. A SAP will be instantiated using the active path components (member port and control-tag) for VPLS forwarding. The last member port in the Ethernet tunnel cannot be deleted if there is a SAP configured on that eth-tunnel. This command is only available in the BVPLS context.

The **no** form of this command removes the sap from the Ethernet tunnel object.

Default

no sap is specified

Parameters

tunnel-id

Specifies the value of the Ethernet tunnel identifier to be used for the SAP.

Values 1 to 64

Platforms

All

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eth-tunnel

Syntax

eth-tunnel

Context

[Tree] (config>service>ipipe>sap eth-tunnel)

[Tree] (config>service>epipe>sap eth-tunnel)

Full Context

configure service ipipe sap eth-tunnel

configure service epipe sap eth-tunnel

Description

Commands in this context configure Ethernet tunnel SAP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-tunnel

Syntax

eth-tunnel

Context

[Tree] (config>service>vpls>sap eth-tunnel)

Full Context

configure service vpls sap eth-tunnel

Description

Commands in this context configure Ethernet tunnel SAP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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15.58 eth-vsm-grace

eth-vsm-grace

Syntax

eth-vsm-grace

Context

[Tree] (config>port>ethernet>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>lag>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace eth-vsm-grace)

Full Context

configure port ethernet eth-cfm mep grace eth-vsm-grace

configure lag eth-cfm mep grace eth-vsm-grace

configure eth-ring path eth-cfm mep grace eth-vsm-grace

configure eth-tunnel path eth-cfm mep grace eth-vsm-grace

Description

Commands in this context configure Nokia ETH-CFM Grace functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-vsm-grace

Syntax

eth-vsm-grace

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace eth-vsm-grace)

Full Context

configure service epipe spoke-sdp eth-cfm mep grace eth-vsm-grace

configure service ipipe sap eth-cfm mep grace eth-vsm-grace

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configure service epipe sap eth-cfm mep grace eth-vsm-grace

Description

Commands in this context configure Nokia ETH-CFM Grace functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-vsm-grace

Syntax

eth-vsm-grace

Context

[Tree] (config>service>vpls>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace eth-vsm-grace)

Full Context

configure service vpls eth-cfm mep grace eth-vsm-grace

configure service vpls spoke-sdp eth-cfm mep grace eth-vsm-grace

configure service vpls sap eth-cfm mep grace eth-vsm-grace

configure service vpls mesh-sdp eth-cfm mep grace eth-vsm-grace

Description

Commands in this context configure Nokia ETH-CFM Grace functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-vsm-grace

Syntax

eth-vsm-grace

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace eth-vsm-grace)

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Full Context

configure service ies interface sap eth-cfm mep grace eth-vsm-grace

configure service ies interface spoke-sdp eth-cfm mep grace eth-vsm-grace

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace

Description

Commands in this context configure Nokia ETH-CFM Grace functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep grace eth-vsm-grace
- configure service ies interface spoke-sdp eth-cfm mep grace eth-vsm-grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace

eth-vsm-grace

Syntax

eth-vsm-grace

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace eth-vsm-grace)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace eth-vsm-grace)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep grace eth-vsm-grace

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace

configure service vprn interface sap eth-cfm mep grace eth-vsm-grace

Description

Commands in this context configure Nokia ETH-CFM Grace functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep grace eth-vsm-grace
- configure service vprn interface spoke-sdp eth-cfm mep grace eth-vsm-grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace

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eth-vsm-grace

Syntax

eth-vsm-grace

Context

[Tree] (config>router>if>eth-cfm>mep>grace eth-vsm-grace)

Full Context

configure router interface eth-cfm mep grace eth-vsm-grace

Description

Commands in this context configure Nokia ETH-CFM Grace functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.59 ethernet

ethernet

Syntax

ethernet

Context

[Tree] (config>port ethernet)

Full Context

configure port ethernet

Description

This command the context to configure Ethernet port attributes.

This context can only be used when configuring Fast Ethernet, gigabit or 10-G Fast Ethernet or Ethernet LAN ports on an appropriate MDA.

Platforms

All

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ethernet

Syntax

ethernet

Context

[Tree] (config>eth-tunnel ethernet)

Full Context

configure eth-tunnel ethernet

Description

Commands in this context configure Ethernet parameters for the Ethernet tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ethernet

Syntax

ethernet

Context

[Tree] (config>service>epipe>sap ethernet)

Full Context

configure service epipe sap ethernet

Description

Commands in this context configure Ethernet properties in this SAP.

Platforms

All

ethernet

Syntax

ethernet

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Context

[Tree] (debug>oam>build-packet>packet>field-override>header ethernet)

[Tree] (config>test-oam>build-packet>header ethernet)

Full Context

debug oam build-packet packet field-override header ethernet

configure test-oam build-packet header ethernet

Description

This command causes the associated header to be defined as an Ethernet header template and enables the context to define the Ethernet parameters.

The **no** form of this command removes the Ethernet header association.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ethernet

Syntax

ethernet

Context

[Tree] (config>oam-pm>session ethernet)

Full Context

configure oam-pm session ethernet

Description

Commands in this context configure the Ethernet-specific source and destination information, the priority, and the Ethernet tests tools on the launch point.

Platforms

All

ethernet

Syntax

ethernet

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl ethernet)

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Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet

Description

Commands in this context configure the Ethernet header parameters and ETH-CFM information used by the testhead tool.

Only the specified header information is included in the frame. At a minimum, the Ethernet destination MAC address and ETH-CFM information must be included.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

15.60 ethernet-ctag

ethernet-ctag

Syntax

[**no**] **ethernet-ctag**

Context

[Tree] (config>qos>sap-egress ethernet-ctag)

Full Context

configure qos sap-egress ethernet-ctag

Description

This command specifies that the top customer tag should be used for egress reclassification based on dot1p criteria. This command applies to all dot1p criteria configured in a given SAP egress QoS policy.

The **no** form of this command means that a service delimiting tag will be used for egress reclassification based on dot1p criteria.

Default

no ethernet-ctag

Platforms

All

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15.61 ethernet-header

ethernet-header

Syntax

ethernet-header [**da** *ieee-address*] [**sa** *ieee-address*] [**etype** *ethertype*]

no ethernet-header

Context

[Tree] (config>li>li-source>nat ethernet-header)

Full Context

configure li li-source nat ethernet-header

Description

This command configures the Ethernet header for the NAT sources.

The **no** form of this command removes the values from the configuration.

Parameters

da *ieee-address*

Specifies the destination MAC address field of the of the Ethernet encapsulation used for the NAT subscribers associated with this mirror source up to 30 characters.

sa *ieee-address*

Specifies the source MAC address field of the of the Ethernet encapsulation used for the NAT subscribers associated with this mirror source up to 30 characters.

ethertype

Specifies the ethertype of the ethernet encapsulation used for the NAT subscribers associated with this mirror source that have an intercept identifier.

Values 1536 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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15.62 ethernet-segment

ethernet-segment

Syntax

ethernet-segment *name* [**virtual**] [**create**]

no ethernet-segment *name*

Context

[Tree] (config>service>system>bgp-evpn ethernet-segment)

Full Context

configure service system bgp-evpn ethernet-segment

Description

This command configures an Ethernet Segment instance and its corresponding name. The configuration of the dot1q or qinq nodes is only allowed if the Ethernet Segment (ES) is created as **virtual**.

For a virtual ES, a port, LAG, or SDP must be created for the ES before configuring a VLAN or vc-id association.

When a port or LAG is added, the **type** and **encap-type** values are checked. If the **encap-type** is **dot1q**, then only the dot1q node can be configured; the qinq context is not allowed. In the same way, if the **encap-type** is **qinq**, then only the qinq node is allowed. A dot1q, qinq, or vc-id range is required for a virtual ES to be operationally active.

Parameters

name

Specifies the 32-character ES name.

virtual

This keyword specifies that the ES is virtual and is associated to logical interfaces, in addition to ports, LAGs, or SDPs.

create

Mandatory keyword for creating an ES.

Platforms

All

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15.63 etype

etype

Syntax

etype *etype-value*

no etype

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match etype)

Full Context

configure qos sap-ingress mac-criteria entry match etype

Description

Configures an Ethernet type II value to be used as a service ingress QoS policy match criterion.

The Ethernet type field is a 2-byte field used to identify the protocol carried by the Ethernet frame. For example, 0800 is used to identify the IPv4 packets.

The Ethernet type field is used by the Ethernet version-II frames. IEEE 802.3 Ethernet frames do not use the type field. For IEEE 802.3 frames, use the dsap, ssap, or snap-pid fields as match criteria.

The snap-pid field, etype field, ssap, and dsap fields are mutually exclusive and cannot be part of the same match criteria.

The no form of this command removes the previously entered etype field as the match criteria.

Default

no etype

Parameters

etype-value

The Ethernet type II frame Ethertype value to be used as a match criterion expressed in hexadecimal.

Values 0x0600 to 0xFFFF

Platforms

All

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etype

Syntax

etype *0x0600..0xffff*

no etype

Context

[Tree] (config>filter>mac-filter>entry>match etype)

Full Context

configure filter mac-filter entry match etype

Description

Configures an Ethernet type II Ethertype value to be used as a MAC filter match criterion.

The Ethernet type field is a two-byte field used to identify the protocol carried by the Ethernet frame. For example, 0800 is used to identify the IPv4 packets.

The Ethernet type field is used by the Ethernet version-II frames. IEEE 802.3 Ethernet frames do not use the type field. For IEEE 802.3 frames, use the dsap, ssap or snap-pid fields as match criteria.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria.

The **no** form of the command removes the previously entered etype field as the match criteria.

Default

no etype

Parameters

0x0600..0xffff

Specifies the Ethernet type II frame Ethertype value to be used as a match criterion expressed in decimal integer or hexadecimal format.

Values 1536 to 65535 or 0x0600 to 0xFFFF

Platforms

All

etype

Syntax

etype *0x0600xx0xffff*

no etype

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Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match etype)

Full Context

configure system security management-access-filter mac-filter entry match etype

Description

Configures an Ethernet type II Ethertype value to be used as a MAC filter match criterion.

The Ethernet type field is a two-byte field used to identify the protocol carried by the Ethernet frame. For example, 0800 is used to identify the IPv4 packets.

The Ethernet type field is used by the Ethernet version-II frames. IEEE 802.3 Ethernet frames do not use the type field. For IEEE 802.3 frames, use the dsap, ssap or snap-pid fields as match criteria.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide* for information about MAC Match Criteria Exclusivity Rules fields that are exclusive based on the frame format.

The **no** form of this command removes the previously entered etype field as the match criteria.

Default

no etype

Parameters

ethernet-type

Specifies the Ethernet type II frame Ethertype value to be used as a match criterion expressed in hexadecimal.

Values 0x0600 to 0xFFFF

Platforms

All

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16 e Commands – Part III

16.1 event

event

Syntax

[**no**] **event**

Context

[Tree] (debug>gtp event)

Full Context

debug gtp event

Description

This command configures detailed debugging of all events in the GTP system.

The **no** form of this command disables event debugging.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

event

Syntax

[**no**] **event**

Context

[Tree] (debug>router>l2tp event)

[Tree] (debug>router>l2tp>tunnel event)

[Tree] (debug>router>l2tp>peer event)

[Tree] (debug>router>l2tp>assignment-id event)

[Tree] (debug>router>l2tp>group event)

Full Context

debug router l2tp event

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debug router l2tp tunnel event

debug router l2tp peer event

debug router l2tp assignment-id event

debug router l2tp group event

Description

This command configures an L2TP debugging event.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

event

Syntax

[**no**] **event**

Context

[Tree] (debug>service>id>ppp event)

Full Context

debug service id ppp event

Description

This command enables the PPP event debug context.

The **no** form of this command disables PPP event debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

event

Syntax

[**no**] **event**

Context

[Tree] (debug>dynsvc>scripts>script event)

[Tree] (debug>dynsvc>scripts event)

[Tree] (debug>dynsvc>scripts>inst event)

Full Context

debug dynamic-services scripts script event

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debug dynamic-services scripts event

debug dynamic-services scripts instance event

Description

This command enables/disables the generation of all dynamic data service script debugging events output: cli, errors, executed-cmd, warnings, state-change.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

event

Syntax

event *event-type* [**create**]

no event *event-type*

Context

[Tree] (config>card>mda event)

Full Context

configure card mda event

Description

This command allows the user to control the action to be taken when a specific hardware error event is raised against the target MDA.

If no event action has been created for a specific event type, then the hardware errors related to that event type are ignored by the management plane of the router.

The log event raised for any event type (for example, soft-error, memory-error) is tmnxEqHwEventDetected.

The **no** form of this command clears any action defined for the event.

Parameters

event-type

Specifies the event type, up to 32 characters.

Values soft-error — Defines the action to be taken when soft errors are detected on the MDA

internal-frame-loss — System detected frame loss in the traffic transiting the MDA.

memory-error — Provides the user options to handle MDA memory error events on MDAs. This feature is supported on FP2- and FP3-based Ethernet MDAs and IMMs.

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data-link-error — Provides the user options to handle datapath link errors on an MDA.

create

Keyword used to create an event.

Platforms

All

event

Syntax

[**no**] **event**

Context

[Tree] (debug>router>ldp>if event)

[Tree] (debug>router>ldp>peer event)

Full Context

debug router ldp interface event

debug router ldp peer event

Description

This command configures debugging for specific LDP events.

Platforms

All

event

Syntax

[**no**] **event**

Context

[Tree] (debug>router>mpls event)

[Tree] (debug>router>rsvp event)

Full Context

debug router mpls event

debug router rsvp event

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Description

This command enables debugging for specific events.

The **no** form of the command disables the debugging.

Platforms

All

event

Syntax

[**no**] **event**

Context

[Tree] (debug>router>ip event)

Full Context

debug router ip event

Description

This command enables debugging for specific IP events.

The **no** form of this command disables debugging for the specified IP events.

Platforms

All

event

Syntax

event *rmon-event-id* [*event-type*] [**description** *description-string*] [**owner** *owner-string*]

no event *rmon-event-id*

Context

[Tree] (config>system>thresholds>rmon event)

Full Context

configure system thresholds rmon event

Description

The event command configures an entry in the RMON-MIB event table. The event command controls the generation and notification of threshold crossing events configured with the alarm command. When a threshold crossing event is triggered, the **rmon>event** configuration optionally specifies if an entry in the RMON-MIB log table should be created to record the occurrence of the event. It may also specify that an

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SNMP notification (trap) should be generated for the event. The RMON-MIB defines two notifications for threshold crossing events: Rising Alarm and Falling Alarm.

Creating an event entry in the RMON-MIB log table does not create a corresponding entry in the SR OS event logs. However, when the **event-type** is set to trap, the generation of a Rising Alarm or Falling Alarm notification creates an entry in the SR OS event logs and that is distributed to all the SR OS log destinations that are configured: CONSOLE, session, memory, file, syslog, or SNMP trap destination.

The SR OS logger message includes a rising or falling threshold crossing event indicator, the sample type (absolute or delta), the sampled value, the threshold value, the RMON-alarm-id, the associated RMON-event-id and the sampled SNMP object identifier.

Use the **no** form of this command to remove an rmon-event-id from the configuration.

Parameters

rmon-event-id

Specifies an identifier for this event. Alarm ID values above 65400 are used for dynamic system threshold commands and should be avoided.

Values 1 to 65535

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

Values **log** — An entry is made in the RMON-MIB log table for each event occurrence.

This does **not** create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

description-string

Specifies a user configurable string that can be used to identify the purpose of this event. This is an optional parameter and can be up to 80 characters long. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

owner-string

Specifies the owner string; the owner identifies the creator of this alarm. It defaults to "TiMOS CLI". This parameter is defined primarily to allow entries that have been created in the RMON-MIB alarmTable by remote SNMP managers to be saved and reloaded in a CLI configuration file. The owner will not normally be configured by CLI users and can be up 80 characters long.

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Default TiMOS CLI

Configuration example:

```
event 5 rmon-event-type both description "alarm testing" owner "TiMOS CLI"
```

Platforms

All

event

Syntax

[**no**] **event** *application-id event-name-id*

Context

[Tree] (config>log>event-trigger event)

Full Context

configure log event-trigger event

Description

This command configures a specific log event as a trigger for one or more EHS handlers. Further matching criteria can be applied to only trigger certain handlers with certain instances of the log event.

The **no** form of this command removes the specified trigger event.

Parameters

application-id

Specifies the type of application that triggers the event.

Values adp, application_assurance, auto_prov, bfd, bgp, bier, bmp, calltrace, cflowd, chassis, cpmhwfilter, cpmhwqueue, debug, dhcp, dhcps, diameter, dot1x, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, filter, fpe, gsmp, gtp, igmp, igmp_snooping, ip, ipfix, ipsec, ipsec_cpm, isis, l2tp, lag, ldap, ldp, li, lldp, logger, maffilter, macsec, mcac, mcpath, mc_redundancy, mgmt_core, mirror, mld, mld_snooping, mpls, mpls_tp, mpls_lmgr, mrp, msdp, nat, nge, ntp, oam, open_flow, ospf, pcap, pcep, pfcp, pim, pim_snooping, port, pppoe, pppoe_clnt, profile, ptp, pxc, python, qos, radius, rib_api, rip, rip_ng, route_next_hop, route_policy, rpki, rsvp, satellite, security, sflow, snmp, sr_mpls, sr_policy, srv6, stp, subscr_mgmt, sub_host_trk, svcmgr, system, telemetry, tip, tls, tree_sid, user, user_db, video, vrrp, vrtr, wlan_gw, wpp

event-name-id

Specifies the name or numerical identifier of the event.

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Values 0 to 4294967295 | *event-name*: 32 characters max

Platforms

All

16.2 event-control

event-control

Syntax

event-control *application-id* [*event-name* | *event-number*] [**generate**] [*severity-level*] [**throttle**] [**specific-throttle-rate** *events-limit* **interval** *seconds* | **disable-specific-throttle**] [**repeat** | **no-repeat**]

event-control *application-id* [*event-name* | *event-number*] **suppress**

no event-control *application-id* [*event-name* | *event-number*]

Context

[Tree] (config>log event-control)

Full Context

configure log event-control

Description

This command is used to specify that a particular event or all events associated with an application is either generated or suppressed.

Events are generated by an application and contain an event number and description explaining the cause of the event. Each event has a default designation which directs it to be generated or suppressed.

Events are generated with a default severity level that can be modified by using the *severity-level* option.

Events that are suppressed by default are typically used for debugging purposes. Events are suppressed at the time the application requests the event's generation. No event log entry is generated regardless of the destination. While this feature can save processor resources, there may be a negative effect on the ability to troubleshoot problems if the logging entries are squelched. In reverse, indiscriminate application may cause excessive overhead.

The rate of event generation can be throttled by using the **throttle** parameter.

The **no** form of this command reverts the parameters to the default setting for events for the application or a specific event within the application. The severity, generate, suppress, and throttle options will also be reset to the initial values.

Default

Each event has a set of default settings. To display a list of all events and the current configuration use the **event-control** command.

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Parameters

application-id

The application whose events are affected by this event control filter.

Values A valid application name. Use the **show log applications** command to display a list of valid application names. Examples of valid applications are **bgp**, **chassis**, **efm_oam**, **filter**, **security**, **system**, and **vrrp**.

event-name

To generate, suppress, or revert to default for a single event, enter the specific event short name up to 32 characters. If no event name is specified, the command applies to all events in the application. To display a list of all event short names use the **event-control** command.

event-number

To generate, suppress, or revert to default for a single event, enter the specific number. If no event number is specified, the command applies to all events in the application.

Values 0 to 4294967295

generate

Specifies that logger event is created when this event occurs. The generate keyword can be used with two optional parameters, *severity-level* and **throttle**.

Default generate

severity-level

An ASCII string representing the severity level to associate with the specified generated events

Default The system-assigned severity name

Values cleared, indeterminate, critical, major, minor, warning

throttle

Specifies whether or not events of this type will be throttled. By default, event throttling is on for most event types.

suppress

This keyword indicates that the specified events will not be logged. If the **suppress** keyword is not specified then the events are generated by default. For example on the 7750 SR, **event-control bgp suppress** will suppress all BGP events. If a log event is a raising event for a Facility Alarm, and the associated Facility Alarm is raised, then changing the log event to **suppress** clears the associated Facility Alarm.

Default generate

specific-throttle-rate *events-limit*

The log event throttling rate can be configured independently for each log event using this keyword. This specific-throttle-rate overrides the globally configured throttle rate (**config**>**log**>**throttle-rate**) for the specific log event.

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Values 1 to 20000

interval *seconds*

Specifies the number of seconds that the specific throttling intervals lasts.

Values 1 to 1200

disable-specific-throttle

Specifies to disable the **specific-throttle-rate**.

repeat

Specifies that the log event should be repeated every minute until the underlying condition is cleared. Only supported for the following log events: BGP tBgpMaxNgPfxLmtThresholdReached and PORT tmnxEqPortEtherCrcAlarm (for **degrade** threshold only)

Platforms

All

16.3 event-damping

event-damping

Syntax

[**no**] **event-damping**

Context

[Tree] (config>log event-damping)

Full Context

configure log event-damping

Description

This command allows the user to set the event damping algorithm to suppress QoS or filter change events.

The **no** form of this command removes the event damping algorithm.

Note:
While this event damping is original behavior for some modules such as service manager, QoS, and filters, it can result in the NMS system database being out of sync because of missed change events. On the other hand, if the damping is disabled (**no event-damping**), it may take much longer to **exec** a large CLI configuration file after system bootup.

Platforms

All

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16.4 event-handler

event-handler

Syntax

event-handler *event-handler*

no event-handler

Context

[Tree] (config>log>event-trigger>event>trigger-entry event-handler)

Full Context

configure log event-trigger event trigger-entry event-handler

Description

This command configures the event handler to be used for this trigger entry.

The **no** form of this command removes the event handler configuration.

Parameters

event-handler

Specifies the name of the event handler, up to 32 characters.

Platforms

All

event-handler

Syntax

event-handler

Context

[Tree] (config>system>security>cli-script>authorization event-handler)

Full Context

configure system security cli-script authorization event-handler

Description

Commands in this context configure authorization for the Event Handling System (EHS). EHS allows user-controlled programmatic exception handling by allowing a CLI script to be executed upon the detection of a log event.

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Platforms
All

16.5 event-handling

event-handling

Syntax
event-handling

Context
[Tree] (config>log event-handling)

Full Context
configure log event-handling

Description
Commands in this context configure event handling within the Event Handler System (EHS).

Platforms
All

16.6 event-log

event-log

Syntax
event-log *event-log-name* [**create**]
no event-log *event-log-name*

Context
[Tree] (config>app-assure>group event-log)

Full Context
configure application-assurance group event-log

Description
This command configures an event log.

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Parameters

event-log-name

Specifies the name of the event log.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

event-log

Syntax

event-log *event-log-name* [**all**]

no event-log

Context

[Tree] (config>app-assure>group>tcp-validate event-log)

Full Context

configure application-assurance group tcp-validate event-log

Description

This command enables logging of traffic dropped by TCP validation.

The **no** form of this command disables logging of traffic dropped by TCP validation.

Default

no event-log

Parameters

event-log-name

Specifies the name of the event log up to 32 characters.

all

Logs all dropped traffic. Using the **all** option allows the operator to capture all discards made by the TCP validation policy, including those related to:

- packets that were received after an RST and discarded
- packets received before TCP session establishment (before SYN) and discarded

Without the **all** option, discards related to these cases are not captured in any event log.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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event-log

Syntax

event-log *event-log-name*

no event-log

Context

[Tree] (config>app-assure>group>gtp event-log)

[Tree] (config>app-assure>group>gtp>gtp-filter event-log)

Full Context

configure application-assurance group gtp event-log

configure application-assurance group gtp gtp-filter event-log

Description

This command allows AA to treat traffic on UDP port number 2152 as GTP-u. Without further specifying any other parameters within this GTP context, AA performs basic GTP-u header sanity checks and discards packets that are malformed. This GTP context allows the operator to configure various GTP filters (maximum of 128 GTP filters).

Default

no event-log

Parameters

event-log-name

Specifies the event log name to be used to log discards due to GTP-u basic header sanity checks.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

event-log

Syntax

event-log *event-log-name*

no event-log

Context

[Tree] (config>app-assure>group>sctp-filter event-log)

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Full Context

configure application-assurance group sctp-filter event-log

Description

This command configures an event log for packets dropped by the SCTP filter.

Default

no event-log

Parameters

event-log-name

Specifies the event log name to be used.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.7 event-mon

event-mon

Syntax

event-mon

Context

[Tree] (config>oam-pm>session>meas-intvl event-mon)

Full Context

configure oam-pm session meas-interval event-mon

Description

This command enables the different threshold events on a specific measurement interval. Only one measurement interval with a configured OAM PM session can have events enabled using the **no shutdown** command.

Platforms

All

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16.8 event-notification

event-notification

Syntax

[**no**] **event-notification**

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame event-notification)

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-seconds event-notification)

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-period event-notification)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame event-notification

configure port ethernet efm-oam link-monitoring errored-frame-seconds event-notification

configure port ethernet efm-oam link-monitoring errored-frame-period event-notification

Description

Allows the frame error **sf-threshold** crossing events to transmit the Event Notification OAMPDU with the specific Link Event TLV information. The Event Notification OAM PDU will only be generated when the initial **sf-threshold** is reached. No subsequent notification will be sent until the event that triggered until the event is manually cleared. The burst parameter under the **local-sf-action** will determine the number of Event Notification OAMPDUs to generate when the event occurs. The reception of the event notification will be processed regardless of this parameter.

The **no** version of this command will disable the transmission of the Event Notification OAMPDU for this event type.

Default

event-notification

Platforms

All

event-notification

Syntax

[**no**] **event-notification**

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-symbols event-notification)

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Full Context

configure port ethernet efm-oam link-monitoring errored-symbols event-notification

Description

This command allows the symbol error event threshold crossing actions to transmit the Event Notification OAM PDU with the specific Link Event TLV information. The Event Notification OAM PDU will only be generated on the initial sf-threshold is reached. No subsequent notification will be sent until the event that triggered the notification clears, through manual intervention or a window where the configured sd-threshold is not reached. The burst parameter under the local-sf-action will determine the number of Event Notification OAM PDUs to generate when the event occurs. The reception of the event notification will be processed regardless of this parameter.

The **no** version of this command will disable the transmission of the Event Notification OAM PDU for this event type.

Default

event-notification

Platforms

All

event-notification

Syntax

event-notification local-port-action {**log-only** | **out-of-service**}

Context

[Tree] (config>port>ethernet>efm-oam>peer-rdi-rx event-notification)

Full Context

configure port ethernet efm-oam peer-rdi-rx event-notification

Description

This command defines how to react to the reception of event TLVs contained in the Event Notification OAMPDU. The event TLVs contained in the event notification OAMPDU will be analyzed to determine if the peer has crossed the error threshold for the window. The analysis does not consider any local signal degrades or signal failure threshold. The analysis is based solely on the information receive form the peer. The analysis is performed on all event TLVs contained in the Event Notification OAMPDU without regard for support of a specific error counters or local configuration of any thresholds. In the case of symbol errors only, a threshold below the error rate can be used to return the port to service.

Default

event-notification local-port-action log-only

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Parameters

local-port-action

Defines whether or not the local port will be affected when the Event Notification OAM PDU is received from a peer based on the threshold computation for the included TLVs.

log-only

Keyword that prevents the port from being affected when the local peer receives an Event Notification OAM PDU. The event will be logged but the port will remain operational.

out-of-service

Keyword that causes the port to enter a non-operation down state with a port state of link up. The error will be logged upon reception of Event Notification. The port will not be available to service data but will continue to carry Link OAM traffic to ensure the link is monitored. All this assumes the error threshold exceeds the error rate in the TLV.

Platforms

All

16.9 event-notification-burst

event-notification-burst

Syntax

event-notification-burst *packets*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>local-sf-action event-notification-burst)

Full Context

configure port ethernet efm-oam link-monitoring local-sf-action event-notification-burst

Description

This command defines the number of the Event Notification OAM PDU to be send to the peer if the local signal failure threshold (sf-threshold) has been reached. The sending of the Event Notification OAMPDU is configured under the individual monitors.

Interactions: The **sf-thresh** threshold will trigger these actions.

Parameters

packets

Specifies the number of Event Notification OAM PDUs to send to a peer when the signal failure threshold has been reached.

Values 1 to 5

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Platforms
All

16.10 event-trigger

event-trigger

Syntax
event-trigger

Context
[Tree] (config>log event-trigger)

Full Context
configure log event-trigger

Description
Commands in this context configure log events as triggers for Event Handling System (EHS) handlers.

Platforms
All

16.11 event-type

event-type

Syntax
[**no**] **event-type** {**arp** | **config-change** | **oper-status-change** | **neighbor-discovery**}

Context
[Tree] (debug>service>id>sap event-type)

Full Context
debug service id sap event-type

Description
This command enables a particular debugging event type.

The **no** form of this command disables the event type debugging.

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Parameters

arp

Displays ARP events.

config-change

Debugs configuration change events.

oper-status-change

Debugs service operational status changes.

neighbor-discovery

Displays the status of IPv6 neighbor discovery for the sap or the spoke-sdp for the 7450 ESS or 7750 SR only.

Platforms

All

Output

The following output is an example of event-type information.

Output Example

```
A:bksim180# debug service id 1000 sap 1/7/1 event-type arp
DEBUG OUTPUT show on CLI is as follows:
3 2008/11/17 18:13:24.35 UTC MINOR: DEBUG #2001 Base Service 1000 SAP
1/7/1 "Service 1000 SAP 1/7/1:
RX: ARP_REQUEST (0x0001)
hwType     : 0x0001
prType     : 0x0800
hwLength   : 0x06
prLength   : 0x04
srcMac     : 8c:c7:01:07:00:03
destMac    : 00:00:00:00:00:00
srcIp      : 10.1.1.2
destIp     : 10.1.1.1
"

4 2008/11/17 18:13:24.35 UTC MINOR: DEBUG #2001 Base Service 1000
SAP 1/7/1 "Service 1000 SAP 1/7/1:
TX: ARP_RESPONSE (0x0002)
hwType     : 0x0001
prType     : 0x0800
hwLength   : 0x06
prLength   : 0x04
srcMac     : 00:03:0a:0a:0a:0a
destMac    : 8c:c7:01:07:00:03
srcIp      : 10.1.1.1
destIp     : 10.1.1.2
"
```

event-type

Syntax

[**no**] **event-type** {**config-change** | **oper-status-change** | **neighbor-discovery** | **control-channel-status**}

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Context

[Tree] (debug>service>id>sdp event-type)

Full Context

debug service id sdp event-type

Description

This command enables a particular debugging event type.

The **no** form of this command disables the event type debugging.

Parameters

config-change

Debugs configuration change events.

oper-status-change

Debugs service operational status changes.

neighbor-discovery

Displays the status of IPv6 neighbor discovery for the sap or the spoke-sdp for the 7450 ESS or 7750 SR only.

control-channel-status

Debugs control channel status events.

Platforms

All

event-type

Syntax

[**no**] **event-type** {**config-change** | **svc-oper-status-change** | **sap-oper-status-change** | **sdpbind-oper-status-change**}

Context

[Tree] (debug>service>id event-type)

Full Context

debug service id event-type

Description

This command enables a particular debugging event type. The **no** form of this command disables the event type debugging.

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Parameters

config-change

Debugs configuration change events

svc-oper-status-change

Debugs service operational status changes

sap-oper-status-change

Debugs SAP operational status changes

sdpbind-oper-status-change

Debugs SDP operational status changes

Platforms

All

16.12 events

events

Syntax

events {**none** | **public-only** | **all**}

Context

[Tree] (config>call-trace-trace-profile events)

Full Context

configure call-trace trace-profile events

Description

This command configures whether captured traces include events that occurred on the SR OS router, such as mobility and idle-timeout.

Default

events none

Parameters

none

Specifies that no events is traced.

public-only

Specifies that only events that are readable by everyone is traced.

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all

Specifies that all events is traced, including events that are encrypted for use by customer support only. Encrypted events are not readable by end-users.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

events

Syntax

[**no**] **events** [**interface** *ip-int-name*]

Context

[Tree] (debug>router>srrp events)

Full Context

debug router srrp events

Description

This command enables debugging for SRRP packets.

The **no** form of this command disables debugging.

Platforms

All

events

Syntax

[**no**] **events**

[**no**] **events interface** *ip-int-name* [**vrid** *virtual-router-id*]

[**no**] **events interface** *ip-int-name* **vrid** *virtual-router-id* **ipv6**

Context

[Tree] (debug>router>vrrp events)

Full Context

debug router vrrp events

Description

This command enables debugging for VRRP events.

The **no** form of the command disables debugging.

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Parameters

ip-int-name

Displays the specified interface name.

virtual-router-id

Displays the specified VRID.

ipv6

Debugs the specified IPv6 VRRP interface.

Platforms

All

events

Syntax

events [**neighbor** *ip-address* | **group** *name*]

no events

Context

[Tree] (debug>router>bgp events)

Full Context

debug router bgp events

Description

This command logs all events changing the state of a BGP peer.

The **no** form of this command disables the debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

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group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

events

Syntax

events [**station** *station-name*]

no events

Context

[Tree] (debug>router>bmp events)

Full Context

debug router bmp events

Description

This command enables debugging for all BMP events.

The **no** form of the command disables debugging for all BMP events.

Parameters

station-name

Specifies the station name of the BMP monitoring station, up to 32 characters.

Platforms

All

events

Syntax

[**no**] **events** [**neighbor** *ip-int-name* | *ip-addr*]

Context

[Tree] (debug>router>rip events)

Full Context

debug router rip events

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Description

This command enables debugging for RIP events.

Parameters

ip-int-name* | *ip-address

Debugs the RIP events sent on the neighbor IP address or interface.

Platforms

All

events

Syntax

[**no**] **events** [**neighbor** *ip-int-name*]

Context

[Tree] (debug>router>ripng events)

Full Context

debug router ripng events

Description

This command enables debugging for RIPng events.

Parameters

ip-int-name

Debugs the RIPng events sent on the neighbor IP interface.

Platforms

All

16.13 evi

evi

Syntax

evi *value*

no evi

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Context

[Tree] (config>service>vpls>bgp-evpn evi)

[Tree] (config>service>epipe>bgp-evpn evi)

Full Context

configure service vpls bgp-evpn evi

configure service epipe bgp-evpn evi

Description

This command allows the configuration of a 2-byte EVPN instance (EVI) unique in the system. It is used for the service-carving algorithm for multi-homing and auto-deriving route target and route distinguishers.

If not specified, the value is zero and no route distinguisher or route targets are auto-derived from it. If the *evi* value is specified and no other **route-distinguisher** or **route-target** is configured in the service, the following rules apply:

- the route distinguisher is derived from <system_ip>:evi
- the route target is derived from <autonomous-system>:evi

If VSI import and export policies are configured, the route target must be configured in the policies and those values take preference over the auto-derived route targets. If **bgp-ad**>**vpls-id** and **bgp-evpn**>**evi** are both configured on the same service, the VPLS ID auto-derived route target or route distinguisher takes precedence over the values auto-derived from the EVI. The operational route target for a service is displayed in the **show service id bgp** command.

The **no** form of this command sets the EVI value back to zero.

Parameters

value

Specifies the EVPN instance.

Values 1 to 16777215

Platforms

All

evi

Syntax

evi *start* [**to** *to*]

no evi *start*

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-carving>manual evi)

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Full Context

configure service system bgp-evpn ethernet-segment service-carving manual evi

Description

This command configures the EVI ranges for which the PE is the primary Designated Forwarder, or uses the lowest preference algorithm.

Note:
Multiple individual EVI values and ranges are allowed.

There are two service-carving manual algorithms for DF election:

- manual non-preference

  A **preference** command is not configured for this algorithm. The primary PE for the configured EVIs is determined by the EVI range. The manual non-preference algorithm only supports two PEs in the Ethernet Segment

- manual preference-based

  If a **preference** command is configured, the algorithm uses the configured value to determine the DF election. For EVIs not defined in the range, the highest-preference algorithm is used. For configured EVIs, the lowest-preference algorithm is used.

The **no** form of this command removes the PE from the primary Designated Forwarder role for the range, or sets the preference algorithm back to highest preference.

Parameters

start

Specifies the initial EVI value of the range.

Values 1 to 65535

to

Specifies the end EVI value of the range. If not configured, only the individual start value is considered.

Values 1 to 16777215

Platforms

All

evi

Syntax

evi *value*

no evi

Context

[Tree] (config>service>vprn>bgp-evpn>srv6 evi)

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[Tree] (config>service>vprn>bgp-evpn>mpls evi)

Full Context

configure service vprn bgp-evpn segment-routing-v6 evi

configure service vprn bgp-evpn mpls evi

Description

This command configures a 2-byte EVPN instance (EVI) unique in the system.

The router uses the EVI to identify the BGP EVPN instance in a VPRN (for the EVPN-IFL model) or an R-VPLS (for the EVPN-IFF model) that is associated with the Layer 3 Ethernet Segment (ES), for the purpose of IP Aliasing. This configuration is required on the PEs attached to the ES as well as on the remote PEs that need to create ES destinations to the multihoming Layer 3 ES.

The **no** form of this command removes the EVI value.

Default

no evi

Parameters

value

Specifies the EVPN instance.

Values 1 to 16777215

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-evpn segment-routing-v6 evi

All

- configure service vprn bgp-evpn mpls evi

evi

Syntax

evi

Context

[Tree] (config>service>system>bgp-evpn>eth-seg evi)

Full Context

configure service system bgp-evpn ethernet-segment evi

Description

Commands in this context configure the EVI range associated with the VPRN next hop.

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Platforms

All

evi

Syntax

evi *value*

no evi

Context

[Tree] (config>service>vprn>bgp-evpn>vxlan evi)

Full Context

configure service vprn bgp-evpn vxlan evi

Description

This command configures the EVI that identifies the BGP EVPN instance in a VPRN (for the EVPN-IFL model) or an R-VPLS (for the EVPN-IFF model) that is associated with the Layer 3 Ethernet segment. This configuration is required on the PEs attached to the Ethernet segment and on the remote PEs that need to create ES destinations to the multihoming (MH) Layer 3 Ethernet segment.

The **no** form of this command removes the EVI value.

Default

no evi

Parameters

value

Specifies the EVPN instance.

Values 1 to 16777215

Platforms

7750 SR-1, 7750 SR-s

16.14 evi-range

evi-range

Syntax

[**no**] **evi-range** *start*

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Context

[Tree] (config>service>system>bgp-evpn>eth-seg>evi evi-range)

Full Context

configure service system bgp-evpn ethernet-segment evi evi-range

Description

This command configures the EVI starting range value.

The **no** form of this command removes the EVI range.

Parameters

start

Specifies the EVPN start value associated to the VPRN next hop.

Values 1 to 16777215

Platforms

All

16.15 evi-route-target

evi-route-target

Syntax

evi-route-target [*evi-route-target*]

noevi-route-target

Context

[Tree] (config>router>evpn-neighbor-synchronization evi-route-target)

[Tree] (config>service>vprn>evpn-neighbor-synchronization evi-route-target)

Full Context

configure router evpn-neighbor-synchronization evi-route-target

configure service vprn evpn-neighbor-synchronization evi-route-target

Description

Commands in this context configure the EVI route target used on the MAC/IP routes advertised for the routing context. On reception, the EVI route target is used to identify the routing context in which the ARP and ND entries are installed.

The **no** form of this command reverts to its default.

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Default

no evi-route-target

Parameters

evi-route-target

Specifies the route target.

Values rt: *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val* | *6byte-asnumber:comm-val*

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-asnumber: [0 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [0 to 4294967295]

6byte-number: xx:xx:xx:xx:xx:xx

Platforms

All

16.16 evi-three-byte-auto-rt

evi-three-byte-auto-rt

Syntax

[**no**] **evi-three-byte-auto-rt**

Context

[Tree] (config>service>epipe>bgp-evpn>vxlan evi-three-byte-auto-rt)

[Tree] (config>service>vpls>bgp-evpn>mpls evi-three-byte-auto-rt)

[Tree] (config>service>vpls>bgp-evpn>vxlan evi-three-byte-auto-rt)

[Tree] (config>service>vpls>bgp-evpn>srv6 evi-three-byte-auto-rt)

[Tree] (config>service>epipe>bgp-evpn>srv6 evi-three-byte-auto-rt)

[Tree] (config>service>epipe>bgp-evpn>mpls evi-three-byte-auto-rt)

Full Context

configure service epipe bgp-evpn vxlan evi-three-byte-auto-rt

configure service vpls bgp-evpn mpls evi-three-byte-auto-rt

configure service vpls bgp-evpn vxlan evi-three-byte-auto-rt

configure service vpls bgp-evpn segment-routing-v6 evi-three-byte-auto-rt

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configure service epipe bgp-evpn segment-routing-v6 evi-three-byte-auto-rt

configure service epipe bgp-evpn mpls evi-three-byte-auto-rt

Description

This command specifies that the BGP-EVPN instance import and export route target is auto-derived as described in RFC 8365 (Global-Administrator:A/Type/D-ID/Service-ID).

Where:

- Global Administrator — is the configured 2-octet AS Number. If the configured ASN exceeds the 2 byte limit, the low order 16-bit value will be taken.
- A=0 (for auto-derivation)
- Type=4 (EVI-based route target)
- D-ID= [1..2] — encodes the BGP instance. This allows the auto-derivation of different route targets in multi-instance services. The value is inherited from the corresponding BGP instance.
- Service ID= 3-octet EVI

The **no** form of this command disallows the derivation of the route target.

Default

no evi-three-byte-auto-rt

Platforms

All

- configure service vpls bgp-evpn vxlan evi-three-byte-auto-rt
- configure service vpls bgp-evpn mpls evi-three-byte-auto-rt
- configure service epipe bgp-evpn mpls evi-three-byte-auto-rt
- configure service epipe bgp-evpn vxlan evi-three-byte-auto-rt

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service epipe bgp-evpn segment-routing-v6 evi-three-byte-auto-rt
- configure service vpls bgp-evpn segment-routing-v6 evi-three-byte-auto-rt

16.17 evpn

evpn

Syntax

evpn *service-id* [**import-mode** *import-mode*] [**create**]

no evpn *service-id*

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Context

[Tree] (config>subscr-mgmt>isa-svc-chain evpn)

Full Context

configure subscriber-mgmt isa-service-chaining evpn

Description

This command configures the import mode for the service chaining EVPN service. The **import-mode** controls the EPVN route types that are imported by the EVPN system.

The **no** form of this command removes the configuration parameters.

Parameters

service-id

Specifies the service ID of the EVPN.

Values 1 to 2147483647

import-mode

Specifies the import mode of the EVPN.

Values bridged — The specified EVPN instance imports EVPN route type-2 and type-1 from the peer.

routed — The specified EVPN instance imports EVPN type-1, type-2 and type-5 routes from the peer. Also, the EVPN instance can be configured to export EVPN type-5 routes for NAT pools to the peer.

none — The specified EVPN instance does not import any EVPN routes from the peer but can be configured with NAT pools that are exported to the peer in EVPN type-5 routes.

create

Keyword used to create the EVPN service instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

evpn

Syntax

evpn send *send-limit*

evpn send *send-limit* **receive** [**none**]

no evpn

Context

[Tree] (config>router>bgp>add-paths evpn)

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[Tree] (config>router>bgp>group>neighbor>add-paths evpn)

[Tree] (config>router>bgp>group>add-paths evpn)

Full Context

configure router bgp add-paths evpn

configure router bgp group neighbor add-paths evpn

configure router bgp group add-paths evpn

Description

This command configures the Add-Paths capability for EVPN routes.

The **no** form of this command disables Add-Paths support for EVPN routes. This causes sessions that are established using Add-Paths for EVPN to go down and come back up without the Add-Paths capability.

Default

no evpn

Parameters

send-limit

Specifies the maximum number of EVPN paths to send.

Values 1 to 16, none, multipaths

receive

Keyword used to allow multiple EVPN paths per prefix from a peer.

none

Keyword used to specify that the router does not negotiate to receive multiple unlabeled unicast routes per EVPN prefix.

Platforms

All

evpn

Syntax

evpn

Context

[Tree] (config>service>ies>if>vpls evpn)

[Tree] (config>service>vprn>if>vpls evpn)

Full Context

configure service ies interface vpls evpn

configure service vprn interface vpls evpn

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Description

Commands in this context configure EVPN parameters.

Platforms

All

evpn

Syntax

[**no**] **evpn**

Context

[Tree] (config>router>ldp>import-pmsi-routes evpn)

Full Context

configure router ldp import-pmsi-routes evpn

Description

This command specifies that the SR OS is to cache inter-as EVPN PMSI AD routes for option B.

The **no** form of this command disables caching of EVPN PMSI AD routes. The default is disabled, however when an upgrade from a software load that does not supports this command is performed, this command will be enabled after the upgrade.

This command is not enabled if the user is using an older configuration file.

Default

no evpn

Platforms

All

16.18 evpn-etree-leaf-label

evpn-etree-leaf-label

Syntax

evpn-etree-leaf-label [[*32..524256*]]

no evpn-etree-leaf-label

Context

[Tree] (config>service>system>bgp-evpn evpn-etree-leaf-label)

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Full Context

configure service system bgp-evpn evpn-etree-leaf-label

Description

This command enables EVPN Ethernet-Tree (E-Tree) VPLS services on the router (not B-VPLS). It allocates an E-Tree leaf label for the Provider Edge (PE) device and configures the ILM entry.

The command ensures that in-flight traffic can perform an ILM entry lookup at any time, and avoid the discards during **shutdown** or **no shutdown** services (or at least reduce the timing window so that it does not occur during normal operation or configuration).

The E-Tree leaf label can optionally be statically configured with a value. The label value must be in the static label range of the system.

Note:
The **evpn-etree-leaf-label** command must be configured to execute **bgp-evpn mpls no shutdown**.

The **no** form of this command removes the value from the configuration.

Default

no evpn-etree-leaf-label

Parameters

32..524256

Specifies the E-Tree leaf label

Values 32 to 524256

Platforms

All

16.19 evpn-link-bandwidth

evpn-link-bandwidth

Syntax

evpn-link-bandwidth

Context

[Tree] (config>service>vprn>bgp-evpn>srv6 evpn-link-bandwidth)

[Tree] (config>service>vprn>bgp>group evpn-link-bandwidth)

[Tree] (config>service>vprn>bgp-evpn>mpls evpn-link-bandwidth)

[Tree] (config>service>vprn>bgp>group>neighbor evpn-link-bandwidth)

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Full Context

configure service vprn bgp-evpn segment-routing-v6 evpn-link-bandwidth

configure service vprn bgp group evpn-link-bandwidth

configure service vprn bgp-evpn mpls evpn-link-bandwidth

configure service vprn bgp group neighbor evpn-link-bandwidth

Description

Commands in these contexts configure the EVPN link bandwidth.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-evpn segment-routing-v6 evpn-link-bandwidth

All

- configure service vprn bgp group neighbor evpn-link-bandwidth
- configure service vprn bgp group evpn-link-bandwidth
- configure service vprn bgp-evpn mpls evpn-link-bandwidth

evpn-link-bandwidth

Syntax

evpn-link-bandwidth

Context

[Tree] (config>service>vprn>bgp-evpn>vxlan evpn-link-bandwidth)

Full Context

configure service vprn bgp-evpn vxlan evpn-link-bandwidth

Description

Commands in this context configure the EVPN link bandwidth.

Platforms

7750 SR-1, 7750 SR-s

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16.20 evpn-mcast-gateway

evpn-mcast-gateway

Syntax

evpn-mcast-gateway [**create**]

no evpn-mcast-gateway

Context

[Tree] (config>service>vpls>bind evpn-mcast-gateway)

Full Context

configure service vpls allow-ip-int-bind evpn-mcast-gateway

Description

Commands in this context configure the EVPN multicast gateway.

The **no** form of this command sets the PE back to a non-EVPN multicast gateway.

Parameters

create

Keyword used to create an EVPN multicast gateway.

Platforms

All

16.21 evpn-mpls

evpn-mpls

Syntax

[**no**] **evpn-mpls**

Context

[Tree] (debug>service>id>igmp-snooping evpn-mpls)

Full Context

debug service id igmp-snooping evpn-mpls

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Description

This command shows IGMP packets for EVPN-MPLS destinations. The **no** form of this command disables the debugging for EVPN-MPLS destinations

Platforms

All

16.22 evpn-nd-advertise

evpn-nd-advertise

Syntax

evpn-nd-advertise {**host** | **router** | **router-host**}

Context

[Tree] (config>service>vpls>proxy-nd evpn-nd-advertise)

Full Context

configure service vpls proxy-nd evpn-nd-advertise

Description

This command enables the advertisement of static or dynamic entries that are learned as host, router, or host and router, (only one option is possible in a specified service). It also determines the R flag (host or router) when sending Neighbor Advertisement (NA) messages for existing EVPN entries in the proxy-ND table.

The **router-host** command option is only possible when the ARP/ND extended community is advertised along with the MAC/IP routes. It determines that both host and router (dynamic and static) entries are advertised in MAC/IP routes, with an indication whether the entry is host or router in the R flag. These EVPN entries are installed as host or router entries depending on the R flag of the route, and NA messages for them are sent with the proper host or router indication.

To modify this command you must shutdown the proxy ND.

```
configure service vpls proxy-nd shutdown
```

Default

evpn-nd-advertise router

Parameters

host

Enables the advertisement of static or dynamic entries that are learned as host.

router

Enables the advertisement of static or dynamic entries that are learned as routers.

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router-host

Enables the advertisement of static or dynamic entries that are learned as router or host.

Platforms

All

16.23 evpn-neighbor-synchronization

evpn-neighbor-synchronization

Syntax

evpn-neighbor-synchronization

no evpn-neighbor-synchronization

Context

[Tree] (config>router evpn-neighbor-synchronization)

[Tree] (config>service>vprn evpn-neighbor-synchronization)

Full Context

configure router evpn-neighbor-synchronization

configure service vprn evpn-neighbor-synchronization

Description

Commands in this context configure the EVPN neighbor synchronization.

The **no** form of this command reverts to its default.

Default

evpn-neighbor-synchronization

Platforms

All

16.24 evpn-proxy

evpn-proxy

Syntax

[**no**] **evpn-proxy**

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Context

[Tree] (config>service>vpls>igmp-snooping evpn-proxy)

[Tree] (config>service>vpls>mld-snooping evpn-proxy)

Full Context

configure service vpls igmp-snooping evpn-proxy

configure service vpls mld-snooping evpn-proxy

Description

This command enables EVPN proxy for IGMP and MLD snooping.

This **no** form of this command disables EVPN proxy for IGMP and MLD snooping.

Platforms

All

16.25 evpn-route-tag

evpn-route-tag

Syntax

evpn-route-tag *tag*

no evpn-route-tag

Context

[Tree] (config>service>vpls>proxy-nd evpn-route-tag)

[Tree] (config>service>vpls>proxy-arp evpn-route-tag)

Full Context

configure service vpls proxy-nd evpn-route-tag

configure service vpls proxy-arp evpn-route-tag

Description

This command configures a local route tag that can be used on export policies to match MAC/IP routes generated by the proxy-ARP or proxy-ND module. For example, if a new active dynamic proxy-ARP entry is added to the proxy-ARP table and **evpn-route-tag** is 10, an export policy that matches on tag 10 and adds a site-of-origin community SOO-1, allows the router to advertise the MAC/IP route for the proxy-ARP entry with community SOO-1.

The **no** form of this command removes the route tag for the generated EVPN MAC/IP routes.

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Parameters

tag

Specifies the route tag, in either decimal or hexadecimal form.

Values 1 to 255

Platforms

All

16.26 evpn-tunnel

evpn-tunnel

Syntax

evpn-tunnel [**ipv6-gateway-address** {**ip** | **mac**}] [**supplementary-broadcast-domain**]

no evpn-tunnel

Context

[Tree] (config>service>vprn>if>vpls evpn-tunnel)

Full Context

configure service vprn interface vpls evpn-tunnel

Description

This command sets the evpn-tunnel mode for the attached R-VPLS. When enabled for an IPv4 interface, no IPv4 address is required under the same interface. When enabled on an IPv6 interface, the **ipv6-gateway-address** parameter can be configured as **ip** or **mac**.

When configured as **evpn-tunnel ipv6-gateway-address ip** or simply **evpn-tunnel**, then:

- on transmission, the router populates the GW IP field of the route type 5 with a Link-Local-Address (LLA) if an explicit global IPv6 address is not configured. Otherwise, the configured IPv6 address is used.
- on reception of routes type 5 for IPv6 prefixes, only routes with non-zero GW IP are processed; the rest of the routes will be **treated-as-withdraw**.

When configured as **evpn-tunnel ipv6-gateway-address mac,** then:

- on transmission, the router sends routes type 5 with zero GW IP field, and a MAC extended community of the router, containing the VPRN interface MAC.
- on reception of IPv6 prefix routes, only routes with zero GW IP and non-zero router's MAC are processed; the rest of the routes will be **treated-as-withdraw**.

The **supplementary-broadcast-domain** option instructs the data path to exclude EVPN destinations in the Layer 3 lookup for packets coming from an RVPLS SAP and configures the entire set of VPRN as well as attached RVPLS services in OISM mode. Only one SBD RVPLS can exist in a given VPRN. In order to

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add or remove the **supplementary-broadcast-domain** option, the entire **evpn-tunnel** command must first be removed.

The configuration of **evpn-tunnel** without options is equivalent to the **ipv6-gateway-address ip** option.

The **no** form of this command disables the evpn-tunnel mode.

Default

no evpn-tunnel

Parameters

ipv6-gateway-address

Indicates whether the IPv6 Prefix route uses a GW IP or a GW MAC as gateway.

Values **ip, mac**

supplementary-broadcast-domain

Specifies to use the EVPN tunnel as a Supplementary Broadcast Domain (SBD). The SBD is used in EVPN OISM to advertise the SMET routes and receive the multicast traffic on egress PEs that are not attached to the source R-VPLS service.

Platforms

All

16.27 evpn-type

evpn-type

Syntax

evpn-type *type*

no evpn-type

Context

[Tree] (config>router>policy-options>policy-statement>entry>from evpn-type)

Full Context

configure router policy-options policy-statement entry from evpn-type

Description

This command matches BGP routes based on the EVPN route type. The route types supported in SR OS are the following:

- Type 1 or Auto-Discovery Ethernet Tag route, including both the AD per-ES and AD per-EVI routes Type 2 or MAC/IP route
- Type 2 or MAC/IP route

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- Type 3 or IMET route, including Multicast Ethernet Tag
- Type 4 or ES (Ethernet Segment) route Type 5 of IP-prefix route, including IPv4 and IPv6 prefixes
- Type 6 or Selective Multicast Ethernet Tag route, including IPv4 and IPv6 multicast groups
- Type 7 or Multicast Join Synch route, including IPv4 and IPv6 multicast group
- Type 8 or Multicast Leave Synch route, including IPv4 and IPv6 multicast groups

The **no** form of this command removes the **evpn-type** matching.

Parameters

name

Specifies the EVPN route type.

Values 1 to 8

Platforms

All

16.28 exceed

exceed

Syntax

exceed

Context

[Tree] (config>qos>sap-egress>queue>drop-tail exceed)

Full Context

configure qos sap-egress queue drop-tail exceed

Description

Commands in this context configure the queue exceed drop tail parameters. The exceed drop tail defines the queue depth beyond which exceed-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

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exceed

Syntax

exceed

Context

[Tree] (cfg>qos>qgrps>egr>qgrp>queue>drop-tail exceed)

Full Context

configure qos queue-group-templates egress queue-group queue drop-tail exceed

Description

Commands in this context configure the queue exceed drop-tail parameters. The exceed drop tail defines the queue depth beyond which exceed-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

16.29 exceed-action

exceed-action

Syntax

exceed-action {**discard** | **low-priority** | **none**}

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>local-monitoring-policer exceed-action)

Full Context

configure system security dist-cpu-protection policy local-monitoring-policer exceed-action

Description

This command controls the action performed upon the extracted control packets when the configured policer rates are exceeded.

Default

exceed-action none

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Parameters

discard

Discards packets that are nonconforming.

low-priority

Marks packets that are nonconforming as low-priority (discard eligible or out-profile). If there is congestion in the control plane of the SR OS then unmarked (green, hi-prio or in-profile) control packets are given preferential treatment.

none

no hold-down

Platforms

All

exceed-action

Syntax

exceed-action {**discard** [**hold-down** *seconds*] | **low-priority** [**hold-down** *seconds*] | **none**}

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>protocol>dynamic-parameters exceed-action)

[Tree] (config>sys>security>dist-cpu-protection>policy>static-policer exceed-action)

Full Context

configure system security dist-cpu-protection policy protocol dynamic-parameters exceed-action

configure system security dist-cpu-protection policy static-policer exceed-action

Description

This command controls the action performed upon the extracted control packets when the configured policer rates are exceeded.

Default

exceed-action none

Parameters

discard

Discards packets that are nonconforming.

low-priority

Marks packets that are nonconforming as low-priority (for example, discard eligible or out-profile). If there is congestion in the control plane of the SR OS then unmarked (for example, green, hi-prio or in-profile) control packets are given preferential treatment.

hold-down *seconds*

When this optional parameter is specified, it causes the following "hold-down” behavior.

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When the SR OS software detects that an enforcement policer has marked or discarded one or more packets (software may detect this some time after the packets are actually discarded), and an optional **hold-down** *seconds* value has been specified for the **exceed-action**, then the policer will be set into a "mark-all" or "drop-all" mode that cause the following:

- the policer state to be updated as normal
- all packets to be marked (if the action is "low-priority") or dropped (action = discard) regardless of the results of the policing decisions/actions/state.

The **hold-down** is cleared after approximately the configured time in seconds after it was set. The **hold-down** *seconds* option should be selected for protocols that receive more than one packet in a complete handshake/negotiation (for example, DHCP, PPP). **hold-down** is not applicable to a local monitoring policer. The "detection-time" will only start after any **hold-down** is complete. During the **hold-down** (and the detection-time), the policer is considered as in an "exceed" state. The policer may re-enter the hold-down state if an exceed packet is detected during the detection-time countdown.

Configuring the **indefinite** parameter value will cause hold down to remain in place until the operator clears it manually using a tools command (**tools perform security dist-cpu-protection release-hold-down**) or removes the dist-cpu-protection policy from the object.

Configuring the **none** parameter value will disable hold down.

Values 1 to 10080, indefinite, none

Platforms

All

16.30 exceed-profile-octets-discarded-count

exceed-profile-octets-discarded-count

Syntax

[**no**] **exceed-profile-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters exceed-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters exceed-profile-octets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters exceed-profile-octets-discarded-count

configure log accounting-policy custom-record policer e-counters exceed-profile-octets-discarded-count

Description

This command includes the exceed profile octets discarded count.

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The **no** form of this command excludes the exceed profile octets discarded count.

Default

no exceed-profile-octets-discarded-count

Platforms

All

16.31 exceed-profile-octets-forwarded-count

exceed-profile-octets-forwarded-count

Syntax

[**no**] **exceed-profile-octets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>policer>e-counters exceed-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters exceed-profile-octets-forwarded-count)

Full Context

configure log accounting-policy custom-record policer e-counters exceed-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-policer e-counters exceed-profile-octets-forwarded-count

Description

This command includes the exceed profile octets forwarded count.

The **no** form of this command excludes the exceed profile octets forwarded count.

Default

no exceed-profile-octets-forwarded-count

Platforms

All

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16.32 exceed-profile-octets-offered-count

exceed-profile-octets-offered-count

Syntax

[**no**] **exceed-profile-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters exceed-profile-octets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters exceed-profile-octets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters exceed-profile-octets-offered-count

configure log accounting-policy custom-record policer e-counters exceed-profile-octets-offered-count

Description

This command includes the exceed profile octets offered count.

The **no** form of this command excludes the exceed profile octets offered count.

Default

no exceed-profile-octets-offered-count

Platforms

All

16.33 exceed-profile-packets-discarded-count

exceed-profile-packets-discarded-count

Syntax

[**no**] **exceed-profile-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters exceed-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters exceed-profile-packets-discarded-count)

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Full Context

configure log accounting-policy custom-record ref-policer e-counters exceed-profile-packets-discarded-count

configure log accounting-policy custom-record policer e-counters exceed-profile-packets-discarded-count

Description

This command includes the exceed profile packets discarded count.

The **no** form of this command excludes the exceed profile packets discarded count.

Default

no exceed-profile-packets-discarded-count

Platforms

All

16.34 exceed-profile-packets-forwarded-count

exceed-profile-packets-forwarded-count

Syntax

[**no**] **exceed-profile-packets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters exceed-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters exceed-profile-packets-forwarded-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters exceed-profile-packets-forwarded-count

configure log accounting-policy custom-record policer e-counters exceed-profile-packets-forwarded-count

Description

This command includes the exceed profile packets forwarded count.

The **no** form of this command excludes the exceed profile packets forwarded count.

Default

no exceed-profile-packets-forwarded-count

Platforms

All

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16.35 exceed-profile-packets-offered-count

exceed-profile-packets-offered-count

Syntax

[**no**] **exceed-profile-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters exceed-profile-packets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters exceed-profile-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters exceed-profile-packets-offered-count

configure log accounting-policy custom-record policer e-counters exceed-profile-packets-offered-count

Description

This command includes the exceed profile packets offered count.

The **no** form of this command excludes the exceed profile packets offered count.

Default

no exceed-profile-packets-offered-count

Platforms

All

16.36 exceed-slope

exceed-slope

Syntax

[**no**] **exceed-slope**

Context

[Tree] (config>qos>slope-policy exceed-slope)

Full Context

configure qos slope-policy exceed-slope

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Description

The **exceed-slope** context contains the commands and parameters for defining the exceed Random Early Detection (RED) slope graph. Each egress buffer pool supports an exceed RED slope for managing access to the shared portion of the buffer pool for exceed-profile packets.

The **exceed-slope** parameters can be changed at any time and the affected buffer pool exceed RED slopes are adjusted appropriately.

The **no** form of this command restores the exceed slope configuration commands to the default values. If the leaf commands within **exceed-slope** are set to the default parameters, the **exceed-slope** node will not appear in save config and show config output unless the detail parameter is present.

Platforms

All

16.37 exception

exception

Syntax

[**no**] **exception**

Context

[Tree] (debug>service>id>stp exception)

Full Context

debug service id stp exception

Description

This command enables STP debugging for exceptions.

The **no** form of the command disables debugging.

Platforms

All

16.38 exclude

exclude

Syntax

exclude

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Context

[Tree] (config>service>vprn>isis>loopfree-alternates exclude)

Full Context

configure service vprn isis loopfree-alternates exclude

Description

This command excludes from LFA SPF calculation prefixes that match a prefix entry or a tag entry in a prefix policy.

The user can exclude an interface in IS-IS or OSPF, an OSPF area, or an IS-IS level from the LFA SPF.

If a prefix is excluded from LFA, then it will not be included in LFA calculation regardless of its priority. The prefix tag will, however, be used in the main SPF.

Note:
Prefix tags are defined for the IS-IS protocol but not for the OSPF protocol.

The default action of the **exclude** command, when not explicitly specified by the user in the prefix policy, is a "reject". Thus, regardless of whether the user has explicitly added the statement "default-action reject" to the prefix policy, a prefix that does not match any entry in the policy is accepted into LFA SPF.

The **no** form of this command deletes the exclude prefix policy.

Default

no exclude

Platforms

All

exclude

Syntax

exclude

Context

[Tree] (config>service>vprn>ospf>loopfree-alternates exclude)

[Tree] (config>service>vprn>ospf3>loopfree-alternates exclude)

Full Context

configure service vprn ospf loopfree-alternates exclude

configure service vprn ospf3 loopfree-alternates exclude

Description

This command excludes from LFA SPF calculation prefixes that match a prefix entry or a tag entry in a prefix policy.

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The implementation already allows the user to exclude an interface in IS-IS or OSPF, an OSPF area, or an IS-IS level from the LFA SPF.

If a prefix is excluded from LFA, then it will not be included in LFA calculation regardless of its priority. The prefix tag will, however, be used in the main SPF.

Note:
Prefix tags are defined for the IS-IS protocol but not for the OSPF protocol.

The default action of the **exclude** command, when not explicitly specified by the user in the prefix policy, is a "reject". Thus, regardless if the user did or did not explicitly add the statement "default-action reject" to the prefix policy, a prefix that did not match any entry in the policy will be accepted into LFA SPF.

The **no** form of this command deletes the exclude prefix policy.

Default

no exclude

Platforms

All

exclude

Syntax

exclude *group-name* [*group-name*]

no exclude [*group-name* [*group-name*]]

Context

[Tree] (config>router>mpls>lsp>secondary exclude)

[Tree] (config>router>mpls>lsp exclude)

[Tree] (config>router>mpls>lsp-template exclude)

[Tree] (config>router>mpls>lsp>primary-p2mp-instance exclude)

[Tree] (config>router>mpls>lsp>primary exclude)

Full Context

configure router mpls lsp secondary exclude

configure router mpls lsp exclude

configure router mpls lsp-template exclude

configure router mpls lsp primary-p2mp-instance exclude

configure router mpls lsp primary exclude

Description

This command specifies the admin groups to be excluded when an LSP is set up. Up to five groups per operation can be specified, up to 32 maximum. The admin groups are defined in the **config>router>if-attribute>admin-group** context.

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The config>router>mpls>lsp>primary-p2mp-instance>exclude command is not supported on the 7450 ESS.

Use the **no** form of this command to remove the exclude command.

Default

no exclude

Parameters

group-name

Specifies the existing group-name to be excluded when an LSP is set up.

Platforms

All

exclude

Syntax

[**no**] **exclude** *tag*

Context

[Tree] (config>router>admin-tags>route-admin-tag-policy exclude)

Full Context

configure router admin-tags route-admin-tag-policy exclude

Description

This configures an admin tag to be excluded when matching a route against an LSP.

Up to eight exclusion statements are supported per policy.

The **no** form of this command removes the admin tag from the exclude statement.

Parameters

tag

Specifies the value of the admin tag, up to 32 characters.

Platforms

All

exclude

Syntax

exclude

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Context

[Tree] (config>router>fad>flex-algo exclude)

Full Context

configure router flexible-algorithm-definitions flex-algo exclude

Description

Commands in this context configure administrative groups that will be excluded from the flexible algorithm topology graph.

If the defined FAD includes administrative groups link in its exclude list, the specified links are excluded from the topology graph.

Platforms

All

exclude

Syntax

exclude

Context

[Tree] (config>router>isis>loopfree-alternates exclude)

Full Context

configure router isis loopfree-alternates exclude

Description

Commands in this context configure a prefix policy for excluding specific prefixes in the LFA calculation by ISIS or OSPF.

Platforms

All

exclude

Syntax

exclude

Context

[Tree] (config>router>ospf3>loopfree-alternates exclude)

[Tree] (config>router>ospf>loopfree-alternates exclude)

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Full Context

configure router ospf3 loopfree-alternates exclude

configure router ospf loopfree-alternates exclude

Description

Commands in this context configure a prefix policy for excluding specific prefixes in the LFA calculation by ISIS or OSPF.

Platforms

All

exclude

Syntax

[**no**] **exclude** *start-ipv4-address end-ipv4-address*

Context

[Tree] (config>router>nat>outside>pool>address-range exclude)

[Tree] (config>service>vprn>nat>outside>pool>address-range exclude)

Full Context

configure router nat outside pool address-range exclude

configure service vprn nat outside pool address-range exclude

Description

This command excludes the specified range of IPv4 addresses from the NAT pool without impacting the traffic on the remaining addresses.

Excluded IP addresses are withdrawn from the routing table, ensuring that downstream traffic destined for them does not reach the ESA-VM. Instead, such traffic is dropped at the forwarding plane level. This approach offloads drop processing from the ESA-VM, which significantly improves system performance by reducing CPU overhead related to packet drops.

While exclusion of IPv4 addresses from the NAT pool may introduce some routing churn (for example, remicroneting), the user can aggregate NAT routes to limit the impact to the local node. If routing changes are allowed to propagate upstream, the benefit is that unwanted traffic is dropped earlier at an upstream router, thereby reducing the load on the downstream network.

IPv4 addresses excluded from the NAT pool using this command are returned to the pool when this command is deleted. The following applies when an address is excluded:

- All NAT sessions associated with that public IP are removed.
- Any static port-forward actions tied to that address transition to the **down** state.
- Subscribers mapped to the excluded public IP can be reassigned to a new NAT address.

This command is supported for non-deterministic LSN44, NAT64, and DS-Lite.

The **no** form of this command removes the specified IPv4 addresses from exclusion in the NAT pool.

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Parameters

start-ipv4-address

Specifies the starting IPv4 address of this range to exclude from the NAT pool.

Values a.b.c.d

end-ipv4-address

Specifies the ending IPv4 address of this range to exclude from the NAT pool.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.39 exclude-addresses

exclude-addresses

Syntax

[**no**] **exclude-addresses** *start-ip-address* [*end-ip-address*]

Context

[Tree] (config>router>dhcp>server>pool>subnet exclude-addresses)

[Tree] (config>service>vprn>dhcp>server>pool>subnet exclude-addresses)

Full Context

configure router dhcp local-dhcp-server pool subnet exclude-addresses

configure service vprn dhcp local-dhcp-server pool subnet exclude-addresses

Description

This command specifies a range of IP addresses that excluded from the pool of IP addresses in this subnet.

The **no** form of the removes the parameters from the configuration.

Parameters

start-ip-address

Specifies the start address of this range to exclude. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

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end-ip-address

Specifies the end address of this range to exclude. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.40 exclude-avps

exclude-avps

Syntax

exclude-avps [**calling-number**] [**initial-rx-lcp-conf-req**]

no exclude-avps

Context

[Tree] (config>router>l2tp exclude-avps)

[Tree] (config>service>vprn>l2tp exclude-avps)

Full Context

configure router l2tp exclude-avps

configure service vprn l2tp exclude-avps

Description

This command configures the L2TP AVPs to exclude.

Default

no exclude-avps

Parameters

calling-number

Specifies to exclude the AVP calling-number.

initial-rx-lcp-conf-req

Specifies to exclude the AVP initial-rx-lcp-conf-req.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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16.41 exclude-from-avg

exclude-from-avg

Syntax

exclude-from-avg {**forward** | **backward** | **round-trip**} **bins** *bin-numbers*

no exclude-from-avg (**forward** | **backward** | **round-trip**}

Context

[Tree] (config>oam-pm>bin-group>bin-type exclude-from-avg)

Full Context

configure oam-pm bin-group bin-type exclude-from-avg

Description

This optional command allows the results from probes that map to the specified bins within the bin type to be excluded from the average calculation. Individual counters are incremented in the bin, but the average is not affected by the value of the excluded delay metric for the individual probes in this bin. The bin group does not allow this command to be added, modified, or deleted when a test is actively referencing the bin group. Sessions that reference the bin group must have the bin group and tests shut down before changes can be made.

The **no** form of this command removes the exclusion, and all bins are included in the average calculation.

Default

no exclude-from-avg forward

no exclude-from-avg backward

no exclude-from-avg round-trip

Parameters

forward

Specifies the forward direction bin.

backward

Specifies the backward direction bin.

round-trip

Specifies the round-trip direction bin.

bin-numbers

Specifies the bin numbers to be excluded from the average calculation. The values typically represent, but are not restricted to, the highest and lowest configured bins in order to eliminate outlying results that are not representative of network performance.

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A hyphen can be entered between bin numbers to include a continuous sequence of bins; for example, entering 7-9 would specify bins 7, 8, and 9. Commas can be entered between bin numbers to include separate or non-continuous bins; for example, entering 0,8,9 would specify bins 0, 8, and 9. Both hyphens and commas can be used in this manner in the same configuration; for example, entering 0,7-9 would include bins 0, 7, 8, and 9. All bin numbers specified as part of this command must be configured. If a specified bin does not exist, the command fails.

Values 0 to 9

Platforms

All

16.42 exclude-group

exclude-group

Syntax

[**no**] **exclude-group** *ip-admin-group-name*

Context

[Tree] (config>router>route-next-hop-policy>template exclude-group)

Full Context

configure router route-next-hop-policy template exclude-group

Description

This command configures the admin group constraint into the route next-hop policy template.

Each group is entered individually. The **include-group** statement instructs the LFA SPF selection algorithm to pick up a subset of LFA next-hops among the links that belong to one or more of the specified admin groups. A link that does not belong to at least one of the admin-groups is excluded. However, a link can still be selected if it belongs to one of the groups in an include-group statement but also belongs to other groups that are not part of any include-group statement in the route next-hop policy.

The **pref** option is used to provide a relative preference for the admin group to select. A lower preference value means that LFA SPF will first attempt to select an LFA backup next-hop that is a member of the corresponding admin group. If none is found, then the admin group with the next highest preference value is evaluated. If no preference is configured for a given admin group name, then it is supposed to be the least preferred, that is, numerically the highest preference value.

When evaluating multiple **include-group** statements within the same preference, any link that belongs to one or more of the included admin groups can be selected as an LFA next-hop. There is no relative preference based on how many of those included admin groups the link is a member of.

The **exclude-group** statement simply prunes all links belonging to the specified admin group before making the LFA backup next-hop selection for a prefix.

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If the same group name is part of both include and exclude statements, the exclude statement will win. It other words, the exclude statement can be viewed as having an implicit preference value of zero (0).

The admin-group criteria are applied before running the LFA next-hop selection algorithm.

The **no** form deletes the admin group constraint from the route next-hop policy template.

Parameters

ip-admin-group-name

Specifies the name of the group, up to 32 characters.

Platforms

All

16.43 exclude-mac-policy

exclude-mac-policy

Syntax

exclude-mac-policy *mac-policy-id*

no exclude-mac-policy

Context

[Tree] (config>port>ethernet>dot1x>macsec exclude-mac-policy)

Full Context

configure port ethernet dot1x macsec exclude-mac-policy

Description

This command specifies the MAC policy to be excluded from MACsec encryption.

The **no** form of this command removes the policy from the MACsec and allows all destination MAC addresses.

Default

no exclude-mac-policy

Parameters

mac-policy-id

Specifies the MAC policy to exclude from the configuration.

Values 0 to 4294967295

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Platforms

All

16.44 exclude-node

exclude-node

Syntax

exclude-node *ip-address*

no exclude-node

Context

[Tree] (config>router>mpls>lsp exclude-node)

Full Context

configure router mpls lsp exclude-node

Description

This command enables the option to include XRO object in the bypass LSP PATH message object. The exclude-node option is required for manual bypass LSP with XRO to FRR protect ABR node in a multi-vendor network deployment. This command must be configured on the PLR node that protects the ABR node. The ABR node IP address must be configured as exclude-node.

Default

no exclude-node

Platforms

All

16.45 exclude-prefix

exclude-prefix

Syntax

[**no**] **exclude-prefix** *ipv6-prefix/prefix-length*

Context

[Tree] (config>service>vprn>dhcp6>server>pool exclude-prefix)

[Tree] (config>router>dhcp6>server>pool exclude-prefix)

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Full Context

configure service vprn dhcp6 local-dhcp-server pool exclude-prefix

configure router dhcp6 local-dhcp-server pool exclude-prefix

Description

This command defines a prefix that to be excluded from available prefix in the pool for DHCP6. The typical use case is to exclude the interface address.

- A held lease is deleted if it got excluded by an exclude prefix.
- An exclude range can never exclude only a part of an existing lease. If for example a /63 PD is assigned, an exclude of /64 which belongs to this /63 cannot be configured.
- A single exclude prefix can never exclude a whole include prefix.
- When applying or removing an exclude prefix, the threshold stats are adjusted to reflect the actual address space and its usage.

The **no** form of this command removes the prefix that is to be excluded from available prefix in the pool.

Parameters

ipv6-prefix/prefix-length

Specifies an IPv6 prefix and prefix length.

Values

ipv6-prefix	x:x:x:x:x:x:x:x	(eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d	
	x - [0 to FFFF]H	
	d - [0 to 255]D	
prefix-length	0 to 128	

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.46 exclude-protocol

exclude-protocol

Syntax

[**no**] **exclude-protocol** {*protocol-name*}

Context

[Tree] (config>port>ethernet>dot1x>macsec exclude-protocol)

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Full Context

configure port ethernet dot1x macsec exclude-protocol

Description

Specifies protocols whose packets are not secured using Media Access Control Security (MACsec) when MACsec is enabled on a port.

When this option is enabled in a connectivity association that is attached to an interface, MACsec is not enabled for all packets of the specified protocols that are sent and received on the link.

When this option is enabled on a port where MACsec is configured, packets of the specified protocols are sent and accepted in cleartext.

The **no** form of this command secures the packets of the specified protocol.

Default

no exclude-protocol

Parameters

protocol-name

Specifies the protocol name.

Values **cdp**, **lacp**, **lldp**, **eapol-start**, **efm-oam**, **eth-cfm**, **ptp**, **ubfd**

Platforms

All

16.47 exclude-tcp-retrans

exclude-tcp-retrans

Syntax

[**no**] **exclude-tcp-retrans**

Context

[Tree] (config>app-assure>group>statistics>aa-sub exclude-tcp-retrans)

Full Context

configure application-assurance group statistics aa-sub exclude-tcp-retrans

Description

This command is to only to EPC. When enabled, TCP errors and retransmission packets are not counted for the purpose of CBC. This setting has no impact on app/app-group aggregate AA stats.

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Default

no exclude-tcp-retrans

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.48 exclusive-lock-time

exclusive-lock-time

Syntax

exclusive-lock-time *seconds*

no exclusive-lock

Context

[Tree] (config>router>policy-options exclusive-lock-time)

Full Context

configure router policy-options exclusive-lock-time

Description

This command specifies the inactivity timer for the exclusive lock time for policy editing. When a session is idle for greater than this time, the lock is removed and the configuration changes is aborted.

Default

exclusive-lock-time 300

Parameters

seconds

Specifies the duration the session with exclusive lock may be inactive.

Values Values: 1 to 3600

Platforms

All

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16.49 exec

exec

Syntax

exec [**-echo**] [**-syntax**] {*file-name* | *eof-marker-string*} [**-argument** [*256 chars max*] [[*256 chars max*]]

Context

[Tree] (exec)

Full Context

exec

Description

This command executes the contents of a text file as if they were CLI commands entered by the user.

exec commands do not have **no** versions.

Related Commands:

boot-bad-exec: Use this command to configure a URL for a CLI script to exec following a failed configuration boot.

boot-good-exec: Use this command to configure a URL for a CLI script to exec following a successful configuration boot.

stdin can be used as the source of commands for the **exec** command. When **stdin** is used as the **exec** command input, the command list is terminated with <Ctrl-C>, "EOF<Return>" or "*eof_string*<Return>".

If an error occurs entering an exec file sourced from stdin, all commands after the command returning the error will be silently ignored. The **exec** command will indicate the command error line number when the stdin input is terminated with an end-of-file input.

Example:

Assume the *test.cfg* file has the following commands:

echo $(1)

echo $(2)

echo $(3)

Enter the following command:

exec test.cfg –arguments 10 20 30

The output from this command will be:

```
10
20
30
```


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Parameters

-echo

Echoes the contents of the **exec** file to the session screen as it executes.

Default echo disabled

-syntax

Performs a syntax check of the file without executing the commands. Syntax checking will be able to find invalid commands and keywords, but it will not be able to validate erroneous user- supplied parameters.

Default execute file commands

file-name

Specifies the text file with CLI commands to execute, up to 256 characters.

eof-marker-string

Specifies the ASCII printable string used to indicate the end of the exec file when stdin is used as the exec file source. <Ctrl-C> and "EOF" can always be used to terminate an exec file sourced from stdin up to 254 characters.

Default EOF

-argument

Specifies up to five arguments, each up to 256 characters.

Platforms

All

16.50 executed-cmd

executed-cmd

Syntax

[**no**] **executed-cmd**

Context

[Tree] (debug>dynsvc>scripts>event executed-cmd)

[Tree] (debug>dynsvc>scripts>script>event executed-cmd)

[Tree] (debug>dynsvc>scripts>inst>event executed-cmd)

Full Context

debug dynamic-services scripts event executed-cmd

debug dynamic-services scripts script event executed-cmd

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debug dynamic-services scripts instance event executed-cmd

Description

This command enables/disables the generation of a specific dynamic data service script debugging event output: executed-cmd.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.51 exhausted-credit-service-level

exhausted-credit-service-level

Syntax

[**no**] **exhausted-credit-service-level**

Context

[Tree] (config>subscr-mgmt>cat-map>category exhausted-credit-service-level)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level

Description

Commands in this context configure the exhausted credit service level.

The **no** form of this command reverts to the default.

Default

exhausted-credit-service-level

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.52 exit

exit

Syntax

exit [**all**]

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Context

[Tree] (exit)

Full Context

exit

Description

This command returns to the context from which the current level was entered. For example, to navigate to the current level on a context by context basis, then the **exit** command only moves the cursor back one level.

```
A:ALA-1# configure
A:ALA-1>config# router
A:ALA-1>config>router# ospf
A:ALA-1>config>router>ospf# exit
A:ALA-1>config>router# exit
A:ALA-1>config# exit
```

When navigating to the current level by entering a command string, the **exit** command returns the cursor to the context in which the command was initially entered.

```
A:ALA-1# configure router ospf
A:ALA-1>config>router>ospf# exit
A:ALA-1#
```

The **exit all** command moves the cursor all the way back to the root level.

```
A:ALA-1# configure
A:ALA-1>config# router
A:ALA-1>config>router# ospf
A:ALA-1>config>router>ospf# exit all
A:ALA-1#
```

Parameters

all

Exits back to the root CLI context.

Platforms

All

16.53 expected

expected

Syntax

expected auto-generated

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expected bytes *byte-string* [*byte-string* (up to 64 bytes-strings max, 64 bytes max)]

expected string *identifier*

expected use-rx

Context

[Tree] (config>port>otu>pm-tti expected)

Full Context

configure port otu pm-tti expected

Description

This command allows the user to configure the expected RX trail trace identifier (TTI) for path monitoring (PM) in the ODU overhead. This identifier can be a string or a non-printable sequence of bytes. The length of the string or sequence of bytes cannot exceed 64 bytes. This trace should match the far-end port's PM trace. When this trace does not match the received PM trace, the ODU-TIM alarm will be reported if enabled.

Default

Blank (all zeros)

Parameters

auto-generated

Sets the default.

identifier

Sets the PM TTI to the string provided by the user. If the string is less than 64 bytes, the remaining bytes will be set to 0. Up to 64 byte strings can be specified in a single statement.

byte-string

[byte1 byte2 to byte64]. Sets the PM TTI to the sequence of bytes provided by the user. If the user provides less than 64 bytes, the remaining bytes will be set to 0.

use-rx

Copies the received pm-tti to the expected either as a string or a sequence of bytes depending on the received pm-tti data.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

expected

Syntax

expected *byte*

expected auto

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Context

[Tree] (config>port>otu>psi-payload expected)

Full Context

configure port otu psi-payload expected

Description

This command allows the user to configure the expected received payload type value in byte 0 of the Payload structure identifier (PSI) of the OPU overhead. When this values does not match the received value, the OPU-PLM alarm will be reported if it is enabled.

Default

3 for 10GE-LAN/WAN or OC192 with OTU encapsulation; 5 for GFP framed 10GE-LAN with OTU encapsulation.

Parameters

auto

Sets the expected value to the standard value in the payload type field.

byte

Specifies the expected received payload type value in bytes.

Values [00 to FF] Hexadecimal notation

Default 00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

expected

Syntax

expected auto-generated

expected bytes *byte-string* [*byte-string*...(up to 64 byte-strings max, 64 bytes max)]

expected string *identifier*

expected use-rx

Context

[Tree] (config>port>otu>sm-tti expected)

Full Context

configure port otu sm-tti expected

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Description

This command enables the user to configure the expected RX Trail Trace Identifier (TTI) for Section Monitoring (SM) in the OTU overhead. This identifier can be a string or a non-printable sequence of bytes. The length of the string or sequence of bytes cannot exceed 64 bytes. This trace should match the expected far-end port's SM trace. When this trace does not match the received SM trace, the OTU-TIM alarm will be reported if enabled.

Default

Blank (all zeros)

Parameters

auto-generated

Sets the default.

identifier

Sets the PM TTI to the string provided by the user. If the string is less than 64 bytes, the remaining bytes will be set to 0. Up to 64 byte strings can be specified in a single statement.

byte-string

[byte1 byte2 to byte64]. Sets the PM TTI to the sequence of bytes provided by the user. If the user provides less than 64 bytes, the remaining bytes will be set to 0.

use-rx

Copies the received pm-tti to the expected either as a string or a sequence of bytes depending on the received pm-tti data.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

16.54 expected-ttl

expected-ttl

Syntax

expected-ttl *ttl-value*

no expected-ttl *ttl-value*

Context

[Tree] (config>app-assure>group>tether-detect>sngl-dev expected-ttl)

Full Context

configure application-assurance group tethering-detection single-device expected-ttl

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Description

This command configures the expected TTL values for single-device tethering detection.

Parameters

ttl-value

Specifies an expected TTL traffic value from host devices.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.55 expire-time

expire-time

Syntax

expire-time {*seconds* | **forever**}

Context

[Tree] (config>system>script-control>script-policy expire-time)

Full Context

configure system script-control script-policy expire-time

Description

This command is used to configure the maximum amount of time to keep the run history status entry from a script run.

Default

expire-time 3600

Parameters

seconds

Specifies the time to keep the run history status entry, in seconds.

Values 0 to 21474836

Default 3600 (1 hour)

forever

Specifies to keep the run history status entry indefinitely.

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Platforms

All

16.56 expiry-time

expiry-time

Syntax

expiry-time *expiry-time*

no expiry-time

Context

[Tree] (config>subscr-mgmt>msap-policy>igmp-host-tracking expiry-time)

Full Context

configure subscriber-mgmt msap-policy igmp-host-tracking expiry-time

Description

This command configures the time that the system continues to track inactive hosts.

The **no** form of this command removes the values from the configuration.

Parameters

expiry-time

Specifies the time, in seconds, that this system continues to track an inactive host.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

expiry-time

Syntax

expiry-time *expiry-time*

no expiry-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>igmp-trk expiry-time)

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Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking expiry-time

Description

This command configures the time that the system continues to track inactive hosts.

The **no** form of this command removes the values from the configuration.

Parameters

expiry-time

Specifies the time, in seconds, that this system continues to track an inactive host.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

expiry-time

Syntax

expiry-time *expiry-time*

no expiry-time

Context

[Tree] (config>service>vpls>sap>igmp-host-tracking expiry-time)

[Tree] (config>service>vpls>igmp-host-tracking expiry-time)

Full Context

configure service vpls sap igmp-host-tracking expiry-time

configure service vpls igmp-host-tracking expiry-time

Description

This command configures the time that the system continues to track inactive hosts.

The **no** form of this command removes the values from the configuration.

Default

no expiry-time

Parameters

expiry-time

Specifies the time, in seconds, that this system continues to track an inactive host

Values 1 to 65535

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

expiry-time

Syntax

expiry-time *expiry-time*

no expiry-time

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>igmp-host-tracking expiry-time)

[Tree] (config>service>ies>igmp-host-tracking expiry-time)

Full Context

configure service ies subscriber-interface group-interface sap igmp-host-tracking expiry-time

configure service ies igmp-host-tracking expiry-time

Description

This command configures the time that the system continues to track inactive hosts.

The **no** form of this command removes the values from the configuration.

Default

no expiry-time

Parameters

expiry-time

Specifies the time, in seconds, that this system continues to track an inactive host.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

expiry-time

Syntax

expiry-time *expiry-time*

no expiry-time

Context

[Tree] (config>service>vprn>igmp-trk expiry-time)

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[Tree] (config>service>vprn>sap>igmp-trk expiry-time)

Full Context

configure service vprn igmp-host-tracking expiry-time

configure service vprn sap igmp-trk expiry-time

Description

This command configures the time that the system continues to track inactive hosts.

The **no** form of this command removes the values from the configuration.

Default

no expiry-time

Parameters

expiry-time

Specifies the time, in seconds, that this system continues to track an inactive host.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.57 explicit-sf-path

explicit-sf-path

Syntax

explicit-sf-path {**primary** | **secondary**}

no explicit-sf-path

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>source-override explicit-sf-path)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel explicit-sf-path)

Full Context

configure mcast-management multicast-info-policy bundle source-override explicit-sf-path

configure mcast-management multicast-info-policy bundle channel explicit-sf-path

Description

This command defines an explicit ingress switch fabric multicast path assigned to a multicast channel. When defined, the channel is setup with the explicit path as its inactive path. When an explicit path is

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not defined, all multicast channels are initialized on the secondary path and when they start to consume bandwidth, they are moved to the appropriate path based on the channel attributes and path limitations. Explicit path channels are not allowed to move from their defined path.

The **explicit-sf-path** command in the bundle context defines the initial path for all channels associated with the bundle unless the channel has an overriding **explicit-sw-path** defined in the channel context. The channel context may also be overridden by the **explicit-sf-path** command in the **source-override** context. The channel and **source-override explicit-sf-path** settings default to null (undefined) and have no effect unless explicitly set.

The **no** form of this command restores default path association behavior (dynamic or null depending on the context).

Parameters

primary

The **primary** and **secondary** keywords are mutually exclusive to one another. One keyword must be specified when executing the explicit-sf-path command. The **primary** keyword specifies that the primary ingress multicast path should be used as the explicit path for the channel.

secondary

The **primary** and **secondary** keywords are mutually exclusive to one another. One keyword must be specified when executing the explicit-sf-path command. The **secondary** keyword specifies that the secondary ingress multicast path should be used as the explicit path for the channel.

Override sequence — The channel setting overrides the bundle setting. The source-override setting overrides the channel and bundle settings.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

16.58 explicit-subscriber-map

explicit-subscriber-map

Syntax

explicit-subscriber-map

Context

[Tree] (config>subscriber-mgmt explicit-subscriber-map)

Full Context

configure subscriber-mgmt explicit-subscriber-map

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Description

This command configures an explicit subscriber mapping.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.59 exponential-backoff

exponential-backoff

Syntax

[**no**] **exponential-backoff**

Context

[Tree] (config>system>login-control exponential-backoff)

Full Context

configure system login-control exponential-backoff

Description

This command enables the exponential-backoff of the login prompt. The exponential-backoff command is used to deter dictionary attacks, when a malicious user can gain access to the CLI by using a script to try **admin** with any conceivable password.

The **no** form of this command disables exponential-backoff.

Default

no exponential-backoff

Platforms

All

16.60 exponential-backoff-retry

exponential-backoff-retry

Syntax

exponential-backoff-retry

no exponential-backoff-retry

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Context

[Tree] (config>router>mpls exponential-backoff-retry)

Full Context

configure router mpls exponential-backoff-retry

Description

This command enables the use of an exponential back-off timer when re-trying an LSP. When an LSP path establishment attempt fails, the path is put into retry procedures and a new attempt will be performed at the expiry of the user-configurable retry timer (config>router>mpls>lsp>retry-timer). By default, the retry time is constant for every attempt. The exponential back-off timer procedures will double the value of the user configured retry timer value at every failure of the attempt to adjust to the potential network congestion that caused the failure. An LSP establishment fails if no Resv message was received and the Path message retry timer expired or a PathErr message was received before the timer expired.

Platforms

All

16.61 export

export

Syntax

[**no**] **export**

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn export)

Full Context

configure subscriber-mgmt isa-service-chaining evpn export

Description

Commands in this context configure information related to the export of EVPN BGP routes related to service chaining.

The **no** form of this command disables exporting EVPN BGP routes related to service chaining

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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export

Syntax

export *policy* [*policy*]

no export

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy export)

Full Context

configure subscriber-mgmt bgp-peering-policy export

Description

This command specifies the export policies to be used to control routes advertised to BGP neighbors.

When multiple policy names are specified, the policies are evaluated in the order they are specified. A maximum of five (5) policy names can be configured. The first policy that matches is applied.

Note:
If a non-existent route policy is applied to a VPRN instance, the CLI generates a warning message. This message is only generated at an interactive CLI session and the route policy association is made. No warning message is generated when a non-existent route policy is applied to a VPRN instance in a configuration file or when SNMP is used.

The **no** form of this command removes all route policy names from the export list.

Default

no export — BGP advertises routes from other BGP routes but does not advertise any routes from other protocols unless directed by an export policy.

Parameters

policy

Specifies a route policy statement name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

export

Syntax

export *ip-prefix/length*

no export

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Context

[Tree] (config>service>ies>sub-if>wlan-gw>redundancy export)

Full Context

configure service ies subscriber-interface wlan-gw redundancy export

Description

This command specifies an IPv4 route (prefix/length) per subscriber-interface to be exported (announced) to indicate liveness of the subscriber-interface on the WLAN-GW. This route is the one that is monitored in routing by the peer WLAN-GW to decide its state with respect.

The no form of this command reverts to the default.

Parameters

ip-prefix/length

Specifies the IP prefix and length.

Values ip-prefix:a.b.c.d

ip-prefix-length: 0 to 32

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

export

Syntax

export *plcy-or-long-expr* [*plcy-or-expr*]

no export

Context

[Tree] (config>service>vprn>bgp export)

[Tree] (config>service>vprn>bgp>group>neighbor export)

[Tree] (config>service>vprn>bgp>group export)

Full Context

configure service vprn bgp export

configure service vprn bgp group neighbor export

configure service vprn bgp group export

Description

This command is used to specify route policies that control how outbound routes transmitted to certain peers are handled. Route policies are configured in the **config>router>policy-options** context.

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This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in a peer-group) or neighbor level (only applies to the specified peer). The most specific level is used.

The **export** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine the modifications of each route and the final action to accept or reject the route.

Only one of the 15 objects referenced by the **export** command can be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters while the remaining 14 objects have a maximum length of 64 characters each.

When multiple **export** commands are issued, the last command entered overrides the previous command.

When an export policy is not specified, BGP-learned routes are advertised by default; non-BGP routes are not advertised.

The **no** form of this command removes the policy association.

Default

no export

Parameters

plcy-or-long-expr

Specifies the route policy name, up to 64 characters in length, or a policy logical expression, up to 255 characters in length.

plcy-or-expr

Specifies the route policy name, up to 64 characters in length, or a policy logical expression, up to 255 characters in length.

Platforms

All

export

Syntax

[**no**] **export** *policy-name* [*policy-name* **...up to 5 max**]

Context

[Tree] (config>service>vprn>isis export)

Full Context

configure service vprn isis export

Description

This command configures export routing policies that determine the routes exported from the routing table to IS-IS.

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If no export policy is defined, non IS-IS routes are not exported from the routing table manager to IS-IS.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered overrides the previous command. A maximum of five policy names can be specified.

If an **aggregate** command is also configured in the **config>router** context, then the aggregation is applied before the export policy is applied.

Routing policies are created in the **config>router>policy-options** context.

The **no** form of this command removes the specified *policy-name* or all policies from the configuration if no *policy-name* is specified.

Default

no export — No export policy name is specified.

Parameters

policy-name

The export policy name. Up to five *policy-name* arguments can be specified.

Platforms

All

export

Syntax

export *policy-name* [*policy-name* **...**(**up to 5 max**)]

no export

Context

[Tree] (config>service>vprn>msdp>group>peer export)

[Tree] (config>service>vprn>msdp>peer export)

[Tree] (config>service>vprn>msdp export)

[Tree] (config>service>vprn>msdp>group export)

Full Context

configure service vprn msdp group peer export

configure service vprn msdp peer export

configure service vprn msdp export

configure service vprn msdp group export

Description

This command specifies the policies to export source active state from the source active list into Multicast Source Discovery Protocol (MSDP).

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If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of this command removes all policies from the configuration.

Default

no export

Parameters

policy-name

Specifies the export policy name, up to 32 characters. Up to five policy-name arguments can be specified.

If you configure an export policy at the global level, each individual peer inherits the global policy. If you configure an export policy at the group level, each individual peer in a group inherits the group's policy. If you configure an export policy at the peer level, then policy only applies to the peer where it is configured.

Platforms

All

export

Syntax

export {**unicast** | *ext-community*}

Context

[Tree] (config>service>vprn>mvpn>vrf-target export)

Full Context

configure service vprn mvpn vrf-target export

Description

This command specifies communities to be sent to peers.

Parameters

unicast

Specifies to use unicast vrf-target ext-community for the multicast VPN.

ext-comm

An extended BGP community in the **type**:**x**:**y** format. The value **x** can be an integer or IP address. The **type** can be the target or origin. **x** and **y** are 16-bit integers.

Values target:{*ip-address*:*comm-val* | *2byte-asnumber:ext-comm-val* | 4byte-asnumber:comm-val}

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ip-address:	a.b.c.d
comm-val:	0 to 65535
2byte-asnumber:	1 to 65535
4byte-asnumber	0 to 4294967295

Platforms

All

export

Syntax

export *ip-prefix/length*

no export

Context

[Tree] (config>service>vprn>nat>outside>pool>redundancy export)

Full Context

configure service vprn nat outside pool redundancy export

Description

This command installs the export route in the routing table for active NAT pools.

Once the export route is in the routing table, it can be advertised in the network via a routing protocol. NAT pools in the standby or disabled state will not advertise the export route.

A NAT pool becomes active when it becomes operationally UP, and there is no monitoring route (which is also the export route from the peer) present in the routing node (as received from the network). The pool will transition into standby state in case that the monitoring route (or export route from the peer) is already present in the routing table. In other words, the monitoring route is already advertised as an export route from the peering node with active NAT pool.

The export route can be advertised only from:

- The active lead pool.
- Active pool for which fate-sharing is disabled.

Default

no export

Parameters

ip-prefix/length

Specifies the IP prefix and length.

Syntax:

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ip-prefix/length:	ip-prefix	a.b.c.d
	ip-prefix-length	0 to 32
Values	0, 4, 16	

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

export

Syntax

export *policy-name* [*policy-name*]

no export

Context

[Tree] (config>service>vprn>ospf>area export)

[Tree] (config>service>vprn>ospf3>area export)

Full Context

configure service vprn ospf area export

configure service vprn ospf3 area export

Description

This command configures ABR export policies to filter OSPFv2 Type 3 Summary-LSAs or OSPFv3 Inter-Area-Prefix-LSA between areas, in to only permit the export of specified routes into an area.

This command cannot be used in OSPF area 0.

The **no** form of this command reverts to the default value.

Default

no export

Parameters

policy-name

Specifies the export route policy name. A maximum of five policy names may be specified. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), enclose the entire string in double quotes.

The specified policy names must be predefined and already exist in the system.

Platforms

All

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export

Syntax

export *policy-name* [*policy-name*]

no export

Context

[Tree] (config>service>vprn>ospf3 export)

[Tree] (config>service>vprn>ospf export)

Full Context

configure service vprn ospf3 export

configure service vprn ospf export

Description

This command associates export route policies to determine which routes are exported from the route table to OSPF. Export polices are only in effect if OSPF is configured as an ASBR.

If no export policy is specified, non-OSPF routes are not exported from the routing table manager to OSPF.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of this command removes all policies from the configuration.

Default

no export — No export route policies specified.

Parameters

policy-name

Specifies the export route policy name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

The specified policy name(s) must be predefined and already exist in the system.

Platforms

All

export

Syntax

export *policy-name* [*policy-name*...(up to 5 max)]

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no export

Context

[Tree] (config>service>vprn>rip>group export)

[Tree] (config>service>vprn>ripng export)

[Tree] (config>service>vprn>rip export)

[Tree] (config>service>vprn>rip>group>neighbor export)

[Tree] (config>service>vprn>ripng>group>neighbor export)

[Tree] (config>service>vprn>ripng>group export)

Full Context

configure service vprn rip group export

configure service vprn ripng export

configure service vprn rip export

configure service vprn rip group neighbor export

configure service vprn ripng group neighbor export

configure service vprn ripng group export

Description

This command specifies the export route policies used to determine routes that are exported to RIP. If no export policy is specified, non-RIP routes will not be exported from the routing table manager to RIP; RIP-learned routes will be exported to RIP neighbors.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of this command removes all policies from the configuration.

Default

no export

Parameters

policy-name

The export route policy name. Allowed values are any string up to 32 characters in length and composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the string must be enclosed between double quotes. The specified names must already be defined.

Platforms

All

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export

Syntax

export *policy-name* [*policy-name*]

no export

Context

[Tree] (config>router>ldp export)

Full Context

configure router ldp export

Description

This command specifies the export route policies used to determine which routes are exported to LDP. Policies are configured in the **config>router>policy-options** context.

If no export policy is specified, non-LDP routes will not be exported from the routing table manager to LDP. LDP-learned routes will be exported to LDP neighbors. Present implementation of export policy (outbound filtering) can be used "only" to add FECs for label propagation. The export policy does not control propagation of FECs that an LSR receives from its neighbors.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered will override the previous command. A maximum of 5 policy names can be specified.

The **no** form of this command removes all policies from the configuration.

Default

no export — No export route policies specified.

Parameters

policy-name

Specifies up to five export route policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified name(s) must already be defined.

Platforms

All

export

Syntax

export *ip-prefix/length*

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no export

Context

[Tree] (config>router>nat>outside>pool>redundancy export)

Full Context

configure router nat outside pool redundancy export

Description

This command configures the route to export to the peer. While the export prefix is configured and the value of the object tmnxNatPlLsnRedActive is equal to true, the system exports this prefix in the realm of the virtual router instance associated with this pool; to the NAT redundancy peer, the presence of this prefix is an indication that the Large Scale NAT function in this virtual router instance is active; hence, the export prefix of this system is the monitor prefix of the peer.

The export prefix must be different from the monitor prefix.

Default

no export

Parameters

ip-prefix/length

Specifies the IP address and length of the prefix to be exported.

Values

ip-prefix:	a.b.c.d
ip-prefix-length:	0 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

export

Syntax

export *policy-name* [*policy-name...* (up to 5 max)]

no export

Context

[Tree] (config>router>msdp>group export)

[Tree] (config>router>msdp export)

[Tree] (config>router>msdp>peer export)

[Tree] (config>router>msdp>group>peer export)

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Full Context

configure router msdp group export

configure router msdp export

configure router msdp peer export

configure router msdp group peer export

Description

This command specifies the policies to export SA states from the SA list into MSDP.

If multiple policy names are specified, the router evaluates the policies in the order they are specified, and applies the first policy that matches. If multiple export commands are issued, the last command entered overrides the previous command.

If an export policy is configured at the global level, each individual peer inherits the global policy. If an export policy is configured at the group level, each individual peer in a group inherits the group's policy. If an export policy is configured at the peer level, the policy only applies to the peer where it is configured.

The **no** form of this command applies no export policies and all SA entries are announced.

Default

no export

Parameters

policy-name

Specifies the export policy name, up to 32 characters. A maximum of five policy names can be specified.

Platforms

All

export

Syntax

export type {*type*} **input** *filename* **output** *url-string* **format** *output-format* [**password** [*32 chars max*]] [**pkey** *filename*]

Context

[Tree] (admin>certificate export)

Full Context

admin certificate export

Description

This command performs certificate operations.

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Parameters

url-string

Specifies the local CF card url of the file.

Values

url-string	<local-url> [up to 99 characters]
local-url	<cflash-id>/<file-path>
cflash-id	cf1: | cf2: | cf3:

type

Specifies the type of input file.

Values cert, key, crl

format

Specifies the format of output file.

Values pkcs10, pkcs12, pkcs7-der, pkcs7-pem, pem, der

Platforms

All

export

Syntax

export *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]

no export [*plcy-or-long-expr*]

Context

[Tree] (config>router>bgp>group export)

[Tree] (config>router>bgp export)

[Tree] (config>router>bgp>group>neighbor export)

Full Context

configure router bgp group export

configure router bgp export

configure router bgp group neighbor export

Description

This command specifies route policies that control the handling of outbound routes transmitted to all peers. Route policies are configured in the **config>router>policy-options** context.

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This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific level is used.

The export command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine the modifications of each route and the final action to accept or reject the route.

Only one of the 15 objects referenced by the command can be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters; the remaining 14 objects have a maximum length of 64 characters each.

When multiple export commands are issued, the last command entered overrides the previous command.

When an export policy is not specified, BGP-learned routes are advertised by default and non-BGP routes are not advertised.

The **no** form of this command removes the policy association.

Default

no export

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters long). Allowed values are any string up to 255 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

plcy-or-expr

Specifies up to 14 route policy names (up to 64 characters each) or a policy logical expression (up to 64 characters long). Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

export

Syntax

[**no**] **export** *policy-name* [*policy-name*]

Context

[Tree] (config>router>isis export)

Full Context

configure router isis export

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Description

This command configures export routing policies that determine the routes exported from the routing table to IS-IS.

If no export policy is defined, non IS-IS routes are not exported from the routing table manager to IS-IS.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered overrides the previous command. A maximum of five policy names can be specified.

If an **aggregate** command is also configured in the **config>router** context, then the aggregation is applied before the export policy is applied.

Routing policies are created in the **config>router>policy-options** context.

The **no** form of this command removes the specified *policy-name* or all policies from the configuration if no *policy-name* is specified.

Parameters

policy-name

Specifies up to five export policy names.

Platforms

All

export

Syntax

export *policy-name* [*policy-name*]

no export

Context

[Tree] (config>router>ospf3 export)

[Tree] (config>router>ospf export)

Full Context

configure router ospf3 export

configure router ospf export

Description

This command associates export route policies to determine which routes are exported from the route table to OSPF. Export polices are only in effect if OSPF is configured as an ASBR.

If no export policy is specified, non-OSPF routes are not exported from the routing table manager to OSPF.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of this command removes all policies from the configuration.

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Default

no export

Parameters

policy-name

Specifies up to 5 export route policy names. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The specified names must already be defined.

Platforms

All

export

Syntax

[**no**] **export** *policy-name* [*policy-name*]

Context

[Tree] (config>router>ospf3>area export)

[Tree] (config>router>ospf>area export)

Full Context

configure router ospf3 area export

configure router ospf area export

Description

This command configures ABR export policies to filter OSPFv2 Type 3 Summary-LSAs or OSPFv3 Inter-Area-Prefix-LSA between areas, in order to only permit the specified routes from being exported into an area.

This command cannot be used in OSPF area 0.

The **no** form of this command reverts to the default value.

Default

no export

Parameters

policy-name

Specifies up to five export route policy names. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The specified names must already be defined.

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Platforms

All

export

Syntax

export *policy-name* [*policy-name*]

no export

Context

[Tree] (config>router>ripng export)

[Tree] (config>router>rip>group export)

[Tree] (config>router>rip>group>neighbor export)

[Tree] (config>router>ripng>group>neighbor export)

[Tree] (config>router>rip export)

[Tree] (config>router>ripng>group export)

Full Context

configure router ripng export

configure router rip group export

configure router rip group neighbor export

configure router ripng group neighbor export

configure router rip export

configure router ripng group export

Description

This command specifies the export route policies used to determine which routes are exported to RIP.

If no export policy is specified, non-RIP routes will not be exported from the routing table manager to RIP. RIP-learned routes will be exported to RIP neighbors.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple export commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of the command removes all policies from the configuration.

Default

no export

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Parameters

policy-name

Specifies up to five export route policy names. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, and so on.), the entire string must be enclosed within double quotes.

The specified names must already be defined.

Platforms

All

export

Syntax

[**no**] **export**

Context

[Tree] (config>service>vprn>bgp-ipvpn>attribute-set export)

Full Context

configure service vprn bgp-ipvpn attribute-set export

Description

This command configures the router to add an ATTR_SET path attribute to all VPN-IP routes that come from the VRF export of BGP routes advertised by PE-CE peers of the VPRN. This attribute contains an exact copy of all BGP path attributes (post-import policy) of the PE-CE BGP route, excluding the NEXT_HOP, MP_REACH, and MP_UNREACH attributes, as well as the AS4_PATH or AS4_AGGREGATOR attributes. The origin AS in the ATTR_SET encodes the ASN (or confederation ID, if configured) of the exporting VPRN service. Neither the VRF export policy nor a regular BGP export policy is allowed to modify the contents of the ATTR_SET.

The **no** form of this command configures the router to not add an ATTR_SET path attribute to VPN-IP routes exported by the VPRN. Nokia recommends using the **no** form of this command, unless there is a requirement for the VPRN to deliver an independent domain Layer 3 VPN service.

Default

no export

Platforms

All

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16.62 export-addresses

export-addresses

Syntax

export-addresses *policy-name* [*policy-name*]

no export-addresses

Context

[Tree] (config>router>ldp>session-params>peer export-addresses)

Full Context

configure router ldp session-parameters peer export-addresses

Description

This command specifies the export prefix policy to local addresses advertised to this peer.

Policies are configured in the **config>router>policy-options** context. A maximum of five policy names can be specified.

The **no** form of this command removes the policy from the configuration.

Parameters

policy-name

Specifies up to five export-prefix route policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string. The specified name(s) must already be defined.

Platforms

All

16.63 export-filter

export-filter

Syntax

export-filter

Context

[Tree] (config>cflowd>collector export-filter)

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Full Context

configure cflowd collector export-filter

Description

This command creates the CLI context to specify cflowd data filters. These filters allow the administrator to control which flows are sent or are not sent to an associated cflowd collector.

Platforms

All

16.64 export-grt

export-grt

Syntax

export-grt *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]

no export-grt

Context

[Tree] (config>service>vprn>grt-lookup export-grt)

Full Context

configure service vprn grt-lookup export-grt

Description

This command uses the route policy to determine which routes are exported from the VRF to the GRT along with all the forwarding information. These entries are marked as BGP-VPN routes in the GRT. For proper routing to occur from the GRT to the VRF, the routes must be in the GRT.

Default

no export-grt

Parameters

plcy-or-long-expr

Specifies the route policy name, up to 64 characters, or a policy logical expression, up to 255 characters.

plcy-or-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Up to four policy names or logical expressions can be specified in a single statement.

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Platforms

All

16.65 export-host-routes

export-host-routes

Syntax

[**no**] **export-host-routes**

Context

[Tree] (config>service>ies>subscriber-interface export-host-routes)

[Tree] (config>service>vprn>subscriber-interface export-host-routes)

Full Context

configure service ies subscriber-interface export-host-routes

configure service vprn subscriber-interface export-host-routes

Description

This command controls the export of subscriber management host routes from a retail service to the corresponding forwarding wholesale VPRN service.

By default, subscriber management host routes are not exported.

The presence of retail subscriber management host routes in the wholesale VPRN service is required for downstream traffic forwarding in multi-chassis redundancy scenarios with a redundant interface and when the retail subscriber subnets are not leaked in the wholesale VPRN service (allow-unmatching-subnets or unnumbered retail subscriber interface).

This command fails if the subscriber interface is not associated with a forwarding wholesale service subscriber interface or if the subscriber interface is not configured to support address allocation outside the provisioned subnets (allow-unmatching-subnets or unnumbered subscriber interface).

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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16.66 export-id

export-id

Syntax

export-id *export-id*

no export-id

Context

[Tree] (config>app-assure>group>policy>app-grp export-id)

[Tree] (config>app-assure>group>policy>application>charging-group export-id)

[Tree] (config>app-assure>group>policy>application export-id)

Full Context

configure application-assurance group policy app-group export-id

configure application-assurance group policy application charging-group export-id

configure application-assurance group policy application export-id

Description

This command assigns an export-id value to a charging group app-group or application to be used for accounting export identification in RADIUS accounting. This ID is encoded in the top 2 bytes of the RADIUS accounting VSA to identify which charging group the counter value represents.

If no export-id is assigned, that counter cannot be added to the aa-sub stats RADIUS export-type. Once a charging group index is referenced, it cannot be deleted without removing the reference.

The no form of this command removes the export-id from the configuration.

Default

no export-id

Parameters

export-id

Specifies an integer that identifies an export-id.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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16.67 export-ie315

export-ie315

Syntax

[**no**] **export-ie315**

Context

[Tree] (config>cflowd>sample-profile export-ie315)

Full Context

configure cflowd sample-profile export-ie315

Description

This command configures the exporting of sample packets using the IPFIX IE315 format for the sample profile. When enabled, samples are sent to the IPFIX collector using the IPFIX IE315 fields.

The **no** form of this command reverts to the default value.

Default

no export-ie315

Platforms

All

16.68 export-inactive-bgp

export-inactive-bgp

Syntax

[**no**] **export-inactive-bgp**

Context

[Tree] (config>service>vprn export-inactive-bgp)

Full Context

configure service vprn export-inactive-bgp

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Description

This command allows the preferred BGP route learned by a VPRN to be exported as the VPN route, even when if it is inactive in the route table because a preferred BGP VPRN route from another PE is present. This overrides the default state in which the VPRN cannot export an inactive BGP route.

For the BGP route to be exported, the VRF export policy must accept it.

This command applies to both MPLS VPN and SRv6 VPN routes. In SRv6 VPN routes the advertised instruction is an End.DT, while in MPLS VPN routes the advertised label is a per-next-hop label.

This "best-external" type of route advertisement is useful in active/standby multi-homing scenarios because it ensures that all PEs know about the backup path provided by the standby PE.

Default

no export-inactive-bgp

Platforms

All

16.69 export-inactive-bgp-enhanced

export-inactive-bgp-enhanced

Syntax

[**no**] **export-inactive-bgp-enhanced**

Context

[Tree] (config>service>vprn export-inactive-bgp-enhanced)

Full Context

configure service vprn export-inactive-bgp-enhanced

Description

This command configures the router to allow a BGP route that is inactive (because a better non-BGP route for the same prefix is present) to be exportable as a VPN-IP route.

A BGP route learned from a VPRN BGP peer is exportable as a VPN-IP route, only if it is the best route for the prefix and is installed in the route table of the VPRN. If the **export-inactive-bgp** command is enabled in the VPRN configuration, this rule is relaxed, and the best inactive VPRN BGP route is exportable as a VPN-IP route, provided that the active installed route for the prefix is an imported VPN-IP route.

The rule described in the preceding paragraph can be relaxed even further by enabling this command. When this command is enabled, the best inactive VPRN BGP route (best amongst all routes received from all CEs) is exportable as a VPN-IP route, regardless of the route type of the active installed route.

The configuration of this command overrides the **export-inactive-bgp** command. If this command is already enabled, do not enable the **export-inactive-bgp** command.

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The **no** form of this command disables the router from allowing an inactive BGP route in the presence of a better non-BGP route to be exportable as a VPN-IP route.

Default

no export-inactive-bgp-enhanced

Platforms

All

16.70 export-limit

export-limit

Syntax

export-limit *num-routes*

no export-limit

Context

[Tree] (config>service>vprn>ospf export-limit)

[Tree] (config>service>vprn>ospf3 export-limit)

[Tree] (config>service>vprn>grt-lookup export-limit)

Full Context

configure service vprn ospf export-limit

configure service vprn ospf3 export-limit

configure service vprn grt-lookup export-limit

Description

This command limits the total number of routes exported from the VRF to the GRT. Configuring **export-limit 0** disables the maximum limit for routes exported from the VRF to the GRT.

The **no** form of this command sets the export-limit to a default of five (5).

Default

export-limit 5

Parameters

num-routes

Specifies the maximum number of routes that can be exported. Configuring a num-routes value in a range of 1 to 1000 limits the number of routes to the specified value.

Values 0 to 1000

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Platforms

All

export-limit

Syntax

export-limit *number* [**log** *percentage*]

no export-limit

Context

[Tree] (config>service>vprn>rip export-limit)

[Tree] (config>service>vprn>ripng export-limit)

Full Context

configure service vprn rip export-limit

configure service vprn ripng export-limit

Description

This command configures the maximum number of routes (prefixes) that can be exported into RIP from the route table.

The **no** form of this command removes the parameters from the configuration.

Default

no export-limit

Parameters

number

Specifies the maximum number of routes (prefixes) that can be exported into RIP from the route table.

Values 1 to 4294967295

log *percentage*

Specifies the percentage of the export-limit, at which a warning log message and SNMP notification would be sent.

Values 1 to 100

Platforms

All

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export-limit

Syntax

export-limit *number* [**log** *percentage*]

no export-limit

Context

[Tree] (config>service>vprn>isis export-limit)

Full Context

configure service vprn isis export-limit

Description

This command configures the maximum number of routes (prefixes) that can be exported into IS-IS from the route table for the VPRN instance.

The **no** form of this command removes the parameters from the configuration.

Default

no export-limit - The export limit for routes or prefixes is disabled.

Parameters

number

Specifies the maximum number of routes (prefixes) that can be exported into RIP from the route table.

Values 1 to 4294967295

log *percentage*

Specifies the percentage of the export-limit, at which a warning log message and SNMP notification would be sent.

Values 1 to 100

Platforms

All

export-limit

Syntax

export-limit *number* [**log** *percentage*]

no export-limit

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Context

[Tree] (config>router>isis export-limit)

Full Context

configure router isis export-limit

Description

This command configures the maximum number of routes (prefixes) that can be exported into IS-IS from the route table. After the maximum is reached, a warning log message is sent and additional routes are ignored.

The **no** form of this command removes the parameters from the configuration.

Parameters

number

Specifies the maximum number of routes (prefixes) that can be exported into RIP from the route table.

Values 1 to 4294967295

percentage

Specifies the percentage of the export-limit, at which a warning log message and SNMP notification would be sent.

Values 1 to 100

Platforms

All

export-limit

Syntax

export-limit *number* [**log** *percentage*]

no export-limit

Context

[Tree] (config>router>ospf export-limit)

[Tree] (config>router>ospf3 export-limit)

Full Context

configure router ospf export-limit

configure router ospf3 export-limit

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Description

This command configures the maximum number of routes (prefixes) that can be exported into OSPF from the route table. After the maximum is reached, a warning log message is sent and additional routes are ignored.

The **no** form of this command removes the parameters from the configuration.

Default

no export-limit

Parameters

number

Specifies the maximum number of routes (prefixes) that can be exported into OSPF from the route table.

Values 1 to 4294967295

percentage

Specifies the percentage of the export-limit, at which a warning log message and SNMP notification would be sent.

Values 1 to 100

Platforms

All

export-limit

Syntax

export-limit *number* [**log** *percentage*]

no export-limit

Context

[Tree] (config>router>ripng export-limit)

[Tree] (config>router>rip export-limit)

Full Context

configure router ripng export-limit

configure router rip export-limit

Description

This command configures the maximum number of routes (prefixes) that can be exported into RIP from the route table.

The **no** form of the command removes the parameters from the configuration.

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Default

no export-limit

Parameters

number

Specifies the maximum number of routes (prefixes) that can be exported into RIP from the route table.

Values 1 to 4294967295

percentage

Specifies the percentage of the export-limit, at which a warning log message and SNMP notification would be sent.

Values 1 to 100

Platforms

All

16.71 export-mode

export-mode

Syntax

export-mode {**automatic** | **manual**}

Context

[Tree] (config>cflowd export-mode)

Full Context

configure cflowd export-mode

Description

This command can be used to control how exports are generated by the cflowd process. The default behavior is for flow data to be exported automatically based on the active and inactive time-out values. The alternative mode is manual in which case flow data is only exported when the command "tools perform cflowd manual-export" is issued. The only exception is if the cflowd cache overflows, in which case the normal automatic export process is used.

Default

export-mode automatic

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Parameters

automatic

cflowd flow data is automatically generated.

manual

cflowd flow data is exported only when manually triggered.

Platforms

All

16.72 export-override

export-override

Syntax

export-override *mode*

no export-override

Context

[Tree] (configure>app-assure>group>cflowd export-override)

Full Context

configure application-assurance group cflowd export-override

Description

This command configures the AA sub-type used in cflowd record export. The cflowd stats exported to the cflowd collector to look identical to when AA is on the type of system defined by the mode. The following cflowd export fields are affected:

1. cflowd export observation point (field 138), the mode will be derived from the export-override category that is selected.
2. cflowd export AA_Subscriber_Type (field 12) modified as configured, using existing field types.
3. cflowd interface name is used as the sub-ID field, optionally modified to use the **export-override** *mode* **prefix** as a global identifier.

All AA cflowd record types are affected by export-override. To change any of the export-override or prefix, cflowd must be shutdown first. When the **export-override** is set back to default (**no export-override**) the prefix is set back to the default.

The **no** form of this command removes the export override.

Default

no export-override

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Parameters

mode

The type of system emulated by stats export.

Values mobile(mobile gateway mode, cflowd field 138 = 2)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.73 export-prefixes

export-prefixes

Syntax

[**no**] **export-prefixes** *policy-name*

Context

[Tree] (config>router>ldp>session-params>peer export-prefixes)

Full Context

configure router ldp session-parameters peer export-prefixes

Description

This command specifies the export route policy used to determine which prefixes received from other LDP and T-LDP peers are re-distributed to this LDP peer via the LDP/T-LDP session to this peer. A prefix that is filtered out (deny) is not exported. A prefix that is filtered in (accept) will be exported.

If no export policy is specified, all FEC prefixes learned will be exported to this LDP peer. This policy is applied in addition to the global LDP policy and targeted session policy.

Policies are configured in the **config>router>policy-options** context. A maximum of five policy names can be specified. Peer address has to be the peer LSR-ID address.

The **no** form of this command removes the policy from the configuration.

Default

no export-prefixes - no export route policy is specified

Parameters

policy-name

Specifies up to five export-prefix route policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string. The specified name(s) must already be defined.

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Platforms

All

export-prefixes

Syntax

export-prefixes *policy-name* [*policy-name*]

no export-prefixes

Context

[Tree] (config>router>ldp>targeted-session export-prefixes)

Full Context

configure router ldp targeted-session export-prefixes

Description

This command specifies the export route policy used to determine which FEC prefix label bindings are exported from a targeted LDP session. A route that is filtered out (deny) will not be exported. A route that is filtered in (accept) will be exported.

If no export policy is specified, all bindings learned through a targeted LDP session will be exported to all targeted LDP peers. This policy is applied in addition to the global LDP policy.

Policies are configured in the **config>router>policy-options** context. A maximum of five policy names can be specified.

The **no** form of this command removes the policy from the configuration.

Parameters

policy-name

Specifies up to five export policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

16.74 export-tunnel-table

export-tunnel-table

Syntax

export-tunnel-table *policy-name* [*policy-name*...(up to 5 max)]

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no export-tunnel-table

Context

[Tree] (config>router>ldp export-tunnel-table)

Full Context

configure router ldp export-tunnel-table

Description

This command enables exports BGP label route and SR tunnels from the TTM into LDP for the purpose of stitching an LDP FEC to a BGP or SR tunnel for the same destination prefix.

To enable route stitching between LDP and BGP, separately configure tunnel table route export policies in both protocols and enable the advertisement of RFC 8277, *Using BGP to Bind MPLS Labels to Address Prefixes*, formatted labeled routes for prefixes learned from LDP FECs.

The BGP route export policy instructs BGP to listen to LDP route entries in the CPM Tunnel Table. If a /32 LDP FEC prefix matches an entry in the export policy, BGP originates a BGP labeled route, stitches it to the LDP FEC, and re-distributes the BGP labeled route to its Interior Border Gateway Protocol (IBGP) neighbors.

Using the following commands to add LDP FEC prefixes with the **from protocol ldp** statement in the existing BGP export policy configuration at the global level, peer-group level, or peer level:

- **config>router>bgp>export** *policy-name*
- **config>router>bgp>group>export** *policy-name*
- **config>router>bgp>group>neighbor>export** *policy-name*

To indicate to BGP to evaluate the entries with the **from protocol ldp** statement in the export policy when applied to a specific BGP neighbor, use commands:

- **config>router>bgp>group>neighbor>family label-ipv4** and
- **config>router>bgp>group>neighbor>advertise-ldp-prefix**

Without the latter configuration, only core IPv4 routes learned from RTM are advertised as BGP labeled routes to the neighbor. No stitching of LDP FEC to the BGP labeled route will be performed for this neighbor even if the same prefix was learned from LDP.

The LDP tunnel table route export policy instructs LDP to listen to BGP route entries in the CPM Tunnel Table. If a /32 BGP labeled route matches a prefix entry in the export policy, LDP originates an LDP FEC for the prefix, stitches it to the BGP labeled route, and re-distributes the LDP FEC to its IBGP neighbors.

The user can add BGP labeled route prefixes with the **from protocol bgp** statement in the configuration of the LDP tunnel table export policy. The **from protocol** statement is applied only when the protocol value is **ldp**. Policy entries with protocol values of **rsvp**, **bgp**, or any value other than **ldp** are ignored at the time the policy is applied to LDP.

In the LDP-to-SR data path direction, LDP listens to SR tunnel entries in the TTM. The user can restrict the export of SR tunnels to LDP from a specific prefix list. The user can also restrict the export to a specific IGP instance by optionally specifying the instance ID in the "from protocol” statement. The statement has an effect only when the protocol value is **isis** or **bgp**. Policy entries with any other protocol value are ignored at the time the policy is applied. If the user configures multiple **from protocol** statements in the same policy or does not include the **from protocol** statement but adds a default action of accept, then LDP will follow the TTM selection rules to select a tunnel to which it will stitch the LDP ILM:

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1. LDP selects the tunnel from the lowest TTM preference protocol.
2. If two or more of IS-IS or OSPF protocol instances and BGP protocol have the same preference, then LDP selects the protocol using the default TTM protocol preference.
3. Within the same IGP protocol, LDP selects the lowest instance ID.

If an LDP FEC primary next-hop cannot be resolved using an RTM route and a SR tunnel of type SR-ISIS to the same destination prefix matches a prefix entry in the export policy, LDP programs an LDP ILM and stitches it to the SR node-SID tunnel endpoint. LDP also originates an FEC for the prefix and re-distributes it to its LDP peers. When an LDP FEC is stitched to a SR tunnel, packets forwarded benefit from the protection of the LFA/remote LFA backup next-hop of the SR tunnel.

When resolving a FEC, LDP will prefer RTM over TTM when both resolutions are possible. That is, swapping the LDP ILM to a LDP NHLFE is preferred over stitching it to an SR tunnel endpoint.

Nokia recommends that the user should enable the bfd-enable option on the interfaces in LDP, IGP instance, and BGP contexts to speed up failure detection and activation of the SR LFA/remote-LFA backup next-hop or the BGP backup, depending on the stitching operation.

This feature is limited to IPv4 /32 prefixes in LDP, BGP and SR.

The **no** form of this command disables the export of BGP and SR tunnels to LDP.

Default

no export-tunnel-table

Parameters

policy-name

Specifies up to five export-tunnel-table route policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string. The specified name(s) must already be defined.

Platforms

All

export-tunnel-table

Syntax

export-tunnel-table ldp

no export-tunnel-table

Context

[Tree] (config>router>isis>segment-routing export-tunnel-table)

Full Context

configure router isis segment-routing export-tunnel-table

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Description

This command exports the LDP tunnels to an IGP instance for the purpose of stitching a SR tunnel to a LDP FEC for the same destination IPv4 /32 prefix.

In the SR-to-LDP data path direction, the SR mapping server provides a global policy for the prefixes corresponding to the LDP FECs the SR stitches to.

When this command is enabled in the segment-routing context of an IGP instance, IGP listens to LDP tunnel entries in the TTM. Whenever a LDP tunnel destination matches a prefix for which IGP received a prefix-SID sub-TLV from a mapping server, it instructs the SR module to program the SR ILM and to stitch it to the LDP tunnel endpoint. The LDP FEC can be resolved via a static route, a IS-IS instance, or an OSPF instance.

When an SR tunnel is stitched to a LDP FEC, packets forwarded will benefit from the protection of the LFA backup next-hop of the LDP FEC.

When resolving a node SID, IGP will prefer resolution of prefix SID received in a IP Reach TLV over a prefix SID received via the mapping server. That is, swapping the SR ILM to a SR NHLFE is preferred over stitching it to a LDP tunnel endpoint.

Nokia recommends that the user should enable the bfd-enable option on the interfaces in both LDP and IGP instance contexts to speed up the failure detection and the activation of the LFA/remote-LFA backup next-hop in either direction of the stitching.

This feature is limited to IPv4 /32 prefixes in both LDP and SR.

The **no** form of this command disables the exporting of LDP tunnels to the IGP instance.

Default

no export-tunnel-table

Parameters

ldp

Exports LDP tunnels from the tunnel table into an IGP instance.

Platforms

All

export-tunnel-table

Syntax

[**no**] **export-tunnel-table ldp**

Context

[Tree] (config>router>ospf>segm-rtng export-tunnel-table)

Full Context

configure router ospf segment-routing export-tunnel-table

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Description

This command enables exporting, to an IGP instance, the LDP tunnels for the purpose of stitching a SR tunnel to a LDP FEC for the same destination IPv4 /32 prefix.

In the SR-to-LDP data path direction, the SR mapping server provides a global policy for the prefixes corresponding to the LDP FECs that the SR stitches to.

When this command is enabled in the segment-routing context of an IGP instance, IGP listens to LDP tunnel entries in the TTM. Whenever a LDP tunnel destination matches a prefix for which IGP received a prefix-SID sub-TLV from a mapping server, it instructs the SR module to program the SR ILM and to stitch it to the LDP tunnel endpoint. The LDP FEC can be resolved via a static route, a IS-IS instance, or an OSPF instance.

When an SR tunnel is stitched to a LDP FEC, packets forwarded will benefit from the protection of the LFA backup next hop of the LDP FEC.

When resolving a node SID, IGP will prefer resolution of prefix SID received in a IP Reach TLV over a prefix SID received via the mapping server. In other words, the swapping of the SR ILM to a SR NHLFE is preferred over stitching it to a LDP tunnel endpoint.

It is recommended to enable the **bfd-enable** option on the interfaces in both LDP and IGP instance contexts, to speed up the failure detection and the activation of the LFA/remote-LFA backup next hop in either direction of the stitching.

This feature is limited to IPv4 /32 prefixes in both LDP and SR.

The **no** form of this command disables the exporting of LDP tunnels to the IGP instance.

Platforms

All

16.75 export-v6-limit

export-v6-limit

Syntax

export-v6-limit *num-routes*

no export-v6-limit

Context

[Tree] (config>service>vprn>grt-lookup export-v6-limit)

Full Context

configure service vprn grt-lookup export-v6-limit

Description

This command limits the total number of IPv6 routes exported from the VPRN to the GRT. Configuring **export-v6-limit 0** disables the maximum limit for IPv6 routes exported from the VPRN to the GRT.

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The **no** form of this command sets the export-limit to a default of 5.

Default

export-v6-limit 5

Parameters

num-routes

Specifies the maximum number of IPv6 routes that can be exported. Configuring a *num-routes* value in a range of 1 to 1000 limits the number of IPv6 routes to the specified value.

Values 0 to 1000

Platforms

All

16.76 expression

expression

Syntax

expression *expr-index expr-type* {**eq** | **neq**} *expr-string*

no expression *expr-index*

Context

[Tree] (config>app-assure>group>policy>app-filter>entry expression)

Full Context

configure application-assurance group policy app-filter entry expression

Description

This command configures string values to use in the application definition.

Parameters

expr-index

Specifies an index value which represents expression substrings.

Values 1 to 4

expr-type

Represents a type (and thereby the expression substring).

http-host — Matches the string against the HTTP Host field or TLS Server Name Indicator (SNI).

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http-uri — Matches the string against the HTTP URI field.

http-referer — Matches the string against the HTTP Referer field.

http-user-agent — Matches the string against the HTTP User Agent field.

sip-ua — Matches the string against the SIP UA field.

sip-uri — Matches the string against the SIP URI field.

sip-mt — Matches the string against the SIP MT field.

citrix-app — Matches the string against the Citrix app field.

h323-product-id — Matches the string against the h323-product-id field.

tls-cert-subj-org-name — Matches the TLS Certificate Subject Organization Name substring.

tls-cert-subj-common-name — Matches the TLS Certificate Subject Common Name substring.

rtsp-host — Matches the Real Time Streaming Protocol (RTSP) substring host.

rtsp-uri — Matches the RTSP URI substring.

rtsp-ua — Matches the RTSP UA substring.

rtmp-page-host — Matches against the RTMP Page Host field

rtmp-page-uri — Matches against the RTMP Page URI field

rtmp-swf-host — Matches against the RTMP Swf Host field

rtmp-swf-uri — Matches against the RTMP Swf URI field

dns-domain-name — Matches the string against the DNS Name field.

eq

Specifies the equal to comparison operator to match the specified HTTP string.

neq

Specifies the not equal to comparison operator to match the specified HTTP string.

expr-string

Specifies an expression string, up to 64 characters, used to define a pattern match. Denotes a printable ASCII substring used as input to an application assurance filter match criteria object.

The following syntax is permitted within the substring to define the pattern match criteria:

^<substring>* - matches when <substring> is at the beginning of the object.

<substring> - matches when <substring> is at any place within the object.

*<substring>$ - matches when <substring> is at the end of the object.

^<substring>$ - matches when <substring> is the entire object.

* - matches zero to many of any character. A single wildcard as infix in the expression is allowed.

\. - matches any single character

\d - matches any single decimal digit [0-9]

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\I - forces case sensitivity (by default, the expression match are case insensitive), the \I can be specified anywhere between

the leading [^*] and trailing [$*]

* - matches the asterisk character

Rules for <substring> characters:

<substring> must contain printable ASCII characters.

<substring> must not contain the "double quote" character or the " " (space) character on its own.

<substring> match is case in sensitive by default.

<substring> must not include any regular expression meta-characters other than "*", "\I", "\.", "*" and "\d".

The "\" (slash) character is used as an ESCAPE sequence. The following ESCAPE sequences are permitted within the <substring>:

Character to match <substring> input

Hexadecimal Octet YY \xYY

A <substring> that uses the '\' (backslash) ESCAPE character which is not followed by a "\" or "\x" and a 2-digit hex octet is not valid.

Operational notes:

- When matching a TCP flow against HTTP-string based applications, the HTTP header fields are collected from the first HTTP request (for example a GET or a POST) for a given TCP flow. The collected strings are then evaluated against each HTTP flow created within the given TCP flow to determine whether a given HTTP flow matches the application. By not specifying a protocol, the HTTP expressions are matched against all protocols in the HTTP family. By specifying a specific HTTP protocol (for example, http_video) the expression match can be constrained to a subset of the HTTP protocols.
- To uniquely identify a SIP-based application a protocol match is not required in the app-filter entry with the SIP expression. The SIP expression match is performed against any protocol in the SIP family (such as sip and rtp_sip). By specifying a specific SIP protocol (like rtp_sip) the expression match can be constrained to a subset of the SIP protocols.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

expression

Syntax

expression *expr-index* **eq** *expr-string* **offset** *payload-octet-offset* **direction** *direction*

no expression *expr-index*

Context

[Tree] (config>app-assure>group>policy>custom-protocol expression)

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Full Context

configure application-assurance group policy custom-protocol expression

Description

This command configures an expression string value for pattern-based custom protocols match. A flow matches a custom protocol if the specified string is found at an offset of a TCP/UDP of the first payload packet.

Options:

- client-to-server — A pattern will be matched against a flow from a TCP client.
- server-to-client — A pattern will be matched against a flow from a TCP server.
- any – A pattern will be matched against a TCP/UDP flow in any direction (towards or from AA subscriber)

The **no** form of this command deletes a specified string expression from the definition.

Parameters

expr-index

Specifies the expression substring index.

Values 1

expr-string

Denotes a printable ASCII string, up to 16 characters, used to define a custom protocol match. Rules for expr-string characters:

- Must contain printable ASCII characters.
- Must not contain the "double quote” character or the " ” (space) character on its own.
- Match is case sensitive.
- Must not include any regular expression meta-characters.

The "\” (slash) character is used as an ESCAPE sequence. The following ESCAPE sequences are permitted within the expr-string:

Character to match expr-string input

Hexadecimal Octet YY \xYY

An expr-string that uses the '\' (backslash) ESCAPE character which is not followed by a "\” or "\x” and a 2-digit hex octet is not valid.

offset *payload-octet-offset*

specifies the offset (in octets) into the protocol payload, where the expr-string match criteria will start.

Values 0 to 127

direction *direction*

Specifies the protocol direction to match against to resolve to a custom protocol.

Values client-to-server, server-to-client, any

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

expression

Syntax

expression *expr-index expr-type* **eq** *expr-string* {**record** | **no-record**}

no expression expr-index

Context

[Tree] (debug>app-assure>group>http-host>filter expression)

Full Context

debug application-assurance group http-host-recorder filter expression

Description

This command configures the recorder filter expressions.

Parameters

expr-index

Specifies the expression index value.

Values 1 to 4

expr-type

Specifies the expression type.

Values http-host

expr-string

Specifies the HTTP host filter expression string.

Values format *<expression>$ (33 chars max)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

expression

Syntax

expression *regular-expression*

no expression

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Context

[Tree] (config>router>policy-options>as-path expression)

Full Context

configure router policy-options as-path expression

Description

This command configures a route policy AS path regular expression statement to use in the route policy entries.

An AS path in a BGP route matches an AS path regular expression, if the path matches the pattern of the regular expression. A regular expression incorporates terms and operators that use the terms. An individual AS number is an elementary term in the AS path regular expression. More complex terms can be built from elementary terms. The following are key operators supported by SR OS:

- .
- *
- ?
- {n}
- {m,n}
- {m, }

To reverse the match criteria when specifying a list of ranges or single values using square brackets, use the non-match operator (^) before the elements within the square brackets.

The **no** form of this command deletes the AS path regular expression statement.

Parameters

regular-expression

The AS path regular expression. Allowed values are any string up to 255 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at signs (@); for example, "@variable@”.

null

The AS path expressed as an empty regular expression string.

Platforms

All

expression

Syntax

expression *expression* [**exact**]

no expression

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Context

[Tree] (config>router>policy-options>community expression)

Full Context

configure router policy-options community expression

Description

This command creates a logical expression to match a route policy community.

The **no** form of this command deletes the logical expression.

Default

no expression

Parameters

expression *expression*

Specifies a logical expression containing terms and operators. It can contain sub-expressions enclosed in round brackets.

Values up to 900 characters

<expression> is one of the following: <expression> {AND| OR} <expression> [NOT] (<expression>) [NOT] <comm-id>

For example:

from community expression "[community list A] OR ([community list B] AND [community list C])"

exact

All the communities indicated by the expression must be present in the route in order for a match to occur.

Platforms

All

16.77 expression-match

expression-match

Syntax

[no] expression-match

Context

[Tree] (config>app-assure>group>url-list expression-match)

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Full Context

configure application-assurance group url-list expression-match

Description

This command configures a URL list that contains hostnames with wildcards.

The **no** form of this command removes the URL list containing hostnames with wildcards.

Default

no expression-match

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.78 extended-action

extended-action

Syntax

[**no**] **extended-action**

Context

[Tree] (config>filter>ipv6-filter>entry>action extended-action)

[Tree] (config>filter>ip-filter>entry>action extended-action)

Full Context

configure filter ipv6-filter entry action extended-action

configure filter ip-filter entry action extended-action

Description

Commands in this context configure an extended action for a filter entry's PBR action (configured under **config**>**filter**>**ip-filter**>**entry**>**action** and **config**>**filter**>**ipv6-filter**>**entry**>**action** contexts). The extended action is executed in addition to the configured PBR action.

The **no** form of the command removes the extended action.

Default

no extended-action

Platforms

All

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16.79 extended-bw

extended-bw

Syntax

[**no**] **extended-bw**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>features extended-bw)

Full Context

configure subscriber-mgmt diameter-application-policy gx features extended-bw

Description

This command specifies whether extended bandwidth AVPs are supported. Extended bandwidth AVPs are capable of supporting bandwidth values greater than (2^{32} - 1) b/s. The extended AVPs allow bitrates in kb/s and are as follows:

- Extended-GBR-DL (AVP code 2850)
- Extended-GBR-UL (AVP code 2851)
- Extended-Max-Requested-BW-DL (AVP code 554)
- Extended-Max-Requested-BW-UL (AVP code 555)
- Extended-APN-AMBR-DL (AVP code 2848)
- Extended-APN-AMBR-UL (AVP code 2849)

The **no** form of this command disables the extended bandwidth AVP support.

Default

no extended-bw

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.80 extended-community

extended-community

Syntax

[**no**] **extended-community**

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Context

[Tree] (config>router>bgp>group>outbound-route-filtering extended-community)

[Tree] (config>router>bgp>outbound-route-filtering extended-community)

[Tree] (config>router>bgp>group>neighbor>outbound-route-filtering extended-community)

Full Context

configure router bgp group outbound-route-filtering extended-community

configure router bgp outbound-route-filtering extended-community

configure router bgp group neighbor outbound-route-filtering extended-community

Description

The extended-community command opens the configuration tree for sending or accepting extended-community based BGP filters.

For the **no** version of the command to work, all sub-commands (**send-orf**, **accept-orf**) must be removed first.

Default

no extended-community

Platforms

All

16.81 extended-community-set

extended-community-set

Syntax

extended-community-set *name*

no extended-community-set

Context

[Tree] (config>router>policy-options extended-community-set)

Full Context

configure router policy-options extended-community-set

Description

Commands in this context configure an extended community set used in route policies. An extended community set defines a list of exact match route target extended communities (type 0, type 1, or type 2). The set can be referenced in policy statements to match BGP routes that carry or do not carry the specified route targets.

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The **no** form of this command deletes the extended community set name.

Parameters

name

Specifies the name of the extended community set, up to 64 characters.

Platforms

All

extended-community-set

Syntax

extended-community-set *name*

[**no**] **extended-community-set**

Context

[Tree] (config>router>policy-options>policy-statement>entry>from extended-community-set)

Full Context

configure router policy-options policy-statement entry from extended-community-set

Description

This command configures a route policy extended community set name

The **no** form of this command removes the route policy extended community set name.

Default

no extended-community-set

Parameters

name

Specifies the name of the extended community set, up to 64 characters.

Platforms

All

extended-community-set

Syntax

extended-community-set *name*

[**no**] **extended-community-set**

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Context

[Tree] (config>router>policy-options>policy-statement>entry>from extended-community-set)

Full Context

configure router policy-options policy-statement entry from extended-community-set

Description

This command configures a route policy extended community set name

The **no** form of this command removes the route policy extended community set name.

Default

no extended-community-set

Parameters

name

Specifies the name of the extended community set, up to 64 characters.

Platforms

All

16.82 extended-community-set-options

extended-community-set-options

Syntax

extended-community-set-options {*any* | *all* | *invert*}

[**no**] **extended-community-set-options**

Context

[Tree] (config>router>policy-options>policy-statement>entry>from extended-community-set-options)

Full Context

configure router policy-options policy-statement entry from extended-community-set-options

Description

This command configures extended community set options as a match criterion.

The **no** form of this command removes extended community set options.

Default

any

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Parameters

any

Matches if the route has any of the listed route targets.

all

Matches if the route has all of the listed route targets.

invert

Matches if the route has none of the listed route targets.

Platforms

All

16.83 extended-failure-handling

extended-failure-handling

Syntax

extended-failure-handling

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy extended-failure-handling)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling

Description

Commands in this context configure Extended Failure Handling (EFH), a mechanism to establish a new Diameter Gy session with the Online Charging Server (OCS) after Credit Control Failure Handling (CCFH) CONTINUE is triggered.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

16.84 extended-lsa

extended-lsa

Syntax

extended-lsa {**sparse** | **only**}

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no extended-lsa

Context

[Tree] (config>router>ospf3 extended-lsa)

Full Context

configure router ospf3 extended-lsa

Description

This command configures the use of extended LSA format in OSPFv3, as described in *draft-ietf-ospf-ospfv3-lsa-extend*.

Prior to this feature, SR OS used the fixed format LSA to carry the prefix and link information as described in RFC 5340, *OSPF for IPv6*. The fixed format is not extensible and the TLV format of the extended LSA must be used.

With this feature, the default mode of operation for OSPFv3 is referred to as **sparse** mode, meaning that the router will always advertise the fixed format for existing LSAs and will add the TLV-based extended LSA only when it needs to advertise new sub-TLVs. This mode of operation is similar to the way OSPFv2 advertises the segment routing information. It sends the prefix in the original fixed-format prefix LSA and then follows with the extended prefix TLV which is sent in an extended prefix opaque LSA containing the prefix SID sub-TLV.

The **extended-lsa only** value enables the full extended LSA mode. This causes all existing and new LSAs to use the extended LSA format.

The OSPFv3 instance must first be shut down before the user can change the mode of operation since the protocol must flush all LSAs and re-establish all adjacencies.

The **no** form of this command at the OSPFv3 instance level reverts the OSPFv3 instance to the default **sparse** mode of operation.

Default

extended-lsa sparse

Parameters

sparse

Enables the sparse mode of operation in an OSPFv3 instance.

only

Enables the full extended LSA mode of operation in an OSPFv3 instance.

Platforms

All

extended-lsa

Syntax

extended-lsa {**inherit** | **only**}

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no extended-lsa

Context

[Tree] (config>router>ospf3>area extended-lsa)

Full Context

configure router ospf3 area extended-lsa

Description

This command configures the use of extended LSA format in a OSPFv3 area as described in *draft-ietf-ospf-ospfv3-lsa-extend*.

By default, the area inherits the instance-level configuration. The latter defaults to the **sparse** mode of operation. The **extended-lsa only** value enables the full extended LSA mode, which causes all existing and new LSAs to use the extended LSA format.

The OSPFv3 instance must first be shut down before the user can change the mode of operation since the protocol must flush all LSAs and reestablish all adjacencies.

The **no** form of this command at the area level returns the area to the default mode of inheriting the mode from the OSPFv3 instance level.

Default

extended-lsa inherit

Parameters

inherit

Configures the area to inherit the mode of operation enabled at the OSPFv3 instance level.

only

Enables the full extended LSA mode of operation in an OSPFv3 area.

Platforms

All

16.85 extended-nh-encoding

extended-nh-encoding

Syntax

extended-nh-encoding [**ipv4**]

no extended-nh-encoding

Context

[Tree] (config>service>vprn>bgp extended-nh-encoding)

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[Tree] (config>service>vprn>bgp>group extended-nh-encoding)

[Tree] (config>service>vprn>bgp>group>neighbor extended-nh-encoding)

Full Context

configure service vprn bgp extended-nh-encoding

configure service vprn bgp group extended-nh-encoding

configure service vprn bgp group neighbor extended-nh-encoding

Description

This command configures BGP to advertise (at session OPEN) the capability to receive IPv4 or IPv4 routes with IPv4 or IPv6 next hops from the VPRN BGP peers included in the scope of the command. These peers should not send these routes unless they receive the capability. If the SR OS router receives an IPv4 route from a peer to which it did not advertise the necessary capability, the UPDATE message will be considered malformed and causes either a session reset or treat as withdraw behavior depending on the error handling settings.

The **no** form of this command causes the sending of an extended NH encoding BGP capability to the associated BGP peers to be inherited from a higher configuration level or disabled (if configured at the BGP level).

Default

no extended-nh-encoding

Parameters

ipv4

Specifies that the command should be applied to unlabeled unicast IPv4 routes.

Platforms

All

extended-nh-encoding

Syntax

extended-nh-encoding [**label-ipv4**] [**vpn-ipv4**] [**ipv4**]

no extended-nh-encoding

Context

[Tree] (config>router>bgp extended-nh-encoding)

[Tree] (config>router>bgp>group extended-nh-encoding)

[Tree] (config>router>bgp>group>neighbor extended-nh-encoding)

Full Context

configure router bgp extended-nh-encoding

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configure router bgp group extended-nh-encoding

configure router bgp group neighbor extended-nh-encoding

Description

This command configures BGP to advertise (at session OPEN) the capability to receive label IPv4, VPN IPv4 routes, or IPv6 next hops from the peers. These peers should not send such routes unless they receive notification of this capability. If the SR OS router receives a label IPv4 or VPN IPv4 route from a peer to which it did not advertise the necessary capability, the UPDATE message will be considered malformed and this will cause either session reset or **treat-as-withdraw** behavior depending on the error handling settings.

The **no** form of this command causes the sending of an extended NH encoding BGP capability to the associated BGP peers to be inherited from a higher configuration level or disabled (if configured at the BGP level).

Default

no extended-nh-encoding

Parameters

label-ipv4

Instructs BGP to advertise an extended NH encoding capability for NLRI AFI=1, NLRI SAFI=4, and next-hop AFI=2.

vpn-ipv4

Instructs BGP to advertise an extended NH encoding capability for NLRI AFI=1, NLRI SAFI=128, and next-hop AFI=2.

ipv4

Instructs BGP to advertise an extended NH encoding capability for NLRI AFI=1, NLRI SAFI=1 and next-hop AFI=2.

Platforms

All

16.86 extended-sequence-number

extended-sequence-number

Syntax

[no] extended-sequence-number

Context

[Tree] (config>ipsec>transform extended-sequence-number)

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Full Context

configure ipsec ipsec-transform extended-sequence-number

Description

This command configures 64-bit extended sequence numbering support. This numbering is used for high throughput CHILD_SA to avoid frequent rekeying caused by sequence numbering wrap around.

The **no** form of this command disables extended sequence numbering support and reverts to 32-bit sequence numbering support.

Default

extended-seq-number

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.87 extended-unicast

extended-unicast

Syntax

[no] extended-unicast

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if extended-unicast)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface extended-unicast

Description

This command delays video unicast from switching over to multicast for 5 minutes. The unicast session can be extended further by sending an RTCP extension request, which resets the 5-minute timer. This is ideal for services that require unicast video and end devices that require extended time to switch over from unicast to multicast.

The **no** form of this command disables extended unicast. The unicast session switches over to multicast 1.5 seconds after the IGMP request is sent. Most Fast Channel Change deployments do not require a time extension.

Default

no extended-unicast

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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16.88 extension

extension

Syntax

[**no] extension start** [*0 to 4095*] **end** [*0 to 4095*]

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>extensions extension)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range extensions extension

Description

This command configures an additional VLAN range extension that is used for matching. Any traffic within the extension range is considered part of the same VLAN range for purposes of intra-SSID mobility.

Parameters

start *[0 to 4095]*

Specifies the start of the VLAN extension range

Values 0 to 4095

end*[0 to 4095]*

Specifies the end of VLAN extension range

Values 0 to 4095

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.89 extensions

extensions

Syntax

[**no**] **extensions**

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range extensions)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range extensions

Description

This command enables VLAN range extensions on this VLAN tag range.

The **no** form of the command disables VLAN extensions.

Default

no extensions

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.90 external

external

Syntax

[**no**] **external**

Context

[Tree] (config>router>policy-options>policy-statement>entry>from external)

Full Context

configure router policy-options policy-statement entry from external

Description

This command specifies the external route matching criteria for the entry.

Default

no external

Platforms

All

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16.91 external-assignment

external-assignment

Syntax

[**no**] **external-assignment**

Context

[Tree] (config>router>nat>outside>pool external-assignment)

[Tree] (config>service>vprn>nat>outside>pool external-assignment)

Full Context

configure router nat outside pool external-assignment

configure service vprn nat outside pool external-assignment

Description

This command enables external allocation of L2-Aware NAT outside IP addresses from the pool.

The **no** form of the command disables the allocation.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

16.92 external-db-overflow

external-db-overflow

Syntax

external-db-overflow *limit interval*

no external-db-overflow

Context

[Tree] (config>service>vprn>ospf external-db-overflow)

[Tree] (config>service>vprn>ospf3 external-db-overflow)

Full Context

configure service vprn ospf external-db-overflow

configure service vprn ospf3 external-db-overflow

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Description

This command enables limits on the number of non-default AS-external-LSA entries that can be stored in the LSDB and specifies a wait timer before processing these after the limit is exceeded.

The *limit* value specifies the maximum number of non-default AS-external-LSA entries that can be stored in the link-state database (LSDB). Placing a limit on the non-default AS-external-LSAs in the LSDB protects the router from receiving an excessive number of external routes that consume excessive memory or CPU resources. If the number of routes reach or exceed the *limit*, the table is in an overflow state. When in an overflow state, the router does not originate any new AS-external-LSAs and it withdraws all self-originated non-default external LSAs.

The *interval* specifies the amount of time to wait after an overflow state before regenerating and processing non-default AS-external-LSAs. The waiting period acts like a dampening period, which prevents the router from continuously running Shortest Path First (SPF) calculations caused by the excessive number of non-default AS-external LSAs.

The **external-db-overflow** must be set identically on all routers attached to any regular OSPF area. OSPF stub areas and not-so-stubby areas (NSSAs) are excluded.

The **no** form of this command disables limiting the number of non-default AS-external-LSA entries.

Default

no external-db-overflow — No limit on non-default AS-external-LSA entries.

Parameters

limit

The maximum number of non-default AS-external-LSA entries that can be stored in the LSDB before going into an overflow state expressed as a decimal integer.

Values -1 to 2147483647

Note:
Setting a value of -1 is equivalent to **no external-db-overflow**.

interval

The number of seconds after entering an overflow state before attempting to process non-default AS-external-LSAs expressed as a decimal integer.

Values 0 to 2147483647

Platforms

All

external-db-overflow

Syntax

external-db-overflow *limit interval*

no external-db-overflow

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Context

[Tree] (config>router>ospf external-db-overflow)

[Tree] (config>router>ospf3 external-db-overflow)

Full Context

configure router ospf external-db-overflow

configure router ospf3 external-db-overflow

Description

This command enables limits on the number of non-default AS-external-LSA entries that can be stored in the LSDB and specifies a wait timer before processing these after the limit is exceeded.

The *limit* value specifies the maximum number of non-default AS-external-LSA entries that can be stored in the link-state database (LSDB). Placing a limit on the non-default AS-external-LSAs in the LSDB protects the router from receiving an excessive number of external routes that consume excessive memory or CPU resources. If the number of routes reach or exceed the *limit*, the table is in an overflow state. When in an overflow state, the router will not originate any new AS-external-LSAs. In fact, it withdraws all the self-originated non-default external LSAs.

The *interval* specifies the amount of time to wait after an overflow state before regenerating and processing non-default AS-external-LSAs. The waiting period acts like a dampening period preventing the router from continuously running Shortest Path First (SPF) calculations caused by the excessive number of non-default AS-external LSAs.

The **external-db-overflow** must be set identically on all routers attached to any regular OSPF area. OSPF stub areas and not-so-stubby areas (NSSAs) are excluded.

The **no** form of this command disables limiting the number of non-default AS-external-LSA entries.

Default

no external-db-overflow

Parameters

limit

Specifies the maximum number of non-default AS-external-LSA entries that can be stored in the LSDB before going into an overflow state expressed as a decimal integer.

Values 0 to 2147483647

interval

The number of seconds after entering an overflow state before attempting to process non-default AS-external-LSAs expressed as a decimal integer.

Values 0 to 2147483647

Platforms

All

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16.93 external-preference

external-preference

Syntax

external-preference *preference*

no external-preference

Context

[Tree] (config>service>vprn>isis>level external-preference)

Full Context

configure service vprn isis level external-preference

Description

This command configures the external route preference for the IS-IS level.

The **external-preference** command configures the preference level of either IS-IS level 1 or IS-IS level 2 external routes. By default, the preferences are as listed in the table below.

A route can be learned by the router by different protocols, in which case, the costs are not comparable. When this occurs, the preference decides the route to use.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is dependent on the default preference table. If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used. If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision of the route to use is determined by the configuration of the **ecmp** in the **config>router** context.

Default

Default preferences are listed in Table 40: Default Preferences.

Table 40: Default Preferences

Route Type	Preference	Configurable
Direct attached	0	No
Static route	5	Yes
MPLS	7	—
OSPF internal routes	10	No
IS-IS Level 1 internal	15	Yes
IS-IS Level 2 internal	18	Yes

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Route Type	Preference	Configurable
OSPF external	150	Yes
IS-IS Level 1 external	160	Yes
IS-IS Level 2 external	165	Yes
BGP	170	Yes
BGP	170	Yes

Note:

1. Internal preferences are changed using the **preference** command in the **config>router>isis>level** *level-number* context.

Parameters

preference

The preference for external routes at this level as expressed.

Values 1 to 255

Platforms

All

external-preference

Syntax

external-preference *preference*

no external-preference

Context

[Tree] (config>service>vprn>ospf external-preference)

[Tree] (config>service>vprn>ospf3 external-preference)

Full Context

configure service vprn ospf external-preference

configure service vprn ospf3 external-preference

Description

This command configures the preference for OSPF external routes.

A route can be learned by the router from different protocols, in which case the costs are not comparable. If this occurs, preference is used to decide which route is used.

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Different protocols should not be configured with the same preference. If this occurs, the tiebreaker is per the default preference table as defined in Table 41: Default External Route Preferences . If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used.

If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, the decision of which route to use is determined by the configuration of the **ecmp** in the **config**>**router** context.

The **no** form of this command reverts to the default value.

Table 41: Default External Route Preferences

Route Type	Preference	Configurable
Direct attached	0	No
Static routes	5	Yes
OSPF internal	10	Yes[2]
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes

Default

external-preference 150 — OSPF external routes have a default preference of 150.

Parameters

preference

The preference for external routes expressed as a decimal integer.

Values 1 to 255

Platforms

All

external-preference

Syntax

external-preference *preference*

[2] Preference for OSPF internal routes is configured with the **preference** command.

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no external-preference

Context

[Tree] (config>router>isis>level external-preference)

Full Context

configure router isis level external-preference

Description

This command configures the external route preference for the IS-IS level.

The **external-preference** command configures the preference level of either IS-IS level 1 or IS-IS level 2 external routes. By default, the preferences are as listed in the table below.

A route can be learned by the router by different protocols, in which case, the costs are not comparable. When this occurs, the preference decides the route to use.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is dependent on the default preference table. If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used. If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision of the route to use is determined by the configuration of the **ecmp** in the **config>router** context.

The **no** form of this command reverts to the default value.

Default

external-preference (Level 1) — 160

external-preference (Level 2) — 165

Parameters

preference

Specifies the preference for external routes at this level as expressed.

Default preferences are listed in the following table.

Table 42: Default External Route Preferences

Route Type	Preference	Configurable
Direct attached	0	—
Static-route	5	Yes
OSPF internal routes	10	—
IS-IS Level 1 internal	15	Yes[3]
IS-IS Level 2 internal	18	Yes[3]

[3] Internal preferences are changed using the preference command in the **config>router>isis>level** *level-number* context.

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Route Type	Preference	Configurable
OSPF external	150	Yes
IS-IS Level 1 external	160	Yes
IS-IS Level 2 external	165	Yes
BGP	170	Yes

Values 1 to 255

Platforms

All

external-preference

Syntax

external-preference *preference*

no external-preference

Context

[Tree] (config>router>ospf3 external-preference)

[Tree] (config>router>ospf external-preference)

Full Context

configure router ospf3 external-preference

configure router ospf external-preference

Description

This command configures the preference for OSPF external routes.

A route can be learned by the router from different protocols, in which case, the costs are not comparable. When this occurs, the preference is used to decide which route will be used.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is per the default preference table as defined in Table 43: Route Preference Defaults by Route Type . If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used.

If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision of what route to use is determined by the configuration of the **ecmp** in the **config**>**router** context.

The **no** form of this command reverts to the default value.

Default

external-preference 150

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Parameters

preference

Specifies the preference for external routes expressed as a decimal integer. Defaults for different route types are listed in Table 43: Route Preference Defaults by Route Type .

Table 43: Route Preference Defaults by Route Type

Route Type	Preference	Configurable
Direct attached	0	No
Static routes	5	Yes
OSPF internal	10	Yes[4]
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes
BGP	170	Yes

Values 1 to 255

Platforms

All

16.94 external-reference

external-reference

Syntax

external-reference

Context

[Tree] (config>service>vprn>if external-reference)

[Tree] (config>router>if external-reference)

[4] Preference for OSPF internal routes is configured with the **preference** command.

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Full Context

configure service vprn interface external-reference

configure router interface external-reference

Description

Commands in this context configure the external reference used to map a Nokia vendor-specific configuration and the OpenConfig state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

16.95 extranet

extranet

Syntax

extranet [**detail**]

no extranet

Context

[Tree] (debug>router>pim extranet)

Full Context

debug router pim extranet

Description

This command enables debugging for extranet PIM.

The **no** form of this command disables PIM extranet debugging.

Parameters

detail

Debugs detailed extranet PIM information.

Platforms

All

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17 f Commands

17.1 facility

facility

Syntax

facility *syslog-facility*

no facility

Context

[Tree] (config>service>vprn>log>syslog facility)

Full Context

configure service vprn log syslog facility

Description

This command configures the facility code for messages sent to the syslog target host.

Multiple syslog IDs can be created with the same target host but each syslog ID can only have one facility code. If multiple facility codes are entered, the last *facility-code* entered overwrites the previous facility-code.

If multiple facilities need to be generated for a single syslog target host, then multiple **log-id** entries must be created, each with its own filter criteria to select the events to be sent to the syslog target host with a given facility code.

The **no** form of this command reverts to the default value.

Default

local7 — Syslog entries are sent with the local7 facility code.

Parameters

syslog-facility

Specifies syslog facility name represents a specific numeric facility code. The code should be entered in accordance with the syslog RFC. However, the software does not validate if the facility code configured is appropriate for the event type being sent to the syslog target host.

Values kernel, user, mail, systemd, auth, syslogd, printer, netnews, uucp, cron, authpriv, ftp, ntp, logaudit, logalert, cron2, local0, local1, local2, local3, local4, local5, local6, local7

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Valid responses per RFC 3164, *The BSD syslog Protocol,* are listed in Table 44: Syslog Facility Codes.

Table 44: Syslog Facility Codes

Numerical Code	Facility Code
0	kernel
1	user
2	mail
3	systemd
4	auth
5	syslogd
6	printer
7	net-news
8	uucp
9	cron
10	auth-priv
11	ftp
12	ntp
13	log-audit
14	log-alert
15	cron2
16	local0
17	local1
18	local2
19	local3
20	local4
21	local5
22	local6
23	local7

Values: 0 to 23

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Platforms

All

facility

Syntax

facility *syslog-facility*

Context

[Tree] (config>app-assure>group>evt-log>syslog facility)

Full Context

configure application-assurance group event-log syslog facility

Description

This command configures the syslog facility. The syslog facility is an information field associated with a syslog message. It is defined by the syslog protocol and provides an indication of which part of the system originated the message.

Default

facility local7

Parameters

syslog-facility

Specifies the syslog facility keyword.

Values kernel, user, mail, systemd, auth, syslogd, printer, netnews, uucp, cron, authpriv, ftp, ntp, logaudit, logalert, cron2, local0, local1, local2, local3, local4, local5, local6, local7

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

facility

Syntax

facility *syslog-facility*

Context

[Tree] (config>service>nat>syslog>syslog-export-policy facility)

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Full Context

configure service nat syslog syslog-export-policy facility

Description

This command configures a syslog facility. For more information, refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide*. The **config>log>syslog>level** hierarchy also applies to this context.

Default

facility local0

Parameters

syslog-facility

Specifies a syslog facility name which represents a specific numeric facility code. The code must be entered in accordance with the syslog RFC. However, the software does not validate if the facility code configured is appropriate for the event type being sent to the syslog target host.

Values kernel, user, mail, systemd, auth, syslogd, printer, netnews, uucp, cron, authpriv, ftp, ntp, logaudit, logalert, cron2, local0, local1, local2, local3, local4, local5, local6, local7

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

facility

Syntax

facility *syslog-facility*

no facility

Context

[Tree] (config>log>syslog facility)

Full Context

configure log syslog facility

Description

This command configures the facility code for messages sent to the syslog target host.

Multiple syslog IDs can be created with the same target host but each syslog ID can only have one facility code. If multiple facility codes are entered, the last *facility-code* entered overwrites the previous facility-code.

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If multiple facilities need to be generated for a single syslog target host, then multiple **log-id** entries must be created, each with its own filter criteria to select the events to be sent to the syslog target host with a given facility code.

The **no** form of this command reverts to the default value.

Default

facility local7

Parameters

syslog-facility

Specifies a syslog facility name which represents a specific numeric facility code. The code must be entered in accordance with the syslog RFC. However, the software does not validate if the facility code configured is appropriate for the event type being sent to the syslog target host.

Values kernel, user, mail, systemd, auth, syslogd, printer, netnews, uucp, cron, authpriv, ftp, ntp, logaudit, logalert, cron2, local0, local1, local2, local3, local4, local5, local6, local7

Valid responses per RFC 3164, *The BSD syslog Protocol,* are listed in Table 45: Syslog Protocol Valid Responses.

Table 45: Syslog Protocol Valid Responses

Numerical Code	Facility Code
0	kernel
1	user
2	mail
3	systemd
4	auth
5	syslogd
6	printer
7	net-news
8	uucp
9	cron
10	auth-priv
11	ftp
12	ntp
13	log-audit

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Numerical Code	Facility Code
14	log-alert
15	cron2
16	local0
17	local1
18	local2
19	local3
20	local4
21	local5
22	local6
23	local7

Platforms

All

17.2 facility-fault

facility-fault

Syntax

[**no**] **facility-fault**

Context

[Tree] (config>port>ethernet>eth-cfm>mep facility-fault)

[Tree] (config>lag>eth-cfm>mep facility-fault)

Full Context

configure port ethernet eth-cfm mep facility-fault

configure lag eth-cfm mep facility-fault

Description

Allows the facility MEP to move from alarming only to network actionable function. This means a facility MEP will not merely report the defect conditions but will be able to action based on the transition of the MEP state. Without this command the facility MEP will only monitor and report and conditions of the MEP do not affect related services.

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Default

no facility-fault

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

facility-fault

Syntax

[**no**] **facility-fault**

Context

[Tree] (config>router>if>eth-cfm>mep facility-fault)

Full Context

configure router interface eth-cfm mep facility-fault

Description

This command allows the facility MEP to move from alarming only to network actionable function. This means that a MEP facility reports both the defect conditions and the actions that are based on the transition of the MEP state.

The **no** form of this command causes the facility MEP to only monitor and report conditions on the MEPs that do not affect related services.

Default

no facility-fault

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.3 facility-id-permission

facility-id-permission

Syntax

facility-id-permission {**chassis**}

no facility-id-permission

Context

[Tree] (config>eth-cfm>domain>assoc facility-id-permission)

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Full Context

configure eth-cfm domain association facility-id-permission

Description

This command allows the operator to include the sender-id TLV information that was specified under the **config>eth>system>sender-id** context for facility base MEPs. When this option is present under the maintenance association, the specific MPs in the association included the **sender-id** TLV information in ETH-CFM PDUs. MEPs include the **sender-id** TLV for CCM (not sub second CCM enabled MEPs), LBM/LBR, and LTM/LTR. MIPs include this value in the LBR and LTR PDUs.

Note:
LBR functions reflect all TLVs received in the LBM unchanged including the SenderID TLV. This command produces an error when a bridge-identifier is configured under the association. Facility MEPs do not support the bridge-identifier. Transmission of the Management Domain and Management Address fields are not supported in this TLV.

Parameters

chassis

Sends the configured chassis information defined under **eth-cfm>system** using the **sender-id** option.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.4 fail-action

fail-action

Syntax

fail-action {**continue** | **drop**}

no fail-action

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>match-radprox-cache fail-action)

Full Context

configure subscriber-mgmt local-user-db ipoe host match-radius-proxy-cache fail-action

Description

This command specifies the action to take when no match is found in the cache.

The **no** form of this command reverts to the default.

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Default

fail-action drop

Parameters

continue

Specifies to continue when no match is found.

drop

Specifies to drop when no match is found.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

fail-action

Syntax

fail-action *fail-action*

no fail-action

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action fail-action)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action fail-action

Description

This command configures the fail action when a packet matches with a VAS filter entry in a specific direction, but no mapping exists for the specified SF-IP or ESI in the specified EVPN service.

The **no** form of this command removes the fail action from the configuration.

Parameters

fail-action

Specifies the fail action.

Values drop, forward

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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fail-action

Syntax

fail-action {[**metric** *metric-value*] [**preference** *preference-value*] [**tag** *tag-value*] | withdraw}

no fail-action

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check fail-action)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check fail-action)

Full Context

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check fail-action

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check fail-action

Description

This command configures the fail action based on specific criteria.

The **no** form of this command removes the fail action from the configuration.

Parameters

metric-value

Specifies the route metric associated with the provisioned managed route if the CPE check fails.

Values 1 to 4294967295

preference-value

Specifies the route preference associated with the provisioned managed route if the CPE check fails.

Values 0 to 255

tag-value

Specifies the route tag used if the CPE check fails.

Values 1 to 4294967295

withdraw

Keyword to specify the withdrawal of the route entry if the CPE check fails.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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17.5 fail-on-error

fail-on-error

Syntax

[**no**] **fail-on-error**

Context

[Tree] (config>card>xiom fail-on-error)

[Tree] (config>card fail-on-error)

Full Context

configure card xiom fail-on-error

configure card fail-on-error

Description

This command controls the behavior of the card when any one of a specific set of card level errors is encountered in the system. When the **fail-on-error** command is enabled, and any one (or more) of the specific errors is detected, then the Operational State of the card is set to Failed. This Failed state will persist until the clear card command is issued (reset) or the card is removed and re-inserted (re-seat). If the condition persists after re-seating the card, then Nokia support should be contacted for further investigation.

Enabling **fail-on-error** is only recommended when the network is designed to be able to route traffic around a failed card (redundant cards, nodes or other paths exist).

The list of specific errors includes:

- CHASSIS event ID# 2063 – tmnxEqCardPChipMemoryEvent
- CHASSIS event ID# 2076 – tmnxEqCardPChipCamEvent
- CHASSIS event ID# 2059 – tmnxEqCardPChipError (for ingress Ethernet only)
- CHASSIS event ID# 2098 – tmnxEqCardQChipBufMemoryEvent
- CHASSIS event ID# 2099 – tmnxEqCardQChipStatsMemoryEvent
- CHASSIS event ID# 2101 – tmnxEqCardQChipIntMemoryEvent
- CHASSIS event ID# 2103 – tmnxEqCardChipIfCellEvent

On platforms without independent IOM/IMM and CPM cards, the node is rebooted if fail-on-error is enabled and one of the card level errors is encountered.

The tmnxEqCardPChipError is only considered as a trigger for card fail-on-error for ingress FCS errors (not egress FCS errors), and only for Ethernet MDAs or IMMs.

Note that upon the detection of the event/error in the system, the reporting of the event (logs) and the **fail-on-error** behavior of the card are independent. Log event control configuration will determine whether the events are reported in logs (or SNMP traps, and so on) and the **fail-on-error** configuration will determine the behavior of the card. This implies that the card can be configured to **fail-on-error** even if the events are

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suppressed (some may be suppressed in the system by default). In order to facilitate post-failure analysis, Nokia recommends that you enable the reporting of the specific events/errors (**configure log event-control**) when **fail-on-error** is enabled.

Default

no fail-on-error

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom fail-on-error

All

- configure card fail-on-error

fail-on-error

Syntax

[**no**] **fail-on-error**

Context

[Tree] (config>card>mda fail-on-error)

Full Context

configure card mda fail-on-error

Description

This command enables the fail-on-error feature. If an MDA is experiencing too many Egress XPL Errors, this feature causes the MDA to fail. This can force an APS switchover or **traffic re-route**. The purpose of this feature is to avoid situations where traffic is forced to use a physical link that suffers from errors but is still technically operational.

The feature uses values configured in the **config>card>mda>egress-xpl** context. When this feature is enabled on a MDA, if *window* consecutive minutes pass in which the MDA experiences more than *threshold* Egress XPL Errors per minute, then the MDA will be put in the *failed* state.

The **no** form of this command disables the feature on the MDA.

Platforms

All

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17.6 fail-to-open

fail-to-open

Syntax

[**no**] **fail-to-open**

Context

[Tree] (config>isa>aa-grp fail-to-open)

Full Context

configure isa application-assurance-group fail-to-open

Description

This command configures the mode of operation during an operational failure of this application assurance group when no application assurance engines are available to service traffic. When enabled, all traffic that was to be inspected will be dropped. When disabled, all traffic that was to be inspected will be forwarded without any inspection as if the group was not configured at all.

Default

no fail-to-open

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.7 failed-mda-limit

failed-mda-limit

Syntax

failed-mda-limit *number*

no failed-mda-limit

Context

[Tree] (config>isa>nat-group failed-mda-limit)

Full Context

configure isa nat-group failed-mda-limit

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Description

This command configures the maximum number of supported simultaneous failures in active/active intra-chassis NAT redundancy model. Traffic from the failed ESA-VMs or ISAs is distributed over the remaining ESA-VM or ISA in the system. Memory resources are reserved in every ESA-VM or ISA to accommodate new mappings from the failed ESA-VM or ISA. However, bandwidth is not reserved and each ESA-VM or ISA operates at maximum speed in all conditions (with failure or without the failure).

NAT translations are not preserved across switchovers and consequently they must be reinitiated by the clients.

For this command to take effect, the intra-chassis redundancy must be set to **active-active** mode by using the **configure isa nat-group redundancy active-active** command.

The **no** form of this command removes the failed MDA limit configuration.

Default

no failed-mda-limit

Parameters

number

Specifies the number of simultaneous ISA failures supported in active-active intra-chassis NAT redundancy model.

Values 1 to 2

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.8 failed-threshold

failed-threshold

Syntax

failed-threshold [1 to 1000]

failed-threshold all

Context

[Tree] (config>service>vpls>site failed-threshold)

Full Context

configure service vpls site failed-threshold

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Description

This command defines the number of objects should be down for the site to be declared down. Both administrative and operational status must be evaluated and if at least one is down, the related object is declared down.

Default

failed-threshold all

Parameters

1 to 1000

Specifies the threshold for the site to be declared down.

Platforms

All

17.9 failover

failover

Syntax

failover

Context

[Tree] (config>service>vprn>dhcp6>server>pool failover)

[Tree] (config>service>vprn>dhcp6>server failover)

[Tree] (config>router>dhcp6>server failover)

[Tree] (config>router>dhcp>server>pool failover)

[Tree] (config>router>dhcp>server failover)

[Tree] (config>router>dhcp6>server>pool failover)

[Tree] (config>service>vprn>dhcp>server failover)

[Tree] (config>service>vprn>dhcp>server>pool failover)

Full Context

configure service vprn dhcp6 local-dhcp-server pool failover

configure service vprn dhcp6 local-dhcp-server failover

configure router dhcp6 local-dhcp-server failover

configure router dhcp local-dhcp-server pool failover

configure router dhcp local-dhcp-server failover

configure router dhcp6 local-dhcp-server pool failover

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configure service vprn dhcp local-dhcp-server failover

configure service vprn dhcp local-dhcp-server pool failover

Description

Commands in this context configure failover parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

failover

Syntax

failover

Context

[Tree] (config>service>vprn>l2tp failover)

[Tree] (config>router>l2tp failover)

[Tree] (config>router>l2tp>group>tunnel failover)

[Tree] (config>service>vprn>l2tp>group failover)

[Tree] (config>service>vprn>l2tp>group>tunnel failover)

[Tree] (config>router>l2tp>group failover)

Full Context

configure service vprn l2tp failover

configure router l2tp failover

configure router l2tp group tunnel failover

configure service vprn l2tp group failover

configure service vprn l2tp group tunnel failover

configure router l2tp group failover

Description

Commands in this context configure LAC multi-chassis redundancy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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17.10 failure-action

failure-action

Syntax

failure-action down

no failure-action

Context

[Tree] (config>router>ldp>lsp-bfd failure-action)

Full Context

configure router ldp lsp-bfd failure-action

Description

This command configures the action to take when LSP BFD fails on an LDP LSP.

The system generates an SNMP trap if BFD goes down on an LSP, regardless of whether a failure action is configured or not.

The **no** form of this command removes the failure action.

Default

no failure-action

Parameters

down

Specifies the LSP is marked as unusable in the TTM. If the LSP appears as a shortcut in RTM, then the route is removed.

Platforms

All

failure-action

Syntax

failure-action down

no failure-action

Context

[Tree] (config>service>vprn>interface>spoke-sdp>bfd failure-action)

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[Tree] (config>service>vpls>spoke-sdp>bfd failure-action)

[Tree] (config>service>epipe>spoke-sdp>bfd failure-action)

[Tree] (config>service>ies>interface>spoke-sdp>bfd failure-action)

Full Context

configure service vprn interface spoke-sdp bfd failure-action

configure service vpls spoke-sdp bfd failure-action

configure service epipe spoke-sdp bfd failure-action

configure service ies interface spoke-sdp bfd failure-action

Description

This command configures the ability to bind the operational state of a spoke-SDP to the state of its VCCV BFD session.

If **failure-action down** is configured, the spoke-SDP is taken operationally down if the associated VCCV BFD session goes down. This configuration also allows BFD packets to be forwarded on an otherwise operationally down spoke-SDP in order to test the spoke-SDP connectivity.

The **no** form of this command removes the failure action.

Default

no failure-action

Parameters

down

Specifies that the spoke-SDP is taken operationally down if the associated VCCV BFD session goes down.

Platforms

All

failure-action

Syntax

failure-action *failure-action*

no failure-action

Context

[Tree] (config>router>mpls>lsp>bfd failure-action)

Full Context

configure router mpls lsp bfd failure-action

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Description

This command configures what action occurs when LSP BFD fails on an RSVP or SR-TE LSP.

A failure action of **down** means an LSP is marked as unusable in TTM. If it appears as a shortcut in RTM, the route is removed. This failure action can only be configured on RSVP LSPs.

A failure action of **failover** causes the active path of an RSVP LSP to switch to the secondary or next-preference available secondary path. This option is only available for RSVP LSPs. It is not applicable to **one-hop-p2p** and **mesh-p2p** auto LSPs.

A failure action of **failover-or-down** means that a switchover from the active path is triggered on failure of the BFD session on the active path (primary or standby). If there is no available path to switch to, then the LSP is taken operationally down. For RSVP-TE LSPs, this failure action causes the two best-preference standby paths to be programmed in the data path, in addition to the primary.

The system generates an SNMP trap if BFD goes down on an LSP, regardless of whether a failure action is configured or not.

The **no** form of this command removes the failure action.

Default

no failure-action

Parameters

down

Specifies that the LSP will be marked as unusable in the TTM. If it appears as a shortcut in RTM, then the route will be removed.

failover

Specifies that the active path of an RSVP LSP will switch to the secondary path or next-preference available secondary path. This option is only available for RSVP LSPs. It is not applicable in the LSP template.

failover-or-down

Specifies that the active path of an SR-TE or RSVP-TE LSP switches to the secondary or next-preference available secondary path, or for the LSP to go operationally down if no other path is available.

Platforms

All

failure-action

Syntax

failure-action {**down** | **failover-or-down**}

no failure-action

Context

[Tree] (config>router>mpls>lsp-template>bfd failure-action)

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Full Context

configure router mpls lsp-template bfd failure-action

Description

This command configures the action to take when LSP BFD fails on an RSVP LSP.

The system generates an SNMP trap if BFD goes down on an LSP, regardless of whether or not a failure action is configured.

The **no** form of this command removes the failure action.

Default

no failure-action

Parameters

down

Specifies that the LSP is marked as unusable in the TTM. If it appears as a shortcut in RTM, then the route is removed.

failover-or-down

Specifies that the active path of an SR-TE LSP switches to the secondary or next-preference available secondary path, or for the LSP to go operationally down if no other path is available. This option is only available for SR-TE LSPs.

Platforms

All

17.11 failure-mode

failure-mode

Syntax

failure-mode [**discard** | **per-link-hash**]

no failure-mode

Context

[Tree] (config>lag>link-map-profile failure-mode)

Full Context

configure lag link-map-profile failure-mode

Description

This command defines the failure mode for egress traffic of SAPs/network interfaces that use this link-map-profile when neither primary nor secondary links of this profile are available.

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Default

failure-mode per-link-hash

Parameters

discard

Specifies egress traffic for SAPs/network interfaces using this link-map-profile is discarded to protect SAP/network interface traffic on other LAG links from impact of re-hashing the affected SAPs/network interfaces.

per-link-hash

Specifies egress traffic for SAPs/network interfaces using this link-map-profile is rehashed on remaining, available LAG links using per-link-hash algorithm. SAP/network interface QoS configurations dictate what traffic is discarded on any link that may become oversubscribed as result of the re-hash.

Platforms

All

17.12 failure-recovery

failure-recovery

Syntax

[**no**] **failure-recovery**

Context

[Tree] (config>sys>switch-fabric failure-recovery)

Full Context

configure system switch-fabric failure-recovery

Description

Commands in this context configure attributes related to the automatic switch fabric recovery process.

The automatic switch fabric recovery process is triggered when there are two resets of an IOM/XCM due to ICC failures within a small time frame. The recovery process involves the sequential resetting of SFM in case the issues are due to one of the SFM in the ICC communication path. As the final step in the recovery process, a CPM switchover is triggered to reset the active CPM.

Platforms

7450 ESS, 7750 SR-7, 7750 SR-12e, 7950 XRS

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17.13 failure-threshold

failure-threshold

Syntax

failure-threshold *number*

no failure-threshold

Context

[Tree] (config>test-oam>icmp>ping-template failure-threshold)

Full Context

configure test-oam icmp ping-template failure-threshold

Description

This command configures the count, when reached, that causes the transition of the IPv4 interface from operationally up to operationally down because of a ping template failure.

The **no** form of this command reverts to the default value.

Default

failure-threshold 3

Parameters

number

Specifies a count that causes the transition of the IP interface from operationally up to operationally down because of ping template failure.

Values 2 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.14 fallback-action

fallback-action

Syntax

fallback-action accept [**force-probing**]

fallback-action user-db *local-user-db-name* [**force-probing**]

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no fallback-action

Context

[Tree] (config>subscr-mgmt>auth-plcy fallback-action)

Full Context

configure subscriber-mgmt authentication-policy fallback-action

Description

This command configures the action when no RADIUS server is available; servers are either out of service or are in a probing state.

The **no** form of this command removes the action from the configuration.

Parameters

accept

Specifies that all authentication requests are automatically accepted.

local-user-db-name

Specifies that the LUDB is used to authenticate to the server.

force-probing

Specifies that a subscriber or a test user Access-Request**,** depending which arrives first, is used to probe a RADIUS server before continuing with the configured **fallback-action**. This forces an out-of-service server to transition to a probing state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.15 fallback-path-computation-method

fallback-path-computation-method

Syntax

fallback-path-computation-method {**none** | **local-cspf**}

no fallback-path-computation-method

Context

[Tree] (config>router>mpls>lsp fallback-path-computation-method)

[Tree] (config>router>mpls>lsp-template fallback-path-computation-method)

Full Context

configure router mpls lsp fallback-path-computation-method

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configure router mpls lsp-template fallback-path-computation-method

Description

This command configures the fallback path computation method used if all configured PCEs are down or the signaling overload and the redelegation timer has expired. This method is used regardless of whether the LSP is PCE-controlled and PCE-computed, or just PCE-computed.

The **no** form of this command removes the fallback path computation method used.

Default

fallback-path-computation-method none

Parameters

none

Keyword that specifies MPLS should use the default method based on the configured path, which is hop-to-labeled path computation for SR-TE LSPs and IGP-based path computation for RSVP-TE LSPs.

local-cspf

Specifies to fall back to using local CSPF computation.

Platforms

All

17.16 falling-percent-reset

falling-percent-reset

Syntax

falling-percent-reset *percent-of-highest*

no falling-percent-reset

Context

[Tree] (config>mcast-mgmt>bw-plcy falling-percent-reset)

Full Context

configure mcast-management bandwidth-policy falling-percent-reset

Description

This command configures the percentage of bandwidth decrease that must occur to reset the dynamic bandwidth monitoring function for a multicast channel. When a channel is configured to use the ingress dynamic bandwidth as the in-use bandwidth for ingress multicast path management, the system maintains a sliding window in time that defines how long the last highest bandwidth value associated with the channel should be used. The sliding window duration is derived from the channels bw-activity dynamic falling-delay

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parameter within the multicast information policy. Each time the system detects a current bandwidth for a channel that is equal to or greater than the current highest bandwidth for the channel, the sliding window is reset and the highest value is used when managing the ingress multicast paths. If the system does not detect a higher or equal bandwidth value for the channel within the window period, the system resets the sliding window and uses the next highest rate seen during the duration of the window period. In this way, the system delays relinquishing bandwidth for a dynamic bandwidth channel for a configurable period. If a momentary fluctuation (decrease) in ingress bandwidth occurs, the system ignores the bandwidth change.

While this is useful for momentary fluctuations in bandwidth, it may be desirable to react faster when the current bandwidth monitored for a channel drops significantly relative to the currently in-use bandwidth. When the bandwidth decrease is equal to or greater than the falling-percent-reset value, the system immediately stops using the highest bandwidth and starts using the current bandwidth while resetting the sliding window.

If falling-percent-reset is set to 50%, when the current ingress dynamic bandwidth is 50% of the current in-use highest bandwidth, the system immediately uses the current dynamic ingress bandwidth as the highest bandwidth for the channel.

By default, the falling-percent-reset is 50% when a new bandwidth policy is created. The default bandwidth policy also has a hard configured value of 50%. Setting falling-percent-reset to 100 is equivalent to specifying no falling-percent-reset.

The **no** form of this command restores the default value of 50%.

Default

falling-percent-reset 50

Parameters

percent-of-highest

The percent-of-highest parameter is required and defines the percentage of decline between the current ingress dynamic bandwidth and the current in-use highest bandwidth at which the system resets the dynamic ingress bandwidth monitoring for the channel. When reset in this case, the system uses the current ingress dynamic bandwidth as the highest rate and continues monitoring. The parameter must be defined as an integer value representing a percentage.

Values 1 to 100 percent

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

17.17 family

family

Syntax

family [**ipv4** | **ipv6**]

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Context

[Tree] (config>lag>bfd family)

Full Context

configure lag bfd family

Description

This command specifies the address family for the micro-BFD session over the associated LAG links.

Default

family ipv4

Parameters

ipv4

Specifies that IPv4 encapsulation be used for the micro-BFD session.

ipv6

Specifies that IPv6 encapsulation be used for the micro-BFD session.

Platforms

All

family

Syntax

family *family*

Context

[Tree] (config>service>vprn>bgp>convergence family)

Full Context

configure service vprn bgp convergence family

Description

This command specifies the convergence family used for route convergence.

Parameters

family

Specifies the convergence family used for route convergence

Values ipv4, ipv6

Platforms

All

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family

Syntax

[**no**] **family** {**ipv4** | **ipv6** | **label-ipv4** | **flow-ipv4** | **flow-ipv6**}

Context

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived family)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived family)

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived family)

Full Context

configure service vprn bgp graceful-restart long-lived family

configure service vprn bgp group neighbor graceful-restart long-lived family

configure service vprn bgp group graceful-restart long-lived family

Description

This command configures family-specific LLGR parameters for BGP peers.

Default

no family

Parameters

ipv4

Specifies the IPv4 family.

ipv6

Specifies the IPv6 family.

label-ipv4

Specifies the label IPv4 family.

flow-ipv4

Specifies the flow IPv4 family.

flow-ipv6

Specifies the flow IPv6 family.

Platforms

All

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family

Syntax

family [**ipv4**] [**label-ipv4**] [**ipv6**] [**mcast-ipv4**] [**flow-ipv4**] [**mcast-ipv6**] [**flow-ipv6**]

no family

Context

[Tree] (config>service>vprn>bgp>group family)

[Tree] (config>service>vprn>bgp family)

[Tree] (config>service>vprn>bgp>group>neighbor family)

Full Context

configure service vprn bgp group family

configure service vprn bgp family

configure service vprn bgp group neighbor family

Description

This command configures the set of BGP address families (AFI plus SAFI) to be supported by the applicable VPRN BGP sessions.

The **no** form of this command restores the default, which is equivalent to configuring unlabeled IPv4 unicast routes (AFI 1, SAFI 1) only.

Default

no family

Parameters

ipv4

Keyword to advertise support for the IPv4 unicast (unlabeled) address family.

label-ipv4

Keyword to advertise support for the IPv4 unicast (labeled) address family.

ipv6

Keyword to advertise support for the IPv6 unicast (unlabeled) address family.

mcast-ipv4

Keyword to advertise support for the IPv4 multicast SAFI address family.

flow-ipv4

Keyword to advertise support for the IPv4 FlowSpec address family.

mcast-ipv6

Keyword to advertise support for the IPv6 multicast SAFI address family.

flow-ipv6

Keyword to advertise support for the IPv6 FlowSpec address family.

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Platforms

All

family

Syntax

family [**ipv4** | **ipv6**]

Context

[Tree] (config>router>mpls>lsp-template family)

Full Context

configure router mpls lsp-template family

Description

This command specifies if the lsp-template is for use in IPv4 or IPv6 SR-TE LSP.

This command is optional in a IPv4 SR-TE auto-LSP but must be set to **ipv6** value in a IPv6 SR-TE auto-LSP. By default, this command is set to **ipv4** value for backward compatibility.

When establishing both IPv4 and IPv6 SR-TE mesh auto-LSPs with the same parameters and constraints, a separate LSP template of type **mesh-p2p-srte** must be configured for each address family with the **family** CLI leaf set to the IPv4 or IPv6 value. SR-TE one-hop auto-LSPs can only be established for either IPv4 or IPv6 family, but not both. The **family** leaf in the LSP template of type **one-hop-p2p-srte** should be set to the desired IP family value.

The **no** form of this command reverts to the default value.

Default

family ipv4

Parameters

ipv4

Specifies the lsp-template is for use in IPv4 SR-TE LSP.

ipv6

Specifies the lsp-template is for use in IPv6 SR-TE LSP.

Platforms

All

family

Syntax

family

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Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy family)

Full Context

configure subscriber-mgmt bgp-peering-policy family

Description

Commands in this context specify the BGP address families supported by the ESM dynamic BGP peers.

When unconfigured, the IPv4 address family is supported on BGPv4 peers and the IPv6 address family is supported on BGPv6 peers.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

family

Syntax

[**no**] **family**

Context

[Tree] (config>cflowd>collector>export-filter family)

Full Context

configure cflowd collector export-filter family

Description

This command defines the address family for the flow types that should not be sent to the associated cflowd collector.

Multiple family types can be defined in this context to filter out multiple address families to a given collector.

The **no** form of this command removes the address family definition, allowing all address family types to be exported to the associated collector.

Default

no family

Platforms

All

family

Syntax

family *family*

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Context

[Tree] (config>router>bgp>convergence family)

Full Context

configure router bgp convergence family

Description

This command configures the IP family used for route convergence.

Parameters

family

Specifies the convergence family.

Values ipv4, ipv6, vpn-ipv4, vpn-ipv6, label-ipv4, label-ipv6

Platforms

All

family

Syntax

family [**ipv4**] [**label-ipv4**] [**vpn-ipv4**] [**ipv6**] [**label-ipv6**] [**vpn-ipv6**] [**mcast-ipv4**] [**l2-vpn**] [**mvpn-ipv4**] [**mvpn-ipv6**] [**mdt-safi**] [**ms-pw**] [**flow-ipv4**] [**flow-ipv6**] [**route-target**] [**mcast-vpn-ipv4**] [**evpn**] [**bgp-ls**] [**mcast-ipv6**] [**mcast-vpn-ipv6**] [**sr-policy-ipv4**] [**sr-policy-ipv6**] [**flow-vpn-ipv4**] [**flow-vpn-ipv6**]

no family

Context

[Tree] (config>router>bgp>group>neighbor family)

[Tree] (config>router>bgp>group family)

[Tree] (config>router>bgp family)

Full Context

configure router bgp group neighbor family

configure router bgp group family

configure router bgp family

Description

This command configures the set of BGP address families (AFI/SAFI) to be supported by the base router BGP sessions.

The **no** form of this command restores the default, which corresponds to unlabeled IPv4 unicast routes (AFI 1, SAFI 1) only.

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Default

family ipv4

Parameters

ipv4

Keyword to advertise MP-BGP support for the IPv4 unicast (unlabeled) address family.

label-ipv4

Keyword to advertise MP-BGP support for the IPv4 unicast (labeled) address family.

vpn-ipv4

Keyword to advertise MP-BGP support for the IPv4 VPN (SAFI 128) address family.

ipv6

Keyword to advertise MP-BGP support for the IPv6 unicast (unlabeled) address family.

label-ipv6

Keyword to advertise MP-BGP support for the IPv6 unicast (labeled) address family.

vpn-ipv6

Keyword to advertise MP-BGP support for the IPv6 VPN (SAFI 128) address family.

mcast-ipv4

Keyword to advertise MP-BGP support for the IPv4 multicast SAFI address family.

l2-vpn

Keyword to advertise MP-BGP support for the L2 VPN address family.

mvpn-ipv4

Keyword to advertise MP-BGP support for the IPv4 multicast VPN address family.

mvpn-ipv6

Keyword to advertise MP-BGP support for the IPv6 multicast VPN address family.

mdt-safi

Keyword to advertise MP-BGP support for the MDT SAFI address family.

ms-pw

Keyword to advertise MP-BGP support for the multi-segment pseudowire address family.

flow-ipv4

Keyword to advertise MP-BGP support for the IPv4 FlowSpec address family.

flow-ipv6

Keyword to advertise MP-BGP support for the IPv6 FlowSpec address family.

route-target

Keyword to advertise MP-BGP support for RT constraint routes.

mcast-vpn-ipv4

Keyword to advertise MP-BGP support for the IPv4 VPN multicast (SAFI 129) address family.

evpn

Keyword to advertise MP-BGP support for the EVPN address family.

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bgp-ls

Keyword to advertise MP-BGP support for the BGP-LS address family.

mcast-ipv6

Keyword to advertise MP-BGP support for the IPv6 multicast SAFI address family.

mcast-vpn-ipv6

Keyword to advertise MP-BGP support for the IPv6 multicast routes from a VPRN over the provider network. This family is only applicable in the base BGP routing context.

sr-policy-ipv4

Keyword to advertise MP-BGP support for AFI1/SAFI73 IP address families for BGP routes that encode a segment-routing policy to an IPv4 destination.

sr-policy-ipv6

Keyword to advertise MP-BGP support for AF12/SAF173 IP address families for BGP routes that encode a segment-routing policy to an IPv6 destination.

flow-vpn-ipv4

Keyword to advertise support for the FlowSpec-VPN IPv4 address family (AFI 1, SAFI 134).

flow-vpn-ipv6

Keyword to advertise support for the FlowSpec-VPN IPv6 address family (AFI 2, SAFI 134).

Platforms

All

family

Syntax

[**no**] **family** {**ipv4** | **ipv6** | **label-ipv4** | **label-ipv6** | **vpn-ipv4** | **vpn-ipv6** | **l2-vpn** | **route-target** | **flow-ipv4** | **flow-ipv6** | **flow-vpn-ipv4** | **flow-vpn-ipv6**}

Context

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived family)

[Tree] (config>router>bgp>graceful-restart>long-lived family)

[Tree] (config>router>bgp>group>graceful-restart>long-lived family)

Full Context

configure router bgp group neighbor graceful-restart long-lived family

configure router bgp graceful-restart long-lived family

configure router bgp group graceful-restart long-lived family

Description

This command configures family-specific LLGR parameters for BGP peers.

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The **no** form of this command deletes the context.

Default

no family

Parameters

ipv4

Keyword to specify the IPv4 family.

ipv6

Keyword to specify the IPv6 family.

label-ipv4

Keyword to specify the label IPv4 family.

label-ipv6

Keyword to specify the label IPv6 family.

vpn-ipv4

Keyword to specify the VPN IPv4 family.

vpn-ipv6

Keyword to specify the VPN IPv6 family.

l2-vpn

Keyword to specify the Layer 2 VPN family.

route-target

Keyword to specify the route target family.

flow-ipv4

Keyword to specify the flow IPv4 family.

flow-ipv6

Keyword to specify the flow IPv6 family.

flow-vpn-ipv4

Keyword to specify the FlowSpec-VPN IPv4 address family.

flow-vpn-ipv6

Keyword to specify the FlowSpec-VPN IPv6 address family.

Platforms

All

family

Syntax

family {**label-ipv4** | **label-ipv6** | **vpn**}

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Context

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel family)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family

Description

This command configures the address family context for configuring next-hop resolution of BGP label routes.

Parameters

label-ipv4

Enters the context for configuring next-hop-resolution options for labeled-unicast IPv4 routes.

label-ipv6

Enters the context for configuring next-hop-resolution options for labeled-unicast IPv6 routes.

vpn

Enters the context for configuring next-hop-resolution options for VPN-IPv4 and VPN-IPv6 routes when they are not imported into any VPRN service.

Platforms

All

family

Syntax

family {**ipv4** | **ipv6**}

Context

[Tree] (config>router>bgp>next-hop-res>shortcut-tunnel family)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family

Description

This command creates the context to configure next-hop resolution of unlabeled IPv4 or unlabeled IPv6 routes by certain tunnel types in the tunnel table.

Parameters

ipv4

Specifies that the configuration applies to unlabeled IPv4 BGP routes.

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ipv6

Specifies that the configuration applies to unlabeled IPv6 BGP routes.

Platforms

All

family

Syntax

family [**ipv4**] [**ipv6**] [**label-ipv4**] [**label-ipv6**] [**mcast-ipv4**] [**mcast-ipv6**] [**vpn-ipv4**] [**vpn-ipv6**] [**mcast-vpn-ipv4**] [**mcast-vpn-ipv6**] [**evpn**] [**l2-vpn**] [**sr-policy-ipv4**] [**sr-policy-ipv6**]

no family

Context

[Tree] (config>bmp>station family)

Full Context

configure bmp station family

Description

This command configures the address families that are reported to a BMP monitoring station.

The **no** form of this command reverts to the default value.

Default

family ipv4

Parameters

ipv4

Keyword to add support for the IPv4 unicast (unlabeled) address family.

ipv6

Keyword to add support for the IPv6 unicast (unlabeled) address family.

label-ipv4

Keyword to add support for the IPv4 unicast (labeled) address family.

label-ipv6

Keyword to add support for the IPv6 unicast (labeled) address family.

mcast-ipv4

Keyword to add support for the IPv4 multicast address family.

mcast-ipv6

Keyword to add support for the IPv6 multicast address family.

vpn-ipv4

Keyword to add support for the IPv4 VPN (SAFI 128) address family.

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vpn-ipv6

Keyword to add support for the IPv6 VPN (SAFI 128) address family.

mcast-vpn-ipv4

Keyword to add support for the IPv4 VPN multicast address family.

mcast-vpn-ipv6

Keyword to add support for the IPv6 VPN multicast address family.

evpn

Keyword to add support for the VPN address family.

l2-vpn

Keyword to add support for the L2-VPN address family.

sr-policy-ipv4

Keyword to add support for the SR policy IPv4 address family.

sr-policy-ipv6

Keyword to add support for the SR policy IPv6 address family.

Platforms

All

family

Syntax

family {**ipv4** | **ipv6** | **srv4** | **srv6**}

Context

[Tree] (config>router>isis>igp-shortcut>tunnel-next-hop family)

Full Context

configure router isis igp-shortcut tunnel-next-hop family

Description

Commands in this context configure the resolution of IGP IPv4 and IGP IPv6 prefix families, as well as SR-ISIS IPv4 and SR-ISIS IPv6 tunnel families using IGP shortcuts.

Parameters

ipv4

Selects the IPv4 address family.

ipv6

Selects the IPv6 address family.

srv4

Selects the SR-ISIS IPv4 tunnel family.

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srv6

Selects the SR-ISIS IPv6 tunnel family.

Platforms

All

family

Syntax

family {**ipv4** | **ipv6**}

no family

Context

[Tree] (config>router>isis>segment-routing>adjacency-set family)

Full Context

configure router isis segment-routing adjacency-set family

Description

This command specifies the address family of an adjacency set in IS-IS.

The **no** form of this command reverts to the default.

Default

family ipv4

Parameters

ipv4

Specifies a family of IPv4.

ipv6

Specifies a family of IPv6.

Platforms

All

family

Syntax

family {**ipv4** | **srv4**}

Context

[Tree] (config>router>ospf>igp-shortcut>tunnel-next-hop family)

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Full Context

configure router ospf igp-shortcut tunnel-next-hop family

Description

Commands in this context configure the resolution of the IGP IPv4 prefix family or SR-OSPF IPv4 tunnel using IGP shortcuts.

Parameters

ipv4

Selects the IPv4 address family.

srv4

Selects the SR-OSPF IPv4 tunnel family.

Platforms

All

family

Syntax

family ipv6

Context

[Tree] (config>router>ospf3>igp-shortcut>tunnel-next-hop family)

Full Context

configure router ospf3 igp-shortcut tunnel-next-hop family

Description

Commands in this context configure the resolution of the IGP IPv6 prefix family using IGP shortcuts.

Parameters

ipv6

Selects the IPv6 address family.

Platforms

All

family

Syntax

family [**ipv4**] [**label-ipv4**] [**vpn-ipv4**] [**ipv6**] [**label-ipv6**] [**vpn-ipv6**] [**mcast-ipv4**] [**l2-vpn**] [**mvpn-ipv4**] [**mvpn-ipv6**] [**mdt-safi**] [**ms-pw**] [**flow-ipv4**] [**flow-ipv6**] [**route-target**] [**mcast-vpn-ipv4**] [**evpn**]

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[**bgp-ls**] [**mcast-ipv6**] [**mcast-vpn-ipv6**] [**sr-policy-ipv4**] [**sr-policy-ipv6**] [**flow-vpn-ipv4**] [**flow-vpn-ipv6**]

no family

Context

[Tree] (config>router>policy-options>policy-statement>entry>from family)

Full Context

configure router policy-options policy-statement entry from family

Description

This command specifies address families as matching conditions.

The **no** form of the command configures the router to use the default value.

Default

no family

Parameters

ipv4

Keyword to match routes belonging to the IPv4 unicast (unlabeled) address family.

label-ipv4

Keyword to match routes belonging to the IPv4 unicast (labeled) address family.

vpn-ipv4

Keyword to match routes belonging to the IPv4 VPN (SAFI 128) address family.

ipv6

Keyword to match routes belonging to the IPv6 unicast (unlabeled) address family.

label-ipv6

Keyword to match routes belonging to the IPv6 unicast (labeled) address family.

vpn-ipv6

Keyword to match routes belonging to the IPv6 VPN (SAFI 128) address family.

mcast-ipv4

Keyword to match routes belonging to the IPv4 multicast SAFI address family.

l2-vpn

Keyword to match routes belonging to the L2 VPN address family.

mvpn-ipv4

Keyword to match routes belonging to the IPv4 multicast VPN address family.

mvpn-ipv6

Keyword to match routes belonging to the IPv6 multicast VPN address family.

mdt-safi

Keyword to match routes belonging to the MDT SAFI address family.

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ms-pw

Keyword to match routes belonging to the multi-segment pseudowire address family.

flow-ipv4

Keyword to match routes belonging to the IPv4 FlowSpec address family.

flow-ipv6

Keyword to match routes belonging to the IPv6 FlowSpec address family.

route-target

Keyword to match routes belonging to the address family for RT constrain routes.

mcast-vpn-ipv4

Keyword to match routes belonging to the IPv4 VPN multicast (SAFI 129) address family.

evpn

Keyword to match routes belonging to the EVPN address family.

bgp-ls

Keyword to advertise the BGP-LS address family to the associated BGP neighbors.

mcast-ipv6

Keyword to match routes belonging to the IPv6 multicast SAFI address family.

mcast-vpn-ipv6

Keyword to match routes belonging to the IPv6 multicast routes from a VPRN over the provider network. This family is only applicable in the base BGP routing context.

sr-policy-ipv4

Keyword to match routes belonging to the segment routing policy IPv4 address family (AFI1/SAFI73).

sr-policy-ipv6

Keyword to match routes belonging to the segment routing policy IPv6 address family (AFI2/SAFI73).

flow-vpn-ipv4

Keyword to match routes belonging to the FlowSpec-VPN IPv4 address family (AFI 1, SAFI 134).

flow-vpn-ipv6

Keyword to match routes belonging to the FlowSpec-VPN IPv6 address family (AFI 2, SAFI 134).

Platforms

All

family

Syntax

[**no**] **family** {**ipv6 | ipv4**}

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Context

[Tree] (config>router>bgp>srv6 family)

Full Context

configure router bgp segment-routing-v6 family

Description

This command adds a configuration context for family-specific behaviors that relate to processing prefix SID attributes containing SRv6 TLVs.

The **no** form of this command deletes the family configuration context.

Parameters

ipv4

Specifies a family of IPv4.

ipv6

Specifies a family of IPv6.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

family

Syntax

[**no**] **family** {**ipv6 | ipv4**}

Context

[Tree] (config>router>bgp>group>srv6>route family)

[Tree] (config>router>bgp>group>neighbor>srv6>route family)

Full Context

configure router bgp group segment-routing-v6 route-advertisement family

configure router bgp group neighbor segment-routing-v6 route-advertisement family

Description

This command specifies an address family to use when configuring whether to strip SRv6 TLVs from BGP routes advertised to peers.

The **no** form of this command deletes the context.

Default

no family

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Parameters

ipv4

Specifies a family of IPv4.

ipv6

Specifies a family of IPv6.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

17.18 fan-control

fan-control

Syntax

fan-control

Context

[Tree] (config>system fan-control)

Full Context

configure system fan-control

Description

Commands in this context configure the speed of the router fans.

Caution:
Only use commands in this context with authorized direction from Nokia technical support.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se

17.19 far-end

far-end

Syntax

far-end *ip-address* [**vc-id** *vc-id*] [{**ing-svc-label** *ingress-vc-label* | **tldp**}] [**icb**]

no far-end *ip-address*

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Context

[Tree] (config>mirror>mirror-dest>remote-source far-end)

Full Context

configure mirror mirror-dest remote-source far-end

Description

This command is used on a destination router in a remote mirroring solution. See the description for the **remote-source** command for additional information.

When using L2TPv3, MPLS-TP or LDP IPv6 LSP SDPs in the remote mirroring solution, the destination node should be configured with **remote-src>spoke-sdp** entries. For all other types of SDPs, r**emote-source>far-end** entries are used.

Up to 50 far-end entries can be specified.

The **no** form of this command removes the IP address from the remote source configuration.

Parameters

ip-address

Specifies the service IP address (system IP address) of the remote device sending mirrored traffic to this mirror destination service. If 0.0.0.0 is specified, any remote is allowed to send to this service.

Values 1.0.0.1 to 223.255.255.254

vc-id

Specifies the virtual circuit identifier of the remote source. For mirror services, the *vc-id* defaults to the *service-id*. However, if the *vc-id* is being used by another service a unique vc-id is required to create an SDP binding. For this purpose the mirror service SDP bindings accepts *vc-ids*. This VC ID must match the VC ID used on the spoke SDP that is configured on the source router.

ingress-vc-label

Specifies the ingress service label for mirrored service traffic on the **far end** device for manually configured mirror service labels.

The defined *ing-svc-label* is entered into the ingress service label table which causes ingress packet with that service label to be handled by this mirror destination service.

The specified *ing-svc-label* must not have been used for any other service ID and must match the egress service label being used on the spoke SDP that is configured on the source router. It must be within the range specified for manually configured service labels defined on this router. It may be reused for other far end addresses on this *mirror-dest-service-id*.

Values 2048 to 18431

tldp

Specifies that the label is obtained through signaling via the LDP.

icb

Specifies that the remote source is an inter-chassis backup SDP binding.

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Platforms

All

far-end

Syntax

far-end node-id *node-id* [**global-id** *global-id*]

far-end [*ip-address* | *ipv6-address*]

no far-end *ip-address* | *ipv6-address*

Context

[Tree] (config>service>sdp far-end)

Full Context

configure service sdp far-end

Description

This command configures the IPv4 or IPv6 IP address of the far-end destination router for the service destination point (SDP) that is the termination point for a service.

The far-end IP address must be explicitly configured.

If the SDP uses GRE for the destination encapsulation, the IP address is checked against other GRE SDPs to verify uniqueness. If the IP address is not unique within the configured GRE SDPs, an error is generated and the IP address is not associated with the SDP.

If the SDP uses MPLS encapsulation, the **far-end** address is used to check LSP names when added to the SDP. If the " **to** IP address" defined within the LSP configuration does not exactly match the SDP **far-end** address, the LSP will not be added to the SDP and an error is generated. Alternatively, an SDP that uses MPLS can have an MPLS-TP node with an MPLS-TP node-id and (optionally) a global ID. In this case, the SDP must use an MPLS-TP LSP and the SDP **signaling** parameter must be set to **off**.

An SDP cannot be administratively enabled until a **far-end** *ip-address* or MPLS-TP node-id is defined. The SDP is operational when it is administratively enabled (**no shutdown**) and the **far-end** *ip-address* is contained in the IGP routing table as a host route. OSPF ABRs should not summarize host routes between areas. This can cause the SDPs to become operationally down. Static host routes (direct and indirect) can be defined in the local device to alleviate this issue.

On a tunnel configured as SDP with delivery type **eth-gre-bridged**, this command designates L2oGRE tunnel end points. This is the only configuration option allowed for this type of SDP.

The **no** form of this command removes the currently configured destination IP address for the SDP. The *ip-address* parameter is not specified and will generate an error if used in the **no far-end** command. The SDP must be administratively disabled using the **configure service sdp shutdown** command before the **no far-end** command can be executed. Removing the far-end IP address removes all *lsp-name* associations with the SDP.

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Parameters

far-end

Specifies the far-end termination point for the GRE tunnel.

ip-address* | *ipv6-address

Specifies a IPv4 or IPv6 address of the far-end SR OS for the SDP in dotted decimal notation.

node-id

Specifies the MPLS-TP Node ID of the far-end system for the SDP, either in dotted decimal notation (a.b.c.d) or an unsigned 32-bit integer (1 to 4294967295). This parameter is mandatory for an SDP using an MPLS-TP LSP.

global-id

Specifies a MPLS-TP Global ID of the far-end system for the SDP, in an unsigned 32-bit integer (0 to 4294967295). This parameter is optional for an SDP using an MPLS-TP LSP. If not entered, a default value for the Global ID of '0' is used. A global ID of '0' indicates that the far-end node is in the same domain as the local node. The user must explicitly configure a Global ID if its value is non-zero.

Platforms

All

17.20 fast-leave

fast-leave

Syntax

[**no**] **fast-leave**

Context

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping fast-leave)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping fast-leave)

[Tree] (config>service>vpls>sap>mld-snooping fast-leave)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping fast-leave)

[Tree] (config>service>vpls>sap>igmp-snooping fast-leave)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping fast-leave)

Full Context

configure service vpls mesh-sdp igmp-snooping fast-leave

configure service vpls mesh-sdp mld-snooping fast-leave

configure service vpls sap mld-snooping fast-leave

configure service vpls spoke-sdp mld-snooping fast-leave

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configure service vpls sap igmp-snooping fast-leave

configure service vpls spoke-sdp igmp-snooping fast-leave

Description

This command enables fast leave.

When IGMP fast leave processing is enabled, the 7450 ESS or 7750 SR immediately removes a SAP or SDP from the IP multicast group when it detects an IGMP leave message on that SAP or SDP. Fast leave processing allows the switch to remove a SAP or SDP that sends a leave message from the forwarding table without first sending out group-specific queries to the SAP or SDP, which speeds up the process of changing channels.

Fast leave should only be enabled when there is a single receiver present on the SAP or SDP.

When fast leave is enabled, the configured **last-member-query-interval** value is ignored.

Default

no fast-leave

Platforms

All

fast-leave

Syntax

[**no**] **fast-leave**

Context

[Tree] (config>subscr-mgmt>igmp-policy fast-leave)

Full Context

configure subscriber-mgmt igmp-policy fast-leave

Description

This command enables IGMP fast-leave processing.

The **no** form of this command reverts to the default value.

Default

fast-leave

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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fast-leave

Syntax

[**no**] **fast-leave**

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp fast-leave)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping fast-leave

Description

This command enables fast leave.

When IGMP fast leave processing is enabled, the 7450 ESS or 7750 SR will immediately remove a SAP or SDP from the IP multicast group when it detects an IGMP leave on that SAP or SDP. Fast leave processing allows the switch to remove a SAP or SDP that sends a leave from the forwarding table without first sending out group-specific queries to the SAP or SDP, and thus speeds up the process of changing channels (zapping).

Fast leave should only be enabled when there is a single receiver present on the SAP or SDP.

When fast leave is enabled, the configured **last-member-query-interval** value is ignored.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

fast-leave

Syntax

[**no**] **fast-leave**

Context

[Tree] (config>subscr-mgmt>mld-policy fast-leave)

Full Context

configure subscriber-mgmt mld-policy fast-leave

Description

This command enables fast leave. When fast leave processing is enabled, the router immediately removes a SAP or SDP from the IP multicast group when it detects an MLD leave on that SAP or SDP. Fast leave processing allows the switch to remove a SAP or SDP that sends a leave from the forwarding table without first sending out group-specific queries to the SAP or SDP, and thus speeds up the process of changing channels (zapping).

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Fast leave should only be enabled when there is a single receiver present on the SAP or SDP.

When fast leave is enabled, the configured last-member-query-interval value is ignored.

The **no** form of this command reverts to the default.

Default

fast-leave

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

fast-leave

Syntax

[**no**] **fast-leave**

Context

[Tree] (config>service>pw-template>igmp-snooping fast-leave)

Full Context

configure service pw-template igmp-snooping fast-leave

Description

This command enables fast leave.

When IGMP fast leave processing is enabled, the 7750 SR will immediately remove a SAP or SDP from the IP multicast group when it detects an IGMP **leave** on that SAP or SDP. Fast leave processing allows the switch to remove a SAP or SDP that sends a **leave** from the forwarding table without first sending out group-specific queries to the SAP or SDP, and thus speeds up the process of changing channels (zapping).

Fast leave should only be enabled when there is a single receiver present on the SAP or SDP.

When fast leave is enabled, the configured last-member-query-interval value is ignored.

Default

no fast-leave

Platforms

All

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17.21 fast-reroute

fast-reroute

Syntax

fast-reroute [**backup-sr-tunnel**]

no fast-reroute

Context

[Tree] (config>router>ldp fast-reroute)

Full Context

configure router ldp fast-reroute

Description

This command enables LDP Fast-Reroute (FRR) procedures. When enabled, LDP uses both the primary next-hop and LFA next-hop, when available, for resolving the next-hop of an LDP FEC against the corresponding prefix in the routing table. This will result in LDP programming a primary NHLFE and a backup NHLFE into the forwarding engine for each next-hop of a FEC prefix for the purpose of forwarding packets over the LDP FEC.

When any of the following events occurs, LDP instructs in the fast path the forwarding engines to enable the backup NHLFE for each FEC next-hop impacted by this event:

- An LDP interface goes operationally down, or is admin shutdown.
- An LDP session to a peer went down as the result of the Hello or Keep-Alive timer expiring.
- The TCP connection used by a link LDP session to a peer went down, due say to next-hop tracking of the LDP transport address in RTM, which brings down the LDP session.
- A BFD session, enabled on a T-LDP session to a peer, times-out and as a result the link LDP session to the same peer and which uses the same TCP connection as the T-LDP session goes also down.
- A BFD session enabled on the LDP interface to a directly connected peer, times out and brings down the link LDP session to this peer.

The **tunnel-down-dump-time** option or the **label-withdrawal-delay** option, when enabled, does not cause the corresponding timer to be activated for a FEC as long as a backup NHLFE is still available.

Because LDP can detect the loss of a neighbor/next-hop independently, it is possible that it switches to the LFA next-hop while IGP is still using the primary next-hop. Also, when the interface for the previous primary next-hop is restored, IGP may re-converge before LDP completed the FEC exchange with it neighbor over that interface. This may cause LDP to de-program the LFA next-hop from the FEC and blackhole traffic. In order to avoid this situation, it is recommended to enable IGP-LDP synchronization on the LDP interface.

When the SPF computation determines there is more than one primary next-hop for a prefix, it will not program any LFA next-hop in RTM. Thus, the LDP FEC will resolve to the multiple primary next-hops that provide the required protection.

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The **backup-sr-tunnel** option enables the use of SR tunnel, as a remote LFA or TI-LFA backup tunnel next-hop by an LDP FEC.

As a pre-requisite, the user must enable the stitching of LDP and SR in the LDP-to-SR direction. That is because the LSR must perform the stitching of the LDP ILM to SR tunnel when the primary LDP next-hop of the FEC fails. Thus LDP must listen to SR tunnels programmed by the IGP in TTM but the mapping server feature is not required.

Assuming the following:

- the **backup-sr-tunnel** option is enabled in LDP
- the {**loopfree-alternates remote-lfa**} and/or the {**loopfree-alternates ti-lfa**} option is enabled in the IGP instance
- LDP was able to resolve the primary next-hop of the LDP FEC in RTM

IGP SPF will run both the base LFA and the TI-LFA algorithms and if it does not find a backup next-hop for a prefix of an LDP FEC, it will also run the remote LFA algorithm. If IGP finds a TI-LFA or a remote LFA tunnel next-hop, LDP programs the primary next-hop of the FEC using a LDP NHLFE and programs the LFA backup next-hop using a LDP NHLFE pointing to the SR tunnel endpoint. Note that the LDP packet is not "tunneled" over the SR tunnel. The LDP label is actually stitched to the segment routing label stack. LDP points both the LDP ILM and the LTN to the backup LDP NHLFE which itself uses the SR tunnel endpoint.

The behavior of the feature is thus similar to the LDP-to-SR stitching feature, except the behavior is augmented to allow the stitching of an LDP ILM/LTN to a SR tunnel also when the primary LDP next-hop of the FEC fails.

If the LDP FEC primary next-hop failed and LDP has pre-programmed a remote LFA or TI-LFA next-hop with a LDP backup NHLFE pointing to SR tunnel, the LDP ILM/LTN switches to it. Note that if for some reason the failure impacted only the LDP tunnel primary next-hop but not the SR tunnel primary next-hop, the LDP backup NHLFE will effectively point to the primary next-hop of the SR tunnel and traffic of the LDP ILM/LTN will follow this path instead of the TI-LFA or remote LFA next-hop of the SR tunnel until the latter is activated.

This feature is limited to IPv4 /32 prefixes in both LDP and SR.

The **no** form of this command disables the use of SR tunnels as backups for LDP FECs and disables LDP FRR.

Default

no fast-reroute

Platforms

All

fast-reroute

Syntax

fast-reroute *frr-method*

no fast-reroute

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Context

[Tree] (config>router>mpls>lsp fast-reroute)

[Tree] (config>router>mpls>lsp-template fast-reroute)

Full Context

configure router mpls lsp fast-reroute

configure router mpls lsp-template fast-reroute

Description

This command creates a pre-computed detour LSP from each node in the path of the LSP. In case of failure of a link or LSP between two nodes, traffic is immediately rerouted on the pre-computed detour LSP, thus avoiding packet-loss.

When **fast-reroute** is enabled, each node along the path of the LSP tries to establish a detour LSP as follows:

- Each upstream node sets up a detour LSP that avoids only the immediate downstream node, and merges back on to the actual path of the LSP as soon as possible.

  If it is not possible to set up a detour LSP that avoids the immediate downstream node, a detour can be set up to the downstream node on a different interface.
- The detour LSP may take one or more hops (see **config>router>mpls>lsp hop-limit**, **config>router>mpls>lsp>primary-p2mp-instance hop-limit**) before merging back on to the main LSP path.
- When the upstream node detects a downstream link or node failure, the ingress router switches traffic to a standby path if one was set up for the LSP.

Fast reroute is available only for the primary path. No configuration is required on the transit hops of the LSP. The ingress router will signal all intermediate routers using RSVP to set up their detours. TE must be enabled for fast-reroute to work.

If an LSP is configured with **fast-reroute** *frr-method* specified but does not enable CSPF, then global revertive will not be available for the LSP to recover.

The **no** form of the **fast-reroute** command removes the detour LSP from each node on the primary path. This command will also remove configuration information about the hop-limit and the bandwidth for the detour routes.

The **no** form of **fast-reroute hop-limit** command reverts to the default value.

Note:
A one-to-one detour backup LSP cannot be used at the PLR for ABR node protection. As a result, a PLR node does not signal a one-to-one detour LSP for ABR protection. In addition, the ABR node rejects a Path message that it has received from a third-party implementation configured with a detour object and a loose ERO next-hop. The Path message is rejected regardless of whether the **cspf-on-loose-hop** command is enabled on the node. When the router transits ABR for the detour path, the router rejects the signaling of an inter-area detour backup LSP.

Default

no fast-reroute — When fast-reroute is specified, the default fast-reroute method is one-to-one.

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Parameters

frr-method

Configures the fast-reroute method.

Values **one-to-one** — In the one-to-one technique, a label switched path is established which intersects the original LSP somewhere downstream of the point of link or node failure. For each LSP which is backed up, a separate backup LSP is established.

Values **facility** — This option, sometimes called many-to-one, takes advantage of the MPLS label stack. Instead of creating a separate LSP for every backed-up LSP, a single LSP is created which serves to backup up a set of LSPs. This LSP tunnel is called a bypass tunnel.

The bypass tunnel must intersect the path of the original LSP(s) somewhere downstream of the point of local repair (PLR). Naturally, this constrains the set of LSPs being backed-up through that bypass tunnel to those that pass through a common downstream node. All LSPs which pass through the PLR and through this common node which do not also use the facilities involved in the bypass tunnel are candidates for this set of LSPs.

Platforms

All

fast-reroute

Syntax

[**no**] **fast-reroute**

Context

[Tree] (config>router>bier fast-reroute)

Full Context

configure router bier fast-reroute

Description

This command enables BIER Fast Reroute (FRR).

The **no** form of this command disables BIER FRR.

Default

no fast-reroute

Platforms

All

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17.22 fast-start

fast-start

Syntax

[**no**] **fast-start**

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement fast-start)

Full Context

configure qos adv-config-policy child-control offered-measurement fast-start

Description

This command is used to enable fast detection of initial bandwidth on a child policer or queue associated with the policy. Multiple offered rate counter reads may be performed per the sampling interval. The system accumulates these counter values and evaluates the delta at the conclusion of the sampling interval. When fast-start is enabled, the system identifies all children associated with the policy that enter the inactive state (current offered rate is zero). Any inactive 'fast start' child that has a positive offered counter during a sampling period bypasses the normal sampling interval and does an immediate offered rate evaluation.

This option is intended for use with children that would benefit from faster than normal startup detection, typically those of a real-time nature.

When this parameter is not enabled, the system uses the normal sampling interval behavior of both newly active and currently active children.

The **no** form of this command is used to restore the sampling-interval-based offered rate evaluation for newly active children.

Platforms

All

17.23 fast-stop

fast-stop

Syntax

[**no**] **fast-stop**

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement fast-stop)

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Full Context

configure qos adv-config-policy child-control offered-measurement fast-stop

Description

This command is used to enable fast detection of lack of offered rate on a child policer or queue associated with the policy. Multiple offered rate counter reads may be performed per sampling interval. The system accumulates these counter values and evaluates the delta at the conclusion of the sampling interval. When fast-stop is enabled, the system bypasses the sampling interval for any currently active 'fast stop' child that has a zero offered counter measurement and does an immediate offered rate evaluation using the zero value.

This option is intended for use with children where other children would benefit from faster than normal inactive detection, typically those of a real-time nature.

When this parameter is not enabled, the system uses the normal sampling interval behavior of both newly inactive and currently active children.

The **no** form of this command is used to restore the sampling-interval-based offered rate evaluation for newly inactive children.

Platforms

All

17.24 fate-sharing-group-template

fate-sharing-group-template

Syntax

fate-sharing-group-template *name* **[create]**

no fate-sharing-group-template *name*

Context

[Tree] (config>subscr-mgmt>up-resiliency fate-sharing-group-template)

Full Context

configure subscriber-mgmt up-resiliency fate-sharing-group-template

Description

This command creates a template that configures resiliency parameters per FSG.

The **no** form of this command deletes the template.

Parameters

name

Specifies the FSG template ID, up to 32 characters.

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create

Keyword used to create a template. The **create** keyword requirement can be disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.25 fault-propagation-bmac

fault-propagation-bmac

Syntax

fault-propagation-bmac [*mac-name* | *ieee-address*] [**create**]

no fault-propagation-bmac [*mac-name* | *ieee-address*]

Context

[Tree] (config>service>vpls>mesh-sdp fault-propagation-bmac)

[Tree] (config>service>vpls>sap fault-propagation-bmac)

[Tree] (config>service>vpls>spoke-sdp fault-propagation-bmac)

Full Context

configure service vpls mesh-sdp fault-propagation-bmac

configure service vpls sap fault-propagation-bmac

configure service vpls spoke-sdp fault-propagation-bmac

Description

This command configures associated B-MAC addresses for fault propagation on a B-VPLS SAP or SDP binding. The statement can appear up to four times in the configuration to support four remote B-MAC addresses in the same remote B-VPLS. The configured VPLS must be a B-VPLS.

The **no** form of this command removes the specified MAC name or MAC address from the list of Fault Propagation B-MAC addresses associated with the SAP (or SDP).

Parameters

mac-name

Specifies a (predefined) MAC name to associate with the SAP or SDP, indirectly specifying a Fault Propagation B-MAC address. Up to 32 characters in length

ieee-address

Specifies a MAC address to associate with the SAP or SDP, directly specifying a Fault Propagation B-MAC address. The value should be input in either a xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format.

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Platforms

All

17.26 fault-propagation-enable

fault-propagation-enable

Syntax

fault-propagation-enable {**use-if-tlv** | **suspend-ccm**}

no fault-propagation-enable

Context

[Tree] (config>service>ipipe>sap>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>epipe>sap>eth-cfm>mep fault-propagation-enable)

Full Context

configure service ipipe sap eth-cfm mep fault-propagation-enable

configure service epipe spoke-sdp eth-cfm mep fault-propagation-enable

configure service epipe sap eth-cfm mep fault-propagation-enable

Description

This command configures the fault propagation for the MEP.

Parameters

use-if-tlv

Specifies to use the interface TLV.

suspend-ccm

Specifies to suspend continuity check messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fault-propagation-enable

Syntax

fault-propagation-enable {**use-if-tlv** | **suspend-ccm**}

no fault-propagation-enable

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Context

[Tree] (config>service>vpls>sap>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep fault-propagation-enable)

Full Context

configure service vpls sap eth-cfm mep fault-propagation-enable

configure service vpls spoke-sdp eth-cfm mep fault-propagation-enable

configure service vpls mesh-sdp eth-cfm mep fault-propagation-enable

Description

This command configures the fault propagation for the MEP.

Parameters

use-if-tlv

Specifies to use the interface TLV.

suspend-ccm

Specifies to suspend the continuity check messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fault-propagation-enable

Syntax

fault-propagation-enable {**use-if-tlv** | **suspend-ccm**}

no fault-propagation-enable

Context

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>ies>if>sap>eth-cfm>mep fault-propagation-enable)

Full Context

configure service ies interface spoke-sdp eth-cfm mep fault-propagation-enable

configure service ies subscriber-interface group-interface sap eth-cfm mep fault-propagation-enable

configure service ies interface sap eth-cfm mep fault-propagation-enable

Description

This command configures the fault propagation for the MEP.

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Parameters

use-if-tlv

Specifies to use the interface TLV.

suspend-ccm

Specifies to suspend the continuity check messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep fault-propagation-enable
- configure service ies interface spoke-sdp eth-cfm mep fault-propagation-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep fault-propagation-enable

fault-propagation-enable

Syntax

fault-propagation-enable {**use-if-tlv** | **suspend-ccm**}

no fault-propagation-enable

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep fault-propagation-enable)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm fault-propagation-enable)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep fault-propagation-enable

configure service vprn interface sap eth-cfm mep fault-propagation-enable

configure service vprn subscriber-interface group-interface sap eth-cfm fault-propagation-enable

Description

This command configures the fault propagation for the MEP.

Parameters

use-if-tlv

Specifies to use the interface TLV.

suspend-ccm

Specifies to suspend the continuity check messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure service vprn interface spoke-sdp eth-cfm mep fault-propagation-enable
- configure service vprn interface sap eth-cfm mep fault-propagation-enable

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm fault-propagation-enable

17.27 fc

fc

Syntax

fc *fc-name* [*fc-name*]

no fc

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>epipe>sap>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>ipipe>sap>eth-cfm>collect-lmm-fc-stats fc)

Full Context

configure service epipe spoke-sdp eth-cfm collect-lmm-fc-stats fc

configure service epipe sap eth-cfm collect-lmm-fc-stats fc

configure service ipipe sap eth-cfm collect-lmm-fc-stats fc

Description

This command creates individual counters for the specified FCs without regard for profile. All countable packets that match a configured FC, regardless of profile, will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-aware FC using the **fc-in-profile** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-unaware counter. In order for the counter to be used, the **config**>**oam-pm**>**session**> **ethernet**>**priority** command must be configured with a numerical value representing the FC name (7

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= NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config>oam-pm>session>ethernet>lmm>enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc *fc-name* [*fc-name*]

no fc

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>vpls>sap>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>collect-lmm-fc-stats fc)

Full Context

configure service vpls spoke-sdp eth-cfm collect-lmm-fc-stats fc

configure service vpls sap eth-cfm collect-lmm-fc-stats fc

configure service vpls mesh-sdp eth-cfm collect-lmm-fc-stats fc

Description

This command creates individual counters for the specified FCs without regard for profile. All countable packets that match a configured FC, regardless of profile, will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-aware FC using the **fc-in-profile** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc

Parameters

fc-name

Specifies up to eight names of the FC for which to create an individual profile-unaware counter. In order for the counter to be used, the **config>oam-pm>session>ethernet>priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the

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config>oam-pm>session>ethernet>lmm>enable-fc-collection command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc *fc-name* [*fc-name*]

no fc

Context

[Tree] (config>service>ies>if>sap>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc)

Full Context

configure service ies interface sap eth-cfm collect-lmm-fc-stats fc

configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc

configure service ies interface spoke-sdp eth-cfm collect-lmm-fc-stats fc

Description

This command creates individual counters for the specified FCs without regard for profile. All countable packets that match a configured FC, regardless of profile, will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

An FC that is specified as part of this command for this specific context cannot be specified as a profile-aware FC using the **fc-in-profile** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-unaware counter. Up to eight FCs may be specified. In order for the counter to be used, the **config>oam-pm>session>ethernet>priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE),

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and the **config>oam-pm>session>ethernet>lmm>enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm collect-lmm-fc-stats fc
- configure service ies interface spoke-sdp eth-cfm collect-lmm-fc-stats fc

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc

fc

Syntax

fc *fc-name* [*fc-name*]

no fc

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>vprn>if>sap>eth-cfm>collect-lmm-fc-stats fc)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>collect-lmm-fc-stats fc)

Full Context

configure service vprn interface spoke-sdp eth-cfm collect-lmm-fc-stats fc

configure service vprn interface sap eth-cfm collect-lmm-fc-stats fc

configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc

Description

This command creates individual counters for the specified FCs without regard for profile. All countable packets that match a configured FC, regardless of profile, will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-aware FC using the **fc-in-profile** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc

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Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-unaware counter. Up to 8 FCs can be named in a single statement. In order for the counter to be used, the **config**>**oam-pm**>**session**>**ethernet**>**priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config**>**oam-pm**>**session**>**ethernet**>**lmm**>**enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm collect-lmm-fc-stats fc
- configure service vprn interface spoke-sdp eth-cfm collect-lmm-fc-stats fc

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc

fc

Syntax

fc {**be** | **l2** | **af** | **l1** | **h2** | **ef** | **h1**| **nc**} **forwarding-set** *set-id*

no {**be** | **l2** | **af** | **l1** | **h2** | **ef** | **h1** | **nc**}

Context

[Tree] (config>router>mpls>class-forwarding-policy fc)

Full Context

configure router mpls class-forwarding-policy fc

Description

This command configures the mapping of FCs to up to six forwarding sets for the class-based forwarding (CBF) of an LDP FEC or a BGP prefix over IGP shortcuts.

All FCs are mapped to set 1 as soon as the policy is created. The user can then make changes to the mapping of FCs as required. An FC that is not added to the class forwarding policy is thus always mapped to set 1. An FC can only be mapped to one forwarding set. One or more FCs can map to the same set. The user can indicate the initial default set by including the **default-set** option.

The default forwarding set forwards packets of an FC when all LSPs of the forwarding set that the FC maps to become operationally down. The router uses the user-configured default set as the initial default set if no default is configured; otherwise, it elects the lowest numbered set as the default forwarding set in a class forwarding policy. When the last LSP in a default forwarding set goes into an operationally down state, the router designates the next lowest numbered set as the new default forwarding set.

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Parameters

{be | l2 | af | l1 | h2 | ef | h1 | nc}

Specifies the name of the forwarding class.

set-id

Specifies the class forwarding set.

Values 1 to 4 (in system profile None/A)
1 to 6 (in system profile B)

Platforms

All

fc

Syntax

fc *fc-name* **sampling-weight** *sampling-weight*

no fc

Context

[Tree] (config>router>mpls>lsp-template>auto-bandwidth fc)

Full Context

configure router mpls lsp-template auto-bandwidth fc

Description

This command configures the sampling weight.

Platforms

All

fc

Syntax

fc *fc-name* **class-type** *ct-number*

no fc fc-name

Context

[Tree] (config>router>rsvp>diffserv-te fc)

Full Context

configure router rsvp diffserv-te fc

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Description

This command maps one or more system forwarding classes to a Diff-Serv Class Type (CT). The default mapping is shown in Table 46: Forwarding Classes Mapping.

Table 46: Forwarding Classes Mapping

FC ID	FC Name	FC Designation	Class Type (CT)
7	Network Control	NC	7
6	High-1	H1	6
5	Expedited	EF	5
4	High-2	H2	4
3	Low-1	L1	3
2	Assured	AF	2
1	Low-2	L2	1
0	Best Effort	BE	0

The **no** form of this command reverts to the default mapping for the forwarding class name.

Parameters

class-type *ct-number*

The Diff-Serv Class Type number. One or more system forwarding classes can be mapped to a CT.

Values 0 to 7

Platforms

All

fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action>remark fc)

Full Context

configure application-assurance group policy app-qos-policy entry action remark fc

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Description

This command configures remark FC action on flows matching this AQP entry. When enabled, all packets for all flows matching this AQP entry will be remarked to the configured forwarding class.

The **no** form of this command stops FC remarking action on packets belonging to flows matching this AQP entry.

Default

no fc

Parameters

fc-name

Configure the FC remark action for flows matching this entry.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

fc

Syntax

[**no**] **fc** *fc-name*

Context

[Tree] (config>service>nat>up-nat-policy>priority-sessions fc)

[Tree] (config>service>nat>firewall-policy>priority-sessions fc)

[Tree] (config>service>nat>nat-policy>priority-sessions fc)

Full Context

configure service nat up-nat-policy priority-sessions fc

configure service nat firewall-policy priority-sessions fc

configure service nat nat-policy priority-sessions fc

Description

This command configures the forwarding classes that have their sessions prioritized.

Parameters

fc-name

Specifies the forwarding class.

Values be, l2, af, l1, h2, ef, h1, nc

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy priority-sessions fc
- configure service nat up-nat-policy priority-sessions fc

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy priority-sessions fc

fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>mirror>mirror-dest fc)

Full Context

configure mirror mirror-dest fc

Description

This command specifies a forwarding class for all mirrored packets transmitted to the destination SAP or SDP overriding the default (be) forwarding class. All packets are sent with the same class of service to minimize out-of-sequence issues. The mirrored packet does not inherit the forwarding class of the original packet.

When the destination is on a SAP, a single egress queue is created that pulls buffers from the buffer pool associated with the *fc-name*.

When the destination is on an SDP, the *fc-name* defines the DiffServ-based egress queue that is used to reach the destination. The *fc-name* also defines the encoded forwarding class of the encapsulation.

The FC configuration also affects how mirrored packets are treated at the ingress queuing point on the line cards. One ingress queue is used per mirror destination (service) and that is an expedited queue if the configured FC is expedited (one of nc, h1, ef or h2). The ingress mirror queues have no CIR, but a line-rate PIR.

The **no** form of this command reverts the mirror-dest service ID forwarding class to the default forwarding class.

Default

The best effort (be) forwarding class is associated with the mirror-dest service ID.

Parameters

fc-name

The name of the forwarding class with which to associate mirrored service traffic. The forwarding class name must already be defined within the system. If the *fc-name* does not

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exist, an error is returned and the **fc** command has no effect. If the *fc-name* does exist, the forwarding class associated with *fc-name* overrides the default forwarding class.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

fc

Syntax

fc *fc-name* [**profile** { **in** | **out**}]

no fc

Context

[Tree] (config>test-oam>ldp-treetrace fc)

Full Context

configure test-oam ldp-treetrace fc

Description

This command indicates the forwarding class and profile of the MPLS echo request packet.

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified FC and profile parameter values. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface.

When the MPLS echo request packet is received on the responding node, The FC and profile parameter values are dictated by the LSP-EXP mappings of the incoming interface.

When an MPLS echo reply packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the FC and profile parameter values determined by the classification of the echo request packet, which is being replied to, at the incoming interface. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface. The ToS byte is not modified. Table 47: fc Request Packet and Behavior summarizes this behavior.

Table 47: fc Request Packet and Behavior

CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • pkt queued as {fc1, profile1}

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	• ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet {tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • pkt queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

Default

no fc

Parameters

fc-name

Specifies the forwarding class of the MPLS echo request packets.

Values be, l2, af, l1, h2, ef, h1, nc

profile {in | out}

Specifies the profile value to be used with the forwarding class specified in the **fc-name** parameter.

Platforms

All

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fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy fc)

[Tree] (config>saa>test>type-multi-line>lsp-ping fc)

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy fc)

Full Context

configure saa test type-multi-line lsp-trace sr-policy fc

configure saa test type-multi-line lsp-ping fc

configure saa test type-multi-line lsp-ping sr-policy fc

Description

This command specifies the FC and profile parameters that are used to indicate the forwarding class and profile of the MPLS echo request packet.

The **no** form of this command reverts to the default value.

Default

fc be

Parameters

fc-name

Specifies the forwarding class name.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

Platforms

All

fc

Syntax

fc *fc-name*

no fc

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Context

[Tree] (config>oam-pm>session>ip fc)

Full Context

configure oam-pm session ip fc

Description

This command sets the forwarding class designation for TWAMP Light packets that are sent through the node and exposed to the various QoS functions on the network element.

The **no** form of this command restores the default value.

Default

fc be

Parameters

fc-name

Specifies the forwarding class name.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>oam-pm>session>mpls fc)

Full Context

configure oam-pm session mpls fc

Description

This command sets the forwarding class designation for DM packets sent through the node and exposed to the various QoS functions on the network element.

The **no** form of this command reverts the default value.

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Default

fc be

Parameters

fc-name

Specifies the forwarding class name.

Values be — Specifies best effort
l2 — Specifies low-2
af — Specifies assured
l1 — Specifies low-1
h2 — Specifies high-2
ef — Specifies expedited
h1 — Specifies high-1
nc — Specifies network control

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc *fc-name* **profile** *profile* [**create**]

no fc *fc-name* **profile** *profile*

Context

[Tree] (config>qos>post-policer-mapping fc)

Full Context

configure qos post-policer-mapping fc

Description

This command specifies the forwarding class and profile state of an egress policed packet that is to be mapped to another forwarding class and profile, where the profile state is that of the resulting profile after the packet has been processed by the egress policer.

The new forwarding class and profile state is configured using the **maps-to** command.

The traffic remarking is based on the marking configured for the forwarding class and profile of the traffic after being policed but before it is remapped.

The **no** form of this command deletes the forwarding class and profile remapping statement, including the **maps-to** command.

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Parameters

fc-name

Specifies one of the eight forwarding classes supported by the system.

Values be, l2, af, l1, h2, ef, h1, nc

profile

Specifies one of the egress packet profile states.

Values exceed, in, inplus, out

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

fc

Syntax

fc *fc-name* [**create**]

no fc *fc-name*

Context

[Tree] (config>qos>sap-ingress fc)

Full Context

configure qos sap-ingress fc

Description

The **fc** command creates a class or subclass instance of the forwarding class fc-name. When the *fc-name* is created, classification actions can be applied and the subclass can be used in match classification criteria. Attempting to use an undefined subclass in a classification command will result in an execution error and the command will fail.

The **no** form of this command removes all the explicit queue mappings for *fc-name* forwarding types. The queue mappings revert to the default queues for *fc-name*. To successfully remove a subclass, all associations with the subclass in the classification commands within the policy must first be removed or diverted to another forwarding class or subclass.

Parameters

fc-name

The parameter subclass-name is optional and must be defined using a dot separated notation with a preceding valid system-wide forwarding class name. Creating a subclass follows normal naming conventions. Up to sixteen ASCII characters may be used. If the same sub-name is used with two or more forwarding class names, each is considered a different instance of subclass. A subclass must always be specified with its preceding forwarding class name. When a forwarding class is created or specified without the optional subclass, the parent forwarding class is assumed.

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Within the SAP ingress QoS policy, up to 56 subclasses may be created. Each of the 56 subclasses may be created within any of the eight parental forwarding classes. When the limit of 56 is reached, any further subclass creations will fail and the subclass will not exist.

Successfully creating a subclass places the CLI within the context of the subclass for further subclass parameter definitions. Within the subclass context, commands may be executed that define subclass priority (within the parent forwarding class queue mapping), subclass color aware profile settings, subclass in-profile and out-of-profile precedence or DSCP markings.

The *subclass-name* parameter is optional and used with the *fc-name* parameter to define a pre-existing subclass. The *fc-name* and *subclass-name* parameters must be separated by a period (.). If *subclass-name* does not exist in the context of *fc-name*, an error will occur. If *subclass-name* is removed using the **no fc** *fc-name.subclass-name* **force** command, the **default-fc** command will automatically drop the *subclass-name* and only use *fc-name* (the parent forwarding class for the subclass) as the forwarding class.

Values

fc: *class*[.*subclass*]

class: be, l2, af, l1, h2, ef, h1, nc

subclass: 29 characters max

create

Required parameter when creating a SAP QoS ingress policy forwarding class.

Platforms

All

fc

Syntax

fc *fc-name* [**create**]

no fc *fc-name*

Context

[Tree] (config>qos>sap-egress fc)

Full Context

configure qos sap-egress fc

Description

The **fc** fc-*name* node within the SAP egress QoS policy is used to contain the explicitly defined queue mapping and dot1p marking commands for *fc-name*. When the mapping for *fc-name* points to the default queue and the dot1p marking is not defined, the node for *fc-name* is not displayed in the **show configuration** or **save configuration** output unless the detail option is specified.

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The **no** form of this command removes the explicit queue mapping and dot1p marking commands for *fc-name*. The queue mapping reverts to the default queue for *fc-name* and the dot1p marking (if appropriate) uses the default of 0.

Default

no fc

Parameters

fc-name

This parameter specifies that the forwarding class queue mapping or dot1p marking is to be edited. The value given for *fc-name* must be one of the predefined forwarding classes in the system.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>qos>network>ingress fc)

Full Context

configure qos network ingress fc

Description

This command is used to enter the CLI node to configure QoS parameters for the specified forwarding class. The **fc** command overrides the default parameters for that forwarding class from the values defined in the network default policy.

The **no** form of this command removes the forwarding class name configuration. The forwarding class reverts to the parameters defined in the default network policy.

Parameters

fc-name

The case-sensitive, system-defined forwarding class name for which policy entries will be created.

Values be, l2, af, l1, h2, ef, h1, nc

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>qos>network>egress fc)

Full Context

configure qos network egress fc

Description

This command is used to enter the CLI node to configure QoS parameters for the specified forwarding class. The FC name represents a CLI parent node that contains parameters describing the egress marking criteria of packets flowing through it. This command overrides the default parameters for that forwarding class from the values defined in the network default policy. It can also be used to redirect packets to a policer or queue in a network egress queue group instance.

The **no** form of this command removes the forwarding class name configuration. The forwarding class reverts to the parameters defined in the default network policy.

Parameters

fc-name

The case-sensitive, system-defined forwarding class name for which policy entries will be created.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

fc

Syntax

fc *fc-name* [**create**]

no fc *fc-name*

Context

[Tree] (config>qos>network-queue fc)

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Full Context

configure qos network-queue fc

Description

The **fc** command is used to enter the forwarding class mapping context for the given *fc-name*. Each forwarding class maps by default to queues 1 (unicast) and 9 (multipoint).

Parameters

fc-name

A valid forwarding class must be specified as *fc-name* when the **fc** command is executed. When the **fc** *fc-name* command is successfully executed, the system will enter the specified forwarding class context where the **queue** *queue-id* command may be executed.

Values be, l2, af, l1, h2, ef, h1, nc

create

Required parameter when creating an FC node.

Platforms

All

fc

Syntax

fc *fc-name* [**create**]

no fc *fc-name*

Context

[Tree] (cfg>qos>qgrps>egr>qgrp fc)

Full Context

configure qos queue-group-templates egress queue-group fc

Description

The **fc** command is used to enter the forwarding class mapping context for the given fc-name. Each forwarding class has a default mapping depending on the egress queue group template. The system-created policer-output-queue template contains queues 1 and 2 by default with queue 1 being best-effort and queue 2 expedited. Forwarding classes be, l1, af and l2 all map to queue 1 by default. Forwarding classes h1, ef, h2 and nc all map to queue 2 by default. More queues may be created within the policer-output-queues template and the default forwarding classes may be changed to any defined queue within the template.

When all other user-defined egress queue group templates are created, only queue 1 (best-effort) exists and all forwarding classes are mapped to that queue. Other queues may be created and the forwarding classes may be changed to any defined queue within the template.

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Besides the default mappings within the templates, the egress queue group template forwarding class queue mappings operate the same as the forwarding class mappings in a sap-egress QoS policy.

The template forwarding class mappings are the default mechanism for mapping egress policed traffic to a queue within an egress port queue group associated with the template. If a queue-id is explicitly specified in the QoS policy forwarding class policer mapping, and that queue exists within the queue group, the template forwarding class mapping is ignored.

On the 7450 ESS and 7750 SR, egress policed subscriber traffic works in a slightly different way. The subscriber and subscriber host support destination and organization strings are used to identify the egress port queue group. In this instance, the forwarding class mappings are always used and any queue overrides in the QoS policy are ignored. If neither string exists for the subscriber host, the egress queue group queue-id can be derived from either the QoS policy policer mapping or the template forwarding class queue mappings.

The **no** form of this command is used to return the specified forwarding class to its default template queue mapping.

Parameters

fc-name

A valid forwarding class must be specified as *fc-name* when the **fc** command is executed. When the **fc** *fc-name* command is successfully executed, the system will enter the specified forwarding class context where the **queue** *queue-id* command may be executed.

Values **be**, **l1**, **af**, **l2**, **h1**, **ef**, **h2**, **nc**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

fc

Syntax

fc *fc-name* [**create**]

no fc

Context

[Tree] (config>qos>shared-queue fc)

Full Context

configure qos shared-queue fc

Description

This command specifies the forwarding class name. The forwarding class name represents an egress queue. The **fc** *fc-name* represents a CLI parent node that contains sub-commands or parameters describing the egress characteristics of the queue and the marking criteria of packets flowing through it. The **fc** command overrides the default parameters for that forwarding class defined in the network default policy *policy-id* 1.

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Default

Refer to "Default Shared Queue Policy Values” in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for undefined forwarding class values.

Parameters

fc-name

The case-sensitive, system-defined forwarding class name for which policy entries will be created.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

fc

Syntax

fc *fc-name*

no fc

Context

[Tree] (config>filter>ip-filter>entry>action fc)

[Tree] (config>filter>ipv6-filter>entry>action fc)

Full Context

configure filter ip-filter entry action fc

configure filter ipv6-filter entry action fc

Description

This command assigns an FC to packets matching the filter entry.

The **no** form of this command removes the FC marking action.

Default

no fc

Parameters

fc-name

Specifies the FC name.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

All

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fc

Syntax

fc *fc-name* [*fc-name*]

no fc

Context

[Tree] (config>router>if>eth-cfm>mep>collect-lmm-fc-stats fc)

Full Context

configure router interface eth-cfm mep collect-lmm-fc-stats fc

Description

This command creates individual counters for the specified FCs without regard for profile. All countable packets that match a configured FC, regardless of profile, will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-aware FC using the **fc-in-profile** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-unaware counter. A maximum of eight fc-names can be specified in a single statement. In order for the counter to be used, the **config**>**oam-pm**>**session**> **ethernet**>**priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config**>**oam-pm**>**session**>**ethernet**>**lmm**>**enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc {*fc*} **lsp** *lsp-name*

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no fc {fc}

Context

[Tree] (config>service>sdp>class-forwarding fc)

Full Context

configure service sdp class-forwarding fc

Description

This command makes an explicit association between a forwarding class and an LSP. The LSP name must exist and must have been associated with this SDP using the command config>service>sdp>lsp. Multiple forwarding classes can be associated with the same LSP. However, a forwarding class can only be associated with a single LSP in a given SDP. All subclasses will be assigned to the same LSP as the parent forwarding class.

Parameters

lsp *lsp-name*

Specifies the RSVP or static LSP to use to forward service packets which are classified into the specified forwarding class.

fc

Specifies a forwarding class to LSP mapping.

Values be, l2, af, 1, h2, ef, h1, nc

Platforms

All

fc

Syntax

fc *fc* [**priority** {**low** | **high**}]

no fc

Context

[Tree] (config>router>policy-options>policy-statement>entry>action fc)

Full Context

configure router policy-options policy-statement entry action fc

Description

This command associates a forwarding-class and optionally priority with the routes matched by a route policy entry. The command takes effect when the action of the route policy entry is accept, next-entry, or next-policy. It has no effect except in route policies applied as VRF import policies, BGP import policies, or RIP import policies.

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The **no** form of this command removes the QoS association of the routes matched by the route policy entry.

Default

no fc

Parameters

fc

Specify the name of one of the predefined forwarding classes in the system.

Values be, l2, af, l1, h2, ef, h1, nc

Default none (no QoS information is associated with matched routes)

priority {low | high}

This parameter associates an enqueuing priority with routes matched by the policy entry. Specifying a priority is optional.

Values **high** — Setting the enqueuing parameter to **high** for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. After the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

low — Setting the enqueuing parameter to **low** for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. After the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Default low

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc *fc-name*

Context

[Tree] (config>test-oam>link-meas>template>twl fc)

Full Context

configure test-oam link-measurement measurement-template twamp-light fc

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Description

This command configures the FC name for the TWAMP Light packet.

Default

fc h1

Parameters

fc-name

Specifies the forwarding class.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc

Syntax

fc *fc-name*

Context

[Tree] (config>test-oam>lag-meas>template>twl fc)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light fc

Description

This command configures the QoS FC used to launch each TWAMP Light packet.

Default

fc h1

Parameters

fc-name

Specifies the FC name.

Values be, l2, af, l1, h2, ef, h1, nc

Default h1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.28 fc-in-profile

fc-in-profile

Syntax

fc-in-profile *fc-name* [*fc-name*]

no fc-in-profile

Context

[Tree] (config>service>epipe>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>ipipe>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc-in-profile)

Full Context

configure service epipe sap eth-cfm collect-lmm-fc-stats fc-in-profile

configure service ipipe sap eth-cfm collect-lmm-fc-stats fc-in-profile

configure service epipe spoke-sdp eth-cfm collect-lmm-fc-stats fc-in-profile

Description

This command creates individual counters for the specified FCs with regard for profile. All countable packets that match a configured FC and are deemed to be in-profile will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-unaware FC using the **fc** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc-in-profile

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-aware counter. In order for the counter to be used, the **config**>**oam-pm**>**session**> **ethernet**>**priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config**>**oam-pm**>**session**>**ethernet**>**lmm**>**enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc-in-profile

Syntax

fc-in-profile *fc-name* [*fc-name*]

no fc-in-profile

Context

[Tree] (config>service>vpls>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>collect-lmm-fc-stats fc-in-profile)

Full Context

configure service vpls sap eth-cfm collect-lmm-fc-stats fc-in-profile

configure service vpls spoke-sdp eth-cfm collect-lmm-fc-stats fc-in-profile

configure service vpls mesh-sdp eth-cfm collect-lmm-fc-stats fc-in-profile

Description

This command creates individual counters for the specified FCs with regard for profile. All countable packets that match a configured FC and are deemed to be in-profile will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-unaware FC using the **fc** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc-in-profile

Parameters

fc-name

Specifies up to eight names of the FC for which to create an individual profile-aware counter. In order for the counter to be used, the **config**>**oam-pm**>**session**>**ethernet**>**priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config**>**oam-pm**>**session**>**ethernet**>**lmm**>**enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fc-in-profile

Syntax

fc-in-profile *fc-name* [*fc-name*]

no fc-in-profile

Context

[Tree] (config>service>ies>if>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc-in-profile)

Full Context

configure service ies interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

configure service ies interface spoke-sdp eth-cfm collect-lmm-fc-stats fc-in-profile

Description

This command creates individual counters for the specified FCs with regard for profile. All countable packets that match a configured FC and are deemed to be in profile will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

An FC that is specified as part of this command for this specific context cannot be specified as a profile-unaware FC using the **fc** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc-in-profile

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-aware counter. Up to eight FCs may be specified. In order for the counter to be used, the **config>oam-pm>session>ethernet>priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config>oam-pm>session>ethernet>lmm>enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm collect-lmm-fc-stats fc-in-profile
- configure service ies interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

fc-in-profile

Syntax

fc-in-profile *fc-name* [*fc-name*]

no fc-in-profile

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

[Tree] (config>service>vprn>if>sap>eth-cfm>collect-lmm-fc-stats fc-in-profile)

Full Context

configure service vprn interface spoke-sdp eth-cfm collect-lmm-fc-stats fc-in-profile

configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

configure service vprn interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

Description

This command creates individual counters for the specified FCs with regard for profile. All countable packets that match a configured FC and are deemed to be in profile will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-unaware FC using the **fc** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc-in-profile

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-aware counter. Up to 8 FCs can be named in a single statement. In order for the counter to be used, the **config**>**oam-pm**>**session**>**ethernet**>**priority** command must be configured with a numerical value representing the FC name (7 = NC, 6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF,

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1 = L2, 0 = BE), and the **config**>**oam-pm**>**session**>**ethernet**>**lmm**>**enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm collect-lmm-fc-stats fc-in-profile
- configure service vprn interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm collect-lmm-fc-stats fc-in-profile

fc-in-profile

Syntax

fc-in-profile *fc-name* [*fc-name*]

no fc-in-profile

Context

[Tree] (config>router>if>eth-cfm>mep>collect-lmm-fc-stats fc-in-profile)

Full Context

configure router interface eth-cfm mep collect-lmm-fc-stats fc-in-profile

Description

This command creates individual counters for the specified FCs with regard for profile. All countable packets that match a configured FC and are deemed to be in-profile will be included in this counter.

A differential is performed when this command is re-entered. Omitted FCs will stop counting, newly added FCs will start counting, and unchanged FCs will continue to count.

Up to eight FCs may be specified. An FC that is specified as part of this command for this specific context cannot be specified as a profile-unaware FC using the **fc** command under the same context.

The **no** form of this command removes all previously defined FCs and stops counting for those FCs.

Default

no fc-in-profile

Parameters

fc-name

Specifies the name of the FC for which to create an individual profile-aware counter. A maximum of eight fc-names can be specified in a single statement. In order for the counter to be used, the **config**>**oam-pm**>**session**> **ethernet**>**priority** command must be configured with a numerical value representing the FC name (7 = NC,

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6 = H1, 5 = EF, 4 = H2, 3 = L1, 2 = AF, 1 = L2, 0 = BE), and the **config>oam-pm>session>ethernet>lmm>enable-fc-collection** command must be enabled.

Values nc, h1, ef, h2, l1, af, l2, be

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.29 fcc

fcc

Syntax

fcc *percent*

Context

[Tree] (config>isa>video-group>watermark>session fcc)

[Tree] (config>isa>video-group>watermark>bandwidth fcc)

Full Context

configure isa video-group watermark session fcc

configure isa video-group watermark bandwidth fcc

Description

This command sets the watermark to trigger the SNMP trap if the FCC bandwidth or session exceeds the configured percentage. The bandwidth is the available egress bandwidth of the ISA. The SNMP trap is cleared when the consumption is lowered by 10%. For example, if the system resource of the available bandwidth is 10 Gb/s and the watermark is configured to be 90%, the SNMP trap is raised as the bandwidth exceeds 9 Gb/s (90% of 10 Gb/s). The SNMP trap is cleared when the bandwidth drops below 8.1 Gb/s (10% of 9 Gb/s = 0.9 Gb/s, and 9 Gb/s - 0.9 Gb/s = 8.1 Gb/s). The default value of the watermark is set at 90% of the system resources for both bandwidth and session.

Default

fcc 90

Parameters

percent

Specifies the percentage of the system resources per ISA.

Values 1 to 99

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

17.30 fcc-burst

fcc-burst

Syntax

fcc-burst *burst-percentage*

no fcc-burst

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>hd fcc-burst)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>sd fcc-burst)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>pip fcc-burst)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface hd fcc-burst

configure mcast-management multicast-info-policy video-policy video-interface sd fcc-burst

configure mcast-management multicast-info-policy video-policy video-interface pip fcc-burst

Description

This command sets the burst rate at which the Fast Channel Change (FCC) server will send unicast data to the FCC client above the received rate to allow the client to catchup to the multicast stream.

This parameter is only applicable if the FCC server mode is **burst**.

The **no** form of the command returns the parameter to the default value.

Default

fcc-burst 25

Parameters

burst-percentage

Specifies the percentage of nominal bandwidth used to catch up to the multicast stream.

Values

HD:	0 to 100
SD and PIP:	0 to 600

Default 25

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

17.31 fcc-channel-type

fcc-channel-type

Syntax

fcc-channel-type {**hd** | **sd** | **pip**}

no fcc-channel-type

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video fcc-channel-type)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video fcc-channel-type)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video fcc-channel-type)

Full Context

configure mcast-management multicast-info-policy bundle channel video fcc-channel-type

configure mcast-management multicast-info-policy bundle video fcc-channel-type

configure mcast-management multicast-info-policy bundle channel source-override video fcc-channel-type

Description

This command configures the channel type for the bundle/channel. The channel type is used in the video policy to set various Fast Channel Change (FCC) parameters including the type of FCC and various FCC rates.

The **no** form of this command returns the parameter to the default value.

Default

no fcc-channel-type

Parameters

hd

The channel type is High-Definition (HD) (Default).

sd

The channel type is Standard Definition (SD).

pip

The channel type is Picture in Picture (PIP).

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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17.32 fcc-min-duration

fcc-min-duration

Syntax

fcc-min-duration *time*

no fcc-min-duration

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video fcc-min-duration)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video fcc-min-duration)

Full Context

configure mcast-management multicast-info-policy bundle video fcc-min-duration

configure mcast-management multicast-info-policy bundle channel video fcc-min-duration

Description

This command configures the minimum time duration, in milliseconds, of the Fast Channel Change (FCC) burst. The value of this object determines the starting point of the FCC burst. If the current Group of Pictures (GOP) has less than the minimum duration worth of data, FCC burst begins from the previous GOP.

The **no** form of the command reverts to the default value.

Default

fcc-min-duration 300

Parameters

time

Specifies the FCC burst minimum duration, in milliseconds.

Values 300 to 8000

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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17.33 fcc-server

fcc-server

Syntax

[**no**] **fcc-server**

Context

[Tree] (config>isa>video-group fcc-server)

Full Context

configure isa video-group fcc-server

Description

This command enables the FCC server capability for the ISA video group. FCC server cannot be enabled if ad insertion or the local RET server is enabled.

FCC server parameters can be configured in a multicast information policy or a service, but the parameters will have no effect if the FCC server is disabled or if the video group is administratively disabled (shutdown).

The **no** form of the command disables the FCC server.

Default

no fcc-server

Platforms

7450 ESS, 7750 SR, 7750 SR-s

fcc-server

Syntax

fcc-server [**mode** {**burst** | **dent** | **hybrid**}]

no fcc-server

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>sd fcc-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>hd fcc-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>pip fcc-server)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface sd fcc-server

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configure mcast-management multicast-info-policy video-policy video-interface hd fcc-server

configure mcast-management multicast-info-policy video-policy video-interface pip fcc-server

Description

This command enables the Fast Channel Change (FCC) server and sets the mode to send the FCC unicast stream.

The mode indicates how the FCC server will send information to the client. When **burst** is specified, the FCC server will send the channel at a nominally faster rate than the channel was received based on the applicable fcc-burst setting. When **dent** is specified, the FCC server will selectively discard frames from the original stream based on the applicable dent-threshold setting. If no mode is specified, burst is the default mode.

The **no** form of the command disables the FCC server at that context and subordinate contexts.

Default

no fcc-server

Parameters

mode burst

Sets the mode of the FCC server to burst when sending the channel to the FCC client.

mode dent

Sets the mode of the FCC server to dent when sending the channel to the FCC client.

mode hybrid

Combines the burst and dent modes.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

fcc-server

Syntax

fcc-server [**disable**]

no fcc-server

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video fcc-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video fcc-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video fcc-server)

Full Context

configure mcast-management multicast-info-policy bundle video fcc-server

configure mcast-management multicast-info-policy bundle channel video fcc-server

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configure mcast-management multicast-info-policy bundle channel source-override video fcc-server

Description

This command enables Fast Channel Change (FCC) for a multicast bundle or channel. Additional parameters such as **fcc-channel-type** should also be configured to match the characteristics of the bundle/channel.

The **no** form of the command disables removes the FCC configuration for the bundle/channel context and implies the setting is inherited from a higher context or the default policy.

Default

no fcc-server

Parameters

disable

Explicitly disables the FCC server within the policy. For the default bundle within the default multicast information policy, the **no** form of the command and the **disable** keyword have the same meaning and imply that the server is disabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

fcc-server

Syntax

fcc-server [**client** *client-ip* [**source-port** *src-port*]]

no fcc-server

Context

[Tree] (debug>service>id>video-interface fcc-server)

Full Context

debug service id video-interface fcc-server

Description

This command enables debugging the FCC server.

Parameters

client *client-ip*

Specifies the client IP address.

source-port *src-port*

Specifies the source port's IP address.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

17.34 fcc-session-timeout

fcc-session-timeout

Syntax

fcc-session-timeout *seconds*

no fcc-session-timeout

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if fcc-session-timeout)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface fcc-session-timeout

Description

By default, the video ISA will wait for 5 minutes before closing the RTCP session from the subscriber. The RTCP session can be adjusted from 5 second to 5 minutes. The timeout is applicable to both RET and FCC RTCP sessions.

The **no** form of the command reverts to the default.

Default

fcc-session-timeout 300

Parameters

seconds

Specifies the FCC session timeout in seconds.

Values 5 to 300

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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17.35 fd-avg

fd-avg

Syntax

[**no**] **fd-avg** {**forward** | **backward** | **round-trip**}

Context

[Tree] (config>oam-pm>streaming>delay-template fd-avg)

Full Context

configure oam-pm streaming delay-template fd-avg

Description

This command specifies the sending of average frame delay for a specified direction.

The **no** form of this command deletes the specified average direction.

Note:
All directions can be specified if all directions are important for reporting. However, only enable those directions that are required.

Parameters

forward

Specifies the measurement in the forward direction.

backward

Specifies the measurement in the backward direction.

round-trip

Specifies the measurement for the round trip.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.36 fdb-table-high-wmark

fdb-table-high-wmark

Syntax

[**no**] **fdb-table-high-wmark** *high-water-mark*

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Context

[Tree] (config>service>vpls fdb-table-high-wmark)

[Tree] (config>service>template>vpls-template fdb-table-high-wmark)

Full Context

configure service vpls fdb-table-high-wmark

configure service template vpls-template fdb-table-high-wmark

Description

This command specifies the value to send logs and traps when the threshold is reached.

The **no** form of this command reverts to the default value.

Default

fdb-table-high-wmark 95

Parameters

high-water-mark

Specifies the value as a percentage.

Values 0 to 100

Platforms

All

17.37 fdb-table-low-wmark

fdb-table-low-wmark

Syntax

[**no**] **fdb-table-low-wmark** *low-water-mark*

Context

[Tree] (config>service>template>vpls-template fdb-table-low-wmark)

[Tree] (config>service>vpls fdb-table-low-wmark)

Full Context

configure service template vpls-template fdb-table-low-wmark

configure service vpls fdb-table-low-wmark

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Description

This command specifies the value to send logs and traps when the threshold is reached.

The **no** form of this command reverts to the default value.

Default

fdb-table-low-wmark 90

Parameters

low-water-mark

Specifies the value as a percentage.

Values 0 to 100

Platforms

All

17.38 fdb-table-size

fdb-table-size

Syntax

fdb-table-size *table-size*

no fdb-table-size [*table-size*]

Context

[Tree] (config>service>vpls fdb-table-size)

[Tree] (config>service>template>vpls-template fdb-table-size)

Full Context

configure service vpls fdb-table-size

configure service template vpls-template fdb-table-size

Description

This command specifies the maximum number of MAC entries in the forwarding database (FDB) for the VPLS instance on this node.

The **fdb-table-size** specifies the maximum number of forwarding database entries for both learned and static MAC addresses for the VPLS instance.

The **no** form of this command returns the maximum FDB table size to default.

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Default

fdb-table-size 250

Parameters

table-size

Specifies the number of entries permitted in the forwarding database for this VPLS instance.

Values 7450 ESS, 7950 XRS, or 7750 SR-7, SR-12, SR-12e: 1 to 511999

7750 SR-e, SR-a: 1 to 250000

Platforms

All

fdb-table-size

Syntax

fdb-table-size *table-size*

Context

[Tree] (config>service>system fdb-table-size)

Full Context

configure service system fdb-table-size

Description

This command configures the maximum system FDB table size, which is dependent on the chassis type. CPMs with at least 16 GB of memory are required when exceeding 500k MAC addresses in a system. The table size cannot be reduced below its default value, which is also chassis-dependent.

The maximum system FDB table size also limits the maximum FDB table size of any card within the system.

The command default depends on the chassis type and available memory.

Parameters

table-size

Specifies the maximum system FDB table size.

Note: The *table-size* range values are platform dependent.

Values 4095 to 2047999

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Platforms

All

17.39 feac-loop-respond

feac-loop-respond

Syntax

[**no**] **feac-loop-respond**

Context

[Tree] (config>port>tdm>ds3 feac-loop-respond)

Full Context

configure port tdm ds3 feac-loop-respond

Description

This command enables the associated DS-3 interface to respond to remote loop signals.

The DS-3 far-end alarm and control (FEAC) signal is used to send alarm or status information from the far-end terminal back to the local terminal. DS-3 loopbacks at the far-end terminal from the local terminal are initiated.

The **no** form of this command prevents the associated DS-3 interface from responding to remote loop signals.

Default

no feac-loop-respond

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

17.40 feature

feature

Syntax

[**no**] **feature** *feature-name*

Context

[Tree] (config>system>satellite>eth-sat feature)

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Full Context

configure system satellite eth-sat feature

Description

This command enables specific satellite functionality that may have specific satellite requirements, such as software version.

The **no** form of this command disables the specific satellite functionality.

Parameters

feature-name

Specifies the functionality to enable.

Values local-forward

Values transparent-clock-eth

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.41 features

features

Syntax

features

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx features)

Full Context

configure subscriber-mgmt diameter-application-policy gx features

Description

Commands in this context configure the Gx features.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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17.42 fec

fec

Syntax

fec {**g709** | **enhanced**}

no fec

Context

[Tree] (config>port>otu fec)

Full Context

configure port otu fec

Description

This command enables the Forwarding Error Correction (FEC) encoder/decoder and specifies the FEC encoder/decoder mode to use when enabled.

The following rules must be followed:

- The port's OTU must be enabled to set or change the FEC mode.
- The port must be shut down before changing the FEC mode.
- The sf-sd-method must be changed to BIP8 before setting the FEC mode to disabled.

Note that FEC cannot be disabled on OTU3 encapsulated OC768 or 40-Gigabit Ethernet by the **no fec** command. Therefore, the default depends on the port type. The default for OTU3 encapsulated OC768 or 40-Gigabit Ethernet is **fec enhanced**.

The **no** form of this command disables FEC encoder and decoder.

Default

no fec

Parameters

enhanced

Enables the FEC encoder and decoder with a proprietary enhanced FEC algorithm.

g709

Enables the FEC encoder and decoder with the standard G.709 FEC algorithm.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.43 fec-limit

fec-limit

Syntax

fec-limit *limit* [**log-only**] [**threshold** *percentage*]

no fec-limit

Context

[Tree] (config>router>ldp>session-params>peer fec-limit)

Full Context

configure router ldp session-parameters peer fec-limit

Description

This command configures a limit on the number of FECs which an LSR will accept from a given peer and add into the LDP label database. The limit applies to the aggregate count of all FEC types including service FEC. Once the limit is reached, any FEC received will be released back to the peer. This behavior is different from the per-peer import policy which will still accept the FEC into the label database but will not resolve it.

When the FEC limit for a peer is reached, the LSR performs the following actions:

1. Generates a trap and a syslog message.
2. Generates a LDP notification message with the LSR overload status TLV, for each LDP FEC type including service FEC, to this peer only if this peer advertised support for the LSR overload sub-TLV via the LSR Overload Protection Capability TLV at session initialization.
3. Releases, with LDP Status Code of "No_Label_Resources", any new FEC, including service FEC, from this peer which exceeds the limit.

If a legitimate FEC is released back to a peer, while the FEC limit was exceeded, the user must have a means to replay that FEC back to the router LSR once the condition clears. This is done automatically if the peer is an SR OS-based router and supports the LDP overload status TLV (SR OS 11.0R5 and higher). Third-party peer implementations must support the LDP overload status TLV or provide a manual command to replay the FEC.

The **threshold** option allows to set a threshold value when a trap and an syslog message are generated as a warning to the user in addition to when the limit is reached. The default value for the threshold when not configured is 90%.

The **log-only** option causes a trap and syslog message to be generated when reaching the threshold and limit. However, LDP labels are not released back to the peer.

If the user decreases the limit value such that it is lower than the current number of FECs accepted from the peer, the LDP LSR raises the trap for exceeding the limit. In addition, it will set overload for peers which signaled support for LDP overload protection capability TLV. However, no existing resolved FECs from the peer which does not support the overload protection capability TLV should be de-programmed or released.

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A different trap is released when crossing the threshold in the upward direction, when reaching the FEC limit, and when crossing the threshold in the downward direction. However the same trap will not be generated more often than 2 minutes apart if the number of FECs oscillates around the threshold or the FEC limit.

Default

no fec-limit

Parameters

limit

Specifies the aggregate count of FECs of all types which can be accepted from this LDP peer.

log-only

Specifies that only a trap and syslog message are generated when reaching the threshold and limit. However, LDP labels are not released back to the peer.

percentage

Specifies the threshold value (as a percentage) that triggers a warning syslog message and trap to be sent.

Platforms

All

17.44 fec-originate

fec-originate

Syntax

fec-originate *ip-prefix/mask* [**advertised-label** *in-label*] [**swap-label** *out-label*] **interface interface-name**

fec-originate *ip-prefix/mask* [**advertised-label** *in-label*] **next-hop** *ip-address* [**swap-label** *out-label*]

fec-originate *ip-prefix/mask* [**advertised-label** *in-label*] **next-hop** *ip-address* [**swap-label** *out-label*] **interface interface-name**

fec-originate *ip-prefix/mask* [**advertised-label** *in-label*] **pop**

no fec-originate *ip-prefix/mask* **interface interface-name**

no fec-originate *ip-prefix/mask* **next-hop** *ip-address*

no fec-originate *ip-prefix/mask* **next-hop** *ip-address* **interface interface-name**

no fec-originate *ip-prefix/mask* **pop**

Context

[Tree] (config>router>ldp fec-originate)

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Full Context

configure router ldp fec-originate

Description

This command defines a way to originate a FEC (with a swap action) for which the LSR is not egress, or to originate a FEC (with a pop action) for which the LSR is egress.

Parameters

ip-prefix/mask

Specifies information for the specified IP prefix and mask length.

Values

ipv4-prefix - a.b.c.d	
ipv4-prefix-le - [0..32]	
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D
	ipv6-prefix-le - [0..128]

next-hop

Specifies the IP address of the next hop of the prefix.

advertised-label

Specifies the label advertised to the upstream peer. If not configured, then the label advertised should be from the label pool. If the configured static label is not available then the IP prefix is not advertised.

out-label

Specifies the LSR to swap the label. If configured, then the LSR should swap the label with the configured swap-label. If not configured, then the default action is pop if the next-hop parameter is not defined.

The next-hop, advertised-label, swap-label parameters are all optional. If next-hop is configured but no swap label specified, it will be a swap with label 3, such as, pop and forward to the next-hop. If the next-hop and swap-label are configured, then it is a regular swap. If no parameters are specified, a pop and route is performed.

Values 16 to 1048575

in-label

Specifies the number of labels to send to the peer associated with this FEC.

Values 32 to 1023

pop

Specifies to pop the label and transmit without the label.

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interface *interface-name*

Specifies the name of the interface the label for the originated FEC is swapped to. For an unnumbered interface, this parameter is mandatory since there is no address for the next-hop. For a numbered interface, it is optional.

Platforms

All

17.45 fec-prefix

fec-prefix

Syntax

[**no**] **fec-prefix** *ip-prefix*[*mask*]

Context

[Tree] (config>router>ldp>egr-stats fec-prefix)

Full Context

configure router ldp egress-statistics fec-prefix

Description

This command configures statistics in the egress data path at the ingress LER or LSR for an LDP FEC. The user must execute the **no shutdown** command for this command to effectively enable statistics. The egress data path counters will be updated for both originating and transit packets. Originating packets may be service packets or IP user and control packets forwarded over the LDP LSP when used as an IGP shortcut. Transit packets of the FEC which are label switched on this node.

When ECMP is enabled and multiple paths exist for a FEC, the same set of counters are updated for each packet forwarded over any of the NHLFEs associated with this FEC and for as long as this FEC is active.

The statistics can be enabled on prefix FECs imported from both LDP neighbors and T-LDP neighbors (LDP over RSVP). LDP sets up egress statistics collection for the LDP tunnels whose FECs match the exact prefix specified in this command. Service FECs, that is, FEC 128 and FEC 129, are not valid. LDP FEC egress statistics are collected at the Penultimate-Popping Hop (PHP) node for a LDP FEC using an implicit null egress label.

The **no** form of this command disables the statistics in the egress data path and removes the accounting policy association from the LDP FEC.

Parameters

ip-prefix

Specifies the IP address representing the FEC.

Values	IPv4 prefix:	*a.b.c.d*	*a*, *b*, *c*, *d* - 0 to 255; decimal

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IPv6 prefix:	*x:x:x:x:x:x:x:x* (eight 16-bit pieces) *x:x:x:x:x:x:d.d.d.d*	*x* - 0 to FFFF; hexadecimal

mask

Specifies the mask of the IP address.

Values IPv4: 0 to 32
IPv6: 0 to 128

Platforms

All

17.46 fec-type-capability

fec-type-capability

Syntax

fec-type-capability

Context

[Tree] (config>router>ldp>if-params>if>ipv4 fec-type-capability)

[Tree] (config>router>ldp>session-params>peer fec-type-capability)

[Tree] (config>router>ldp>if-params>if>ipv6 fec-type-capability)

Full Context

configure router ldp interface-parameters interface ipv4 fec-type-capability

configure router ldp session-parameters peer fec-type-capability

configure router ldp interface-parameters interface ipv6 fec-type-capability

Description

This command enables or disables the advertisement of a FEC type on a given LDP session or Hello adjacency to a peer.

Platforms

All

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17.47 fec129-cisco-interop

fec129-cisco-interop

Syntax

[**no**] **fec129-cisco-interop**

Context

[Tree] (config>router>ldp>session-params>peer fec129-cisco-interop)

Full Context

configure router ldp session-parameters peer fec129-cisco-interop

Description

This command specifies whether LDP will provide translation between non-compliant FEC 129 formats of Cisco. Peer LDP sessions must be manually configured towards the non-compliant Cisco PEs.

When enabled, Cisco non-compliant format will be used to send and interpret received label release messages that is the FEC129 SAII and TAII fields will be reversed.

When the disabled, Cisco non-compliant format will not be used or supported. Peer address has to be the peer LSR-ID address.

The **no** form of this command returns the default.

Default

no fec129-cisco-interop

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.48 fib-priority

fib-priority

Syntax

fib-priority {**high** | **standard**}

Context

[Tree] (config>service>vprn fib-priority)

[Tree] (config>router fib-priority)

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Full Context

configure service vprn fib-priority

configure router fib-priority

Description

This command prioritizes the order in which BGP FIB entries across different routing instances are pushed to the IOM for updating. This allows BGP route updates for higher priority router instances to occur as quickly as possible by assigning a FIB priority (**high** or **standard**) to the associated router instances (base and VPRN instances). If routing updates are available for multiple router instances, the IOMs or IMMs update the FIB with entries with **high** priority router instances before entries with **standard** priority router instances.

Default

fib-priority standard

Parameters

high

Keyword that specifies a high FIB priority for base and VPRN routing instances.

standard

Keyword that specifies a standard FIB priority for base and VPRN routing instances.

Platforms

All

17.49 fib-telemetry

fib-telemetry

Syntax

[**no**] **fib-telemetry**

Context

[Tree] (config>router fib-telemetry)

Full Context

configure router fib-telemetry

Description

This command enables the collection of extra state information related to the forwarding table state of certain IP routes, TTM tunnels, and MPLS LFIB entries. This extra state can be retrieved by gNMI telemetry subscriptions targeted to the following YANG paths:

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- /state/router/route-fib
- /state/router/tunnel-fib
- /state/router/label-fib

If this command is not configured, no information is displayed by the following **show** commands:

- **show**>**router**>**fib-telemetry**>**route**
- **show**>**router**>**fib-telemetry**>**tunnel**

The **no** form of this command disables the collection of this extra state.

Default

no fib-telemetry

Platforms

All

17.50 field

field

Syntax

[**no**] **field** *field-name*

Context

[Tree] (config>app-assure>group>cflowd>tcp-perf>template>dynamic-fields field)

[Tree] (config>app-assure>group>cflowd>volume>template>dynamic-fields field)

[Tree] (config>app-assure>group>cflowd>comp>template>dynamic-fields field)

Full Context

configure application-assurance group cflowd tcp-performance template dynamic-fields field

configure application-assurance group cflowd volume template dynamic-fields field

configure application-assurance group cflowd comprehensive template dynamic-fields field

Description

This command configures the fields to include in the exported cflowd template.

Certain fields, such as source and destination IP addresses, are not optional and are always included in the exported template.

The **no** form of this command removes the specified field from the template.

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Parameters

field-name

Specifies the name of the field to include in the exported cflowd template, up to 256 characters.

Values

Common to all templates	session/flowStartSeconds, session/flowDuration Milliseconds, postIpPrecedence, ipTTL, aaProt, aa App, aaAppGrp, hostName, deviceId, deviceMfg Id, deviceOsId, ipFamily, deviceOsVer1, device OsVer2, deviceOsVer3, anlType, anlTopology, anl CongestionState, timeZone, aaChargingGrp, flow Attr_video, flowAttr_abr_service, flowAttr_audio, flowAttr_encrypted, flowAttr_download, flowAttr_ upload, flowAttr_realtime_communication, aaSub TetheringState When AA is deployed in FWA SR: ApnExtended
For the TCP and comprehensive templates only	tcpSessionEstDelay, tcpRetransmittedBytes, tcp RetransmittedPackets
For the comprehensive templates only and deployed on VSR or ESA in FWA SR configured in the residential mode.	dnsAnswerName, dnsType, dnsState, dnsTid, tls Cname, sliceId, mmeAmfAddr, flowActiveBytes, flowActiveTime, qci, policyRuleName charge VolumeIPBytes, http-url-len http-uri http-referer http-ua http-ua-len http-request-method http-content-type httpReplyCode http-contentlen, tcp SessionEstDelayUsec, ednsSubPolicyId
For the comprehensive template only (in residential AA scale mode)	sessionStartMilliseconds, sessionEndMilliseconds, flow-end-reason, aaSystemName
For the comprehensive template only (require the use of per-flow policer in **monitor** mode	Session-average-throughput, Session-Peak-throughput
For the comprehensive template only (require TCP optimization to be enabled)	TCPSession-average-delay, TCPSession-min-delay, TCPSession-max-delay, MSS

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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field

Syntax

[**no**] **field** *field-name*

Context

[Tree] (config>app-assure>group>http-enrich field)

Full Context

configure application-assurance group http-enrich field

Description

This command specifies the fields to insert into the HTTP header. The command must be repeated for each field to be inserted. The same field cannot be inserted twice into the header under different header names.

Note:
AA can insert two copies of the following fields in the same HTTP header (with a different header name): **imei-hyphenated**, i**mei-hyphenated-2**, **imsi**, **imsi-2**, **static-string**, **static-string-2**, **user-location-raw**, and **user-location-raw2**.

The **no** form of this command removes the specified field so that it is not inserted into the HTTP header.

Parameters

field-name

Specifies the fields to insert into the HTTP header.

Values The following parameters are supported in any deployment:

- **static-string** — header name for the inserted string
- **static-string-2** — header name for the inserted string
- **subscriber-id** — header name for the subscriber ID
- **subscriber-ip** — header name for the subscriber IP address

The following parameters are supported in Fixed Wireless Access (FWA) deployments only:

- **apn** — APN used by the UE
- **apn-ni** — APN Network Identifier (APN-NI) used by the UE
- **billing-type** — UE charging type (charging characteristics)
- **dynamic-acr** — dynamic Anonymous Customer Record (ACR)
- **static-acr** — static ACR
- **imei-sv** — subscriber IMEI with format AABBBBBBCCCCCCEE
- **imei-hyphenated** — subscriber IMEI with format AABBBBBB-CCCCCC-EE

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- **imei-hyphenated-2** — subscriber IMEI with format AABBBBBB-CCCCCC-EE
- **imsi** — subscriber IMSI
- **imsi-2** — subscriber IMSI
- **msisdn** — subscriber MSISDN
- **msisdn-ts** — subscriber MSISDN appended with the UNIX timestamp
- **msisdn-without-cc** — subscriber MSISDN without a country code
- **pgw_ggsn-address** — PGW/GGSN address serving the UE
- **plmn-id** — Public Land Mobile Network (PLMN) ID of the SGSN/MME
- **rat-type** — Radio Access Technology (RAT) type
- **timestamp** — timestamp inserted in UNIX time format Example: 1531204313
- **user-location** — UE LOCATION (ULI)
- **user-location-3gpp** — ULI encoded as defined in 3GPP 29.061
- **user-location-raw** — ULI in raw format <ULI-TYPE1>[+<ULI-TYPE2>]=<ULI HEX>

  Example: x-locinfo: TAI+ECGI=1300622c46130062014adf16
- **user-location-raw-2** — ULI in raw format <ULI-TYPE1>[+<ULI-TYPE2>]=<ULI HEX>

  Example: x-locinfo: TAI+ECGI=1300622c46130062014adf16

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.51 field-override

field-override

Syntax

field-override

Context

[Tree] (debug>oam>build-packet>packet field-override)

Full Context

debug oam build-packet packet field-override

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Description

Commands in this context configure an override value for a field within a header within a packet to be launched by the OAM **find-egress** tool.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.52 field-selection

field-selection

Syntax

field-selection *field-selection*

no field-selection

Context

[Tree] (config>app-assure>group>cflowd>tcp-perf>template field-selection)

[Tree] (config>app-assure>group>cflowd>volume>template field-selection)

[Tree] (config>app-assure>group>cflowd>comp>template field-selection)

Full Context

configure application-assurance group cflowd tcp-performance template field-selection

configure application-assurance group cflowd volume template field-selection

configure application-assurance group cflowd comprehensive template field-selection

Description

This command configures how fields included in the exported cflowd template are selected.

The **no** form of this command reverts to the **legacy** field selection type.

Default

field-selection legacy

Parameters

field-selection

Specifies how fields are selected.

legacy	Specifies that the fields within the cflowd template are set and fixed and as per SR OS release 17 (or earlier).
dynamic	Specifies that the operator can select which fields are included in the cflowd template.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.53 file

file

Syntax

file *file-url*

no file

Context

[Tree] (config>app-assure>group>url-list file)

Full Context

configure application-assurance group url-list file

Description

This command specifies the file for the URL list.

The **no** form of this command removes the url-list object.

Default

no file

Parameters

file-url

Specifies the flash ID or file path.

Values [*cflash-id/*] *file-path*: [200 chars max]

cflash-id: - cf1: | cf1-A: | cf1-B: | cf2: | cf2-A: | cf2-B: | cf3: | cf3-A: | cf3-B:

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

file

Syntax

file

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Context

[Tree] (file)

Full Context

file

Description

Specifies the context to enter and perform file system operations. When entering the **file** context, the prompt changes to reflect the present working directory. Navigating the file system with the **cd ..** command results in a changed prompt.

The **exit all** command leaves the file system/file operation context and returns to the operational root CLI context. The state of the present working directory is maintained for the CLI session. Entering the **file** command returns the cursor to the working directory where the **exit** command was issued.

Platforms

All

17.54 file-id

file-id

Syntax

[**no**] **file-id** *file-id* [**name** *file-policy-name*]

Context

[Tree] (config>log file-id)

Full Context

configure log file-id

Description

This command creates the context to configure a file policy that is used as the destination for an event log or billing (accounting) file.

This command defines the file location and characteristics that are to be used as the destination for a log event message stream or accounting/billing information. The file defined in this context is subsequently specified in the **to** command under **log-id** or **accounting-policy** to direct specific logging or billing source streams to the file destination.

A file policy can only be assigned to either *one* **log-id** or *one* **accounting-policy**. It cannot be reused for multiple instances. A file policy and associated file definition must exist for each log and billing file that must be stored in the file system.

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A file is created when the file policy defined in this command is selected as the destination type for a specific log or accounting record. Log files are collected in a "log" directory. Accounting files are collected in an "act" directory.

The file names for a log are created by the system as summarized in Table 48: Log File Names.

Table 48: Log File Names

File Type	File Name
Log File	log*llff-timestamp*
Accounting File	act*aaff-timestamp*

Where:

- *ll* is the *log-id*
- *aa* is the accounting *policy-id*
- *ff* is the file-id
- The *timestamp* is the actual timestamp when the file is created. The format for the timestamp is *yyyymmdd-hhmmss* where:
  - *yyyy* is the year (for example, 2006)
  - *mm* is the month number (for example, 12 for December)
  - *dd* is the day of the month (for example, 03 for the 3rd of the month)
  - *hh* is the hour of the day in 24 hour format (for example, 04 for 4 a.m.)
  - *mm* is the minutes (for example, 30 for 30 minutes past the hour)
  - *ss* is the number of seconds (for example, 14 for 14 seconds)
- The accounting file is compressed and has a gz extension.

When initialized, each file contains:

- The *log-id* description.
- The time the file was opened.
- The reason the file was created.
- If the event log file was closed properly, the sequence number of the last event stored on the log is recorded.

If the process of writing to a log file fails (for example, the compact flash card is full) and if a backup location is not specified or fails, the log file will not become operational even if the compact flash card is replaced. Enter either a **clear log** command or a **shutdown/no shutdown** command to reinitialize the file.

If the primary location fails (for example, the compact flash card fills up during the write process), a trap is sent and logging continues to the specified backup location. This can result in truncated files in different locations.

The **no** form of this command removes the file policy from the configuration. A file policy can only be removed from the configuration if the policy is not the designated output for a log destination. The actual log or accounting file remain on the file system when a file policy is deleted.

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Parameters

file-id

The file identification number for the file policy, expressed as a decimal integer.

Values 1 to 99

name file-policy-name

Configures an optional file policy name, up to 64 characters, that can be used to refer to the file policy after it is created. If the name begins with a numerical digit (from 1 to 9), the name is a number from 1 to 99.

Platforms

All

17.55 file-storage-control

file-storage-control

Syntax

file-storage-control

Context

[Tree] (config>log file-storage-control)

Full Context

configure log file-storage-control

Description

Commands in this context configure the total size limit of log and accounting files on each storage device on the active CPM.

Platforms

All

17.56 file-transfer

file-transfer

Syntax

file-transfer *file-transfer-mode* [*file-transfer-mode*]

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no file-transfer

Context

[Tree] (config>system>satellite file-transfer)

Full Context

configure system satellite file-transfer

Description

This command specifies the file transfer protocol to use between the 7750 SR or 7950 XRS host and 7210 SAS Ethernet satellite.

The **no** form of this command reverts to the default value.

Default

file-transfer ftp

Parameters

file-transfer-mode

Specifies up to two satellite secure file transfer protocols.

Values ftp – The file transfer FTP protocol is used between 7750 SR or 7950 XRS host and the 7210 SAS Ethernet satellite.

scp - The file transfer SCP protocol is used between the 7750 SR or 7950 XRS host and the 7210 SAS Ethernet satellite.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.57 file-transmission-profile

file-transmission-profile

Syntax

file-transmission-profile *name* [**create**]

no file-transmission-profile

Context

[Tree] (config>system file-transmission-profile)

Full Context

configure system file-transmission-profile

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Description

This command creates a new file transmission profile or enters the configuration context of an existing file-transmission-profile.

The **file-transmission-profile** context defines transport parameters for protocol such as HTTP, include routing instance, source address, timeout value, and so on.

The **no** form of the command removes the profile name from the configuration.

Default

no file-transmission-profile

Parameters

name

Specifies the file transmission profile name, up to 32 characters.

create

Keyword used to create the transmission profile. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

All

file-transmission-profile

Syntax

file-transmission-profile *profile-name*

no file-transmission-profile

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update>crl-urls>url-entry file-transmission-profile)

Full Context

configure system security pki ca-profile auto-crl-update crl-urls url-entry file-transmission-profile

Description

This command specifies the file-transmission-profile for the **url-entry**. When the system downloads a CRL from the configured URL in the **url-entry** it will use the transportation parameter configured in the **file-transmission-profile**. **auto-crl-update** supports Base/Management/VPRN routing instance. **vpls-management** is not supported. In case of VPRN, the HTTP server port can only be 80 or 8080.

The **no** form of this command removes the specified profile name.

Default

no file-transmission-profile

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Parameters

profile-name

Specifies the name of the file transmission profile to be matched up to 32 characters. The profile name is configured in the **config>system>file-transmission-profile** context.

Platforms

All

17.58 file-url

file-url

Syntax

file-url *file-url*

no file-url

Context

[Tree] (config>mirror>mirror-dest>pcap file-url)

Full Context

configure mirror mirror-dest pcap file-url

Description

This command specifies a file URL for the FTP or TFTP server, including the filename for packet capture transfer. After the file URL is entered, the system attempts to establish a connection and creates a file using the filename specified. The command prompt displays an error and rejects the file URL if the session establishment fails, if write privilege to remote server fails, or if the session experiences a sudden termination. If the FTP or TFTP server is unreachable, the command prompt is halted for further input until the retires are timed out after 24 seconds (after four attempts of about six seconds each). This command overwrites any file on the FTP or TFTP server with the same filename.

The **no** form of this command removes the *file-url* instance and stops the packet capture and file transfer session.

Parameters

file-url

Specifies the URL for the file to direct the search.

Values [*local-url* | *remote-url*]

where:

- *local-url* — [*cflash-id/*] [*file-path*]

  180 chars max, including *cflash-id*

  directory length 99 chars max each

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- *remote-url* — [{ftp | tftp | sftp} ://*login*:*pswd*@*remote-locn*/][*file-path*]

  180 chars max

  directory length, 99 chars max each

  where: *remote-locn* — {*hostname* | *ipv4-address* | "["*ipv6-address*"]" } [:*port*]

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x[-interface] x:x:x:x:x:x:d.d.d.d[-interface] x - [0..FFFF]H d - [0..255]D interface - 32 chars max, for link local addresses
port	[0..65535]
	Note: Port is not supported by FTP and TFTP.
cflash-id	cf1:| cf1-A:| cf1-B:| cf2:| cf2-A:| cf2-B:| cf3:| cf3-A:| cf3-B:

Platforms

All

17.59 filter

filter

Syntax

filter *filter-id*

no filter

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp filter)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp filter)

Full Context

configure service ies subscriber-interface group-interface dhcp filter

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configure service vprn subscriber-interface group-interface dhcp filter

Description

This command assigns a DHCP filter to the group-interface. This feature is used where the SR 7750 is the second DHCP relay or where DHCP messages are snooped for subscriber management. The filter can be used to bypass host creation, drop DHCP message, or perform no action.

The **no** form of this command reverts to the default.

Parameters

filter-id

Specifies the DHCP filter ID for this interface.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

filter

Syntax

filter *filter-id*

no filter

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 filter)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 filter)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 filter

configure service ies subscriber-interface group-interface ipv6 dhcp6 filter

Description

This command assigns a DHCP6 filter to the group interface. This feature is used where the SR 7750 is the second DHCP6 relay or where DHCP6 messages are snooped for subscriber management. The filter can be used to bypass host creation, drop DHCP6 message, or perform no action.

The **no** form of this command reverts to the default.

Parameters

filter-id

Specifies the DHCP6 filter ID for this interface

Values 1 to 65535

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

no filter [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]

Context

[Tree] (config>service>vprn>nw-if>egress filter)

[Tree] (config>service>vprn>if>spoke-sdp>egress filter)

[Tree] (config>service>vprn>red-if>spoke-sdp>ingress filter)

[Tree] (config>service>vprn>red-if>spoke-sdp>egress filter)

[Tree] (config>service>vprn>if>spoke-sdp>ingress filter)

Full Context

configure service vprn network-interface egress filter

configure service vprn interface spoke-sdp egress filter

configure service vprn redundant-interface spoke-sdp ingress filter

configure service vprn redundant-interface spoke-sdp egress filter

configure service vprn interface spoke-sdp ingress filter

Description

This command associates an IP filter policy with an ingress or egress Service Access Point (SAP) or IP interface. An IP filter policy can be associated with spoke SDPs. Filter policies control the forwarding and dropping of packets based on IP or MAC matching criteria.

The filter command is used to associate a filter policy with a specified ip-filter-id with an ingress or egress SAP. The ip-filter-id must already be defined before the filter command is executed. If the filter policy does not exist, the operation fails and an error message returned.

In general, filters applied to SAPs (ingress or egress) apply to all packets on the SAP. One exception is non-IP packets are not applied to IP match criteria, so the default action in the filter policy applies to these packets.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use scope command within the filter definition to change the scope to local or global. The default scope of a filter is local.

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Parameters

ip *ip-filter-id*

Specifies IP filter policy. The filter ID must already exist within the created IP filters.

Values 1 to 65535

Platforms

All

- configure service vprn network-interface egress filter
- configure service vprn interface spoke-sdp egress filter
- configure service vprn interface spoke-sdp ingress filter

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp ingress filter
- configure service vprn redundant-interface spoke-sdp egress filter

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

filter mac *mac-filter-id*

no filter [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]

Context

[Tree] (config>service>ies>if>sap>ingress filter)

[Tree] (config>service>ies>red-if>ingress filter)

[Tree] (config>service>ies>red-if>egress filter)

[Tree] (config>service>ies>sub-if>grp-if>sap>ingress filter)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress filter)

[Tree] (config>service>ies>if>sap>egress filter)

[Tree] (config>service>vprn>sub-if>grp-if>sap>ingress filter)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress filter)

Full Context

configure service ies interface sap ingress filter

configure service ies red-if ingress filter

configure service ies red-if egress filter

configure service ies subscriber-interface group-interface sap ingress filter

configure service vprn subscriber-interface group-interface sap egress filter

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configure service ies interface sap egress filter

configure service vprn subscriber-interface group-interface sap ingress filter

configure service ies subscriber-interface group-interface sap egress filter

Description

This command associates a filter policy with an ingress or egress Service Access Point (SAP). Filter policies control the forwarding and dropping of packets based on the matching criteria. MAC filters are only allowed on Epipe and Virtual Private LAN Service (VPLS) SAPs.

The **filter** command is used to associate a filter policy with a specified *ip-filter-id* or *ipv6-filter-id* (7750 SR) with an ingress or egress SAP. The filter policy must already be defined before the **filter** command is executed. If the filter policy does not exist, the operation fails and an error message returned.

In general, filters applied to SAPs (ingress or egress) apply to all packets on the SAP. One exception is non-IP packets are not applied to the match criteria, so the default action in the filter policy applies to these packets.

The **no** form of this command removes any configured filter ID association with the SAP. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip *ip-filter-id*

Specifies the ID for the IP filter policy and corresponds to a previously created IP filter policy in the **config>filter>ip-filter** context.

Values 1 to 65535

ipv6 *ipv6-filter-id*

Specifies the IPv6 filter policy. The filter ID must already exist within the created IPv6 filters.

Values 1 to 65535

mac *mac-filter-id*

Specifies the MAC filter policy. The specified filter ID must already exist within the created MAC filters. The filter policy must already exist within the created MAC filters.

Values 1 to 65535

Platforms

All

- configure service ies interface sap ingress filter
- configure service ies interface sap egress filter

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap egress filter
- configure service ies subscriber-interface group-interface sap egress filter

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- configure service vprn subscriber-interface group-interface sap ingress filter
- configure service ies subscriber-interface group-interface sap ingress filter

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

filter mac *mac-filter-id*

no filter [**ip** *ip-filter-id*] [**mac** *mac-filter-id*] [**ipv6** *ipv6-filter-id*]

Context

[Tree] (config>service>vpls>mesh-sdp>egress filter)

[Tree] (config>service>vpls>spoke-sdp>egress filter)

[Tree] (config>service>vpls>spoke-sdp>ingress filter)

[Tree] (config>service>vpls>sap>ingress filter)

[Tree] (config>service>vpls>sap>egress filter)

[Tree] (config>service>vpls>mesh-sdp>ingress filter)

Full Context

configure service vpls mesh-sdp egress filter

configure service vpls spoke-sdp egress filter

configure service vpls spoke-sdp ingress filter

configure service vpls sap ingress filter

configure service vpls sap egress filter

configure service vpls mesh-sdp ingress filter

Description

This command associates an IP filter policy or MAC filter policy with an ingress or egress Service Access Point (SAP) or IP interface.

Filter policies control the forwarding and dropping of packets based on IP or MAC matching criteria. There are two types of filter policies: IP and MAC. Only one type may be applied to a SAP at a time.

The **filter** command is used to associate a filter policy with a specified *filter ID* with an ingress or egress SAP. The *filter ID* must already be defined before the **filter** command is executed. If the filter policy does not exist, the operation will fail and an error message returned.

In general, filters applied to SAPs (ingress or egress) apply to all packets on the SAP. One exception is non-IP packets are not applied to IP match criteria, so the default action in the filter policy applies to these packets.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To

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avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip *ip-filter-id*

Specifies IP filter policy. The filter ID must already exist within the created IP filters.

Values 1 to 65535

ipv6 *ipv6-filter-id*

Specifies the IPv6 filter policy. The filter ID must already exist within the created IPv6 filters.

Values 1 to 65535

mac *mac-filter-id*

Specifies the MAC filter policy. The specified filter ID must already exist within the created MAC filters. The filter policy must already exist within the created MAC filters.

Values 1 to 65535

Platforms

All

filter

Syntax

filter [**ip** *ip-filter-id*]

filter [**ipv6** *ipv6-filter-id*]

no filter [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]

Context

[Tree] (config>service>ipipe>spoke-sdp>ingress filter)

[Tree] (config>service>cpipe>spoke-sdp>egress filter)

[Tree] (config>service>ipipe>sap>egress filter)

[Tree] (config>service>ipipe>spoke-sdp>egress filter)

[Tree] (config>service>cpipe>spoke-sdp>ingress filter)

[Tree] (config>service>ipipe>sap>ingress filter)

Full Context

configure service ipipe spoke-sdp ingress filter

configure service cpipe spoke-sdp egress filter

configure service ipipe sap egress filter

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configure service ipipe spoke-sdp egress filter

configure service cpipe spoke-sdp ingress filter

configure service ipipe sap ingress filter

Description

This command associates a filter policy with an ingress or egress Service Access Point (SAP) or IP interface.

Filter policies control the forwarding and dropping of packets based on IP matching criteria. Only one filter can be applied to a SAP at a time.

The **filter** command is used to associate a filter policy with a specified *ip-filter-id* with an ingress or egress SAP. The *ip-filter-id* must already be defined before the **filter** command is executed. If the filter policy does not exist, the operation will fail and an error message returned.

IP filters apply only to RFC 2427-routed IP packets. Frames that do not contain IP packets will not be subject to the filter and will always be passed, even if the filter's default action is to drop.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip-filter-id

Specifies IP filter policy. The filter ID must already exist within the created IP filters.

Values 1 to 65535

ipv6-filter-id

Specifies the IPv6 filter policy. The filter ID must already exist within the created IPv6 filters.

Values 1 to 65535

Platforms

All

- configure service ipipe spoke-sdp egress filter
- configure service ipipe sap ingress filter
- configure service ipipe sap egress filter
- configure service ipipe spoke-sdp ingress filter

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp ingress filter
- configure service cpipe spoke-sdp egress filter

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filter

Syntax

filter [**ip** *ip-filter-id*]

filter [**ipv6** *ipv6-filter-id*]

filter [**mac** *mac-filter-id*]

no filter [**ip** *ip-filter-id*]

no filter [**ipv6** *ipv6-filter-id*]

no filter [**mac** *mac-filter-id*]

Context

[Tree] (config>service>epipe>spoke-sdp>ingress filter)

[Tree] (config>service>epipe>sap>egress filter)

[Tree] (config>service>epipe>sap>ingress filter)

[Tree] (config>service>epipe>spoke-sdp>egress filter)

Full Context

configure service epipe spoke-sdp ingress filter

configure service epipe sap egress filter

configure service epipe sap ingress filter

configure service epipe spoke-sdp egress filter

Description

This command associates an IP filter policy with an ingress or egress Service Access Point (SAP) or IP interface.

Filter policies control the forwarding and dropping of packets based on IP matching criteria. Only one filter can be applied to a SAP at a time.

The **filter** command is used to associate a filter policy with a specified *filter-id* with an ingress or egress SAP. The *filter-id* must already be defined before the **filter** command is executed. If the filter policy does not exist, the operation will fail and an error message returned.

IP filters apply only to RFC 2427-routed IP packets. Frames that do not contain IP packets will not be subject to the filter and will always be passed, even if the filter's default action is to drop.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

IPv6 filters are only supported by the 7450 ESS and 7750 SR but are not supported on a Layer 2 SAP that is configured with QoS MAC criteria. Also, MAC filters are not supported on a Layer 2 SAP that is configured with QoS IPv6 criteria.

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Parameters

ip-filter-id

Specifies IP filter policy. The filter ID must already exist within the created IP filters.

Values 1 to 65535

ipv6-filter-id

Specifies the IPv6 filter policy for 7450 ESS or 7750 SR. The filter ID must already exist within the created IPv6 filters.

Values 1 to 65535

mac-filter-id

Specifies the MAC filter policy. The specified filter ID must already exist within the created MAC filters. The filter policy must already exist within the created MAC filters.

Values 1 to 65535

Platforms

All

filter

Syntax

[**no**] **filter**

Context

[Tree] (config>service>template>epipe-sap-template>egress filter)

[Tree] (config>service>template>epipe-sap-template>ingress filter)

Full Context

configure service template epipe-sap-template egress filter

configure service template epipe-sap-template ingress filter

Description

Commands in this context configure filter parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

filter

Syntax

filter ip *ip-filter-id*

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no filter

Context

[Tree] (config>service>ies>aarp-interface>spoke-sdp>egress filter)

[Tree] (config>service>ies>aarp-interface>spoke-sdp>ingress filter)

Full Context

configure service ies aarp-interface spoke-sdp egress filter

configure service ies aarp-interface spoke-sdp ingress filter

Description

This command associates an IP filter policy with an ingress or egress IP interface. Filter policies control the forwarding and dropping of packets based on IP matching criteria.

The *filter-id* must already be defined before the filter command is executed. If the filter policy does not exist, the operation fails and an error message returned.

IP filters apply only to RFC 2427-routed IP packets. Frames that do not contain IP packets will not be subject to the filter and will always be passed, even if the filter's default action is to drop.

The **no** form of this command removes any configured filter ID association with the IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local.

Parameters

ip-filter-id

Specifies the filter policy. The filter ID must already exist within the created IP filters.

Values 1 to 65535 or a string up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

no filter

Context

[Tree] (config>service>ies>if>spoke-sdp>ingress filter)

[Tree] (config>service>ies>if>spoke-sdp>egress filter)

Full Context

configure service ies interface spoke-sdp ingress filter

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configure service ies interface spoke-sdp egress filter

Description

This command associates an IP filter policy filter policy with an ingress or egress spoke SDP.

Filter policies control the forwarding and dropping of packets based on matching criteria.

MAC filters are only allowed on Epipe and Virtual Private LAN Service (VPLS) SAPs.

The **filter** command is used to associate a filter policy with a specified *ip-filter-id* with an ingress or egress spoke SDP. The *ip-filter-id* must already be defined in the **config>filter** context before the **filter** command is executed. If the filter policy does not exist, the operation fails and an error message returned.

In general, filters applied to SAPs or spoke SDPs (ingress or egress) apply to all packets on the SAP or spoke SDPs. One exception is non-IP packets are not applied to IP match criteria, so the default action in the filter policy applies to these packets.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip

Keyword indicating the filter policy is an IP filter.

ip-filter-id

The filter name acts as the ID for the IP filter policy. Allowed values are an integer in the range of 1 and 65535 that corresponds to a previously created IP filter policy. The filter ID must already exist within the created IP filters.

Platforms

All

filter

Syntax

filter ip *ip-filter-id*

no filter

Context

[Tree] (config>service>vprn>aarp-interface>spoke-sdp>egress filter)

[Tree] (config>service>vprn>aarp-interface>spoke-sdp>ingress filter)

Full Context

configure service vprn aarp-interface spoke-sdp egress filter

configure service vprn aarp-interface spoke-sdp ingress filter

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Description

This command associates an IP filter policy with an ingress or egress IP interface. Filter policies control the forwarding and dropping of packets based on IP matching criteria.

The *filter-id* must already be defined before the filter command is executed. If the filter policy does not exist, the operation fails and an error message returned.

IP filters apply only to RFC 2427-routed IP packets. Frames that do not contain IP packets will not be subject to the filter and will always be passed, even if the filter's default action is to drop.

The **no** form of this command removes any configured filter ID association with the IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local.

Parameters

ip-filter-id

Specifies the filter policy. The filter ID must already exist within the created IP filters.

Values 1 to 65535 or a string up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

no filter [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]

Context

[Tree] (config>service>vprn>if>sap>egress filter)

[Tree] (config>service>vprn>if>sap>ingress filter)

Full Context

configure service vprn interface sap egress filter

configure service vprn interface sap ingress filter

Description

This command associates an IP filter policy with an ingress or egress Service Access Point (SAP) or IP interface. Filter policies control the forwarding and dropping of packets based on IP matching criteria.

The **filter** command is used to associate a filter policy with a specified filter ID with an ingress or egress SAP. The filter ID must already be defined before the **filter** command is executed. If the filter policy does not exist, the operation fails and an error message returned.

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In general, filters applied to SAPs (ingress or egress) apply to all packets on the SAP. One exception is non-IP packets are not applied to IP match criteria, so the default action in the filter policy applies to these packets.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip *ip-filter-id*

Specifies IP filter policy. The filter ID must already exist within the created IP filters.

Values ip-filter-id: 1 to 65535

name: up to 64 characters

ipv6 *ipv6-filter-id*

Specifies IPv6 filter policy. The filter ID must already exist within the created IP filters.

Values ip-filter-id: 1 to 65535

name: up to 64 characters

Platforms

All

filter

Syntax

filter *filter-id* [**name** *filter-name*]

no filter *filter-id*

Context

[Tree] (config>service>vprn>log filter)

[Tree] (config>service>vprn>log>log-id filter)

Full Context

configure service vprn log filter

configure service vprn log log-id filter

Description

This command creates a context for an event filter. An event filter specifies whether to forward or drop an event or trap based on the match criteria.

Filters are configured in the **filter** *filter-id* context and then applied to a log in the **log-id** *log-id* context. Only events for the configured log source streams destined to the log ID where the filter is applied are filtered.

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Changes made to an existing filter using any of the sub-commands are immediately applied to the destinations where the filter is applied.

By default, no event filters are defined. Event filters must be explicitly configured.

The **no** form of this command removes the filter association from log IDs, which causes those logs to forward all events.

Default

No event filters are defined.

Parameters

filter-id

Specifies the unique filter ID.

Values 1 to 1500

name filter-name

Configures an optional filter name, up to 64 characters, that can be used to refer to the filter after it is created.

Platforms

All

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

no filter [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]

Context

[Tree] (config>service>vprn>network>ingress filter)

Full Context

configure service vprn network ingress filter

Description

This command configures a network ingress filter for IPv4 or IPv6 traffic arriving over explicitly defined spokes or auto-bind network interfaces for the VPRN service.

The **no** form of this command removes an IPv4, IPv6, or both filters.

Default

no filter

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Parameters

ip-filter-id/ipv6-filter-id

Specifies an existing IP/IPv6 filter policy of a scope template.

Values 1 to 65535, *name*

name: 64 characters maximum

Platforms

All

filter

Syntax

filter ip *ip-filter-id*

no filter [**ip** *ip-filter-id*]

Context

[Tree] (config>service>vprn>aa-if>sap>egress filter)

[Tree] (config>service>ies>aa-if>sap>egress filter)

Full Context

configure service vprn aa-interface sap egress filter

configure service ies aa-interface sap egress filter

Description

This command applies an IP filter to the SAP.

Default

no filter

Parameters

ip-filter-id

Specifies an existing IP filter ID.

Values 1 to 65535, or name up to 64 characters maximum

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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filter

Syntax

filter

Context

[Tree] (debug>app-assure>group>http-host filter)

Full Context

debug application-assurance group http-host-recorder filter

Description

This command configures recorder filter settings. This command specifies the filtering parameter for the http-host-recorder feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

filter

Syntax

filter ip *ip-filter-id*

no filter

Context

[Tree] (config>service>ies>video-interface>video-sap>ingress filter)

[Tree] (config>service>vprn>video-interface>video-sap>egress filter)

[Tree] (config>service>vprn>video-interface>video-sap>ingress filter)

[Tree] (config>service>ies>video-interface>video-sap>egress filter)

Full Context

configure service ies video-interface video-sap ingress filter

configure service vprn video-interface video-sap egress filter

configure service vprn video-interface video-sap ingress filter

configure service ies video-interface video-sap egress filter

Description

This command associates an existing IP filter policy with an ingress or egress video SAP. Filter policies control the forwarding and dropping of packets based on the matching criteria.

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Filters applied to SAPs (ingress or egress) apply to all packets on the SAP. One exception is non-IP packets are not applied to the match criteria, so the default action in the filter policy applies to these packets.

The **no** form of this command removes any configured filter ID association with the SAP. The filter ID itself is not removed from the system.

Parameters

ip ip-filter-id

Specifies the ID for the IP filter policy.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

filter

Syntax

filter ip *ip-filter-id*

no filter

Context

[Tree] (config>service>vprn>ipmirrorif>spoke-sdp>ingress filter)

Full Context

configure service vprn ip-mirror-interface spoke-sdp ingress filter

Description

This command places a filter on the IP mirror interface spoke SDP. It is recommended to configure this filter with a PBR filter to redirect the mirror traffic to the proper egress interface.

The **no** form of this command removes the filter ID from the configuration.

Parameters

ip-filter-id

Specifies the IP filter ID.

Values 1 to 65525 or a name, up to 64 characters.

Platforms

All

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filter

Syntax

filter *filter-id*

no filter

Context

[Tree] (config>li>log>log-id filter)

Full Context

configure li log log-id filter

Description

This command adds an event filter policy with the log destination.

The **filter** command is optional. If no event filter is configured, all events, alarms and traps generated by the source stream will be forwarded to the destination.

An event filter policy defines (limits) the events that are forwarded to the destination configured in the log-id. The event filter policy can also be used to select the alarms and traps to be forwarded to a destination **snmp-trap-group**.

The application of filters for debug messages is limited to application and subject only.

Accounting records cannot be filtered using the **filter** command.

Only one filter-id can be configured per log destination.

The **no** form of this command removes the specified event filter from the *log-id*.

Parameters

filter-id

Specifies the event filter policy ID used to associate the filter with the *log-id* configuration. The event filter policy ID must already be defined in **config>log>filter** *filter-id*.

Values 1 to 1000

Platforms

All

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

no filter [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]

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Context

[Tree] (config>router>if>egress filter)

[Tree] (config>router>if>ingress filter)

Full Context

configure router interface egress filter

configure router interface ingress filter

Description

This command associates an IP filter policy with an IP interface.

Filter policies control packet forwarding and dropping based on IP match criteria.

The *ip-filter-id* must have been preconfigured before this **filter** command is executed. If the filter ID does not exist, an error occurs.

Only one filter ID can be specified.

The **no** form of this command removes the filter policy association with the IP interface.

Default

no filter

Parameters

ip-filter-id

The filter name acts as the ID for the IP filter policy expressed as a decimal integer. The filter policy must already exist within the **config>filter>ip** context.

Values 1 to 16384

ipv6-filter-id

The filter name acts as the ID for the IPv6 filter policy expressed as a decimal integer. The filter policy must already exist within the **config>filter>ipv6** context. This parameter only applies to the 7750 SR and 7950 XRS.

Values 1 to 65535

Platforms

All

filter

Syntax

filter ip *ip-filter-id*

filter ipv6 *ipv6-filter-id*

filter mac *mac-filter-id*

no filter [**ip** *ip-filter-id*] [**mac** *mac-filter-id*] [**ipv6** *ipv6-filter-id*]

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Context

[Tree] (config>service>pw-template>ingress filter)

[Tree] (config>service>pw-template>egress filter)

Full Context

configure service pw-template ingress filter

configure service pw-template egress filter

Description

This command associates an IP filter policy or MAC filter policy on egress or ingress. Filter policies control the forwarding and dropping of packets based on IP or MAC matching criteria. There are two types of filter policies: IP and MAC. Only one type may be applied to a SAP at a time.

The **filter** command is used to associate a filter policy with a specified *filter ID* with an ingress or egress SAP. The *filter ID* must already be defined before the **filter** command is executed. If the filter policy does not exist, the operation will fail and an error message returned.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **filter-name** command can be used in all configuration modes.

This command is mutually exclusive with the **filter-name** command. Only one or the other can be configured.

The **no** form of this command removes any configured filter ID association with the SAP or IP interface. The filter ID itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter ID and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip-filter-id

Specifies the IP filter policy.

Values 1 to 65535

ipv6-filter-id

Specifies the IPv6 filter policy.

Values 1 to 65535

mac-filter-id

Specifies the MAC filter policy.

Values 1 to 65535

Platforms

All

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filter

Syntax

filter *filter-id* [**name** *filter-name*]

no filter *filter-id*

Context

[Tree] (config>log filter)

Full Context

configure log filter

Description

This command creates a context for an event filter. An event filter specifies whether to forward or drop an event or trap based on the match criteria.

Filters are configured in the **filter** *filter-id* context and then applied to a log in the **log-id** *log-id* context. Only events for the configured log source streams destined to the log ID where the filter is applied are filtered.

Changes made to an existing filter using any of the sub-commands are immediately applied to the destinations where the filter is applied.

By default, no event filters are defined. Event filters must be explicitly configured.

The **no** form of this command removes the filter association from log IDs, which causes those logs to forward all events.

Parameters

filter-id

Specifies the unique filter ID.

Values 1 to 1500

name filter-name

Configures an optional filter name, up to 64 characters, that can be used to refer to the filter after it is created.

Platforms

All

filter

Syntax

filter *filter-id*

no filter

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Context

[Tree] (config>log>log-id filter)

Full Context

configure log log-id filter

Description

This command adds an event filter policy with the log destination.

The **filter** command is optional. If an event filter is not configured, all events, alarms and traps generated by the source stream will be forwarded to the destination.

An event filter policy defines (limits) the events that are forwarded to the destination configured in the log-id. The event filter policy can also be used to select the alarms and traps to be forwarded to a destination **snmp-trap-group**.

The application of filters for debug messages is limited to application and subject only.

Accounting records cannot be filtered using the **filter** command.

Only one filter ID can be configured per log destination.

The **no** form of this command removes the specified event filter from the *log-id*.

Parameters

filter-id

Specifies the event filter policy ID is used to associate the filter with the *log-id* configuration. The event filter policy ID must already be defined in **config>log>filter** *filter-id*.

Values 1 **to** 1000

Platforms

All

17.60 filter-cam-type

filter-cam-type

Syntax

filter-cam-type {**normal** | **packet-length**}

Context

[Tree] (config>service>vprn>flowspec filter-cam-type)

Full Context

configure service vprn flowspec filter-cam-type

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Description

This command specifies the filter type that is required to embed FlowSpec entries to this VPRN. The filter type defines the match criteria that are available in the filter policy.

Default

normal

Parameters

normal

Specifies that the filter policy is of type normal.

packet-length

Specifies that the filter policy is of type packet-length.

Platforms

All

filter-cam-type

Syntax

filter-cam-type {**normal** | **packet-length**}

Context

[Tree] (config>router>flowspec filter-cam-type)

Full Context

configure router flowspec filter-cam-type

Description

This command specifies the filter type that is required to embed FlowSpec entries. The filter type defines the match criteria that are available in the filter policy.

Default

normal

Parameters

normal

Specifies that the filter policy is of type normal.

packet-length

Specifies that the filter policy is of type packet-length.

Platforms

All

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17.61 filter-id-range

filter-id-range

Syntax

filter-id-range start *filter-id* **end** *filter-id*

no filter-id-range

Context

[Tree] (config>filter>md-auto-id filter-id-range)

Full Context

configure filter md-auto-id filter-id-range

Description

This command specifies the range of IDs used by SR OS to automatically assign an ID to filters that are created in model-driven interfaces without an ID explicitly specified by the user or client.

A filter created with an explicitly-specified ID cannot use an ID in this range. In classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD interfaces, the range can be changed, which causes any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **config>filter md-auto-id** command for further details.

Default

no filter-id-range

Parameters

start *filter-id*

Specifies the lower value of the ID range. The value must be less than or equal to the **end** value.

Values 1 to 2147483647

end *filter-id*

Specifies the upper value of the ID range. The value must be greater than or equal to the **start** value.

Values 1 to 2147483647

Platforms

All

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17.62 filter-name

filter-name

Syntax

[**no**] **filter-name**

Context

[Tree] (config>service>template>epipe-sap-template>egress filter-name)

[Tree] (config>service>template>epipe-sap-template>ingress filter-name)

Full Context

configure service template epipe-sap-template egress filter-name

configure service template epipe-sap-template ingress filter-name

Description

Commands in this context configure filter parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

filter-name

Syntax

[**no**] **filter-name**

Context

[Tree] (config>service>template>vpls-sap-template>ingress filter-name)

[Tree] (config>service>template>vpls-sap-template>egress filter-name)

Full Context

configure service template vpls-sap-template ingress filter-name

configure service template vpls-sap-template egress filter-name

Description

Commands in this context configure filter parameters.

Platforms

All

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filter-name

Syntax

filter-name *filter-name*

no filter-name

Context

[Tree] (config>filter>ip-exception filter-name)

Full Context

configure filter ip-exception filter-name

Description

This command configures filter-name attribute of a given filter. filter-name, when configured, can be used instead of filter ID to reference the given policy in the CLI.

Default

no filter-name

Parameters

filter-name

Specifies a string up to 64 characters in length that uniquely identifies this filter policy.

The following restrictions apply to the *filter-name*:

- Policy names may not begin with a number (0-9).
- Policy names may not begin with the underscore "_" character (for example, _myPolicy). Names that start with underscore are reserved for system generated names.
- "fSpec-x" (where x is any number) cannot be used as a user defined filter name.

Platforms

VSR

filter-name

Syntax

filter-name ip *ip-name*

filter-name ipv6 *ipv6-name*

filter-name mac *mac-name*

no filter-name [**ip**] [**ipv6**] [**mac**]

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Context

[Tree] (config>service>pw-template>egress filter-name)

[Tree] (config>service>pw-template>ingress filter-name)

Full Context

configure service pw-template egress filter-name

configure service pw-template ingress filter-name

Description

This command associates an IP filter policy or MAC filter policy on egress or ingress. Filter policies control the forwarding and dropping of packets based on IP or MAC matching criteria. There are two types of filter policies: IP and MAC. Only one type may be applied to a SAP at a time.

The **filter-name** command is used to associate a filter policy with a specified *filter name* with an ingress or egress SAP. The *filter name* must already be defined before the **filter-name** command is executed. If the filter policy does not exist, the operation will fail and an error message returned.

This command is mutually exclusive with the **filter** command. Only one or the other can be configured.

The **no** form of this command removes any configured filter name association with the SAP or IP interface. The filter name itself is not removed from the system unless the scope of the created filter is set to local. To avoid deletion of the filter name and only break the association with the service object, use **scope** command within the filter definition to change the scope to **local** or **global**. The default scope of a filter is **local**.

Parameters

ip-name

Specifies the IP filter policy. The filter name must already exist within the created IP filters, up to 64 characters.

ipv6-name

Specifies the IPv6 filter policy. The filter name must already exist within the created IPv6 filters, up to 64 characters.

mac-name

Specifies the MAC filter policy. The specified filter name must already exist within the created MAC filters. The filter policy must already exist within the created MAC filters, up to 64 characters.

Platforms

All

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17.63 filter-profile

filter-profile

Syntax

filter-profile {**none** | **profile-a**}

Context

[Tree] (config>card filter-profile)

Full Context

configure card filter-profile

Description

This command controls the resources allocated to ingress and egress IPv4 and IPv6 filters on a per-linecard basis on the SR-a platform. You must shutdown the card prior to changing the filter profile.

Default

filter-profile none

Parameters

none

Sets the card filter profile to its default value.

profile-a

Sets the card filter profile to **profile-a**.

Platforms

7750 SR-a

17.64 filter-sample

filter-sample

Syntax

[**no**] **filter-sample**

Context

[Tree] (config>filter>ipv6-filter>entry filter-sample)

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[Tree] (config>filter>ip-filter>entry filter-sample)

Full Context

configure filter ipv6-filter entry filter-sample

configure filter ip-filter entry filter-sample

Description

This command enables cflowd sampling for packets matching this filter entry.

If the cflowd is either not enabled or set to **cflowd interface** mode, this command is ignored.

The **no** form disables the cflowd sampling using this filter entry.

Default

no filter-sample

Platforms

All

17.65 filtering

filtering

Syntax

filtering *filtering-mode*

no filtering

Context

[Tree] (config>service>nat>firewall-policy filtering)

[Tree] (config>service>nat>nat-policy filtering)

[Tree] (config>service>nat>up-nat-policy filtering)

Full Context

configure service nat firewall-policy filtering

configure service nat nat-policy filtering

configure service nat up-nat-policy filtering

Description

This command configures the filtering of the NAT or residential firewall policy.

Default

filtering endpoint-independent

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Parameters

filtering-mode

Specifies the method used to filter the inbound traffic.

Values address-and-port-dependent, endpoint-independent

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy filtering

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy filtering
- configure service nat up-nat-policy filtering

17.66 find-egress

find-egress

Syntax

find-egress packet *packet-number* **ingress-port** *physical-port-id*

Context

[Tree] (oam find-egress)

Full Context

oam find-egress

Description

This command executes the OAM find-egress test, injecting the specified packet ID into the specified ingress port.

Parameters

packet-number

Specifies the build-packet to be injected into the associated ingress port.

Values 1 to 65535

physical-port-id

Specifies the physical port ID that is injected into the specified build-packet.

Values *slot*/*mda*/*port*

esat-<sat-id>/slot/port

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esat	keyword
id	1 to 20
slot	always 1
port	Ethernet satellite client port number

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.67 fips-140

fips-140

Syntax

fips-140

no fips-140

Context

[Tree] (bof fips-140)

Full Context

bof fips-140

Description

This command configures the system to operate in FIPS mode.

The **no** form of this command configures the system to operate in non-FIPS mode, which is the default.

Default

no fips-140

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.68 fir-burst-limit

fir-burst-limit

Syntax

fir-burst-limit *size* [**bytes** | **kilobytes**]

no fir-burst-limit

Context

[Tree] (config>qos>sap-egress>queue fir-burst-limit)

[Tree] (config>qos>qgrps>egr>qgrp>queue fir-burst-limit)

Full Context

configure qos sap-egress queue fir-burst-limit

configure qos queue-group-templates egress queue-group queue fir-burst-limit

Description

This command configures a burst limit for the FIR of the specified queue.

The **no** version of this command returns the limit to the default value.

Default

no fir-burst-limit

Parameters

size

Specifies the size of the FIR burst limit.

Values 1 to 102400, default

Platforms

7750 SR-1, 7750 SR-s

17.69 firewall

firewall

Syntax

firewall

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Context

[Tree] (config>service>vprn firewall)

[Tree] (config>router firewall)

Full Context

configure service vprn firewall

configure router firewall

Description

Commands in this context configure firewall parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.70 firewall-info

firewall-info

Syntax

[**no**] **firewall-info**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute firewall-info)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute firewall-info

Description

This command enables inclusion of the Firewall Information VSA in AAA protocols.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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17.71 firewall-policy

firewall-policy

Syntax

firewall-policy *policy-name*

no firewall-policy

Context

[Tree] (config>subscr-mgmt>sub-prof firewall-policy)

Full Context

configure subscriber-mgmt sub-profile firewall-policy

Description

This command enables the IPv6 firewall for this subscriber profile using the specified firewall policy.

The **no** form of this command disables the IPv6 firewall for this subscriber profile.

Default

no firewall-policy

Parameters

policy-name

Specifies the name of the firewall policy, up to 32 characters maximum.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

firewall-policy

Syntax

firewall-policy *name* [**create**]

no firewall-policy

Context

[Tree] (config>service>nat firewall-policy)

Full Context

configure service nat firewall-policy

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Description

Commands in this context configure a firewall policy for IPv6 traffic.

Although the firewall protects subscribers from external attacks, the policy is applied to the inside routing or Layer 2 service (vRGW) context.

The policy is attached to a subscriber profile (vRGW), ingress IPv6 filter, or destination prefix (large-scale) that identifies traffic requiring protection. The policy references an outside firewall domain where protection rules are enforced.

The **no** form of this command removes the policy, and can only be performed when the policy is not in use.

Default

no firewall-policy

Parameters

create

Mandatory keyword used when creating a firewall policy.

name

Specifies the name of the firewall policy, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.72 flags-tlv

flags-tlv

Syntax

[no] flags-tlv

Context

[Tree] (config>router>fad>flex-algo flags-tlv)

Full Context

configure router flexible-algorithm-definitions flex-algo flags-tlv

Description

This command advertises the FAD Flags TLV to provide additional context on how the router must run a constrained SPF (cSPF). The IETF definition includes only the M-flag for use in the FAD Flags TLV. When it is set, the M-flag specifies the use of a Flex-Algorithm specific prefix metric. The M-flag is important for inter-area or inter-domain routing support with Flex-Algorithms.

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When a router advertises a FAD, it is optional to advertise the FAD Flags TLV. However, when a FAD that includes the FAD Flags TLV is received, then the router must decode the flags before participating in the Flex-Algorithm.

By default, the following considerations apply to the FAD Flags TLV.

- SR OS sets the M-flag and advertises the FAD Flags TLV.
- When a FAD Flags TLV is received, SR OS decodes the flags and modifies the cSPF computation based upon the M-flag status.

The **no** form of this command prevents the advertisement of the FAD Flags TLV within a FAD.

Default

flags-tlv

Platforms

All

17.73 flex

flex

Syntax

flex *flex-id* [**create**]

no flex *flex-id*

Context

[Tree] (config>card>mda flex)

Full Context

configure card mda flex

Description

This command creates a FlexE group in this MDA slot within a specific IOM card in the system.

The **no** form of this command removes the FlexE group from the MDA.

Default

no flex

Parameters

flex-id

Specifies the unique ID for the FlexE group.

Values 1 to 24

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create

Keyword to create a FlexE group.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

17.74 flex-algo

flex-algo

Syntax

flex-algo *flex-algo*

no flex-algo

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop flex-algo)

Full Context

configure router static-route-entry indirect tunnel-next-hop flex-algo

Description

This command instructs the tunnel towards the indirect static-route next-hop to use the specified flexible algorithm.

It is assumed that the router using this command is participating in the flexible algorithm. This command instructs the router to lookup the indirect next-hop using flexible algorithm tunnels. If flexible algorithm aware tunnel to the indirect next-hop does not exist, then the static-route is not activated.

The expected outcome of this command is that when the router receives an IP payload packet, that it is steered towards the indirect next-hop using a flexible algorithm aware segment-routing tunnel if such tunnel exists. If such tunnel does not exist, then the route is not active, and the received IP packet will be dropped, if no other Longest Prefix Match (LPM) route exists.

If the *flex-algo* parameter is specified, the resolution filter can only use matching flexible algorithm-aware segment routing tunnels created by flexible algorithm-aware routing protocols (for example, SR IS-IS).

The **no** form of this command disables flexible algorithm-aware indirect next-hop resolution.

Default

no flex-algo

Parameters

flex-algo

Configures or deconfigures tunnel-next-hop flexible algorithm for resolving indirect static-route-entry.

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Values 128 to 255

Platforms

All

flex-algo

Syntax

flex-algo *fad-name* [**create**]

no flex-algo *fad-name*

Context

[Tree] (config>router>fad flex-algo)

Full Context

configure router flexible-algorithm-definitions flex-algo

Description

This command configures the definition context for a Flexible Algorithm Definition (FAD). Parameters, including the FAD priority, metric type, links to construct a flexible algorithm topology graph, and a description of the algorithm. Up to 256 local FADs can be configured on a router.

The FAD configuration parameters are grouped using the *fad-name* as the reference anchor. When an IGP is configured to use and advertise a local configured FAD, the *fad-name* is used as the reference anchor.

The **no** form of this command deletes the configured parameters and removes the defined FAD.

Default

no flex-algo

Parameters

fad-name

Specifies the name of the flexible algorithm, up to 32 characters, that is used as reference anchor for the configured parameters.

create

Specifies the mandatory keyword to create a router instance.

Platforms

All

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flex-algo

Syntax

[**no**] **flex-algo** *flex-algo*

Context

[Tree] (config>router>isis>flex-algos flex-algo)

Full Context

configure router isis flexible-algorithms flex-algo

Description

This command enters the configuration context for an IS-IS flexible algorithm.

A maximum of seven unique flexible algorithms can be configured on a router across all configured IS-IS instances. In each IS-IS flexible algorithm configuration context, the IS-IS instance participation can be either enabled or disabled, and it configures the advertising of a locally-configured flexible algorithm definition.

When flexible algorithm is enabled in an IS-IS instance, it is enabled for all levels (Level 1 and Level 2) within the IS-IS instance.

The **no** form of this command removes the IS-IS flexible algorithm configuration context.

Default

no flex-algo

Parameters

flex-algo

Specifies the number of the IS-IS flexible algorithm.

Values 128 to 255

Platforms

All

flex-algo

Syntax

[**no**] **flex-algo** *flex-algo-id*

Context

[Tree] (config>router>ospf>flex-algos flex-algo)

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Full Context

configure router ospf flexible-algorithms flex-algo

Description

This command enters the configuration context for an OSPFv2 flexible algorithm.

A maximum of seven unique flexible algorithms can be configured on a router across all configured OSPFv2 instances. The supported flexible algorithms are in the range of 128 to 255. In each OSPF flexible algorithm configuration context, the OSPFv2 instance participation can be either enabled or disabled, and it configures the advertising of a locally-configured flexible algorithm definition.

When flexible algorithm is enabled in an OSPF instance, it is enabled for all areas within the OSPF instance.

The **no** form of this command removes the OSPF flexible algorithm configuration context.

Default

no flex-algo

Parameters

flex-algo-id

Specifies the OSPF flexible algorithm number.

Values 128 to 255

Platforms

All

flex-algo

Syntax

[**no**] **flex-algo** *flex-algo-id*

Context

[Tree] (config>router>ospf>area>if flex-algo)

Full Context

configure router ospf area interface flex-algo

Description

This command enters the OSPFv2 flexible algorithms configuration context on the interface.

The **no** form of this command removes the OSPF flexible algorithm configuration context.

Default

no flex-algo

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Parameters

flex-algo-id

Specifies the number of the OSPF flexible algorithm.

Values 128 to 255

Platforms

All

flex-algo

Syntax

flex-algo *flex-algo-id* | *param-name*

no flex-algo

Context

[Tree] (config>router>policy-options>policy-statement>entry>action flex-algo)

[Tree] (config>router>policy-options>policy-statement>default-action flex-algo)

Full Context

configure router policy-options policy-statement entry action flex-algo

configure router policy-options policy-statement default-action flex-algo

Description

This command configures the Flex-Algorithm for use in the BGP next-hop autobind operation in a BGP import policy. A Flex-Algorithm aware autobind of the BGP next-hop is enabled when the route is matched by the policy statement entry.

Note:

- Flex-Algorithm aware next-hop lookup is supported for unicast BGP, VPRN, and BGP-LU.
- This command is not supported for multicast address families.

The **no** form of this command removes the Flex-Algorithm aware next-hop lookup.

Default

no flex-algo

Parameters

flex-algo-id

Specifies the flexible algorithm forwarding path.

Values 128 to 255

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param-name

Specifies the parameter name, up to 32 characters, that starts and ends with an at-sign (@) symbol.

Platforms

All

flex-algo

Syntax

flex-algo *flex-algo-id*

no flex-algo

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-ospf flex-algo)

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-isis flex-algo)

Full Context

configure oam-pm session ip tunnel mpls sr-ospf flex-algo

configure oam-pm session ip tunnel mpls sr-isis flex-algo

Description

This command configures the flexible algorithm to tunnel IP packets for session tests.

The **no** form of this command disables the flexible algorithm to tunnel IP packets.

Default

no flex-algo

Parameters

flex-algo-id

Specifies the flexible algorithm ID.

Values 128 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.75 flex-algo-cbf-lookup

flex-algo-cbf-lookup

Syntax

[**no**] **flex-algo-cbf-lookup**

Context

[Tree] (config>service>vprn>if>ipv6 flex-algo-cbf-lookup)

[Tree] (config>service>vprn>if flex-algo-cbf-lookup)

Full Context

configure service vprn interface ipv6 flex-algo-cbf-lookup

configure service vprn interface flex-algo-cbf-lookup

Description

This command allows flexible algorithm class-based forwarding lookup. When configured, the router performs a lookup to determine the source class and destination class for all packets belonging to that protocol that are received on the VPRN IP interface. This can be used to select the IS-IS SRv6 flexible algorithm tunnel bundle member to receive the forwarded packets. This overrides the normal ECMP or non-ECMP behavior that applies to unconfigured routers.

When enabled, the following applies to arriving packets whose:

- source-class plus destination-class do not match any map entry in the **configure routing-options flex-algo-class-forwarding** context, use the default flex-algorithm 0
- source class is zero (not found), use the default flex-algorithm 0 tunnel
- destination class is zero (not found), use the default flex-algorithm 0 tunnel

The **no** form of this command disables flexible algorithm class-based forwarding lookup.

Default

no flex-algo-cbf-lookup

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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17.76 flex-algo-class-forwarding

flex-algo-class-forwarding

Syntax

flex-algo-class-forwarding

Context

[Tree] (config>router>isis>segment-routing-v6 flex-algo-class-forwarding)

Full Context

configure router isis segment-routing-v6 flex-algo-class-forwarding

Description

Commands in this context allow flexible algorithm class-based forwarding.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

flex-algo-class-forwarding

Syntax

[**no**] **flex-algo-class-forwarding**

Context

[Tree] (config>service>vprn>bgp-ipvpn>segment-routing-v6 flex-algo-class-forwarding)

Full Context

configure service vprn bgp-ipvpn segment-routing-v6 flex-algo-class-forwarding

Description

This command allows the router to use SRv6 IS-IS flexible algorithm bundle tunnels to resolve the locators of imported VPN-IP routes with SRv6 TLVs.

The **no** form of this command deletes the context.

Default

flex-algo-class-forwarding

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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17.77 flex-algo-id

flex-algo-id

Syntax

flex-algo-id *id*

no flex-algo-id

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp>peer-tnl-attrs flex-algo-id)

Full Context

configure anysec mpls tunnel-encryption encryption-group peer-tunnel-attributes flex-algo-id

Description

This command configures the flexible algorithm ID for the outgoing tunnel to be encrypted. This ID must match the desired LSP that is using this flex algo in order for the LSP to be encrypted via ANYsec.

The **no** form of this command removes the configured ID.

Default

flex-algo-id 0

Parameters

id

Specifies the flexible algorithm ID.

Values 128 to 255

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

flex-algo-id

Syntax

flex-algo-id *id*

no flex-algo-id

Context

[Tree] (config>anysec>mpls>sec-term-pols>policy flex-algo-id)

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Full Context

configure anysec mpls security-termination-policies policy flex-algo-id

Description

This command configures the flexible algorithm ID. This ID must be a match for the local terminating ANYsec tunnel.

The **no** form of this command removes the configured ID.

Default

flex-algo-id 0

Parameters

id

Specifies the flexible algorithm ID.

Values 128 to 255

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

17.78 flexible-algorithm-definitions

flexible-algorithm-definitions

Syntax

flexible-algorithm-definitions

Context

[Tree] (config>router flexible-algorithm-definitions)

Full Context

configure router flexible-algorithm-definitions

Description

Commands in this context locally configure algorithm definitions.

Platforms

All

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17.79 flexible-algorithms

flexible-algorithms

Syntax

flexible-algorithms

Context

[Tree] (config>router>isis flexible-algorithms)

Full Context

configure router isis flexible-algorithms

Description

Commands in this context configure the IS-IS parameters for flexible algorithm participation.

Platforms

All

flexible-algorithms

Syntax

flexible-algorithms

Context

[Tree] (config>router>ospf flexible-algorithms)

Full Context

configure router ospf flexible-algorithms

Description

Commands in this context configure the OSPFv2 parameters for flexible algorithm participation.

Platforms

All

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17.80 flood-garp-and-unknown-req

flood-garp-and-unknown-req

Syntax

[**no**] **flood-garp-and-unknown-req**

Context

[Tree] (config>service>ies>if>vpls>evpn>arp flood-garp-and-unknown-req)

[Tree] (config>service>vprn>if>vpls>evpn>arp flood-garp-and-unknown-req)

Full Context

configure service ies interface vpls evpn arp flood-garp-and-unknown-req

configure service vprn interface vpls evpn arp flood-garp-and-unknown-req

Description

This command controls whether CPM-originated ARP frames are flooded in the R-VPLS service. Any frames that are data path flooded, such as the ARP messages received on a SAP, are flooded regardless of the command.

The **no** form of this command disables flooding GARP and unknown requests.

Default

flood-garp-and-unknown-req

Platforms

All

17.81 flood-time

flood-time

Syntax

flood-time *flood-time*

no flood-time

Context

[Tree] (config>service>vpls>mrp flood-time)

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Full Context

configure service vpls mrp flood-time

Description

This command configures the amount of time, in seconds, after a status change in the VPLS service during which traffic is flooded. When that time expires, traffic will be delivered according to the MMRP registrations that exist in the VPLS. When "no flood-time" is executed, flooding behavior is disabled.

Default

no flood-time

Parameters

flood-time

Specifies the MRP flood time, in seconds.

Values 3 to 600

Platforms

All

flood-time

Syntax

flood-time *flood-time*

no flood-time

Context

[Tree] (config>service>vpls>mrp>mmrp flood-time)

Full Context

configure service vpls mrp mmrp flood-time

Description

This command configures the amount of time, in seconds, after a status change in the VPLS service during which traffic is flooded. Once that time expires, traffic will be delivered according to the MMRP registrations that exist in the VPLS.

Default

flood-time 3

Parameters

flood-time

Specifies the MRP flood time, in seconds

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Values 3 to 600

Platforms
All

17.82 flow-attribute

flow-attribute

Syntax
[**no**] **flow-attribute** *flow-attribute-name*

Context
[Tree] (config>app-assure>group>policy>aqp>entry>match flow-attribute)

Full Context
configure application-assurance group policy app-qos-policy entry match flow-attribute

Description
This command configures a flow attribute to use as match criteria.

The **no** form of this command reverts to the default value.

Default
no flow-attribute

Parameters
flow-attribute-name
Specifies the name of the flow attribute, up to 256 characters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

flow-attribute

Syntax
[**no**] **flow-attribute** *flow-attribute-name*

Context
[Tree] (config>isa>aa-grp flow-attribute)

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Full Context

configure isa application-assurance-group flow-attribute

Description

This command enables the specified flow attribute.

The **no** form of this command disables the attribute.

Parameters

flow-attribute-name

Specifies the name of the flow attribute, up to 256 characters.

Values

video	This attribute specifies streaming or real-time video media traffic transferred between a sender and receiver. It does not differentiate adaptive and nonadaptive video streaming. Assigned to flows based on packet payload inspection (many protocols) or behavioral mechanisms, and may be used together with the RTC attribute to identify video call traffic.
abr_service	This attribute is assigned to adaptive bit rate traffic exchanges where the traffic rate or behavior can be automatically adjusted based on changes in network conditions. Assigned by application filter configuration or by behavioral mechanisms.
audio	This attribute is assigned to streaming or real-time audio media traffic transferred between a sender and receiver. Assigned to flows based on packet payload inspection or behavioral mechanisms, and may be used together with the RTC attribute to identify voice call traffic.
encrypted	This attribute is assigned to traffic exchanges where the initial payload or the entirety of the exchange is encrypted. Assigned to sessions based on packet payload inspection or by behavioral mechanisms.
download	This attribute is assigned to traffic that has a high likelihood of exchanging data predominantly in the network to subscriber direction over the lifetime of a session. May be assigned to sessions based on behavioral mechanisms.
upload	This attribute is assigned to traffic that has a high likelihood of exchanging data predominantly in the subscriber to network direction over the lifetime of the session. The upload and download attributes are mutually exclusive. Assigned to sessions based on behavioral mechanisms.

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real_time_ communication	This attribute is assigned to traffic that provides a low latency or real-time exchange of information between two or more communicating endpoints. Assigned by packet payload inspection of an RTP protocol being used or by behavioral mechanisms.
esni	This attribute is assigned to traffic that uses an encrypted server name indication (eSNI), as part of the TLS layer negotiation

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

flow-attribute

Syntax

[no] flow-attribute *flow-attribute-name*

Context

[Tree] (config>app-assure>group>policy>chrg-fltr>entry>match flow-attribute)

Full Context

configure application-assurance group policy charging-filter entry match flow-attribute

Description

This command configured the addition of a flow attribute to the match criteria used by this charging filter entry.

The **no** form of this command removes the flow attribute match criteria.

Default

no flow-attribute

Parameters

flow-attribute-name

Specifies the name of the flow attribute, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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17.83 flow-count

flow-count

Syntax

flow-count *flow-count*

no flow-count

Context

[Tree] (config>app-assure>group>policer flow-count)

[Tree] (config>app-assure>group>tod-override flow-count)

Full Context

configure application-assurance group policer flow-count

configure application-assurance group policer tod-override flow-count

Description

This command configures the flow count for the flow-count-limit policer. It is recommended to configure flow count subscriber-level policer for AA subscribers to ensure fair usage of flow resources between AA subscribers.

Default

no flow-count

Parameters

flow-count

Specifies the flow count for the flow-count-limit policer.

Values 0 to 100000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.84 flow-count-limit

flow-count-limit

Syntax

flow-count-limit *policer-name* [**event-log** *event-log-name*]

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no flow-count-limit

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action flow-count-limit)

Full Context

configure application-assurance group policy app-qos-policy entry action flow-count-limit

Description

This command assigns an existing flow count limit policer as an action on flows matching this AQP entry.

The match criteria for the AQP entry must specify a uni-directional traffic direction before a policer action can be configured. If a policer is used in one direction in an AQP match entry the same policer name cannot be used by another AQP entry which uses a different traffic direction match criteria.

When multiple policers apply to a single flow, the final action on a packet is the worst case of all policer outcomes (for example, if one of the policers marks packet out of profile, the final marking will reflect that).

The **no** form of this command removes this flow policer from actions on flows matching this AQP entry.

Default

no flow-count-limit

Parameters

policer-name

Specifies the name of the existing flow setup rate policer for this application assurance profile. The *policer-name* is configured in the **config>app-assure>group>policer** context.

event-log-name

Specifies the name of the event log used when event logging is enabled, up to 32 characters, which is used when event logging is enabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.85 flow-label

flow-label

Syntax

flow-label *flow-label* [*mask*]

no flow-label

Context

[Tree] (config>filter>ipv6-filter>entry>match flow-label)

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Full Context

configure filter ipv6-filter entry match flow-label

Description

This command configures the flow-label and optional mask match condition.

The **no** form of the command reverts to the default.

Default

no flow-label

Parameters

flow-label

Specifies the flow label to be used as a match criterion. Value can be expressed as a decimal integer, as well as in hexadecimal or binary format. The following value shows decimal integer format only.

Values 0 to 1048575

mask

Specifies the flow label mask value for this policy IPv6 Filter entry. Value can be expressed as a decimal integer, as well as in hexadecimal or binary format. The following value shows decimal integer format only.

Values 0 to 1048575

Platforms

All

flow-label

Syntax

flow-label *value*

no flow-label

Context

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry flow-label)

Full Context

configure system security management-access-filter ipv6-filter entry flow-label

Description

This command configures flow label match conditions. Flow labeling enables the labeling of packets belonging to particular traffic flows for which the sender requests special handling, such as non-default quality of service or real-time service. This command only applies to the 7750 SR and 7950 XRS.

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Parameters

value

Specifies the flow identifier in an IPv6 packet header that can be used to discriminate traffic flows (See RFC 3595, *Textual Conventions for IPv6 Flow Label*.)

Values 0 to 1048575

Platforms

All

flow-label

Syntax

flow-label *value*

no flow-label

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match flow-label)

Full Context

configure system security cpm-filter ipv6-filter entry match flow-label

Description

This command configures flow label match conditions. Flow labeling enables the labeling of packets belonging to particular traffic flows for which the sender requests special handling, such as non-default quality of service or real-time service.

Parameters

value

Specifies the flow identifier in an IPv6 packet header that can be used to discriminate traffic flows (See RFC 3595, *Textual Conventions for IPv6 Flow Label*.)

Values 0 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.86 flow-label-load-balancing

flow-label-load-balancing

Syntax

[**no**] **flow-label-load-balancing**

Context

[Tree] (config>service>ies>if>load-balancing flow-label-load-balancing)

[Tree] (config>service>vprn>if>load-balancing flow-label-load-balancing)

[Tree] (config>service>vprn>nw-if>load-balancing flow-label-load-balancing)

[Tree] (config>router>if>load-balancing flow-label-load-balancing)

Full Context

configure service ies interface load-balancing flow-label-load-balancing

configure service vprn interface load-balancing flow-label-load-balancing

configure service vprn network-interface load-balancing flow-label-load-balancing

configure router interface load-balancing flow-label-load-balancing

Description

This command enables load balancing in ECMP and LAG that is based on the output of a hash performed on the triplet {SA, DA, flow label} in the header of an IPv6 packet received on a IES, VPRN, R-VPLS, CsC, or network interface.

The **no** form of this command disables load balancing in ECMP and LAG based on the hash of triplet fields {SA, DA, flow label} in an IPv6 packet header.

Default

no flow-label-load-balancing

Platforms

All

17.87 flow-rate

flow-rate

Syntax

flow-rate *sample-rate*

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no flow-rate

Context

[Tree] (config>app-assure>group>cflowd>tcp-perf flow-rate)

[Tree] (config>app-assure>group>cflowd>comp flow-rate)

Full Context

configure application-assurance group cflowd tcp-performance flow-rate

configure application-assurance group cflowd comprehensive flow-rate

Description

This command specifies the per-flow sampling rate for the cflowd export of Application Assurance performance statistics.

The **no** form of this command reverts to the default.

Default

no flow-rate

Parameters

sample-rate

Specifies the rate at which to sample flows that are eligible for TCP performance measurement.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.88 flow-rate-limit

flow-rate-limit

Syntax

flow-rate-limit *policer-name* [**event-log** *event-log-name*]

no flow-rate-limit

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action flow-rate-limit)

Full Context

configure application-assurance group policy app-qos-policy entry action flow-rate-limit

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Description

This command assigns an existing flow setup rate limit policer as an action on flows matching this AQP entry.

The match criteria for the AQP entry must specify a uni-directional traffic direction before a policer action can be configured. If a policer is used in one direction in an AQP match entry the same policer name cannot be used by another AQP entry which uses a different traffic direction match criteria.

When multiple policers apply to a single flow, the final action on a packet is the worst case of all policer outcomes (for example, if one of the policers marks packet out of profile, the final marking will reflect that).

The **no** form of this command removes this flow policer from actions on flows matching this AQP entry.

Default

no flow-rate-limit

Parameters

policer-name

Specifies the policer name up to 32 characters.

event-log *event-log-name*

Specifies the event-log-name up to 32 characters, which will be used when event logging is enabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.89 flow-rate2

flow-rate2

Syntax

flow-rate2 *sample-rate*

no flow-rate2

Context

[Tree] (config>app-assure>group>cflowd>comp flow-rate2)

[Tree] (config>app-assure>group>cflowd>tcp-perf flow-rate2)

Full Context

configure application-assurance group cflowd comprehensive flow-rate2

configure application-assurance group cflowd tcp-performance flow-rate2

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Description

This command specifies the per-flow second sampling rate for the cflowd export of Application Assurance performance statistics.

The **no** form of this command reverts to the default.

Default

no flow-rate2

Parameters

sample-rate

Specifies the rate at which to sample flows that are eligible for TCP performance measurement.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.90 flow-setup-direction

flow-setup-direction

Syntax

flow-setup-direction {**subscriber-to-network** | **network-to-subscriber** | **both**}

Context

[Tree] (config>app-assure>group>policy>app-filter>entry flow-setup-direction)

Full Context

configure application-assurance group policy app-filter entry flow-setup-direction

Description

This command configures the direction of flow setup to which the application filter entry is to be applied.

Default

flow-setup-direction both

Parameters

subscriber-to-network

Specifies that the app-filter entry will be applied to flows initiated by a local subscriber.

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network-to-subscriber

Specifies that the app-filter entry will be applied to flows initiated from a remote destination towards a local subscriber.

both

Specifies that the app filter entry will be applied for subscriber-to-network and network-to-subscriber traffic.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.91 flow-setup-high-wmark

flow-setup-high-wmark

Syntax

flow-setup-high-wmark *high-watermark*

Context

[Tree] (config>app-assure flow-setup-high-wmark)

Full Context

configure application-assurance flow-setup-high-wmark

Description

This command configures the system wide high watermark threshold for per-ISA throughput in packets/second when an alarm will be raised by the agent. The value must be larger than or equal to the packet-rate-low-wmark parameter.

Default

flow-setup-high-wmark max

Parameters

high-watermark

Specifies the high watermark for flow setup rate alarms. The value must be larger than or equal to the flow-setup-low-wmark value.

Values 1 to 800000, **max** flows/sec (disabled)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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17.92 flow-setup-low-wmark

flow-setup-low-wmark

Syntax

flow-setup-low-wmark *low-watermark*

no flow-setup-low-wmark

Context

[Tree] (config>app-assure flow-setup-low-wmark)

Full Context

configure application-assurance flow-setup-low-wmark

Description

This command configures the flow setup rate on the ISA-AA when a flow setup alarm will be raised by the agent.

Default

flow-setup-low-wmark 0

Parameters

low-watermark

Specifies the low watermark for flow setup rate alarms. The value must be larger than or equal to the flow-setup-high-wmark value.

Values 1 to 799999 flows/sec

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.93 flow-spec-dest

flow-spec-dest

Syntax

flow-spec-dest *prefix-list-name*

no flow-spec-dest

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Context

[Tree] (config>router>policy-options>policy-statement>entry>from flow-spec-dest)

Full Context

configure router policy-options policy-statement entry from flow-spec-dest

Description

This command enables route matching of BGP FlowSpec routes based on the destination IP prefix in the flow specification. An IPv4 FlowSpec route is matched if its NLRI contains a type 1 subcomponent encoding a prefix and prefix length that is covered by an entry in the referenced prefix list. An IPv6 FlowSpec route is matched if its NLRI contains a type 1 component encoding prefix-offset = 0 and a prefix and prefix length that is covered by an entry in the referenced prefix list.

This command has no effect when the policy is not applied as a BGP import or export policy.

The **no** form of this command disables route matching based on of the destination IP prefix.

Default

no flow-spec-dest

Parameters

prefix-list-name

Specifies the name of a prefix list containing IPv4 or IPv6 prefix entries, up to 64 characters.

Platforms

All

17.94 flow-spec-source

flow-spec-source

Syntax

flow-spec-source *prefix-list-name*

no flow-spec-source

Context

[Tree] (config>router>policy-options>policy-statement>entry>from flow-spec-source)

Full Context

configure router policy-options policy-statement entry from flow-spec-source

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Description

This command enables route matching of BGP FlowSpec routes based on the source IP prefix in the flow specification. An IPv4 FlowSpec route is matched if its NLRI contains a type 2 subcomponent encoding a prefix and prefix length that is covered by an entry in the referenced prefix list. An IPv6 FlowSpec route is matched if its NLRI contains a type 2 component encoding prefix-offset = 0 and a prefix and prefix length that is covered by an entry in the referenced prefix list.

This command has no effect when the policy is not applied as a BGP import or export policy.

The **no** form of this command disables route matching based on of the source IP prefix.

Default

no flow-spec-source

Parameters

prefix-list-name

Specifies the name of a prefix list containing IPv4 or IPv6 prefix entries, up to 64 characters.

Platforms

All

17.95 flow-table-high-wmark

flow-table-high-wmark

Syntax

flow-table-high-wmark *high-watermark*

no flow-table-high-wmark

Context

[Tree] (config>app-assure flow-table-high-wmark)

Full Context

configure application-assurance flow-table-high-wmark

Description

This command configures the system-wide high watermark threshold as a percentage of the flow table size for the per-ISA utilization of the flow records when a full alarm will be raised by the agent.

Default

flow-table-high-wmark 95

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Parameters

high-watermark

Specifies the high watermark for flow table full alarms, in percent.

Values 0 to 100

Default 95

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.96 flow-table-low-wmark

flow-table-low-wmark

Syntax

flow-table-low-wmark *low-watermark*

no flow-table-low-wmark

Context

[Tree] (config>app-assure flow-table-low-wmark)

Full Context

configure application-assurance flow-table-low-wmark

Description

This command configures the system-wide low watermark threshold as a percentage of the flow table size for per-ISA. The value must be lower than or equal to the **flow-table-high-wmark** *high-watermark* parameter.

Default

flow-table-low-wmark 90

Parameters

low-watermark

Specifies the low watermark for flow table full alarms, in percent.

Values 0 to 100

Default 90

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.97 flow-timeout-on-switchover

flow-timeout-on-switchover

Syntax

flow-timeout-on-switchover *percent*

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy flow-timeout-on-switchover)

Full Context

configure isa nat-group inter-chassis-redundancy flow-timeout-on-switchover

Description

This command configures an initial flow timeout on the newly activated node for the **nat-group** after a switchover. This timeout stays in effect only if there is no traffic present over this flow; otherwise, the first packet over the flow after the switchover resets the flow timeout to the originally configured value (under the NAT policy configuration).

This command configuration restricts the flow timeout to a portion of the originally configured value.

Default

flow-timeout-on-switchover 50

Parameters

percent

Specifies the percentage of the originally configured timeout value for the flow under the **nat-policy**.

Values 1 to 50

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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17.98 flows-active-count

flows-active-count

Syntax

[**no**] **flows-active-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr flows-active-count)

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr flows-active-count)

Full Context

configure log accounting-policy custom-record aa-specific from-aa-sub-counters flows-active-count

configure log accounting-policy custom-record aa-specific to-aa-sub-counters flows-active-count

Description

This command includes the active flow count and only applies to the 7750 SR.

The **no** form of this command excludes the active flow count in the AA subscriber's custom record.

Default

no flows-active-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.99 flows-admitted-count

flows-admitted-count

Syntax

[**no**] **flows-admitted-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr flows-admitted-count)

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr flows-admitted-count)

Full Context

configure log accounting-policy custom-record aa-specific to-aa-sub-counters flows-admitted-count

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configure log accounting-policy custom-record aa-specific from-aa-sub-counters flows-admitted-count

Description

This command includes the admitted flow count and only applies to the 7750 SR.

The **no** form of this command excludes the flow’s admitted count in the AA subscriber's custom record.

Default

no flows-admitted-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.100 flows-denied-count

flows-denied-count

Syntax

[**no**] **flows-denied-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr flows-denied-count)

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr flows-denied-count)

Full Context

configure log accounting-policy custom-record aa-specific to-aa-sub-counters flows-denied-count

configure log accounting-policy custom-record aa-specific from-aa-sub-counters flows-denied-count

Description

This command includes the flow’s denied count in the AA subscriber's custom record and only applies to the 7750 SR.

The **no** form of this command excludes the flow’s denied count.

Default

no flows-denied-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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17.101 flowspec

flowspec

Syntax

[**no**] **flowspec**

Context

[Tree] (config>service>vprn>if>spoke-sdp>ingress flowspec)

[Tree] (config>service>ies>if>sap>ingress flowspec)

[Tree] (config>service>vprn>if>sap>ingress flowspec)

[Tree] (config>service>ies>if>spoke-sdp>ingress flowspec)

Full Context

configure service vprn interface spoke-sdp ingress flowspec

configure service ies interface sap ingress flowspec

configure service vprn interface sap ingress flowspec

configure service ies interface spoke-sdp ingress flowspec

Description

This command enables IPv4 FlowSpec filtering on an access IP interface associated with a VPRN or IES service. Filtering is based on all of the IPv4 FlowSpec routes that have been received and accepted by the corresponding BGP instance. Ingress IPv4 traffic on an interface can be filtered by both a user-defined IPv4 filter and FlowSpec. Evaluation proceeds in this order:

- user-defined IPv4 filter entries
- FlowSpec derived filter entries
- user-defined IPv4 filter default-action

The **no** form of this command removes IPv4 FlowSpec filtering from an IP interface.

Default

no flowspec. No access interfaces have IPv4 FlowSpec enabled.

Platforms

All

flowspec

Syntax

flowspec

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Context

[Tree] (config>service>vprn flowspec)

Full Context

configure service vprn flowspec

Description

Commands in this context configure FlowSpec related parameters for the specified routing instance.

Platforms

All

flowspec

Syntax

flowspec

Context

[Tree] (config>service>vprn>bgp flowspec)

Full Context

configure service vprn bgp flowspec

Description

Commands in this context configure BGP FlowSpec validations.

Platforms

All

flowspec

Syntax

flowspec

Context

[Tree] (config>router flowspec)

Full Context

configure router flowspec

Description

Commands in this context configure FlowSpec-related parameters for the specified routing instance.

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Platforms

All

flowspec

Syntax

flowspec

Context

[Tree] (config>router>bgp flowspec)

Full Context

configure router bgp flowspec

Description

Commands in this context configure BGP FlowSpec validations.

Platforms

All

17.102 flr-threshold

flr-threshold

Syntax

flr-threshold *percentage*

no flr-threshold

Context

[Tree] (config>oam-pm>session>ethernet>lmm>availability flr-threshold)

[Tree] (config>oam-pm>session>ethernet>slm flr-threshold)

Full Context

configure oam-pm session ethernet lmm availability flr-threshold

configure oam-pm session ethernet slm flr-threshold

Description

This command defines the frame loss threshold used to determine whether the Delta-T is available or unavailable. An individual Delta-T with a frame loss threshold equal to the configured threshold is marked

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unavailable. An individual Delta-T with a frame loss threshold lower than the configured threshold is marked as available.

The **no** form of this command reverts to the default value.

Default

flr-threshold 50

Parameters

percentage

Specifies the percentage of the threshold.

Values 0 to 100

Platforms

All

flr-threshold

Syntax

flr-threshold *percentage*

no flr-threshold

Context

[Tree] (config>oam-pm>session>ip>twamp-light>loss flr-threshold)

Full Context

configure oam-pm session ip twamp-light loss flr-threshold

Description

This command defines the frame loss threshold used to determine whether the delta-t is available or unavailable. An individual delta-t with a frame loss threshold equal to or higher than the configured threshold is marked unavailable. An individual delta-t with a frame loss threshold lower than the configured threshold is marked as available.

The **no** form of this command restores the default value of 50%.

Default

flr-threshold 50

Parameters

percentage

Specifies the percentage of the threshold.

Values 0 to 100

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Default 50

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.103 fng-alarm-time

fng-alarm-time

Syntax

fng-alarm-time *time*

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>eth-ring>path>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>lag>eth-cfm>mep>alarm-notification fng-alarm-time)

Full Context

configure eth-tunnel path eth-cfm mep alarm-notification fng-alarm-time

configure eth-ring path eth-cfm mep alarm-notification fng-alarm-time

configure lag eth-cfm mep alarm-notification fng-alarm-time

Description

This command configures the Fault Notification Generation (FNG) alarm time.

Parameters

time

The length of time, in centi-seconds, that must expire before a defect is alarmed.

Values 0, 250, 500, 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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fng-alarm-time

Syntax

fng-alarm-time *time*

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>epipe>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vpls>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vpls>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>router>if>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>alarm-notification fng-alarm-time)

[Tree] (config>port>ethernet>eth-cfm>mep>alarm-notification fng-alarm-time)

Full Context

configure service epipe spoke-sdp eth-cfm mep alarm-notification fng-alarm-time

configure service epipe sap eth-cfm mep alarm-notification fng-alarm-time

configure service vpls eth-cfm mep alarm-notification fng-alarm-time

configure service vpls sap eth-cfm mep alarm-notification fng-alarm-time

configure service ies interface sap eth-cfm mep alarm-notification fng-alarm-time

configure service vprn subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-alarm-time

configure service vpls mesh-sdp eth-cfm mep alarm-notification fng-alarm-time

configure service vpls spoke-sdp eth-cfm mep alarm-notification fng-alarm-time

configure service ipipe sap eth-cfm mep alarm-notification fng-alarm-time

configure router interface eth-cfm mep alarm-notification fng-alarm-time

configure service ies interface spoke-sdp eth-cfm mep alarm-notification fng-alarm-time

configure service vprn interface spoke-sdp eth-cfm mep alarm-notification fng-alarm-time

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configure service ies subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-alarm-time

configure service vprn interface sap eth-cfm mep alarm-notification fng-alarm-time

configure port ethernet eth-cfm mep alarm-notification fng-alarm-time

Description

This command configures the Fault Notification Generation time values for raising the alarm. This timer is used for network management processes and does not delay notification to the fault management system on the network element. This timer does not affect fault propagation mechanisms.

Parameters

time

Specifies the time, in centiseconds (10ms intervals), that a defect condition at or above the **low-priority-defect** must be present before raising alarm.

Values 0, 250, 500, 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep alarm-notification fng-alarm-time
- configure service ipipe sap eth-cfm mep alarm-notification fng-alarm-time
- configure port ethernet eth-cfm mep alarm-notification fng-alarm-time
- configure service vprn interface spoke-sdp eth-cfm mep alarm-notification fng-alarm-time
- configure service vpls mesh-sdp eth-cfm mep alarm-notification fng-alarm-time
- configure service vpls sap eth-cfm mep alarm-notification fng-alarm-time
- configure service vprn interface sap eth-cfm mep alarm-notification fng-alarm-time
- configure service vpls eth-cfm mep alarm-notification fng-alarm-time
- configure router interface eth-cfm mep alarm-notification fng-alarm-time
- configure service vpls spoke-sdp eth-cfm mep alarm-notification fng-alarm-time
- configure service epipe sap eth-cfm mep alarm-notification fng-alarm-time
- configure service ies interface spoke-sdp eth-cfm mep alarm-notification fng-alarm-time
- configure service epipe spoke-sdp eth-cfm mep alarm-notification fng-alarm-time

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-alarm-time
- configure service vprn subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-alarm-time

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fng-alarm-time

Syntax

fng-alarm-time *time*

Context

[Tree] (config>router>if>eth-cfm>mep fng-alarm-time)

Full Context

configure router interface eth-cfm mep fng-alarm-time

Description

This command configures the Fault Notification Generation (FNG) alarm time.

Parameters

time

The length of time, in centi-seconds, that must pass before an alarm is raised for a defect.

Values 0, 250, 500, 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.104 fng-reset-time

fng-reset-time

Syntax

fng-reset-time *time*

Context

[Tree] (config>eth-ring>path>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>eth-tunnel>path>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>lag>eth-cfm>mep>alarm-notification fng-reset-time)

Full Context

configure eth-ring path eth-cfm mep alarm-notification fng-reset-time

configure eth-tunnel path eth-cfm mep alarm-notification fng-reset-time

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configure lag eth-cfm mep alarm-notification fng-reset-time

Description

This command configure the Fault Notification Generation (FNG) reset time.

Parameters

time

The length of time, in centiseconds, that must expire before a defect is reset.

Values 0, 250, 500, 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

fng-reset-time

Syntax

fng-reset-time *time*

Context

[Tree] (config>port>ethernet>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>epipe>sap>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vpls>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vpls>sap>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>router>if>eth-cfm>mep>alarm-notification fng-reset-time)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>alarm-notification fng-reset-time)

Full Context

configure port ethernet eth-cfm mep alarm-notification fng-reset-time

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configure service epipe sap eth-cfm mep alarm-notification fng-reset-time

configure service vpls eth-cfm mep alarm-notification fng-reset-time

configure service epipe spoke-sdp eth-cfm mep alarm-notification fng-reset-time

configure service ipipe sap eth-cfm mep alarm-notification fng-reset-time

configure service vprn subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-reset-time

configure service ies subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-reset-time

configure service vprn interface sap eth-cfm mep alarm-notification fng-reset-time

configure service ies interface spoke-sdp eth-cfm mep alarm-notification fng-reset-time

configure service vpls sap eth-cfm mep alarm-notification fng-reset-time

configure service vpls spoke-sdp eth-cfm mep alarm-notification fng-reset-time

configure service vpls mesh-sdp eth-cfm mep alarm-notification fng-reset-time

configure service vprn interface spoke-sdp eth-cfm mep alarm-notification fng-reset-time

configure router interface eth-cfm mep alarm-notification fng-reset-time

configure service ies interface sap eth-cfm mep alarm-notification fng-reset-time

Description

This command configures the Fault Notification Generation time values to reset the CCM defect alarm. This timer is used for network management processes and does not delay notification to the fault management system on the network element. This timer does not affect fault propagation mechanisms.

Parameters

time

Specifies the time, in centiseconds (10ms intervals), that a defect condition at or above the **low-priority-defect** must be cleared before the alarm is reset.

Values 0, 250, 500, 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls spoke-sdp eth-cfm mep alarm-notification fng-reset-time
- configure service vprn interface spoke-sdp eth-cfm mep alarm-notification fng-reset-time
- configure service epipe spoke-sdp eth-cfm mep alarm-notification fng-reset-time
- configure service vpls sap eth-cfm mep alarm-notification fng-reset-time
- configure service ipipe sap eth-cfm mep alarm-notification fng-reset-time
- configure service vpls mesh-sdp eth-cfm mep alarm-notification fng-reset-time
- configure router interface eth-cfm mep alarm-notification fng-reset-time
- configure service epipe sap eth-cfm mep alarm-notification fng-reset-time

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- configure service ies interface spoke-sdp eth-cfm mep alarm-notification fng-reset-time
- configure service vpls eth-cfm mep alarm-notification fng-reset-time
- configure service vprn interface sap eth-cfm mep alarm-notification fng-reset-time
- configure service ies interface sap eth-cfm mep alarm-notification fng-reset-time
- configure port ethernet eth-cfm mep alarm-notification fng-reset-time

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-reset-time
- configure service ies subscriber-interface group-interface sap eth-cfm mep alarm-notification fng-reset-time

fng-reset-time

Syntax

fng-reset-time *time*

Context

[Tree] (config>router>if>eth-cfm>mep fng-reset-time)

Full Context

configure router interface eth-cfm mep fng-reset-time

Description

This command configures the FNG reset time.

Parameters

time

The length of time, in centiseconds, that must expire before a defect is reset.

Values 0, 250, 500, 1000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.105 follow

follow

Syntax

follow router *router-instance* **pool** *name*

no follow

Context

[Tree] (config>router>nat>outside>pool>redundancy follow)

[Tree] (config>service>vprn>nat>outside>pool>redundancy follow)

Full Context

configure router nat outside pool redundancy follow

configure service vprn nat outside pool redundancy follow

Description

This command implicitly enables Pool Fate-Sharing Group (PFSG) which is required in case of multiple NAT policies per inside routing context. A NAT pool configured with this command will not advertise or monitor any route in order to change its (activity) state but instead it will directly follow the state of the lead pool in the PFSG. Once the lead pool changes its (activity) state, all the remaining pools following the lead pool will change their state accordingly.

Default

no follow

Parameters

router *router-instance*

Specifies the routing instance where the lead pool resides.

Values <router-name> | <service-id>

router-name - Base

service-id - 1 to 2147483647

pool *name*

Specifies the pool whose activity state is being shared up to 32 characters in length.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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follow

Syntax

[**no**] **follow**

Context

[Tree] (config>service>vprn>static-route-entry follow)

Full Context

configure service vprn static-route-entry follow

Description

Commands in this context enable follow behaviour. When follow behavior is enabled on a static route, the static route is installed in the FIB solely to classify matched packets into a source class and destination class. The forwarding of packets matching the static route prefix follows the same forwarding as the longest matching non-follow route. For example, if the static route configured for follow is 1.1.1.1/32 and the longest matching route for this prefix that is not the static route itself is a BGP-IPVPN route for 1.1.1.0/24, the /32 static route is programmed to follow the forwarding of the BGP-IPVPN route.

This command is useful in solutions that use source class and destination class, for example, the **configure service vprn bgp-ipvpn segment-routing-v6 flex-algo-class-forwarding** solution.

The following considerations apply to static routes using the **follow** command:

- can only be added to a VPRN, not the Base router
- must have prefix-length 32 if the prefix is IPv4
- must have prefix-length 128 if the prefix is IPv6
- are not used to forward CPM originated traffic
- can never resolve another type of route
- cannot be readvertised by protocol

The **no** form of this command disables follow behaviour.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

17.106 force-auth

force-auth

Syntax

force-auth [**cid-change**] [**rid-change**]

force-auth disabled

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no force-auth

Context

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session force-auth)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session force-auth)

Full Context

configure service ies subscriber-interface group-interface ipoe-session force-auth

configure service vprn subscriber-interface group-interface ipoe-session force-auth

Description

By default, if the circuit-id/interface-id or remote-id in the IPoE session re-authentication trigger packet (such as a DHCP renewal) is not empty and different from the circuit-id/interface-id or remote-id stored in the IPoE session data, a forced re-authentication is performed, ignoring the configured **min-auth-interval**. This default behavior can be changed with this command.

The **no** form of this command reverts to the default behavior.

Default

force-auth cid-change rid-change force-auth disabled on wlan-gw group interfaces

Parameters

cid-change

Perform a forced re-authentication upon a circuit-id/interface-id change. An empty circuit-id/interface-id is not considered a change.

rid-change

Perform a forced re-authentication upon a remote-id change. an empty remote-id is not considered a change. For DHCPv6, the enterprise number is excluded from the comparison.

disabled

Specifies that the **min-auth-interval** never is ignored. The system does not perform a forced re-authentication upon a circuit-id or interface-id or remote-id change.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.107 force-ipv6cp

force-ipv6cp

Syntax

[**no**] **force-ipv6cp**

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Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host force-ipv6cp)

Full Context

configure subscriber-mgmt local-user-db ppp host force-ipv6cp

Description

This command specifies if the IPv6 control protocol should be negotiated after PPP reaches the Network-Layer Protocol phase.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.108 force-l2pt-boundary

force-l2pt-boundary

Syntax

force-l2pt-boundary [**cdp**] [**dtp**] [**pagp**] [**stp**] [**udld**] [**vtp**]

no force-l2pt-boundary

Context

[Tree] (config>service>vpls>sap force-l2pt-boundary)

Full Context

configure service vpls sap force-l2pt-boundary

Description

Enabling force-l2pt-boundary will force all SAPs managed by the specified m-vpls instance on the corresponding port to have l2pt-termination enabled. This command is applicable only to SAPs created under m-vpls regardless of the flavor of STP currently active. It is not applicable to spoke-SDPs.

The execution of this command will fail as soon as at least one of the currently managed SAPs (all SAPs falling within the specified managed-vlan-range) does not have l2pt-termination enabled regardless of its admin/operational status.

If force-l2pt-boundary is enabled on a specified m-vpls SAP, all newly created SAPs falling into the specified managed-vlan-range will have l2pt-termination enabled per default.

Extending or adding new range into a managed-vlan-range declaration will fail as soon as there is at least one SAPs falling into the specified vlan-range does not have l2pt-termination enabled.

Disabling l2pt-termination on currently managed SAPs will fail as soon as the force-l2pt-boundary is enabled under corresponding m-vpls SAP.

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Parameters

cdp

Specifies the Cisco discovery protocol

dtp

Specifies the dynamic trunking protocol

pagp

Specifies the port aggregation protocol

stp

Specifies all spanning tree protocols: stp, rstp, mstp, pvst (default)

udld

Specifies unidirectional link detection

vtp

Specifies the virtual trunk protocol

Platforms

All

17.109 force-mcast

force-mcast

Syntax

force-mcast [**ip**] [**mac**]

no force-mcast

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 force-mcast)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 force-mcast)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv force-mcast)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv force-mcast)

[Tree] (config>subscr-mgmt>rtr-adv-plcy force-mcast)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv force-mcast)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv force-mcast)

Full Context

configure service vprn subscriber-interface group-interface ipv6 force-mcast

configure service ies subscriber-interface group-interface ipv6 force-mcast

configure service ies subscriber-interface ipv6 router-advertisements force-mcast

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configure service vprn subscriber-interface group-interface ipv6 router-advertisements force-mcast

configure subscriber-mgmt router-advertisement-policy force-mcast

configure service ies subscriber-interface group-interface ipv6 router-advertisements force-mcast

configure service vprn subscriber-interface ipv6 router-advertisements force-mcast

Description

This command configures the protocols with forced multicast, either IP or MAC.

The **no** form of this command returns the command to the default setting.

Parameters

ip

Specifies that IP for multicast is forced.

mac

Specifies that MAC for multicast is forced.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.110 force-ppp-mtu-gt-1492

force-ppp-mtu-gt-1492

Syntax

[**no**] **force-ppp-mtu-gt-1492**

Context

[Tree] (config>subscr-mgmt>ppp-policy force-ppp-mtu-gt-1492)

Full Context

configure subscriber-mgmt ppp-policy force-ppp-mtu-gt-1492

Description

This command enables PPPoE Maximum-Receive-Unit (MRU) negotiations greater than 1492 bytes without the need to receive a "PPP-Max-Payload" tag in PADI/PADR from the client as defined in RFC 4638, *Accommodating a Maximum Transit Unit/Maximum Receive Unit (MTU/MRU) Greater Than 1492 in the Point-to-Point Protocol over Ethernet (PPPoE)*.

The MRU send in the initial LCP Config Request is determined by the **port mtu** and **ppp-policy ppp-mtu** parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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17.111 force-qinq-vc-forwarding

force-qinq-vc-forwarding

Syntax

force-qinq-vc-forwarding [{**c-tag-c-tag** | **s-tag-c-tag**}]

no force-qinq-vc-forwarding

Context

[Tree] (config>service>epipe>spoke-sdp force-qinq-vc-forwarding)

[Tree] (config>service>pw-template force-qinq-vc-forwarding)

[Tree] (config>service>vpls>spoke-sdp force-qinq-vc-forwarding)

[Tree] (config>service>vpls>bgp-evpn>srv6 force-qinq-vc-forwarding)

[Tree] (config>service>vpls>mesh-sdp force-qinq-vc-forwarding)

[Tree] (config>service>epipe>bgp-evpn>mpls force-qinq-vc-forwarding)

[Tree] (config>service>vpls>bgp-evpn>mpls force-qinq-vc-forwarding)

Full Context

configure service epipe spoke-sdp force-qinq-vc-forwarding

configure service pw-template force-qinq-vc-forwarding

configure service vpls spoke-sdp force-qinq-vc-forwarding

configure service vpls bgp-evpn segment-routing-v6 force-qinq-vc-forwarding

configure service vpls mesh-sdp force-qinq-vc-forwarding

configure service epipe bgp-evpn mpls force-qinq-vc-forwarding

configure service vpls bgp-evpn mpls force-qinq-vc-forwarding

Description

This command forces the datapath to push two VLAN tags at network egress when sending traffic on SDP bindings or EVPN destinations. The VLAN tag values are derived from the service-delimiting tags at the ingress, depending on the configured parameter. At network ingress this command, configured on EVPN-MPLS or the SDP-binding, pops two VLAN tags at most.

The **no** form of this command disables the datapath from pushing any VLAN tags in SDP bindings or EVPN, or from popping two VLAN tags.

Default

no force-qinq-vc-forwarding

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Parameters

c-tag-c-tag

Keyword to specify that the router pushes two tags with the same value derived from the inner service delimiting tag. At network ingress, two VLAN tags are extracted at most and the C-tag and S-tag p/de bits are propagated to the egress SAPs.

s-tag-c-tag

Keyword to specify that the router pushes two tags that are copied from the QinQ service-delimiting VLAN values and may be different. At network ingress, two VLAN tags are extracted at most and the p/de bits are propagated to the egress SAP service-delimiting S-tag and C-tag respectively.

Platforms

All

- configure service vpls bgp-evpn mpls force-qinq-vc-forwarding
- configure service vpls spoke-sdp force-qinq-vc-forwarding
- configure service pw-template force-qinq-vc-forwarding
- configure service epipe bgp-evpn mpls force-qinq-vc-forwarding
- configure service vpls mesh-sdp force-qinq-vc-forwarding
- configure service epipe spoke-sdp force-qinq-vc-forwarding

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 force-qinq-vc-forwarding

17.112 force-qtag-forwarding

force-qtag-forwarding

Syntax

[**no**] **force-qtag-forwarding**

Context

[Tree] (config>service>vpls>pbb force-qtag-forwarding)

Full Context

configure service vpls pbb force-qtag-forwarding

Description

This command forces the addition of a IEEE 802.1q tag after the Customer MAC (C-MAC) addresses when the PBB header is built, as it egresses a related BVPLS.

It is used to preserve the dot1q and DE bits from the customer domain when the service delimiting qtags are stripped when the packet is ingressing a PBB Epipe or an IVPLS. The VLAN value of the service

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delimiting qtag if one exists is used for the corresponding inserted dot1q field. If a service delimiting qtag does not exist, then the value of zero is used for all the inserted qtag bits.

The **no** form of this command sets default behavior.

Default

no force-qtag-forwarding

Platforms

All

force-qtag-forwarding

Syntax

[**no**] **force-qtag-forwarding**

Context

[Tree] (config>service>epipe>pbb force-qtag-forwarding)

Full Context

configure service epipe pbb force-qtag-forwarding

Description

This command forces the addition of a IEEE 802.1q tag after the Customer MAC (C-MAC) addresses when the PBB header is built, as it egresses a related BVPLS.

It is used to preserve the dot1q and DE bits from the customer domain when the service delimiting qtags are stripped when the packet is ingressing a PBB Epipe or an IVPLS. The VLAN value of the service delimiting qtag if one exists is used for the corresponding inserted dot1q field. If a service delimiting qtag does not exist, then the value of zero is used for all the inserted qtag bits.

The **no** form of this command sets default behavior.

Default

no force-qtag-forwarding

Platforms

All

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17.113 force-reference

force-reference

Syntax

force-reference {**ref1** | **ref2** | **bits** | **bitsa** | **bitsb** | **gnss** | **gnssa** | **gnssb** | **ptp** | **synce** | **syncea** | **synceb**}

no force-reference

Context

[Tree] (debug>sync-if-timing force-reference)

Full Context

debug sync-if-timing force-reference

Description

This command forces the system synchronous timing output to use a specific reference.

Note:
The list of available references may vary depending on the platform; all references are not supported on every platform.

Only use this command to test and debug problems. Network synchronization problems may appear if you leave network elements with this manual override setting. After forcing the system timing reference input, clear it using the **no force-reference** command.

This command also clears the Wait-to-Restore state of the reference so that the reference can be selected.

This command can also force the CPM clock to use a specific input reference.

When the command is executed, the CPM clock on the active CPM immediately switches its input reference to that specified by the command. If the specified input is not available (shutdown), or in a disqualified state, the CPM clock shall use the next qualified input reference based on the selection rules.

This command also affects the BITS output port on the active CPM. If the BITS output port selection is set to line-reference and the reference being forced is not the BITS input port, then the system uses the forced reference to generate the signal out the BITS output port. If the BITS output port selection is set to internal-clock, then the system uses the output of the CPM clock to generate the signal for the BITS output port.

On a CPM activity switch, the force command is cleared and normal reference selection is determined.

Debug configurations are not saved between reboots.

Parameters

ref1

Specifies that the clock uses the first timing reference.

ref2

Specifies that the clock uses the second timing reference.

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bits

Specifies that the clock uses the external network interface on the active CPM to be the highest priority input.

bitsa

Specifies that the clock uses the bitsa timing reference, for redundant systems with a BITS port on each CPM.

bitsb

Specifies that the clock uses the bitsb timing reference, for redundant systems with a BITS port on each CPM.

gnss

Specifies that the clock uses the GNSS port as a timing reference. This keyword is supported only on 7750 SR single-slot platforms.

gnssa

Specifies that the clock uses the GNSS port on the CPM in slot A as a timing reference. This keyword is supported only on 7750 SR-2e platforms.

gnssb

Specifies that the clock uses the GNSS port on the CPM in slot B as a timing reference. This keyword is supported only on 7750 SR-2e platforms.

ptp

Specifies that the clock uses the PTP timeReceiver as the timing reference. This keyword is supported on 7450 ESS and 7750 SR platforms.

synce

Specifies that the clock uses the SyncE/1588 timing reference on non-redundant systems.

syncea

Specifies that the clock uses the SyncE/1588 timing reference on CPM A of redundant systems.

synceb

Specifies that the clock uses the SyncE/1588 timing reference on CPM B of redundant systems.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.114 force-renews

force-renews

Syntax

[**no**] **force-renews**

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Context

[Tree] (config>router>dhcp>server force-renews)

[Tree] (config>service>vprn>server force-renews)

Full Context

configure router dhcp local-dhcp-server force-renews

configure service vprn server force-renews

Description

This command enables the sending of sending FORCERENEW messages for DHCP.

The **no** form of this command disables the sending of FORCERENEW messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.115 force-switchover

force-switchover

Syntax

force-switchover [**now**] [**ignore-status**]

Context

[Tree] (admin>redundancy force-switchover)

Full Context

admin redundancy force-switchover

Description

This command forces a switchover to the standby CPM.

Parameters

now

Keyword to force the switchover to the standby CPM immediately.

ignore-status

Keyword to force a switchover despite any diagnostics or conditions on the standby. This is true even if the standby cannot reach the extension CPMs on the extension chassis of a 7950 XRS-40 via its local CPM interconnect ports.

This option is supported on 7950 XRS-20 and 7950 XRS-40 platforms only.

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Platforms

All

17.116 force-unique-ip-addresses

force-unique-ip-addresses

Syntax

[**no**] **force-unique-ip-addresses**

Context

[Tree] (config>router>nat>inside>l2-aware force-unique-ip-addresses)

[Tree] (config>service>vprn>nat>inside>l2-aware force-unique-ip-addresses)

Full Context

configure router nat inside l2-aware force-unique-ip-addresses

configure service vprn nat inside l2-aware force-unique-ip-addresses

Description

This command enforces the uniqueness of IPv4 addresses of L2-aware subscribers in an inside routing context.

This functionality is required if multicast sourced from the inside routing context is enabled for L2-aware subscribers.

The **no** form of this command allows L2-aware subscribers to have overlapping IPv4 addresses.

Default

no force-unique-ip-addresses

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.117 force-vlan-vc-forwarding

force-vlan-vc-forwarding

Syntax

[**no**] **force-vlan-vc-forwarding**

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Context

[Tree] (config>service>vpls>bgp-evpn>srv6 force-vlan-vc-forwarding)

[Tree] (config>service>vpls>bgp-evpn>mpls force-vlan-vc-forwarding)

[Tree] (config>service>epipe>bgp-evpn>srv6 force-vlan-vc-forwarding)

[Tree] (config>service>epipe>bgp-evpn>mpls force-vlan-vc-forwarding)

Full Context

configure service vpls bgp-evpn segment-routing-v6 force-vlan-vc-forwarding

configure service vpls bgp-evpn mpls force-vlan-vc-forwarding

configure service epipe bgp-evpn segment-routing-v6 force-vlan-vc-forwarding

configure service epipe bgp-evpn mpls force-vlan-vc-forwarding

Description

This command enables the system to preserve the VLAN ID and 802.1p bits of the service-delimiting qtag in a new tag, which is sent in the customer frame to the EVPN destinations.

If this configuration is used in conjunction with the **sap ingress vlan-translation** command, the configured translated VLAN ID is the VLAN ID sent to the EVPN destinations, instead of the service-delimiting tag VLAN ID. If the ingress SAP or SDP binding is null-encapsulated, the output VLAN ID and p-bits are zero.

The **no** form of this command does not preserve the VLAN ID and 802.1p bits of the service-delimiting qtag.

Default

no force-vlan-vc-forwarding

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service epipe bgp-evpn segment-routing-v6 force-vlan-vc-forwarding
- configure service vpls bgp-evpn segment-routing-v6 force-vlan-vc-forwarding

All

- configure service vpls bgp-evpn mpls force-vlan-vc-forwarding
- configure service epipe bgp-evpn mpls force-vlan-vc-forwarding

force-vlan-vc-forwarding

Syntax

[**no**] **force-vlan-vc-forwarding**

Context

[Tree] (config>service>vpls>mesh-sdp force-vlan-vc-forwarding)

[Tree] (config>service>epipe>spoke-sdp force-vlan-vc-forwarding)

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[Tree] (config>service>pw-template force-vlan-vc-forwarding)

[Tree] (config>service>vpls>spoke-sdp force-vlan-vc-forwarding)

Full Context

configure service vpls mesh-sdp force-vlan-vc-forwarding

configure service epipe spoke-sdp force-vlan-vc-forwarding

configure service pw-template force-vlan-vc-forwarding

configure service vpls spoke-sdp force-vlan-vc-forwarding

Description

This command forces VLAN VC-type forwarding in the datapath for spoke and mesh SDPs which have either VC-type. This command is not allowed on VLAN VC-type SDPs.

The **no** form of this command reverts to the default behavior.

Default

no force-vlan-vc-forwarding

Platforms

All

17.118 foreign-ip

foreign-ip

Syntax

foreign-ip *ip-address*[*Imask*]

no foreign-ip

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>match foreign-ip)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry match foreign-ip

Description

This command configures the foreign IP address or subnet in the match criterion for this entry. The foreign IP or subnet implies a matching destination IP for upstream traffic and a source IP for downstream traffic.

The **no** form of this command removes the IP address or subnet from the match criterion in the entry.

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Parameters

ip-address/mask

Specifies the IPv4 address and mask.

Values ip-address a.b.c.d

mask 0 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

foreign-ip

Syntax

[**no**] **foreign-ip**

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>include foreign-ip)

Full Context

configure service nat syslog syslog-export-policy include foreign-ip

Description

This command includes the foreign IP address in the flow log. A foreign IP address is the original IP address toward the destination node and in DNAT it is replaced by the destination IP.

If DNAT is not used, the foreign IP address (the IP address of the destination node) is the same on both sides of NAT.

The **no** form of the command disables the feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

foreign-ip

Syntax

foreign-ip *ip-address*

no foreign-ip

Context

[Tree] (config>service>nat>nat-classifier>entry>match foreign-ip)

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Full Context

configure service nat nat-classifier entry match foreign-ip

Description

This command specifies matching on a foreign IP, that is the destination IP address of the NAT inside service before translation.

Default

no foreign-ip

Parameters

ip-address

Specifies the foreign IP address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.119 foreign-port

foreign-port

Syntax

foreign-port *port*

no foreign-port

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>match foreign-port)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry match foreign-port

Description

This command configures the foreign TCP/UDP port to match in this entry of the VAS filter.

The **no** form of this command

Parameters

port

Specifies the foreign IP port to match.

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Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

foreign-port

Syntax

[**no**] **foreign-port**

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>include foreign-port)

Full Context

configure service nat syslog syslog-export-policy include foreign-port

Description

This command includes the foreign port address in the flow log. A foreign port is the port towards the destination node and this port is not translated by any form of NAT.

A foreign port (the port towards the destination node) is the same on both sides of NAT.

The **no** form of the command disables the feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.120 format

format

Syntax

format [*cflash-id*]

Context

[Tree] (file format)

Full Context

file format

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Description

This command formats a storage device with a new file system without erasing the data. The device must be administratively disabled first.

Parameters

cflash-id

Specifies the compact flash slot ID to be formatted. When a specific *cflash-id* is specified, that drive is formatted. If no *cflash-id* is specified, the drive referred to by the current working directory is assumed. If a slot number is not specified, the active CPM is assumed.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

17.121 forward

forward

Syntax

forward

forward sf-ip *ip-address* | *ipv6-address* **svc** *service-id* [**esi** *esi*]

no forward

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action forward)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action forward

Description

This command configures the forward action.

The **no** form of this command removes the parameters from the configuration.

Parameters

ip-address

Specifies forwarding the SF IPv4 address for the action in a VAS filter entry.

ipv6-address

Specifies forwarding the SF IPv6 address for the action in a VAS filter entry.

service-id

Specifies the service ID.

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Values 1 to 2147483647

esi

Specifies the ESI for the action in a VAS filter entry.

Values 10-byte Ethernet Segment Identifier:
00-11-22-33-44-55-66-77-88-99 with any of these separators ('-',':',' ')

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

forward

Syntax

forward

forward bonding-connection *connection-id*

forward gre-tunnel *gre-tunnel-name*

forward lsp *lsp-name*

IPv4: forward mpls-policy *ip-address*

IPv6: forward mpls-policy *ipv6-address*

IPv4: forward next-hop *ip-address*

IPv6: forward next-hop *ipv6-address*

IPv4: forward next-hop *ip-address* **router** *router-instance*

IPv6: forward next-hop *ipv6-address* **router** *router-instance*

IPv4: forward next-hop *ip-address* **router service-name** *service-name*

IPv6: forward next-hop *ipv6-address* **router service-name** *service-name*

IPv4: forward next-hop indirect *ip-address*

IPv6: forward next-hop indirect *ipv6-address*

IPv4: forward next-hop indirect *ip-address* **router** *router-instance*

IPv6: forward next-hop indirect *ipv6-address* **router** *router-instance*

IPv4: forward next-hop indirect *ip-address* **router service-name** *service-name*

IPv6: forward next-hop indirect *ipv6-address* **router service-name** *service-name*

forward redirect-policy *policy-name*

forward router *router-instance*

forward router service-name *service-name*

forward sap *sap-id*

forward sdp *sdp-id:vc-id*

IPv4: forward srte-policy *ip-address* **color** *color-id*

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IPv6: forward srte-policy *ipv6-address* **color** *color-id*

IPv4: forward srv6-policy *ipv6-address* **color** *color-id* **service-sid** *ipv6-address*

IPv6: forward srv6-policy *ipv6-address* **color** *color-id* **service-sid** *ipv6-address*

IPv4: forward vprn-target bgp-nh *ip-address* **router** *router-instance* [**adv-prefix** *ip-address/mask*] [**lsp** *lsp-name*]

IPv6: forward vprn-target bgp-nh *ip-address* **router** *router-instance* [**adv-prefix** *ipv6-address/prefix-length*] [**lsp** *lsp-name*]

IPv4: forward vprn-target bgp-nh *ip-address* **router service-name** *service-name* [**adv-prefix** *ip-address/mask*] [**lsp** *lsp-name*]

IPv6: forward vprn-target bgp-nh *ip-address* **router service-name** *service-name* [**adv-prefix** *ipv6-address/prefix-length*] [**lsp** *lsp-name*]

Context

[Tree] (config>filter>ipv6-filter>entry>action forward)

[Tree] (config>filter>ip-filter>entry>action forward)

Full Context

configure filter ipv6-filter entry action forward

configure filter ip-filter entry action forward

Description

This command sets the context for specific forward commands to be performed.

Parameters

connection-id

Specifies that the packet should be forwarded over the specified connection (specified by the connection ID under the bonding group interface), if that connect is available. Outside of a bonding egress context, the behavior of this filter is undefined.

Values 1, 2

gre-tunnel-name

Specifies the GRE tunnel name up to 32 characters.

lsp

Specifies that the packet matching the entry is forwarded using the specified lsp.

mpls-policy

Specifies the redirection of the traffic to the programed instance of the MPLS FP specified by its endpoint IPv4 or IPv6 address. The behavior results in a simple forward if no policy exists, if no instance is programmed, and if the policy or instance is administratively down.

next-hop

Specifies that the packet matching the entry is forwarded in the routing context of the incoming interface using direct or indirect IPv4 address in the routing lookup.

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next-hop router

Specifies that the packet matching the entry is forwarded in the configured routing context using direct or indirect IPv4 address in the routing lookup.

redirect-policy

Specifies that the packet matching the entry is forwarded using forward next-hop or forward next hop router and the IP address of destination selected by the configured redirect policy. If no destination is selected, packets are subject to action forward.

router

Specifies that the packet matching the entry is routed in the configured routing instance and not in the incoming interface routing instance.

sap

Specifies that the packet matching the entry is forwarded using the configured SAP.

sdp

Specifies that the packet matching the entry is forwarded using the configured SDP.

srte-policy

Specifies the redirection of the traffic to the programed instance of the SR-TE policy specified by its endpoint IPv4 address or IPv6 address and color. The behavior results in a simple forward if no policy exists, if no instance is programmed, and if the policy or instance is administratively down.

color-id

Specifies the color identifier of the specified SR-TE policy.

Values 0 to 4294967295

vprn-target

Specifies that the packet matching the entry is redirected towards a designated BGP next-hop (**bgp-nh**). The user may specify an LSP (**lsp** *lsp-name*) to use towards that next-hop. If no LSP is specified, the system will automatically select one. The user must specify the routing context (**router** {*router-instance* | **service-name** *service-name*}) in which the system will perform the lookups in order to derive the proper VPRN service label. The user may specify an advertised prefix route (**adv-prefix** *ip-address/prefix-length*). This is needed in case label per VRF is not the label allocation method configured at the BGP peer.

ip-address/mask

Specifies an IPv4 advertised route in the CIDR notation. The IPv4 address is in dotted decimal notation.

Values ip-address a.b.c.d (host bits must be 0)

mask: 0 to 32

ipv6-address/prefix-length

Specifies an IPv6 advertised route in the CIDR notation.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d, where "x” is [0..FFFF]H, and "d” is [0..255]

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prefix-length: 0 to 128

bgp-nh ip-address

Specifies the IPv4 address (in dotted decimal notation) of the target BGP next-hop.

Values ip-address d.d.d.d

ipv6-address

Specifies the IPv6 address of a direct or indirect next hop to forward matching packets or of the service SID to use with the SRv6 policy.

interface-name

Specifies the (maximum 32-character) name of an egress R-VPLS IP interface used to forward the packets using ESI redirect for VPRN/IES service.

lsp-name

Specifies an existing RSVP-TE, MPLS-TP, or SR-TE LSP that supports LSP redirect.

policy-name

Specifies an IPv4 redirect policy configured in the config>filter>redirect-policy context.

sap-id

Specifies an existing VPLS Ethernet SAP.

sdp-id:vc-id

Specifies an existing VPLS SDP.

router-instance

Specifies "Base" or an existing VPRN service ID. For the **forward vprn-target bgp-nh** command, *router-instance* must specify an existing VPRN service ID.

service-name

Specifies an existing VPRN service name.

vpls-service-id

Specifies an existing VPLS service ID or service name.

Platforms

All

forward

Syntax

forward

forward sap *sap-id*

forward sdp *sdp-id:vc-id*

Context

[Tree] (config>filter>mac-filter>entry>action forward)

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Full Context

configure filter mac-filter entry action forward

Description

This command sets the context for specific forward commands to be performed.

Parameters

vpls-service-id

Specifies an existing VPLS service ID or service name.

sap

Specifies that the packet matching the entry is forwarded using the configured SAP.

sap-id

Specifies an existing VPLS Ethernet SAP.

sdp

Specifies that the packet matching the entry is forwarded using the configured SDP.

sdp-id:vc-id

Specifies an existing VPLS SDP.

Platforms

All

17.122 forward-6in4

forward-6in4

Syntax

[**no**] **forward-6in4**

Context

[Tree] (config>system>ip forward-6in4)

Full Context

configure system ip forward-6in4

Description

This command enables forwarding of IPv6 traffic encapsulated in an IPv4 transport sent to the system IP address.

The **no** form of this command disables this option and returns the system to the default behavior.

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Default

no forward-6in4

Platforms

All

17.123 forward-delay

forward-delay

Syntax

forward-delay *forward-delay*

no forward-delay [*forward-delay*]

Context

[Tree] (config>service>vpls>stp forward-delay)

[Tree] (config>service>template>vpls-template>stp forward-delay)

Full Context

configure service vpls stp forward-delay

configure service template vpls-template stp forward-delay

Description

RSTP, as defined in the IEEE 802.1D-2004 standards, will normally transition to the forwarding state via a handshaking mechanism (rapid transition), without any waiting times. If handshaking fails (foe example, on shared links, see below), the system falls back to the timer-based mechanism defined in the original STP (802.1D-1998) standard.

A shared link is a link with more than two nodes (for example, a shared 10/100BaseT segment). The port-type command is used to configure a link as point-to-point or shared.

For timer-based transitions, the 802.1D-2004 standard defines an internal variable forward-delay, which is used in calculating the default number of seconds that a SAP or spoke-SDP spends in the discarding and learning states when transitioning to the forwarding state.

The value of the forward-delay variable depends on the STP operating mode of the VPLS instance:

- in rstp or mstp mode, but only when the SAP or spoke-SDP has not fallen back to legacy STP operation, the value configured by the hello-time command is used;
- in all other situations, the value configured by the forward-delay command is used.

Default

forward-delay 15

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Parameters

seconds

The forward delay timer for the STP instance in seconds

Values 4 to 30

Platforms

All

17.124 forward-entries

forward-entries

Syntax

forward-entries

Context

[Tree] (config>subscr-mgmt>http-rdr-plcy forward-entries)

Full Context

configure subscriber-mgmt http-redirect-policy forward-entries

Description

Enters the context to configure entries that need to be forwarded.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.125 forward-ip-over-gre

forward-ip-over-gre

Syntax

[**no**] **forward-ip-over-gre**

Context

[Tree] (config>system>ip forward-ip-over-gre)

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Full Context

configure system ip forward-ip-over-gre

Description

This command enables forwarding of IP traffic encapsulated in a GRE over IPv4 transport sent to the system IP address.

The **no** form of this command disables this option and returns the system to the default behavior.

Default

no forward-ip-over-gre

Platforms

All

17.126 forward-ipv4-multicast-to-ip-int

forward-ipv4-multicast-to-ip-int

Syntax

[**no**] **forward-ipv4-multicast-to-ip-int**

Context

[Tree] (config>service>vpls>allow-ip-int-bind forward-ipv4-multicast-to-ip-int)

Full Context

configure service vpls allow-ip-int-bind forward-ipv4-multicast-to-ip-int

Description

This command enables support for forwarding IPv4 multicast traffic from sources connected to the VPLS service of a routed VPLS to the IP interface of the routed VPLS service. It can only be enabled after the routed VPLS service has been bound to an IP interface.

Default

no forward-ipv4-multicast-to-ip-int

Platforms

All

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17.127 forward-ipv4-packets

forward-ipv4-packets

Syntax

[**no**] **forward-ipv4-packets**

Context

[Tree] (config>service>vprn>if>ipv6 forward-ipv4-packets)

Full Context

configure service vprn interface ipv6 forward-ipv4-packets

Description

This command allows an IPv6-only interface (with no configured IPv4 addresses) to be used for forwarding transit and locally originating and terminating IPv4 packets.

The interface will report that its IPv4 oper-state is up if its IPv6 oper-state is up. Be aware that not all protocols will observe the interface as up from an IPv4 perspective. This command is mostly intended to support BGP routing use cases. Refer to RFC 5549, Advertising IPv4 Network Layer Reachability Information with an IPv6 Next Hop, for further information.

The **no** form of this command restores the default behavior and prevents the interface from forwarding IPv4 packets if it has no configured IPv4 subnets.

Platforms

All

forward-ipv4-packets

Syntax

[**no**] **forward-ipv4-packets**

Context

[Tree] (config>router>if>ipv6 forward-ipv4-packets)

Full Context

configure router interface ipv6 forward-ipv4-packets

Description

This command allows an IPv6-only interface (with no configured IPv4 addresses) to be used for forwarding transit and locally originating and terminating IPv4 packets.

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The interface reports that its IPv4 operational state is up if its IPv6 operational state is up. Be aware that not all protocols observe the interface as up from an IPv4 perspective. This command is mostly intended to support BGP routing use cases. Refer to RFC 5549, Advertising IPv4 Network Layer Reachability Information with an IPv6 Next Hop, for further information.

The **no** form of this command restores the default behavior and prevents the interface from forwarding IPv4 packets if it has no configured IPv4 subnets.

Default

no forward-ipv4-packets

Platforms

All

17.128 forward-ipv6-multicast-to-ip-int

forward-ipv6-multicast-to-ip-int

Syntax

[**no**] **forward-ipv6-multicast-to-ip-int**

Context

[Tree] (config>service>vpls>allow-ip-int-bind forward-ipv6-multicast-to-ip-int)

Full Context

configure service vpls allow-ip-int-bind forward-ipv6-multicast-to-ip-int

Description

This command enables support for forwarding IPv6 multicast traffic from sources connected to the VPLS service of a routed VPLS to the IP interface of the routed VPLS service. It can only be enabled after the routed VPLS service has been bound to an IP interface.

Default

no forward-ipv6-multicast-to-ip-int

Platforms

All

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17.129 forward-path

forward-path

Syntax

[**no**] **forward-path**

Context

[Tree] (config>router>mpls>mpls-tp>transit-path forward-path)

Full Context

configure router mpls mpls-tp transit-path forward-path

Description

This command enables the forward path of an MPLS-TP transit path to be created or edited.

The forward path must be created before the reverse path.

The **no** form of this command removes the forward path. The forward path cannot be removed if a reverse exists.

Default

no forward-path

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.130 forward-when

forward-when

Syntax

forward-when pattern expression *expression* **mask** *mask* **offset-type** *offset-type* **offset-value** *offset-value*

Context

[Tree] (config>filter>ipv6-filter>entry>action forward-when)

[Tree] (config>filter>ip-filter>entry>action forward-when)

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Full Context

configure filter ipv6-filter entry action forward-when

configure filter ip-filter entry action forward-when

Description

This command configures the forward-when action for the traffic that matches this filter entry.

Parameters

pattern

Specifies the traffic that can be forwarded based on a pattern found in the packet header or data payload.

expression

Specifies the hexadecimal pattern to match, up to eight bytes.

Values 0x0000000000000000 to 0xffffffffffffffff

mask

Specifies the mask for the pattern expression, up to eight bytes.

Values 0x0000000000000000 to 0xffffffffffffffff

offset-type

Specifies the starting point reference for the offset-value of this pattern.

Values layer-3, layer-4, data, dns-qtype

offset-value

Specifies the offset value for the pattern expression.

Values 0 to 255

Platforms

All

17.131 forwarding

forwarding

Syntax

forwarding *limit*

no forwarding

Context

[Tree] (config>service>nat>firewall-policy>port-limits forwarding)

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[Tree] (config>service>nat>nat-policy>port-limits forwarding)

Full Context

configure service nat firewall-policy port-limits forwarding

configure service nat nat-policy port-limits forwarding

Description

This command configures the maximum number of port forwarding entries.

Default

no forwarding

Parameters

limit

Specifies the maximum number of port forwarding entries per subscriber.

Values 1 to 64

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy port-limits forwarding

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy port-limits forwarding

forwarding

Syntax

forwarding {**next-hop** *ip-address* | **interface** *interface-name* | **bypass-routing**}

no forwarding

Context

[Tree] (config>oam-pm>session>ip forwarding)

Full Context

configure oam-pm session ip forwarding

Description

This command influences the forwarding decision of the TWAMP Light packet. When this command is used, only one of the forwarding options can be enabled at any time.

The **no** form of this command removes the options and enables the default forwarding logic.

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Parameters

ip-address

Specifies the IP address of the next hop on the path.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

interface-name

Specifies the name, up to 32 characters, to refer to the interface from which the packet is sent. The name must already exist in the **config>router>interface** context or within the appropriate **config>service** context.

bypass-routing

Specifies to send the packet to a host on a directly attached network, bypassing the routing table.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.132 forwarding-bits-set

forwarding-bits-set

Syntax

forwarding-bits-set {**all** | **non-fwd**}

no forwarding-bits-set

Context

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived forwarding-bits-set)

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived forwarding-bits-set)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived forwarding-bits-set)

Full Context

configure service vprn bgp graceful-restart long-lived forwarding-bits-set

configure service vprn bgp group graceful-restart long-lived forwarding-bits-set

configure service vprn bgp group neighbor graceful-restart long-lived forwarding-bits-set

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Description

This command determines the setting of the F bits in the GR and LLGR capabilities advertised by the router. When the F bit is set for an AFI/SAFI, it indicates that the advertising router was able to preserve forwarding state for the routes of that AFI/SAFI across the last restart. If a router restarts and does not set F=1, then when the session with a peer is re-established, the peer immediately deletes all LLGR stale routes it was preserving on behalf of the restarting router for the corresponding AFI/SAFI.

This command allows the F bits for all advertised AFI/SAFI to be set to 1, or only the F bits for non-forwarding AFI/SAFI to be set to 1. Non-forwarding AFI/SAFI are the following configuration-related address families: L2-VPN, route-target, flow-IPv4, and flow-IPv6.

Default

no forwarding-bits-set

Parameters

all

Specifies that the F bit for all AFI/SAFI should be set to 1.

non-fwd

Specifies that the F bit for only non-forwarding AFI/SAFI should be set to 1. These AFI/SAFI correspond to the following families: L2-VPN, route-target, flow-IPv4, and flow-IPv6.

Platforms

All

forwarding-bits-set

Syntax

forwarding-bits-set {**all** | **non-fwd**}

no forwarding-bits-set

Context

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived forwarding-bits-set)

[Tree] (config>router>bgp>group>graceful-restart>long-lived forwarding-bits-set)

[Tree] (config>router>bgp>graceful-restart>long-lived forwarding-bits-set)

Full Context

configure router bgp group neighbor graceful-restart long-lived forwarding-bits-set

configure router bgp group graceful-restart long-lived forwarding-bits-set

configure router bgp graceful-restart long-lived forwarding-bits-set

Description

This command determines the setting of the F bits in the GR and LLGR capabilities advertised by the router. When the F bit is set for an AFI/SAFI, it indicates that the advertising router was able to preserve

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forwarding state for the routes of that AFI/SAFI across the last restart. If a router restarts and does not set F=1, then when the session with a peer re-establishes the peer immediately deletes all LLGR stale routes it was preserving on behalf of the restarting router for the corresponding AFI/SAFI.

This command allows the F bits for all advertised AFI/SAFI to be set to 1, or only the F bits for non-forwarding AFI/SAFI to be set to 1. Non-forwarding AFI/SAFI are the following configuration-related address families: L2-VPN, route-target, flow-IPv4, and flow-IPv6.

Default

no forwarding-bits-set

Parameters

all

Specifies that the F bit for all AFI/SAFI should be set to 1.

non-fwd

Specifies that the F bit for only non-forwarding AFI/SAFI should be set to 1. These AFI/SAFI correspond to the following families: L2-VPN, route-target, flow-IPv4, and flow-IPv6.

Platforms

All

17.133 forwarding-class

forwarding-class

Syntax

forwarding-class {*be* | *l2* | *af* | *l1* | *h2* | *ef* | *h1* | *nc*}

no forwarding-class [{*be* | *l2* | *af* | *l1* | *h2* | *ef* | *h1* | *nc*}]

Context

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel forwarding-class)

[Tree] (config>service>vprn>static-route-entry>next-hop forwarding-class)

[Tree] (config>service>vprn>static-route-entry>indirect forwarding-class)

Full Context

configure service vprn static-route-entry ipsec-tunnel forwarding-class

configure service vprn static-route-entry next-hop forwarding-class

configure service vprn static-route-entry indirect forwarding-class

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Description

This command specifies the enqueuing forwarding class that should be associated with traffic matching the associate static route. If this parameter is not specified, the packet will use the forwarding-class association based on default classification or other QoS Policy associations.

Default

no forwarding-class

Parameters

Forwarding class

The forwarding class must be one of the pre-defined system forwarding classes.

Values be, l2, af, l1, h2, ef, h1, nc

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

forwarding-class

Syntax

forwarding-class {**be** | **l2** | **af** | **l1** | **h2** | **ef** | **h1** | **nc**}

no forwarding-class [{**be** | **l2** | **af** | **l1** | **h2** | **ef** | **h1** | **nc**}]

Context

[Tree] (config>router>static-route-entry>indirect forwarding-class)

[Tree] (config>router>static-route-entry>next-hop forwarding-class)

Full Context

configure router static-route-entry indirect forwarding-class

configure router static-route-entry next-hop forwarding-class

Description

This command specifies the enqueuing forwarding class that should be associated with traffic matching the associate static route. If this parameter is not specified, the packet will use the forwarding-class association based on default classification or other QoS Policy associations.

Default

no forwarding-class

Parameters

be | l2 | af | l1 | h2 | ef | h1 | nc

Specifies the forwarding class.

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Values be, l2, af, l1, h2, ef, h1, nc

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

forwarding-class

Syntax
[**no**] **forwarding-class**

Context
[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr forwarding-class)
[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr forwarding-class)

Full Context
configure log accounting-policy custom-record aa-specific from-aa-sub-counters forwarding-class
configure log accounting-policy custom-record aa-specific to-aa-sub-counters forwarding-class

Description
This command enables the collection of a Forwarding Class bitmap information added to the XML aa-sub and router level accounting records, and only applies to the 7750 SR.

Default
no forwarding-class

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.134 forwarding-policies

forwarding-policies

Syntax
[**no**] **forwarding-policies**

Context
[Tree] (config>router>mpls forwarding-policies)

Full Context
configure router mpls forwarding-policies

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Description

Commands in this context configure an MPLS forwarding policy.

The **no** form of this command deletes all policies from the forwarding policy database.

Platforms

All

17.135 forwarding-policy

forwarding-policy

Syntax

[**no**] **forwarding-policy** *name*

Context

[Tree] (config>router>mpls>fwd-policies forwarding-policy)

Full Context

configure router mpls forwarding-policies forwarding-policy

Description

This command creates an MPLS forwarding policy.

There are two types of MPLS forwarding policy:

- endpoint policy
- label-binding policy

The endpoint policy allows the user to forward unlabeled packets over a set of user-defined direct (with option to push a label stack) or indirect next hops. Routes are bound to an endpoint policy when their next hop matches the endpoint address of the policy.

The label-binding policy provides the same capability for labeled packets. In this case, labeled packets matching the ILM of the policy binding label are forwarded over the set of next hops of the policy.

The data model of a forwarding policy represents each pair of {primary next hop, backup next hop} as a group and models the ECMP set as the set of Next-Hop Groups (NHGs). Flows of prefixes can be switched on a per-NHG basis from the primary next hop, when it fails, to the backup next hop without disturbing the flows forwarded over the other NHGs of the policy. The same can be performed when reverting back from a backup next hop to the restored primary next hop of the same NHG.

The MPLS forwarding policy supports two types of NHGs on a per policy basis:

- An NHG of resolution type indirect supported with the label-binding policy and in which forwarding over the primary/backup next hop is modeled as a swap operation from the binding label to an implicit-null label over multiple outgoing interfaces (multiple NHLFEs) corresponding to the resolved next hops of the indirect route.

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Within a given NHG, the primary next hop is the preferred active path in the absence of any failure of the NHG of resolution type indirect.

The forwarding database tracks the primary or backup next hop in the routing table. A **route delete** of the primary indirect next hop causes the CPM to program the backup indirect next hop in the data path.

A **route modify** to the indirect primary or backup next hop causes the CPM to update the resolved next hops and to update the data path if it is the active indirect next hop.

When the primary indirect next hop is restored and is added back into the routing table, CPM waits for an amount of time equal to the user-programmed revert timer before updating the data path. However, if the backup indirect next hop fails while the timer is running, CPM updates the data path immediately.

- An NHG of resolution type direct is modeled as follows:
  - For a label-binding policy, forwarding over the primary or backup next hop is modeled as a swap operation from the binding label to the configured label stack or to an implicit-null label (if the **pushed-labels** command not configured) over a single outgoing interface to the next hop.
  - For an endpoint policy, forwarding over the primary or backup next hop is modeled as a push operation from the binding label to the configured label stack or to an implicit-null label (if the **pushed-labels** command not configured) over a single outgoing interface to the next hop.
  - The labels configured by the **pushed-labels** command are not validated.

  Within a given NHG, the primary next hop is the preferred active path in the absence of any failure of the NHG of resolution type direct.

  The NHG supports uniform failover. The forwarding policy database assigns a Protect-Group ID (PG-ID) to each of the primary next hop and the backup next hop and programs both of them in data path. A failure of the active path switches traffic to the other path following the uniform failover procedures.

  The forwarding database tracks the primary or backup next hop in the routing table. A **route delete** of the primary/backup direct next hop causes CPM to send the corresponding PG-ID switch to the data path.

  A **route modify** to the direct primary or backup next hop causes CPM to update the MPLS forwarding database and to update the data path since both next hops are programmed.

  When the primary direct next hop is restored and is added back into the routing table, CPM waits for an amount of time equal to the user programmed revert timer before activating it and updating the data path. However, if the backup direct next hop fails while the timer is running, CPM activates it and updates the data path immediately. The latter failover to the restored primary next hop is performed using the uniform failover procedure.

The forwarding policy database activates the best endpoint policy among the named policies sharing the same value of the endpoint parameter by selecting the lowest preference value policy. This policy is then programmed into the TTM and into the tunnel table in data path. If this policy goes down, then the forwarding policy database performs a re-evaluation and activates the named policy with the next lowest preference value for the same endpoint value. If a more preferred policy comes back up, the forwarding policy database reverts to it and activates it.

The forwarding policy database similarly activates the best label-binding policy among the named policies sharing the same binding label by selecting the lowest preference value policy. This policy is then programmed into the label FIB table in data path. If this policy goes down, then the forwarding policy database performs a re-evaluation and activates the names policy with the next lowest preference value for the same binding label value. If a more preferred policy comes back up, the forwarding policy database reverts to it and activates it.

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Ingress statistics can be enabled as is associated with binding label, that is the ILM of the forwarding policy, and provides aggregate packet and byte counters for packets matching the binding label.

The **no** form of the command deletes the named MPLS forwarding policy.

Parameters

name

Specifies the name of the MPLS forwarding policy, up to 64 characters.

Platforms

All

17.136 forwarding-set

forwarding-set

Syntax

forwarding-set policy *policy-name* **set** *set-id*

no forwarding-set

Context

[Tree] (config>router>mpls>lsp-template>class-forwarding forwarding-set)

[Tree] (config>router>mpls>lsp>class-forwarding forwarding-set)

Full Context

configure router mpls lsp-template class-forwarding forwarding-set

configure router mpls lsp class-forwarding forwarding-set

Description

This command configures the mapping of a class-forwarding policy and forwarding set ID to an LSP (RSVP-TE or SR-TE) or an LSP template.

An MPLS LSP can only map to one single class forwarding policy and forwarding set. Multiple LSPs can map to the same policy and set. If the LSPs form part of an ECMP set of next-hops for an IPv4 or IPv6 prefix resolved to IGP shortcuts, the prefix packets with a matching FC are mapped to this set and are sprayed over these LSPs. This behavior is based on a modulo operation of the output of the hash routine on the packet's headers and the number of LSPs in the set.

Parameters

policy-name

Specifies the name of the class forwarding policy, to a maximum of 32 characters.

set-id

Specifies the class forwarding set.

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Values 1 to 4 (in system profile None/A)
1 to 6 (in system profile B)

Platforms
All

17.137 forwarding-tree-topology

forwarding-tree-topology

Syntax
forwarding-tree-topology unicast [**st** | **spf**]

Context
[Tree] (config>service>vpls>spb>level forwarding-tree-topology)

Full Context
configure service vpls spb level forwarding-tree-topology

Description
This command sets the unicast forwarding to follow the shortest path tree defined by the ECT algorithm shortest path forwarding (spf) or to follow a single tree. (st). Shortest path trees make use of more link resources.

Multicast traffic is defaulted to follow the single tree topology. A single tree unicast would make Multicast and unicast follow the same path.

Default
forwarding-tree-topology unicast spf

Parameters
spf
Follows the shortest path tree.

st
Follows a single tree.

Platforms
All

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17.138 fp

fp

Syntax

fp [*fp-number*]

Context

[Tree] (config>card fp)

Full Context

configure card fp

Description

This command enables access to the configuration of the forwarding planes on a card.

The default forwarding plane is 1. When entering the FP node, if the forwarding plane number is omitted, the system will assume forwarding plane number 1.

Commands can only be configured under **card>fp** if the hardware that the FP resides on (either a card or an XMA) is provisioned. Conversely, all commands under **card>fp** of the corresponding FPs are automatically removed when that hardware is unprovisioned.

Parameters

fp-number

Specifies that the FP number parameter is optional following the **fp** command.

Values 1 to 8

Default fp 1

Platforms

All

17.139 fp-redirect-group

fp-redirect-group

Syntax

fp-redirect-group *policer-type policer-id*

no fp-redirect-group *policer-type*

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Context

[Tree] (config>qos>network>ingress>fc fp-redirect-group)

Full Context

configure qos network ingress fc fp-redirect-group

Description

This command is used to redirect the FC of a broadcast packet received in a VPLS service over a PW or network IP interface to an ingress forwarding plane queue-group.

It defines the mapping of an FC to a policer-id and redirects the lookup of the policer of the same ID in some ingress forwarding plane queue-group instance. However, the queue-group name and instance are explicitly provided only at the time the network QoS policy is applied to the ingress context of a spoke or mesh SDP or a network IP interface.

The broadcast-policer statement is ignored when the network QoS policy is applied to any object other than a VPLS spoke or mesh SDP or a network IP interface.

The **no** form of this command removes the redirection of the FC.

Parameters

policer-type

The policer type to be used. The *policer-type* is ignored when the network QoS policy is applied to any object other than a VPLS spoke or mesh SDP or a network IP interface.

Values broadcast-policer | mcast-policer | policer | unknown-policer

policer-id

The specified *policer-id* must exist within the queue-group template applied to the ingress context of the forwarding plane.

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

17.140 fp-resource-policy

fp-resource-policy

Syntax

fp-resource-policy *name*

no fp-resource-policy

Context

[Tree] (config>card>fp fp-resource-policy)

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Full Context

configure card fp fp-resource-policy

Description

This command configures the FP resource policy for the specified FP.

If the allocation configured within the FP resources policy is not achievable with the current ingress or egress queue consumption, the command fails. The configuration within the newly applied FP resource policy takes effect on the FP on which the FP resources policy is applied, and that includes removing an applied user created FP resource policy to return to the default policy, and causes the router to immediately reset the associated cards, XIOMs, and MDAs, except on the 7750 SR-1 where the configuration must be saved, and the router rebooted, immediately after committing the configuration transaction.

The **no** form of this command reverts to the default value by applying the default **fp-resource-policy** to the FP.

Default

no fp-resource-policy

Parameters

name

Specifies the FP resource policy name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

fp-resource-policy

Syntax

fp-resource-policy *policy-name* [**create**]

no fp-resource-policy *policy-name*

Context

[Tree] (config>qos fp-resource-policy)

Full Context

configure qos fp-resource-policy

Description

This command configures an FP resource policy that is used to manage resources on an FP4 forwarding plane.

A default policy is created by the system and applied to all FP4 FPs by default. If an FP resource policy is removed from an FP, the system automatically applies the default policy to that FP. The system prevents the modification or deletion of the default policy, and the deletion of any user created policy that is applied to an FP. The system supports a maximum of 15 FP resource policies.

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The **no** form of this command deletes the FP resources policy from the system.

Parameters

policy-name

Specifies the FP resource policy, up to 64 characters.

create

Creates the FP resource policy entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

17.141 fpe

fpe

Syntax

fpe *fpe-id* [**create**]

no fpe *fpe-id*

Context

[Tree] (config>fwd-path-ext fpe)

Full Context

configure fwd-path-ext fpe

Description

This command configures an FPE object which associates the application with a PXC (paired set of PXC sub-ports or a paired set of PXC based LAGs).

The **no** form of this command disables the FPE object association.

Parameters

fpe-id

Specifies the FPE ID.

Values 1 to 64

create

Keyword used to associate the queue group. The create keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

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fpe

Syntax

fpe *fpe-id*

no fpe

Context

[Tree] (conf>service>nat>map-domain fpe)

Full Context

configure service nat map-domain fpe

Description

This command configures the association between the FPE and the domain.

The **no** form of this command disables the FPE object association.

Parameters

fpe-id

Specifies the FPE ID.

Values 1 to 64

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

fpe

Syntax

fpe *fpe-id*

no fpe

Context

[Tree] (config>service>vprn>mvpn>pt>selective>umh-rm>group>source fpe)

[Tree] (config>service>vprn>mvpn>pt>inclusive>umh-rate-monitoring fpe)

Full Context

configure service vprn mvpn provider-tunnel selective umh-rate-monitoring group source fpe

configure service vprn mvpn provider-tunnel inclusive umh-rate-monitoring fpe

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Description

This command specifies an FPE to use for the LAG interface of two monitoring IOMs for redundancy. A PXC port can be created on each IOM and added as a member to a per-link hashing LAG bundle. The FPE is used to create the interface on the LAG bundle with its own Martian IP address. On ingress to the Upstream Multicast Hop (UMH) IOMs, the P-Multicast Service Interfaces (PMSIs) traffic is forwarded to the active LAG IOM and, if there is a failure on the active LAG IOM, the PMSIs traffic is forwarded to the standby IOM.

The **no** form of this command removes the FPE association for the LAG interface.

Parameters

fpe-id

Specifies the FPE ID.

Values 1 to 64

Platforms

All

fpe

Syntax

fpe *fpe-id*

no fpe

Context

[Tree] (config>router>l2tp>lac-frag fpe)

[Tree] (config>service>vprn>l2tp>lac-frag fpe)

Full Context

configure router l2tp lac-fragmentation fpe

configure service vprn l2tp lac-fragmentation fpe

Description

This command configures the association between the FPE and the data endpoints.

The **no** form of this command disables the FPE association.

Parameters

fpe-id

Specifies the FPE ID.

Values 1 to 64

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.142 fqdn

fqdn

Syntax

fqdn *fully-qualified-domain-name*

no fqdn

Context

[Tree] (config>app-assure>group>url-filter>web-service fqdn)

Full Context

configure application-assurance group url-filter web-service fqdn

Description

This command configures the host name of the web-service.

The **no** form of this command removes the host name configuration.

Default

no fqdn

Parameters

fully-qualified-domain-name

Specifies the host name of the web service, up to 255 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.143 frag-required

frag-required

Syntax

[**no**] **frag-required**

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Context

[Tree] (config>router>if>ipsec>ipsec-tunnel>icmp-generation frag-required)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>icmp-generation frag-required)

[Tree] (config>service>ies>if>sap>ip-tunnel>icmp-generation frag-required)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>icmp-generation frag-required)

[Tree] (config>service>vprn>if>sap>ip-tunnel>icmp-generation frag-required)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>icmp-generation frag-required)

[Tree] (config>ipsec>tnl-temp>icmp-generation frag-required)

Full Context

configure router interface ipsec ipsec-tunnel icmp-generation frag-required

configure service vprn interface sap ipsec-tunnel icmp-generation frag-required

configure service ies interface sap ip-tunnel icmp-generation frag-required

configure service ies interface ipsec ipsec-tunnel icmp-generation frag-required

configure service vprn interface sap ip-tunnel icmp-generation frag-required

configure service vprn interface ipsec ipsec-tunnel icmp-generation frag-required

configure ipsec tunnel-template icmp-generation frag-required

Description

Commands in this context configure ICMP Fragmentation Required parameters.

The **no** form of this command disables sending the ICMP messages.

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel icmp-generation frag-required
- configure router interface ipsec ipsec-tunnel icmp-generation frag-required
- configure service vprn interface ipsec ipsec-tunnel icmp-generation frag-required

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ip-tunnel icmp-generation frag-required
- configure ipsec tunnel-template icmp-generation frag-required
- configure service vprn interface sap ipsec-tunnel icmp-generation frag-required
- configure service ies interface sap ip-tunnel icmp-generation frag-required

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17.144 fragment

fragment

Syntax

fragment {**true** | **false**}

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match fragment)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match fragment)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match fragment

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match fragment

Description

This command configures the fragmentation match condition.

The **no** form of this command reverts to the default.

Parameters

true

Enables fragmentation matching.

false

Disables fragmentation matching.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

fragment

Syntax

fragment {**true** | **false**}

no fragment

Context

[Tree] (config>li>li-filter>li-ip-filter>entry>match fragment)

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Full Context

configure li li-filter li-ip-filter entry match fragment

Description

This command specifies match criterion for fragmented packets.

The **no** form of this command removes the match criterion.

Default

no fragment

Parameters

true

Specifies to match on all fragmented IP packets.

false

Specifies to match on all non-fragmented IP packets.

Platforms

All

fragment

Syntax

fragment {**true** | **false**}

no fragment

Context

[Tree] (config>qos>sap-egress>ip-criteria>entry>match fragment)

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match fragment)

Full Context

configure qos sap-egress ip-criteria entry match fragment

configure qos sap-ingress ip-criteria entry match fragment

Description

This command configures fragmented or non-fragmented IP packets as a SAP QoS policy match criterion.

The **no** form of this command removes the match criterion and matches all packets regardless of whether they are fragmented or not.

Default

no fragment

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Parameters

true

Configures a match on all fragmented IP packets. A match will occur for all packets that have either the MF (more fragment) bit set or have the Fragment Offset field of the IP header set to a non-zero value.

false

Configures a match on all non-fragmented IP packets. Non-fragmented IP packets are packets that have the MF bit set to zero and have the Fragment Offset field also set to zero.

Platforms

All

fragment

Syntax

fragment {**true** | **false** | **first-only** | **non-first-only**}

no fragment

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match fragment)

Full Context

configure qos sap-ingress ipv6-criteria entry match fragment

Description

This command configures fragmented or non-fragmented IPv6 packets as a SAP ingress QoS policy match criterion.

The **no** form of this command removes the match criterion and matches all packets regardless of whether they are fragmented or not.

Default

no fragment

Parameters

true

Specifies to match on all fragmented IPv6 packets. A match will occur for all packets that contain an IPv6 Fragmentation Extension Header.

false

Specifies to match on all non-fragmented IP packets. Non-fragmented IPv6 packets are packets that do not contain an IPv6 Fragmentation Extension Header.

first-only

Matches if a packet is an initial fragment of the fragmented IPv6 packet.

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non-first-only

Matches if a packet is a non-initial fragment of the fragmented IPv6 packet.

Platforms

All

fragment

Syntax

fragment {**true** | **false**}

no fragment

Context

[Tree] (config>qos>network>egress>ip-criteria>entry>match fragment)

[Tree] (config>qos>network>ingress>ip-criteria>entry>match fragment)

Full Context

configure qos network egress ip-criteria entry match fragment

configure qos network ingress ip-criteria entry match fragment

Description

This command configures fragmented or non-fragmented IP packets as a network QoS policy match criterion.

The **no** form of this command removes the match criterion and matches all packets regardless of whether they are fragmented or not.

Parameters

true

Configures a match on all fragmented IP packets. A match will occur for all packets that have either the MF (more fragment) bit set or have the Fragment Offset field of the IP header set to a non-zero value.

false

Configures a match on all non-fragmented IP packets. Non-fragmented IP packets are packets that have the MF bit set to zero and have the Fragment Offset field also set to zero.

Platforms

All

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fragment

Syntax

fragment {**true** | **false** | **first-only** | **non-first-only**}

no fragment

Context

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match fragment)

[Tree] (config>qos>network>ingress>ipv6-criteria>entry>match fragment)

Full Context

configure qos network egress ipv6-criteria entry match fragment

configure qos network ingress ipv6-criteria entry match fragment

Description

This command configures fragmented or non-fragmented IPv6 packets as a network QoS policy match criterion.

The **no** form of this command removes the match criterion and matches all packets regardless of whether they are fragmented or not.

Parameters

true

Specifies to match on all fragmented IPv6 packets. A match will occur for all packets that contain an IPv6 Fragmentation Extension Header.

false

Specifies to match on all non-fragmented IP packets. Non-fragmented IPv6 packets are packets that do not contain an IPv6 Fragmentation Extension Header.

first-only

Matches if a packet is an initial fragment of the fragmented IPv6 packet.

non-first-only

Matches if a packet is a non-initial fragment of the fragmented IPv6 packet.

Platforms

All

fragment

Syntax

fragment {**true** | **false** | **first-only** | **non-first-only**}

no fragment

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Context

[Tree] (config>filter>ipv6-filter>entry>match fragment)

[Tree] (config>filter>ip-filter>entry>match fragment)

Full Context

configure filter ipv6-filter entry match fragment

configure filter ip-filter entry match fragment

Description

This command specifies match criterion for fragmented packets.

Matches can be based on the presence of a fragmented packet (or otherwise) on the ingress or egress interface.

Matches can also be based on the presence of the first fragment of a packet, or on the presence of a fragment that is not the first fragment on the ingress interface.

The **no** form of the command removes the match criterion.

Default

no fragment

Parameters

true

Specifies to match on all fragmented packets.

false

Specifies to match on all non-fragmented packets.

first-only

Matches if a packet is an initial fragment of a fragmented packet.

non-first-only

Matches if a packet is a non-initial fragment of a fragmented packet.

Platforms

All

fragment

Syntax

fragment {**true** | **false**}

no fragment

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match fragment)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match fragment)

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Full Context

configure system security cpm-filter ipv6-filter entry match fragment

configure system security cpm-filter ip-filter entry match fragment

Description

This command specifies fragmented or non-fragmented IP packets as an IP filter match criterion.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

This command enables match on existence of IPv6 Fragmentation Extension Header in the IPv6 filter policy. To match first fragment of an IP fragmented packet, specify additional Layer 4 matching criteria in a filter policy entry. The **no** version of this command ignores IPv6 Fragmentation Extension Header presence/absence in a packet when evaluating match criteria of a given filter policy entry.

The **no** form of this command removes the match criterion.

This command enables match on existence of IPv6 Fragmentation Extension Header in the IPv6 filter policy. To match first fragment of an IP fragmented packet, specify additional Layer 4 matching criteria in a filter policy entry. The **no** version of this command ignores IPv6 Fragmentation Extension Header presence/absence in a packet when evaluating match criteria of a given filter policy entry.

Default

no fragment

Parameters

true

Specifies to match on all fragmented IP packets. A match will occur for all packets that have either the MF (more fragment) bit set or have the Fragment Offset field of the IP header set to a non-zero value. For IPv6, packet matches if it contains IPv6 Fragmentation Extension Header.

false

Specifies to match on all non-fragmented IP packets. Non-fragmented IP packets are packets that have the MF bit set to zero and have the Fragment Offset field also set to zero. For IPv6, packet matches if it does not contain IPv6 Fragmentation Extension Header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.145 fragment-drop

fragment-drop

Syntax

fragment-drop {**all** | **out-of-order**} [**event-log** *event-log-name*]

no fragment-drop

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action fragment-drop)

Full Context

configure application-assurance group policy app-qos-policy entry action fragment-drop

Description

This command specifies the action to apply to fragments.

Default

no fragment-drop

Parameters

all

All the fragments will be dropped.

out-of-order

All out of order fragments will be dropped.

event-log-name

Specifies if the dropping of fragments should be logged to the specified event log name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.146 fragment-drop-all

fragment-drop-all

Syntax

fragment-drop-all *direction* [**create**]

no fragment-drop-all *direction*

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Context

[Tree] (config>app-assure>group>statistics>tca fragment-drop-all)

Full Context

configure application-assurance group statistics threshold-crossing-alert fragment-drop-all

Description

This command configures a TCA for the counter capturing drops due to the fragment-drop- all AQP command. A fragment-drop-all TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a fragment-drop-all TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.147 fragment-drop-out-of-order

fragment-drop-out-of-order

Syntax

fragment-drop-out-of-order *direction* [**create**]

no fragment-drop-out-of-order *direction*

Context

[Tree] (config>app-assure>group>statistics>tca fragment-drop-out-of-order)

Full Context

configure application-assurance group statistics threshold-crossing-alert fragment-drop-out-of-order

Description

This command configures a TCA for the counter capturing drops due to the fragment-drop- out-of-order AQP command. A fragment-drop-out-of-order TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a fragment-drop-out-of-order TCA.

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Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.148 fragments-per-packet

fragments-per-packet

Syntax

fragments-per-packet *number*

no fragments-per-packet

Context

[Tree] (config>isa>map-t-group fragments-per-packet)

Full Context

configure isa map-t-group fragments-per-packet

Description

This command configures the maximum number of fragments per packet in the downstream direction for non-resolved packets. If the number of fragments for non-resolved packets (packets for which the first fragment has not been received) exceeds this number, all the fragments from the packet are discarded, and the buffer is released.

The **no** form of this command reverts to the default.

Default

fragments-per-packet 5

Parameters

number

Specifies the maximum number of fragments per packet in the downstream direction.

Values 1 to 20

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Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

17.149 frame-based-accounting

frame-based-accounting

Syntax

[**no**] **frame-based-accounting**

Context

[Tree] (config>qos>scheduler-policy frame-based-accounting)

Full Context

configure qos scheduler-policy frame-based-accounting

Description

The frame-based-accounting command is used to enable frame-based accounting for both the children queues parented to the scheduling policy and for the schedulers within the scheduler policy.

When frame-based accounting is enabled on the policy, all queues associated with the scheduler (through the parent command on each queue) will have their rate and CIR values interpreted as frame-based values. When shaping, the queues will include the 12-byte Inter-Frame Gap (IFG) and 8 byte preamble for each packet scheduled out the queue. The profiling CIR threshold will also include the 20-byte frame encapsulation overhead. Statistics associated with the queue do not include the frame encapsulation overhead.

The scheduler policy's scheduler rate and CIR values will be interpreted as frame-based values.

The configuration of **parent-location** and **frame-based-accounting** in a scheduler policy is mutually exclusive to ensure consistency between the different scheduling levels. Packet byte offset settings are not included in the applied rate when frame-based accounting is configured; however, the offsets are applied to the statistics.

The **no** form of this command is used to return all schedulers within the policy and queues associated with the policy to the default packet-based accounting mode. If **frame-based-accounting** is not currently enabled for the scheduling policy, the **no frame-based-accounting** command has no effect.

Platforms

All

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17.150 frame-counters

frame-counters

Syntax

[**no**] **frame-counters**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes frame-counters)

Full Context

configure aaa isa-radius-policy acct-include-attributes frame-counters

Description

This command includes the frame-counters attribute.

The **no** form of the command excludes frame-counters attribute.

Default

no frame-counters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.151 frame-mix

frame-mix

Syntax

frame-mix

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream frame-mix)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-mix

Description

Commands in this context configure frame mixing for the specified service stream by referencing the **frame-size-template**.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

17.152 frame-payload

frame-payload

Syntax

frame-payload

Context

[Tree] (config>test-oam>service-activation-testhead>service-test>service-stream frame-payload)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload

Description

Commands in this context configure packet header information used in frames generated by the testhead function.

Only the specified header information is included in the frame. At a minimum, the user must configure the Ethernet destination MAC address and ETH-CFM information to include in the frame payload configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

17.153 frame-size-template

frame-size-template

Syntax

frame-size-template *frame-size-tmpl-name* [**create**]

no frame-size-template *frame-size-tmpl-name*

Context

[Tree] (config>test-oam>sath frame-size-template)

Full Context

configure test-oam service-activation-testhead frame-size-template

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Description

This command creates a template to configure frames of different sizes for use with a test stream configured under the **config**>**test-oam**>**service-activation- testhead**>**service-test** context. The ITU-T Y.1564 methodology designates the letters "a" to "h" for a default frame size. The default frame size can be overwritten.

The **no** form of this command deletes the configured frame size template.

Default

frame-size-template default

Parameters

frame-size-tmpl-name

Specifies the template name, up to 64 characters, for a test flow with a specific frame mix.

create

Mandatory keyword to create the frame size template.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

frame-size-template

Syntax

frame-size-template *frame-size-tmpl-name*

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-mix frame-size-template)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-mix frame-size-template

Description

This command configures the frame size template for the specified service stream.

The user can assign the default *frame-size-tmpl-name* "default" to remove the existing template in a service stream.

Default

frame-size-template default

Parameters

frame-size-tmpl-name

Specifies the name, up to 64 characters, for the frame size template.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

17.154 framed-interface-id

framed-interface-id

Syntax

[**no**] **framed-interface-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute framed-interface-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute framed-interface-id

Description

This command enables the generation of the **framed-interface-id** RADIUS attribute.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.155 framed-ip-addr

framed-ip-addr

Syntax

[**no**] **framed-ip-addr**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute framed-ip-addr)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute framed-ip-addr

Description

This command enables the inclusion of the **framed-ip-addr** attribute.

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The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

framed-ip-addr

Syntax

[**no**] **framed-ip-addr**

Context

[Tree] (config>ipsec>rad-acct-plcy>include framed-ip-addr)

Full Context

configure ipsec radius-accounting-policy include-radius-attribute framed-ip-addr

Description

This command enables the inclusion of the **framed-ip-addr** attribute.

Default

no framed-ip-addr

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

framed-ip-addr

Syntax

[**no**] **framed-ip-addr**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes framed-ip-addr)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes framed-ip-addr)

Full Context

configure aaa isa-radius-policy auth-include-attributes framed-ip-addr

configure aaa isa-radius-policy acct-include-attributes framed-ip-addr

Description

This command enables the inclusion of the framed-ip-addr attribute.

The **no** form of the command excludes called framed-ip-addr attributes.

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Default

no framed-ip-addr

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.156 framed-ip-netmask

framed-ip-netmask

Syntax

[**no**] **framed-ip-netmask**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute framed-ip-netmask)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute framed-ip-netmask

Description

This command enables the inclusion of the **framed-ip-netmask** attribute.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

framed-ip-netmask

Syntax

[**no**] **framed-ip-netmask**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes framed-ip-netmask)

Full Context

configure aaa isa-radius-policy acct-include-attributes framed-ip-netmask

Description

This command enables the inclusion of the framed-ip-netmask attribute.

The **no** form of the command disables the inclusion.

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Default

no framed-ip-netmask

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.157 framed-ipv6-prefix

framed-ipv6-prefix

Syntax

[**no**] **framed-ipv6-prefix**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute framed-ipv6-prefix)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute framed-ipv6-prefix

Description

This command enables the generation of the **framed-ipv6-prefix** RADIUS attribute.

The **no** form of this command disables the generation of the **framed-ipv6-prefix** RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

framed-ipv6-prefix

Syntax

[**no**] **framed-ipv6-prefix**

Context

[Tree] (config>ipsec>rad-acct-plcy>include framed-ipv6-prefix)

Full Context

configure ipsec radius-accounting-policy include-radius-attribute framed-ipv6-prefix

Description

This command enables the inclusion of the **framed-ipv6-prefix** attribute.

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Default

no framed-ipv6-prefix

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

framed-ipv6-prefix

Syntax

[**no**] **framed-ipv6-prefix**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes framed-ipv6-prefix)

Full Context

configure aaa isa-radius-policy acct-include-attributes framed-ipv6-prefix

Description

If an active SLAAC lease exists, this attribute defines if the SLAAC prefix of the UE is present in accounting.

Default

no framed-ipv6-prefix

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.158 framed-ipv6-route

framed-ipv6-route

Syntax

[**no**] **framed-ipv6-route**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute framed-ipv6-route)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute framed-ipv6-route

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Description

When enabled, all valid [99] Framed-IPv6-Route attributes as received in the RADIUS authentication phase and associated with an instantiated IPv6 wan host is included in the RADIUS accounting request messages. The state of the Framed-IPv6-Route (installed, shadowed, hostInactive, and so on) is not considered for reporting in the accounting request messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.159 framed-route

framed-route

Syntax

[**no**] **framed-route**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute framed-route)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute framed-route

Description

When enabled, all valid [22] Framed-Route attributes as received in the RADIUS authentication phase and associated with an instantiated IPv4 host is included in the RADIUS accounting request messages. The state of the Framed-Route (installed, shadowed, hostInactive, and so on) is not considered for reporting in the accounting request messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

17.160 framing

framing

Syntax

framing {**c-bit** | **m23** | **unframed-ds3**}

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Context

[Tree] (config>port>tdm>ds3 framing)

Full Context

configure port tdm ds3 framing

Description

This command specifies DS-3 framing for the associated DS-3 port or channel.

Default

framing c-bit

Parameters

c-bit

Configures the DS-3 port/channels for C-Bit framing.

m23

Configures the DS-3 port/channel for M23 framing.

unframed-ds3

Specifies ds-3 unframed mode for DS-3 interfaces. This parameter allows the configuration of an unstructured DS-3 channel on a CES MDA.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

framing

Syntax

framing {**g751** | **g832** | **unframed-e3**}

Context

[Tree] (config>port>tdm>e3 framing)

Full Context

configure port tdm e3 framing

Description

This command specifies E-3 framing for the associated E-3 port or channel.

Default

for E-3 non-ATM: framing g751 and cannot be changed. for E-3 ATM: framing g832 and cannot be changed.

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Parameters

g751

Configures the E-3 port/channel for g751 framing.

g832

Configures the E-3 port/channel for g832 framing.

unframed-e3

Specifies e-3 unframed mode for E-3 interfaces. This parameter allows the configuration of an unstructured E-3 channel on a CES MDA.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

17.161 frequency

frequency

Syntax

frequency *frequency*

no frequency

Context

[Tree] (config>port>dwdm frequency)

Full Context

configure port dwdm frequency

Description

This command configures the center frequency to use for a tunable DWDM optical interface. It replaces the **configure**>**port**>**dwdm**>**channel** command (used prior to Release 22.2.R1). The **frequency** command supports any frequency in the C band, but the actual operating frequency is dependent on the installed optic module.

Provisioning rules

The provisioned MDA type must have DWDM tunable optics (for example, p1-100g-tun-b) or the MDA must support the option of tunable DWDM optic modules. The following provisioning rules apply:

- The DWDM frequency must set to a non-zero value before the port is set to **no shutdown**.
- The port must be **shutdown** before changing the DWDM frequency.
- The port must be a physical port to set the DWDM frequency.

Default

frequency 0

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Parameters

frequency

Specifies the frequency in MHz.

Values 0, 191100000 to 196150000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

17.162 from

from

Syntax

from [**main**] [**security**] [**change**] [**debug-trace**]

no from

Context

[Tree] (config>service>vprn>log>log-id from)

Full Context

configure service vprn log log-id from

Description

This command selects the source stream to be sent to a log destination.

One or more source streams must be specified. The source of the data stream must be identified using the **from** command before you can configure the destination using the **to** command. The **from** command can identify multiple source streams in a single statement (for example: **from main change debug-trace**).

Only one **from** command may be entered for a single *log-id*. If multiple **from** commands are configured, then the last command entered overwrites the previous **from** command.

The **no** form of this command removes all previously configured source streams.

Default

No source stream is configured.

Parameters

main

Instructs all events in the main event stream to be sent to the destination defined in the **to** command for this destination *log-id*. The main event stream contains the events that are not explicitly directed to any other event stream. To limit the events forwarded to the destination, configure filters using the **filter** command.

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security

Instructs all events in the security event stream to be sent to the destination defined in the **to** command for this destination *log-id*. The security event stream contains all events that pertain to attempts to breach system security. To limit the events forwarded to the destination, configure filters using the **filter** command.

change

Instructs all events in the user activity stream to be sent to the destination configured in the **to** command for this destination *log-id*. The change event stream contains all events that directly affect the configuration or operation of this node. To limit the events forwarded to the change stream destination, configure filters using the filter command.

debug-trace

Instructs all events in the debug-trace event stream to be sent to the destination defined in the **to** command for this destination *log-id*. The debug-trace event stream contains all events that pertain to trace or other debugging information. To limit the events forwarded to the destination, configure filters using the **filter** command.

Platforms

All

from

Syntax

from *ip-address*

Context

[Tree] (config>router>mpls>lsp from)

[Tree] (config>router>mpls>lsp-template from)

Full Context

configure router mpls lsp from

configure router mpls lsp-template from

Description

This optional command specifies the IP address of the ingress router for the LSP. When this command is not specified, the system IP address is used. IP addresses that are not defined in the system are allowed. If an invalid IP address is entered, LSP bring-up fails and an error is logged.

If an interface IP address is specified as the **from** address, and the egress interface of the LSP nexthop IP address is a different interface, the LSP is not signaled. As the egress interface changes due to changes in the routing topology, it is recommended to set the **from** IP address to the system IP address or to the address of a loopback interface to ensure the LSP recovers.

Only one **from** address can be configured.

Default

The system IP address

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Parameters

ip-address

Specifies the IP address of the ingress router. This can be either the interface, the system or a loopback interface IP address. If the IP address is local, the LSP must egress through that local interface which ensures local strictness. When the LSP type is **sr-te**, then an IPv6 address can be used.

Values ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

Platforms

All

from

Syntax

from li

no from

Context

[Tree] (config>li>log>log-id from)

Full Context

configure li log log-id from

Description

This command configures a bit mask that specifies the log event source stream(s) to be forwarded to the destination specified in the log destination (memory, session, SNMP). Events from more than one source can be forwarded to the log destination.

Parameters

li

Specifies the **li** event stream that contains all events configured for Lawful Intercept activities.

If the requester does not have access to the **li** context, the event stream will fail.

Platforms

All

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from

Syntax

from *ipv4-address*

no from

Context

[Tree] (config>oam-pm>session>mpls>lsp>rsvp-auto from)

Full Context

configure oam-pm session mpls lsp rsvp-auto from

Description

One of three mandatory configuration statements that are required to identify automatically create RSVP LSPs, created using **config>router>mpls>lsp-template**. The **config>router>mpls>auto-lsp** *lsp-template* links three distinct functions. The **config>router>policy-options>prefix-list**, **config>router>policy-options>policy-statement>entry>from** and config>router>mpls> lsp-template. The from address under the test context is the same as the config>router>mpls>lsp-template>from address.

The three required identifiers are from, lsp-template and to, all under this container.

The **no** form of this command deletes the IP address from the configuration.

Parameters

ipv4-address

Specifies the IPv4 address.

Values a.b.c.d.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

from

Syntax

from {[**main**] [**security**] [**change**] [**debug-trace**]}

no from

Context

[Tree] (config>log>log-id from)

Full Context

configure log log-id from

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Description

This command selects the source stream to be sent to a log destination.

One or more source streams must be specified. The source of the data stream must be identified using the **from** command before you can configure the destination using the **to** command. The **from** command can identify multiple source streams in a single statement (for example: **from main change debug-trace**).

Only one **from** command may be entered for a single *log-id*. If multiple **from** commands are configured, then the last command entered overwrites the previous **from** command.

The **no** form of this command removes all previously configured source streams.

Parameters

main

Instructs all events in the main event stream to be sent to the destination defined in the **to** command for this destination *log-id*. The main event stream contains the events that are not explicitly directed to any other event stream. To limit the events forwarded to the destination, configure filters using the **filter** command.

security

Instructs all events in the security event stream to be sent to the destination defined in the **to** command for this destination *log-id*. The security stream contains all events that affect attempts to breach system security such as failed login attempts, attempts to access MIB tables to which the user is not granted access or attempts to enter a branch of the CLI to which access has not been granted. To limit the events forwarded to the destination, configure filters using the **filter** command.

change

Instructs all events in the user activity stream to be sent to the destination configured in the **to** command for this destination *log-id*. The change event stream contains all events that directly affect the configuration or operation of this node. To limit the events forwarded to the change stream destination, configure filters using the **filter** command.

debug-trace

Instructs all debug-trace messages in the debug stream to be sent to the destination configured in the **to** command for this destination *log-id*. Filters applied to debug messages are limited to application and subject.

Platforms

All

from

Syntax

[**no**] **from**

Context

[Tree] (config>router>policy-options>policy-statement>entry from)

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Full Context

configure router policy-options policy-statement entry from

Description

This command creates the context to configure policy match criteria based on a route's source or the protocol from which the route is received.

If no condition is specified, all route sources are considered to match.

The **no** form of this command deletes the source match criteria for the route policy statement entry.

Platforms

All

from

Syntax

from *ipv4-address*

no from

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>rsvp-te-auto from)

Full Context

configure oam-pm session ip tunnel mpls rsvp-te-auto from

Description

This command configures the headend of the RSVP LSP. Configure the following three commands to identify an RSVP-TE Auto LSP: **from**, **to**, and **lsp-template**. When all three of these values are configured, the specific RSVP LSP can be identified and the test packets can be carried across the tunnel

The **no** form of this command removes the IPv4 address.

Parameters

ipv4-address

Specifies an IPv4 address.

Values ipv4-address: a.b.c.d (host bits must be 0)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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17.163 from-aa-sub-counters

from-aa-sub-counters

Syntax

[**no**] **from-aa-sub-counters** [**all**]

Context

[Tree] (config>log>acct-policy>cr>aa from-aa-sub-counters)

Full Context

configure log accounting-policy custom-record aa-specific from-aa-sub-counters

Description

Commands in this context configure Application Assurance "from subscriber” counter parameters. This command only applies to the 7750 SR.

The **no** form of this command excludes the "from subscriber” count.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.164 from-subscriber

from-subscriber

Syntax

from-subscriber

Context

[Tree] (config>isa>aa-grp>qos>egress from-subscriber)

Full Context

configure isa application-assurance-group qos egress from-subscriber

Description

Commands in this context configure Quality of Service for this application assurance group from-subscriber logical port, traffic entering the system from AA subscribers and entering an application assurance engine.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.165 from-vpls

from-vpls

Syntax

from-vpls *service-id*

no from-vpls

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mvr from-vpls)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mvr from-vpls

Description

This command configures the VPLS from which multicast traffic is copied upon receipt of an IGMP join request.

IGMP snooping must be enabled on the MVR VPLS.

The **no** form of this command reverts to the default.

Parameters

service-id

Specifies the MVR VPLS from which multicast channels be copied into an MSAP.

Values

service-id: 1 to 2147483647

service-name: up to 64 characters (applies only to the 7750 SR)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

from-vpls

Syntax

from-vpls *vpls-id*

no from-vpls

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Context

[Tree] (config>service>vpls>sap>igmp-snooping>mvr from-vpls)

[Tree] (config>service>vpls>sap>mld-snooping>mvr from-vpls)

Full Context

configure service vpls sap igmp-snooping mvr from-vpls

configure service vpls sap mld-snooping mvr from-vpls

Description

This command configures the VPLS from which multicast traffic is copied upon receipt of an IGMP join request. IGMP snooping must be enabled on the MVR VPLS.

Default

no from-vpls

Parameters

vpls-id

Specifies the MVR VPLS from which multicast channels should be copied into this SAP

Values *service-id*: 1 to 2147483648

Platforms

All

17.166 frr

frr

Syntax

frr [**detail**]

no frr

Context

[Tree] (debug>router>mpls>event frr)

Full Context

debug router mpls event frr

Description

This command debugs fast re-route events.

The **no** form of the command disables the debugging.

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Parameters

detail

Displays detailed information about re-route events.

Platforms

All

17.167 frr-object

frr-object

Syntax

[**no**] **frr-object**

Context

[Tree] (config>router>mpls frr-object)

Full Context

configure router mpls frr-object

Description

This command specifies whether fast reroute for LSPs using the **facility** bypass method is signaled with or without the fast reroute object using the **one-to-one** keyword. The value is ignored if fast reroute is disabled for the LSP or if the LSP is using one-to-one Backup.

Default

frr-object — Specifies the value is by default inherited by all LSPs.

Platforms

All

17.168 fsm-state-changes

fsm-state-changes

Syntax

[**no**] **fsm-state-changes**

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Context

[Tree] (debug>service>id>stp fsm-state-changes)

Full Context

debug service id stp fsm-state-changes

Description

This command enables STP debugging for FSM state changes.

The **no** form of the command disables debugging.

Platforms

All

17.169 fsm-timers

fsm-timers

Syntax

[**no**] **fsm-timers**

Context

[Tree] (debug>service>id>stp fsm-timers)

Full Context

debug service id stp fsm-timers

Description

This command enables STP debugging for FSM timer changes.

The **no** form of the command disables debugging.

Platforms

All

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17.170 ftp

ftp

Syntax

[**no**] **ftp**

Context

[Tree] (config>service>nat>nat-policy>alg ftp)

[Tree] (config>service>nat>firewall-policy>alg ftp)

[Tree] (config>service>nat>up-nat-policy>alg ftp)

Full Context

configure service nat nat-policy alg ftp

configure service nat firewall-policy alg ftp

configure service nat up-nat-policy alg ftp

Description

This command enables FTP ALG.

The **no** form of the command disables FTP ALG.

Default

ftp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy alg ftp
- configure service nat nat-policy alg ftp

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy alg ftp

ftp

Syntax

ftp

Context

[Tree] (config>system>login-control ftp)

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Full Context

configure system login-control ftp

Description

This command creates the context to configure FTP login control parameters.

Platforms

All

17.171 ftp-server

ftp-server

Syntax

[**no**] **ftp-server**

Context

[Tree] (config>system>security ftp-server)

Full Context

configure system security ftp-server

Description

This command enables FTP servers running on the system.

FTP servers are disabled by default. At system startup, only SSH servers are enabled.

The **no** form of this command disables FTP servers running on the system.

Platforms

All

17.172 function

function

Syntax

function

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Context

[Tree] (config>service>vpls>srv6>locator function)

[Tree] (conf>router>segment-routing>srv6>inst>ms-locator function)

[Tree] (config>service>epipe>srv6>ms-locator function)

[Tree] (config>service>vprn>srv6>locator function)

[Tree] (config>service>epipe>srv6>locator function)

[Tree] (config>service>vprn>srv6>ms-locator function)

[Tree] (config>service>vpls>srv6>ms-locator function)

[Tree] (config>router>segment-routing>srv6>inst>loc function)

Full Context

configure service vpls segment-routing-v6 locator function

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function

configure service epipe segment-routing-v6 micro-segment-locator function

configure service vprn segment-routing-v6 locator function

configure service epipe segment-routing-v6 locator function

configure service vprn segment-routing-v6 micro-segment-locator function

configure service vpls segment-routing-v6 micro-segment-locator function

configure router segment-routing segment-routing-v6 base-routing-instance locator function

Description

Commands in this context configure SRv6 and micro-segment SID function values and parameters for the locator.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

17.173 function-length

function-length

Syntax

function-length *function-length*

no function-length

Context

[Tree] (config>router>segment-routing>srv6>locator function-length)

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Full Context

configure router segment-routing segment-routing-v6 locator function-length

Description

This command configures the length of the function field of an SRv6 locator.

The sum of the function length and the locator prefix length must not exceed 128 bits. This is enforced by CLI validation. Configuring a function length of 16 requires the configuration of the locator level **label-block**.

The **no** form of this command reverts to the default value.

Default

function-length 20

Parameters

function-length

Specifies the function length, in bits.

Values 16, 20 to 96

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

17.174 fwa-checksum-assist

fwa-checksum-assist

Syntax

[**no**] **fwa-checksum-assist**

Context

[Tree] (config>isa>wlan-gw-group fwa-checksum-assist)

Full Context

configure isa wlan-gw-group fwa-checksum-assist

Description

This command calculates the checksum for downstream GRE-encapsulated Layer 2 traffic that is transmitted from ESA.

The **no** form of this command disables this calculation.

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Default

no fwa-checksum-assist

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.175 fwd-inside-router

fwd-inside-router

Syntax

fwd-inside-router *router-instance*

fwd-inside-router service-name *service-name*

no fwd-inside-router

Context

[Tree] (config>router>pcp-server>server fwd-inside-router)

Full Context

configure router pcp-server server fwd-inside-router

Description

This command configures the PCP forwarding inside virtual router instance.

The **no** form of this command reverts to the default value.

Default

no fwd-inside-router

Parameters

router-instance

Specifies the router name or the VPRN service ID.

Values *router-instance*: *router name* | *vprn-svc-id*

router-name	Base
vprn-svc-id	1 to 2147483647

service-name

Specifies the service name, up to 64 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

17.176 fwd-path-ext

fwd-path-ext

Syntax

fwd-path-ext

Context

[Tree] (config fwd-path-ext)

Full Context

configure fwd-path-ext

Description

Commands in this context configure a Forwarding Path Extension (FPE). FPE is used by certain applications that rely on PXC functionality to simplify the configuration of those applications.

Platforms

All

17.177 fwd-wholesale

fwd-wholesale

Syntax

fwd-wholesale

Context

[Tree] (config>service>vprn>if>sap fwd-wholesale)

[Tree] (config>service>vprn>sub-if>grp-if>sap fwd-wholesale)

Full Context

configure service vprn interface sap fwd-wholesale

configure service vprn subscriber-interface group-interface sap fwd-wholesale

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Description

Commands in this context select specific protocols ingressing on the SAP to be redirected to another service. The command is applicable to static SAPs as well as PW-SAPs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

fwd-wholesale

Syntax

fwd-wholesale

Context

[Tree] (config>service>ies>if>sap fwd-wholesale)

Full Context

configure service ies interface sap fwd-wholesale

Description

Commands in this context select specific protocols ingressing on the SAP to be redirected to another service. The command is applicable to static SAPs as well as PW-SAPs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

fwd-wholesale

Syntax

[**no**] **fwd-wholesale**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap fwd-wholesale)

Full Context

configure service ies subscriber-interface group-interface sap fwd-wholesale

Description

Commands in this context select specific protocols ingressing on the SAP to be redirected to another service. The command is applicable to static SAPs as well as PW-SAPs.

The **no** form of this command removes the redirection.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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18 g Commands

18.1 garp-flood-evpn

garp-flood-evpn

Syntax

[**no**] **garp-flood-evpn**

Context

[Tree] (config>service>vpls>proxy-arp garp-flood-evpn)

Full Context

configure service vpls proxy-arp garp-flood-evpn

Description

This command controls whether the system floods GARP-requests and GARP-replies to the EVPN. The GARPs impacted by this command are identified by the sender's IP being equal to the target's IP and the MAC DA being broadcast.

The **no** form of the command only floods to local SAPs or binds but not to EVPN destinations.

Disabling this command is only recommended in networks where CEs are routers that are directly connected to the PEs. Networks using aggregation switches between the host/routers and the PEs should flood GARP messages in the EVPN to ensure that the remote caches are updated and the BGP does not miss the advertisement of these entries.

Default

garp-flood-evpn

Platforms

All

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18.2 gateway

gateway

Syntax

gateway name *name* **tunnel** *ip-address*[**:***port*] [**nat-ip** *nat-ip*[**:***port*]] [**detail**] [**no-dpd-debug**] [**display-keys**]

no gateway name *name* **tunnel** *ip-address*[**:***port*] [**nat-ip** *nat-ip*[**:***port*]

gateway name *name* **tunnel-subnet** *ip-prefix/ip-prefix-length* [**port** *port*] [**detail**] [**no-dpd-debug**] [**display-keys**]

no gateway name *name* **tunnel-subnet** *ip-prefix/ip-prefix-length*

Context

[Tree] (debug>ipsec gateway)

Full Context

debug ipsec gateway

Description

This command enables debugging for dynamic IPsec tunnels that terminate on the specified IPsec gateway.

The tunnel to be debugged can be specified by either its source address or source subnet. If a subnet is specified, the system will enable debugging for all tunnels with source addresses in the specified subnet.

Parameters

name

Specifies the name of the IPsec gateway up to 32 characters.

ip-address:port

Specifies the tunnel IP address of the remote peer and, optionally, the remote UDP port of IKE.

nat-ip:port

Specifies the inside IP address of the NAT tunnel and, optionally, the port.

detail

Specifies to display detailed debug information.

no-dpd-debug

Specifies to stop logging IKEv1 and IKEv2 DPD events during debug in order to produce less noise.

ip-prefix/ip-prefix-length

Specifies the subnet of the peer’s tunnel address.

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display-keys

Specifies the IKE-SA and CHILD-SA keys for inclusion in the debug output.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

gateway

Syntax

gateway [**create**]

no gateway

Context

[Tree] (config>mirror>mirror-dest>encap>layer-3-encap gateway)

Full Context

configure mirror mirror-dest encap layer-3-encap gateway

Description

This command configures the parameters to send the mirrored packets to a remote destination gateway. Once a gateway is created, no changes to the **layer-3-encap** type, router or direction-bit are allowed.

Platforms

All

gateway

Syntax

gateway *gateway-id*

no gateway

Context

[Tree] (config>app-assure>group>dns-enrich gateway)

Full Context

configure application-assurance group dns-enrich gateway

Description

This command configures a unique ID for the Application Assurance (AA) node, which, together with a per-sub policy ID passed from the Policy Control Function (PCF), creates a device ID. This device ID is then inserted into the DNS request packets.

The **no** form of this command removes the unique ID.

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Default

no gateway

Parameters

gateway-id

Specifies the gateway ID value, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.3 gateway-ip

gateway-ip

Syntax

gateway-ip

Context

[Tree] (config>service>vprn>bgp-evpn>vxlan gateway-ip)

[Tree] (config>service>vprn>bgp-evpn>mpls gateway-ip)

Full Context

configure service vprn bgp-evpn vxlan gateway-ip

configure service vprn bgp-evpn mpls gateway-ip

Description

Commands in this context configure GW-IP for IP prefix routes.

Platforms

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan gateway-ip

All

- configure service vprn bgp-evpn mpls gateway-ip

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18.4 gen-keypair

gen-keypair

Syntax

gen-keypair *url-string* **curve** {**secp256r1** | **secp384r1** | **secp521r1**}

gen-keypair *url-string* [**size** *key-size*] [**type** {**rsa** | **dsa**}]

Context

[Tree] (admin>certificate gen-keypair)

Full Context

admin certificate gen-keypair

Description

This command generates RSA, DSA, or ECDSA private key or public key pairs at the specified location.

Parameters

url-string

Specifies the path of the key file.

Values		
	url-string	<local-url> [up to 99 characters]
	local-url	<cflash-id>/<file-path>
	cflash-id	cf1: | cf2: | cf3:

curve

Generates an ECDSA key with a specified curve.

Values secp256r1, secp384r1, secp521r1

key-size

Specifies the key size in bits.

Values 512 to 8192

Default 2048

type

Specifies the type of key.

Values rsa, dsa

Default rsa

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Platforms

All

18.5 gen-local-cert-req

gen-local-cert-req

Syntax

gen-local-cert-req keypair *url-string* **subject-dn** *subject-dn* [**domain-name** *name*] [**ip-addr** *ip-address*] **file** *cert-req-file-url* [**hash-alg hash-algorithm**]

Context

[Tree] (admin>certificate gen-local-cert-req)

Full Context

admin certificate gen-local-cert-req

Description

This command generates a PKCS#10 formatted certificate request by using a local existing key pair file.

Parameters

url-string

Specifies the name of the keyfile in cf3:\system-pki\key that is used to generate a certificate request.

Values

url-string	<local-url> [up to 99 characters]
local-url	<cflash-id>/<file-path>
cflash-id	cf1: | cf2: | cf3:

subject-dn

Specifies the distinguish name that is used as the subject in a certificate request, including:

- C-Country
- ST-State
- O-Organization name
- OU-Organization Unit name
- CN-common name

This parameter is formatted as a text string including any of the above attributes. The attribute and its value is linked by using "=", and "," is used to separate different attributes.

For example: C=US,ST=CA,O=ALU,CN=SR12

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Values attr1=val1,attr2=val2... where: attrN={C| ST| O| OU| CN}, 256 chars max

domain-name

Specifies a domain name string can be specified and included as the dNSName in the Subject Alternative Name extension of the certificate request.

ip-address

Specifies an IPv4 address string can be specified and included as the ipAddress in the Subject Alternative Name extension of the certificate request.

cert-req-file-url

Specifies the certificate URL. This URL could be either a local CF card path and filename to save the certificate request; or an FTP URL to upload the certificate request.

hash-algorithm

Specifies the hash algorithm to be used in a certificate request.

Values sha1, sha224, sha256, sha384, sha512

Platforms

All

18.6 general-port

general-port

Syntax

general-port *port-number*

no general-port

Context

[Tree] (config>system>snmp general-port)

Full Context

configure system snmp general-port

Description

This command configures the port number used to receive SNMP request messages and send replies.

For the port used for SNMP notifications, configure the **configure log snmp-trap-group trap-target port** command.

The **no** form of the command reverts to the default value.

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Default

general-port 161

Parameters

port-number

Specifies the port number used to send SNMP traffic other than traps.

Values 1 to 65535

Platforms

All

18.7 generate-basic-fec-only

generate-basic-fec-only

Syntax

[**no**] **generate-basic-fec-only**

Context

[Tree] (config>router>ldp generate-basic-fec-only)

Full Context

configure router ldp generate-basic-fec-only

Description

This command configures mLDP to generate a basic FEC, even if the actual root node is resolved using BGP. This functionality is useful when a connected router does not support the mLDP recursive FEC type.

This command only supports recursive opaque type 7 FECs and non-recursive type 1 FECs.

The **no** form of this command causes mLDP to generate a recursive FEC when the actual root node is resolved using BGP.

Default

no generate-basic-fec-only

Platforms

All

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18.8 generate-icmp

generate-icmp

Syntax

[**no**] **generate-icmp**

Context

[Tree] (config>service>vprn>static-route-entry>black-hole generate-icmp)

Full Context

configure service vprn static-route-entry black-hole generate-icmp

Description

This optional command causes the ICMP unreachable messages to be sent when received packets match the associated static route. By default, the ICMP unreachable messages for those types of static routes are not generated.

This command can only be associated with a static route that has a black-hole next-hop

The **no** form of this command removes the black-hole next-hop from static route configuration.

Default

no generate-icmp

Platforms

All

generate-icmp

Syntax

[**no**] **generate-icmp**

Context

[Tree] (config>router>static-route-entry>black-hole generate-icmp)

Full Context

configure router static-route-entry black-hole generate-icmp

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Description

This optional command causes the ICMP unreachable messages to be sent when received packets match the associated static route. By default, the ICMP unreachable messages for those types of static routes are not generated.

This command can only be associated with a static route that has a blackhole next-hop

The **no** form of this command removes the black-hole nexthop from the static route configuration.

Default

no generate-icmp

Platforms

All

18.9 generate-traps

generate-traps

Syntax

[**no**] **generate-traps**

Context

[Tree] (config>system>network-element-discovery generate-traps)

Full Context

configure system network-element-discovery generate-traps

Description

This command configures whether traps are generated every time a node is updated, added, or removed from the OSPF opaque database (using LSA type 10 opaque update).

The **no** form of causes traps to not be generated for database changes.

Platforms

All

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18.10 get

get

Syntax

[**no**] **get**

Context

[Tree] (config>service>nat>pcp-server-policy>opcode get)

Full Context

configure service nat pcp-server-policy opcode get

Description

This command enables/disables support for the **get** opcode.

Default

no get

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

get

Syntax

[**no**] **get**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization get)

Full Context

configure system security profile netconf base-op-authorization get

Description

This command enables the NETCONF <get> RPC.

The **no** form of this command disables the RPC.

Default

no get

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Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms
All

18.11 get-config

get-config

Syntax
[**no**] **get-config**

Context
[Tree] (configure>system>security>profile>netconf>base-op-authorization get-config)

Full Context
configure system security profile netconf base-op-authorization get-config

Description
This command enables the NETCONF <get-config> RPC.

The **no** form of this command disables the RPC.

Default
no get-config

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms
All

18.12 get-data

get-data

Syntax
[**no**] **get-data**

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Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization get-data)

Full Context

configure system security profile netconf base-op-authorization get-data

Description

This command enables the NETCONF <get-data> RPC.

The **no** form of this command disables the RPC.

Default

no get-data

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

18.13 get-schema

get-schema

Syntax

[**no**] **get-schema**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization get-schema)

Full Context

configure system security profile netconf base-op-authorization get-schema

Description

This command enables the NETCONF <get-schema> RPC.

The **no** form of this command disables the RPC.

Default

no get-schema

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

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Platforms
All

18.14 ggsn

ggsn

Syntax
ggsn

Context
[Tree] (config>subscr-mgmt>gtp>peer-profile ggsn)

Full Context
configure subscriber-mgmt gtp peer-profile ggsn

Description
Commands in this context configure communication with a GGSN Mobile Gateway.

Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.15 ggsn-address

ggsn-address

Syntax
ggsn-address {**ipv4** | **ipv6**}
no ggsn-address

Context
[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp ggsn-address)

Full Context
configure subscriber-mgmt diameter-application-policy gy include-avp ggsn-address

Description
The command includes the GGSN-Address AVP value in all Diameter DCCA CCR messages. The value is either the local IPv4 address or local IPv6 address used to set up the diameter peer.

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The **no** form of this command removes the GGSN-Address AVP from the Diameter DCCA CCR messages.

Parameters

ipv4 | ipv6

Specifies to include either the IPv4 or IPv6 address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.16 gi-address

gi-address

Syntax

gi-address *ip-address*

no gi-address

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host gi-address)

Full Context

configure subscriber-mgmt local-user-db ipoe host gi-address

Description

This command allows selection of GI addresses based on the host entry in LUDB.

The gi-address must be a valid address (associated with an interface) within the routing context that received the DHCP message on the access side.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the IPv4 gi-address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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gi-address

Syntax

gi-address *ip-address* [**src-ip-address**]

no gi-address

Context

[Tree] (config>service>ies>sub-if>dhcp gi-address)

[Tree] (config>service>ies>if>dhcp gi-address)

[Tree] (config>service>vprn>sub-if>dhcp gi-address)

[Tree] (config>service>vprn>if>dhcp gi-address)

[Tree] (config>service>ies>sub-if>grp-if>dhcp gi-address)

Full Context

configure service ies subscriber-interface dhcp gi-address

configure service ies interface dhcp gi-address

configure service vprn subscriber-interface dhcp gi-address

configure service vprn interface dhcp gi-address

configure service ies subscriber-interface group-interface dhcp gi-address

Description

This command configures the gateway interface address for the DHCP relay. A subscriber interface can include multiple group interfaces with multiple SAPs. The GI address is needed, when the router functions as a DHCP relay, to distinguish between the different subscriber interfaces and potentially between the group interfaces defined.

By default, the GI address used in the relayed DHCP packet is the primary IP address of a normal IES interface. Specifying the GI address allows the user to choose a secondary address. For group interfaces a GI address must be specified under the group interface DHCP context or subscriber-interface DHCP context in order for DHCP to function.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the host IP address to be used for DHCP relay packets.

Values a.b.c.d

src-ip-address

Specifies that this GI address is to be the source IP address for DHCP relay packets. This parameter is not applicable for PPPoE DHCP client messages (**dhcp client-applications ppp**).

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface dhcp gi-address
- configure service ies subscriber-interface dhcp gi-address
- configure service ies subscriber-interface group-interface dhcp gi-address

All

- configure service ies interface dhcp gi-address
- configure service vprn interface dhcp gi-address

gi-address

Syntax

gi-address *ip-address*

no gi-address

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp gi-address)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp gi-address)

Full Context

configure service vprn interface sap ipsec-gw dhcp gi-address

configure service ies interface sap ipsec-gw dhcp gi-address

Description

This command specifies the gateway IP address of the DHCPv4 packets sent by the system. IPsec DHCP Relay uses only the **gi-address** configuration found under the IPsec gateway and does not take into account **gi-address** with **src-ip-addr** configuration below other interfaces.

Default

no gi-address

Parameters

ip-address

Specifies the host IP address to be used for DHCP relay packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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gi-address

Syntax

gi-address *ip-address* [**src-ip-addr**]

no gi-address

Context

[Tree] (config>router>if>dhcp gi-address)

Full Context

configure router interface dhcp gi-address

Description

This command configures the gateway interface address for the DHCP relay. The GI address is needed, when the router functions as a DHCP relay, to distinguish between the different subscriber interfaces and potentially between the group interfaces defined.

Default

no gi-address

Parameters

ip-address

Specifies the host IP address to be used for DHCP relay packets.

src-ip-addr

Uses the GI address as the source IP.

Platforms

All

18.17 global

global

Syntax

global *file-url*

no global

Context

[Tree] (config>system>login-control>login-scripts global)

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Full Context

configure system login-control login-scripts global

Description

This command enables an operator to define a common CLI script that executes when any user logs into a CLI session. This login exec script is executed when any user (authenticated by any means including local user database, TACACS+, or RADIUS) opens a CLI session. This allows a user, for example, to define a common set of CLI aliases that are made available on the router for all users. This global login exec script is executed before any user-specific login exec files that may be configured.

This CLI script executes in the context of the user who opens the CLI session. Any commands in the script that the user is not authorized to execute will fail.

The **no** form of this command disables the execution of a global login-script.

Default

no global

Parameters

file-url

The path or directory name.

Platforms

All

18.18 global-id

global-id

Syntax

global-id *global-id*

no global-id

Context

[Tree] (config>router>mpls>mpls-tp global-id)

Full Context

configure router mpls mpls-tp global-id

Description

This command configures the MPLS-TP Global ID for the node. This is used as the 'from' Global ID used by MPLS-TP LSPs originating at this node. If a value is not entered, the Global ID is taken to be Zero. This is used if the global-id is not configured. If an operator expects that inter-domain LSPs will be configured, then it is recommended that the global ID should be set to the local ASN of the node, as configured under

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config>**system**. If two-byte ASNs are used, then the most significant two bytes of the global-id are padded with zeros.

In order to change the value of the **global-id**, **config**>**router**>**mpls**>**mpls-tp** must be in the shutdown state. This will bring down all of the MPLS-TP LSPs on the node. New values a propagated to the system when a no shutdown is performed.

Default

no global-id

Parameters

global-id

Specifies the global ID for the node.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.19 global-sampling-rate

global-sampling-rate

Syntax

global-sampling-rate *sampling-rate*

no global-sampling-rate

Context

[Tree] (config>mirror global-sampling-rate)

Full Context

configure mirror global-sampling-rate

Description

This command configures the global sampling rate. The global sampling rate provides a higher sampling rate than the sampling rate specified on the mirror destination. The global sampling rate, when set, applies to all mirror destination services with the **use-global-sampling-rate** command configured.

The global sampling rate takes precedence over the sampling rate specified on a mirror destination. This means that when both the **global-sampling-rate** command and **configure mirror mirror-dest sampling-rate** command are configured under the same mirror destination, the system automatically samples using higher rate configured with the **global-sampling-rate** command and ignores the lower rate configured with the **sampling-rate** command.

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The **no** form of this command removes all mirror destinations associated with the global sampling rate and causes all mirror destinations to mirror at the full rate, which means every packet is mirrored unless a mirror destination rate is specified. You must first remove the **use-global-sampling-rate** configuration, before you remove the **global-sampling-rate** configuration.

Default

no global-sampling-rate

Parameters

sampling-rate

Specifies the global sampling rate. The highest global sampling rate is 1 out of 2 packets and the lowest rate is 1 out of 255. For example, when 2 is the configured rate, the mirror destination samples 1 out of every 2 packets, or equivalent to sampling 50% of packets.

Values 2 to 255

Platforms

All

18.20 global-sid-entries

global-sid-entries

Syntax

global-sid-entries *global-sid-entries*

Context

[Tree] (conf>router>sr>srv6>micro-segment global-sid-entries)

Full Context

configure router segment-routing segment-routing-v6 micro-segment global-sid-entries

Description

This command configures the maximum number of unique micro-segment locators that can be configured network wide. The value is expressed as the number of multiples of 1024 and must be the same on every platform network wide.

Default

global-sid-entries 16

Parameters

global-sid-entries

Specifies the maximum number of unique micro-segment locators.

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Values 4 to 60 (in steps of 4)

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

18.21 global-timeouts

global-timeouts

Syntax

global-timeouts

Context

[Tree] (config>system>management-interface>ops global-timeouts)

Full Context

configure system management-interface operations global-timeouts

Description

Commands in this context configure system timeout parameters for operational commands.

Timeout parameters provide default system-level control for various types of operational commands in model-driven interfaces. The timeout values are used when specific execution and retention timeouts are not requested for a specific operation.

Platforms

All

18.22 global-variables

global-variables

Syntax

global-variables

no global-variables

Context

[Tree] (config>router>policy-options global-variables)

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Full Context
configure router policy-options global-variables

Description
This command enables the **global-variables** configuration context.

The **no** form of this command removes all global variables.

Platforms
All

18.23 gnmi

gnmi

Syntax
gnmi

Context
[Tree] (config>system>grpc gnmi)

Full Context
configure system grpc gnmi

Description
Commands in this context configure a gNMI service on gRPC.

Platforms
All

18.24 gnmi-capabilities

gnmi-capabilities

Syntax
gnmi-capabilities {**permit** | **deny**}

Context
[Tree] (config>system>security>profile>grpc>rpc-authorization gnmi-capabilities)

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Full Context

configure system security profile grpc rpc-authorization gnmi-capabilities

Description

This command permits the use of Capability RPC for a user associated with the given format.

The **no** form of this command reverts to the default value.

Default

gnmi-capabilities permit

Parameters

permit

Specifies that the use of the Capability RPC is permitted.

deny

Specifies that the use of the Capability RPC is denied.

Platforms

All

18.25 gnmi-get

gnmi-get

Syntax

gnmi-get {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnmi-get)

Full Context

configure system security profile grpc rpc-authorization gnmi-get

Description

This command permits the use of Get RPC.

The **no** form of this command reverts to the default value.

Default

gnmi-get permit

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Parameters

permit

Specifies that the use of the Get RPC is permitted.

deny

Specifies that the use of the Get RPC is denied.

Platforms

All

18.26 gnmi-set

gnmi-set

Syntax

gnmi-set {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnmi-set)

Full Context

configure system security profile grpc rpc-authorization gnmi-set

Description

This command permits the use of Set RPC.

The **no** form of this command reverts to the default value.

Default

gnmi-set permit

Parameters

permit

Specifies that the use of the Set RPC is permitted.

deny

Specifies that the use of the Set RPC is denied.

Platforms

All

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18.27 gnmi-subscribe

gnmi-subscribe

Syntax

gnmi-subscribe {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnmi-subscribe)

Full Context

configure system security profile grpc rpc-authorization gnmi-subscribe

Description

This command permits the use of Subscribe RPC.

The **no** form of this command reverts to the default value.

Default

gnmi-subscribe permit

Parameters

permit

Specifies that the use of the Subscribe RPC is permitted.

deny

Specifies that the use of the Subscribe RPC is denied.

Platforms

All

18.28 gnoi-cert-mgmt-cangenerate

gnoi-cert-mgmt-cangenerate

Syntax

gnoi-cert-mgmt-cangenerate {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-cert-mgmt-cangenerate)

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Full Context

configure system security profile grpc rpc-authorization gnoi-cert-mgmt-cangenerate

Description

This command permits the use of gNOI CanGenerateCSR RPCs for the user profile.

The **no** form of this command reverts to the default value.

Default

gnoi-cert-mgmt-cangenerate deny

Parameters

permit

Specifies that the use of the gNOI CanGenerateCSR RPCs for the user profile is permitted.

deny

Specifies that the use of the gNOI CanGenerateCSR RPCs for the user profile is denied.

Platforms

All

18.29 gnoi-cert-mgmt-getcert

gnoi-cert-mgmt-getcert

Syntax

gnoi-cert-mgmt-getcert {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-cert-mgmt-getcert)

Full Context

configure system security profile grpc rpc-authorization gnoi-cert-mgmt-getcert

Description

This command permits the use of gNOI GetCertificate RPCs for the user profile.

The **no** form of this command reverts to the default value.

Default

gnoi-cert-mgmt-getcert deny

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Parameters

permit

Specifies that the use of the gNOI GetCertificate RPCs for the user profile is permitted.

deny

Specifies that the use of the gNOI GetCertificate RPCs for the user profile is denied.

Platforms

All

18.30 gnoi-cert-mgmt-install

gnoi-cert-mgmt-install

Syntax

gnoi-cert-mgmt-install {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-cert-mgmt-install)

Full Context

configure system security profile grpc rpc-authorization gnoi-cert-mgmt-install

Description

This command permits the use of gNOI Install RPCs for the user profile.

The **no** form of this command reverts to the default value.

Default

gnoi-cert-mgmt-install deny

Parameters

permit

Specifies that the use of the gNOI Install RPCs for the user profile is permitted.

deny

Specifies that the use of the gNOI Install RPCs for the user profile is denied.

Platforms

All

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18.31 gnoi-cert-mgmt-revoke

gnoi-cert-mgmt-revoke

Syntax

gnoi-cert-mgmt-revoke {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-cert-mgmt-revoke)

Full Context

configure system security profile grpc rpc-authorization gnoi-cert-mgmt-revoke

Description

This command permits or denies the use of gNOI RevokeCertificates RPCs for the user profile.

The **no** form of this command reverts to the default value.

Default

gnoi-cert-mgmt-revoke deny

Parameters

permit

Specifies that the use of gNOI RevokeCertificates RPCs for the user profile is permitted.

deny

Specifies that the use of gNOI RevokeCertificates RPCs for the user profile is denied.

Platforms

All

18.32 gnoi-cert-mgmt-rotate

gnoi-cert-mgmt-rotate

Syntax

gnoi-cert-mgmt-rotate {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-cert-mgmt-rotate)

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Full Context
configure system security profile grpc rpc-authorization gnoi-cert-mgmt-rotate

Description
This command permits the use of gNOI Rotate RPCs for the user profile.

Default
gnoi-cert-mgmt-rotate deny

Parameters
permit
Specifies that the use of the gNOI Rotate RPCs for the user profile is permitted.

deny
Specifies that the use of the gNOI Rotate RPCs for the user profile is denied.

Platforms
All

18.33 gnoi-file-get

gnoi-file-get

Syntax
gnoi-file-get {**permit** | **deny**}

Context
[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-file-get)

Full Context
configure system security profile grpc rpc-authorization gnoi-file-get

Description
This command permits the use of gNOI File Get RPC for a file from a target location.

Default
gnoi-file-get permit

Parameters
permit
Specifies that the use of the gNOI File Get RPC is permitted.

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deny

Specifies that the use of the gNOI File Get RPC is denied.

Platforms

All

18.34 gnoi-file-put

gnoi-file-put

Syntax

gnoi-file-put {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-file-put)

Full Context

configure system security profile grpc rpc-authorization gnoi-file-put

Description

This command permits the use of gNOI File Put RPC to write to a file on a target location.

Default

gnoi-file-put permit

Parameters

permit

Specifies that the use of the gNOI File Put RPC is permitted.

deny

Specifies that the use of the gNOI File Put RPC is denied.

Platforms

All

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18.35 gnoi-file-remove

gnoi-file-remove

Syntax

gnoi-file-remove {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-file-remove)

Full Context

configure system security profile grpc rpc-authorization gnoi-file-remove

Description

This command permits the use of gNOI File Remove RPC to remove a file from the specified target location.

Default

gnoi-file-remove permit

Parameters

permit

Specifies that the use of the gNOI File Remove RPC is permitted.

deny

Specifies that the use of the gNOI File Remove RPC is denied.

Platforms

All

18.36 gnoi-file-stat

gnoi-file-stat

Syntax

gnoi-file-stat {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-file-stat)

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Full Context

configure system security profile grpc rpc-authorization gnoi-file-stat

Description

This command permits the use of gNOI File Stat RPC to retrieve metadata for a file from the specified target location.

Default

gnoi-file-stat permit

Parameters

permit

Specifies that the use of the gNOI File Stat RPC is permitted.

deny

Specifies that the use of the gNOI File Stat RPC is denied.

Platforms

All

18.37 gnoi-file-transfertoremote

gnoi-file-transfertoremote

Syntax

gnoi-file-transfertoremote {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-file-transfertoremote)

Full Context

configure system security profile grpc rpc-authorization gnoi-file-transfertoremote

Description

This command permits the use of the gNOI File TransferToRemote RPC to transfer the file from the target node to a specified remote location.

Default

gnoi-file-transfertoremote permit

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Parameters

permit

Specifies that the use of the gNOI File TransferToRemote RPC is permitted.

deny

Specifies that the use of the gNOI File TransferToRemote RPC is denied.

Platforms

All

18.38 gnoi-system-cancelreboot

gnoi-system-cancelreboot

Syntax

gnoi-system-cancelreboot {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-cancelreboot)

Full Context

configure system security profile grpc rpc-authorization gnoi-system-cancelreboot

Description

This command permits the use of gNOI System CancelReboot RPC for a user-given profile.

Default

gnoi-system-cancelreboot deny

Parameters

permit

Specifies that the use of gNOI System CancelReboot RPC is permitted.

deny

Specifies that the use of gNOI System CancelReboot RPC is denied.

Platforms

All

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18.39 gnoi-system-ping

gnoi-system-ping

Syntax

gnoi-system-ping {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-ping)

Full Context

configure system security profile grpc rpc-authorization gnoi-system-ping

Description

This command permits the use of the gNOI Ping RPC to execute the ping command on the target node and stream back the results.

Default

gnoi-system-ping permit

Parameters

permit

Specifies that the use of the gNOI Ping RPC is permitted.

deny

Specifies that the use of the gNOI Ping RPC is denied.

Platforms

All

18.40 gnoi-system-reboot

gnoi-system-reboot

Syntax

gnoi-system-reboot {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-reboot)

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Full Context

configure system security profile grpc rpc-authorization gnoi-system-reboot

Description

This command permits the use of gNOI System Reboot RPC for a user-given profile.

The **no** form of this command reverts to the default value.

Default

gnoi-system-reboot deny

Parameters

permit

Specifies that the use of gNOI System Reboot RPC is permitted.

deny

Specifies that the use of gNOI System Reboot RPC is denied.

Platforms

All

18.41 gnoi-system-rebootstatus

gnoi-system-rebootstatus

Syntax

gnoi-system-rebootstatus {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-rebootstatus)

Full Context

configure system security profile grpc rpc-authorization gnoi-system-rebootstatus

Description

This command permits the use of gNOI System RebootStatus RPC for a user-given profile.

The **no** form of this command reverts to the default value.

Default

gnoi-system-rebootstatus deny

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Parameters

permit

Specifies that the use of gNOI System RebootStatus RPC is permitted for a user-given profile.

deny

Specifies that the use of gNOI System RebootStatus RPC is denied.

Platforms

All

18.42 gnoi-system-setpackage

gnoi-system-setpackage

Syntax

gnoi-system-setpackage {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-setpackage)

Full Context

configure system security profile grpc rpc-authorization gnoi-system-setpackage

Description

This command permits the use of gNOI System SetPackage RPC for a user-given profile.

The **no** form of this command reverts to the default value.

Default

gnoi-system-setpackage deny

Parameters

deny

Specifies that the use of gNOI System SetPackage RPC is denied.

permit

Specifies that the use of gNOI System SetPackage RPC is permitted.

Platforms

All

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18.43 gnoi-system-switchcontrolprocessor

gnoi-system-switchcontrolprocessor

Syntax

gnoi-system-switchcontrolprocessor {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-switchcontrolprocessor)

Full Context

configure system security profile grpc rpc-authorization gnoi-system-switchcontrolprocessor

Description

This command permits the use of gNOI System SwitchControlProcessor RPC for a user-given profile.

The **no** form of this command reverts to the default value.

Default

gnoi-system-switchcontrolprocessor deny

Parameters

deny

Specifies that the use of gNOI System SwitchControlProcessor RPC is denied.

permit

Specifies that the use of gNOI System SwitchControlProcessor RPC is permitted.

Platforms

All

18.44 gnoi-system-time

gnoi-system-time

Syntax

gnoi-system-time {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-time)

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Full Context

configure system security profile grpc rpc-authorization gnoi-system-time

Description

This command permits the use of the gNOI Time RPC to return the current time on the target node.

Default

gnoi-system-time permit

Parameters

permit

Specifies that the use of the gNOI Time RPC is permitted.

deny

Specifies that the use of the gNOI Time RPC is denied.

Platforms

All

18.45 gnoi-system-traceroute

gnoi-system-traceroute

Syntax

gnoi-system-traceroute {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization gnoi-system-traceroute)

Full Context

configure system security profile grpc rpc-authorization gnoi-system-traceroute

Description

This command permits the use of the gNOI Traceroute RPC to execute the traceroute command on the target node and stream back the results.

Default

gnoi-system-traceroute permit

Parameters

permit

Specifies that the use of the gNOI Traceroute RPC is permitted.

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deny

Specifies that the use of the gNOI Traceroute RPC is denied.

Platforms

All

18.46 gnss

gnss

Syntax

gnss

Context

[Tree] (config>port gnss)

Full Context

configure port gnss

Description

Commands in this context configure global navigation satellite systems (GNSS) port attributes for platforms that support one or more embedded GNSS receivers. This command is supported for use with the following ports:

- A/gnss (7750 SR FP5 single-slot platforms and slot A of 7750 SR-2e platforms)
- B/gnss (slot B of 7750 SR-2e platforms)

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

gnss

Syntax

gnss

Context

[Tree] (config>system>sync-if-timing gnss)

Full Context

configure system sync-if-timing gnss

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Description

Commands in this context configure parameters for system timing using global navigation satellite systems (GNSS) on platforms that support one or more embedded GNSS receivers.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

18.47 goto

goto

Syntax

goto *line*

Context

[Tree] (candidate goto)

Full Context

candidate goto

Description

This command changes the edit point of the candidate configuration. The edit point is the point after which new commands are inserted into the candidate configuration as an operator navigates the CLI and issues commands in edit-cfg mode.

Parameters

line

Indicates which line to change starting at the point indicated by the following options.

Values		
	line	absolute line number
	offset	relative line number to current edit point Prefixed with '+' or '-'
	first	keyword that indicates the first line
	edit-point	keyword that indicates the current edit point
	last	keyword that indicates the last line that is not 'exit'

Platforms

All

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18.48 gprs-negotiated-qos-profile

gprs-negotiated-qos-profile

Syntax

[**no**] **gprs-negotiated-qos-profile**

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute gprs-negotiated-qos-profile)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute gprs-negotiated-qos-profile

Description

This command enables the inclusion of the 3GPP QoS specification in AAA protocols as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.49 gr-helper

gr-helper

Syntax

gr-helper [**enable** | **disable**]

Context

[Tree] (config>router>rsvp>if gr-helper)

Full Context

configure router rsvp interface gr-helper

Description

This command enables the RSVP Graceful Restart Helper feature.

The RSVP-TE Graceful Restart helper mode allows the SR OS based system (the helper node) to provide another router that has requested it (the restarting node) a grace period, during which the system will continue to use RSVP sessions to neighbors requesting the grace period. This is typically used when

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another router is rebooting its control plane but its forwarding plane is expected to continue to forward traffic based on the previously available Path and Resv states.

The user can enable Graceful Restart helper on each RSVP interface separately. When the GR helper feature is enabled on an RSVP interface, the node starts inserting a new Restart_Cap Object in the Hello packets to its neighbor. The restarting node does the same and indicates to the helper node the required Restart Time and Recovery Time.

The GR Restart helper consists of a couple of phases. After it loses Hello communication with its neighbor, the helper node enters the Restart phase. During this phase, it preserves the state of all RSVP sessions to its neighbor and waits for a new Hello message.

After the Hello message is received indicating the restarting node preserved state, the helper node enters the recovery phase in which it starts refreshing all the sessions that were preserved. The restarting node activates all the stale sessions that are refreshed by the helper node. Any Path state that did not get a Resv message from the restarting node after the Recovery Phase time is over, is considered to have expired and is deleted by the helper node causing the correct Path Tear generation downstream.

The duration of the restart phase (recovery phase) is equal to the minimum of the neighbor's advertised Restart Time (Recovery Time) in its last Hello message and the locally configured value of the max-restart (max-recovery) parameter.

When GR helper is enabled on an RSVP interface, its procedures apply to the state of both P2P and P2MP RSVP LSP to a neighbor over this interface.

Default

disable

Platforms

All

18.50 gr-helper-time

gr-helper-time

Syntax

gr-helper-time max-recovery *recovery-interval* **max-restart** *restart-interval*

no gr-helper-time

Context

[Tree] (config>router>rsvp gr-helper-time)

Full Context

configure router rsvp gr-helper-time

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Description

This command configures the local values for the max-recovery and the max-restart intervals used in the RSVP Graceful Restart Helper feature.

The values are configured globally in RSVP but separate instances of the timers are applied to each RSVP interface that has the RSVP Graceful Restart Helper enabled.

The **no** version of this command re-instates the default value for the delay timer.

Default

gr-helper-time max-recovery 300 max-restart 120

Parameters

recovery-interval

Specifies the max recovery interval value in seconds.

Values 1 to 1800

restart-interval

Specifies the max restart interval value in seconds.

Values 1 to 300

Platforms

All

18.51 grace

grace

Syntax

grace

Context

[Tree] (config>lag>eth-cfm>mep grace)

[Tree] (config>eth-tunnel>path>eth-cfm>mep grace)

[Tree] (config>port>ethernet>eth-cfm>mep grace)

[Tree] (config>eth-ring>path>eth-cfm>mep grace)

Full Context

configure lag eth-cfm mep grace

configure eth-tunnel path eth-cfm mep grace

configure port ethernet eth-cfm mep grace

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configure eth-ring path eth-cfm mep grace

Description

Commands in this context configure Nokia ETH-CFM Grace and ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

grace

Syntax

grace

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep grace)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep grace)

[Tree] (config>service>ipipe>sap>eth-cfm>mep grace)

Full Context

configure service epipe sap eth-cfm mep grace

configure service epipe spoke-sdp eth-cfm mep grace

configure service ipipe sap eth-cfm mep grace

Description

Commands in this context configure Nokia ETH-CFM Grace and ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

grace

Syntax

grace

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep grace)

[Tree] (config>service>vpls>sap>eth-cfm>mep grace)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep grace)

[Tree] (config>service>vpls>eth-cfm>mep grace)

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Full Context

configure service vpls spoke-sdp eth-cfm mep grace

configure service vpls sap eth-cfm mep grace

configure service vpls mesh-sdp eth-cfm mep grace

configure service vpls eth-cfm mep grace

Description

Commands in this context configure Nokia ETH-CFM Grace and ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

grace

Syntax

grace

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep grace)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep grace)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep grace)

Full Context

configure service ies interface sap eth-cfm mep grace

configure service ies interface spoke-sdp eth-cfm mep grace

configure service ies subscriber-interface group-interface sap eth-cfm mep grace

Description

Commands in this context configure Nokia ETH-CFM Grace and ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep grace
- configure service ies interface sap eth-cfm mep grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace

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grace

Syntax

grace

Context

[Tree] (config>service>vprn>if>sap>eth-cfm>mep grace)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep grace)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep grace)

Full Context

configure service vprn interface sap eth-cfm mep grace

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace

configure service vprn interface spoke-sdp eth-cfm mep grace

Description

Commands in this context configure Nokia ETH-CFM Grace and ITU-T Y.1731 ETH-ED expected defect functional parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep grace
- configure service vprn interface spoke-sdp eth-cfm mep grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace

grace

Syntax

grace

Context

[Tree] (config>router>if>eth-cfm>mep grace)

Full Context

configure router interface eth-cfm mep grace

Description

Commands in this context configure Nokia ETH-CFM Grace and ITU-T Y.1731 ETH-ED expected defect functional parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.52 grace-tx-enable

grace-tx-enable

Syntax

[**no**] **grace-tx-enable**

Context

[Tree] (config>port>ethernet>efm-oam grace-tx-enable)

[Tree] (config>system>ethernet>efm-oam grace-tx-enable)

Full Context

configure port ethernet efm-oam grace-tx-enable

configure system ethernet efm-oam grace-tx-enable

Description

Enables the sending of grace for all the enabled EFM-OAM sessions on the node. Disabled by default at the system level and enabled by default at the port level. The combination of the system level and port level configuration will determine if the grace function is enabled on the individual ports. Both the system level and the port level must be enabled in order to support grace on a specific port. If either level is disabled, grace is not enabled on those ports. Enabling grace during an active ISSU or soft reset does not invoke the grace function for the active event.

When both **grace-tx-enable** and **config>system>ethernet>efm-oam dying-gasp-tx-on-reset**, **config>port>ethernet>efm-oam dying-gasp-tx-on-reset** are active on the same port, **grace-tx-enable** takes precedence when a soft reset is invoked if the Peer Vendor OUI being received is 00:16:4d (ALU) or the configured **config>port>ethernet>efm-oam grace-vendor-oui** value. The **grace-tx-enable** command should not be configured if the Nokia Vendor Specific Grace TLV is not supported on the remote peer.

The **no** form of this command disables the sending of the Nokia Vendor Specific Grace TLV.

Default

config>system>ethernet>efm-oam>no grace-tx-enable

config>port>ethernet>efm-oam>grace-tx-enable

Platforms

All

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grace-tx-enable

Syntax

[**no**] **grace-tx-enable**

Context

[Tree] (config>eth-cfm>system grace-tx-enable)

Full Context

configure eth-cfm system grace-tx-enable

Description

This command enables ETH-CFM grace transmission at the system level when a soft reset message is received and processed by the ETH-CFM module. Individual MEP configuration determines which of the two supported grace functions, ETH-VSM or ETH-ED, is used to announce grace.

This command controls the overall capability to transmit grace and does not control which grace announcement to use. This command also has no impact on the reception and processing of grace-style PDUs.

The **no** form of this command disables ETH-CFM grace transmission at the system level.

Default

grace-tx-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.53 grace-vendor-oui

grace-vendor-oui

Syntax

grace-vendor-oui *oui*

no grace-vendor-oui

Context

[Tree] (config>port>ethernet>efm-oam grace-vendor-oui)

Full Context

configure port ethernet efm-oam grace-vendor-oui

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Description

This optional command configures an additional peer vendor OUI which indicates support for the Vendor Specific EFM-OAM Grace functionality, allowing grace to be preferred over dying gasp when both are configured. This is in addition to the Nokia Vendor OUI 00:16:4d.

When both **grace-tx-enable (config>system>ethernet>efm-oam grace-tx-enable**, **config>port>ethernet>efm-oam grace-tx-enable)** and **dying-gasp-tx-on-reset (config>system>ethernet>efm-oam dying-gasp-tx-on-reset**, **config>port>ethernet>efm-oam dying-gasp-tx-on-reset)** are active on the same port, **grace-tx-enable** takes precedence when a soft reset is invoked if the Peer Vendor OUI being received is 00:16:4d (ALU) or the configured **grace-vendor-oui** value. The **grace-tx-enable** command should not be configured if the Nokia Vendor Specific Grace TLV is not supported on the remote peer, including Nokia 7750 SR equipment prior to release 11.0 R4.

The **no** form of this command removes the additional Vendor OUI but does not remove the Nokia 00:16:4d value.

Default

no grace-vendor-oui

Parameters

oui

Hex value in the range 00:00:00 to FF:FF:FF.

Platforms

All

18.54 graceful-restart

graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (config>service>vprn>bgp>group>neighbor graceful-restart)

[Tree] (config>service>vprn>bgp graceful-restart)

[Tree] (config>service>vprn>bgp>group graceful-restart)

Full Context

configure service vprn bgp group neighbor graceful-restart

configure service vprn bgp graceful-restart

configure service vprn bgp group graceful-restart

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Description

This command enables BGP graceful restart helper procedures (the "receiving router" role defined in the standard) for address families included in the GR capabilities of both peers. In a VPRN, SR OS can support GR helper functionality for IPv4, IPv6, label-ipv4, flow-ipv4 (IPv4 FlowSpec) and flow-ipv6 (IPv6 FlowSpec) routes.

When a neighbor covered by the GR helper mode restarts its control plane, forwarding can continue uninterrupted while the session is re-established and routes are re-learned.

The **no** form of this command disables graceful restart.

Platforms

All

graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (config>service>vprn>isis graceful-restart)

Full Context

configure service vprn isis graceful-restart

Description

This command enables IS-IS graceful restart (GR) to minimize service interruption. When the control plane of a GR-capable router fails or restarts, the neighboring routers (GR helpers) temporarily preserve IS-IS forwarding information. Traffic continues to be forwarded to the restarting router using the last known forwarding tables. If the control plane of the restarting router becomes operationally and administratively up within the grace period, the restarting router resumes normal IS-IS operation. If the grace period expires, then the restarting router is presumed inactive and the IS-IS topology is recalculated to route traffic around the failure.

The **no** form of this command disables graceful restart and removes the graceful restart configuration from the IS-IS instance.

Default

no graceful-restart

Platforms

All

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graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (config>service>vprn>ospf graceful-restart)

[Tree] (config>service>vprn>ospf3 graceful-restart)

Full Context

configure service vprn ospf graceful-restart

configure service vprn ospf3 graceful-restart

Description

This command enables OSPF graceful restart (GR) to minimize service interruption.

When the control plane of a GR-capable router fails or restarts, the neighboring routers (GR helpers) temporarily preserve OSPF forwarding information. Traffic continues to be forwarded to the restarting router using the last known forwarding tables. If the control plane of the restarting router becomes operationally and administratively up within the grace period, the restarting router resumes normal OSPF operation. If the grace period expires, the restarting router is presumed inactive and the OSPF topology is recalculated to route traffic around the failure.

The **no** form of this command disables GR and removes the GR configuration from the OSPF instance.

Default

no graceful-restart

Platforms

All

graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (config>router>ldp graceful-restart)

Full Context

configure router ldp graceful-restart

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Description

This command enables graceful restart helper.

The **no** form of this command disables graceful restart.

Graceful restart helper configuration changes, enable/disable, or change of a parameter will cause the LDP session to bounce.

Default

no graceful-restart (disabled) — Graceful-restart must be explicitly enabled.

Platforms

All

graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (config>router>bgp>group graceful-restart)

[Tree] (config>router>bgp>group>neighbor graceful-restart)

[Tree] (config>router>bgp graceful-restart)

Full Context

configure router bgp group graceful-restart

configure router bgp group neighbor graceful-restart

configure router bgp graceful-restart

Description

This command enables BGP graceful restart helper procedures (the "receiving router" role defined in the standard) for address families included in the GR capabilities of both peers. SR OS can support GR helper functionality for IPv4, IPv6, VPN-IPv4, VPN-IPv6, Label-IPv4, Label-IPv6, L2-VPN, Route-Target (RTC), Flow-IPv4 (IPv4 FlowSpec) and Flow-IPv6 (IPv6 FlowSpec) routes.

If a neighbor covered by the GR helper mode restarts its control plane, forwarding can continue uninterrupted while the session is re-established and routes are re-learned.

The **no** form of this command disables graceful restart.

Default

no graceful-restart

Platforms

All

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graceful-restart

Syntax

graceful-restart [**neighbor** *ip-address* | **group** *name*]

no graceful-restart

Context

[Tree] (debug>router>bgp graceful-restart)

Full Context

debug router bgp graceful-restart

Description

This command enables debugging for BGP graceful restart.

The **no** form of this command disables the debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

graceful-restart

Syntax

[**no**] **graceful-restart**

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Context

[Tree] (config>router>isis graceful-restart)

Full Context

configure router isis graceful-restart

Description

This command enables IS-IS graceful restart (GR) to minimize service interruption. When the control plane of a GR-capable router fails or restarts, the neighboring routers (GR helpers) temporarily preserve IS-IS forwarding information. Traffic continues to be forwarded to the restarting router using the last known forwarding tables. If the control plane of the restarting router becomes operationally and administratively up within the grace period, the restarting router resumes normal IS-IS operation. If the grace period expires, then the restarting router is presumed inactive and the IS-IS topology is recalculated to route traffic around the failure.

The **no** form of this command disables graceful restart and removes the graceful restart configuration from the IS-IS instance.

Default

no graceful-restart

Platforms

All

graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (debug>router>isis graceful-restart)

Full Context

debug router isis graceful-restart

Description

This command enables debugging for IS-IS graceful-restart.

The **no** form of the command disables debugging.

Platforms

All

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graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (config>router>ospf graceful-restart)

[Tree] (config>router>ospf3 graceful-restart)

Full Context

configure router ospf graceful-restart

configure router ospf3 graceful-restart

Description

This command enables OSPF graceful restart (GR) to minimize service disruption. When the control plane of a GR-capable router fails or restarts, the neighboring routers (GR helpers) temporarily preserve OSPF forwarding information. Traffic continues to be forwarded to the restarting router using the last known forwarding tables. If the control plane of the restarting router comes back up within the grace period, the restarting router resumes normal OSPF operation. If the grace period expires, then the restarting router is presumed inactive and the OSPF topology is recalculated to route traffic around the failure.

The **no** form of this command disables graceful restart and removes the graceful restart configuration from the OSPF instance.

Default

no graceful-restart

Platforms

All

graceful-restart

Syntax

[**no**] **graceful-restart**

Context

[Tree] (debug>router>ospf graceful-restart)

[Tree] (debug>router>ospf3 graceful-restart)

Full Context

debug router ospf graceful-restart

debug router ospf3 graceful-restart

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Description

This command enables debugging for OSPF and OSPF3 graceful restart.

Platforms

All

18.55 graceful-shutdown

graceful-shutdown

Syntax

[**no**] **graceful-shutdown**

Context

[Tree] (config>router>rsvp graceful-shutdown)

[Tree] (config>router>rsvp>interface graceful-shutdown)

Full Context

configure router rsvp graceful-shutdown

configure router rsvp interface graceful-shutdown

Description

This command initiates a graceful shutdown of the specified RSVP interface or all RSVP interfaces on the node if applied at the RSVP level. These are referred to as maintenance interface and maintenance node, respectively.

To initiate a graceful shutdown the maintenance node generates a PathErr message with a specific error sub-code of Local Maintenance on TE Link required for each LSP that is exiting the maintenance interface.

The node performs a single make-before-break attempt for all adaptive CSPF LSPs it originates and LSP paths using the maintenance interfaces. If an alternative path for an affected LSP is not found, then the LSP is maintained on its current path. The maintenance node also tears down and re-signals any detour LSP path using listed maintenance interfaces as soon as they are not active.

The maintenance node floods an IGP TE LSA/LSP containing Link TLV for the links under graceful shutdown with TE metric set to 0xffffffff and Unreserved Bandwidth parameter set to zero (0).

A head-end LER node, upon receipt of the PathErr message performs a single make-before-break attempt on the affected adaptive CSPF LSP. If an alternative path is not found, then the LSP is maintained on its current path.

A node does not take any action on the paths of the following originating LSPs after receiving the PathErr message:

a. An adaptive CSPF LSP for which the PathErr indicates a node address in the address list and the node corresponds to the destination of the LSP. In this case, there are no alternative paths which can be found.

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b. An adaptive CSPF LSP whose path has explicit hops defined using the listed maintenance interface(s)/ node(s).

c. A CSPF LSP with the adaptive option disabled and which current path is over the listed maintenance interfaces in the PathErr message. These are not subject to make-before-break.

d. A non CSPF LSP which current path is over the listed maintenance interfaces in the PathErr message.

The head-end LER node upon receipt of the updates IPG TE LSA/LSP for the maintenance interfaces updates the TE database. This information will be used at the next scheduled CSPF computation for any LSP which path may traverse any of the maintenance interfaces.

The **no** form of this command disables the graceful shutdown operation at the RSVP interface level or at the RSVP level. The configured TE parameters of the maintenance links are restored and the maintenance node floods the links.

Platforms

All

18.56 graft

graft

Syntax

graft [**source** *ip-address*] [**group** *grp-ip-address*] [**detail**]

no graft

Context

[Tree] (debug>router>pim graft)

Full Context

debug router pim graft

Description

This command enables debugging for PIM grafts.

The **no** form of this command disables PIM graft debugging.

Parameters

ip-address

Debugs graft information associated with the specified source.

Values source address (ipv4, ipv6)

grp-ip-address

Debugs graft information associated with the specified group.

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Values multicast group address (ipv4, ipv6)

detail

Debugs detailed graft information.

Platforms

All

18.57 granularity

granularity

Syntax

granularity {**percent** *percent-of-admin-pir* | **rate** *rate-in-kilobits-per-second*}

no granularity

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution granularity)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution granularity

Description

This command is used to create a step-like behavior where the operational PIR will round up to the nearest increment of the specified granularity before being applied to the child. The only exception is when the distributed bandwidth is less than 1% above a lower step value, in which case the lower step value is used.

This step-like behavior may be useful when the bandwidth used by an active child is well known. While the **above-offered-cap** command automatically adds a specified amount to the operational PIR of a child, the **granularity** command only increments the operational PIR to the next step value. While not expected to be used in conjunction, the **above-offered-cap** and **granularity** commands may be used simultaneously, in which case the above-offered-cap increase will be applied first, followed by the granularity rounding to the next step value.

If the **granularity** command is used with a percent-based value, the rounding up function of the configured PIR value on the policer or queue is based on the child's administrative PIR. In this case, care should be taken that the child is either configured with an explicit PIR rate (other than max) or the child's administrative PIR is defined using the percent-rate command with the local parameter enabled if an explicit value is not desired. When a maximum PIR is in use on the child, the system attempts to interpret the maximum child forwarding rate. This rate could be very large if the child is associated with multiple ingress or egress ports.

If the child's administrative PIR is modified while a percent-based granularity is in effect, the system automatically uses the new relative rounding value the next time the child's operational PIR is determined.

When this command is not specified or removed, the system makes no attempt to round up the child's determined operational PIR.

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The **no** form of this command is used to remove the operational PIR rounding behavior from all child policers and queues associated with the policy.

Parameters

percent-of-admin-pir

When the percent qualifier is used, the following percent-of-admin-pir parameter specifies the percentage of the child's administrative PIR that should be used as the rounding step value. If a value of 0 or 0.00 is used, the system will interpret this equivalent to no granularity.

Values 0.00 to 100.00

rate-in-kilobits-per-second

When the rate qualifier is used, the following rate-in-kilobits-per-second parameter specifies an explicit rate, in kb/s, that should be used as the child's rounding step value. If a rate step of 0 is specified, the system interprets this equivalent to no granularity.

Values 0 to 100,000,000

Platforms

All

granularity

Syntax

granularity {**percent** *percent-of-admin-pir* | **rate** *rate-in-kilobits-per-second*}

no granularity

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement granularity)

Full Context

configure qos adv-config-policy child-control offered-measurement granularity

Description

This command is used to adjust the sensitivity of the virtual scheduler to changes in the child offered rate. As the child offered rate is determined, it is compared to the previous offered rate. If the delta does not exceed the sensitivity threshold determined for the current offered rate, the change in offered rate is ignored for that iteration.

While it is assumed that changing the offered rate change sensitivity will be a rare occurrence, it may be prudent to react to smaller changes in the offered rate of a particular child policer or queue. Another possible reason for changing the sensitivity is that it may be desired to lower the impact of changes in offered rate on the virtual scheduler for a particular child by raising the granularity.

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A side effect of higher sensitivity (lower granularity) is that the virtual scheduler may need to adjust the distributed bandwidth between all children more often, resulting in the possibility of lowering resources available to other virtual scheduler instances on the slot.

A side effect of lower sensitivity (higher granularity) is that the parent virtual scheduler may distribute insufficient bandwidth to the child resulting in dropped packets.

If the granularity command is used with a percent-based value, the sensitivity is a function of the configured PIR value on the policer or queue. In this case, care should be taken that the child is either configured with an explicit PIR rate (other than max) or the child's administrative PIR is defined using the percent-rate command with the local parameter enabled if an explicit value is not desired. When a maximum PIR is in use on the child, the system attempts to interpret the maximum child forwarding rate. This rate could be very large if the child is associated with multiple ingress or egress ports.

Except for the overall cap on the offered input into the virtual scheduler, the child's administrative PIR has no effect on the calculated sensitivity if an explicit rate is specified.

If the child's administrative PIR is modified while a percent-based granularity is in effect, the system automatically uses the new relative sensitivity value the next time the child's offered rate is determined.

The **no** form of this command is used to restore the default offered rate sensitivity behavior to all child policers and queues associated with the policy.

Parameters

percent-of-admin-pir

When the percent qualifier is used, this parameter specifies the percentage of the child's administrative PIR that are used as the threshold sensitivity to the offered rate change. If a value of 0 or 0.00 is used, the system will interpret this equivalent to no granularity.

Values 1.00 to 100.00

rate-in-kilobits-per-second

When the rate qualifier is used, this parameter specifies an explicit rate, in kb/s, that are used as the child's offered rate change sensitivity value. If a rate sensitivity of 0 is specified, the system interprets this equivalent to no granularity.

Values 0 to 100,000,000

Platforms

All

18.58 gratuitous-arp

gratuitous-arp

Syntax

gratuitous-arp {one-per-sap| one-per-outer-tag}

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Context

[Tree] (config>subscr-mgmt>up-resiliency>fsg-template gratuitous-arp)

Full Context

configure subscriber-mgmt up-resiliency fate-sharing-group-template gratuitous-arp

Description

This command configures the granularity with which Gratuitous ARP packets are sent upon switchover events.

Parameters

one-per-sap

Specifies to send a single GARP per SAP. The Sender Protocol Address is any subnet associated with the SAP. If no subnet is available, the system IP is used.

one-per-outer-tag

Specifies to send a single GARP for all q-in-q SAPs sharing the same outer tag. For dot1q SAPs this behaves the same as **one-per-sap**. The Sender Protocol Address is any subnet associated with the SAP. If no subnet is available, the system IP is used.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.59 gratuitous-rtr-adv

gratuitous-rtr-adv

Syntax

[**no**] **gratuitous-rtr-adv**

Context

[Tree] (config>service>vprn>sub-if>ipoe-linking gratuitous-rtr-adv)

[Tree] (config>service>ies>sub-if>ipoe-linking gratuitous-rtr-adv)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-linking gratuitous-rtr-adv)

[Tree] (config>service>ies>sub-if>grp-if>ipoe-linking gratuitous-rtr-adv)

Full Context

configure service vprn subscriber-interface ipoe-linking gratuitous-rtr-adv

configure service ies subscriber-interface ipoe-linking gratuitous-rtr-adv

configure service vprn subscriber-interface group-interface ipoe-linking gratuitous-rtr-adv

configure service ies subscriber-interface group-interface ipoe-linking gratuitous-rtr-adv

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Description

This command enables the generation of unsolicited Router-advertisement on creation of v4 host.

The **no** form of this command disables **gratuitous-rtr-adv.**

Default

gratuitous-rtr-adv

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.60 gre

gre

Syntax

[**no**] **gre**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>type gre)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query type gre

Description

This command enables matching on GRE tunnels.

The **no** form of this command disables matching on GRE tunnels, unless no other tunnel type specifier is configured.

Default

no gre

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

gre

Syntax

[**no**] **gre**

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Context

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter gre)

Full Context

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter gre

Description

This command enables setting the tunnel type for the auto bind tunnel.

The **gre** encapsulation of the MPLS service packet uses the base 4-byte header as per RFC 2890. The optional fields Checksum (plus Reserved field), Key, and Sequence Number are not inserted.

The **no** form of this command disables the setting the tunnel type for the auto bind tunnel.

Default

no gre

Platforms

All

gre

Syntax

gre

Context

[Tree] (config>test-oam>build-packet>header gre)

Full Context

configure test-oam build-packet header gre

Description

This command creates a GRE header for inclusion in test OAM build packet instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

gre

Syntax

gre

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter gre)

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Full Context

configure service vprn auto-bind-tunnel resolution-filter gre

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

18.61 gre-eth-bridged

gre-eth-bridged

Syntax

gre-eth-bridged

Context

[Tree] (config>service>system gre-eth-bridged)

Full Context

configure service system gre-eth-bridged

Description

Commands in this context configure parameters related to termination of a GRE tunnel carrying Ethernet payload onto a PW port by using Forwarding Path Extensions (FPE).

Platforms

All

18.62 gre-header

gre-header

Syntax

gre-header send-key *send-key* **receive-key** *receive-key*

no gre-header

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Context

[Tree] (config>service>ies>if>sap>ip-tunnel gre-header)

[Tree] (config>service>vprn>if>sap>ip-tunnel gre-header)

Full Context

configure service ies interface sap ip-tunnel gre-header

configure service vprn interface sap ip-tunnel gre-header

Description

This command configures the type of the IP tunnel. If the **gre-header** command is configured then the tunnel is a GRE tunnel with a GRE header inserted between the outer and inner IP headers. If the **no** form of this command is configured then the tunnel is a simple IP-IP tunnel.

Default

no gre-header

Parameters

send-key *send-key*

Specifies a 32-bit unsigned integer.

Values 0 to 4294967295

receive-key *receive-key*

Specifies a 32-bit unsigned integer.

Values 0 to 4294967295

Platforms

All

18.63 gre-key

gre-key

Syntax

gre-key if-index

no gre-key

Context

[Tree] (config>filter>gre-tun-tmp>ipv4 gre-key)

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Full Context

configure filter gre-tunnel-template ipv4 gre-key

Description

This command enables the population of the GRE key field in the GRE header sent with the encapsulated IP packet.

The **no** form of this command disables the population of the optional GRE key field when the matching IP packet is sent encapsulated in a GRE tunnel.

Parameters

if-index

Causes the GRE key field to be populated with the ifIndex of the ingress interface on which the matching IP packet was received.

Platforms

All

18.64 gre-termination

gre-termination

Syntax

[**no**] **gre-termination**

Context

[Tree] (config>router>if gre-termination)

Full Context

configure router interface gre-termination

Description

This command enables the termination of MPLS-over-GRE and IP-over-GRE packets on destination IP addresses from a user-defined subnet. The user defines a subnet for the termination of GRE packets by applying the **gre-termination** command to a numbered network IP interface, including a loopback interface.

For more information, refer to "IP-over-GRE and MPLS-over-GRE Termination on a User-Configured Subnet" in the 7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide.

The **no** form of this command disables the termination of MPLS-over-GRE and IP-over-GRE packets on the subnet of the interface. Packets are dropped.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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gre-termination

Syntax

[**no**] **gre-termination**

Context

[Tree] (config>router>if>ipv6 gre-termination)

Full Context

configure router interface ipv6 gre-termination

Description

This command enables the termination of PW-encapsulated (MPLS-over-GRE) packets transported over IPv6 GRE.

This command is only supported on a single loopback interface in the base router with an IPv6 address and a /128 prefix.

This configuration is intended exclusively for tunneling traffic over Layer 3 redundant interfaces within the subscriber management context.

This configuration is not supported for terminating traffic associated with Layer 2 services or regular Layer 3 spoke SDP VPRN interfaces.

The **no** form of this command disables the termination of PW-encapsulated (MPLS-over-GRE) packets.

Default

no gre-termination

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.65 gre-tunnel-template

gre-tunnel-template

Syntax

gre-tunnel-template *name* [**create**]

no gre-tunnel-template *name*

Context

[Tree] (config>filter gre-tunnel-template)

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Full Context

configure filter gre-tunnel-template

Description

Commands in this context configure a GRE tunnel template parameters to be used to tunnel associated traffic.

The **no** form of this command removes the GRE tunnel template from the configuration.

Parameters

name

Specifies a GRE tunnel template name up to 32 characters.

create

This keyword is required to create the configuration context. Once it is created, the context can be enabled with or without the **create** keyword.

Platforms

All

18.66 group

group

Syntax

group *name* [**create**]

no group *name*

Context

[Tree] (config>qos>hw-agg-shap-sched-plcy group)

Full Context

configure qos hw-agg-shaper-scheduler-policy group

Description

This command creates a group within a hardware aggregate shaper scheduler policy.

The **no** form of this command removes the group from the policy.

Parameters

name

Specifies a group name, up to 32 characters.

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Platforms

7750 SR-1, 7750 SR-s

group

Syntax

group *tunnel-group-name* [**service-id** *service-id*]

no group

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>l2tp group)

Full Context

configure subscriber-mgmt local-user-db ppp host l2tp group

Description

This command configures the L2TP tunnel group. The tunnel-group-name is configured in the **config>router>l2tp** context. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide*.

Parameters

tunnel-group-name

Specifies an existing tunnel L2TP group, up to 63 characters.

service-id ***service-id***

Specifies an existing service ID or service name.

Values *service-id*: 1 to 214748364

service-name: up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

group *tunnel-group-name* [**create**]

group *tunnel-group-name* [**create**] [**protocol** *protocol*]

no group *tunnel-group-name*

Context

[Tree] (config>router>l2tp group)

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[Tree] (config>service>vprn>l2tp group)

Full Context

configure router l2tp group

configure service vprn l2tp group

Description

This command configures an L2TP tunnel group.

The **no** form of this command reverts removes the tunnel group name from the configuration.

Parameters

tunnel-group-name

Specifies a name string to identify a L2TP group up to 63 characters in length.

create

This keyword is mandatory when creating a tunnel group name. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

protocol

Specifies the l2tp protocol for use.

Values v2, v3, v3draft

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

group *tunnel-group-name*

Context

[Tree] (debug>router>l2tp group)

Full Context

debug router l2tp group

Description

This command enables and configures debugging for an L2TP group.

Parameters

tunnel-group-name

Specifies the tunnel group name, up to 63 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

group *name* [**create**]

no group *name*

Context

[Tree] (config>service>vpls>gsmp group)

[Tree] (config>service>vprn>gsmp group)

Full Context

configure service vpls gsmp group

configure service vprn gsmp group

Description

This command specifies a GSMP name. A GSMP group name is unique only within the scope of the service in which it is defined.

The **no** form of this command reverts to the default.

Parameters

name

Specifies a GSMP name up to 32 characters.

create

Keyword used to create the GSMP group name. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

group

Syntax

[**no**] **group** *ip-address*

Context

[Tree] (config>subscr-mgmt>igmp-policy>static group)

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Full Context

configure subscriber-mgmt igmp-policy static group

Description

This command adds or removes a static multicast group.

The **no** form of this command reverts to the default value.

Parameters

ip-address

Specifies the multicast group IP address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

[**no**] **group** *grp-ipv6-address*

Context

[Tree] (config>subscr-mgmt>mld-policy>static group)

Full Context

configure subscriber-mgmt mld-policy static group

Description

This command configures a static multicast group.

The **no** form of this command reverts to the default.

Parameters

grp-ipv6-address

Specifies the IPv6 address.

Values ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

- multicast group IPv6 address

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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group

Syntax

[**no**] **group** *group-name*

Context

[Tree] (config>service>ies>rip group)

[Tree] (config>service>vprn>rip group)

Full Context

configure service ies rip group

configure service vprn rip group

Description

This command creates a context for configuring a RIP group of neighbors. RIP groups are a way of logically associating RIP neighbor interfaces to facilitate a common configuration for RIP interfaces.

The **no** form of this command deletes the RIP neighbor interface group. Deleting the group also removes the RIP configuration of all the neighbor interfaces currently assigned to this group.

Default

no group

Parameters

group-name

The RIP group name. Allowed values are any string, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

group

Syntax

group *group-id* **rate** *rate*

no group *group-id*

Context

[Tree] (config>port>ethernet>egress>hs-sched-ovr group)

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Full Context

configure port ethernet egress hs-scheduler-overrides group

Description

This command overrides a group rate configured in the HS scheduler policy applied to the port egress.

The **no** form of this command removes the rate override from the port egress configuration.

Parameters

group-id

Specifies the group ID.

Values 1

rate

Specifies the maximum rate in megabits per second. When the **max** keyword follows the **rate** keyword, the bandwidth limitation is removed from the group. The **max** keyword is mutually exclusive to the **rate** parameter. Either the **max** keyword or a rate value must follow the **rate** keyword.

Values 1 to 100000, max

Platforms

7750 SR-7/12/12e

group

Syntax

[**no**] **group** *name*

Context

[Tree] (config>router>bgp group)

Full Context

configure router bgp group

Description

Commands in this context configure a BGP peer group.

The **no** form of this command deletes the specified peer group and all configurations associated with the peer group. The group must be shut down before it can be deleted.

Default

no group

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Parameters

name

Specifies the peer group name. Allowed values are any string, up to 64 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

group

Syntax

[**no**] **group** *grp-ip-address*

[**no**] **group** *grp-ipv6-address*

Context

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping>static group)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping>static group)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping>static group)

[Tree] (config>service>vpls>sap>igmp-snooping>static group)

[Tree] (config>service>vpls>sap>mld-snooping>static group)

[Tree] (config>service>vpls>igmp-snooping>static group)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping>static group)

Full Context

configure service vpls mesh-sdp igmp-snooping static group

configure service vpls spoke-sdp igmp-snooping static group

configure service vpls spoke-sdp mld-snooping static group

configure service vpls sap igmp-snooping static group

configure service vpls sap mld-snooping static group

configure service vpls igmp-snooping static group

configure service vpls mesh-sdp mld-snooping static group

Description

Commands in this context add a static multicast group as a (*, G) or as one or more (S,G) records. When a static MLD or IGMP group is added, multicast data for that (*,G) or (S,G) is forwarded to the specific SAP or SDP without receiving any membership report from a host.

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Parameters

grp-ip-address

Specifies an IGMP multicast group address that receives data on an interface. The IP address must be unique for each static group.

grp-ipv6-address

Specifies an MLD multicast group address that receives data on an interface. The IP address must be unique for each static group.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

group

Syntax

group *name* [**esm-dynamic-peer**]

no group *name*

Context

[Tree] (config>service>vprn>bgp group)

Full Context

configure service vprn bgp group

Description

This command creates a context to configure a BGP peer group.

The **no** form of this command deletes the specified peer group and all configurations associated with the peer group. The group must be shut down before it can be deleted.

Parameters

name

Specifies the peer group name. Allowed values is a string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

esm-dynamic-peer

Specifies that the given BGP group is used by BGP peers created dynamically based on subscriber-hosts pointing to corresponding BGP peering policy. There can be only one

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BGP group with this flag set in any given VPRN. No BGP neighbors can be manually configured in a BGP group with this flag set.

Default disabled

Platforms

All

group

Syntax

[**no**] **group** *grp-ip-address*

[**no**] **group start** *grp-ip-address* **end** *grp-ip-address* [**step** *ip-address*]

Context

[Tree] (config>service>vprn>igmp>if>static group)

Full Context

configure service vprn igmp interface static group

Description

This command adds a static multicast group either as a (*,G) or one or more (S,G) records. Use IGMP static group memberships to test multicast forwarding without a receiver host. When IGMP static groups are enabled, data is forwarded to an interface without receiving membership reports from host members.

When static IGMP group entries on point-to-point links that connect routers to a rendezvous point (RP) are configured, the static IGMP group entries do not generate join messages toward the RP.

Parameters

grp-ip-address

Specifies an IGMP multicast group address that receives data on an interface. The IP address must be unique for each static group. The address must be in dotted decimal notation.

start *grp-ip-address*

Specifies the start multicast group address.

end *grp-ip-address*

Specifies the end multicast group address.

step *ip-address*

Specifies the step increment.

Platforms

All

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group

Syntax

[**no**] **group** *grp-ipv6-address*

[**no**] **group start** *grp-ipv6-address* **end** *grp-ipv6-address* [**step** *ipv6-address*]

Context

[Tree] (config>service>vprn>mld>if>static group)

Full Context

configure service vprn mld interface static group

Description

Commands in this context add a static multicast group either as a (*,G) or one or more (S,G) records. Use MLD static group memberships to test multicast forwarding without a receiver host. When MLD static groups are enabled, data is forwarded to an interface without receiving membership reports from host members.

When static MLD group entries on point-to-point links that connect routers to a rendezvous point (RP) are configured, the static MLD group entries do not generate join messages toward the RP.

The **no** form of this command removes the IPv6 address from the configuration.

Parameters

grp-ipv6-address

Specifies an MLD multicast group address that receives data on an interface. The IP address must be unique for each static group.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

start *grp-ipv6-address*

Specifies the start multicast group address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

end *grp-ipv6-address*

Specifies the end multicast group address.

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Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

step *ipv6-address*

Specifies the step increment.

Platforms

All

group

Syntax

[**no**] **group** *group-name*

Context

[Tree] (config>service>vprn>msdp group)

Full Context

configure service vprn msdp group

Description

This command enables access to the context to create or modify a Multicast Source Discovery Protocol (MSDP) group. To configure multiple MSDP groups, include multiple group statements.

By default, the group's options are inherited from the global MSDP options. To override these global options, group-specific options within the group statement can be configured.

If the group name provided is already configured then this command only provides the context to configure the options pertaining to this group.

If the group name provided is not already configured, then the group name must be created and the context to configure the parameters pertaining to the group should be provided. In this case, the $ prompt to indicate that a new entity (group) is being created should be used.

For a group to be of use, at least one peer must be configured.

Default

no group

Parameters

group-name

Specifies a unique name for the MSDP group.

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Platforms

All

group

Syntax

[**no**] **group** *ip-address* [/*mask*]

Context

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi group)

Full Context

configure service vprn mvpn provider-tunnel selective multistream-spmsi group

Description

This command creates group prefixes that map to the multicast stream. At least one source must be specified for the policy to be active.

Parameters

Ip-address/mask

Specifies the IP address.

Values

ipv4-prefix	a.b.c.d	
	ipv4-prefix-le	[0..32]
ipv6-prefix		x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
	x	[0..FFFF]H
	d	[0..255]D
	ipv6-prefix-le	[0..128]

Platforms

All

group

Syntax

group *aa-group-id*[**:***partition-id*] [**create**]

no group *aa-group-id*:*partition-id*

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Context

[Tree] (config>app-assure group)

Full Context

configure application-assurance group

Description

This command configures and enables the context to configure an application assurance group and partition parameters.

Parameters

aa-group-id

Specifies a group of ISA MDAs.

Values 1 to 255

partition-id

Specifies a partition within a group.

Values 1 to 65535

create

Keyword used to create the partition in the group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

group *aa-group-id*[**:***partition-id*]

Context

[Tree] (debug>app-assure group)

Full Context

debug application-assurance group

Description

This command configures application-assurance within a group/partition debugging.

Parameters

aa-group-id[:partition-id]

Specifies the existing application assurance group and partition id.

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Values	*aa-group-id:parti** : *aa-group-id*[:*partition-id]*	
	aa-group-id	[1..255]
	partition-id	[1..65535]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

[**no**] **group** *grp-ip-address*

[**no**] **group start** *grp-ip-address* **end** *grp-ip-address* [**step** *ip-address*]

Context

[Tree] (config>router>igmp>if>static group)

Full Context

configure router igmp interface static group

Description

Commands in this context add a static multicast group either as a (*,G) or one or more (S,G) records. Use IGMP static group memberships to test multicast forwarding without a receiver host. When IGMP static groups are enabled, data is forwarded to an interface without receiving membership reports from host members.

When static IGMP group entries on point-to-point links that connect routers to a rendezvous point (RP) are configured, the static IGMP group entries do not generate join messages toward the RP.

Parameters

ip-address

Specifies an IGMP multicast group address that receives data on an interface. The IP address must be unique for each static group.

start *grp-ip-address*

Specifies the start multicast group address.

end *grp-ip-address*

Specifies the end multicast group address.

step *ip-address*

Specifies the step increment.

Platforms

All

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group

Syntax

[**no**] **group** *grp-ip-address*

Context

[Tree] (config>router>igmp>tunnel-interface>static group)

Full Context

configure router igmp tunnel-interface static group

Description

Commands in this context add a static multicast group either as a (*,G) or one or more (S,G) records.

The user can assign static multicast group joins to a tunnel interface associated with an RSVP P2MP LSP.

A given (*,G) or (S,G) can only be associated with a single tunnel interface.

A multicast packet which is received on an interface and which succeeds the RPF check for the source address will be replicated and forwarded to all OIFs which correspond to the branches of the P2MP LSP. The packet is sent on each OIF with the label stack indicated in the NHLFE of this OIF. The packets will also be replicated and forwarded natively on all OIFs which have received IGMP or PIM joins for this (S,G).

The multicast packet can be received over a PIM or IGMP interface which can be an IES interface, a spoke SDP terminated IES interface, or a network interface.

Parameters

grp-ip-address

Specifies a multicast group address that receives data on a tunnel interface. The IP address must be unique for each static group.

Platforms

All

group

Syntax

[**no**] **group** *grp-ipv6-address*

[**no**] **group start** *grp-ipv6-address* **end** *grp-ipv6-address* [**step** *ipv6-address*]

Context

[Tree] (config>router>mld>if>static group)

Full Context

configure router mld interface static group

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Description

Commands in this context add a static multicast group either as a (*,G) or one or more (S,G) records. Use MLD static group memberships to test multicast forwarding without a receiver host. When MLD static groups are enabled, data is forwarded to an interface without receiving membership reports from host members.

When static MLD group entries on point-to-point links that connect routers to a rendezvous point (RP) are configured, the static MLD group entries do not generate join messages toward the RP.

The **no** form of this command removes the IPv6 address from the configuration.

Parameters

grp-ipv6-address

Specifies an MLD multicast group address that receives data on an interface. The IP address must be unique for each static group.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

start *grp-ipv6-address*

Specifies the start multicast group address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

end *grp-ipv6-address*

Specifies the end multicast group address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

step *ipv6-address*

Specifies the step increment.

Platforms

All

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group

Syntax

[**no**] **group** *group-name*

Context

[Tree] (config>router>msdp group)

Full Context

configure router msdp group

Description

Commands in this context configure an MSDP group. Specifying a group name for the first time creates the group. To configure multiple MSDP groups, include multiple group statements.

By default, the group's options are inherited from the global MSDP options. To override these global options, configure the group-specific options within the **group** context.

For a group to function, at least one peer must be configured.

The **no** form of this command removes the specified group from the MSDP configuration.

Default

no group

Parameters

group-name

Specifies a MSDP group name, up to 32 characters.

Platforms

All

group

Syntax

group *group-id* **rate** *rate*

no group *group-id*

Context

[Tree] (config>qos>hs-scheduler-policy group)

Full Context

configure qos hs-scheduler-policy group

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Description

This command defines the maximum rate allowed for the scheduling classes mapped to the specified *group-id*. A group is a scheduling component used to combine up to six consecutive scheduling classes into a single strict priority level. Each scheduling class within the group has an associated weight. When the scheduler is servicing the strict level associated with the group, the ratio of bandwidth allocated to each scheduling class within the group during congestion is relative to the ratio of the weight of each active member.

The **no** form of the command reverts to the default.

Default

group 1 rate max

Parameters

group-id

Specifies the group ID. The group always exists and does not need to be created prior to defining group membership.

Values 1

rate

Specifies the maximum rate in megabits per second. When the **max** keyword follows the rate keyword, the bandwidth limitation is removed from the group. The **max** keyword and the *rate* parameter are mutually exclusive. Either **max** or a rate value must follow the **rate** keyword.

Values 1 to 100000, max

Platforms

7750 SR-7/12/12e

group

Syntax

group *name* [**create**]

no group *name*

Context

[Tree] (config>qos>port-scheduler-policy group)

Full Context

configure qos port-scheduler-policy group

Description

This command defines a weighted scheduler group within a port scheduler policy.

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The port scheduler policy defines a set of eight priority levels. The weighted scheduler group allows for the application of a scheduling weight to groups of child queues competing at the same priority level of the port scheduler policy applied to a Vport defined in the context of the egress of an Ethernet port or applied to the egress of an Ethernet port.

Up to eight groups can be defined within each port scheduler policy. One or more levels can map to the same group. A group has a rate and, optionally, a cir-rate, and inherits the highest scheduling priority of its member levels. A group receives bandwidth from the port or from the Vport and distributes it within the member levels of the group according to the weight of each level within the group.

Each priority level will compete for bandwidth within the group based on its weight under a congestion situation. If there is no congestion, a priority level can achieve up to its rate (cir-rate) worth of bandwidth.

CLI will enforce that mapping of levels to a group are contiguous. A user would not be able to add a priority level to a group unless the resulting set of priority levels is contiguous.

The **no** form of this command removes the group from the port scheduler policy.

Parameters

name

Specifies the name of the weighted scheduler group and can be up to 32 ASCII characters.

create

This keyword is mandatory when creating the specified group.

Platforms

All

group

Syntax

group *aa-group-id*

Context

[Tree] (admin>app-assure group)

Full Context

admin application-assurance group

Description

Commands in this context perform a group-specific upgrade.

Parameters

aa-group-id

Specifies an AA ISA group ID.

Values 1 to 255

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

group

Syntax

group *group-name*

no group

Context

[Tree] (config>system>security>user>snmp group)

Full Context

configure system security user snmp group

Description

This command associates (or links) a user to a group name. The group name must be configured with the **config>system>security>user >snmp>group** command. The **config>system>security>user access** command links the group with one or more views, security model (s), security level (s), and read, write, and notify permissions.

Parameters

group-name

Enter the group name (between 1 and 32 alphanumeric characters) that is associated with this user. A user can be associated with one group-name per security model.

Platforms

All

group

Syntax

[**no**] **group** *group-name*

Context

[Tree] (config>router>ripng group)

[Tree] (config>router>rip group)

Full Context

configure router ripng group

configure router rip group

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Description

This command creates a context for configuring a RIP group of neighbor interfaces.

RIP groups are a way of logically associating RIP neighbor interfaces to facilitate a common configuration for RIP interfaces.

The **no** form of the command deletes the RIP neighbor interface group. Deleting the group will also remove the RIP configuration of all the neighbor interfaces currently assigned to this group.

Default

no group

Parameters

group-name

Specifies the RIP group name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

group

Syntax

[**no**] **group** *ip-address* [*/mask*]

Context

[Tree] (config>service>vprn>mvpn>pt>selective>umh-rm group)

Full Context

configure service vprn mvpn provider-tunnel selective umh-rate-monitoring group

Description

This command configures UMH bandwidth monitoring for the specified <S,G>.

The **no** form of the command removes UMH bandwidth monitoring from the specified <S,G>.

Parameters

Ip-address/mask

Specifies the IP address.

Values

ipv4-prefix	a.b.c.d	
	ipv4-prefix-le	[0..32]
ipv6-prefix		x:x:x:x:x:x:x:x (eight 16-bit pieces)

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	x:x:x:x:x:x:d.d.d.d
x	[0..FFFF]H
d	[0..255]D
ipv6-prefix-le	[0..128]

Platforms

All

group

Syntax

group down *time* | **no group down**

group up *time* | **no group up**

Context

[Tree] (config>service>oper-group>hold-time group)

Full Context

configure service oper-group hold-time group

Description

The **group down** form of the command configures the number of seconds to wait before notifying clients monitoring this group when its operational status transitions from up to down.

The **group up** form of the command configures the number of seconds to wait before notifying clients monitoring this group when its operational status transitions from down to up. A value of zero indicates that transitions are reported immediately to monitoring clients. The up time option is a must to achieve fast convergence: when the group comes up, the monitoring MH site that tracks the group status may wait without impacting the overall convergence; there is usually a pair MH site that is already handling the traffic.

The **no** form of the command sets the values back to the default.

Default

group down 0

group up 4

Parameters

time

Specifies the group up or group down time value.

Values 0 to 3600

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Platforms

All

18.67 group-address

group-address

Syntax

group-address *prefix-list-name*

no group-address

Context

[Tree] (config>router>policy-options>policy-statement>entry>from group-address)

Full Context

configure router policy-options policy-statement entry from group-address

Description

This command specifies the multicast group-address prefix list containing multicast group-addresses that are embedded in the join or prune packet as a filter criterion. The prefix list must be configured prior to entering this command. Prefix lists are configured in the **config>router>policy-options>prefix-list** context.

The **no** form of this command removes the criterion from the configuration.

Default

no group-address

Parameters

prefix-list-name

Specifies the prefix-list name. Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The *prefix-list-name* is defined in the **config>router>policy-options>prefix-list** context.

Platforms

All

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18.68 group-encryption

group-encryption

Syntax

group-encryption

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw group-encryption)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw group-encryption)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw group-encryption

configure service ies subscriber-interface group-interface wlan-gw group-encryption

Description

This command configures group encryption for the WLAN-GW group interface.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

group-encryption

Syntax

[**no**] **group-encryption**

Context

[Tree] (config>router>interface group-encryption)

Full Context

configure router interface group-encryption

Description

This command enables NGE on the router interface. When NGE is enabled on the interface, all received Layer 3 packets that have the protocol ID configured as ESP are considered to be NGE packets and must be encrypted using a valid set of keys from any preconfigured key group on the system.

The **no** form of this command disables NGE on the interface. NGE cannot be disabled unless all key groups and IP exception filters are removed.

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Default
no group-encryption

Platforms
VSR

group-encryption

Syntax
group-encryption

Context
[Tree] (config group-encryption)

Full Context
configure group-encryption

Description
Commands in this context configure group encryption parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.69 group-encryption-label

group-encryption-label

Syntax
group-encryption-label *encryption-label*
no group-encryption-label

Context
[Tree] (config>grp-encryp group-encryption-label)

Full Context
configure group-encryption group-encryption-label

Description
This command configures the group encryption label used to identify when an MPLS payload is encrypted. This label must be unique network-wide and must be configured consistently on all nodes participating in a

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network group encryption domain. The label cannot be changed or deleted when there are any key groups configured on the node.

The **no** form of the command reverts to the default setting.

Parameters

encryption-label

The network-wide, unique reserved MPLS label for group encryption.

Values 32 to 2047

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.70 group-inserted-entries

group-inserted-entries

Syntax

group-inserted-entries application *application* **location** *location*

Context

[Tree] (config>filter>ipv6-filter group-inserted-entries)

[Tree] (config>filter>ip-filter group-inserted-entries)

Full Context

configure filter ipv6-filter group-inserted-entries

configure filter ip-filter group-inserted-entries

Description

This command groups automatically-inserted entries.

Parameters

application

Specifies the application for which the group entries are inserted.

Values radius, credit-control

location

Specifies the location in the entry list in which the group entries are inserted.

Values top, bottom

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.71 group-interface

group-interface

Syntax

group-interface *ip-int-name* [**prefix** {*port-id*}] [**suffix** {*port-id*}]

no group-interface

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>msap-defaults group-interface)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>msap-defaults group-interface)

Full Context

configure subscriber-mgmt local-user-db ipoe host msap-defaults group-interface

configure subscriber-mgmt local-user-db ppp host msap-defaults group-interface

Description

This command configures the group interface.

The **no** form of this command removes the group interface parameters from the configuration.

Parameters

ip-int-name

Specifies the IP interface name, up to 32 characters.

prefix *port-id*

Specifies the port ID as the prefix to the specified IP interface name.

suffix *port-id*

Specifies the port ID as the suffix to the specified IP interface name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group-interface

Syntax

group-interface *ip-int-name* [**create**] [**type**]

no group-interface *ip-int-name*

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Context

[Tree] (config>service>ies>sub-if group-interface)

[Tree] (config>service>vprn>sub-if group-interface)

Full Context

configure service ies subscriber-interface group-interface

configure service vprn subscriber-interface group-interface

Description

This command creates a group interface. This interface is designed for triple play services where multiple SAPs are part of the same subnet. A group interface may contain one or more SAPs.

The **no** form of this command removes the group interface from the subscriber interface.

Default

no group-interface

Parameters

ip-int-name

Specifies the interface name of a group interface. If the string contains special characters (#, $, spaces, and so on.), the entire string must be enclosed within double quotes.

type

Specifies the interface type.

Values bonding — Specifies to use connection bonding.

gtp — Specifies to use GTP.

lns — Specifies to use LNS.

wlangw — Specifies to use WLANGW.

create

Keyword used to create the group interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group-interface

Syntax

group-interface *interface-name* **svc-id** *service-id*

no group-interface

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn>defaults group-interface)

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Full Context

configure subscriber-mgmt gtp apn-policy apn defaults group-interface

Description

This command configures the default group interface where the hosts of the GTP connection is enabled. The group interface must be of type **gtp**.

The **no** form of this command removes the default group interface. In this case, a group interface must be specified using authentication.

Default

no group-interface

Parameters

interface-name

Specifies the name of the group interface, up to 32 characters.

service-id

Specifies the ID of the service where the group interface resides.

Values

service-id: 1 to 2147483647

svc-name: up to 64 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

group-interface

Syntax

[**no**] **group-interface** *ip-int-name*

[**no**] **group-interface fwd-service** *service-id ip-int-name*

Context

[Tree] (config>service>vprn>igmp group-interface)

Full Context

configure service vprn igmp group-interface

Description

This command configures IGMP group interfaces.

The **no** form of this command reverts to the default.

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Parameters

ip-int-name

Specifies the name of the IP interface. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

fwd-service *service-id*

Specifies the service ID. This is only configured in the retailer VRF. This construct references the wholesaler service under which the group-interface (and the subscriber) is actually defined.

Values 1 to 2147483650, svc-name up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

group-interface

Syntax

[**no**] **group-interface** [**fwd-service** *service-id*] [*ip-int-name*]

Context

[Tree] (debug>router>igmp group-interface)

Full Context

debug router igmp group-interface

Description

This command enables debugging for IGMP group-interface.

The **no** form of the command disables debugging.

Parameters

service-id

Debugs information associated with the service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

ip-int-name

Debugs information associated with the specified IP interface name.

Values IP interface address

Platforms

All

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group-interface

Syntax

[**no**] **group-interface** *ip-int-name*

Context

[Tree] (config>router>igmp group-interface)

[Tree] (config>router>igmp>if group-interface)

Full Context

configure router igmp group-interface

configure router igmp interface group-interface

Description

This command enables IGMP on a group-interface in a VRF context. Activating IGMP under the group-interface is a prerequisite for subscriber replication. The group-interface is also needed so that MCAC can be applied and various IGMP parameters defined.

This command can be used in a regular, wholesaler or retailer type of VRF. The retailer VRF does not have the concept of group-interfaces under the subscriber-interface hierarchy. In the case that this command is applied to a retailer VRF instance, the optional **fwd-service** command must be configured. The **fwd-service** command is referencing the wholesaler VRF in which the traffic is ultimately replicated. Redirection in the retailer VRF is supported.

This command enables IGMP on a group-interface in the Global Routing Table (GRT). The group-interface in GRT is defined under the IES service. Activating IGMP under the group-interface is a prerequisite for subscriber replication. The group-interface is also needed so that MCAC can be applied and various IGMP parameters defined.

Parameters

ip-int-name

Specifies the name of the group interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface

All

- configure router igmp interface group-interface

group-interface

Syntax

[**no**] **group-interface** *ip-int-name*

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Context

[Tree] (config>router>mld group-interface)

Full Context

configure router mld group-interface

Description

This command creates and enables the context to configure MLD group interface parameters.

The **no** form of this command removes the interface name from the MLD configuration.

Parameters

ip-int-name

Specifies the IP group interface name. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.72 group-interface-statistics

group-interface-statistics

Syntax

group-interface-statistics

Context

[Tree] (config>subscr-mgmt group-interface-statistics)

Full Context

configure subscriber-mgmt group-interface-statistics

Description

Commands in this context enable or disable the collection of group interface statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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18.73 group-interface-template

group-interface-template

Syntax

group-interface-template *name* [**create**]

no group-interface-template *name*

Context

[Tree] (config>subscr-mgmt group-interface-template)

Full Context

configure subscriber-mgmt group-interface-template

Description

This command creates a template for specifying parameters for automatically generated group interfaces, for example, the creation of CUPS sessions. When no specific name is specified, a template named "default" is used, if it has been manually provisioned.

Parameters

name

Specifies the name of the group interface, up to 32 characters.

create

Keyword used to create the group interface template.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.74 group-list

group-list

Syntax

group-list *name*

no group-list

Context

[Tree] (config>system>security>tls>client-tls-profile group-list)

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Full Context

configure system security tls client-tls-profile group-list

Description

This command assigns an existing TLS 1.3 group list to the TLS client profile.

The **no** form of this command removes the group list from the client profile.

Default

no group-list

Parameters

name

Specifies the name of the group list, up to 32 characters.

Platforms

All

group-list

Syntax

group-list *name*

no group-list

Context

[Tree] (config>system>security>tls>server-tls-profile group-list)

Full Context

configure system security tls server-tls-profile group-list

Description

This command assigns an existing TLS 1.3 group list to the TLS server profile.

The **no** form of this command removes the group list from the server profile.

Default

no group-list

Parameters

name

Specifies the name of the group list, up to 32 characters.

Platforms

All

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18.75 group-name

group-name

Syntax

group-name *group-name* **value** *group-value*

no group-name *group-name*

Context

[Tree] (config>service>sdp-group group-name)

Full Context

configure service sdp-group group-name

Description

This command defines SDP administrative groups, referred to as SDP admin groups.

SDP admin groups provide a way for services using a pseudowire template to automatically include or exclude specific provisioned SDPs. SDPs sharing a specific characteristic or attribute can be made members of the same admin group. When users configure a pseudowire template, they can include and/or exclude one or more admin groups. When the service is bound to the pseudowire template, the SDP selection rules will enforce the admin group constraints specified in the **sdp-include** and **sdp-exclude** commands.

A maximum of 32 admin groups can be created. The group value ranges from zero (0) to 31. It is uniquely associated with the group name at creation time. If the user attempts to configure another group name for a group value that is already assigned to an existing group name, the SDP admin group creation is failed. The same happens if the user attempts to configure an SDP admin group with a new name but associates it to a group value already assigned to an existing group name.

The **no** option of this command deletes the SDP admin group but is only allowed if the group-name is not referenced in a PW template or SDP.

Parameters

group-name

Specifies the name of the SDP admin group. A maximum of 32 characters can be entered.

group-value

Specifies the group value associated with this SDP admin group. This value is unique within the system.

Values 0 to 31

Platforms

All

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18.76 group-number

group-number

Syntax

group-number *hex-string*

no group-number

Context

[Tree] (config>card>mda>flex group-number)

Full Context

configure card mda flex group-number

Description

This command configures the FlexE group number to use in the FlexE overhead to identify this group.

The **no** form of this command removes the FlexE group number.

Default

no group-number

Parameters

hex-string

Specifies the FlexE group number as a hexadecimal string.

Values 0x1 to 0xffffe

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

18.77 group-policy

group-policy

Syntax

group-policy *policy-name*

no group-policy

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Context

[Tree] (config>service>vpls>sap>igmp-snooping>mvr group-policy)

[Tree] (config>service>vpls>pim-snooping group-policy)

[Tree] (config>service>vpls>igmp-snp>mvr group-policy)

[Tree] (config>service>vpls>mld-snooping>mvr group-policy)

Full Context

configure service vpls sap igmp-snooping mvr group-policy

configure service vpls pim-snooping group-policy

configure service vpls igmp-snooping mvr group-policy

configure service vpls mld-snooping mvr group-policy

Description

This command identifies filter policy of multicast groups to be applied to this VPLS entity. The sources of the multicast traffic must be a member of the VPLS.

The **no** form of this command removes the policy association from the VPLS configuration.

Default

no group-policy

Parameters

policy-name

Specifies the group policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Routing policies are configured in the config>router>policy-options context. The router policy must be defined before it can be imported.

Platforms

All

18.78 group-prefix

group-prefix

Syntax

group-prefix *ip-address/mask* [*ip-address/mask*] [**starg**]

no group-prefix *ip-address/mask*

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Context

[Tree] (config>service>vprn>mvpn>rpf-select>core-mvpn group-prefix)

Full Context

configure service vprn mvpn rpf-select core-mvpn group-prefix

Description

This command configures multicast group IPv4 prefixes for the MVPN with per-group mapping extranet functionality. Multiple lines are allowed. Duplicate prefixes are ignored.

When the starg option is specified, extranet functionality is enabled for PIM ASM as for the specified group. When the option is not specified (not recommended with PIM ASM), the PIM ASM join will be mapped and data plane will be established, but the control plane will not be updated on SPT switchover, unless the switchover is driven by a CPE router on a receiver side.

The **no** form of this command deletes specified prefix from the list, or removes mapping of all prefixes if group-prefix any was specified.

Parameters

ip-address/mask

Specifies the IPv4 multicast address prefix with mask. Up to 8 addresses can be specified in a single statement.

Platforms

All

group-prefix

Syntax

group-prefix *ip-address*/*mask* [*ip-address*/*mask*...(up to 8 max)] [**starg**]

group-prefix any

no group-prefix *ip-address/mask*

no group-prefix any

Context

[Tree] (config>service>vprn>pim>grt-extranet group-prefix)

Full Context

configure service vprn pim grt-extranet group-prefix

Description

This command configures multicast group IPv4 prefixes for the multicast GRT/VRF with per-group mapping extranet functionality. Multiple lines are allowed. Duplicate prefixes are ignored. The operator can either configure specific groups for extranet or specify all groups by using the keyword **any**. The two options are mutually exclusive in configuration.

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When the **starg** option is specified, the extranet functionality is enabled for PIM ASM as for the specified group. When the option is not specified (not recommended with PIM ASM), the PIM ASM join is mapped and the data plane is established, but the control plane is not updated on SPT switchover unless the switchover is driven by a CPE router on a receiver side.

The **no** form of this command deletes the specified prefix from the list, or removes the mapping of all prefixes if **group-prefix any** was specified.

Parameters

ip-address/mask

Specifies the IPv4 multicast address prefix with mask.

Platforms

All

group-prefix

Syntax

[**no**] **group-prefix grp-ipv6-address/prefix-length**

Context

[Tree] (config>service>vprn>pim>rp>ipv6>static group-prefix)

Full Context

configure service vprn pim rp ipv6 static group-prefix

Description

The group-prefix for a static-rp defines a range of multicast-ip-addresses for which this static RP is applicable.

The **no** form of this command removes the criterion.

Parameters

grp-ipv6-address

Specifies the multicast IPv6 address.

prefix-length

Specifies the address prefix length.

Values	grp-ipv6-address	: x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D

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prefix-length [8 to 128]

Platforms

All

group-prefix

Syntax

[**no**] **group-prefix** {*grp-ip-addressImask* | *grp-ip-address netmask*}

Context

[Tree] (config>service>vprn>pim>rp>static group-prefix)

Full Context

configure service vprn pim rp static group-prefix

Description

The **group-prefix** for a static-rp defines a range of multicast-ip-addresses for which a certain RP is applicable.

The **no** form of this command removes the criterion.

Parameters

grp-ip-address

Specifies the multicast IP address.

mask

Defines the mask of the multicast-ip-address.

Values 4 to 32

netmask

The subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

Platforms

All

group-prefix

Syntax

[**no**] **group-prefix** *grp-ipv6-addressIprefix-length*

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Context

[Tree] (config>router>pim>rp>ipv6>static>address group-prefix)

[Tree] (config>router>pim>rp>static>address group-prefix)

Full Context

configure router pim rp ipv6 static address group-prefix

configure router pim rp static address group-prefix

Description

This command specifies the range of multicast group addresses which should be used by the router as the Rendezvous Point (RP). The **config**>**router**>**pim**>**rp**>**static**> **address** *a.b.c.d* implicitly defaults to deny all for all multicast groups (224.0.0.0/4). A group-prefix must be specified for that static address. This command does not apply to the whole group range.

The **no** form of this command removes the group-prefix from the configuration.

Parameters

grp-ipv6-address

Specifies the multicast group IPv6 address expressed in dotted decimal notation.

Values grp-ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0..FFFF]H

d [0..255]D

prefix-length

Specifies the prefix length of the IPv6 address.

Values 8 to 128

Platforms

All

18.79 group-range

group-range

Syntax

[**no**] **group-range** {*ipv6-address*/*prefix-length*}

Context

[Tree] (config>service>vprn>pim>rp>ipv6>embedded-rp group-range)

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[Tree] (config>service>vprn>pim>rp>ipv6>rp-candidate group-range)

Full Context

configure service vprn pim rp ipv6 embedded-rp group-range

configure service vprn pim rp ipv6 rp-candidate group-range

Description

This command configures the group address or range of group addresses for which this router can be the rendezvous point (RP).

The **no** form of this command removes the group address or range of group addresses for which this router can be the RP from the configuration.

Parameters

ipv6-address

Specifies the addresses or address ranges that this router can be an RP.

prefix-length

Specifies the address prefix length.

Values		
	ipv6-address	: x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D
	prefix-length	[8 to 128] // for embedded-rp
	prefix-length	[16 to 128] // for rp-candidate

Platforms

All

group-range

Syntax

[**no**] **group-range** {*ip-prefixlmask* | *ip-prefix netmask*}

Context

[Tree] (config>service>vprn>pim>ssm group-range)

[Tree] (config>service>vprn>pim>rp>rp-candidate group-range)

Full Context

configure service vprn pim ssm-groups group-range

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configure service vprn pim rp rp-candidate group-range

Description

This command configures the group address or range of group addresses for which this router can be the rendezvous point (RP).

Use the **no** form of this command to remove the group address or range of group addresses for which this router can be the RP from the configuration.

Parameters

ip-prefix

Specifies the addresses or address ranges that this router can be an RP.

Values ipv4-prefix - a.b.c.d ipv4-prefix-le - [0 to 32] ipv6-prefix - x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x - [0 to FFFF]H d - [0 to 255]D ipv6-prefix-le - [0 to 128]

mask

Specifies the address mask with the address to define a range of addresses.

netmask

Specifies the subnet mask in dotted decimal notation.

Values :a.b.c.d (network bits all 1 and host bits all 0)

Platforms

All

group-range

Syntax

[**no**] **group-range** *ipv6-address/prefix-length*

Context

[Tree] (config>router>pim>rp>ipv6>embedded-rp group-range)

[Tree] (config>router>pim>rp>ipv6>rp-candidate group-range)

Full Context

configure router pim rp ipv6 embedded-rp group-range

configure router pim rp ipv6 rp-candidate group-range

Description

This command defines which multicast groups can embed RP address information besides FF70::/12. Embedded RP information is only used when the multicast group is in FF70::/12 or the configured group range.

The **no** form of this command removes the parameter from the

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Parameters

ipv6-address/prefix-length

Specifies the group range for embedded RP.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

prefix-length: 16 to 128

Platforms

All

group-range

Syntax

[**no**] **group-range** {*grp-ip-address/mask* | *grp-ip-address netmask*}

Context

[Tree] (config>router>pim>rp>rp-candidate group-range)

Full Context

configure router pim rp rp-candidate group-range

Description

This command configures the address ranges of the multicast groups for which this router can be an RP.

The **no** form of this commands removes the parameter from the configuration.

Parameters

grp-ip-address

Specifies the multicast group IP address expressed in dotted decimal notation.

Values 224.0.0.0 to 239.255.255.255

mask

Specifies the mask associated with the IP prefix expressed as a mask length or in dotted decimal notation; for example, /16 for a sixteen-bit mask. The mask can also be entered in dotted decimal notation (255.255.0.0).

Values 4 to 32

netmask

Specifies the subnet mask in dotted decimal notation.

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Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

Platforms

All

group-range

Syntax

[**no**] **group-range** {*ip-prefix/mask* | *ip-prefix netmask*}

Context

[Tree] (config>router>pim>ssm-groups group-range)

Full Context

configure router pim ssm-groups group-range

Description

This command configures the address ranges of the multicast groups for this router. When there are parameters present, the command configures the SSM group ranges for IPv6 addresses and netmasks.

The **no** form of this command removes the parameter from the configuration.

Parameters

ip-prefix/mask

Specifies the IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area ipv6-prefix.

Values ipv4-prefix:

- a.b.c.d

ipv4-prefix-le: 0 to 32

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ipv6-prefix-le: 0 to 128

Values 0 to 32 (mask length), 0.0.0.0 to 255.255.255.255 (dotted decimal)

netmask

Specifies the subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

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Platforms

All

18.80 group-session-limit

group-session-limit

Syntax

group-session-limit *session-limit*

group-session-limit unlimited

no group-session-limit

Context

[Tree] (config>router>l2tp group-session-limit)

[Tree] (config>service>vprn>l2tp group-session-limit)

Full Context

configure router l2tp group-session-limit

configure service vprn l2tp group-session-limit

Description

This command configures the session limit. The value controls how many L2TP session will be allowed within a given context (system, group, tunnel).

The **no** form of this command removes the session limit value from the configuration.

Default

no group-session-limit

Parameters

session-limit

Specifies the allowed number of sessions within the given context.

Values 1 to 250000

unlimited

Specifies to use the maximum number of sessions available.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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18.81 grp-if-query-src-ip

grp-if-query-src-ip

Syntax

grp-if-query-src-ip *ip-address*

no grp-if-query-src-ip

Context

[Tree] (config>service>vprn>igmp grp-if-query-src-ip)

Full Context

configure service vprn igmp grp-if-query-src-ip

Description

This command configures the query source IP address for all group interfaces.

The **no** form of this command removes the IP address.

Platforms

All

grp-if-query-src-ip

Syntax

grp-if-query-src-ip *ip-address*

no grp-if-query-src-ip

Context

[Tree] (config>router>igmp grp-if-query-src-ip)

Full Context

configure router igmp grp-if-query-src-ip

Description

This command configures the query source IP address for all group interfaces.

The **no** form of the command removes the IP address.

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Parameters

ip-address

Sets the query source IP address.

Platforms

All

grp-if-query-src-ip

Syntax

grp-if-query-src-ip *ipv6-address*

no grp-if-query-src-ip

Context

[Tree] (config>router>mld grp-if-query-src-ip)

Full Context

configure router mld grp-if-query-src-ip

Description

This command configures the query source IPv6 address for all group interfaces.

The **no** form of this command removes the IP address.

Parameters

ipv6-address

Sets the source IPv6 address for all group interfaces. The address can be up to 64 characters. The source address should be link local.

Platforms

All

18.82 grp-range

grp-range

Syntax

[**no**] **grp-range** *start end*

Context

[Tree] (config>service>vprn>igmp>ssm-translate grp-range)

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Full Context

configure service vprn igmp ssm-translate grp-range

Description

This command is used to configure group ranges which are translated to SSM (S,G) entries.

Parameters

start

An IP address that specifies the start of the group range.

end

An IP address that specifies the end of the group range. This value should always be greater than or equal to the value of the *start* value.

Platforms

All

grp-range

Syntax

[**no**] **grp-range** *start end*

Context

[Tree] (config>service>vprn>mld>ssm-translate grp-range)

Full Context

configure service vprn mld ssm-translate grp-range

Description

This command is used to configure group ranges which are translated to SSM (S,G) entries.

Parameters

start

An IP address that specifies the start of the group range.

end

An IP address that specifies the end of the group range. This value should always be greater than or equal to the value of the *start* value.

Platforms

All

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grp-range

Syntax

[**no**] **grp-range** *start end*

Context

[Tree] (config>router>igmp>ssm-translate grp-range)

[Tree] (config>router>igmp>if>ssm-translate grp-range)

Full Context

configure router igmp ssm-translate grp-range

configure router igmp interface ssm-translate grp-range

Description

This command is used to configure group ranges which are translated to SSM (S,G) entries.

Parameters

start

An IP address that specifies the start of the group range.

end

An IP address that specifies the end of the group range. This value should always be greater than or equal to the value of the *start* value.

Platforms

All

grp-range

Syntax

[**no**] **grp-range** *start end*

Context

[Tree] (config>router>mld>ssm-translate grp-range)

[Tree] (config>router>mld>if>ssm-translate grp-range)

Full Context

configure router mld ssm-translate grp-range

configure router mld interface ssm-translate grp-range

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Description

This command is used to configure group ranges which are translated to SSM (S,G) entries.

The **no** form of this command removes the start and end ranges from the configuration.

Parameters

start

Specifies an IP address for the start of the group range.

end

Specifies an IP address for the end of the group range. This value should always be greater than or equal to the value of the *start* value.

Platforms

All

18.83 grpc

grpc

Syntax

[**no**] **grpc**

Context

[Tree] (debug>system grpc)

Full Context

debug system grpc

Description

This command enables the debug context for gRPC.

The **no** form of this command removes any debug activation within the gRPC context.

Platforms

All

grpc

Syntax

grpc

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Context

[Tree] (config>system>security>management-interface grpc)

Full Context

configure system security management-interface grpc

Description

Commands in this context configure hash-control for the gRPC interface.

Platforms

All

grpc

Syntax

grpc

Context

[Tree] (config>system>security>profile grpc)

Full Context

configure system security profile grpc

Description

Commands in this context configure a specific gRPC security profile.

Platforms

All

grpc

Syntax

grpc

Context

[Tree] (config>system grpc)

[Tree] (admin>system>telemetry grpc)

Full Context

configure system grpc

admin system telemetry grpc

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Description

Commands in this context configure gRPC parameters.

Platforms

All

18.84 grpc-tunnel

grpc-tunnel

Syntax

grpc-tunnel

Context

[Tree] (config>system grpc-tunnel)

Full Context

configure system grpc-tunnel

Description

Commands in this context configure the GRPC tunnel.

Platforms

All

18.85 grt

grt

Syntax

[**no**] **grt**

Context

[Tree] (config>service>vprn>static-route-entry grt)

Full Context

configure service vprn static-route-entry grt

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Description

This command creates a static route in a VPRN service context that points to the global routing context (base router). This is primarily used to allow traffic that ingress through a VPRN service to be routed out of the global routing context.

This next-hop type cannot be used in conjunction with any other next-hop types.

Default

no grt

Platforms

All

18.86 grt-extranet

grt-extranet

Syntax

[**no**] **grt-extranet**

Context

[Tree] (config>service>vprn>pim grt-extranet)

Full Context

configure service vprn pim grt-extranet

Description

Commands in this context configure GRT/VRF extranet for this MVPN instance.

Platforms

All

18.87 grt-lookup

grt-lookup

Syntax

grt-lookup

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Context

[Tree] (config>service>vprn grt-lookup)

Full Context

configure service vprn grt-lookup

Description

Commands in this context configure all Global Route Table (GRT) leaking commands. If all the supporting commands in the context are removed, this command is also removed.

Platforms

All

18.88 gsmp

gsmp

Syntax

gsmp

Context

[Tree] (config>service>vpls gsmp)

[Tree] (config>service>vprn gsmp)

Full Context

configure service vpls gsmp

configure service vprn gsmp

Description

Commands in this context configure General Switch Management Protocol (GSMP) connections maintained in this service.

Platforms

All

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18.89 gtm

gtm

Syntax

gtm

Context

[Tree] (config>router gtm)

Full Context

configure router gtm

Description

Commands in this context configure GTM parameters.

Platforms

All

gtm

Syntax

gtm

Context

[Tree] (config>router>pim gtm)

Full Context

configure router pim gtm

Description

Commands in this context configure GTM parameters.

Platforms

All

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18.90 gtp

gtp

Syntax

gtp

Context

[Tree] (config>router gtp)

[Tree] (config>service>vprn gtp)

Full Context

configure router gtp

configure service vprn gtp

Description

Commands in this context configure GTP parameters for the routing context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp

Syntax

gtp

Context

[Tree] (config>subscr-mgmt gtp)

Full Context

configure subscriber-mgmt gtp

Description

Commands in this context configure box-wide GTP parameters and profiles.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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gtp

Syntax
gtp

Context
[Tree] (debug gtp)

Full Context
debug gtp

Description
Commands in this context configure debugging for GTP.

Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp

Syntax
[**no**] **gtp**

Context
[Tree] (config>service>vprn>wlan-gw gtp)

Full Context
configure service vprn wlan-gw gtp

Description
Commands in this context configure distributed GTP parameters.

Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp

Syntax
gtp

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Context

[Tree] (config>app-assure>group gtp)

Full Context

configure application-assurance group gtp

Description

Commands in this context configure GTP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp

Syntax

[**no**] **gtp**

Context

[Tree] (config>sys>security>cpu-protection>ip>included-protocols gtp)

Full Context

configure system security cpu-protection ip-src-monitoring included-protocols gtp

Description

This command includes the extracted IPV4 GTP packets for ip-src-monitoring. IPv4 GTP packets will be subject to the per-source-rate of CPU protection policies.

Default

no gtp

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

18.91 gtp-authorized

gtp-authorized

Syntax

[**no**] **gtp-authorized**

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Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state gtp-authorized)

Full Context

configure subscriber-mgmt wlan-gw ue-query state gtp-authorized

Description

This command enables matching on UEs in a GTP-authorized state.

The **no** form of this command disables matching on UEs in a GTP-authorized state, unless all state matching is disabled.

Default

no gtp-authorized

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.92 gtp-change

gtp-change

Syntax

gtp-change

Context

[Tree] (config>subscr-mgmt>acct-plcy>triggered-updates gtp-change)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change

Description

Commands in this context configure which GTP-related changes trigger an interim accounting update.

This command is mutually exclusive with the legacy **gtp-mobility** command, which triggers interim accounting updates for all changes.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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18.93 gtp-filter

gtp-filter

Syntax

gtp-filter *gtp-filter-name*

no gtp-filter

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action gtp-filter)

Full Context

configure application-assurance group policy app-qos-policy entry action gtp-filter

Description

This command assigns an existing GTP filter as an action on flows matching this AQP entry.

The **no** form of this command removes this GTP filter from actions on flows matching this AQP entry.

Default

no gtp-filter

Parameters

gtp-filter-name

Specifies the name of an existing GTP filter for this application assurance profile. The *gtp-filter-name* is configured in the **config>app-assure>group[:partition]>gtp>gtp-filter** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp-filter

Syntax

gtp-filter *filter-name*

Context

[Tree] (config>app-assure>group>statistics>tca gtp-filter)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter

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Description

This command configures TCA generation for a GTP filter.

Parameters

filter-name

Specifies the name of the GTP filter, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp-filter

Syntax

gtp-filter *gtp-filter-name* [**create**]

no gtp-filter *gtp-filter-name*

Context

[Tree] (config>app-assure>group>gtp gtp-filter)

Full Context

configure application-assurance group gtp gtp-filter

Description

This command allows AA to treat traffic on UDP port number 2152 as GTP-u. Without further specifying any other parameters within this GTP context, AA performs basic GTP-u header sanity checks and discards packets that are malformed. This GTP context allows the operator to configure various GTP filters (maximum of 128 GTP filters).

Parameters

gtp-filter-name

Specifies a GTP filter name, up to 32 characters.

create

Keyword used to create the GTP filter name and parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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18.94 gtp-filter-stats

gtp-filter-stats

Syntax

[**no**] **gtp-filter-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny gtp-filter-stats)

Full Context

configure application-assurance group statistics aa-admit-deny gtp-filter-stats

Description

This command configures whether to include or exclude GTP filter admit-deny statistics in accounting records.

Default

no gtp-filter-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.95 gtp-in-gtp

gtp-in-gtp

Syntax

gtp-in-gtp direction *direction* [**create**]

no gtp-in-gtp direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter gtp-in-gtp)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter gtp-in-gtp

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Description

This command configures a TCA for the counter capturing drops due to the GTP filter GTP-in-GTP packet check. A gtp-in-gtp drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a gtp-in-gtp TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp-in-gtp

Syntax

gtp-in-gtp

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr gtp-in-gtp)

Full Context

configure application-assurance group gtp gtp-filter gtp-in-gtp

Description

This command configures GTP-in-GTP packet filtering.

Default

gtp-in gtp permit

Parameters

permit | deny

Specifies the action to take for GTP packets that are encapsulated in GTP (GTP-in-GTP).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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18.96 gtp-local-breakout

gtp-local-breakout

Syntax

gtp-local-breakout

Context

[Tree] (config>filter>ip-filter>entry>action gtp-local-breakout)

Full Context

configure filter ip-filter entry action gtp-local-breakout

Description

This command specifies the filter entry action to gtp-local-breakout.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.97 gtp-parameters

gtp-parameters

Syntax

gtp-parameters

Context

[Tree] (config>service>ies>sub-if>grp-if gtp-parameters)

[Tree] (config>service>vprn>sub-if>grp-if gtp-parameters)

Full Context

configure service ies subscriber-interface group-interface gtp-parameters

configure service vprn subscriber-interface group-interface gtp-parameters

Description

Commands in this context configure GTP parameters. The configuration of parameters under this context is only allowed when the group interface is created with the GTP parameter specified.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.98 gtp-ping

gtp-ping

Syntax

gtp-ping *gtp-interface* [**router** *router-instance*] [**source** *ip-address*] **destination** *ip-address* **udp-port** *port-number* [**retry-count** *count*] [**time-out** *timeout*]

Context

[Tree] (oam gtp-ping)

Full Context

oam gtp-ping

Description

This command verifies whether a GTPv2 peer is reachable and correctly responds to GTPv2-C Echo Request messages. This command can be executed if no peering exists for the specified peer.

Parameters

gtp-interface

Specifies the GTP interface where the echo is sent.

Values s11, s1u, gnc, gnu, s2bc, s2bu, s2ac, s2au

router-instance

Specifies the router or VRF in which the GTP echo is sent.

Values *router-name* — Base, management

vprn-svc-id — 1 to 2147483647

Default Base

source ip-address

Specifies the source IP address to be used in the GTP ping.

Values a.b.c.d

destination ip-address

Specifies the destination IP address to be used in the GTP ping.

Values a.b.c.d

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port-number

Specifies the port number to be used. Suggested port numbers are 2123 (GTP-C) or 2152 (GTP-U).

Values 1 to 65535

count

Specifies the number of echo message requests before the peer is considered unreachable.

Values 1 to 100

Default 1

timeout

Specifies the timeout, in seconds, of a single echo message.

Values 1 to 10

Default 5

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.99 gtp-sanity-drop

gtp-sanity-drop

Syntax

gtp-sanity-drop direction *direction* [**create**]

no gtp-sanity-drop direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca gtp-sanity-drop)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-sanity-drop

Description

This command configures a TCA for the counter capturing drops due to basic GTP header sanity checks, such as validating that the GTP-U version is 1 and that the protocol bit is set to 1 for UDP traffic destined to port 2152. A GTP sanity drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a default action TCA.

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Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.100 gtp-traffic

gtp-traffic

Syntax

[**no**] **gtp-traffic**

Context

[Tree] (config>app-assure>group>policer gtp-traffic)

Full Context

configure application-assurance group policer gtp-traffic

Description

This command provides a mechanism to configure a policer to function at the GTP tunnel level. GTP tunnels are defined by a TEID and destination IP address as opposed to normal flows that are defined by IP 5 tuple values. By setting this value, the policer then can be used to limit GTP traffic (SeGW GTP firewall application).

The **no** form of this command resets policer behavior to act at the normal 5 tuple flow level and not at the GTP tunnel level.

Default

no gtp-traffic

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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18.101 gtp-tunnel-database

gtp-tunnel-database

Syntax

gtp-tunnel-database

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr gtp-tunnel-database)

Full Context

configure application-assurance group gtp gtp-filter gtp-tunnel-database

Description

Commands in this context configure GTP advanced firewall functions (such as validating GTP tunnels, sequence numbers, source IP addresses).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

gtp-tunnel-database

Syntax

gtp-tunnel-database *size*

Context

[Tree] (config>isa>aa-grp>shr-res-pool gtp-tunnel-database)

Full Context

configure isa application-assurance-group shared-resources gtp-tunnel-database

Description

This command configures the allocation of memory resources required for stateful GTP firewall deployment on 3GPP S5/S8/Gn/Gp interfaces.

Default

gtp-tunnel-database 0

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Parameters

size

Specifies the percentage of allocated memory resources.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.102 gtp-u-ipv6-checksum

gtp-u-ipv6-checksum

Syntax

[**no**] **gtp-u-ipv6-checksum**

Context

[Tree] (config>subscr-mgmt>gtp gtp-u-ipv6-checksum)

Full Context

configure subscriber-mgmt gtp gtp-u-ipv6-checksum

Description

This command enables the calculation and insertion of a UDP checksum into the GTP-u tunneled traffic over IPv6 transport toward the RAN for 4G and 5G fixed-wireless access.

The **no** form of this command disables the calculation and insertion.

Default

no gtp-u-ipv6-checksum

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.103 gtp-user

gtp-user

Syntax

gtp-user

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Context

[Tree] (config>test-oam>build-packet>header gtp-user)

[Tree] (debug>oam>build-packet>packet>field-override>header gtp-user)

Full Context

configure test-oam build-packet header gtp-user

debug oam build-packet packet field-override header gtp-user

Description

This command causes the associated header to be defined as a GTP user header template and enables the context to define the GTP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.104 gtp-user-name

gtp-user-name

Syntax

gtp-user-name {**imsi** | **imsi-apn** | **msisdn** | **msisdn-apn**}

no gtp-user-name

Context

[Tree] (config>subscr-mgmt>auth-plcy gtp-user-name)

Full Context

configure subscriber-mgmt authentication-policy gtp-user-name

Description

This command configures the username used to authenticate an FWA session. If a PAP message is present in the PCO IE of the Create Session request, the system uses that for authentication instead of the format specified for this command. If you specify a format that includes APN, the separator is an @ character; for example, msisdn@apn.

The **no** form of this command reverts to the default.

Default

gtp-user-name imsi

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Parameters

imsi

Specifies to use IMSI as the username.

imsi-apn

Specifies to use IMSI and APN as the username; for example, imsi@apn.

msisdn

Specifies to use MSISDN as the username.

msisdn-apn

Specifies to use MSISDN and APN as the username; for example, msisdn@apn.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.105 gtpc-inspection

gtpc-inspection

Syntax

[**no**] **gtpc-inspection**

Context

[Tree] (config>app-assure>group>gtp gtpc-inspection)

Full Context

configure application-assurance group gtp gtpc-inspection

Description

This command configures the inspection of GTP-C packets. This is relevant only when AA GTP FW is deployed on S8/S5/Gp/Gn interfaces. The **gtpc-inspection** command must be enabled before configuring related features, such as APN filtering, GTP tunnel validation, message-type-v2 filtering, sequence number validation, SRC IP validation.

The **no** form of this command disables GTP-C packet inspection.

Default

no gtpc-inspection

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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18.106 gtpv1-c

gtpv1-c

Syntax

gtpv1-c *type* **direction** {**ingress** | **egress**} **script** [*script*]

no gtpv1-c *type* **direction** {**ingress** | **egress**}

Context

[Tree] (config>python>py-policy gtpv1-c)

Full Context

configure python python-policy gtpv1-c

Description

This command configures a Python script for the specified GTPv1-C message type in the specified direction.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type.

Values echo-request, echo-response, version-not-supported, create-pdp-context-request, create-pdp-context-response, delete-pdp-context-request, delete-pdp-context-response, error-indication

direction {ingress | egress}

Specifies if the message is incoming or outgoing.

script

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

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18.107 gtpv2-c

gtpv2-c

Syntax

gtpv2-c *type* **direction** {**ingress** | **egress**} **script** [*script*]

no gtpv2-c *type* **direction** {**ingress** | **egress**}

Context

[Tree] (config>python>py-policy gtpv2-c)

Full Context

configure python python-policy gtpv2-c

Description

This command configures a Python script for the specified GTPv2-C message type in the specified direction.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type

Values echo-request, echo-response, version-not-supported, create-session-request, create-session-response, delete-session-request, delete-session-response, delete-bearer-request, delete-bearer-response, modify-bearer-request, modify-bearer-response, release-access-bearers-request, release-access-bearers-response, downlink-data-notification, downlink-data-notification-ack, change-notification-request, change-notification-response, stop-paging-indication

direction {ingress | egress}

Specifies if the message is incoming or outgoing.

script

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

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18.108 guard-time

guard-time

Syntax

guard-time *time*

no guard-time

Context

[Tree] (config>eth-ring guard-time)

Full Context

configure eth-ring guard-time

Description

This command configures the guard time for an Eth-Ring. The guard timer is standard and is configurable from "x" ms to 2 seconds.

The **no** form of this command restores the default guard-time.

Default

no guard-time

Parameters

value

Specifies the guard-time, in deciseconds.

Values 1 to 20

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.109 gw-address-range

gw-address-range

Syntax

gw-address-range start *start* **end** *end*

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no gw-address-range

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn>export gw-address-range)

Full Context

configure subscriber-mgmt isa-service-chaining evpn export gw-address-range

Description

This command specifies the address range to be used for the gateway IP address field in EVPN type-5 routes that are advertised for configured NAT pools, to the peer for service-chaining. The system allocates one address for each ISA in the NAT group out of the specified range.

The **no** form of this command removes the values from the configuration.

Parameters

start

Specifies the starting gateway address range (V4) for this EVPN service.

Values ipv4-address: a.b.c.d

end

Specifies the ending gateway address range (V4) for this EVPN service.

Values ipv4-address: a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.110 gw-addresses

gw-addresses

Syntax

gw-addresses

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw gw-addresses)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw gw-addresses)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw gw-addresses

configure service ies subscriber-interface group-interface wlan-gw gw-addresses

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Description

This command specifies gateway endpoint address for the wlan-gw tunnel.

The **no** form of this command removes the gateway ipv4 or IPv6 endpoint address for the wlan-gw tunnel.

Parameters

ip-address

Specifies the IP address of the wlan-gw tunnels on this group interface.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

18.111 gw-mac

gw-mac

Syntax

gw-mac *mac-address*

no gw-mac

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp gw-mac)

Full Context

configure service vprn subscriber-interface group-interface srrp gw-mac

Description

This command overrides the default SRRP gateway MAC address used by the SRRP instance. Unless specified, the system uses the same base MAC address for all SRRP instances with the last octet overridden by the lower 8 bits of the SRRP instance ID. The same SRRP gateway MAC address should be in-use by both the local and remote routers participating in the same SRRP context.

One reason to change the default SRRP gateway MAC address is if two SRRP instances sharing the same broadcast domain are using the same SRRP gateway MAC. The system will use the SRRP instance ID to separate the SRRP messages (by ignoring the messages that does not match the local instance ID), but a unique SRRP gateway MAC is essential to separate the routed packets for each gateway IP address.

The **no** form of this command removes the explicit SRRP gateway MAC address from the SRRP instance. The SRRP gateway MAC address can only be changed or removed when the SRRP instance is shutdown.

Parameters

mac-address

Specifies a MAC address that is used to override the default SRRP base MAC address.

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Values Any MAC address except all zeros, broadcast or multicast addresses. The offset is expressed in normal Ethernet MAC address notation. The defined gw-mac cannot be 00:00:00:00:00:00, ff:ff:ff:ff:ff:ff or any multicast address.

If not specified, the system uses the default SRRP gateway MAC address with the last octet set to the 8 least significant bits of the SRRP instance ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

gw-mac

Syntax

gw-mac *mac-address*

no gw-mac

Context

[Tree] (config>service>ies>sub-if>grp-if>srrp gw-mac)

Full Context

configure service ies subscriber-interface group-interface srrp gw-mac

Description

This command overrides the default SRRP gateway MAC address used by the SRRP instance. Unless specified, the system uses the same base MAC address for all SRRP instances with the last octet overridden by the lower 8 bits of the SRRP instance ID. The same SRRP gateway MAC address should be in-use by both the local and remote routers participating in the same SRRP context.

One reason to change the default SRRP gateway MAC address is if two SRRP instances sharing the same broadcast domain are using the same SRRP gateway MAC. The system will use the SRRP instance ID to separate the SRRP messages (by ignoring the messages that does not match the local instance ID), but a unique SRRP gateway MAC is essential to separate the routed packets for each gateway IP address.

The **no** form of this command removes the explicit SRRP gateway MAC address from the SRRP instance. The SRRP gateway MAC address can only be changed or removed when the SRRP instance is shutdown.

Parameters

mac-address

Specifies a MAC address that is used to override the default SRRP base MAC address.

Values Any MAC address except all zeros, broadcast or multicast addresses. The offset is expressed in normal Ethernet MAC address notation. The defined gw-mac cannot be 00:00:00:00:00:00, ff:ff:ff:ff:ff:ff or any multicast address.

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If not specified, the system uses the default SRRP gateway MAC address with the last octet set to the 8 least significant bits of the SRRP instance ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.112 gx

gx

Syntax

gx

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy gx)

Full Context

configure subscriber-mgmt diameter-application-policy gx

Description

Commands in this context configure Gx parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.113 gx-session-level-usage

gx-session-level-usage

Syntax

[**no**] **gx-session-level-usage**

Context

[Tree] (config>subscr-mgmt>cat-map gx-session-level-usage)

Full Context

configure subscriber-mgmt category-map gx-session-level-usage

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Description

This command controls the instantiation of an internal category required for Diameter Gx session level Usage Monitoring (per IP-CAN session).

When configured, Gx session level Usage Monitoring can be enabled for sessions associated with this category map.

The internal category for Gx session level Usage Monitoring is counted against the maximum of sixteen categories that can be configured.

When not configured (default), then no internal category is instantiated and Gx session level Usage Monitoring cannot be enabled for sessions associated with this category map.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

18.114 gy

gy

Syntax

gy

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy gy)

Full Context

configure subscriber-mgmt diameter-application-policy gy

Description

Commands in this context configure Diameter Credit Control Application or Gy-specific options.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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19 h Commands

19.1 half-life

half-life

Syntax

half-life *half-life* **max-suppress-time** *max-time*

Context

[Tree] (config>port>ethernet>dampening half-life)

Full Context

configure port ethernet dampening half-life

Description

This command configures the half-life decay time and the maximum period of time for which the port up state can be suppressed.

The *half-life* and *max-time* values must be set at the same time; the ratio of *max-time*/ *half-life* must be less than or equal to 49 and greater than or equal to 1.

Parameters

half-life

Specifies the required elapsed time, in seconds, before penalties decay to one-half the initial amount.

Values 1 to 2000

Default 5

max-time

Specifies the maximum suppression time, in seconds, which is the time it can take after the physical link comes up before the worst case accumulated penalties have decayed to the reuse threshold. The maximum penalty is derived from the maximum suppression time, half-life, and reuse threshold, using the following equation:

maximum penalty = (reuse threshold) X 2 expo:(max-time/half-life)

Values 1 to 43200

Default 20

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Platforms

All

half-life

Syntax

half-life *minutes*

no half-life

Context

[Tree] (config>router>policy-options>damping half-life)

Full Context

configure router policy-options damping half-life

Description

This command configures the **half-life** parameter for the route damping profile.

The half-life value is the time, expressed in minutes, required for a route to remain stable in order for the Figure of Merit (FoM) value to be reduced by one half; for example, if the half-life value is 6 (minutes) and the route remains stable for 6 minutes, then the new FoM value is 3 (minutes). After another 3 minutes pass and the route remains stable, the new FoM value is 1.5 (minutes).

When the FoM value falls below the **config>router>policy-options>damping reuse** threshold, the route is once again considered valid and can be reused or included in route advertisements.

The **no** form of this command removes the half life parameter from the damping profile.

Default

no half-life

Parameters

minutes

Specifies the half-life in minutes expressed as a decimal integer.

Values 1 to 45

Platforms

All

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19.2 handler

handler

Syntax

[**no**] **handler** *event-handler-name*

Context

[Tree] (config>log>event-handling handler)

Full Context

configure log event-handling handler

Description

This command configures an EHS handler.

The **no** form of this command removes the specified EHS handler.

Parameters

event-handler-name

Specifies the name of the EHS handler, up to 32 characters maximum.

Platforms

All

handler

Syntax

handler *name* **[create]**

no handler *name*

Context

[Tree] (config>system>grpc-tunnel>tunnel handler)

Full Context

configure system grpc-tunnel tunnel handler

Description

Commands in this context configure tunnel handler parameters. There can be multiple handlers created for any tunnel.

The **no** form of this command removes the specified tunnel handler.

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Parameters

name

Specifies the handler name, up to 32 characters.

create

Keyword used to create a tunnel.

Platforms

All

19.3 hardware-timestamp

hardware-timestamp

Syntax

[**no**] **hardware-timestamp**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes hardware-timestamp)

Full Context

configure aaa isa-radius-policy acct-include-attributes hardware-timestamp

Description

This command enables the inclusion of the hardware timestamp attributes.

The **no** form of the command excludes the hardware timestamp attributes.

Default

no hardware-timestamp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.4 hash-algorithm

hash-algorithm

Syntax

hash-algorithm {**hash** | **hash2** | **custom**| **cleartext**}

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no hash-algorithm

Context

[Tree] (config>system>security>management-interface>netconf hash-algorithm)

[Tree] (config>system>security>management-interface>grpc hash-algorithm)

[Tree] (config>system>security>management-interface>md-cli hash-algorithm)

Full Context

configure system security management-interface netconf hash-algorithm

configure system security management-interface grpc hash-algorithm

configure system security management-interface md-cli hash-algorithm

Description

This command specifies the format of the input and output for encrypted configuration secrets.

The **no** form of this command reverts to the default value.

Default

hash-algorithm hash2

Parameters

hash

Specifies hash. Use this option to transport a phrase between modules and nodes.

hash2

Specifies hash2 which is module-specific.

custom

Specifies the custom encryption to management interface.

cleartext

Specifies that the phrase is displayed as cleartext everywhere.

Platforms

All

hash-algorithm

Syntax

hash-algorithm *algorithm*

Context

[Tree] (config>system>security>pki>cert-upd-prof hash-algorithm)

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Full Context

configure system security pki certificate-update-profile hash-algorithm

Description

This command configures the hash algorithm used to generate a certificate request.

Default

hash-algorithm sha256

Parameters

algorithm

Specifies the hash option.

Values md5, sha1, sha224, sha256, sha384, sha512

Platforms

All

19.5 hash-label

hash-label

Syntax

hash-label

hash-label [**signal-capability**]

no hash-label

Context

[Tree] (config>service>pw-template hash-label)

[Tree] (config>service>epipe>spoke-sdp hash-label)

[Tree] (config>service>ipipe>spoke-sdp hash-label)

Full Context

configure service pw-template hash-label

configure service epipe spoke-sdp hash-label

configure service ipipe spoke-sdp hash-label

Description

This command enables the use of the hash label on a VLL, VPRN or VPLS service bound to any MPLS type encapsulated SDP, as well as to a VPRN service that is using the **auto-bind-tunnel** with the

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resolution-filter set to any MPLS tunnel type. This feature is not supported on a service bound to a GRE SDP or for a VPRN service using the autobind mode with the gre option. This feature is also not supported on multicast packets forwarded using RSVP P2MP LSP or mLDP LSP in both the base router instance and in the multicast VPN (mVPN) instance. It is, however, supported when forwarding multicast packets using an IES/VPRN spoke-interface.

When this feature is enabled, the ingress data path is modified such that the result of the hash on the packet header is communicated to the egress data path for use as the value of the label field of the hash label. The egress data path appends the hash label at the bottom of the stack (BoS) and sets the S-bit to one (1).

To allow applications where the egress LER infers the presence of the hash label implicitly from the value of the label, the Most Significant Bit (MSB) of the result of the hash is set before copying into the Hash Label. This means that the value of the hash label will always be in the range [524,288 - 1,048,575] and will not overlap with the signaled/static LSP and signaled/static service label ranges. This also guarantees that the hash label will not match a value in the reserved label range.

The (unmodified) result of the hash continues to be used for the purpose of ECMP and LAG spraying of packets locally on the ingress LER. Note, however, that for VLL services, the result of the hash is overwritten and the ECMP and LAG spraying will be based on service-id when ingress SAP shared queuing is not enabled. However, the hash label will still reflect the result of the hash such that an LSR can use it to perform fine grained load balancing of VLL pseudowire packets.

Packets generated in CPM and that are forwarded labeled within the context of a service (for example, OAM packets) must also include a Hash Label at the BoS and set the S-bit accordingly.

The TTL of the hash label is set to a value of 0.

The user enables the signaling of the hash-label capability under a VLL spoke-sdp, a VPLS spoke-sdp or mesh SDP, or an IES/VPRN spoke interface by adding the **signal-capability** option. In this case, the decision whether to insert the hash label on the user and control plane packets by the local PE is solely determined by the outcome of the signaling process and can override the local PE configuration. The following are the procedures:

- The local PE will insert the flow label interface parameters sub-TLV with F=1 in the PW ID FEC element in the label mapping message for that spoke SDP or mesh SDP.
- If the remote PE includes this sub-TLV with F=1 or F=0, then local PE must insert the hash label in the user and control plane packets.
- If remote PE does not include this sub-TLV (for example, it does not support it, or it is supported but the user did not enable the **hash-label** option or the **signal-capability** option), then the local PE establishes the PW but must not insert the hash label in the user and control packets over that spoke SDP or mesh SDP. If the remote PE does not support the **signal-capability** option, then there are a couple of possible outcomes:
  - If the **hash-label** option was enabled on the local configuration of the spoke SDP or mesh SDP at the remote PE, the PW packets received by the local PE will have the hash label included. These packets must be dropped. The only way to solve this is to disable the signaling capability option on the local node which will result in the insertion of the hash label by both PE nodes.
  - If the **hash-label** option is not supported or was not enabled on the local configuration of the spoke SDP or mesh SDP at the remote PE, the PW received by the local PE will not have the hash label included.
- The user can enable or disable the signal-capability option in CLI as needed. When doing so, the 7450 ESS or 7750 SR must withdraw the label it sent to its peer and send a new label mapping message with the new value of the F bit in the flow label interface parameters sub-TLV of the PW ID FEC element.

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The **no** form of this command disables the use of the hash label.

Default

no hash-label

Parameters

signal-capability

Enables the signaling and negotiation of the use of the hash label between the local and remote PE nodes. The **signal-capability** option is not supported on a VPRN spoke-sdp.

Platforms

All

hash-label

Syntax

hash-label signal-capability

hash-label

no hash-label

Context

[Tree] (config>service>vpls>mesh-sdp hash-label)

[Tree] (config>service>vpls>spoke-sdp hash-label)

Full Context

configure service vpls mesh-sdp hash-label

configure service vpls spoke-sdp hash-label

Description

This command enables the use of the hash label on a VLL, VPRN, or VPLS service bound to any MPLS type encapsulated SDP, as well as to a VPRN service using the **auto-bind-tunnel** with the **resolution-filter** set to any MPLS tunnel type. This feature is not supported on a service bound to a GRE SDP or for a VPRN service using the autobind mode with the gre option. This feature is also not supported on multicast packets forwarded using RSVP P2MP LSP or mLDP LSP in both the base router instance and in the multicast VPN (mVPN) instance. It is, however, supported when forwarding multicast packets using an IES/VPRN spoke-interface.

When this feature is enabled, the ingress data path is modified such that the result of the hash on the packet header is communicated to the egress data path for use as the value of the label field of the hash label. The egress data path appends the hash label at the bottom of the stack (BoS) and sets the S-bit to one (1).

To allow applications where the egress LER infers the presence of the hash label implicitly from the value of the label, the Most Significant Bit (MSB) of the result of the hash is set before copying into the Hash Label. This means that the value of the hash label will always be in the range [524,288 - 1,048,575] and

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will not overlap with the signaled/static LSP and signaled/static service label ranges. This also guarantees that the hash label will not match a value in the reserved label range.

The (unmodified) result of the hash continues to be used for the purpose of ECMP and LAG spraying of packets locally on the ingress LER. Note, however, that for VLL services, the result of the hash is overwritten and the ECMP and LAG spraying will be based on service-id when ingress SAP shared queuing is not enabled. However, the hash label will still reflect the result of the hash such that an LSR can use it to perform fine grained load balancing of VLL pseudowire packets.

Packets generated in CPM and that are forwarded labeled within the context of a service (for example, OAM packets) must also include a Hash Label at the BoS and set the S-bit accordingly.

The TTL of the hash label is set to a value of 0.

The user enables the signaling of the hash-label capability under a VLL spoke-sdp, a VPLS spoke-sdp or mesh-sdp, or an IES/VPRN spoke interface by adding the **signal-capability** option. In this case, the decision whether to insert the hash label on the user and control plane packets by the local PE is solely determined by the outcome of the signaling process and can override the local PE configuration. The following are the procedures:

- The 7450 ESS, 7750 SR, and 7950 XRS local PE will insert the flow label interface parameters sub-TLV with F=1 in the pseudowire ID FEC element in the label mapping message for that spoke-sdp or mesh-sdp.
- If the remote PE includes this sub-TLV with F=1 or F=0, then local PE must insert the hash label in the user and control plane packets.
- If remote PE does not include this sub-TLV (for example, it does not support it, or it is supported but the user did not enable the **hash-label** option or the **signal-capability** option), then the local PE establishes the pseudowire but must not insert the hash label in the user and control packets over that spoke-sdp or mesh-sdp. If the remote PE does not support the **signal-capability** option, then there are a couple of possible outcomes:
  - If the **hash-label** option was enabled on the local configuration of the spoke-sdp or mesh-sdp at the remote PE, the pseudowire packets received by the local PE will have the hash label included. These packets must be dropped. The only way to solve this is to disable the signaling capability option on the local node which will result in the insertion of the hash label by both PE nodes.
  - If the **hash-label** option is not supported or was not enabled on the local configuration of the spoke-sdp or mesh-sdp at the remote PE, the pseudowire received by the local PE will not have the hash label included.
- The user can enable or disable the signal-capability option in CLI as needed. When doing so, the 7450 ESS, 7750 SR, and 7950 XRS must withdraw the label it sent to its peer and send a new label mapping message with the new value of the F bit in the flow label interface parameters sub-TLV of the pseudowire ID FEC element.

The **no** form of this command disables the use of the hash label.

Default

no hash-label

Parameters

signal-capability

Enables the signaling and negotiation of the use of the hash label between the local and remote PE nodes. The **signal-capability** option is not supported on a VPRN spoke-sdp.

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Platforms

All

hash-label

Syntax

hash-label [**signal-capability**]

no hash-label

Context

[Tree] (config>service>ies>if>spoke-sdp hash-label)

Full Context

configure service ies interface spoke-sdp hash-label

Description

This command enables the use of the hash label on a VLL, VPLS, or VPRN service bound to any MPLS-type encapsulated SDP, as well as to a VPRN service using **auto-bind-tunnel** with the **resolution-filter** configures as any MPLS tunnel type. This feature is not supported on a service bound to a GRE SDP or for a VPRN service using the autobind mode with the gre option.

When this feature is enabled, the ingress data path is modified such that the result of the hash on the packet header is communicated to the egress data path for use as the value of the label field of the hash label. The egress data path appends the hash label at the bottom of the stack (BoS) and sets the S-bit to 1 to indicate that.

In order to allow for applications whereby the egress LER infers the presence of the hash label implicitly from the value of the label, the Most Significant Bit (MSB) of the result of the hash is set before copying into the hash label. This means that the value of the hash label will always be in the range [524,288 to 1,048,575] and will not overlap with the signaled/static LSP and signaled/static service label ranges. This also guarantees that the hash label will not match a value in the reserved label range.

The (unmodified) result of the hash continues to be used for the purpose of ECMP and LAG spraying of packets locally on the ingress LER. For VLL services, the result of the hash is overwritten and the ECMP and LAG spraying will be based on service-id when ingress SAP shared queuing is not enabled. However, the hash label will still reflect the result of the hash such that an LSR can use it to perform fine grained load balancing of VLL pseudowire packets.

Packets that are generated in CPM and forwarded labeled within the context of a service (for example, OAM packets) must also include a hash label at the BoS and set the S-bit accordingly.

The TTL of the hash label is set to a value of 0.

The user enables the signaling of the hash-label capability under a VLL spoke-sdp, a VPLS spoke-sdp or mesh-sdp, or an IES/VPRN spoke interface by adding the **signal-capability** option. In this case, the decision whether to insert the hash label on the user and control plane packets by the local PE is solely determined by the outcome of the signaling process and can override the local PE configuration. The following are the procedures:

- The local PE will insert the flow label interface parameters sub-TLV with F=1 in the PW ID FEC element in the label mapping message for that spoke-sdp or mesh-sdp.

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- If the remote PE includes this sub-TLV with F=1 or F=0, then local PE must insert the hash label in the user and control plane packets.
- If remote PE does not include this sub-TLV (for example, it does not support it, or it is supported but the user did not enable the **hash-label** option or the **signal-capability** option), then the local PE establishes the PW but must not insert the hash label in the user and control packets over that spoke-sdp or mesh-sdp. If the remote PE does not support the **signal-capability** option, then there are a couple of possible outcomes:
  - If the **hash-label** option was enabled on the local configuration of the spoke-sdp or mesh-sdp at the remote PE, the PW packets received by the local PE will have the hash label included. These packets must be dropped. The only way to solve this is to disable the signaling capability option on the local node which will result in the insertion of the hash label by both PE nodes.
  - If the **hash-label** option is not supported or was not enabled on the local configuration of the spoke-sdp or mesh-sdp at the remote PE, the PW received by the local PE will not have the hash label included.
- The user can enable or disable the signal-capability option in CLI as needed. When doing so, the router must withdraw the label it sent to its peer and send a new label mapping message with the new value of the F bit in the flow label interface parameters sub-TLV of the PW ID FEC element.

The **no** form of this command disables the use of the hash label.

Default

no hash-label

Parameters

signal-capability

Enables the signaling and negotiation of the use of the hash label between the local and remote PE nodes. The **signal-capability** option is not supported on a VPRN spoke-sdp.

Platforms

All

hash-label

Syntax

hash-label

hash-label signal-capability

no hash-label

Context

[Tree] (config>service>vprn hash-label)

[Tree] (config>service>vprn>spoke-sdp hash-label)

[Tree] (config>service>vprn>if>spoke-sdp hash-label)

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Full Context

configure service vprn hash-label

configure service vprn spoke-sdp hash-label

configure service vprn interface spoke-sdp hash-label

Description

This command enables the use of the hash label on a VLL, VPLS, or VPRN service bound to any MPLS-type encapsulated SDP as well as to a VPRN service using **auto-bind-tunnel** with the **resolution-filter** configured as any MPLS tunnel type. This feature is not supported on a service bound to a GRE SDP or for a VPRN service using the autobind mode with the gre option.

When this feature is enabled, the ingress data path is modified such that the result of the hash on the packet header is communicated to the egress data path for use as the value of the label field of the hash label. The egress data path appends the hash label at the bottom of the stack (BoS) and sets the S-bit to 1 to indicate that.

In order to allow for applications whereby the egress LER infers the presence of the Hash Label implicitly from the value of the label, the Most Significant Bit (MSB) of the result of the hash is set before copying into the Hash Label. This means that the value of the hash label will always be in the range [524,288 - 1,048,575] and will not overlap with the signaled/static LSP and signaled/static service label ranges. This also guarantees that the hash label will not match a value in the reserved label range.

The (unmodified) result of the hash continues to be used for the purpose of ECMP and LAG spraying of packets locally on the ingress LER. For VLL services, the result of the hash is overwritten and the ECMP and LAG spraying will be based on service-id when ingress SAP shared queuing is not enabled. However, the hash label will still reflect the result of the hash such that an LSR can use it to perform fine grained load balancing of VLL pseudowire packets.

Packets that are generated in CPM and forwarded labeled within the context of a service (for example, OAM packets) must also include a Hash Label at the BoS and set the S-bit accordingly.

The TTL of the hash label is set to a value of 0.

The **no** form of this command disables the use of the hash label.

Default

no hash-label

Parameters

signal-capability

Specifies whether the service should send the Stack Capability and check whether the capability is received from the peer via LDP interface parameters.

Platforms

All

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hash-label

Syntax

[**no**] **hash-label**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls hash-label)

Full Context

configure service vpls bgp-evpn mpls hash-label

Description

This command pushes the hash label based on the following:

- If the **no incl-mcast-l2-attributes-advertisement** command is configured, the hash label is pushed to a unicast EVPN destination.
- If the **incl-mcast-l2-attributes-advertisement** command is configured, the F bit is set to 1 in the Layer 2 Attributes Extended Community of the EVPN IMET route for the service. The hash label is pushed only if the remote PE signaled support for hash label (received F bit is set to 1).

The hash label is never used for BUM packets.

The **no** form of this command disables the push of the hash label.

Default

no hash-label

Platforms

All

19.6 hash-mask-len

hash-mask-len

Syntax

hash-mask-len *hash-mask-length*

no hash-mask-len

Context

[Tree] (config>service>vprn>pim>rp>bsr-candidate hash-mask-len)

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Full Context

configure service vprn pim rp bsr-candidate hash-mask-len

Description

This command is used to configure the length of a mask that is to be combined with the group address before the hash function is called. All groups with the same hash map to the same RP. For example, if this value is 24, only the first 24 bits of the group addresses matter. This mechanism is used to map one group or multiple groups to an RP.

Default

hash-mask-len 30

Parameters

hash-mask-length

The hash mask length.

Values 0 to 32

Platforms

All

hash-mask-len

Syntax

hash-mask-len *hash-mask-length*

no hash-mask-len

Context

[Tree] (config>service>vprn>pim>rp>ipv6>bsr-candidate hash-mask-len)

Full Context

configure service vprn pim rp ipv6 bsr-candidate hash-mask-len

Description

This command is used to configure the length of a mask that is to be combined with the group address before the hash function is called. All groups with the same hash map to the same RP. For example, if this value is 24, only the first 24 bits of the group addresses matter. This mechanism is used to map one group or multiple groups to an RP.

Default

hash-mask-len 126

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Parameters

hash-mask-length

The hash mask length.

Values 0 to 128

Platforms

All

hash-mask-len

Syntax

hash-mask-len *hash-mask-length*

no hash-mask-len

Context

[Tree] (config>router>pim>rp>ipv6>bsr-candidate hash-mask-len)

[Tree] (config>router>pim>rp>bsr-candidate hash-mask-len)

Full Context

configure router pim rp ipv6 bsr-candidate hash-mask-len

configure router pim rp bsr-candidate hash-mask-len

Description

This command configures the length of a mask that is to be combined with the group address before the hash function is called. All groups with the same hash map to the same RP. For example, if this value is 24, only the first 24 bits of the group addresses matter. This mechanism is used to map one group or multiple groups to an RP.

The **no** form of this command reverts to the default value.

Default

hash-mask-len 30 — for **config>router>pim>rp>bsr-candidate**

hash-mask-len 126 — for **config>router>pim>rp>ipv6> bsr-candidate**

Parameters

hash-mask-length

Specifies the hash mask length.

Values 0 to 32 (v4)

0 to 128 (v6)

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Platforms

All

19.7 hash-prefix-length

hash-prefix-length

Syntax

hash-prefix-length *prefix-length*

no hash-prefix-length

Context

[Tree] (config>router>nat>inside>nat66 hash-prefix-length)

[Tree] (config>service>vprn>nat>inside>nat66 hash-prefix-length)

Full Context

configure router nat inside nat66 hash-prefix-length

configure service vprn nat inside nat66 hash-prefix-length

Description

This command configures the router to control how IPv6 subscriber traffic, subject to IPv6 large-scale stateful inbound filtering, is distributed across ESA-VMs on ingress.

By default, ingress hashing is performed per subscriber, providing the most granular distribution. In cases such as IPv6 large-scale stateful inbound filtering, where the source IPv6 address is not translated, per-subscriber hashing results in individual subscriber routes being created in the outside routing context. These routes ensure that return (downstream) traffic is directed to the correct ESA-VM that maintains the subscriber state.

To prevent excessive route entries, this command allows grouping subscribers into larger IPv6 subprefixes. In this mode, traffic is load-balanced across ESA-VMs at the prefix level rather than per subscriber, so aggregated routes are installed in the outside routing context instead of individual subscriber routes.

In other words, this command optimizes the outside routing table by reducing route granularity, trading fine-grained hashing for a more scalable route distribution.

Subscriber grouping is derived from the main prefix configured within the firewall domain. See the following commands for more information:

- **configure service vprn firewall domain prefix**
- **configure router firewall domain prefix**
- **configure service vprn firewall domain route-limit**
- **configure router firewall domain route-limit**

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For example, if the domain prefix is configured as **2008:db8::/48**, the maximum ingress hashing prefix length can be calculated as 48+17 = 65 (17 comes from 2^17=128, which is the maximum number of routes allowed by **route-limit**).

As a result, the outside subnets are divided into 128 K subprefixes like the following:

2001:db8:xxxx:xxxx:

Subscribers within each subprefix are directed to the same ESA-VM on ingress (inside). On the outside, the corresponding subprefix is installed in the routing table, also pointing to that same ESA-VM.

The **no** form of this command removes the configured prefix.

Parameters

prefix-length

Specifies the prefix length.

Values 32 to 64 | 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.8 hash-weight-threshold

hash-weight-threshold

Syntax

hash-weight-threshold *weight* [**action** *action*] [**cost** *static-cost*]

no hash-weight-threshold

Context

[Tree] (config>lag hash-weight-threshold)

Full Context

configure lag hash-weight-threshold

Description

This command controls the operational status of the LAG or the IGP cost based on the sum of the **hash-weight** values for the active links in the LAG.

The **no** form of this command disables the hash weight threshold.

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Parameters

weight

Specifies the value for the sum of all the active LAG ports **hash-weight** at or below which the configured action is invoked. If the sum of **hash-weight** for operational LAG links exceeds the **hash-weight-threshold** value, then no action is taken.

Values 1 to 6400000

action

Specifies the action to take if the sum of the **hash-weight** for active links in the LAG is equal or below the threshold value.

Values **down —** Specifies that the LAG is operationally DOWN. The LAG is only considered as UP once the number of **hash-weight** for the active links exceeds the configured threshold value.

dynamic-cost — Specifies that dynamic cost is activated. The LAG remains operationally UP with a link cost relative to the number of operational links. The link is only considered as operationally DOWN when all links in the LAG are down.

static-cost — Specifies that static cost is activated. The LAG remains operationally UP with the configured cost, regardless of the number of operational links. The link is only considered as operationally DOWN when all links in the LAG are down. If this parameter is used with an IGP, its **reference-bandwidth** must also be configured.

static-cost

Specifies the decimal integer static cost of the LAG.

Values 1 to 16777215

Platforms

All

19.9 hashing

hashing

Syntax

hashing {**bcrypt** | **sha2-pbkdf2**| **sha3-pbkdf2**}

Context

[Tree] (config>system>security>password hashing)

Full Context

configure system security password hashing

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Description

This command configures the password hashing algorithm.

Default

hashing bcrypt

Parameters

bcrypt

Keyword to indicate that the command configures the bcrypt algorithm.

sha2-pbkdf2

Keyword to indicate that the command configures the PBKDF2 algorithm hashed via SHA2.

sha3-pbkdf2

Keyword to indicate that the command configures the PBKDF2 algorithm hashed via SHA3.

Platforms

All

19.10 hc-alarm

hc-alarm

Syntax

hc-alarm *rmon-hc-alarm-id* **variable-oid** *oid-string* **interval** *seconds* [*sample-type*] [**startup-alarm** *alarm-type*] [**rising-event** *rmon-event-id* **rising-threshold** *threshold*] [**falling-event** *rmon-event-id* **falling-threshold** *threshold*] [**owner** *owner-string*]

no hc-alarm *rmon-alarm-id*

Context

[Tree] (config>system>thresholds>rmon hc-alarm)

Full Context

configure system thresholds rmon hc-alarm

Description

This command configures an entry in the HC-ALARM-MIB hcAlarmTable and controls the monitoring and triggering of threshold crossing events. At least one associated **configure system thresholds rmon event** command must be configured to trigger the notification or logging of a threshold crossing event.

The agent periodically takes statistical sample values from the MIB variable specified for monitoring and compares them to thresholds configured with this command. This command configures the MIB variable

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for monitoring, the polling period (interval), the sampling type (absolute or delta value), and the rising and falling threshold parameters. If a sample has crossed a threshold value, the associated event is generated.

The **no** form of this command removes the *rmon-alarm-id* from the configuration.

Parameters

rmon-hc-alarm-id

Specifies a numerical identifier for the High Capacity (HC) alarm being configured. The number of HC alarms created is limited to 1200.

Values 1 to 65400

oid-string

Specifies the SNMP object identifier of the particular variable to be sampled. Only SNMP variables that resolve to an ASN.1 primitive type of integer (integer, Integer32, Counter32, Counter64, Gauge, or TimeTicks) may be sampled. The oid-string, up to 255 characters, may be expressed using either the dotted string notation or as object name plus dotted instance identifier. For example, "1.3.6.1.2.1.2.2.1.10.184582144" or "ifInOctets.184582144".

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

sample-type

Specifies the method of sampling the selected variable and calculating the value to compare against the thresholds.

Values absolute — Specifies that the value of the selected variable is compared directly with the thresholds at the end of the sampling interval.

delta — Specifies that the value of the selected variable at the last sample is subtracted from the current value, and the difference compared with the thresholds.

Default absolute

alarm-type

Specifies the alarm that may be sent when this alarm is first created.

If the first sample is greater than or equal to the rising threshold value and **startup-alarm** is equal to **rising** or **either**, a single rising threshold crossing event is generated.

If the first sample is less than or equal to the falling threshold value and **startup-alarm** is equal to **falling** or **either**, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

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rising-event *rmon-event-id*

Specifies the identifier of the **rmon event** that specifies the action to be taken when a rising threshold crossing event occurs.

If there is no corresponding event configured for the specified *rmon-event-id*, no association exists and no action is taken.

If a **rising-event** *rmon-event-id* is configured, the CLI requires a **rising-threshold** to also be configured.

Values 1 to 65400

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event is generated. A single threshold crossing event is also generated if the first sample taken is greater than or equal to this threshold and the associated **startup-alarm** is equal to **rising** or **either**.

After a rising threshold crossing event is generated, another such event is not generated until the sampled value falls below this threshold and reaches less than or equal the **falling-threshold** value.

Values -9223372036854775806 to 9223372036854775807

falling-event *rmon-event-id*

Specifies the identifier of the **rmon event** that specifies the action taken when a falling threshold crossing event occurs. If there is no corresponding event configured for the specified *rmon-event-id*, no association exists and no action is taken.

If a **falling-event** is configured, the CLI requires a **falling-threshold** configuration.

Values 1 to 65400

falling-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event is generated. A single threshold crossing event is also generated if the first sample taken is less than or equal to this threshold and the associated **startup-alarm** is equal to **falling** or **either**.

After a falling threshold crossing event is generated, another such event is not generated until the sampled value rises above this threshold and reaches greater than or equal to the **rising-threshold** value.

Values -9223372036854775806 to 9223372036854775807

owner-string

Specifies the owner string, up to 127 characters; the owner identifies the creator of this entry. This parameter allows entries created in the HC-ALARM-MIB hcAlarmTable by a remote SNMP or YANG manager to be tagged as belonging to a set of entries defined by the manager.

Default TiMOS CLI

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Platforms

All

19.11 hd

hd

Syntax

hd

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if hd)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface hd

Description

This command configures properties relating to requests received by the video interface for High Definition (HD) channel requests.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

19.12 head-end

head-end

Syntax

head-end local

head-end *ipv4-address*

no head-end

Context

[Tree] (conf>router>segment-routing>sr-policies>policy head-end)

Full Context

configure router segment-routing sr-policies static-policy head-end

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Description

This command associates a head-end location with a statically-defined segment-routing policy. The head-end identifies the router that is the target to install the policy. This is a mandatory parameter and configuration command for enabling the segment-routing policy; if the head-end parameter value is not configured, the execution of the **no shutdown** command on the static segment routing policy fails.

To associate a static policy with the local router as head-end, the keyword **local** must be specified. The static policy is associated with another (non-local) router, if the head-end parameter is set to any IPv4 address. When a non-local, static segment routing policy that originates as a BGP route is imported into BGP, the configured head-end address is converted to an IPv4-address specific route-target extended community that is automatically added to the route.

The **no** form of this command removes the head-end association.

Default

no head-end

Parameters

local

Keyword indicating that the policy is intended to be used by the local router and not advertised to other BGP routers.

ipv4-address

Specifies the IP address of the target head-end router.

Values ipv4-address: a.b.c.d

Platforms

All

19.13 header

header

Syntax

header *header-number* [**create**]

no header *header-number*

Context

[Tree] (debug>oam>build-packet>packet>field-override header)

[Tree] (config>test-oam>build-packet header)

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Full Context

debug oam build-packet packet field-override header

configure test-oam build-packet header

Description

Commands in this context configure header parameters.

The **no** form of this command deletes the associated header.

Parameters

header-number

Specifies the ID for the header being defined or referenced.

Values 1 to 65535

create

Creates a header instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.14 header-sanity

header-sanity

Syntax

header-sanity direction *direction* [**create**]

no header-sanity direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg header-sanity)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type header-sanity

Description

This command configures a TCA for the counter capturing hits for the GTP filter header sanity. A GTP filter header-sanity TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a TCA.

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Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.15 header-sequence

header-sequence

Syntax

header-sequence *header-sequence*

no header-sequence

Context

[Tree] (debug>oam>build-packet>packet header-sequence)

Full Context

debug oam build-packet packet header-sequence

Description

This command configures the sequence of headers for a packet to be launched by the OAM **find-egress** tool.

Parameters

header-sequence

Specifies the sequence of headers, such as "h7/h255/h32", where h7 is the header for the lowest level protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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19.16 health-check

health-check

Syntax

health-check

Context

[Tree] (config>aaa>radius-server-policy>servers health-check)

Full Context

configure aaa radius-server-policy servers health-check

Description

Commands in this context configure health check parameters for the RADIUS server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

health-check

Syntax

[**no**] **health-check** [**interval** *interval*]

no health-check

Context

[Tree] (config>system>security>password health-check)

Full Context

configure system security password health-check

Description

This command enables health check monitoring of the LDAP, RADIUS, and TACACS+ servers by sending requests at regular intervals. If a response is not received, the operational status of the server is changed to down. The operational status is changed to up when responses are received.

When RADIUS over TLS is configured, Status-Server packets are sent at 30-second intervals as specified in RFC 3539, regardless of whether health checks are enabled.

The **no** form of this command disables health check monitoring of LDAP, RADIUS, and TACACS+ servers. In this case, the operational status for the server is up if a response to the last request was received.

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Default

health-check interval 30

Parameters

interval

Specifies the polling interval for LDAP, RADIUS, and TACACS+ servers.

Values 6 to 1500

Default 30

Platforms

All

19.17 heartbeat

heartbeat

Syntax

heartbeat

Context

[Tree] (config>subscr-mgmt>pfcp-association heartbeat)

Full Context

configure subscriber-mgmt pfcp-association heartbeat

Description

Commands in this context configure parameters for transmitting PFCP Heartbeat Request messages to a PFCP peer.

Default

heartbeat

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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19.18 hello

hello

Syntax

hello *timeout factor*

no hello

Context

[Tree] (config>router>ldp>if-params>if>ipv6 hello)

[Tree] (config>router>ldp>if-params>ipv4 hello)

[Tree] (config>router>ldp>targ-session>peer hello)

[Tree] (config>router>ldp>targ-session>peer-template hello)

[Tree] (config>router>ldp>if-params>if>ipv4 hello)

[Tree] (config>router>ldp>targ-session>ipv6 hello)

[Tree] (config>router>ldp>targ-session>ipv4 hello)

[Tree] (config>router>ldp>if-params>ipv6 hello)

Full Context

configure router ldp interface-parameters interface ipv6 hello

configure router ldp interface-parameters ipv4 hello

configure router ldp targeted-session peer hello

configure router ldp targeted-session peer-template hello

configure router ldp interface-parameters interface ipv4 hello

configure router ldp targeted-session ipv6 hello

configure router ldp targeted-session ipv4 hello

configure router ldp interface-parameters ipv6 hello

Description

This command configures the time interval to wait before declaring a neighbor down. The **factor** parameter derives the Hello interval.

The **config**>**router**>**ldp**>**if-params**>**ipv6**>**hello** and **config**>**router**>**ldp**>**targ-session**>**ipv6**>**hello** commands are not supported on the 7450 ESS.

Hold time is local to the system and sent in the Hello messages to the neighbor. Hold time cannot be less than three times the Hello interval. The hold time can be configured globally (applies to all LDP interfaces) or per interface. The most specific value is used.

When LDP session is being set up, the hold down time is negotiated to the lower of the two peers. Once an operational value is agreed upon, the Hello factor is used to derive the value of the Hello interval.

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The **no** form of the command at the interface-parameters and targeted-session level sets the **hello timeout** and the **hello factor** to the default values.

The **no** form of the command, at the interface level, sets the **hello timeout** and the **hello factor** to the value defined under the interface-parameters level.

The **no** form of this command, at the peer level, sets the **hello timeout** and the **hello factor** to the value defined under the targeted-session level.

The session must be flapped for the new settings to operate.

Default

Table 49: Hello Timeout Factors lists the default values.

Table 49: Hello Timeout Factors

Context	Timeout	Factor
config>router>ldp>if-params	15	3
config>router>ldp>targ-session	45	3
config>router>ldp>if-params>if	Inherits values from interface-parameters context.	
config>router>ldp>targ-session>peer	Inherits values from targeted-session context.	

Parameters

timeout

Configures the time interval, in seconds, that LDP waits before a neighbor down.

Values 1 to 65535

factor

Specifies the number of keepalive messages that should be sent on an idle LDP session in the Hello timeout interval.

Values 1 to 255

Platforms

All

hello

Syntax

hello [**detail**]

no hello

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Context

[Tree] (debug>router>ldp>peer>packet hello)

[Tree] (debug>router>ldp>if>packet hello)

Full Context

debug router ldp peer packet hello

debug router ldp interface packet hello

Description

This command enables debugging for LDP Hello packets.

The **no** form of the command disables the debugging output.

Parameters

detail

Displays detailed information.

Platforms

All

hello

Syntax

hello [**detail**]

no hello

Context

[Tree] (debug>router>rsvp>packet hello)

Full Context

debug router rsvp packet hello

Description

This command debugs Hello packets.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about Hello packets.

Platforms

All

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19.19 hello-auth-keychain

hello-auth-keychain

Syntax

hello-auth-keychain *name*

Context

[Tree] (config>service>vprn>isis>interface hello-auth-keychain)

[Tree] (config>service>vprn>isis>interface>level hello-auth-keychain)

[Tree] (config>router>isis hello-auth-keychain)

[Tree] (config>router>isis>level hello-auth-keychain)

Full Context

configure service vprn isis interface hello-auth-keychain

configure service vprn isis interface level hello-auth-keychain

configure router isis hello-auth-keychain

configure router isis level hello-auth-keychain

Description

This command configures an authentication keychain to use for the protocol interface. The keychain allows the rollover of authentication keys during the lifetime of a session.

Default

no hello-auth-keychain

Parameters

name

Specifies the name of the keychain, up to 32 characters, to use for the specified protocol session or sessions.

Platforms

All

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19.20 hello-authentication

hello-authentication

Syntax

[**no**] **hello-authentication**

Context

[Tree] (config>service>vprn>isis hello-authentication)

[Tree] (config>service>vprn>isis>level hello-authentication)

[Tree] (config>service>vprn>isis>if hello-authentication)

Full Context

configure service vprn isis hello-authentication

configure service vprn isis level hello-authentication

configure service vprn isis interface hello-authentication

Description

This command enables authentication of individual IS-IS Hello packets for the VPRN instance.

The **no** form of this command suppresses authentication of Hello packets.

Platforms

All

hello-authentication

Syntax

[**no**] **hello-authentication**

Context

[Tree] (config>router>isis>level hello-authentication)

[Tree] (config>router>isis hello-authentication)

[Tree] (config>router>isis>interface hello-authentication)

Full Context

configure router isis level hello-authentication

configure router isis hello-authentication

configure router isis interface hello-authentication

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Description

This command enables authentication of individual IS-IS packets of HELLO type.

The **no** form of this command suppresses authentication of HELLO packets.

Default

hello-authentication

Platforms

All

19.21 hello-authentication-key

hello-authentication-key

Syntax

hello-authentication-key {*authentication-key* | *hash-key*} [**hash** | **hash2** | **custom**]

no hello-authentication-key

Context

[Tree] (config>service>vprn>isis>if>level hello-authentication-key)

[Tree] (config>service>vprn>isis>if hello-authentication-key)

Full Context

configure service vprn isis interface level hello-authentication-key

configure service vprn isis interface hello-authentication-key

Description

This command configures the authentication key (password) for Hello PDUs. Neighboring routers use the password to verify the authenticity of Hello PDUs sent from this interface. Both the Hello authentication key and the Hello authentication type on a segment must match. The **hello-authentication-type** must be specified.

To configure the Hello authentication key in the interface context use the **hello-authentication-key** in the **config>router>isis>if** context.

To configure or override the Hello authentication key for a specific level, configure the **hello-authentication-key** in the **config>router>isis>if>level** context.

If both IS-IS and hello-authentication are configured, Hello messages are validated using Hello authentication. If only IS-IS authentication is configured, it will be used to authenticate all IS-IS (including Hello) protocol PDUs.

When the Hello authentication key is configured in the **config>router>isis>if** context, it applies to all levels configured for the interface.

The **no** form of this command removes the authentication-key from the configuration.

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Default

no hello-authentication-key — No Hello authentication key is configured.

Parameters

authentication-key

The Hello authentication key (password). The key can be any combination of ASCII characters up to 254 characters in length (un-encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

The hash key. The key can be any combination of ASCII characters up to 342 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

hello-authentication-key

Syntax

hello-authentication-key [*authentication-key* | *hash-key*] [**hash** | **hash2** | **custom**]

no hello-authentication-key

Context

[Tree] (config>router>isis>if>level hello-authentication-key)

[Tree] (config>router>isis>interface hello-authentication-key)

Full Context

configure router isis interface level hello-authentication-key

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configure router isis interface hello-authentication-key

Description

This command configures the authentication key (password) for Hello PDUs. Neighboring routers use the password to verify the authenticity of Hello PDUs sent from this interface. Both the Hello authentication key and the Hello authentication type on a segment must match. The **hello-authentication-type** must be specified.

To configure the Hello authentication key in the interface context, use the **hello-authentication-key** in the **config>router>isis>interface** context.

To configure or override the Hello authentication key for a specific level, configure the **hello-authentication-key** in the **config>router>isis>interface>level** context.

If both IS-IS and hello-authentication are configured, Hello messages are validated using Hello authentication. If only IS-IS authentication is configured, it will be used to authenticate all IS-IS (including Hello) protocol PDUs.

When the Hello authentication key is configured in the **config>router>isis>interface** context, it applies to all levels configured for the interface.

The **no** form of this command removes the authentication-key from the configuration.

Parameters

authentication-key

Specifies the Hello authentication key (password). The key can be any combination of ASCII characters, up to 254 characters (un-encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

hash-key

Specifies the hash key. The key can be any combination of ASCII characters, up to 342 characters (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

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Platforms

All

19.22 hello-authentication-type

hello-authentication-type

Syntax

hello-authentication-type {**password** | **message-digest**}

no hello-authentication-type

Context

[Tree] (config>service>vprn>isis>if hello-authentication-type)

[Tree] (config>service>vprn>isis>if>level hello-authentication-type)

Full Context

configure service vprn isis interface hello-authentication-type

configure service vprn isis interface level hello-authentication-type

Description

This command enables Hello authentication at either the interface or level context. Both the Hello authentication key and the Hello authentication type on a segment must match. The hello **authentication-key** statement must also be included.

To configure the Hello authentication type at the interface context, use **hello-authentication-type** in the **config>router>isis>if** context.

To configure or override the Hello authentication setting for a given level, configure the **hello-authentication-type** in the **config>router>isis>if>level** context.

The **no** form of this command disables Hello authentication.

Default

no hello-authentication-type — Hello authentication is disabled

Parameters

password

Specifies simple password (plain text) authentication is required.

message-digest

Specifies MD5 authentication in accordance with RFC 2104 (HMAC: Keyed-Hashing for Message Authentication) is required.

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Platforms

All

hello-authentication-type

Syntax

hello-authentication-type {**password** | **message-digest**}

no hello-authentication-type

Context

[Tree] (config>router>isis>if>level hello-authentication-type)

[Tree] (config>router>isis>interface hello-authentication-type)

Full Context

configure router isis interface level hello-authentication-type

configure router isis interface hello-authentication-type

Description

This command enables Hello authentication at either the interface or level context. Both the Hello authentication key and the Hello authentication type on a segment must match. The hello **authentication-key** statement must also be included.

To configure the Hello authentication type at the interface context, use **hello-authentication-type** in the **config>router>isis>interface** context.

To configure or override the Hello authentication setting for a given level, configure the **hello-authentication-type** in the **config>router>isis>interface>level** context.

The **no** form of this command disables Hello authentication.

Parameters

password

Specifies simple password (plain text) authentication is required.

message-digest

Specifies MD5 authentication in accordance with RFC 2104 (HMAC: Keyed-Hashing for Message Authentication) is required.

Platforms

All

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19.23 hello-interval

hello-interval

Syntax

hello-interval *hello-interval*

hello-interval infinite

no hello-interval

Context

[Tree] (config>router>l2tp>group>tunnel hello-interval)

[Tree] (config>service>vprn>l2tp>group>tunnel hello-interval)

[Tree] (config>service>vprn>l2tp>group hello-interval)

[Tree] (config>router>l2tp hello-interval)

[Tree] (config>service>vprn>l2tp hello-interval)

[Tree] (config>router>l2tp>group hello-interval)

Full Context

configure router l2tp group tunnel hello-interval

configure service vprn l2tp group tunnel hello-interval

configure service vprn l2tp group hello-interval

configure router l2tp hello-interval

configure service vprn l2tp hello-interval

configure router l2tp group hello-interval

Description

This command configures the time interval between two consecutive tunnel Hello messages. The Hello message is an L2TP control message sent by either peer of a LAC-LNS control connection. This control message is used as a keepalive for the tunnel.

The **no** form of this command removes the interval from the configuration.

Default

hello-interval 300

Parameters

hello-interval

Specifies the time interval, in seconds, between two consecutive tunnel Hello messages.

Default no hello-interval

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Values 10 to 3600

infinite

Specifies that no Hello interval messages are sent.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

hello-interval

Syntax

hello-interval *seconds*

no hello-interval

Context

[Tree] (config>service>vpls>sap>spb>level hello-interval)

[Tree] (config>service>vpls>spoke-sdp>spb>level hello-interval)

Full Context

configure service vpls sap spb level hello-interval

configure service vpls spoke-sdp spb level hello-interval

Description

This command configures the interval in seconds between Hello messages issued on this interface at this level. This command is valid only for interfaces on control B-VPLS.

The no form of this command to reverts to the default value.

Default

hello-interval 3 — Hello interval default for the designated inter-system.

hello-interval 9 — Hello interval default for non-designated inter-systems.

Parameters

seconds

The Hello interval in seconds expressed as a decimal integer.

Values 1 to 20000

Platforms

All

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hello-interval

Syntax

hello-interval *seconds*

no hello-interval

Context

[Tree] (config>router>isis>if>level hello-interval)

[Tree] (config>service>vprn>isis>if>level hello-interval)

Full Context

configure router isis interface level hello-interval

configure service vprn isis interface level hello-interval

Description

This command configures the interval between IS-IS Hello PDUs issued on the interface at this level. The **hello-interval**, along with the **hello-multiplier**, is used to calculate a hold time, which is communicated to a neighbor in a Hello PDU.

Note:
The neighbor hold time is (hello multiplier X hello interval) on non-designated intermediate system broadcast interfaces and point-to-point interfaces and is (hello multiplier X hello interval / 3) on designated intermediate system broadcast interfaces. Hello values can be adjusted for faster convergence, but the hold time should always be > 3 to reduce routing instability.

The **no** form of this command reverts to the default value.

Default

3 – for designated intermediate system interfaces

9 – for non-designated intermediate system interfaces and point-to-point interfaces

Parameters

seconds

The Hello interval in seconds expressed as a decimal integer.

Values 1 to 20000

Platforms

All

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hello-interval

Syntax

hello-interval *hello-interval*

no hello-interval

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>pim hello-interval)

Full Context

configure service vprn mvpn provider-tunnel inclusive pim hello-interval

Description

This command configures the frequency at which PIM Hello messages are transmitted on this interface.

The **no** form of this command resets the configuration to the default value.

Default

hello-interval 30

Parameters

hello-interval

Specifies the Hello interval in seconds. A 0 (zero) value disables the sending of Hello messages (the PIM neighbor will never timeout the adjacency).

Values 0 to 255 seconds

Platforms

All

hello-interval

Syntax

hello-interval *seconds*

no hello-interval

Context

[Tree] (config>service>vprn>ospf>area>if hello-interval)

[Tree] (config>service>vprn>ospf3>area>if hello-interval)

[Tree] (config>service>vprn>ospf>area>virtual-link hello-interval)

[Tree] (config>service>vprn>ospf>area>sham-link hello-interval)

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[Tree] (config>service>vprn>ospf3>area>virtual-link hello-interval)

Full Context

configure service vprn ospf area interface hello-interval

configure service vprn ospf3 area interface hello-interval

configure service vprn ospf area virtual-link hello-interval

configure service vprn ospf area sham-link hello-interval

configure service vprn ospf3 area virtual-link hello-interval

Description

This command configures the interval between OSPF Hello messages issued on the interface, virtual link, or sham-link.

The Hello interval, in combination with the dead-interval, is used to establish and maintain the adjacency. Use this parameter to edit the frequency that Hello packets are sent.

Reducing the interval, in combination with an appropriate reduction in the associated **dead-interval**, allows for faster detection of link and/or router failures at the cost of higher processing costs.

The **no** form of this command reverts to the default value.

Default

hello-interval 10 — a 10-second Hello interval

Parameters

seconds

The Hello interval in seconds expressed as a decimal integer.

Values 1 to 65535

Platforms

All

hello-interval

Syntax

hello-interval *hello-interval*

no hello-interval

Context

[Tree] (config>service>vprn>pim>if hello-interval)

Full Context

configure service vprn pim interface hello-interval

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Description

This command configures the frequency at which PIM Hello messages are transmitted on this interface.

The **no** form of this command resets the configuration to the default value.

Default

hello-interval 30

Parameters

hello-interval

Specifies the Hello interval in seconds. A 0 (zero) value disables the sending of Hello messages (the PIM neighbor will never timeout the adjacency).

Values 0 to 255 seconds

Platforms

All

hello-interval

Syntax

hello-interval *milli-seconds*

no hello-interval

Context

[Tree] (config>router>rsvp>interface hello-interval)

Full Context

configure router rsvp interface hello-interval

Description

This command configures the time interval between RSVP Hello messages.

RSVP Hello packets are used to detect loss of RSVP connectivity with the neighboring node. Hello packets detect the loss of neighbor far quicker than it would take for the RSVP session to time out based on the refresh interval. After the loss of the of number keep-multiplier consecutive Hello packets, the neighbor is declared to be in a down state.

The **no** form of this command reverts to the default value of the hello-interval. To disable sending hello messages, set the value to zero.

Default

hello-interval 3000

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Parameters

milli-seconds

Specifies the RSVP Hello interval (in ms), in multiples of 1000. A 0 (zero) value disables the sending of RSVP Hello messages.

Values 0 to 60000 ms (in multiples of 1000)

Platforms

All

hello-interval

Syntax

hello-interval *hello-interval*

no hello-interval

Context

[Tree] (config>router>pim>interface hello-interval)

Full Context

configure router pim interface hello-interval

Description

This command configures the frequency at which PIM Hello messages are transmitted on this interface.

The **no** form of this command resets the configuration to the default value.

Default

hello-interval 30

Parameters

hello-interval

Specifies the Hello interval in seconds. A 0 (zero) value disables the sending of Hello messages (the PIM neighbor will never timeout the adjacency).

Values 0 to 255 seconds

Platforms

All

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hello-interval

Syntax

hello-interval *seconds*

no hello-interval

Context

[Tree] (config>router>ospf3>area>interface hello-interval)

[Tree] (config>router>ospf>area>interface hello-interval)

[Tree] (config>router>ospf3>area>virtual-link hello-interval)

[Tree] (config>router>ospf>area>virtual-link hello-interval)

Full Context

configure router ospf3 area interface hello-interval

configure router ospf area interface hello-interval

configure router ospf3 area virtual-link hello-interval

configure router ospf area virtual-link hello-interval

Description

This command configures the interval between OSPF Hellos issued on the interface or virtual link.

The Hello interval, in combination with the dead-interval, is used to establish and maintain the adjacency. Use this parameter to edit the frequency that Hello packets are sent.

Reducing the interval, in combination with an appropriate reduction in the associated **dead-interval ,** allows for faster detection of link and/or router failures at the cost of higher processing costs.

The **no** form of this command reverts to the default value.

Default

hello-interval 10

Parameters

seconds

Specifies the Hello interval, in seconds, expressed as a decimal integer.

Values 1 to 65535

Platforms

All

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19.24 hello-multiplier

hello-multiplier

Syntax

hello-multiplier *multiplier*

no hello-multiplier

Context

[Tree] (config>service>vpls>sap>spb>level hello-multiplier)

[Tree] (config>service>vpls>spoke-sdp>spb>level hello-multiplier)

Full Context

configure service vpls sap spb level hello-multiplier

configure service vpls spoke-sdp spb level hello-multiplier

Description

This command configures the number of missing Hello PDUs from a neighbor SPB declares the adjacency down. This command is valid only for interfaces on control B-VPLS.

The no form of this command reverts to the default value.

Default

hello-interval 3 — SPB can miss up to 3 Hello messages before declaring the adjacency down.

Parameters

multiplier

The multiplier for the Hello interval expressed as a decimal integer.

Values 2 to 100

Platforms

All

hello-multiplier

Syntax

hello-multiplier *multiplier*

no hello-multiplier

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Context

[Tree] (config>service>vprn>isis>if>level hello-multiplier)

[Tree] (config>router>isis>if>level>level-number hello-multiplier)

Full Context

configure service vprn isis interface level hello-multiplier

configure router isis interface level level-number hello-multiplier

Description

This command configures the number of missing Hello messages from a neighbor before the router declares the adjacency down.

Note:
The neighbor hold time is (hello multiplier X hello interval) on point-to-point interfaces, and (hello multiplier X hello interval / 3) on broadcast interfaces. Hello values can be adjusted for faster convergence, but the hold-time should always be > 3 to reduce routing instability.

The **no** form of this command reverts to the default value.

Default

hello-multiplier 3

Parameters

multiplier

The multiplier for the Hello interval expressed as a decimal integer.

Values 2 to 100

Platforms

All

hello-multiplier

Syntax

hello-multiplier *deci-units*

no hello-multiplier

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>pim hello-multiplier)

Full Context

configure service vprn mvpn provider-tunnel inclusive pim hello-multiplier

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Description

This command configures the multiplier to determine the hold time for a PIM neighbor on this interface.

The **hello-multiplier** in conjunction with the **hello-interval** determines the holdtime for a PIM neighbor.

Parameters

deci-units

Specify the value, specified in multiples of 0.1, for the formula used to calculate the holdtime based on the **hello-multiplier**:

(**hello-interval** X **hello-multiplier**) / 10

This allows the PIMv2 default **hello-multiplier** of 3.5 and the default timeout of 105 seconds to be supported.

Values 20 to 100

Default 35

Platforms

All

hello-multiplier

Syntax

hello-multiplier *deci-units*

no hello-multiplier

Context

[Tree] (config>service>vprn>pim>if hello-multiplier)

Full Context

configure service vprn pim interface hello-multiplier

Description

This command configures the multiplier to determine the hold time for a PIM neighbor on this interface.

The **hello-multiplier** in conjunction with the **hello-interval** determines the holdtime for a PIM neighbor.

Default

hello-multiplier 35

Parameters

deci-units

Specify the value, specified in multiples of 0.1, for the formula used to calculate the holdtime based on the **hello-multiplier**:

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(**hello-interval** X **hello-multiplier**) / 10

This allows the PIMv2 default **hello-multiplier** of 3.5 and the default timeout of 105 seconds to be supported.

Values 20 to 100

Platforms

All

hello-multiplier

Syntax

hello-multiplier *deci-units*

no hello-multiplier

Context

[Tree] (config>router>pim>interface hello-multiplier)

Full Context

configure router pim interface hello-multiplier

Description

This command configures the multiplier to determine the holdtime for a PIM neighbor on this interface.

The **hello-multiplier** in conjunction with the **hello-interval** determines the holdtime for a PIM neighbor.

The **no** form of this command reverts to the default value.

Default

hello-multiplier 35

Parameters

deci-units

Specifies the value, in multiples of 0.1, for the formula used to calculate the holdtime based on the **hello-multiplier**:

(**hello-interval** X **hello-multiplier**) / 10

This allows the PIMv2 default **hello-multiplier** of 3.5 and the default timeout of 105 seconds to be supported.

Values 20 to 100

Default 35

Platforms

All

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hello-multiplier

Syntax

hello-multiplier *multiplier*

no hello-multiplier

Context

[Tree] (config>router>isis>if>level hello-multiplier)

Full Context

configure router isis interface level hello-multiplier

Description

This command configures a Hello multiplier. The **hello-multiplier**, along with the **hello-interval**, is used to calculate a hold time, which is communicated to a neighbor in a Hello PDU.

The hold time is the time in which the neighbor expects to receive the next Hello PDU. If the neighbor receives a Hello within this time, the hold time is reset. If the neighbor does not receive a Hello within the hold time, it brings the adjacency down.

Note:
The neighbor hold time is (hello multiplier X hello interval) on non-designated intermediate system broadcast interfaces and point-to-point interfaces and is (hello multiplier X hello interval / 3) on designated intermediate system broadcast interfaces. Hello values can be adjusted for faster convergence, but the hold time should always be > 3 to reduce routing instability.

The **no** form of this command reverts to the default value.

Default

hello-multiplier 3

Parameters

multiplier

Specifies the multiplier for the Hello interval expressed as a decimal integer.

Values 2 to 100

Platforms

All

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19.25 hello-padding

hello-padding

Syntax

hello-padding {**none** | **adaptive** | **loose** | **strict**}

no hello-padding

Context

[Tree] (config>service>vprn>isis>level hello-padding)

[Tree] (config>service>vprn>isis hello-padding)

[Tree] (config>service>vprn>isis>if>level hello-padding)

[Tree] (config>service>vprn>isis>if hello-padding)

Full Context

configure service vprn isis level hello-padding

configure service vprn isis hello-padding

configure service vprn isis interface level hello-padding

configure service vprn isis interface hello-padding

Description

This command enables the IS-IS Hello (IIH) message padding to ensure that IS-IS LSPs can traverse the link. When this option is enabled, IS-IS Hello messages are padded to the maximum LSP MTU value, which can be set with the **lsp-mtu-size** command. If link MTU is greater than the maximum LSP MTU value, padding to the link MTU is applied.

The **no** form of this command disables IS-IS Hello message padding at this level. However, the router may still perform Hello padding if it was set at a higher level in the configuration. To ensure that Hello message padding is disabled, set all levels of configuration to **no hello-padding**.

Default

no hello-padding

Parameters

adaptive

Specifies the adaptive padding option; this option is able to detect MTU asymmetry from one side of the connection but uses more overhead than loose padding.

- point-to-point interface—Hello PDUs are padded until the sender declares an adjacency on the link to be in the state up. If the implementation supports RFC 3373/5303, *Three-Way Handshake for IS-IS Point-to-Point Adjacencies*, then this is when the three-way state is up. If the implementation uses the "classic" algorithm described in ISO 10589,

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this is when the adjacency state is up. If the neighbor does not support the adjacency state TLV, then padding continues.

- broadcast interface—Padding starts until at least one adjacency is up on the interface.

loose

Specifies the loose padding option; the loose padding may not be able to detect certain conditions such as asymmetrical MTUs between the routing devices.

- point-to-point interface—the Hello packet is padded from the initial detection of a new neighbor until the adjacency transitions to the INIT state
- broadcast interface—padding starts until at least one adjacency (broadcast only has up/down) is up on the interface

none

Specifies that the Hello message padding is not enabled at this level, even if it is configured at one of the parent levels.

strict

Specifies the strict padding option.

- point-to-point interface—padding is done for all adjacency states, and is continuous. Strict padding has the most overhead but detects MTU issues on both sides of a link
- broadcast interface—padding is done for all adjacency states, and is continuous. Strict padding has the most overhead but detects MTU issues on both sides of a link

Platforms

All

hello-padding

Syntax

[**no**] **hello-padding** {**none** | **adaptive** | **loose** | **strict**}

Context

[Tree] (config>router>isis>interface hello-padding)

[Tree] (config>router>isis>interface>level hello-padding)

[Tree] (config>router>isis>level hello-padding)

[Tree] (config>router>isis hello-padding)

Full Context

configure router isis interface hello-padding

configure router isis interface level hello-padding

configure router isis level hello-padding

configure router isis hello-padding

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Description

This command enables IS-IS Hello (IIH) message padding to ensure that IS-IS LSPs can traverse the link. When this option is enabled, IS-IS Hello messages are padded to the maximum LSP MTU value, which can be set with the **lsp-mtu-size** command. If link MTU is greater than the maximum LSP MTU value, padding to the link MTU is applied.

The **no** form of this command disables IS-IS Hello padding at this level. However, the router may still perform Hello padding if it was set at a higher level in the configuration. To ensure that Hello message padding is disabled, set all levels of configuration to **no hello-padding**.

Default

no hello-padding

Parameters

none

Specifies that the Hello message padding is not enabled at this level, even if it is configured at one of the parent levels.

adaptive

Specifies the adaptive padding option; this option is able to detect LSP MTU asymmetry from one side of the connection but uses more overhead than loose padding.

1. point-to-point interface—Hello PDUs are padded until the sender declares an adjacency on the link to be in state up. If the implementation supports RFC 3373/5303, "Three-Way Handshake for IS-IS Point-to- Point Adjacencies” then this is when the three-way state is Up. If the implementation use the "classic” algorithm described in ISO 10589, this is when adjacency state is Up. If the neighbor does not support the adjacency state TLV, then padding continues.
2. broadcast interface—Padding starts until at least one adjacency is up on the interface.

loose

Specifies the loose padding option; the loose padding may not be able to detect certain situations such as asymmetrical LSP MTUs between the routing devices.

1. point-to-point interface—The Hello packet is padded from the initial detection of a new neighbor until the adjacency transitions to the INIT state.
2. broadcast interface—Padding starts until there is at least one adjacency (broadcast only has up/down) is up on the interface.

strict

Specifies the strict padding option; this option is the most overhead-intensive but detects LSP MTU issues on both sides of a link.

1. point-to-point interface—Padding is done for all adjacency states, and is continuous.
2. broadcast interface—Padding is done for all adjacency states, and is continuous.

Platforms

All

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19.26 hello-reduction

hello-reduction

Syntax

hello-reduction {**enable** *factor* | **disable**}

no hello-reduction

Context

[Tree] (config>router>ldp>targ-session>ipv6 hello-reduction)

[Tree] (config>router>ldp>targ-session>peer hello-reduction)

[Tree] (config>router>ldp>targ-session>ipv4 hello-reduction)

[Tree] (config>router>ldp>targ-session>peer-template hello-reduction)

Full Context

configure router ldp targeted-session ipv6 hello-reduction

configure router ldp targeted-session peer hello-reduction

configure router ldp targeted-session ipv4 hello-reduction

configure router ldp targeted-session peer-template hello-reduction

Description

This command enables the suppression of periodic targeted Hello messages between LDP peers once the targeted LDP session is brought up.

The **config**>**router**>**ldp**>**targ-session**>**ipv6**>**hello-reduction** command is not supported on the 7450 ESS.

When this feature is enabled, the target Hello adjacency is brought up by advertising the Hold-Time value the user configured in the " **hello** timeout" parameter for the targeted session. The LSR node will then start advertising an exponentially increasing Hold-Time value in the Hello message as soon as the targeted LDP session to the peer is up. Each new incremented Hold-Time value is sent in a number of Hello messages equal to the value of the argument *factor*, which represents the dampening factor, before the next exponential value is advertised. This provides time for the two peers to settle on the new value. When the Hold-Time reaches the maximum value of 0xffff (binary 65535), the two peers will send Hello messages at a frequency of every [(65535-1)/local helloFactor] seconds for the lifetime of the targeted-LDP session (for example, if the local Hello Factor is three (3), then Hello messages will be sent every 21844 seconds.

The LSR node continues to compute the frequency of sending the Hello messages based on the minimum of its local Hold-time value and the one advertised by its peer as in RFC 5036. Thus for the targeted LDP session to suppress the periodic Hello messages, both peers must bring their advertised Hold-Time to the maximum value. If one of the LDP peers does not, the frequency of the Hello messages sent by both peers will continue to be governed by the smaller of the two Hold-Time values.

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When the user enables the Hello reduction option on the LSR node while the targeted LDP session to the peer is operationally up, the change will take effect immediately. In other words, the LSR node will start advertising an exponentially increasing Hold-Time value in the Hello message, starting with the current configured Hold-Time value.

When the user disables the Hello reduction option while the targeted LDP session to the peer is operationally up, the change in the Hold-Time from 0xffff (binary 65535) to the user configured value for this peer will take effect immediately. The local LSR will immediately advertise the value of the user configured Hold-Time value and will not wait until the next scheduled time to send a Hello to make sure the peer adjusts its local hold timeout value immediately.

In general, any configuration change to the parameters of the T-LDP Hello adjacency (modifying the Hello adjacency Hello Timeout or factor, enabling/disabling Hello reduction, or modifying Hello reduction factor) will cause the LSR node to trigger immediately an updated Hello message with the updated Hold Time value without waiting for the next scheduled time to send a Hello.

The **no** form of this command disables the Hello reduction feature.

Default

no hello-reduction

Parameters

factor

Specifies the integer that specifies the Hello reduction dampening factor.

Values 3 to20

Platforms

All

19.27 hello-time

hello-time

Syntax

hello-time *hello-time*

no hello-time [*hello-time*]

Context

[Tree] (config>service>template>vpls-template>stp hello-time)

[Tree] (config>service>vpls>stp hello-time)

Full Context

configure service template vpls-template stp hello-time

configure service vpls stp hello-time

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Description

This command configures the Spanning Tree Protocol (STP) Hello time for the Virtual Private LAN Service (VPLS) STP instance.

The Hello time parameter defines the default timer value that controls the sending interval between BPDU configuration messages by this bridge, on ports where this bridge assumes the designated role.

The active Hello time for the spanning tree is determined by the root bridge (except when the STP is running in RSTP mode, then the Hello time is always taken from the locally configured parameter).

The configured **hello-time** can also be used to calculate the forward delay. See **auto-edge** (**config>service>vpls>sap>stp auto-edge, config>service>template>vpls-sap-template>stp auto-edge, config>service>vpls>spoke-sdp>stp auto-edge**).

The **no** form of this command returns the Hello time to the default value.

Default

hello-time 2

Parameters

hello-time

The Hello time for the STP instance in seconds.

Values 1 to 10

Platforms

All

hello-time

Syntax

[**no**] **hello-time** *seconds*

Context

[Tree] (config>service>sdp>keep-alive hello-time)

Full Context

configure service sdp keep-alive hello-time

Description

This command configures the time period between SDP keepalive messages on the SDP-ID for the SDP connectivity monitoring messages.

The **no** form of this command reverts the **hello-time** *seconds* value to the default setting.

Default

hello-time 10

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Parameters

seconds

Specifies the time period in seconds between SDP keepalive messages, expressed as a decimal integer.

Values 1 to 3600

Platforms

All

19.28 help

help

Syntax

help

help edit

help global

help special-characters

Context

[Tree] (help)

Full Context

help

Description

This command provides a brief description of the help system. The following information is shown:

```
Help may be requested at any point by hitting a question mark '?'.
In case of an executable node, the syntax for that node will be displayed with an
explanation of all parameters.
In case of sub-commands, a brief description is provided.
Global Commands:
Help on global commands can be observed by issuing "help globals" at any time.
Editing Commands:
Help on editing commands can be observed by issuing "help edit" at any time.
```

Parameters

help

Displays a brief description of the help system.

edit

Displays help on editing.

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Available editing keystrokes:

```
Delete current character.....................Ctrl-d
Delete text up to cursor.....................Ctrl-u
Delete text after cursor.....................Ctrl-k
Move to beginning of line....................Ctrl-a
Move to end of line..........................Ctrl-e
Get prior command from history...............Ctrl-p
Get next command from history................Ctrl-n
Move cursor left.............................Ctrl-b
Move cursor right............................Ctrl-f
Move back one word...........................Esc-b
Move forward one word........................Esc-f
Convert rest of word to uppercase............Esc-c
Convert rest of word to lowercase............Esc-l
Delete remainder of word.....................Esc-d
Delete word up to cursor.....................Ctrl-w
Transpose current and previous character.....Ctrl-t
Enter command and return to root prompt......Ctrl-z
Refresh input line...........................Ctrl-l
```

global

Displays help on global commands.

Available global commands:

```
back            - Go back a level in the command tree
echo            - Echo the text that is typed in
exec            - Execute a file - use -echo to show the commands and
                  prompts on the screen
exit            - Exit to intermediate mode - use option all to exit to
                  root prompt
help            - Display help
history         - Show command history
info            - Display configuration for the present node
logout          - Log off this system
oam             + OAM Test Suite
ping            - Verify the reachability of a remote host
pwc             - Show the present working context
sleep           - Sleep for specified number of seconds
ssh             - SSH to a host
telnet          - Telnet to a host
traceroute      - Determine the route to a destination address
tree            - Display command tree structure from the context of
                  execution
write           - Write text to another user
```

special-characters

Displays help on special characters.

Use the following CLI commands to display more information about commands and command syntax:

?

Lists all commands in the current context.

string?

Lists all commands available in the current context that start with the string.

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command ?

Displays command's syntax and associated keywords.

string<Tab> or string<Space>

Completes a partial command name (auto-completion) or lists available commands that match the string.

Platforms

All

19.29 helper-disable

helper-disable

Syntax

[**no**] **helper-disable**

Context

[Tree] (config>service>vprn>isis>graceful-restart helper-disable)

Full Context

configure service vprn isis graceful-restart helper-disable

Description

This command disables helper support for IS-IS graceful restart (GR).

When **graceful-restart** is enabled, the router can be a helper (that is, the router is helping a neighbor to restart), a restarting router, or both. The router only supports the helper mode. It will not act as a restarting router, because the high availability feature set already preserves IS-IS forwarding information such that this functionality is not needed.

Note:
This command is a historical command and should not be disabled. Configuring **helper-disable** has the effect of disabling graceful restart, because the router only supports helper mode.

The **no helper-disable** command enables helper support and is the default when graceful restart is enabled.

Default

no helper-disable

Platforms

All

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helper-disable

Syntax

[**no**] **helper-disable**

Context

[Tree] (config>service>vprn>ospf>graceful-restart helper-disable)

[Tree] (config>service>vprn>ospf3>graceful-restart helper-disable)

Full Context

configure service vprn ospf graceful-restart helper-disable

configure service vprn ospf3 graceful-restart helper-disable

Description

This command disables helper support for OSPF graceful restart (GR).

When **graceful-restart** is enabled, the router can be a helper (that is, the router is helping a neighbor to restart), a restarting router, or both. The router only supports helper mode. It will not act as a restarting router, because the high availability feature set already preserves OSPF forwarding information such that this functionality is not needed.

Note:
This command is a historical command and should not be disabled. Configuring **helper-disable** has the effect of disabling graceful restart, because the router only supports helper mode.

The **no helper-disable** command enables helper support and is the default when graceful restart is enabled.

Default

no helper-disable

Platforms

All

helper-disable

Syntax

[**no**] **helper-disable**

Context

[Tree] (config>router>isis>graceful-restart helper-disable)

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Full Context

configure router isis graceful-restart helper-disable

Description

This command disables helper support for IS-IS graceful restart (GR).

When **graceful-restart** is enabled, the router can be a helper (that is, the router is helping a neighbor to restart), a restarting router, or both. The router only supports the helper mode. It will not act as a restarting router, because the high availability feature set already preserves IS-IS forwarding information so that this functionality is not needed.

Note:
This command is a historical command and should not be disabled. Configuring **helper-disable** has the effect of disabling graceful restart, because the router only supports helper mode.

The **no** form of this command enables helper support and is the default when graceful restart is enabled.

Platforms

All

helper-disable

Syntax

[**no**] **helper-disable**

Context

[Tree] (config>router>ospf3>graceful-restart helper-disable)

[Tree] (config>router>ospf>graceful-restart helper-disable)

Full Context

configure router ospf3 graceful-restart helper-disable

configure router ospf graceful-restart helper-disable

Description

This command disables helper support for OSPF graceful restart (GR).

When **graceful-restart** is enabled, the router can be a helper (that is, the router is helping a neighbor to restart), a restarting router, or both. The router only supports the helper mode. It will not act as a restarting router because the high availability feature set already preserves OSPF forwarding information so that this functionality is not needed.

Note:
This command is a historical command and should not be disabled. Configuring **helper-disable** has the effect of disabling graceful restart, because the router only supports helper mode.

The **no** form of this command enables helper support and is the default when **graceful-restart** is enabled.

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Default

no helper-disable

Platforms

All

19.30 helper-override-restart-time

helper-override-restart-time

Syntax

helper-override-restart-time *seconds*

no helper-override-restart-time

Context

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived helper-override-restart-time)

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived helper-override-restart-time)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived helper-override-restart-time)

Full Context

configure service vprn bgp group graceful-restart long-lived helper-override-restart-time

configure service vprn bgp graceful-restart long-lived helper-override-restart-time

configure service vprn bgp group neighbor graceful-restart long-lived helper-override-restart-time

Description

This command overrides the restart-time advertised by a peer (in its GR capability) with a locally-configured value. This override applies only to AFI/SAFI that were included in the GR capability of the peer. The restart-time is always zero for AFI/SAFI not included in the GR capability. This command is useful if the local router wants to force LLGR phase to begin after a set time for all protected AFI/SAFI.

By default, the restart time for all AFI/SAFI in the GR capability is the value signaled by the peer.

Default

no helper-override-restart-time

Parameters

seconds

The locally-imposed restart time for all AFI/SAFI included in the peer's GR capability.

Values 0 to 4095

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Platforms

All

helper-override-restart-time

Syntax

helper-override-restart-time *seconds*

no helper-override-restart-time

Context

[Tree] (config>router>bgp>group>graceful-restart>long-lived helper-override-restart-time)

[Tree] (config>router>bgp>graceful-restart>long-lived helper-override-restart-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived helper-override-restart-time)

Full Context

configure router bgp group graceful-restart long-lived helper-override-restart-time

configure router bgp graceful-restart long-lived helper-override-restart-time

configure router bgp group neighbor graceful-restart long-lived helper-override-restart-time

Description

This command overrides the restart-time advertised by a peer (in its GR capability) with a locally-configured value. This override applies only to AFI/SAFI that were included in the GR capability of the peer. The restart-time is always zero for AFI/SAFI not included in the GR capability. This command is useful if the local router wants to force LLGR phase to begin after a set time for all protected AFI/SAFI.

By default, the restart time for all AFI/SAFI in the GR capability is the value signaled by the peer.

Default

no helper-override-restart-time

Parameters

seconds

The locally-imposed restart time for all AFI/SAFI included in the peer's GR capability.

Values 0 to 4095

Platforms

All

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19.31 helper-override-stale-time

helper-override-stale-time

Syntax

helper-override-stale-time *seconds*

no helper-override-stale-time

Context

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived helper-override-stale-time)

[Tree] (config>service>vprn>bgp>group>graceful-restart>long-lived>family helper-override-stale-time)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived helper-override-stale-time)

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived>family helper-override-stale-time)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart>long-lived>family helper-override-stale-time)

[Tree] (config>service>vprn>bgp>graceful-restart>long-lived helper-override-stale-time)

Full Context

configure service vprn bgp group graceful-restart long-lived helper-override-stale-time

configure service vprn bgp group graceful-restart long-lived family helper-override-stale-time

configure service vprn bgp group neighbor graceful-restart long-lived helper-override-stale-time

configure service vprn bgp graceful-restart long-lived family helper-override-stale-time

configure service vprn bgp group neighbor graceful-restart long-lived family helper-override-stale-time

configure service vprn bgp graceful-restart long-lived helper-override-stale-time

Description

This command overrides the LLGR stale-time advertised by a peer (in its LLGR capability) with a locally-configured value. When configured in the long-lived configuration context, **helper-override-stale-time** applies to all AFI/SAFI in the advertised LLGR capability except for any AFI/SAFI with a family-specific override. A family-specific override is configured with the **helper-override-stale-time** command in a family context.

By default, the LLGR stale-time for an AFI/SAFI is the value signaled by the peer in the corresponding AFI/SAFI part of the LLGR capability.

Default

no helper-override-stale-time

Parameters

seconds

Specifies the locally imposed LLGR stale time in seconds.

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Values 0 to 16777215

Platforms

All

helper-override-stale-time

Syntax

helper-override-stale-time *seconds*

no helper-override-stale-time

Context

[Tree] (config>router>bgp>graceful-restart>long-lived>family helper-override-stale-time)

[Tree] (config>router>bgp>graceful-restart>long-lived helper-override-stale-time)

[Tree] (config>router>bgp>group>graceful-restart>long-lived>family helper-override-stale-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived>family helper-override-stale-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart>long-lived helper-override-stale-time)

[Tree] (config>router>bgp>group>graceful-restart>long-lived helper-override-stale-time)

Full Context

configure router bgp graceful-restart long-lived family helper-override-stale-time

configure router bgp graceful-restart long-lived helper-override-stale-time

configure router bgp group graceful-restart long-lived family helper-override-stale-time

configure router bgp group neighbor graceful-restart long-lived family helper-override-stale-time

configure router bgp group neighbor graceful-restart long-lived helper-override-stale-time

configure router bgp group graceful-restart long-lived helper-override-stale-time

Description

This command overrides the LLGR stale-time advertised by a peer (in its LLGR capability) with a locally-configured value. When configured in the **long-lived** configuration context, **helper-override-stale-time** applies to all AFI/SAFI in the advertised LLGR capability except for any AFI/SAFI with a family-specific override. A family-specific override is configured with the **helper-override-stale-time** command in a family context.

By default, the LLGR stale-time for an AFI/SAFI is the value signaled by the peer in the corresponding AFI/SAFI part of the LLGR capability.

Default

no helper-override-stale-time

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Parameters

seconds

Specifies the locally imposed LLGR stale time in seconds.

Values 0 to 16777215

Platforms

All

19.32 helper-resync-timeout

helper-resync-timeout

Syntax

helper-resync-timeout [*timeout*]

no helper-resync-timeout

Context

[Tree] (config>service>vprn>ospf>graceful-restart helper-resync-timeout)

[Tree] (config>router>ospf>graceful-restart helper-resync-timeout)

Full Context

configure service vprn ospf graceful-restart helper-resync-timeout

configure router ospf graceful-restart helper-resync-timeout

Description

This command configures the maximum resynchronization period in seconds. If the resynchronization takes longer than the configured value, the graceful restart process stops, and the OSPF neighbor session falls back to the ExStart state for normal adjacency establishment.

The **no** form of this command removes the configured maximum resynchronization period, and reverts to default behavior.

Default

no helper-resync-timeout

Parameters

timeout

Specifies the maximum resynchronization period in seconds.

Values 120 to 900

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Default 120

Platforms

All

19.33 hi-bw-mcast-src

hi-bw-mcast-src

Syntax

hi-bw-mcast-src [**alarm**] [**group** *group-id*] [**default-paths-only**]

no hi-bw-mcast-src

Context

[Tree] (config>card>fp hi-bw-mcast-src)

Full Context

configure card fp hi-bw-mcast-src

Description

This command designates the forwarding plane as a high-bandwidth IP multicast source, expecting the ingress traffic to include high-bandwidth IP multicast traffic. When configured, the system attempts to allocate a dedicated multicast switch fabric plane (MSFP) to the forwarding plane. If a group is specified, all FPs in the group will share the same MSFP. If the alarm parameter is specified and the system cannot allocate a dedicated MSFP to the new group or FP, the FPs will be brought online and generate an event (SYSTEM: 2052 - tmnxChassisHiBwMulticastAlarm). Similarly, if during normal operation there is a failure or removal of resources, an event will be generated if the system cannot maintain separation of MSFPs for the MDAs.

The **no** form of this command removes the high-bandwidth IP multicast source designation from the forwarding plane.

Default

no hi-bw-mcast-src

Parameters

alarm

Enables event generation if the MDA is required to share an MSFP with another MDA that is in a different group. MDAs within the same group sharing an MSFP will not cause this alarm.

group-id

Specifies the logical MSFP group for the MDA. MDAs configured with the same *group-id* will be placed on the same MSFP.

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Values 0 to 32 (A value of 0 removes the MDA from the group).

Default By default, "none" is used, and the system will attempt to assign a unique MSFP to the MDA.

default-paths-only

When this parameter is specified the system will only attempt to allocate the two default paths (one high priority and one low priority) to dedicated MSFPs.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS

19.34 high

high

Syntax

high

Context

[Tree] (config>qos>sap-egress>queue>drop-tail high)

Full Context

configure qos sap-egress queue drop-tail high

Description

Commands in this context configure the queue high drop tail parameters. The high drop tail defines the queue depth beyond which in-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

high

Syntax

high

Context

[Tree] (cfg>qos>qgrps>egr>qgrp>queue>drop-tail high)

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Full Context

configure qos queue-group-templates egress queue-group queue drop-tail high

Description

Commands in this context configure the queue high drop-tail parameters. The high drop tail defines the queue depth beyond which in-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

19.35 high-availability

high-availability

Syntax

high-availability *seconds*

no high-availability

Context

[Tree] (config>python>py-pol>cache>minimum-lifetimes high-availability)

Full Context

configure python python-policy cache minimum-lifetimes high-availability

Description

This command specifies the minimum lifetime of an entry that it could be synced across CPM.

The **no** form of this command reverts to the default.

Parameters

seconds

Specifies the minimal lifetime in seconds.

Values 1 to 600

Platforms

All

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high-availability

Syntax

[**no**] **high-availability** *scale-mode*

Context

[Tree] (config>isa>tunnel-mem-pool high-availability)

Full Context

configure isa tunnel-member-pool high-availability

Description

This command configures the High Availability (HA) mode for a pool. The specified scale mode is the maximum number of all tunnel groups associated with the pool.

Default

no high-availability

Parameters

scale-mode

Defines the limit on the sum of tunnels across all tunnel groups associated with the pool

Values tunnel-limit-system
tunnel-limit-32k
tunnel-limit-64k
tunnel-limit-128k
tunnel-limit-256k

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.36 high-cpu-backoff

high-cpu-backoff

Syntax

[**no**] **high-cpu-backoff**

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Context

[Tree] (config>app-assure>group>tcp-opt high-cpu-backoff)

Full Context

configure application-assurance group tcp-optimizer high-cpu-backoff

Description

This command configures AA to stop optimizing TCP sessions when the CPU capacity is limited.

AA implements the following CPU utilization thresholds:

- level 1 – 75%
- level 2 – 85%
- level 3 – 90%

The following describes the functionality of the preceding thresholds:

- **early random bypass stage (level 1)**

  When the CPU utilization is between level 1 and level 2, AA randomly optimizes or bypasses new TCP sessions proportional to the position of the CPU utilization within the range between level 1 and level 2.
- **stop optimization of new flows stage (level 2)**

  When the CPU utilization is at or above level 2, AA stops optimizing new TCP sessions.
- **abandon stage (level 3)**

  When the CPU utilization is at or above level 3, AA abandons existing optimized TCP sessions.

Note: The CPU utilization is measured once per second in each core or worker. The CPU utilization may differ between cores.

Default

no high-cpu-backoff

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.37 high-octets-discarded-count

high-octets-discarded-count

Syntax

[**no**] **high-octets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters high-octets-discarded-count)

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[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters high-octets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters high-octets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters high-octets-discarded-count

Description

This command includes the high octets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv4 octets discarded count instead.

The **no** form of this command excludes the high octets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

high-octets-discarded-count

Syntax

[**no**] **high-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>i-counters high-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters high-octets-discarded-count)

Full Context

configure log accounting-policy custom-record queue i-counters high-octets-discarded-count

configure log accounting-policy custom-record ref-queue i-counters high-octets-discarded-count

Description

This command includes the high octets discarded count.

The **no** form of this command excludes the high octets discarded count.

Default

no high-octets-discarded-count

Platforms

All

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19.38 high-octets-offered-count

high-octets-offered-count

Syntax

[**no**] **high-octets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters high-octets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters high-octets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters high-octets-offered-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters high-octets-offered-count

Description

This command includes the high octets offered count.

The **no** form of this command excludes the high octets offered count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

high-octets-offered-count

Syntax

[**no**] **high-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>queue>i-counters high-octets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters high-octets-offered-count)

Full Context

configure log accounting-policy custom-record queue i-counters high-octets-offered-count

configure log accounting-policy custom-record ref-queue i-counters high-octets-offered-count

Description

This command includes the high octets offered count.

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The **no** form of this command excludes the high octets offered count.

Default

no high-octets-offered-count

Platforms

All

19.39 high-packets-discarded-count

high-packets-discarded-count

Syntax

[**no**] **high-packets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-count high-packets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-count high-packets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters high-packets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters high-packets-discarded-count

Description

This command includes the high packets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv4 packets discarded count instead.

The **no** form of this command excludes the high packets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

high-packets-discarded-count

Syntax

[**no**] **high-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters high-packets-discarded-count)

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[Tree] (config>log>acct-policy>cr>queue>i-counters high-packets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters high-packets-discarded-count

configure log accounting-policy custom-record queue i-counters high-packets-discarded-count

Description

This command includes the high packets discarded count.

The **no** form of this command excludes the high packets discarded count.

Default

no high-packets-discarded-count

Platforms

All

19.40 high-packets-offered-count

high-packets-offered-count

Syntax

[**no**] **high-packets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters high-packets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters high-packets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters high-packets-offered-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters high-packets-offered-count

Description

This command includes the high packets offered count.

The **no** form of this command excludes the high packets offered count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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high-packets-offered-count

Syntax

[**no**] **high-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters high-packets-offered-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters high-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters high-packets-offered-count

configure log accounting-policy custom-record queue i-counters high-packets-offered-count

Description

This command includes the high packets offered count.

The **no** form of this command excludes the high packets offered count.

Default

no high-packets-offered-count

Platforms

All

19.41 high-prio-only

high-prio-only

Syntax

high-prio-only *percent*

no high-prio-only

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>queue high-prio-only)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue high-prio-only)

Full Context

configure subscriber-mgmt sla-profile ingress qos queue high-prio-only

configure subscriber-mgmt sla-profile egress qos queue high-prio-only

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Description

This command configures the value of the percentage of buffer space for the queue, used exclusively by high priority packets. The specified value overrides the default value for the context.

The priority of a packet can only be set in the SAP ingress QoS policy and is only applicable on the ingress queues for a SAP. The **high-prio-only** parameter is used to override the default value derived from the **network-queue** command.

The defined **high-prio-only** value cannot be greater than the MBS size of the queue. Attempting to change the MBS to a value smaller than the high priority reserve will generate an error and fail execution. Attempting to set the **high-prio-only** value larger than the current MBS size will also result in an error and fail execution.

The **no** form of this command returns high-prio-only to the size as configured in the QoS policy.

Parameters

percent

The *percent* parameter is the percentage reserved for high priority traffic on the queue. If a value of 10KBytes is desired, enter the value 10. A value of 0 specifies that none of the MBS of the queue is reserved for high priority traffic. This does not affect RED slope operation for packets attempting to be queued.

Values 0 to 100, default

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

high-prio-only

Syntax

high-prio-only *percent-of-mbs*

no high-prio-only

Context

[Tree] (config>qos>sap-egress>policer high-prio-only)

[Tree] (config>qos>sap-ingress>policer high-prio-only)

Full Context

configure qos sap-egress policer high-prio-only

configure qos sap-ingress policer high-prio-only

Description

This command is used to configure the percentage of the policer’s PIR leaky bucket's MBS (maximum burst size) that is reserved for high-priority traffic. While the **mbs** value defines the policer’s high-priority violate threshold, the percentage value defined is applied to the **mbs** value to derive the bucket’s low-priority violate threshold. See the **mbs** command details for information about which types of traffic are associated with each violate threshold.

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Parameters

percent-of-mbs

The *percent-of-mbs* parameter is required when specifying **high-prio-only** and is expressed as a percentage.

Values 0 to 100

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

high-prio-only

Syntax

high-prio-only *percent-of-mbs*

no high-prio-only

Context

[Tree] (config>qos>qgrps>ing>qgrp>policer high-prio-only)

[Tree] (config>qos>qgrps>egr>qgrp>policer high-prio-only)

Full Context

configure qos queue-group-templates ingress queue-group policer high-prio-only

configure qos queue-group-templates egress queue-group policer high-prio-only

Description

This command is used to configure the percentage of the policer’s PIR leaky bucket's MBS (maximum burst size) that is reserved for high-priority traffic. While the **mbs** value defines the policer’s high-priority violate threshold, the percentage value defined is applied to the **mbs** value to derive the bucket’s low-priority violate threshold. See the **mbs** command details for information on which types of traffic is associated with each violate threshold.

Parameters

percent-of-mbs

The *percent-of-mbs* parameter is required when specifying **high-prio-only** and is expressed as a percentage.

Values 0 to 100

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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19.42 high-rate-hold-time

high-rate-hold-time

Syntax

high-rate-hold-time *seconds* [**active-min-only**]

no high-rate-hold-time

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement high-rate-hold-time)

Full Context

configure qos adv-config-policy child-control offered-measurement high-rate-hold-time

Description

This command sets a time period that the current offered rate should be maintained for a child policer or queue when it is seen that the offered rate is decreasing. The offered measurement that triggers the hold time is used when the hold timer expires, unless a higher offered rate is seen in the interim. When a higher rate is observed, the hold timer is canceled and the higher offered rate is used immediately.

A possible reason to define a hold timer for an offered rate is to allow a child queue is to dampen the effects of a child with a fluctuating rate on the virtual scheduler. This works similar to the max-decrement in that the child holds on to bandwidth from the virtual scheduler in case it may be needed in the near future.

This parameter has no effect on an increase to the child's offered rate. If the rate increase is above the change sensitivity, the new offered rate is immediately used.

When this command is not specified or removed, the virtual scheduler immediately reacts to measured decreases in offered load.

The **no** form of this command is used to remove any currently configured hold time for all child policers and queues associated with the policy. When the hold time is removed, any current hold timers for child policers are automatically canceled.

Parameters

seconds

The hold time configured must be specified in seconds. A value of 0 is equivalent to no high-rate-hold-time.

Default 0

Values 0 to 60

active-min-only

When this optional parameter is specified, the **high-rate-hold-time** command will accept the optional **active-min-only** parameter. Attempting to remove the active-min-only parameter from the **add** command, or removing the **add** command itself, will fail while

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active-min-only is enabled on the **high-rate-hold-time** command. When specified, the respective rate or percentage is treated as the minimum offered rate for a queue, only when the queue has an actual non-zero offered rate. This is intended to limit the artificial increase in offered rate to queues that are currently active. When a queue's measured offered rate drops to zero, the system stops enforcing the minimum value.

Platforms

All

19.43 high-slope

high-slope

Syntax

[**no**] **high-slope**

Context

[Tree] (config>qos>slope-policy high-slope)

Full Context

configure qos slope-policy high-slope

Description

The **high-slope** context contains the commands and parameters for defining the high Random Early Detection (RED) slope graph. Each buffer pool supports a high RED slope for managing access to the shared portion of the buffer pool for in-profile packets.

The **high-slope** parameters can be changed at any time and the affected buffer pool high RED slopes will be adjusted appropriately.

The **no** form of this command restores the high slope configuration commands to the default values. If the commands within **high-slope** are set to the default parameters, the **high-slope** node will not appear in save config and show config output unless the detail parameter is present.

Platforms

All

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19.44 high-wmark

high-wmark

Syntax

high-wmark *percent*

Context

[Tree] (config>app-assure>group>dns-ip-cache>ip-cache high-wmark)

Full Context

configure application-assurance group dns-ip-cache ip-cache high-wmark

Description

This command configures the high watermark value for the DNS IP cache. When the number of IP addresses stored in the cache crosses above this threshold, the system will generate a trap.

Default

high-wmark 90

Parameters

percent

Specifies the high watermark value, in percent.

Values 0 to 100

Default 90

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

high-wmark

Syntax

high-wmark *high-watermark* **low-wmark** *low-watermark*

Context

[Tree] (config>app-assure>group>stats>tca>gtp-fltr>imsi-apn-filter>def-act high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>gtp-in-gtp high-wmark)

[Tree] (config>app-assure>group>statistics>tca>sctp-fltr>packet-sanity high-wmark)

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[Tree] (config>app-assure>group>statistics>tca>sctp-fltr>ppid>default-action high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg>entry high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg>default-action high-wmark)

[Tree] (config>app-assure>group>statistics>tca>sess-fltr>default-action high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-sanity-drop high-wmark)

[Tree] (config>app-assure>group>statistics>tca>fragment-drop-all high-wmark)

[Tree] (config>app-assure>group>statistics>tca>sess-fltr>entry high-wmark)

[Tree] (config>app-assure>group>stats>tca>gtp-fltr>imsi-apn-filter>entry high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>tunnel-resource-limit high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>missing>mandatory-ie high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg-gtpv2>default-action high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>validate-gtp-tunnels high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>validate-sequence-number high-wmark)

[Tree] (config>app-assure>group>statistics>tca>sctp-fltr>ppid>entry high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>default-gtp-tunnel-endpoint-limit high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg-gtpv2>entry high-wmark)

[Tree] (config>app-assure>group>statistics>tca>fragment-drop-out-of-order high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>validate-src-ip-addr high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>msg>header-sanity high-wmark)

[Tree] (config>app-assure>group>statistics>tca>policer high-wmark)

[Tree] (config>app-assure>group>statistics>tca>gtp-fltr>max-payload-length high-wmark)

[Tree] (config>app-assure>group>statistics>tca>error-drop high-wmark)

[Tree] (config>app-assure>group>statistics>tca>overload-drop high-wmark)

[Tree] (config>app-assure>group>statistics>tca>tcp-validate high-wmark)

[Tree] (config>app-assure>group>statistics>tca>sctp-fltr>ppid>ppid-range high-wmark)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter imsi-apn-filter default-action high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter gtp-in-gtp high-wmark

configure application-assurance group statistics threshold-crossing-alert sctp-filter packet-sanity high-wmark

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid default-action high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type entry high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type default-action high-wmark

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configure application-assurance group statistics threshold-crossing-alert session-filter default-action high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-sanity-drop high-wmark

configure application-assurance group statistics threshold-crossing-alert fragment-drop-all high-wmark

configure application-assurance group statistics threshold-crossing-alert session-filter entry high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter imsi-apn-filter entry high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter tunnel-resource-limit high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter missing-mandatory-ie high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type-gtpv2 default-action high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter validate-gtp-tunnels high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter validate-sequence-number high-wmark

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid entry high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter default-gtp-tunnel-endpoint-limit high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type-gtpv2 entry high-wmark

configure application-assurance group statistics threshold-crossing-alert fragment-drop-out-of-order high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter validate-src-ip-addr high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type header-sanity high-wmark

configure application-assurance group statistics threshold-crossing-alert policer high-wmark

configure application-assurance group statistics threshold-crossing-alert gtp-filter max-payload-length high-wmark

configure application-assurance group statistics threshold-crossing-alert error-drop high-wmark

configure application-assurance group statistics threshold-crossing-alert overload-drop high-wmark

configure application-assurance group statistics threshold-crossing-alert tcp-validate high-wmark

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid-range high-wmark

Description

This command configures the high watermark and low watermark thresholds for the specified TCA.

Default

high-wmark 4294967295 low-wmark 0

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Parameters

high-watermark

Specifies the TCA high watermark.

Values 1 to 4294967295

Default 4294967295

low-watermark

Specifies the TCA low watermark.

Values 0 to 4294967294

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.45 highplus

highplus

Syntax

highplus

Context

[Tree] (config>qos>sap-egress>queue>drop-tail highplus)

Full Context

configure qos sap-egress queue drop-tail highplus

Description

Commands in this context configure the queue highplus drop tail parameters. The highplus drop tail defines the queue depth beyond which inplus-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

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highplus

Syntax

highplus

Context

[Tree] (cfg>qos>qgrps>egr>qgrp>queue>drop-tail highplus)

Full Context

configure qos queue-group-templates egress queue-group queue drop-tail highplus

Description

Commands in this context configure the queue highplus drop-tail parameters. The highplus drop tail defines the queue depth beyond which inplus-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

19.46 highplus-slope

highplus-slope

Syntax

[**no**] **highplus-slope**

Context

[Tree] (config>qos>slope-policy highplus-slope)

Full Context

configure qos slope-policy highplus-slope

Description

The **highplus-slope** context contains the commands and parameters for defining the highplus Random Early Detection (RED) slope graph. Each buffer pool supports a highplus RED slope for managing access to the shared portion of the buffer pool for inplus-profile packets.

The **highplus-slope** parameters can be changed at any time and the affected buffer pool highplus RED slopes will be adjusted appropriately.

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The **no** form of this command restores the highplus slope configuration commands to the default values. If the commands within **highplus-slope** are set to the default parameters, the **highplus-slope** node will not appear in save config and show config output unless the detail parameter is present.

Platforms

All

19.47 history

history

Syntax

history

Context

[Tree] (history)

Full Context

history

Description

This command lists the last 30 commands entered in this session.

Re-execute a command in the history with the **!n** command, where **n** is the line number associated with the command in the history output.

Example:

```
A:ALA-1# history
  68 info
  69 exit
  70 info
  71 filter
  72 exit all
  73 configure
  74 router
  75 info
  76 interface "test"
  77 exit
  78 reduced-prompt
  79 info
  80 interface "test"
  81 icmp unreachables exit all
  82 exit all
  83 reduced-prompt
  84 configure router
  85 interface
  86 info
  87 interface "test"
  88 info
  89 reduced-prompt
```


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```
  90 exit all
  91 configure
  92 card 1
  93 card-type
  94 exit
  95 router
  96 exit
  97 history
A:ALA-1# !91
A:ALA-1# configure
A:ALA-1>config#
```

Platforms

All

history

Syntax

history

Context

[Tree] (config>system>management-interface>cli>md-cli>environment history)

Full Context

configure system management-interface cli md-cli environment history

Description

Commands in this context configure the command history.

Platforms

All

history

Syntax

[**no**] **history**

Context

[Tree] (debug>system>nsp-proxy history)

Full Context

debug system nsp-proxy history

Description

This command enables the NSP proxy history for debugging purposes.

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The **no** form of this command disables the NSP proxy history.

Default

no history

Platforms

VSR-NRC

19.48 history-size

history-size

Syntax

history-size *size*

no history-size

Context

[Tree] (config>system>security>password history-size)

Full Context

configure system security password history-size

Description

Configure how many previous passwords a new password is matched against.

Default

history-size 0

Parameters

size

Specifies how many previous passwords a new password is matched against.

Values 0 to 20

Platforms

All

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19.49 hli-event

hli-event

Syntax

hli-event {**forward** | **backward** | **aggregate**} **threshold** *raise-threshold* [**clear** *clear-threshold*]

no hli-event {**forward** | **backward** | **aggregate**}

Context

[Tree] (config>oam-pm>session>ip>twamp-light>loss-events hli-event)

[Tree] (config>oam-pm>session>ethernet>lmm>loss-events hli-event)

[Tree] (config>oam-pm>session>ethernet>slm>loss-events hli-event)

Full Context

configure oam-pm session ip twamp-light loss-events hli-event

configure oam-pm session ethernet lmm loss-events hli-event

configure oam-pm session ethernet slm loss-events hli-event

Description

This command configures the high loss interval (HLI) threshold to be monitored and the associated thresholds using the counter of the specified direction.

The **no** form of this command removes the event threshold for the frame loss ratio. The direction must be included with the **no** command.

Default

no hli-event forward

no hli-event backward

no hli-event aggregate

Parameters

forward

Keyword to apply the threshold to the forward direction count.

backward

Keyword to apply the threshold o the backward direction count.

aggregate

Keyword to apply the threshold ito the aggregate count (sum of forward and backward). The aggregate is a function of summing forward and backward. This value is only used as a threshold mechanism and is not part of the stored statistics.

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raise-threshold

Specifies the rising threshold that determines when the event is to be generated, when the percentage of loss value is reached.

Values 1 to 864000

clear-threshold

Specifies an optional value used for stateful behavior to configure a percentage of loss value lower than the rising percentage to indicate when to generate the clear event.

If the optional **clear** *clear-threshold* parameter is not specified, the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and regardless of any previous window. Each unique event can only be raised once within the measurement interval.

If the optional **clear** *clear-threshold* parameter is specified, the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to following the measurement intervals. If a threshold crossing event is raised another is raised until a measurement interval completes and the clear threshold has not been exceeded. A clear event is raised under that condition.

Values 0 to 863999

A value of zero means that the HLI counter must be 0.

Default clear threshold disabled

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure oam-pm session ip twamp-light loss-events hli-event

All

- configure oam-pm session ethernet slm loss-events hli-event
- configure oam-pm session ethernet lmm loss-events hli-event

19.50 hli-force-count

hli-force-count

Syntax

[**no**] **hli-force-count**

Context

[Tree] (config>oam-pm>session>ethernet>slm hli-force-count)

[Tree] (config>oam-pm>session>ethernet>lmm>availability hli-force-count)

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Full Context

configure oam-pm session ethernet slm hli-force-count

configure oam-pm session ethernet lmm availability hli-force-count

Description

This command allows High Loss Interval (HLI) and Consecutive High Loss Interval (CHLI) counters to increment regardless of availability. Without this command, HLI and CHLI counters can only increment during times of availability, which includes undetermined availability. During times of complete packet loss, the forward direction HLI is marked as high loss. The backward direction is not marked as high loss during times of complete packet loss.

The **no** form of this command configures HLI and CHLI counters to increment during times of availability only.

Default

no hli-force-count

Platforms

All

hli-force-count

Syntax

[**no**] **hli-force-count**

Context

[Tree] (config>oam-pm>session>ip>twamp-light>loss hli-force-count)

Full Context

configure oam-pm session ip twamp-light loss hli-force-count

Description

This command allows High Loss Interval (HLI) and Consecutive High Loss Interval (CHLI) counters to increment regardless of availability. Without this command, HLI and CHLI counters can only increment during times of availability, which includes undetermined availability. During times of complete packet loss, the forward direction HLI is marked as high loss. The backward direction is not marked as high loss during times of complete packet loss.

The **no** form of this command configures HLI and CHLI counters to increment during times of availability only.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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19.51 hold-clear

hold-clear

Syntax

hold-clear *seconds*

no hold-clear

Context

[Tree] (config>vrrp>policy>priority-event>host-unreachable hold-clear)

[Tree] (config>vrrp>policy>priority-event>lag-port-down hold-clear)

[Tree] (config>vrrp>policy>priority-event>port-down hold-clear)

[Tree] (config>vrrp>policy>priority-event>mc-ipsec-non-forwarding hold-clear)

[Tree] (config>vrrp>policy>priority-event>route-unknown hold-clear)

Full Context

configure vrrp policy priority-event host-unreachable hold-clear

configure vrrp policy priority-event lag-port-down hold-clear

configure vrrp policy priority-event port-down hold-clear

configure vrrp policy priority-event mc-ipsec-non-forwarding hold-clear

configure vrrp policy priority-event route-unknown hold-clear

Description

This command configures the hold clear time for the event. The *seconds* parameter specifies the hold-clear time, the amount of time in seconds by which the effect of a cleared event on the associated virtual router instance is delayed.

The hold-clear time is used to prevent black hole conditions when a virtual router instance advertises itself as a master before other conditions associated with the cleared event have had a chance to enter a forwarding state.

Default

no hold-clear

Parameters

seconds

Specifies the amount of time in seconds by which the effect of a cleared event on the associated virtual router instance is delayed.

Values 0 to 86400

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Platforms

All

- configure vrrp policy priority-event route-unknown hold-clear
- configure vrrp policy priority-event host-unreachable hold-clear
- configure vrrp policy priority-event port-down hold-clear
- configure vrrp policy priority-event lag-port-down hold-clear

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure vrrp policy priority-event mc-ipsec-non-forwarding hold-clear

19.52 hold-count

hold-count

Syntax

hold-count *BPDU tx hold count*

no hold-count

Context

[Tree] (config>service>vpls>stp hold-count)

[Tree] (config>service>template>vpls-template>stp hold-count)

Full Context

configure service vpls stp hold-count

configure service template vpls-template stp hold-count

Description

This command configures the peak number of BPDUs that can be transmitted in a period of one second.

The **no** form of this command returns the hold count to the default value

Default

hold-count 6

Parameters

BPDU tx hold count

The hold count for the STP instance in seconds

Values 1 to 10

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Platforms

All

19.53 hold-down-time

hold-down-time

Syntax

hold-down-time *seconds*

no hold-down-time

Context

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server hold-down-time)

Full Context

configure subscriber-mgmt authentication-policy radius-authentication-server hold-down-time

Description

This command determines the interval during which no new communication attempts is made to a RADIUS server that is marked **down** to prevent immediately overloading the server when it is starting up. The only exception is when all servers in the authentication policy are marked **down**; in that case they will all be used again to prevent failures on new client connections.

The **no** form of this command reverts to the default.

Default

hold-down-time 30

Parameters

seconds

Specifies the hold time before re-using a RADIUS server that was down.

Values 30 to 900

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

hold-down-time

Syntax

hold-down-time [**sec** *seconds*] [**min** *minutes*] [**hrs** *hours*] [**days** *days*]

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no hold-down-time

Context

[Tree] (config>aaa>radius-srv-plcy>servers hold-down-time)

Full Context

configure aaa radius-server-policy servers hold-down-time

Description

This command determines the interval during which no new communication attempts are made to a RADIUS server that is marked down to prevent immediately overloading the server when it is starting up. The only exception is when all servers in the authentication policy are marked down; in that case, they will all be used again to prevent failures on new client connections.

The **no** form of this command reverts to the default.

Default

hold-down-time sec 30

Parameters

days

Specifies the hold time in days before re-using a RADIUS server that was down.

Values 1 to 1

hours

Specifies the hold time in hours before re-using a RADIUS server that was down.

Values 1 to 23

minutes

Specifies the hold time in minutes before re-using a RADIUS server that was down.

Values 1 to 59

seconds

Specifies the hold time in seconds before re-using a RADIUS server that was down.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

hold-down-time

Syntax

hold-down-time *seconds*

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no hold-down-time

Context

[Tree] (config>service>sdp>keep-alive hold-down-time)

Full Context

configure service sdp keep-alive hold-down-time

Description

This command configures the minimum time period the SDP will remain in the operationally down state in response to SDP keepalive monitoring.

This parameter can be used to prevent the SDP operational state from "flapping" by rapidly transitioning between the operationally up and operationally down states based on keepalive messages.

When an SDP keepalive response is received that indicates an error condition or the **max-drop-count** keepalive messages receive no reply, the *sdp-id* will immediately be brought operationally down. If a keepalive response is received that indicates the error has cleared, the *sdp-id* will be eligible to be put into the operationally up state only after the **hold-down-time** interval has expired.

The **no** form of this command reverts the **hold-down-time seconds** *value* to the default setting.

Default

hold-down-time 10

Parameters

seconds

Specifies time, in seconds, expressed as a decimal integer. The SDP ID will remain in the operationally down state before it is eligible to enter the operationally up state. A value of 0 indicates that no **hold-down-time** will be enforced for SDP ID.

Values 0 to 3600

Platforms

All

19.54 hold-down-timer

hold-down-timer

Syntax

hold-down-timer *hold-down-timer*

no hold-down-timer

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Context

[Tree] (config>router>segment-routing>maintenance-policy hold-down-timer)

Full Context

configure router segment-routing maintenance-policy hold-down-timer

Description

This command configures the hold down timer for SR policy candidate paths.

This command is intended to prevent bouncing of the SR policy path state if one or more S-BFD sessions associated with segment lists flap and therefore cause the threshold to be repeatedly crossed in a short period of time. It is started when the number of up S-BFD sessions drops below the threshold. The SR policy path is not considered to be up again until the hold down timer has expired and the number of up S-BFD sessions equals or exceeds the threshold and the internal hold timer is not running.

Note:
If the revert timer is also configured, the revert timer is not started until after the number of S-BFD sessions that are up ≥ threshold and the hold down timer for the primary candidate path has expired.

The **no** form of this command reverts to the default.

Default

hold-down-timer 0

Parameters

hold-down-timer

Specifies the hold-down timer, in deciseconds, in 10ms steps.

Values 0 to 5000

Platforms

All

19.55 hold-multiplier

hold-multiplier

Syntax

hold-multiplier *multiplier*

no hold-multiplier

Context

[Tree] (config>service>vprn>gsmp hold-multiplier)

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[Tree] (config>service>vpls>gsmp hold-multiplier)

Full Context

configure service vprn gsmp hold-multiplier

configure service vpls gsmp hold-multiplier

Description

This command configures the hold-multiplier for the GSMP connections in this group.

The **no** form of this command removes the multiplier value from the GSMP configuration.

Parameters

multiplier

Specifies the GSMP hold multiplier value.

Values 1 to 100

Platforms

All

hold-multiplier

Syntax

hold-multiplier *multiplier*

no hold-multiplier

Context

[Tree] (config>service>vpls>gsmp>group hold-multiplier)

Full Context

configure service vpls gsmp group hold-multiplier

Description

This command configures the hold-multiplier for the GSMP connections in this group.

Parameters

multiplier

Specifies the GSMP hold multiplier value

Values 1 to 100

Platforms

All

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hold-multiplier

Syntax

hold-multiplier *multiplier*

no hold-multiplier

Context

[Tree] (config>service>vprn>gsmp>group hold-multiplier)

Full Context

configure service vprn gsmp group hold-multiplier

Description

This command configures the hold-multiplier for the GSMP connections in this group.

The **no** form of this command removes the multiplier value from the configuration

Default

no hold-multiplier

Parameters

multiplier

Specifies the GSMP hold multiplier value.

Values 1 to 100

Platforms

All

19.56 hold-on-neighbor-failure

hold-on-neighbor-failure

Syntax

hold-on-neighbor-failure *multiplier*

no hold-on-neighbor-failure

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-lag hold-on-neighbor-failure)

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Full Context

configure redundancy multi-chassis peer mc-lag hold-on-neighbor-failure

Description

This command specifies the interval that the standby node will wait for packets from the active node before assuming a redundant-neighbor node failure. This delay in switch-over operation is required to accommodate different factors influencing node failure detection rate, such as IGP convergence, or HA switch-over times and to prevent the standby node to act prematurely.

The **no** form of this command reverts to the default.

Default

hold-on-neighbor-failure 3

Parameters

multiplier

Specifies the time interval that the standby node waits for packets from the active node before assuming a redundant-neighbor node failure.

Values 2 to 25

Platforms

All

hold-on-neighbor-failure

Syntax

hold-on-neighbor-failure *multiplier*

no hold-on-neighbor-failure

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ep hold-on-neighbor-failure)

Full Context

configure redundancy multi-chassis peer mc-endpoint hold-on-neighbor-failure

Description

This command specifies the number of keep-alive intervals that the local node will wait for packets from the MC-EP peer before assuming failure. After this time interval passed the all the mc-endpoints configured under services will revert to single chassis behavior, activating the best local pseudowire.

The **no** form of this command sets the multiplier to default value

Default

no hold-on-neighbor-failure

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Parameters

multiplier

Specifies the hold time applied on neighbor failure.

Values 2 to 25

Platforms

All

hold-on-neighbor-failure

Syntax

hold-on-neighbor-failure *multiplier*

no hold-on-neighbor-failure

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec hold-on-neighbor-failure)

Full Context

configure redundancy multi-chassis peer mc-ipsec hold-on-neighbor-failure

Description

This command specifies the number of keep-alive failures before the peer is considered to be down.

The **no** form of this command reverts to the default.

Default

hold-on-neighbor-failure 3

Parameters

multiplier

Specifies the hold time applied on the neighbor failure.

Values 2 to 25

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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19.57 hold-set

hold-set

Syntax

hold-set *seconds*

no hold-set

Context

[Tree] (config>vrrp>policy>priority-event>host-unreachable hold-set)

[Tree] (config>vrrp>policy>priority-event>port-down hold-set)

[Tree] (config>vrrp>policy>priority-event>mc-ipsec-non-forwarding hold-set)

[Tree] (config>vrrp>policy>priority-event>lag-port-down hold-set)

[Tree] (config>vrrp>policy>priority-event>route-unknown hold-set)

Full Context

configure vrrp policy priority-event host-unreachable hold-set

configure vrrp policy priority-event port-down hold-set

configure vrrp policy priority-event mc-ipsec-non-forwarding hold-set

configure vrrp policy priority-event lag-port-down hold-set

configure vrrp policy priority-event route-unknown hold-set

Description

This command specifies the amount of time that must pass before the set state for a VRRP priority control event can transition to the cleared state to dampen flapping events. A flapping event continually transitions between clear and set.

The **hold-set** command is used to dampen the effect of a flapping event. The **hold-set** value is loaded into a hold-set timer that prevents a set event from transitioning to the cleared state until it expires.

Each time an event transitions between cleared and set, the timer is loaded and begins a countdown to zero. When the timer reaches zero, the event is allowed to enter the cleared state. Entering the cleared state is dependent on the object controlling the event, conforming to the requirements defined in the event itself. It is possible, on some event types, to have another set action reload the hold-set timer. This extends the amount of time that must expire before entering the cleared state.

Once the hold-set timer expires and the event meets the cleared state requirements or is set to a lower threshold, the current set effect on the virtual router instances in-use priority can be removed. As with **lag-port-down** events, this may be a decrease in the set effect if the *clearing* amounts to a lower set threshold.

The **hold-set** command can be executed at any time. If the hold-set timer value is configured larger than the new *seconds* setting, the timer is loaded with the new **hold-set** value.

The **no** form of the command disables the hold timer so that event transitions are processed immediately.

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Default

no hold-set

Parameters

seconds

The number of seconds that the hold-set timer waits after an event enters a set state or enters a higher threshold set state, depending on the event type.

The value of 0 disables the hold-set timer, preventing any delay in processing lower set thresholds or cleared events.

Values 0 to 86400

Platforms

All

- configure vrrp policy priority-event host-unreachable hold-set
- configure vrrp policy priority-event route-unknown hold-set
- configure vrrp policy priority-event port-down hold-set
- configure vrrp policy priority-event lag-port-down hold-set

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure vrrp policy priority-event mc-ipsec-non-forwarding hold-set

19.58 hold-time

hold-time

Syntax

hold-time *seconds*

no hold-time

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy hold-time)

Full Context

configure subscriber-mgmt bgp-peering-policy hold-time

Description

This command configures the BGP hold time, expressed in seconds.

The BGP hold time specifies the maximum time BGP waits between successive messages (either keepalive or update) from its peer, before closing the connection.

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Even though the router OS implementation allows setting the keepalive time separately, the configured keepalive timer is overridden by the hold-time value under the following circumstances:

If the specified hold-time is less than the configured keepalive time, then the operational keepalive time is set to a third of the hold-time; the configured keepalive time is not changed.

If the hold-time is set to zero, then the operational value of the keepalive time is set to zero; the configured keepalive time is not changed. This means that the connection with the peer is up permanently and no keepalive packets are sent to the peer.

The **no** form of this command reverts to the default.

Parameters

seconds

Specifies the hold-time, in seconds, expressed as a decimal integer. A value of 0 indicates the connection to the peer is up permanently.

Values 0, 3 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

hold-time

Syntax

hold-time *seconds*

hold-time [**days** *days*] [**hrs** *hrs*] [**min** *min*] [**sec** *sec*]

no hold-time

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile hold-time)

Full Context

configure subscriber-mgmt vrgw brg brg-profile hold-time

Description

This command holds the BRG object for the specified time. This applies when the connectivity verification fails or when the last host is removed and **no connectivity-verification** is enabled. Hold time does not apply to an explicit removal via the **radius** or **clear** commands.

The **no** form of this command disables the hold time.

Parameters

seconds

Specifies the time, in seconds, to hold on to a BRG after the system considered it down.

Values 30 to 2592000

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days

Specifies the hold-time in days.

Values 1 to 30

hrs

Specifies the hold-time in hours.

Values 1 to 23

min

Specifies the hold-time in minutes.

Values 1 to 59

sec

Specifies the hold-time in seconds.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

hold-time

Syntax

hold-time [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no hold-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>authentication hold-time)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>authentication hold-time)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication hold-time

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication hold-time

Description

This command configures the minimum time that a UE is held down after a failed authentication attempt.

The **no** form of this command reverts to the default.

Default

hold-time sec 5

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Parameters

hours

Specifies the minimum time that a user is held down in hours.

Values 1 to 1

minutes

Specifies the minimum time that a user is held down in minutes.

Values 1 to 59

seconds

Specifies the minimum time that a user is held down in seconds.

Values 0 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

hold-time

Syntax

hold-time infinite

hold-time [**time**]

no hold-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>egress hold-time)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>egress hold-time)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw egress hold-time

configure service ies subscriber-interface group-interface wlan-gw egress hold-time

Description

This command configures the time for which egress shaping resources associated with a wlan-gw tunnel are held after the last subscriber on a tunnel is deleted.

Parameters

time

Specifies the time, in seconds, for which shaping resources are held in seconds after last subscriber is deleted.

Values infinite to 1 to 86400

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

hold-time

Syntax

hold-time *time*

no hold-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>mobility hold-time)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>mobility hold-time)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw mobility hold-time

configure service ies subscriber-interface group-interface wlan-gw mobility hold-time

Description

This command configures the minimum time that a UE is held associated with its current Access Point (AP) before being associated with a new AP.

The hold time is used to prevent overwhelming the system with mobility triggers, by limiting the rate at which a UE can move from one AP to another while the system is very busy already.

Default

hold-time 5

Parameters

time

Specifies a hold-down time, in seconds, for handling of successive mobility triggers for a UE. It is the minimal time a UE stays associated with an AP.

Values 0 to 255

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

hold-time

Syntax

hold-time infinite

hold-time *seconds*

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no hold-time

Context

[Tree] (config>subscr-mgmt>sap-template hold-time)

Full Context

configure subscriber-mgmt sap-template hold-time

Description

This command configures the time for which an SAP is retained after the last session has been removed. Such SAPs can be forcefully removed using the **idle-saps** option in the **clear**>**subscriber-mgmt**>**sap-template** context.

The **no** form of this command reverts to the default.

Default

hold-time 30

Parameters

infinite

Keyword specifying to never automatically remove the SAP.

seconds

Specifies the time, in seconds, that the SAP is retained.

Values 30 to 2592000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

hold-time

Syntax

hold-time *time-value*

no hold-time

Context

[Tree] (config>port>ethernet>efm-oam hold-time)

Full Context

configure port ethernet efm-oam hold-time

Description

This command configures efm-oam operational transition dampening timers which reduce the number of efm-oam state transitions reported to upper layers.

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Default

no hold-time

Parameters

time-value

Indicates the number of seconds that the efm-oam protocol will wait before going back to the operational state after leaving the operational state. Note that the hold-time does not apply if efm-oam moved from operational to link-fault.

A hold-time value of zero indicates that there should be no delay in transitioning to the operational state. A non-zero value will cause the efm-oam protocol to attempt to negotiate with a peer if possible, but it will remain in the send-local-remote-ok state until the hold time has expired if negotiation is successful.

If efm-oam is administratively shutdown while it was in the operational state and then re-enabled when a non-zero hold time is configured, efm-oam will attempt transition to the operational state immediately.

The **no** form of this command reverts the value to the default.

Values 0 to 50

Default 0

Platforms

All

hold-time

Syntax

hold-time {[**up** *hold-time-up*] [**down** *hold-time-down*] [**seconds** | **centiseconds**]}

no hold-time

Context

[Tree] (config>port>ethernet hold-time)

Full Context

configure port ethernet hold-time

Description

This command configures port link dampening timers which reduce the number of link transitions reported to upper layer protocols. The **hold-time** value dampens interface transitions.

When an interface transitions from an up state to a down state, it is immediately advertised to the rest of the system if the hold-time down interval is zero, but if the hold-time down interval is greater than zero, interface down transitions are not advertised to upper layers until the hold-time down interval has expired. Likewise, an interface is immediately advertised as up to the rest of the system if the hold-time up interval

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is zero, but if the hold-time up interval is greater than zero, up transitions are not advertised until the hold-time up interval has expired.

For ESM SRRP setup, MCS synchronizes subscriber information between the two chassis. After a chassis recovers from a power reset/down, MCS immediately synchronizes all subscriber information at once. The longer the host list, the longer it will take to synchronize the chassis. In a fully populated chassis, it is recommended to allow at least 45 minutes for MCS synchronization. It is also recommended to hold the port down, facing the subscriber, on the recovering chassis for 45 minutes before it is allowed to forward traffic again.

The **no** form of this command reverts to the default values.

Default

down 0 seconds — No port link down dampening is enabled; link down transitions are immediately reported to upper layer protocols.

up 0 seconds — No port link up dampening is enabled; link up transitions are immediately reported to upper layer protocols.

Parameters

hold-time-up

The delay, in seconds or centiseconds, after which to notify the upper layers when an interface transitions from a down state to an up state.

Values 0 to 36000 seconds, 0 or 10 to 3600000 centiseconds in 5 centisecond increments

hold-time-down

The delay, in seconds or centiseconds, after which to notify the upper layers when an interface transitions from an up state to a down state.

Values 0 to 36000 seconds, 0 or 10 to 3600000 centiseconds in 5 centisecond increments

seconds | centiseconds

Specifies the hold time units as **seconds** or **centiseconds**.

Platforms

All

hold-time

Syntax

hold-time down *hold-down-time*

no hold-time

Context

[Tree] (config>lag hold-time)

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Full Context

configure lag hold-time

Description

This command specifies the timer, in tenths of seconds, which controls the delay between detecting that a LAG is down (all active ports are down) and reporting it to the higher levels.

A non-zero value can be configured, for example, when active/standby signaling is used in a 1:1 fashion to avoid informing higher levels during the small time interval between detecting that the LAG is down and the time needed to activate the standby link.

Default

no hold-time

Parameters

hold-down-time

Specifies the hold-time for event reporting.

Values 0 to 2000

Platforms

All

hold-time

Syntax

hold-time *value*

no hold-time

Context

[Tree] (config>service>vpls>mrp>mvrp hold-time)

Full Context

configure service vpls mrp mvrp hold-time

Description

This command enables the dampening timer and applies to both types of provisioned SAPs – end-station and UNI. When a value is configured for the timer, it controls the delay between detecting that the last provisioned SAP in VPLS goes down and reporting it to the MVRP module. The CPM will wait for the time specified in the value parameter before reporting it to the MVRP module. If the SAP comes up before the hold-timer expires, the event will not be reported to MVRP module.

The non-zero hold-time does not apply for SAP transition from down to up, This kind of transition is reported immediately to MVRP module without waiting for hold-time expiration. Also this parameter applies only to the provisioned SAPs. It does not apply to the SAPs configured with the **vpls-sap-template** command. Also when end-station QinQ SAPs are present only the "no hold-time" configuration is allowed.

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The **no** form of this command disables tracking of the operational status for the last active SAP in the VPLS. MVRP will stop declaring the VLAN only when the last provisioned customer (UNI) SAP associated locally with the service is deleted. Also MVRP will declare the associated VLAN attribute as soon as the first provisioned SAP is created in the associated VPLS instance, regardless of the operational state of the SAP.

Default

no hold-time

Parameters

value

Specifies the hold time in minutes

Values 1 to 30

Platforms

All

hold-time

Syntax

hold-time *seconds*

no hold-time

Context

[Tree] (config>service>vpls>pim-snooping hold-time)

Full Context

configure service vpls pim-snooping hold-time

Description

This command configures the duration that allows the PIM-snooping switch to snoop all the PIM states in the VPLS. During this duration, multicast traffic is flooded in the VPLS. At the end of this duration, multicast traffic is forwarded using the snooped states.

When PIM snooping is enabled in VPLS, there is a period of time when the PIM snooping switch may not have built complete snooping state. The switch cannot build states until the routers connected to the VPLS refresh their PIM messages.

This parameter is applicable only if PIM snooping is enabled.

Parameters

seconds

Specifies the PIM snooping hold time, in seconds.

Values 0 to 300

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Default 90

Platforms

All

hold-time

Syntax

hold-time

Context

[Tree] (config>service>ies>redundant-interface hold-time)

[Tree] (config>service>vpls>interface hold-time)

[Tree] (config>router>if hold-time)

[Tree] (config>service>vprn>interface hold-time)

[Tree] (config>service>ies>interface hold-time)

[Tree] (config>service>ies>subscriber-interface hold-time)

[Tree] (config>service>vprn>redundant-interface hold-time)

[Tree] (config>service>vprn>subscriber-interface hold-time)

[Tree] (config>service>vprn>network-interface hold-time)

Full Context

configure service ies redundant-interface hold-time

configure service vpls interface hold-time

configure router interface hold-time

configure service vprn interface hold-time

configure service ies interface hold-time

configure service ies subscriber-interface hold-time

configure service vprn redundant-interface hold-time

configure service vprn subscriber-interface hold-time

configure service vprn network-interface hold-time

Description

This command creates the CLI context to configure interface level hold-up and hold-down timers for the associated IP interface.

The **up** timer controls a delay for the associated IPv4 or IPv6 interface so that the system will delay the deactivation of the associated interface for the specified amount of time.

The **down** timer controls a delay for the associated IPv4 or IPv6 interface so that the system will delay the activation of the associated interface for the specified amount of time

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies redundant-interface hold-time
- configure service ies subscriber-interface hold-time
- configure service vprn redundant-interface hold-time
- configure service vprn subscriber-interface hold-time

All

- configure service vpls interface hold-time
- configure router interface hold-time
- configure service ies interface hold-time
- configure service vprn interface hold-time
- configure service vprn network-interface hold-time

hold-time

Syntax

hold-time *seconds* [**min** *seconds2*]

no hold-time

Context

[Tree] (config>service>vprn>bgp>group hold-time)

[Tree] (config>service>vprn>bgp hold-time)

[Tree] (config>service>vprn>bgp>group>neighbor hold-time)

Full Context

configure service vprn bgp group hold-time

configure service vprn bgp hold-time

configure service vprn bgp group neighbor hold-time

Description

This command configures the BGP hold time, expressed in seconds.

The BGP hold time specifies the maximum time BGP waits between successive messages (either keepalive or update) from its peer, before closing the connection. This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in group) or neighbor level (only applies to specified peer). The most specific value is used.

Even though the router OS implementation allows setting the **keepalive** (**config>service>vprn>bgp keepalive**, **config>service>vprn>bgp>group keepalive**, **config>service>vprn>bgp>group>neighbor keepalive**) time separately, the configured **keepalive** timer is overridden by the **hold-time** value under the following circumstances:

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- If the specified hold-time is less than the configured **keepalive** time, then the operational **keepalive** time is set to a third of the **hold-time**; the configured **keepalive** time is not changed.
- If the **hold-time** is set to zero, then the operational value of the **keepalive** time is set to zero; the configured **keepalive** time is not changed. This means that the connection with the peer is up permanently and no **keepalive** packets are sent to the peer.

The **no** form of this command used at the global level reverts to the default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

hold-time 90

Parameters

seconds

Specifies the hold-time, in seconds, expressed as a decimal integer. A value of 0 indicates the connection to the peer is up permanently.

Values 0, 3 to 65535

seconds2

Specifies the minimum hold-time that is accepted for the session. If the peer proposes a hold-time lower than this value the session attempt is rejected.

Platforms

All

hold-time

Syntax

hold-time

Context

[Tree] (config>service>oper-group hold-time)

Full Context

configure service oper-group hold-time

Description

Commands in this context configure hold time information.

Platforms

All

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hold-time

Syntax

hold-time *seconds* [**min** *seconds*]

no hold-time

Context

[Tree] (config>router>bgp hold-time)

[Tree] (config>router>bgp>group hold-time)

[Tree] (config>router>bgp>group>neighbor hold-time)

Full Context

configure router bgp hold-time

configure router bgp group hold-time

configure router bgp group neighbor hold-time

Description

This command configures the BGP hold time, expressed in seconds.

The BGP hold time specifies the maximum time BGP waits between successive messages (either keepalive or update) from its peer, before closing the connection. This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in group) or neighbor level (only applies to specified peer). The most specific value is used.

Even though the implementation allows setting the **keepalive** time separately, the configured **keepalive** timer is overridden by the **hold-time** value under the following circumstances:

- If the specified hold-time is less than the configured **keepalive** time, then the operational **keepalive** time is set to a third of the **hold-time**; the configured **keepalive** time is not changed.
- If the **hold-time** is set to zero, then the operational value of the **keepalive** time is set to zero; the configured **keepalive** time is not changed. This means that the connection with the peer is up permanently and no keepalive packets are sent to the peer.

The **no** form of this command used at the global level reverts to the default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

hold-time 90

Parameters

seconds

Specifies the hold-time, in seconds, expressed as a decimal integer. A value of 0 indicates the connection to the peer is up permanently.

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Values 0, 3 to 65535

min *seconds2*

Specifies the minimum hold-time that will be accepted for the session. If the peer proposes a hold-time lower than this value, the session attempt will be rejected.

Platforms

All

hold-time

Syntax

hold-time {[**up** *hold-time up*] [**down** *hold-time down*] [**seconds** | **centiseconds**]}

no hold-time

Context

[Tree] (config>card>mda>flex hold-time)

Full Context

configure card mda flex hold-time

Description

This command configures the delay after the interface goes from the up to the down state and from the down to the up state.

The **no** form of this command removes the delay.

Default

no hold-time

Parameters

down *hold-time-down*

Specifies the delay, in seconds or centiseconds (in 5 centisecond increments), after the interface goes from the up to the down state .

Values 0 to 36000 (in seconds)

0 | 10 to 3600000 (in centiseconds)

up *hold-time-up*

Specifies the delay, in seconds or centiseconds (in 5 centisecond increments), after the interface goes from the down to the up state.

Values 0 to 36000 (in seconds)

0 | 10 to 3600000 (in centiseconds)

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Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

19.59 hold-time-down

hold-time-down

Syntax

hold-time-down *timer*

no hold-time-down

Context

[Tree] (config>router>mpls>mpls-tp>oam-template hold-time-down)

Full Context

configure router mpls mpls-tp oam-template hold-time-down

Description

This command configures the hold-down dampening timer. It is equivalent to a hold-off timer.

Default

hold-time-down 0

Parameters

interval

Specifies the hold-down dampening timer interval.

Values 0 to 5000 deciseconds in 10 ms increments

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.60 hold-time-up

hold-time-up

Syntax

hold-time-up *timer*

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no hold-time-up

Context

[Tree] (config>router>mpls>mpls-tp>oam-template hold-time-up)

Full Context

configure router mpls mpls-tp oam-template hold-time-up

Description

This command configures the hold-up dampening timer. This can be used to provide additional dampening to the state of proactive CC BFD sessions.

Default

hold-time-up 20

Parameters

interval

Specifies the hold-up dampening timer interval.

Values 0 to 500 deciseconds, in 100 ms increments

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.61 hold-timer

hold-timer

Syntax

hold-timer *seconds*

no hold-timer

Context

[Tree] (config>router>mpls hold-timer)

Full Context

configure router mpls hold-timer

Description

This command specifies the amount of time that the ingress node holds before programming its data plane and declaring the LSP up to the service module. This occurs anytime the ingress node brings up an LSP path or switches traffic from a working path to another working path of the same LSP.

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The **no** form of this command reverts to the default value.

Default

no hold-timer

Parameters

seconds

Specifies the time (in seconds), for which the ingress node holds before programming its data plane and declaring the LSP up to the service module.

Values 0 to 1000

Default 1

Platforms

All

19.62 holddown

holddown

Syntax

[**no**] **holddown** [**neighbor** *ip-int-name* | *ip-address*]

Context

[Tree] (debug>router>rip holddown)

Full Context

debug router rip holddown

Description

This command enables debugging for RIP holddowns.

Parameters

ip-int-name* | *ip-address

Debugs the RIP holddowns sent on the neighbor IP address or interface.

Platforms

All

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holddown

Syntax

[**no**] **holddown** [**neighbor** *ip-int-name* | *ipv6-address*]

Context

[Tree] (debug>router>ripng holddown)

Full Context

debug router ripng holddown

Description

This command enables debugging for RIPng holddowns.

Parameters

ip-int-name*| *ipv6-address

Debugs the RIPng holddowns sent on the neighbor IP address or interface.

Platforms

All

19.63 holdtime

holdtime

Syntax

holdtime *holdtime*

no holdtime

Context

[Tree] (config>service>vprn>pim>rp>ipv6>rp-candidate holdtime)

[Tree] (config>service>vprn>pim>rp>rp-candidate holdtime)

Full Context

configure service vprn pim rp ipv6 rp-candidate holdtime

configure service vprn pim rp rp-candidate holdtime

Description

This command specifies the length of time a neighbor considers the sending router to be operationally up.

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The **no** form of this command reverts to the default value.

Default

holdtime 150

Parameters

holdtime

Specifies the length of time, in seconds, that a neighbor should consider the sending router to be operational.

Values 5 to 255

Platforms

All

holdtime

Syntax

holdtime *holdtime*

no holdtime

Context

[Tree] (config>router>pim>rp>rp-candidate holdtime)

[Tree] (config>router>pim>rp>ipv6>rp-candidate holdtime)

Full Context

configure router pim rp rp-candidate holdtime

configure router pim rp ipv6 rp-candidate holdtime

Description

This command configures the length of time, in seconds, that neighbors should consider the sending router to be operationally up. A local RP cannot be configured on a logical router.

The **no** form of this command reverts to the default value.

Default

holdtime 150

Parameters

holdtime

Specifies the hold time, in seconds.

Values 5 to 255

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Platforms

All

19.64 home

home

Syntax

home *bit* [*bit*]

no home

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>charging home)

Full Context

configure subscriber-mgmt gtp peer-profile charging-characteristics home

Description

This command configures the charging characteristics for home UE.

Default

no home

Parameters

bit

Specifies up to 16 bits to set in the Charging Characteristics Information Element (IE) for home UE, if not known by other means such as RADIUS.

Values bit0, bit1, bit2, bit3, bit4, bit5, bit6, bit7, bit8, bit9, bit10, bit11, bit12, bit13, bit14, bit15

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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19.65 home-directory

home-directory

Syntax

home-directory *url-prefix* [*directory*] [*directory/directory ..*]

no home-directory

Context

[Tree] (config>system>security>user-template home-directory)

[Tree] (config>system>security>user home-directory)

Full Context

configure system security user-template home-directory

configure system security user home-directory

Description

This command configures the home directory of the user for file access. Files can be accessed locally by CLI **file** commands and output modifiers such as **>** (file redirect), or remotely via FTP and SCP. If the home directory does not exist, a warning message is displayed when the user logs in.

When **restricted-to-home** is configured, file access is denied unless the **home-directory** is configured and the directory is created by an administrator.

The **no** form of this command removes the configured home directory of the user. The directory must be also removed by the administrator.

Default

no home-directory

Parameters

url-prefix [directory] [directory/directory ..]

Specifies the local home directory URL prefix of the user and directory structure, up to 200 characters.

Platforms

All

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19.66 hop

hop

Syntax

hop *hop-index ip-address* {**strict** | **loose**}

hop *hop-index* **sid-label** *sid-value*

no hop *hop-index*

Context

[Tree] (config>router>mpls>path hop)

Full Context

configure router mpls path hop

Description

This command specifies the hops that the LSP should traverse on its way to the egress router. When specified, the IP address can be the interface IP address, a loopback interface address, or the system IP address. If a loopback interface or the system IP address is specified then the LSP can choose the best available interface.

When an IPv6 hop is specified, the interface IP address must be a global unicast IPv6 address. A link-local address is not allowed and is rejected in the configuration if attempted.

Optionally, the LSP ingress and egress IP address can be included as the first and the last hop. A hop list can include the ingress interface IP address, the system IP address, and the egress IP address of any of the hops being specified.

When the **sid-label** parameter is specified, this command specifies an MPLS label value for a hop in the path of an SR-TE LSP. The label value implied by the SID is only used when the path is used by an SR-TE LSP.

The **no** form of this command deletes hop list entries for the path. All the LSPs currently using this path are affected. Additionally, all services actively using these LSPs are affected. The path must be shutdown first in order to delete the hop from the hop list. The **no hop** *hop-index* command will not result in any action except a warning message on the console indicating that the path is administratively up.

Parameters

hop-index

Specifies the hop index is used to order the hops specified. The LSP always traverses from the lowest hop index to the highest. The hop index does not need to be sequential.

Values 1 to 1024

ip-address

Specifies a loopback interface, the system or network interface IP address of the transit router. An interface IPv6 address must be a global unicast address.

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Values ipv4-address — a.b.c.d
ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x — 0 to FFFF (hexadecimal)
d — 0 to 255 (decimal)

loose

This keyword specifies that the route taken by the LSP from the previous hop to this hop can traverse through other routers. Multiple hop entries with the same IP address are flagged as errors. Either the **loose** *or* **strict** keyword must be specified.

strict

This keyword specifies that the LSP must take a direct path from the previous hop router to this router. No transit routers between the previous router and this router are allowed. If the IP address specified is the interface address, then that is the interface the LSP must use. If there are direct parallel links between the previous router and this router and if system IP address is specified, then any one of the available interfaces can be used by the LSP. The user must ensure that the previous router and this router have a direct link. Multiple hop entries with the same IP address are flagged as errors. Either the **loose** *or* **strict** keyword must be specified.

sid-value

Specifies the SID value. The *sid-value* can be any valid MPLS/SR label value. It is not restricted by any locally-defined label ranges since these may be different on the remote node or adjacency for which the SID is defined.

Values 32 to 1048575

Platforms

All

hop

Syntax

hop *hop-index ip-address*

no hop *hop-index*

Context

[Tree] (config>service>pw-routing>path hop)

Full Context

configure service pw-routing path hop

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Description

This command configures each hop on an explicit path that can be used by one or more dynamic MS-PWs. It specifies the IP addresses of the hops that the MS-PE should traverse. These IP addresses can correspond to the system IP address of each S-PE, or the IP address on which the T-LDP session to a given S-PE terminates.

The **no** form of this command deletes hop list entries for the path. All the MS-PWs currently using this path are unaffected. Additionally, all services actively using these MS-PWs are unaffected. The path must be shutdown first in order to delete the hop from the hop list. The ' **no hop hop-index**' command will not result in any action, except for a warning message on the console indicating that the path is administratively up.

Default

no hop

Parameters

hop-index

Specifies a locally significant numeric identifier for the hop. The hop index is used to order the hops specified. The LSP always traverses from the lowest hop index to the highest. The hop index does not need to be sequential.

Values 1 to 1024

ip-address

Specifies the system IP address or terminating IP address for the T-LDP session to the S-PE corresponding to this hop. For a given IP address on a hop, the system will choose the appropriate SDP to use.

Platforms

All

19.67 hop-by-hop-opt

hop-by-hop-opt

Syntax

hop-by-hop-opt {**true** | **false**}

no hop-by-hop-opt

Context

[Tree] (config>filter>ipv6-filter>entry>match hop-by-hop-opt)

Full Context

configure filter ipv6-filter entry match hop-by-hop-opt

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Description

This command enables match on existence of Hop-by-Hop Options Extension Header in the IPv6 filter policy.

The **no** form of this command ignores Hop-by-Hop Options Extension Header presence/absence in a packet when evaluating match criteria of a given filter policy entry.

Default

no hop-by-hop-opt

Parameters

true

Matches a packet with a Hop-by-Hop Options Extension header.

false

Matches a packet without a Hop-by-Hop Options Extension header.

Platforms

All

hop-by-hop-opt

Syntax

hop-by-hop-opt {**true** | **false**}

no hop-by-hop-opt

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match hop-by-hop-opt)

Full Context

configure system security cpm-filter ipv6-filter entry match hop-by-hop-opt

Description

This command enables match on existence of Hop-by-Hop Options Extension Header in the IPv6 filter policy. This command applies to the 7750 SR and 7950 XRS.

The **no** form of this command ignores Hop-by-Hop Options Extension Header presence/absence in a packet when evaluating match criteria of a given filter policy entry.

Default

no hop-by-hop-opt

Parameters

true

Match if a packet contains Hop-by-Hop Options Extension Header.

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false

Match if a packet does not contain Hop-by-Hop Options Extension Header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.68 hop-limit

hop-limit

Syntax

hop-limit *limit*

no hop-limit

Context

[Tree] (config>router>mpls>lsp-template>fast-reroute hop-limit)

[Tree] (config>router>mpls>lsp>fast-reroute hop-limit)

Full Context

configure router mpls lsp-template fast-reroute hop-limit

configure router mpls lsp fast-reroute hop-limit

Description

For fast reroute, how many more routers a detour is allowed to traverse compared to the LSP itself. For example, if an LSP traverses four routers, any detour for the LSP can be no more than ten router hops, including the ingress and egress routers.

The **no** form of this command reverts to the default value.

Default

hop-limit 16

Parameters

limit

Specify the maximum number of hops.

Values 0 to 255

Platforms

All

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hop-limit

Syntax

hop-limit *number*

no hop-limit

Context

[Tree] (config>router>mpls>lsp>primary-p2mp-instance hop-limit)

[Tree] (config>router>mpls>lsp hop-limit)

Full Context

configure router mpls lsp primary-p2mp-instance hop-limit

configure router mpls lsp hop-limit

Description

This command specifies the maximum number of hops that an LSP can traverse, including the ingress and egress routers. An LSP is not set up if the hop limit is exceeded. This value can be changed dynamically for an LSP that is already set up with the following implications.

If the new value is less than the current number of hops of the established LSP, the LSP is brought down. The software then tries to re-establish the LSP within the new **hop-limit** number. If the new value is equal to or greater than the current number hops of the established LSP, the LSP is not affected.

The **config**>**router**>**mpls**>**lsp**>**primary-p2mp-instance**> **hop-limit** command is not supported on the 7450 ESS.

The **no** form of this command returns the parameter to the default value.

Default

hop-limit 255

Parameters

number

Specifies the number of hops the LSP can traverse, expressed as an integer.

Values 2 to 255

Platforms

All

hop-limit

Syntax

hop-limit *number*

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no hop-limit

Context

[Tree] (config>router>mpls>lsp>primary hop-limit)

[Tree] (config>router>mpls>lsp>secondary hop-limit)

Full Context

configure router mpls lsp primary hop-limit

configure router mpls lsp secondary hop-limit

Description

This optional command overrides the **config>router>mpls>lsp** *lsp-name***>hop-limit** command. This command specifies the total number of hops that an LSP traverses, including the ingress and egress routers.

This value can be changed dynamically for an LSP that is already set up with the following implications:

If the new value is less than the current hops of the established LSP, the LSP is brought down. MPLS then tries to re-establish the LSP within the new hop-limit number. If the new value is equal or more than the current hops of the established LSP then the LSP will be unaffected.

The **no** form of this command reverts the values defined under the LSP definition using the **config>router>mpls>lsp** *lsp-name***>hop-limit** command.

Default

no hop-limit

Parameters

number

Specifies the number of hops the LSP can traverse, expressed as an integer.

Values 2 to 255

Platforms

All

hop-limit

Syntax

hop-limit {**lt** | **gt** | **eq**} *hop-limit-value*

hop-limit range *hop-limit-value hop-limit-value*

no hop-limit

Context

[Tree] (config>filter>ipv6-filter>entry>match hop-limit)

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Full Context

configure filter ipv6-filter entry match hop-limit

Description

This command configures the Time To Live (TTL) match criteria.

The **no** form of this command removes the configuration.

Default

no hop-limit

Parameters

lt

Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt

Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq

Specifies "equal to”.

hop-limit-value

Specifies the hop limit value for the rate limit action.

Values 0 to 255

Platforms

All

19.69 host

host

Syntax

host *host-name* [**create**]

no host *host-name*

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe host)

[Tree] (config>subscr-mgmt>loc-user-db>ppp host)

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Full Context

configure subscriber-mgmt local-user-db ipoe host

configure subscriber-mgmt local-user-db ppp host

Description

This command creates an IPoE or PPP host entry in the local user database. A host entry in the local user database is matched based on the specified match-list criteria and an optional mask that is applied to the host-identification parameters.

A default host entry can be created without host-identification parameters which is used when no other host entries match. Note that creating a default host entry also requires a match-list to be specified.

The **no** form of this command removes the host entry from the local user database.

Parameters

host-name

Specifies a unique host name, up to 32 characters. The *host-name* **default** creates a special match-all host entry that should not have host-identification parameters and is used when no other host entries match.

create

Keyword used to create the host name. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host

Syntax

[**no**] **host** [*ip-address*]

[**no**] **host** [**fwd-service** *service-id*] **group-interface** *ip-int-name*

Context

[Tree] (debug>router>igmp host)

Full Context

debug router igmp host

Description

This command enables debugging for the IGMP host.

The **no** form of the command disables debugging.

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Parameters

ip-address

Debugs the information associated with the specified IP address.

service-id

Debugs information associated with the service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

group-interface *ip-int-name*

Debugs the information associated with the specified IP interface name.

Values IP interface address

Platforms

All

19.70 host-accounting

host-accounting

Syntax

[**no**] **host-accounting** [**interim-update**]

Context

[Tree] (config>subscr-mgmt>acct-plcy host-accounting)

Full Context

configure subscriber-mgmt radius-accounting-policy host-accounting

Description

This command enables per-host accounting. In host accounting mode, the acct-session-id is generated per host. This acct-session-id is uniformly included in all accounting messages (START/INTERIM-UPDATE/STOP) and it can be included in RADIUS Access-Request message.

Accounting counters are based on the queue counters and as such are aggregated for all host sharing the queues within an sla-profile instance. CoA and LI is supported based on the acct-session-id of the host.

The **no** form of this command reverts to the default.

Parameters

interim-update

Specifies that no interim-update messages are sent for the related subscriber hosts when the session is deleted. Without this keyword, only START and STOP accounting messages

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are generated when the host is established or terminated. This is equivalent to a time-based accounting where only the duration of the session is required.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

19.71 host-connectivity-verify

host-connectivity-verify

Syntax

host-connectivity-verify source-ip *ip-address* [**source-mac** *ieee-address*] [**interval** *interval*] [**action** {**remove** | **alarm**}] [**timeout** *retry-timeout*] [**retry-count** *count***]**

Context

[Tree] (config>service>vpls host-connectivity-verify)

[Tree] (config>service>vpls>sap host-connectivity-verify)

Full Context

configure service vpls host-connectivity-verify

configure service vpls sap host-connectivity-verify

Description

This command enables subscriber host connectivity verification on a given VPLS SAP or within a VPLS service.

This tool will periodically scan all known hosts (from dhcp-state) and perform a UC ARP request. The subscriber host connectivity verification will maintain state (connected vs. not-connected) for all hosts.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies an unused IP address in the same network for generation of subscriber host connectivity verification packets.

ieee-address

Specifies the source MAC address to be used for generation of subscriber host connectivity verification packets.

interval

The interval, in minutes, which specifies the time interval in which all known sources should be verified. The actual rate is then dependent on number of known hosts and interval.

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Values 1 to 6000 Note that a zero value can be used by the SNMP agent to disable host-connectivity-verify.

action {remove | alarm}

Defines the action taken on a subscriber host connectivity verification failure for a given host. The **remove** keyword raises an alarm and removes the dhcp-state and releases all allocated resources (queues, table entries, and so on). A DHCP release is signaled to corresponding DHCP server. The static host is never removed. The **alarm** keyword raises an alarm indicating that the host is disconnected.

retry-timeout

Specifies the time, in seconds, to wait before a SAP that has been disabled after exceeding the maximum relearn rate is re-enabled.

Values 0 to 120

count

Specifies the number of connectivity check retransmissions.

Values 10 to 60 seconds

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-connectivity-verify

Syntax

host-connectivity-verify [**interval** *interval*] [**action** {**remove** | **alarm**}] [**timeout** *retry-timeout*] [**retry-count** *count*] [**family** *family*]

Context

[Tree] (config>service>vprn>sub-if>grp-if host-connectivity-verify)

[Tree] (config>service>ies>sub-if>grp-if host-connectivity-verify)

Full Context

configure service vprn subscriber-interface group-interface host-connectivity-verify

configure service ies subscriber-interface group-interface host-connectivity-verify

Description

This command enables subscriber host connectivity verification on a given SAP within a service. This tool periodically scans all known hosts (from dhcp-state) and perform UC ARP requests. The subscriber host connectivity verification maintains state (connected versus. not-connected) for all hosts.

The **no** form of this command reverts to the default.

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Parameters

interval

Specifies the interval, in minutes, which specifies the time interval which all known sources should be verified. The actual rate is then dependent on the number of known hosts and interval.

Values 1 to 6000

A zero value can be used by the SNMP agent to disable host-connectivity-verify.

action {remove | alarm}

Defines the action taken on a subscriber host connectivity verification failure for a given host. The **remove** keyword raises an alarm and removes dhcp-state and releases all allocated resources (queues, table entries and so on). DHCP-RELEASE is signaled to corresponding DHCP server. Static hosts is never removed. The **alarm** keyword raises an alarm indicating that the host is disconnected.

retry-timeout

Specifies the retry timeout.

Values 10 to 60 seconds

count

Specifies the number of retry requests.

Values 2 to 29

family

Allows the host connectivity checks to be performed for IPv4 endpoint, IPv6 endpoint or both. With family IPv6 configured, host connectivity checks is performed on the global unicast address (assigned via SLAAC or DHCPv6 IA_NA) and link-local address of a Layer 3 RG or bridged hosts. In case of SLAAC assignment, host connectivity can only be performed if the /128 is known (via downstream ND). DHCPv6 PD assigned prefixes is removed if link-local address is determined to be unreachable via host connectivity check” Reachability checks for GUA and link-local address is done simultaneously.

Values ipv4, ipv6, both

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-connectivity-verify

Syntax

host-connectivity-verify [**source** {**vrrp** | **interface**}] [**interval** *interval*] [**action** { **remove** | **alarm**}] [**timeout** *retry-timeout*] [**retry-count** *retry-count*]

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Context

[Tree] (config>service>ies>if host-connectivity-verify)

[Tree] (config>service>vprn>if host-connectivity-verify)

Full Context

configure service ies interface host-connectivity-verify

configure service vprn interface host-connectivity-verify

Description

This command enables subscriber host connectivity verification for all hosts on this interface. This tool periodically scans all known hosts (from dhcp-state) and perform UC ARP requests. The subscriber host connectivity verification maintains state (connected vs. not-connected) for all hosts.

The **no** form of this command reverts to the default.

Parameters

source {vrrp | interface}

Specifies the source to be used for generation of subscriber host connectivity verification packets. The **vrrp** keyword specifies that the VRRP state should be used to select proper IP and MAC (active uses VRID, back-up uses interface addresses). The **interface** keyword forces the use of the interface mac and ip addresses.

Note:
There are up to 256 possible subnets on a given interface, therefore, the subscriber host connectivity verification tool always uses an address of the subnet to which the given host is pertaining. For group-interfaces, one of the parent subscriber interface subnets (depending on host's address) is used.

action {remove | alarm}

Defines the action taken on a subscriber host connectivity verification failure for a given host. The **remove** keyword raises an alarm and removes dhcp-state and releases all allocated resources (queues, table entries, and so on). The **alarm** keyword raises an alarm indicating that the host is disconnected.

interval

Specifies the interval, expressed in minutes, which specifies when all known sources should be verified. The actual rate is then dependent on number of known hosts and interval.

Values 1 to 6000

Note:
A zero value can be used by the SNMP agent to disable host-connectivity-verification.

retry-timeout

Specifies the timeout, in seconds, before a connectivity check retransmission.

Values 10 to 60

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retry-count

Specifies the number of connectivity check retransmissions.

Values 2 to 29

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-connectivity-verify

Syntax

[**no**] **host-connectivity-verify**

Context

[Tree] (debug>service>id host-connectivity-verify)

Full Context

debug service id host-connectivity-verify

Description

This command enables Subscriber Host Connectivity Verification (SHCV) debugging.

The **no** form of the command disables the SHCV debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-connectivity-verify

Syntax

host-connectivity-verify service *service-id* [**sap** *sap-id*] [**host-type** *type*]

host-connectivity-verify subscriber *sub-ident-string* [**sla-profile** *sla-profile-name*] [**host-type** *type*]

Context

[Tree] (oam host-connectivity-verify)

Full Context

oam host-connectivity-verify

Description

This command triggers the host connectivity verification checks.

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Parameters

service-id

Specifies the service ID to diagnose or manage.

Values 1 to 2147483647, service-name: up to 64 characters

type

Specifies the type of subscriber host for which to check connectivity.

Values **ipv6** — keyword to check connectivity for IPv6 subscribers

sap-id

Specifies the physical port identifier portion of the SAP definition.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id*:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
	esat-*id*/*slot*/*port*	
	pxc-*id*.*sub-port*	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
ccag-id	**ccag**-*id*.*path-id*[*cc-type*]:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a | b
	cc-type	.sap-net | .net-sap
	cc-id	1 to 4094

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eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id*	
	lag	keyword
	id	1 to 800
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 10239
qtag1	* | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094

sub-indent-string

Specifies an existing subscriber-id, up to 32 characters.

sla-profile-name

Specifies an existing SLA profile name, up to 32 characters. The SLA profile is configured in the **config>subscr-mgmt>sla-profile** context.

Platforms

All

19.72 host-identification

host-identification

Syntax

host-identification

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host host-identification)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host host-identification)

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Full Context

configure subscriber-mgmt local-user-db ppp host host-identification

configure subscriber-mgmt local-user-db ipoe host host-identification

Description

Commands in this context configure host identification parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

19.73 host-ip

host-ip

Syntax

host-ip *prefix-list-name*

Context

[Tree] (config>router>policy-options>policy-statement>entry>from host-ip)

Full Context

configure router policy-options policy-statement entry from host-ip

Description

This command specifies a prefix list host IP address as a match criterion for the route policy-statement entry.

Default

no host-ip

Parameters

prefix-list-name

Specifies the prefix-list name. Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The *prefix-list-name* is defined in the **config>router>policy-options>prefix-list** context.

Platforms

All

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19.74 host-key

host-key

Syntax

host-key {**mac**}

no host-key

Context

[Tree] (config>subscr-mgmt>host-lockout-plcy host-key)

Full Context

configure subscriber-mgmt host-lockout-policy host-key

Description

This command specifies the parameters used in host identification for lockout on a given SAP or capture SAP.

no host-key – include (MAC address, Circuit-Id, Remote-Id)

host-key mac – include MAC address only

"host-key mac" should be used in DHCPv4 scenarios where Circuit-Id and Remote-Id are changed with "dhcp option action replace" configuration: a host lockout context is created with the replaced Circuit-Id/ Remote-Id; with the default host-key (including Circuit-Id and Remote-Id), lockout does not kick in on the original trigger packet when it is retransmitted by the client.

Changing the host-key to mac should be used with care: all hosts with the same MAC address on a given SAP or capture SAP are identified as a single host with respect to host-lockout.

This command cannot be changed when the **host-lockout-policy** is referenced (configured under a SAP context).

The **no** form of this command reverts to the default value.

Parameters

mac

Specifies to use the MAC address only for host identification for lockout.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-key

Syntax

host-key *index* **name** *host-key-name*

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no host-key *index*

Context

[Tree] (config>system>security>ssh>client-host-key host-key)

[Tree] (config>system>security>ssh>server-host-key host-key)

Full Context

configure system security ssh client-host-key-list host-key

configure system security ssh server-host-key-list host-key

Description

This command configures a host key. Client host keys are used when the SR OS is acting as an SSH client. Server host keys are used when the SR OS is acting as an SSH server.

The **no** form of this command removes the index and host-key name from the configuration.

Default

no host-key *index*

Parameters

index

Specifies the index of the host key in the list.

Values 1 to 255

host-key

Specifies the host-key algorithm.

Values ssh-rsa, rsa-sha2-256, rsa-sha2-512, ecdsa-sha2-nistp256, ecdsa-sha2-nistp384, ecdsa-sha2-nistp521, ssh-ed25519

Platforms

All

host-key

Syntax

[**no**] **host-key** *public-key-id* [**create**]

Context

[Tree] (config>system>security>ssh>client-known-hosts host-key)

Full Context

configure system security ssh client-known-hosts host-key

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Description

Commands in this context configure the host keys in the list of trusted host public keys.

The **no** form of this command deletes the host key entry.

Parameters

public-key-id

Specifies the host public key ID.

Values 1 to 32

create

Keyword to create the host public key list entry.

Platforms

All

19.75 host-limit

host-limit

Syntax

host-limit *max-num-hosts*

no host-limit

Context

[Tree] (config>service>ies>sub-if>grp-if>arp-host host-limit)

[Tree] (config>service>vpls>sap>arp-host host-limit)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>arp-host host-limit)

[Tree] (config>service>vprn>sub-if>grp-if>arp-host host-limit)

Full Context

configure service ies subscriber-interface group-interface arp-host host-limit

configure service vpls sap arp-host host-limit

configure subscriber-mgmt msap-policy vpls-only-sap-parameters arp-host host-limit

configure service vprn subscriber-interface group-interface arp-host host-limit

Description

This command configures the maximum number of ARP hosts.

The **no** form of this command reverts to the default.

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Default

host-limit 1

Parameters

max-num-hosts

Specifies the maximum number of ARP hosts allowed on this SAP.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 1 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-limit

Syntax

host-limit *max-num-hosts*

no host-limit

Context

[Tree] (config>service>ies>sub-if>grp-if host-limit)

Full Context

configure service ies subscriber-interface group-interface host-limit

Description

This command configures the maximum number of ARP hosts.

Parameters

max-num-hosts

Specifies the maximum number of ARP hosts.

Values 1 to 32767

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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19.76 host-limits

host-limits

Syntax

[**no**] **no host-limits**

Context

[Tree] (config>subscr-mgmt>sla-profile host-limits)

[Tree] (config>subscr-mgmt>sub-profile host-limits)

Full Context

configure subscriber-mgmt sla-profile host-limits

configure subscriber-mgmt sub-profile host-limits

Description

Commands in this context configure host limits per SLA profile instance or per subscriber.

The **no** form of this command removes the host limit configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

19.77 host-lockout-policy

host-lockout-policy

Syntax

host-lockout-policy *policy-name*

no host-lockout-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>sap host-lockout-policy)

[Tree] (config>service>ies>if>sap host-lockout-policy)

[Tree] (config>service>vprn>if>sap host-lockout-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap host-lockout-policy)

[Tree] (config>service>vpls>sap host-lockout-policy)

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Full Context

configure service ies subscriber-interface group-interface sap host-lockout-policy

configure service ies interface sap host-lockout-policy

configure service vprn interface sap host-lockout-policy

configure service vprn subscriber-interface group-interface sap host-lockout-policy

configure service vpls sap host-lockout-policy

Description

This command selects an existing host lockout policy. The **host-lockout-policy** *policy-name* is created in the **config>subscr-mgmt** context.

The **no** form of this command removes the policy name from the SAP configuration.

Parameters

policy-name

Specifies an existing host lockout policy, up to 32 characters, to associate with the SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-lockout-policy

Syntax

host-lockout-policy *policy-name* [**create**]

no host-lockout-policy *policy-name*

Context

[Tree] (config>subscr-mgmt host-lockout-policy)

Full Context

configure subscriber-mgmt host-lockout-policy

Description

This command creates a host lockout policy. The policy contains set of host lockout configuration parameters. It is applied to SAP or MSAPs (by a MSAP-policy). Any change does not impact existing locked-out hosts, but only new incoming hosts that enter lockout.

The **no** form of this command removes the policy name from the configuration. The policy must not be associated with any entity.

Parameters

policy-name

Specifies an existing host lockout policy to associate with the SAP.

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create

Specifies the keyword required to create the host lockout policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

19.78 host-match

host-match

Syntax

host-match dest *destination-string* [**create**]

no host-match dest *destination-string*

Context

[Tree] (config>port>ethernet>access>egr>qgrp host-match)

Full Context

configure port ethernet access egress queue-group host-match

Description

This command configures host matching for the Ethernet port egress queue-group.

The **no** form of this command removes the destination string from the configuration.

Parameters

destination-string

Specify a host match destination string up to 32 characters.

create

Keyword used to create the host match. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

host-match

Syntax

host-match dest *description-string* [**create**]

no host-match dest *destination-string*

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Context

[Tree] (config>port>ethernet>access>egress>vport host-match)

Full Context

configure port ethernet access egress vport host-match

Description

This command specifies the destination and organization strings to be used for matching subscriber hosts with this Vport.

The parent Vport of a subscriber host queue, which has the port-parent option enabled, is determined by matching the destination string **dest** string associated with the subscriber and the organization string org string associated with the subscriber host with the strings defined under a Vport on the port associated with the subscriber.

If a given subscriber host queue does not have the port-parent option enabled, it will be foster-parented to the Vport used by this subscriber and which is based on matching the dest string and org string. If the subscriber could not be matched with a Vport on the egress port, the host queue will not be bandwidth controlled and will compete for bandwidth directly based on its own PIR and CIR parameters.

By default, a subscriber host queue with the port-parent option enabled is scheduled within the context of the port's port scheduler policy.

Parameters

description-string

The destination character string. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.79 host-name

host-name

Syntax

host-name *ip-address* | *dns-name*}

no host-name

Context

[Tree] (config>system>security>ssh>client-known-hosts>host-key host-name)

Full Context

configure system security ssh client-known-hosts host-key host-name

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Description

This command configures the host name for the host public key.

The **no** form of this command removes the host name.

Default

no host-name

Parameters

ip-address

Specifies the IP address to use as the host name, up to 128 characters.

dns-name

Specifies the FQDN to use as the host name, up to 128 characters.

Platforms

All

19.80 host-port

host-port

Syntax

[**no**] **host-port** *port-id*

Context

[Tree] (config>esa host-port)

Full Context

configure esa host-port

Description

This command configures an Ethernet port associated to the ESA instance.

The **no** form of this command removes the host-port.

Parameters

port-id

Specifies the port identifier of any valid Ethernet port on a supported IOM.

Values *slot*/*mda*/*port*

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

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host-port

Syntax

host-port *port-id*

no host-port

Context

[Tree] (config>esa>vm host-port)

Full Context

configure esa vm host-port

Description

This command configures an Ethernet port associated to an ESA-VM instance. The *port-id* used must be the same as the port associated with the ESA context on which the ESA-VM is configured.

The **no** form of this command removes the specified host-port for the ESA-VM instance.

Parameters

port-id

Specifies the port identifier of any valid Ethernet port ID on the supported IOM.

Values *slot*/*mda*/*port*

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

19.81 host-shutdown

host-shutdown

Syntax

[**no**] **host-shutdown**

Context

[Tree] (config>service>ies>if>sap host-shutdown)

Full Context

configure service ies interface sap host-shutdown

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Description

This command administratively enables host creation on this SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

host-shutdown

Syntax

[**no**] **host-shutdown**

Context

[Tree] (config>service>vprn>if>sap host-shutdown)

Full Context

configure service vprn interface sap host-shutdown

Description

This command administratively enables host creation on this SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

19.82 host-tracking-policy

host-tracking-policy

Syntax

host-tracking-policy *policy-name* [**create**]

no host-tracking-policy *policy-name*

Context

[Tree] (config>subscr-mgmt>sub-prof host-tracking-policy)

[Tree] (config>subscr-mgmt host-tracking-policy)

Full Context

configure subscriber-mgmt sub-profile host-tracking-policy

configure subscriber-mgmt host-tracking-policy

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Description

This command configures a host tracking policy. IGMP host tracking is an option in the subscriber profile that allows the factoring in of a subscriber's (multicast) video traffic by reducing the unicast operational egress aggregate rate or the rate of the scheduler specified in the ANCP policy to account for a subscriber's multicast traffic. If no ANCP policy is defined, the egress aggregate rate configured in the subscriber profile is reduced. If an ANCP policy is defined, the **rate-modify** command in the policy specifies whether the egress aggregate rate or the rate of the egress policer specified in the policy is to be reduced to account for the subscriber's multicast traffic.

The **no** form of this command reverts to the default value.

Parameters

policy-name

Specifies a host tracking policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

19.83 host-unreachable

host-unreachable

Syntax

[**no**] **host-unreachable** *ip-address*

[**no**] **host-unreachable** *ipv6-address*

Context

[Tree] (config>vrrp>policy>priority-event host-unreachable)

Full Context

configure vrrp policy priority-event host-unreachable

Description

This command creates the context to configure a host unreachable priority control event to monitor the ability to receive ICMP echo reply packets from an IP host address.

A host unreachable priority event creates a continuous ICMP echo request (ping) probe to the specified *ip-address*. If a ping fails, the event is considered to be set. If a ping is successful, the event is considered to be cleared.

Multiple unique (different *ip-address*) **host-unreachable** event nodes can be configured within the **priority-event** node to a maximum of 32 events.

The **host-unreachable** command can reference any valid local or remote IP address. The ability to ARP a local IP address or find a remote IP address within a route prefix in the route table is considered part of the monitoring procedure. The **host-unreachable** priority event operational state tracks ARP or route

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table entries dynamically appearing and disappearing from the system. The operational state of the **host-unreachable** event are listed in Table 50: Host Unreachable Operational States.

Table 50: Host Unreachable Operational States

Host Unreachable Operational State	Description
Set – no ARP	No ARP address found for *ip-addr* for **drop-count** consecutive attempts; only applies when IP address is considered local
Set – no route	No route exists for *ip-addr* for **drop-count** consecutive attempts; only when IP address is considered remote
Set – host unreachable	ICMP host unreachable message received for **drop-count** consecutive attempts
Set – no reply	ICMP echo request timed out for **drop-count** consecutive attempts
Set – reply received	Last ICMP echo request attempt received an echo reply but historically not able to clear the event
Cleared – no ARP	No ARP address found for *ip-addr* - not enough failed attempts to set the event
Cleared – no route	No route exists for *ip-addr* - not enough failed attempts to set the event
Cleared – host unreachable	ICMP host unreachable message received - not enough failed attempts to set the event
Cleared – no reply	ICMP echo request timed out - not enough failed attempts to set the event
Cleared – reply received	Event is cleared - last ICMP echo request received an echo reply

Unlike other priority event types, the **host-unreachable** priority event monitors a repetitive task. A historical evaluation is performed on the success rate of receiving ICMP echo reply messages. The operational state takes its cleared and set orientation from the historical success rate. The informational portion of the operational state is derived from the last attempt's result. It is possible for the previous attempt to fail while the operational state is still cleared due to an insufficient number of failures to cause it to become set. It is also possible for the state to be set while the previous attempt was successful.

When an event transitions from clear to set, the set is processed immediately and must be reflected in the associated virtual router instances in-use priority value. As the event transitions from clear to set, a hold-set timer is loaded with the value configured by the events **hold-set** command. This timer prevents the event from clearing until it expires, damping the effect of event flapping. If the event clears and becomes set again before the hold-set timer expires, the timer is reset to the **hold-set** value, extending the time before another clear can take effect.

The hold-set timer be expired and the historical success rate must be met prior to the event operational state becoming cleared.

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The **no** form of the command deletes the specific IP host monitoring event. The event may be deleted at any time. When the event is deleted, the in-use priority of all associated virtual router instances must be reevaluated. The event's **hold-set** timer has no effect on the removal procedure.

Default

no host-unreachable — No host unreachable priority events are created.

Parameters

ip-address

The IP address of the host for which the specific event will monitor connectivity. The *ip-addr* can only be monitored by a single event in this policy. The IP address can be monitored by multiple VRRP priority control policies. The IP address can be used in one or multiple **ping** requests. Each VRRP priority control **host-unreachable** and **ping** destined to the same *ip-addr* is uniquely identified on a per message basis. Each session originates a unique identifier value for the ICMP echo request messages it generates. This allows received ICMP echo reply messages to be directed to the appropriate sending application.

Values The following values apply to the 7450 ESS:

ipv4-address: a.b.c.d

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x[-interface]	
	x:	[0..FFFF]H
	interface:	32 chars maximum, mandatory for link local addresses

The link-local IPv6 address must have an interface name specified. The global IPv6 address must not have an interface name specified.

Platforms

All

19.84 host-unsolicited-na-flood-evpn

host-unsolicited-na-flood-evpn

Syntax

[**no**] **host-unsolicited-na-flood-evpn**

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Context

[Tree] (config>service>vpls>proxy-nd host-unsolicited-na-flood-evpn)

Full Context

configure service vpls proxy-nd host-unsolicited-na-flood-evpn

Description

This command controls whether the system floods host unsolicited Neighbor Advertisements to the EVPN. The NA messages impacted by this command are NA messages with the following flags: S=0 and R=0.

The **no** form of the command will only flood to local SAPs/binds but not to the EVPN destinations. This is only recommended in networks where CEs are routers that are directly connected to the PEs. Networks using aggregation switches between the host/routers and the PEs should flood unsolicited NA messages in the EVPN to ensure that the remote caches are updated and the BGP does not miss the advertisement of these entries.

Default

host-unsolicited-na-flood-evpn

Platforms

All

19.85 hostname

hostname

Syntax

hostname {**use-system-name** | **value** *value-string*}

no hostname

Context

[Tree] (config>log>syslog hostname)

Full Context

configure log syslog hostname

Description

This command controls how the HOSTNAME field of syslog messages is populated for event logs. This command is ignored for filter logs.

The **no** form of this command causes the HOSTNAME to be populated with an IP address.

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Default

no hostname

Parameters

use-system-name

Keyword used to specify the HOSTNAME uses the system name as configured by the **configure system name** command. Do not use any spaces in the system name if it is used for the syslog HOSTNAME.

value-string

Specifies a string, up to 255 characters with no spaces, that is used as the HOSTNAME of syslog messages.

Platforms

All

hostname

Syntax

hostname {**use-system-name** | **use-vprn-name** | **value** *value-string*}

no hostname

Context

[Tree] (config>service>vprn>log>syslog hostname)

Full Context

configure service vprn log syslog hostname

Description

This command controls how the HOSTNAME field of syslog messages is populated for event logs.

The **no** form of this command causes the HOSTNAME to be populated with an IP address.

Default

no hostname

Parameters

use-system-name

Keyword used to specify the HOSTNAME uses the system name as configured by the **configure system name** command. Do not use any spaces in the system name if it is used for the syslog HOSTNAME.

use-vprn-name

Keyword used to specify the HOSTNAME uses the VPRN name as configured by the **configure service vprn name** command. Do not use any spaces in the VPRN name if it is used for the syslog HOSTNAME.

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value-string

Specifies a string, up to 255 characters with no spaces, that is used as the HOSTNAME of syslog messages.

Platforms

All

19.86 hour

hour

Syntax

hour *hour-number* [*..hour-number*] | **all**}

no hour

Context

[Tree] (config>system>cron>sched hour)

Full Context

configure system cron schedule hour

Description

This command specifies which hour to schedule a command. Multiple hours of the day can be specified. When multiple hours are configured, each of them will cause the schedule to trigger. **Day-of-month** or **weekday** must also be specified. All days of the month or weekdays can be specified. If an hour is configured without configuring month, weekday, day-of-month, and minute, the event will not execute.

The **no** form of this command removes the specified hour from the configuration.

Default

no hour

Parameters

hour-number

Specifies the hour to schedule a command.

Values 0 to 23 (maximum 24 hour-numbers)

all

Specifies all hours.

Platforms

All

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19.87 hours

hours

Syntax

hours *hours*

Context

[Tree] (config>test-oam>sath>svc-test>dur>perf hours)

Full Context

configure test-oam service-activation-testhead service-test test-duration performance hours

Description

This command configures the hours portion of the duration of performance tests belonging to the service test.

Default

hours 0

Parameters

hours

Specifies the number of hours to run the test.

Values 0 to 24

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

19.88 hqos-algorithm

hqos-algorithm

Syntax

hqos-algorithm {**default** | **above-offered-allowance-control**}

no hqos-algorithm

Context

[Tree] (config>qos>port-scheduler-policy hqos-algorithm)

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Full Context

configure qos port-scheduler-policy hqos-algorithm

Description

This command configures the port scheduler H-QoS algorithm used to calculate the operational rates for the children connected to the port scheduler. The algorithm can be changed on the fly.

Default

default

Parameters

default

Specifies that the default H-QoS algorithm is used by the port scheduler.

above-offered-allowance-control

Enables the control of the amount of bandwidth in excess of the offered rate to be given to a queue or scheduler. This algorithm is supported when only queues and schedulers are parented to the port scheduler on Ethernet Vports or Ethernet physical ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.89 hqos-mode

hqos-mode

Syntax

hqos-mode {**port-scheduler** | **hw-agg-shaping**}

Context

[Tree] (config>qos>fp-resource-policy>ports hqos-mode)

Full Context

configure qos fp-resource-policy ports hqos-mode

Description

This command configures the default HQoS mode for ports on the specified FP.

Default

hqos-mode port-scheduler

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Parameters

port-scheduler

Specifies that the default HQoS mode is port scheduler.

hw-agg-shaping

Specifies that the default HQoS mode is hardware aggregate shaping.

Platforms

7750 SR-1, 7750 SR-s

19.90 hs-agg-rate-limit

hs-agg-rate-limit

Syntax

hs-agg-rate-limit *kilobits-per-second*

no hs-agg-rate-limit

Context

[Tree] (config>subscr-mgmt>sla-profile>egress hs-agg-rate-limit)

Full Context

configure subscriber-mgmt sla-profile egress hs-agg-rate-limit

Description

This command configures high scale (HS) aggregate rate limit of the SLA profile instance (SPI) associated with the subscriber in expanded SLA mode. The aggregate rate of the subscriber (the primary shaper) is configured in the **config>subscr-mgmt>sub-profile>egress>hs-agg-rate-limit** context.

The **no** form of this command removes the value from the configuration.

Parameters

kilobits-per-second

Specifies the HS egress aggregate rate limit.

Values 1 to 100000000

Platforms

7750 SR-7/12/12e

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hs-agg-rate-limit

Syntax

hs-agg-rate-limit *kilobits-per-second* [**min-resv-bw** *min-rate*]

hs-agg-rate-limit max [**min-resv-bw** *min-rate*]

no hs-agg-rate-limit

Context

[Tree] (config>subscr-mgmt>sub-profile>egress hs-agg-rate-limit)

Full Context

configure subscriber-mgmt sub-profile egress hs-agg-rate-limit

Description

This command configures the HS aggregate rate limit for the subscriber in single SLA mode. In single SLA mode, the **hs-aggregate-rate-limit** command under the **config>subscr-mgmt>sla-profile** context should not be configured.

When both, **sub-profile>egress>hs-agg-rate-limit** and **sla-profile>egress>hs-agg-rate-limit** are configured, the system takes the minimum of the two to program the subscriber's aggregate rate.

The **no** form of this command removes the value from the configuration.

Parameters

kilobits-per-second

Specifies the HS egress aggregate rate limit.

Values 1 to 100000000

min-rate

Specifies the minimum rate of the minimum reserved bandwidth for unicast data traffic. Since minimum rate can oversubscribe subscriber bandwidth to guarantee a minimum bandwidth for unicast traffic, care must be taken in QoS provisioning to prioritize packets accordingly (downstream network elements such as the access node or aggregation nodes) when congestion occurs.

Values 0 to 100000000

max

Specifies that the egress aggregate rate limit for the subscriber is unlimited. Scheduling for the subscriber queues will only be governed by the individual queue parameters and any congestion on the port relative to each queues scheduling priority.

Platforms

7750 SR-7/12/12e

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19.91 hs-alt-port-class-pool

hs-alt-port-class-pool

Syntax

[**no**] **hs-alt-port-class-pool**

Context

[Tree] (config>qos>network-queue>queue hs-alt-port-class-pool)

Full Context

configure qos network-queue queue hs-alt-port-class-pool

Description

This command specifies that the HSQ queue group queues use buffers from the HS alternate port class buffer pool.

The **no** form of the command reverts to the HSQ queue group queues using buffers from HS standard port class pools.

Platforms

7750 SR-7/12/12e

hs-alt-port-class-pool

Syntax

[**no**] **hs-alt-port-class-pool**

Context

[Tree] (config>qos>sap-egress>queue hs-alt-port-class-pool)

Full Context

configure qos sap-egress queue hs-alt-port-class-pool

Description

This command specifies that the HSQ queue group queues use buffers from the HS alternate port class buffer pool.

The **no** form of the command reverts to the HSQ queue group queues using buffers from HS standard port class pools.

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Platforms

7750 SR-7/12/12e

hs-alt-port-class-pool

Syntax

[**no**] **hs-alt-port-class-pool**

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue hs-alt-port-class-pool)

Full Context

configure qos queue-group-templates egress queue-group queue hs-alt-port-class-pool

Description

This command specifies that the HSQ queue group queues use the class buffers from the HS alternate port class buffer pools.

The **no** form of the command reverts to the HSQ queue group queues using buffers from HS standard port class pools.

Platforms

7750 SR-7/12/12e

19.92 hs-attachment-policy

hs-attachment-policy

Syntax

hs-attachment-policy *policy-name* [**create**]

no hs-attachment-policy *policy-name*

Context

[Tree] (config>qos hs-attachment-policy)

Full Context

configure qos hs-attachment-policy

Description

This command specifies how the queues within an HSQ queue group associated with the SAP egress policy instance, egress queue group instance, or egress network queue policy instance attaches to the

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HSQ scheduling classes managed by the port scheduler. On the HSQ IOM, eight queues are allocated per egress SAP or subscriber SLA profile instance (SPI), or per egress (access or network) queue group instance, or per egress network port, numbered 1 through 8. The port scheduler maintains six scheduling classes numbered from 1 through 6 (6 being the highest relative priority and 1 being the lowest). The set of eight queues may also be placed into one of two local Weighted Round Robin (WRR) groups which collapse the member queues into a single scheduling class while providing a weighted fair distribution of scheduling opportunities per member. The attachment policy contains the **attachment** commands that map the queue IDs and WRR groups to the scheduling classes. The attachment policy also defines the mapping of the scheduling classes to the queue's aggregate shapers low and high burst limit thresholds.

The **no** form of the command deletes the HS attachment policy from the system, which is only possible if the policy is not being referenced.

Parameters

policy-name

Specifies an existing attachment policy, up to 32 characters. Each HS attachment policy must be uniquely named within the system.

create

This keyword is required when first creating the configuration context. After the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

7750 SR-7/12/12e

hs-attachment-policy

Syntax

hs-attachment-policy *policy-name*

no hs-attachment-policy

Context

[Tree] (config>qos>network-queue hs-attachment-policy)

Full Context

configure qos network-queue hs-attachment-policy

Description

This command associates an existing HS attachment policy with the network queue QoS policy. The HS attachment policy controls how the network queues are attached to scheduler classes or WRR groups, and how WRR groups are attached to the scheduler classes. It also defines the mapping of the scheduling classes to the queues' aggregate shaper's low and high burst limit thresholds.

Only one HS attachment policy can be associated with a network queue policy.

The **no** form of the command removes the policy name from the configuration and reapplies the default HS attachment policy.

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Parameters

policy-name

Specifies an existing attachment policy up, to 32 characters. Each HSQ attachment policy must be uniquely named within the system.

Platforms

7750 SR-7/12/12e

hs-attachment-policy

Syntax

hs-attachment-policy *policy-name*

no hs-attachment-policy

Context

[Tree] (config>qos>sap-egress hs-attachment-policy)

Full Context

configure qos sap-egress hs-attachment-policy

Description

This command associates an existing HS attachment policy with the SAP egress QoS policy. The HS attachment policy controls how the SAP egress queues are attached to scheduler classes or WRR groups, and how WRR groups are attached to the scheduler classes. It also defines the mapping of the scheduling classes to the queues' aggregate shaper's low and high burst limit thresholds.

Only one HS attachment policy can be associated with a SAP egress policy.

The **no** form of the command removes the policy name from the configuration and reapplies the default HS attachment policy.

Parameters

policy-name

Specifies an existing attachment policy up, to 32 characters. Each HSQ attachment policy must be uniquely named within the system.

Platforms

7750 SR-7/12/12e

hs-attachment-policy

Syntax

hs-attachment-policy *policy-name*

no hs-attachment-policy

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Context

[Tree] (config>qos>qgrps>egr>qgrp hs-attachment-policy)

Full Context

configure qos queue-group-templates egress queue-group hs-attachment-policy

Description

This command associates an existing HS attachment policy with the egress queue group template. The HS attachment policy controls how the egress queue group instance queues are attached to scheduler classes or WRR groups, and how WRR groups are attached to the scheduler classes. It also defines the mapping of the scheduling classes to the queues' aggregate shaper's low and high burst limit thresholds.

Only one HS attachment policy can be associated with an egress queue group template.

The **no** form of the command removes the policy name from the configuration and reapplies the default HS attachment policy.

Parameters

policy-name

Specifies an existing attachment policy, up to 32 characters. Each HS attachment policy must be uniquely named within the system.

Platforms

7750 SR-7/12/12e

hs-attachment-policy

Syntax

hs-attachment-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy hs-attachment-policy)

Full Context

configure qos copy hs-attachment-policy

Description

This command copies existing QoS policy entries for a QoS policy ID to another QoS policy ID.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

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Parameters

src-name dst-name

Indicates that the source policy ID and the destination policy ID are HS policy IDs. Specify the source policy ID that the copy command attempts to copy from and specify the destination policy ID to which the command copies a duplicate of the policy.

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy is overwritten with the contents of the source policy. If **overwrite** is not specified, an error occurs if the destination policy ID exists.

Example:

```
   – SR>config>qos# copy hs-pool-policy policy1 policy2
   – MINOR: CLI Destination "policy2" exists use {overwrite}.
   – SR>config>qos# copy hs-pool-policy policy1 policy2
overwrite
```

Platforms

7750 SR-7/12/12e

19.93 hs-class-weight

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>hs-wrr-grp hs-class-weight)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue hs-class-weight)

Full Context

configure subscriber-mgmt sla-profile egress qos hs-wrr-group hs-class-weight

configure subscriber-mgmt sla-profile egress qos queue hs-class-weight

Description

This command configures the class-weight override for expanded egress HS queues or the WRR group.

The **no** form of this command removes the weight value from the configuration.

Parameters

weight

Specifies the weight of the scheduling class.

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Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>service>epipe>sap>egress>queue-override>queue hs-class-weight)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue hs-class-weight)

Full Context

configure service epipe sap egress queue-override queue hs-class-weight

configure service ipipe sap egress queue-override queue hs-class-weight

Description

This command overrides the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>service>vpls>sap>egress>queue-override>queue hs-class-weight)

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Full Context

configure service vpls sap egress queue-override queue hs-class-weight

Description

This command overrides the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue hs-class-weight)

Full Context

configure service ies interface sap egress queue-override queue hs-class-weight

Description

This command overrides the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

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hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue hs-class-weight)

Full Context

configure service vprn interface sap egress queue-override queue hs-class-weight

Description

This command overrides the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class.

The **no** form of this command removes the class weight override value from the configuration.

Parameters

weight

Specifies the weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>qos>network-queue>hs-wrr-group hs-class-weight)

Full Context

configure qos network-queue hs-wrr-group hs-class-weight

Description

This command specifies the class weight of this WRR group at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class. This allows

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the capacity available at the primary shaper scheduling class to be shared in a WRR manner between the HSQ queue group queues and WRR groups attached to that scheduling class. The **hs-class-weight** *weight* can be used to give unequal shares of the available capacity to different types of service offerings.

The **no** form of the command reverts to weight to the default value.

Default

hs-class-weight 1

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>qos>network-queue>queue hs-class-weight)

Full Context

configure qos network-queue queue hs-class-weight

Description

This command specifies the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class. This allows the capacity available at the primary shaper scheduling class to be shared in a WRR manner between the HSQ queue group queues and WRR groups attached to that scheduling class. The **hs-class-weight** *weight* parameter can be used to give unequal shares of the available capacity to different types of service offerings. This command is ignored for egress HSQ queue group queues that are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **hs-class-weight** is performed under the **hs-wrr-group** within the network queue policy.

The **no** form of the command reverts to the default value.

Default

hs-class-weight 1

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Parameters

weight

Specifies class weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>qos>sap-egress>hs-wrr-group hs-class-weight)

Full Context

configure qos sap-egress hs-wrr-group hs-class-weight

Description

This command specifies the class weight of this WRR group at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class. This allows the capacity available at the primary shaper scheduling class to be shared in a WRR manner between the HSQ queue group queues and WRR groups attached to that scheduling class. The **hs-class-weight** parameter can be used to give unequal shares of the available capacity to different types of service offerings.

The **no** form of the command reverts the weight to the default value.

Default

hs-class-weight 1

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

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hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>qos>sap-egress>queue hs-class-weight)

Full Context

configure qos sap-egress queue hs-class-weight

Description

This command specifies the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class. This allows the capacity available at the primary shaper scheduling class to be shared in a WRR manner between the HSQ queue group queues and WRR groups attached to that scheduling class. The **hs-class-weight** *weight* parameter can be used to give unequal shares of the available capacity to different types of service offerings. This command is ignored for egress HSQ queue group queues, which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **hs-class-weight** is performed under the **hs-wrr-group** within the network queue policy.

The **no** form of the command reverts to the default value.

Default

hs-class-weight 1

Parameters

weight

Specifies class weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

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Context

[Tree] (config>qos>qgrps>egr>qgrp>hs-wrr-group hs-class-weight)

Full Context

configure qos queue-group-templates egress queue-group hs-wrr-group hs-class-weight

Description

This command specifies the class weight of this WRR group at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class. This allows the capacity available at the primary shaper scheduling class to be shared in a WRR manner between the HSQ queue group queues and WRR groups attached to that scheduling class. The **hs-class-weight** parameter can be used to give unequal shares of the available capacity to different types of service offerings.

The **no** form of the command reverts to the default value.

Default

hs-class-weight 1

Parameters

weight

Specifies the class weight of the HS WRR group.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

hs-class-weight

Syntax

hs-class-weight *weight*

no hs-class-weight

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue hs-class-weight)

Full Context

configure qos queue-group-templates egress queue-group queue hs-class-weight

Description

This command specifies the class weight of this queue at its parent primary shaper, relative to the other queues and WRR groups in different HSQ queue groups in the same scheduling class. This allows the capacity available at the primary shaper scheduling class to be shared in a WRR manner between the HSQ queue group queues and WRR groups attached to that scheduling class. The **hs-class-weight**

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parameter can be used to give unequal shares of the available capacity to different types of service offerings.

This command is ignored for egress HSQ queue group queues, which are attached to an HS WRR group within an associated HS attachment policy. In this case the configuration of the **hs-class-weight** is performed under the **hs-wrr-group** within the egress queue group template.

The **no** form of the command reverts to the default value.

Default

hs-class-weight 1

Parameters

weight

Specifies the class weight of the queue.

Values 1, 2, 4, 8

Platforms

7750 SR-7/12/12e

19.94 hs-fixed-high-thresh-delta

hs-fixed-high-thresh-delta

Syntax

hs-fixed-high-thresh-delta *size-in-bytes*

no hs-fixed-high-thresh-delta

Context

[Tree] (config>card>fp>egress hs-fixed-high-thresh-delta)

Full Context

configure card fp egress hs-fixed-high-thresh-delta

Description

This command specifies the egress aggregate shaper high burst limit threshold delta for this HSQ IOM FP. An aggregate rate can be applied to each egress HSQ queue group, HS secondary shaper and (for subscribers configured with HS SLA expanded mode) primary shaper which manages the maximum burst limit over a specified shaping rate. Each aggregate shaper supports two thresholds which are used in conjunction with the low burst class setting. The system utilizes the lowest value attainable for each low threshold aggregate burst limit without causing shaper under run conditions. The high burst limit threshold is determined by adding the configured value of this command to the aggregate's low burst limit threshold value. This configured value should be set to at least two times the maximum frame size to prevent lower threshold class forwarding from also affecting the higher threshold classes when forwarding larger packet

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sizes. An insufficient high threshold delta defeats the intended purpose of mapping classes to the higher threshold.

The configured value for this command can be changed at any time. Modifying the setting causes all aggregate shapers on this FP to reconfigure the low and high burst limit thresholds to reflect the new value.

The **no** form of this command reverts this parameter to the default.

Default

hs-fixed-high-thresh-delta 4000

Parameters

size-in-bytes

Specifies high threshold data in bytes.

Values 0 to 65536

Platforms

7750 SR-7/12/12e

19.95 hs-low-burst-max-class

hs-low-burst-max-class

Syntax

hs-low-burst-max-class *class*

no hs-low-burst-max-class

Context

[Tree] (config>subscr-mgmt>sub-prof>egress hs-low-burst-max-class)

Full Context

configure subscriber-mgmt sub-profile egress hs-low-burst-max-class

Description

This command specifies which scheduling classes map to the low burst limit threshold of an egress HS primary shaper. The HS primary shaper is used to manage aggregate bandwidth of the subscriber with multiple SLA profile instances (expanded SLA mode).

Each HS primary shaper supports two burst thresholds, a low burst limit threshold and a high burst limit threshold. The two thresholds allow separation of burstiness between low and high scheduling classes.

When the low burst threshold of the HS primary shaper is reached, the lower scheduling classes, up to the scheduling class configured by this command, stops being served. Traffic on higher scheduling classes still goes through until the high burst threshold is reached. When the high burst threshold is exceeded, all

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scheduling classes associated with the HS primary shaper and stops being serve, which effectively shuts off the traffic flow.

Typically, the queues associated with higher scheduling classes are individually rate-limited so that their aggregate allowed throughput is less than the configured rate of the HS primary shaper. Determining the **hs-low-burst-max-class** *class* value involves anticipating the proper dividing line between the low and high scheduling classes by evaluating the forwarding behavior and SLA enforcement of each class.

By default, all scheduling classes are mapped to the low burst limit threshold. When mapping scheduling classes to the high burst limit threshold, an adequate value for the **config>card>fp>egress>hs-fixed-high-thresh-delta** should be specified (by default, it is set to 4000 bytes). This is because the queues associated with the lower scheduling classes may burst over the lower threshold during normal operation due to the scheduler forwarding whole packets. The **hs-fixed-high-thresh-delta** value should be set to at least two times the maximum frame size to prevent lower threshold class forwarding from also affecting the higher threshold classes when forwarding larger packet sizes. An insufficient high threshold delta defeats the intended purpose of mapping classes to the higher threshold.

The system uses the lowest value attainable for each low threshold aggregate burst limit without causing shaper underrun conditions. The high burst limit threshold is determined by adding the **hs-fixed-high-thresh-delta** value to the aggregate low burst limit threshold value.

The **hs-low-burst-max-class** value for HS primary shaper can be changed at any time in the subscriber profile (sub-profile).

The **no** form of this command restores the low burst limit threshold of the scheduling classes to the default value. This causes all scheduling classes associated with the HS primary shaper to be mapped to the low burst limit threshold.

Default

hs-low-burst-max-class 6

Parameters

class

Specifies the highest scheduling class that is associated with the low burst limit threshold of the HS primary shaper. Scheduling classes that are higher than the scheduling class ID are associated with the high burst limit threshold.

Values 1 to 6

Platforms

7750 SR-7/12/12e

19.96 hs-mbs

hs-mbs

Syntax

hs-mbs *percent-of-queue-rate*

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no hs-mbs

Context

[Tree] (config>qos>network-queue>queue hs-mbs)

Full Context

configure qos network-queue queue hs-mbs

Description

This command configures the queue size of an HSQ queue group network queue. Its value is calculated based on the specified percentage of one second of the queue PIR converted to bytes (the regular **mbs** parameter is ignored in the network queue policy).

The **no** form of the command reverts to the default value.

Default

hs-mbs 100

Parameters

percent-of-queue-rate

Specifies the buffer space for the queue as a percentage of its PIR (in bytes).

Values 0.00 to 100.0

Platforms

7750 SR-7/12/12e

19.97 hs-pool-policy

hs-pool-policy

Syntax

hs-pool-policy *name*

no hs-pool-policy

Context

[Tree] (config>card>fp>egress hs-pool-policy)

Full Context

configure card fp egress hs-pool-policy

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Description

This command specifies the HS pool policy for this FP.

An HS pool policy contains the required parameters to create and size root and mid-tier buffer pools on an HSQ IOM, and apply a slope policy to each.

A single HS pool policy is supported per port FP. This command is only applicable to the HSQ IOM (iom4-e-hs) and will fail if configured on all other card types.

The **no** form of this command removes the policy and reapplies the default policy.

Default

hs-pool-policy default

Parameters

name

Specifies the HS pool policy name, up to 32 characters.

Platforms

7750 SR-7/12/12e

hs-pool-policy

Syntax

hs-pool-policy *policy-name* [**create**]

no hs-pool-policy *policy-name*

Context

[Tree] (config>qos hs-pool-policy)

Full Context

configure qos hs-pool-policy

Description

Commands in this context create HS pool policy parameters. The policy can be assigned to an egress forwarding plane of an HSQ IOM. The policy contains the required parameters to create and size root and mid-tier buffer pools on an HSQ IOM, and apply a slope policy to each. The HS pool policy can be applied using the **hs-pool-policy** command within the **config>card>fp** *fp-number* **egress** context.

The system supports 63 HS pool policies including the default HS pool policy.

- HSQ IOM System Reserved Buffers — The HSQ IOM maintains two types of queues; provisioned queues and system reserved queues. The HSQ IOM ensures that provisioned queues cannot consume buffers that must be available for internal system queues required for correct operating behavior. To prevent buffer starvation between the two types of queues, the system divides the available buffers into two portions. The first portion is given to system root pools and is allocated to HSQ queues reserved for internal functions. The second portion is given to the provisioned or user-defined root pools and is available for egress service queues, network queues, queue-group queues or subscriber queues.

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By default, 5% of the total buffers available are given to the system root pools leaving 95% for the provisioned root pools.

The default separation between the system and the provisioned root pools can be overridden using the **system-reserve** command.

- Root Pools — Root pools are the buffer pools at the bottom of the buffer allocation hierarchy. Two sets of root pools exist: the system root pools and the provisioned root pools. The system root pools cannot be managed by the HS pool policy; only the total number of buffers given to the system root pools can be adjusted by using the **system-reserve** command.

  The HS pool policy manages sixteen provisioned root pools defined under the **root-tier** context and specified as root-pool 1 through 16. Each root pool accepts a weight command that defines the relative quantity of buffers that are allocated to each root pool. Root pools are deactivated by defining a weight equal to 0. Root pools with a non-zero weight are sized based on the pool's weight divided by the sum of all root pool weights, multiplied by the available buffer space. In this manner, all buffers not reserved for system use are distributed between the provisioned root pools without oversubscription. The lack of oversubscription prevents buffer starvation between the root pools allowing root pools, to act as protected buffer space between different types of traffic (best-effort, expedited, or real-time). Root pools allocate buffers to the FP-level mid-tier pools.

- Mid-Tier Pools — Mid-tier pools are the buffer pools that act as aggregators for port-class pools. Multiple mid-tier pools can be mapped to a single root pool and each mid-tier pool is assigned a percentage of that root pool's buffer space. The sum of the percentages may exceed 100%, allowing for oversubscription of the root pool's buffer space. Due to statistical multiplexing principles, oversubscribing the root pool's buffer allocation may allow more efficient use of the available buffers as not all mid-tier pools are expected to use their fair share simultaneously. Examples of a multiple mid-tier pool application are multiple assured forwarding (AF) or best-effort classes being grouped together in the same root pool. The HS pool policy manages the sixteen mid-tier pools on an HSQ IOM, defined under the **mid-tier** context and specified as mid-pool 1 through 16.

- Port Class Pools — The HSQ IOM maintains two sets of scheduler class pools per port: a standard (or default) set and an alternate set. Each set contains six pools, one for each scheduler class serviced by the HSQ IOM port scheduler. Each queue or WRR group is mapped to a scheduling class based on the HS attachment policy defined within the policy or template used to create the queue. Within the SAP egress policy, network queue policy and egress queue group template, an **alt-port-class-pool** command specifies whether the queues created through the policy use the standard or alternate set of port class pools on the physical port. Further, the scheduling class servicing the queue defines which port-class pool (1 through 6) within the set allocate buffers to the queue.

  Port-class pools are defined within the **hs-port-pool-policy**, which is applied to each physical port. Further information on HSQ IOM port-class pools is contained in the HS port pool policy section.

- HSQ Stable Pool Sizing Equivalency — Stable pool sizing is a feature supported on ingress and on non-HSQ egress forwarding planes. By default, the system tries to make all buffers available to active ports (provisioned and equipped). This leads to a condition where an IOM may have only a single MDA populated and the users on that MDA receive all available buffers. At a later date, the second MDA can be populated, causing the buffer space to be fragmented between the users on each MDA. The users on the earlier populated MDA may perceive a degradation in service based on the change in available buffers. The stable pool sizing feature mitigates this potential issue by segregating the buffer space per MDA.

  The HSQ IOM can be made to operate in this stable buffer allocation mechanism by utilizing per-MDA buffer pools. This is accomplished by performing the following steps:

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1. Create two sets of root-pools and two sets of mid-pools in the **hs-pool-policy** applied to the IOM's FP egress CLI context. The first set of mid-pools should be parented to the first set of root-pools. The second set of mid-pools should be parented to the second set of root-pools.
2. Create two distinct HS port pool policies. One is applied to the ports on the first MDA and has the port-class pools parented to the first set of mid-tier pools from the FP level policy. The second HS port pool policy is applied to the ports on the second MDA (when it is provisioned) and has the port-class pools parented to the second set of mid-tier pools from the FP level policy. This provides deterministic pool sizing independent of MDA equipping events.
3. Configure further control at the port-class level by utilizing **explicit-percent** based port-class pool sizing, which eliminates the effect of changing port states, including bandwidth changes.

- HSQ Queue Buffer Allocation — As each packet arrives at an HSQ queue, the queue must obtain buffers to admit the packet on the queue. The queue first checks the depth of the queue relative to the packet's congestion priority (based on the in, out, or exceed profile) to determine if the packet should be discarded based on early congestion detection or based on the MBS threshold. If the packet is allowed into the queue, the HSQ IOM continues to determine buffer availability using checks to the queue's port-class pool, the port-class pool's mid-tier pool, and the mid-tier pool's root pool. The same RED slope type used at the queue (high, low, or exceed) is used within each buffer pool. If a buffer is available, the buffer can be allocated, and given to the queue.
- Default HSQ Pool Policy — An HSQ pool policy with the name **default** always exists on the system and does not need to be created. The default pool policy cannot be changed and is used by all HSQ IOMs within the system unless an explicitly created **hs-pool-policy** is associated with a forwarding plane.

  The default policy contains the following parameters:

  system-reserve: 5%

  root-pool 1

  allocation-weight: 75

  slope-policy: _tmnx_hs_default

  root-pool 2

  allocation-weight: 25

  slope-policy: _tmnx_hs_default

  root-pool 3 to **16**

  allocation-weight: 0

  slope-policy: _tmnx_hs_default

  mid-pool 1

  parent-root-pool: 1

  allocation-percent: 40%

  slope-policy: _tmnx_hs_default

  mid-pool 2

  parent-root-pool: 1

  allocation-percent: 35%

  slope-policy: _tmnx_hs_default

  mid-pool 3

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parent-root-pool: 1

allocation-percent: 30%

slope-policy: _tmnx_hs_default

mid-pool 4

parent-root-pool: 1

allocation-percent: 25%

slope-policy: _tmnx_hs_default

mid-pool 5

parent-root-pool: 2

allocation-percent: 80%

slope-policy: _tmnx_hs_default

mid-pool 6

parent-root-pool: 2

allocation-percent: 20%

slope-policy: _tmnx_hs_default

mid-pool 7 to **16**

parent-root-pool: None

allocation-percent: 1%

slope-policy: _tmnx_hs_default

The **no** form of the command removes the HS pool policy from the system. If the HS pool policy is currently associated with a forwarding plane, the command fails.

Parameters

policy-name

Specifies pool policy name, up to 32 characters. Each HS pool policy must be uniquely named within the system.

create

This keyword is required when first creating the configuration context. After the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

7750 SR-7/12/12e

hs-pool-policy

Syntax

hs-pool-policy *src-name dst-name* [**overwrite**]

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Context

[Tree] (config>qos>copy hs-pool-policy)

Full Context

configure qos copy hs-pool-policy

Description

This command copies existing QoS policy entries for a QoS policy ID to another QoS policy ID.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

src-name dst-name

Indicates that the source policy ID and the destination policy ID are HS policy IDs. Specify the source policy ID that the copy command attempts to copy from and specify the destination policy ID to which the command copies a duplicate of the policy.

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy is overwritten with the contents of the source policy. If **overwrite** is not specified, an error occurs if the destination policy ID exists.

Example:

```
   – SR>config>qos# copy hs-pool-policy policy1 policy2
   – MINOR: CLI Destination "policy2" exists use {overwrite}.
   – SR>config>qos# copy hs-pool-policy policy1 policy2
overwrite
```

Platforms

7750 SR-7/12/12e

19.98 hs-port-pool-policy

hs-port-pool-policy

Syntax

hs-port-pool-policy *policy-name*

no hs-port-pool-policy

Context

[Tree] (config>port>ethernet>egress hs-port-pool-policy)

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Full Context

configure port ethernet egress hs-port-pool-policy

Description

This command specifies an HS port pool policy to associate with the port egress.

An HS port buffer pool policy defines and sizes the port-class buffer pools on an HSQ IOM egress port.

A single HS port pool policy is supported per port egress. This command is only applicable to the HSQ IOM (iom4-e-hs) and will fail if configured on all other card types.

The **no** form of this command removes the policy and reapplies the default policy.

Default

hs-port-pool-policy default

Parameters

policy-name

Specifies the HS port pool policy up to 32 characters.

Platforms

7750 SR-7/12/12e

hs-port-pool-policy

Syntax

hs-port-pool-policy *policy-name* [**create**]

no hs-port-pool-policy *policy-name*

Context

[Tree] (config>qos hs-port-pool-policy)

Full Context

configure qos hs-port-pool-policy

Description

This command creates an HS port buffer pool policy. The policy can be assigned to an egress port on an HSQ IOM. The policy contains the required commands to define and size port-class buffer pools on an HSQ IOM. The policy can be applied using the **hs-port-pool-policy** command within the **config>port>ethernet>egress** context.

SR OS supports 2047 HS port pool policies including the default HS port pool policy.

HSQ IOM port buffer pools provide buffer control for queues based on the queue's scheduling class. Two sets of scheduling class pools exist per port: a standard (or default) set and an alternative set. The SAP egress policy, network queue policy, and egress queue group template have a parameter (**alt-port-class-pool**) that specifies that the queues created by the policy or template uses the alternate port-class pools, as opposed to the default standard port-class pools. Each set has six pools, one for each scheduling class.

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Based on the **alt-port-class-pool** setting and the queue's scheduling class (based on the HS attachment policy configuration), each queue is mapped to a specific port-class pool.

The HS port pool policy defines how each of these pools are parented (mapped) to an FP level mid-pool and how each pool is sized.

The system allows two separate mechanisms to size each port-class pool:

- dynamic sizing based on port bandwidth, relative to bandwidth of other ports
- explicit sizing based on a percentage of the port-class pool's parent mid-pool

Dynamic Port-Class Pool Sizing — Dynamic port-class pool sizing is a mechanism that provides a fair share of a mid-pool's size to each of the port-class pools based on the potential bandwidth represented by each port. To understand port-class pool sizing, consider the following:

- Each port's bandwidth is the minimum of the port's line rate, the port's configured **egress-rate**, and the port's **hs-scheduler-policy** *max-rate*.
- The port's bandwidth can be further modified by the port's **egr-percentage-of-rate** command, which increases or decreases the port's bandwidth derived by the specified percent. This parameter allows the port to have a higher or lower bandwidth-derived weight based on how the port is actually being used instead of bandwidth alone.
- Because the port-class pools are user mapped to the mid-pools, not every port has a port-class pool associated with a mid-pool, requiring that the system perform the relative bandwidth calculations separately per mid-pool.
- Each port's portion of a specified mid-pool's size is calculated based on:

  Port_Portion = (Port_Adj_Bw / Sigma_Mid_Pool_Ports_Adj_Bw) * Mid_Pool_Size

  where Sigma_Mid_Pool_Ports_Adj_Bw is the sum of the adjusted bandwidths for all ports with port-class pools mapped to the mid-pool that are not sized using explicit-percent.
- A port without any port-class pools associated with a given mid-pool has a port portion of zero for that mid-pool.
- Multiple port-class pools on the same port can be mapped to the same mid-pool, requiring a mechanism to distribute the portion of the mid-pool given to the port between multiple port-class pools. Each mid-pool's **port-bw-weight** parameter is used to determine how much of the port's mid-pool portion is given to each port-class pool associated with mid-pool. Port-class pools sized using an **explicit-percent** value instead of port bandwidth are assumed to have a **port-bw-weight** equal to 0, causing those port-class pools to not participate in the port portion distribution. It is expected (but not required) that one of port bandwidth-based sizing or explicit percent-based sizing is used and any concurrent use of both mechanisms is transitory in nature.
- The port bandwidth weighting mechanism allocates 100% of the mid-pool size to the associated port-class pools. To allow the port-class pools to oversubscribe the parent mid-pool, a mid-pool **port-bw-oversub-factor** parameter is supported that allows the port-class pools sized by dynamic port bandwidth to increase in size by the specified oversubscription factor. This oversubscription factor can provide a more efficient use of the mid-pool's available buffers because it is not expected that all port-class pools are utilizing their allotted size simultaneously.

Explicit Port-Class Pool Sizing — The port-class pool's allocation **explicit-percent** *percent-of-parent-pool* command is used to override the dynamic pool sizing mechanism for a given mid-pool. The specified percentage value is applied to the port-class's parent mid-pool's size to derive the port-class pool size.

Explicit and Dynamic Sizing from the Same Mid-Pool Parent — If explicit and dynamic pool sizing are used simultaneously for port-class pools parented to the same mid-pool, unexpected contention or underutilization of the mid-pool's available buffers may result. While this is not a proscribed condition, it

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is expected most instances of dual-sizing mechanisms are transitory, based on moving between the two mechanisms.

Port-Class Pool Slope Policy Association — The HS port pool policy also provides the ability to specify a slope policy on each port-class pool. The slope policy is used to define the high, low, and exceed slope parameters used to manage contention within the port-class pool.

Default HS Port Pool Policy — An HS port pool policy with the name **default** always exists on the system and does not need to be created. The default port pool policy cannot be changed and is used by all HSQ IOMs within the system unless an explicitly created **hs-port-pool-policy** is associated with an HSQ egress port.

The default policy contains the following parameters:

Standard Port-Class Pools

Port-Class-Pool 1

Parent: Mid-Pool 1

Port-Class-Pool 2

Parent: Mid-Pool 2

Port-Class-Pool 3

Parent: Mid-Pool 3

Port-Class-Pool 4

Parent: Mid-Pool 4

Port-Class-Pool 5

Parent: Mid-Pool 5

Port-Class-Pool 6

Parent: Mid-Pool 6

Port-Class-Pool 1 to 6

Port-Bw-Weight: 1

Slope-Policy: _tmnx_hs_default

Alternate Port-Class Pools

Port-Class-Pool 1 to 6

Parent: None

Port-Bw-Weight: 1

Slope-Policy: _tmnx_hs_default

Parameters

policy-name

Specifies an HS port pool policy name up to 32 characters.

create

This keyword is required when first creating the configuration context. After the context is created, it is possible to navigate into the context without the **create** keyword.

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Platforms

7750 SR-7/12/12e

hs-port-pool-policy

Syntax

hs-port-pool-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy hs-port-pool-policy)

Full Context

configure qos copy hs-port-pool-policy

Description

This command copies existing QoS policy entries for a QoS policy ID to another QoS policy ID.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

src-name dst-name

Indicates that the source policy ID and the destination policy ID are HS policy IDs. Specify the source policy ID that the copy command attempts to copy from and specify the destination policy ID to which the command copies a duplicate of the policy.

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy is overwritten with the contents of the source policy. If **overwrite** is not specified, an error occurs if the destination policy ID exists.

Example:

```
   – SR>config>qos# copy hs-pool-policy policy1 policy2
   – MINOR: CLI Destination "policy2" exists use {overwrite}.
   – SR>config>qos# copy hs-pool-policy policy1 policy2
overwrite
```

Platforms

7750 SR-7/12/12e

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19.99 hs-queue-stat-mode

hs-queue-stat-mode

Syntax

hs-queue-stat-mode *mode*

no hs-queue-stat-mode

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos hs-queue-stat-mode)

Full Context

configure subscriber-mgmt sla-profile egress qos hs-queue-stat-mode

Description

This command configures the mode of statistics collected for all the HS queues.

The **no** form of this command reverts to the default.

Default

hs-queue-stat-mode no-override

Parameters

mode

Specifies the egress HS queue stats mode.

Values no-override — Indicates no overrides are used.

v4-v6 — Indicates separate counters are collected for IPv4 and IPv6 instead of the normal queue statistics.

Platforms

7750 SR-7/12/12e

19.100 hs-scheduler-overrides

hs-scheduler-overrides

Syntax

hs-scheduler-overrides [**create**]

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no hs-scheduler-overrides

Context

[Tree] (config>port>ethernet>egress hs-scheduler-overrides)

Full Context

configure port ethernet egress hs-scheduler-overrides

Description

Commands in this context configure HS scheduler overrides which override parameters in the applied HS scheduler policy. This command is only applicable to the HSQ IOM (iom4-e-hs) and will fail if configured on all other card types.

Parameters

create

Keyword used to create HS scheduler overrides. This keyword is requirement and can be enabled or disabled in the **environment>create** context.

Platforms

7750 SR-7/12/12e

19.101 hs-scheduler-policy

hs-scheduler-policy

Syntax

hs-scheduler-policy *policy-name*

no hs-scheduler-policy

Context

[Tree] (config>port>ethernet>egress hs-scheduler-policy)

Full Context

configure port ethernet egress hs-scheduler-policy

Description

This command specifies an HS scheduler policy to associate with the port egress which provisions the scheduling behavior of the HSQ scheduler classes.

A single HS scheduler policy is supported per port egress. This command is only applicable to the HSQ IOM (iom4-e-hs) and will fail if configured on all other card types.

The **no** form of this command removes the policy and reapplies the default policy.

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Default

hs-scheduler-policy default

Parameters

policy-name

Specifies the policy name up to 32 characters.

Platforms

7750 SR-7/12/12e

hs-scheduler-policy

Syntax

hs-scheduler-policy *policy-name* [**create**]

no hs-scheduler-policy *policy-name*

Context

[Tree] (config>qos hs-scheduler-policy)

Full Context

configure qos hs-scheduler-policy

Description

This command configures an HS scheduler policy. The HS scheduler policies are applied to egress HSQ ports in the **config>port>ethernet>egress** context. The policy contains the required commands to provision the scheduling behavior of the HSQ scheduler classes. When assigned to an HSQ egress port, the policy is used to define the scheduling behavior for all queues associated with the egress port. The values defined in the policy can be overridden on each scheduler instance using the **config>port>ethernet>egress>hs-scheduler-overrides** command.

HSQ Queue Groups — A fundamental concept on an HSQ IOM is the queue group. Queue groups are not directly managed by the provisioning. Instead, they are indirectly assigned when creating SAPs or subscribers on an HSQ port. A queue group has eight queue members, numbered from 1 through 8. When creating a SAP or subscriber associated on an HSQ egress port, a queue group is allocated to the object. Within the SAP egress policy, network queue policy and egress queue group template, provisioned queue IDs 1 through 8 correspond directly to queue group queue IDs 1 through 8. Each group also allows each queue to be dynamically placed in a scheduling class or on one of two WRR groups local to the queue group.

Each queue within the group has three RED slopes (managed by associating a slope policy to the queue), an MBS defined in bytes, a packet byte offset parameter used to add or subtract bytes to or from each packet handled by the queue for accounting purposes, and a PIR shaper used to rate limit the queue. An HSQ attachment policy associated with the queue group defines how each queue maps either directly to a scheduling class or one of the WRR groups within the queue group. The attachment policy also defines the scheduling class attachments for the WRR groups.

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The queue group supports an aggregate shaper used to manage an aggregate rate limit for all queues within the group. Scheduling for queues within the queue group is stopped and started based on the rate set on the shaper.

Scheduling Classes and Scheduling Priorities — HSQ supports six scheduler classes (1 through 6). The scheduler class should not be confused with a QoS policy forwarding class. Forwarding classes within the system are used between the ingress and egress forwarding complexes and help the system to map a packet to per-hop and per-domain behavior. Scheduling classes are slices of scheduling opportunity within a port-scheduling context. Each port scheduler maintains six strict priority levels, where 6 is the highest priority and 1 is the lowest. As a rule, the scheduler services all active queues associated with priority level 6 before moving to queues on priority level 5. This strict behavior continues through priority level 1. Scheduling classes are mapped either to their corresponding scheduling priority level (scheduling class 1 mapped to priority level 1 through scheduling class 6 mapped to priority level 6) or to a single port level WRR group. The WRR group allows collapsing up to 6 of the scheduling classes into a single scheduling priority. The WRR group provides a weighted fair scheduling behavior for its member scheduling classes at that strict priority level.

Strict Priority Level PIR — The scheduler supports a strict scheduling level PIR that limits the amount of bandwidth allowed for the level. The rate is defined in increments of megabits per second and can be set to **max** (the default setting) which disables the shaping function. The scheduler includes the full Ethernet frame encapsulation overhead when updating the priority level PIR, including the 12-byte inter-frame gap and the 8-byte preamble.

Scheduler Maximum Rate — A maximum scheduling rate can be defined for the scheduler. The rate is specified in megabits per second and the default rate is **max** which allows the scheduler to operate without a set limit. When the HS scheduling policy is applied to an egress port, the maximum scheduling rate can be used to define a rate less than the available line rate of the port. The scheduler includes the full Ethernet frame encapsulation overhead when updating the scheduler level PIR, including the 12-byte inter-frame gap and the 8-byte preamble.

HS Scheduler Policy Overrides — After an HS scheduler is applied to an egress port, the various parameters can be overridden, allowing an HS scheduler policy to be adapted to changing needs on a port without requiring a new policy to be created.

Default HS Scheduling Policy — An HS scheduling policy with the name **default** always exists on the system and does not need to be created. The default policy cannot be modified or deleted.

The default policy contains the following parameters:

Table 51: HS Scheduler Policy Parameter Defaults

Parameter	Sub-Parameter	Default
max-rate	—	max
scheduling-class 1 through 6	rate	max
	group	—
	weight	—
group 1	rate	max

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Default

The **no** form of the command removes an HS scheduler policy from the system. If the HS scheduler policy is currently associated with an egress port, the command fails.

Parameters

policy-name

Specifies the HS scheduler policy up to 32 characters. Each HS scheduler policy must be uniquely named within the system.

create

This keyword is required when first creating the configuration context. After the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

7750 SR-7/12/12e

hs-scheduler-policy

Syntax

hs-scheduler-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy hs-scheduler-policy)

Full Context

configure qos copy hs-scheduler-policy

Description

This command copies existing QoS policy entries for a QoS policy ID to another QoS policy ID.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

src-name dst-name

Indicates that the source policy ID and the destination policy ID are HS policy IDs. Specify the source policy ID that the copy command attempts to copy from and specify the destination policy ID to which the command copies a duplicate of the policy.

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy is overwritten with the contents of the source policy. If **overwrite** is not specified, an error occurs if the destination policy ID exists.

Example:

```
– SR>config>qos# copy hs-pool-policy policy1 policy2
– MINOR: CLI Destination "policy2" exists use {overwrite}.
```


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```
    – SR>config>qos# copy hs-pool-policy policy1 policy2
overwrite
```

Platforms

7750 SR-7/12/12e

19.102 hs-secondary-shaper

hs-secondary-shaper

Syntax

hs-secondary-shaper *secondary-shaper-name* [**create**]

no hs-secondary-shaper *secondary-shaper-name*

Context

[Tree] (config>port>ethernet>egress hs-secondary-shaper)

Full Context

configure port ethernet egress hs-secondary-shaper

Description

This command specifies an HS secondary shaper on the port egress. HS secondary shapers are used to apply an aggregate rate and per-scheduling class rates to the set of SAP egress HSQ queue groups which reference them using the SAP egress queue-override **hs-secondary-shaper** command.

By default, the **hs-secondary-shaper** default is applied to each port egress on all HSQ ports and the settings under it can be modified.

Multiple HS secondary shapers are supported per port egress, up to the number supported per-HSQ FP, which is 4096 HS secondary shapers. The number of HS secondary shapers allocated on an HSQ FP can be seen using the **tools dump resource-usage card** *slot-number* **fp** *fp-number* command.

Non-default HS secondary shapers are only configurable on access or hybrid mode ports.

This command is only applicable to the HSQ IOM (iom4-e-hs) and will fail if configured on all other card types.

The **no** form of this command removes the HS secondary shaper from the port egress configuration. An HS scheduler policy cannot be removed when HS scheduler overrides exist on the port egress.

Default

hs-secondary-shaper default

Parameters

secondary-shaper-name

Specifies the secondary shaper name up to 32 characters.

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Platforms

7750 SR-7/12/12e

hs-secondary-shaper

Syntax

hs-secondary-shaper *policy-name*

no hs-secondary-shaper

Context

[Tree] (config>service>ipipe>sap>egress>queue-override hs-secondary-shaper)

[Tree] (config>service>epipe>sap>egress>queue-override hs-secondary-shaper)

Full Context

configure service ipipe sap egress queue-override hs-secondary-shaper

configure service epipe sap egress queue-override hs-secondary-shaper

Description

This command configures the HS secondary shaper to be used to apply an aggregate rate and per-scheduling class rates to the SAP egress HSQ queue group.

The **no** form of this command removes the HS secondary shaper override from the configuration, reverting the SAP egress HSQ queue group to the default HS secondary shaper on that port.

Parameters

policy-name

Specifies the secondary shaper name, up to 32 characters.

Platforms

7750 SR-7/12/12e

hs-secondary-shaper

Syntax

hs-secondary-shaper *policy-name*

no hs-secondary-shaper

Context

[Tree] (config>service>ies>if>sap>egress>queue-override hs-secondary-shaper)

Full Context

configure service ies interface sap egress queue-override hs-secondary-shaper

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Description

This command configures the HS secondary shaper to be used to apply an aggregate rate and per-scheduling class rates to the SAP egress HSQ queue group.

The **no** form of this command removes the HS secondary shaper override from the configuration returning the SAP egress HSQ queue group to the default HS secondary shaper on that port.

Parameters

policy-name

Specifies the secondary shaper name, up to 32 characters.

Platforms

7750 SR-7/12/12e

hs-secondary-shaper

Syntax

hs-secondary-shaper *policy-name*

no hs-secondary-shaper

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override hs-secondary-shaper)

Full Context

configure service vprn interface sap egress queue-override hs-secondary-shaper

Description

This command configures the HS secondary shaper to be used to apply an aggregate rate and per-scheduling class rates to the SAP egress HSQ queue group.

The **no** form of this command removes the HS secondary shaper override from the configuration, returning the SAP egress HSQ queue group to the default HS secondary shaper on that port.

Parameters

policy-name

Specifies the secondary shaper name, up to 32 characters.

Platforms

7750 SR-7/12/12e

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19.103 hs-sla-mode

hs-sla-mode

Syntax

hs-sla-mode {**expanded** | **single**}

no hs-sla-mode

Context

[Tree] (config>subscr-mgmt>sub-prof hs-sla-mode)

Full Context

configure subscriber-mgmt sub-profile hs-sla-mode

Description

This command specifies the SLA profile handling mode for the subscriber if on an HS board.

The **no** form of this command reverts to the default.

Parameters

expanded

Specifies the expanded SLA profile handling mode for the subscriber if on an HS board.

single

Specifies a single SLA profile handling mode for the subscriber if on an HS board.

Platforms

7750 SR-7/12/12e

19.104 hs-turbo

hs-turbo

Syntax

[**no**] **hs-turbo**

Context

[Tree] (config>port>ethernet>network>egress>queue-group hs-turbo)

[Tree] (config>port>ethernet>access>egress>queue-group hs-turbo)

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Full Context

configure port ethernet network egress queue-group hs-turbo

configure port ethernet access egress queue-group hs-turbo

Description

This command enables HS turbo queues which allows the corresponding HSQ queue group queues to achieve a higher throughput. The **hs-turbo** command is not applicable to 10G ports and is ignored when configured under a queue group instance on a 10G port.

This command is only applicable to the HSQ IOM (iom4-e-hs) and will fail if configured on all other card types.

The **no** form of this command disables the command.

Platforms

7750 SR-7/12/12e

19.105 hs-wred-queue

hs-wred-queue

Syntax

hs-wred-queue policy *slope-policy-name*

no hs-wred-queue

Context

[Tree] (config>service>epipe>sap>egress>queue-override>queue hs-wred-queue)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue hs-wred-queue)

Full Context

configure service epipe sap egress queue-override queue hs-wred-queue

configure service ipipe sap egress queue-override queue hs-wred-queue

Description

This command overrides the slope policy applied to the HSQ queue group queue.

The **no** form of this command removes the WRED queue policy override value from the configuration.

Parameters

slope-policy-name

Specifies an existing slope policy name to apply to this HSQ queue group queue, up to 32 characters.

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Platforms

7750 SR-7/12/12e

hs-wred-queue

Syntax

hs-wred-queue policy *slope-policy-name*

no hs-wred-queue

Context

[Tree] (config>service>vpls>sap>egress>queue-override>queue hs-wred-queue)

Full Context

configure service vpls sap egress queue-override queue hs-wred-queue

Description

This command overrides the slope policy applied to the HSQ queue group queue.

The **no** form of this command removes the WRED queue policy override value from the configuration.

Parameters

slope-policy-name

Specifies an existing slope policy name to apply to this HSQ queue group queue.

Platforms

7750 SR-7/12/12e

hs-wred-queue

Syntax

hs-wred-queue policy *slope-policy-name*

no hs-wred-queue

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue hs-wred-queue)

Full Context

configure service ies interface sap egress queue-override queue hs-wred-queue

Description

This command overrides the slope policy applied to the HSQ queue group queue.

The **no** form of this command removes the WRED queue policy override value from the configuration.

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Parameters

slope-policy-name

Specifies an existing slope policy name to apply to this HSQ queue group queue.

Platforms

7750 SR-7/12/12e

hs-wred-queue

Syntax

hs-wred-queue policy *slope-policy-name*

no hs-wred-queue

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue hs-wred-queue)

Full Context

configure service vprn interface sap egress queue-override queue hs-wred-queue

Description

This command overrides the slope policy applied to the HSQ queue group queue.

The **no** form of this command removes the WRED queue policy override value from the configuration.

Parameters

slope-policy-name

Specifies an existing slope policy name to apply to this HSQ queue group queue.

Platforms

7750 SR-7/12/12e

hs-wred-queue

Syntax

hs-wred-queue [**policy** *slope-policy-name*]

no hs-wred-queue

Context

[Tree] (config>qos>network-queue>queue hs-wred-queue)

Full Context

configure qos network-queue queue hs-wred-queue

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Description

This command reverts the slope policy applied to the HSQ queue group queue to the default policy. Specifying an existing slope policy applies the named slope policy to the queue.

The **no** form of the command reverts to the default slope policy.

Default

hs-wred-queue policy "_tmnx_hs_default"

Parameters

slope-policy-name

Specifies an existing slope policy to apply to this HSQ queue group queue.

Platforms

7750 SR-7/12/12e

hs-wred-queue

Syntax

hs-wred-queue [**policy** *slope-policy-name*]

no hs-wred-queue

Context

[Tree] (config>qos>sap-egress>queue hs-wred-queue)

Full Context

configure qos sap-egress queue hs-wred-queue

Description

This command reverts the slope policy applied to the HSQ queue group queue to the default policy. Specifying an existing slope policy applies the named slope policy to the queue.

The **no** form of the command reverts to the default slope policy.

Default

hs-wred-queue policy "_tmnx_hs_default"

Parameters

slope-policy-name

Specifies an existing slope policy to apply to this HSQ queue group queue.

Platforms

7750 SR-7/12/12e

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hs-wred-queue

Syntax

hs-wred-queue [**policy** *slope-policy-name*]

no hs-wred-queue

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue hs-wred-queue)

Full Context

configure qos queue-group-templates egress queue-group queue hs-wred-queue

Description

This command reverts the slope policy applied to the HSQ queue group queue to the default policy. Specifying an existing slope policy applies the named slope policy to the queue.

The **no** form of the command reverts to the default slope policy.

Default

hs-wred-queue policy "_tmnx_hs_default"

Parameters

slope-policy-name

Specifies an existing slope policy name to apply to this HSQ queue group queue.

Platforms

7750 SR-7/12/12e

19.106 hs-wred-queue-policy

hs-wred-queue-policy

Syntax

hs-wred-queue-policy *name*

no hs-wred-queue-policy

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue hs-wred-queue-policy)

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Full Context

configure subscriber-mgmt sla-profile egress qos queue hs-wred-queue-policy

Description

This command specifies the name of the slope-policy override to be applied for the HS queue of this SLA profile instance.

The **no** form of this command removes the policy name from the configuration.

Parameters

name

Specifies the policy name up to 32 characters.

Platforms

7750 SR-7/12/12e

19.107 hs-wrr-group

hs-wrr-group

Syntax

[**no**] **hs-wrr-group** *group-id*

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos hs-wrr-group)

Full Context

configure subscriber-mgmt sla-profile egress qos hs-wrr-group

Description

This command configures the egress HS WRR group override parameters.

The **no** form of this command removes the group ID from the configuration.

Parameters

group-id

Specifies the HS WRR group ID to override in the QoS policy table.

Values 1, 2

Platforms

7750 SR-7/12/12e

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hs-wrr-group

Syntax

hs-wrr-group *group-id* [**create**]

no hs-wrr-group *group-id*

Context

[Tree] (config>service>ipipe>sap>egress>queue-override hs-wrr-group)

[Tree] (config>service>epipe>sap>egress>queue-override hs-wrr-group)

Full Context

configure service ipipe sap egress queue-override hs-wrr-group

configure service epipe sap egress queue-override hs-wrr-group

Description

This command configures the egress HS WRR group override parameters.

The **no** form of this command removes the group ID from the configuration.

Parameters

group-id

Specifies the HS WRR group ID to override.

Values 1, 2

create

Keyword used to create an HSS WRR group. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7750 SR-7/12/12e

hs-wrr-group

Syntax

hs-wrr-group *group-id* [**create**]

no hs-wrr-group *group-id*

Context

[Tree] (config>service>vpls>sap>egress>queue-override hs-wrr-group)

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Full Context

configure service vpls sap egress queue-override hs-wrr-group

Description

This command configures the egress HS WRR group override parameters.

The **no** form of this command removes the group ID from the configuration.

Parameters

group-id

Specifies the HS WRR group ID to override.

Values 1, 2

create

Keyword used to create an HSS WRR group. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7750 SR-7/12/12e

hs-wrr-group

Syntax

hs-wrr-group *group-id* [**create**]

hs-wrr-group *group-id*

Context

[Tree] (config>service>ies>if>sap>egress>queue-override hs-wrr-group)

Full Context

configure service ies interface sap egress queue-override hs-wrr-group

Description

This command configures the egress HS WRR group override parameters.

The **no** form of this command removes the group ID from the configuration.

Parameters

group-id

Specifies the HS WRR group ID to override.

Values 1, 2

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Platforms

7750 SR-7/12/12e

hs-wrr-group

Syntax

hs-wrr-group *group-id* [**create**]

no hs-wrr-group *group-id*

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override hs-wrr-group)

Full Context

configure service vprn interface sap egress queue-override hs-wrr-group

Description

This command configures the egress HS WRR group override parameters.

The **no** form of this command removes the group ID from the configuration.

Parameters

group-id

Specifies the HS WRR group ID to override.

Values 1, 2

create

Keyword used to create the HS WRR group override instance.

Platforms

7750 SR-7/12/12e

hs-wrr-group

Syntax

[**no**] **hs-wrr-group** *group-id*

Context

[Tree] (config>qos>network-queue hs-wrr-group)

Full Context

configure qos network-queue hs-wrr-group

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Description

Commands in this context configure HS WRR group information in the network queue policy. This command provisions the rate and class weight of each of the two WRR scheduling groups that can be utilized by the egress queue-group instance HSQ queues.

The **no** form of the command reverts the HS WRR group parameters to their default values.

Parameters

group-id

Specifies the HS WRR group identifier. WRR group ID 1 or 2 must be specified when executing the **hs-wrr-group** command. The specified group ID identifies which WRR group context is entered for editing.

Values 1, 2

Platforms

7750 SR-7/12/12e

hs-wrr-group

Syntax

hs-wrr-group *group-id*

no hs-wrr-group

Context

[Tree] (config>qos>sap-egress hs-wrr-group)

Full Context

configure qos sap-egress hs-wrr-group

Description

Commands in this context configure HS WRR group information in the SAP egress QoS policy. The **hs-wrr-group** command is used to provision the rate and class weight of each of the two WRR scheduling groups that can be utilized by the SAP egress HSQ queues.

The **no** form of the command resets the HS WRR group parameters to their default values.

Parameters

group-id

Specifies the HS WRR group identifier. WRR group ID 1 or 2 must be specified when executing the **hs-wrr-group** command. The specified group ID identifies which WRR group context is entered for editing.

Values 1, 2

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Platforms

7750 SR-7/12/12e

hs-wrr-group

Syntax

[**no**] **hs-wrr-group** *group-id*

Context

[Tree] (config>qos>qgrps>egr>qgrp hs-wrr-group)

Full Context

configure qos queue-group-templates egress queue-group hs-wrr-group

Description

Commands in this context configure HS WRR group information in the egress queue group template. The **hs-wrr-group** command is used to provision the rate and class weight of each of the two WRR scheduling groups that can be utilized by the egress queue group instance HSQ queues.

The **no** form of the command resets the HS WRR group parameters to their default values.

Parameters

group-id

Specifies the HS WRR group identifier. WRR group ID 1 or 2 must be specified when executing the **hs-wrr-group** command. The specified group ID identifies which WRR group context is entered for editing.

Values 1, 2

Platforms

7750 SR-7/12/12e

19.108 hs-wrr-weight

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue hs-wrr-weight)

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Full Context

configure subscriber-mgmt sla-profile egress qos queue hs-wrr-weight

Description

This command configures the SLA profile instance WRR weight override for the HS queue. When a weight value is not specified, there is no override, meaning, the WRR weight is taken from the sap-egress policy.

The **no** form of this command removes the weight value from the configuration.

Parameters

weight

Specifies the class-weight override for expanded egress HS queues.

Values 1 to 127

Platforms

7750 SR-7/12/12e

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>service>ipipe>sap>egress>queue-override>queue hs-wrr-weight)

[Tree] (config>service>epipe>sap>egress>queue-override>queue hs-wrr-weight)

Full Context

configure service ipipe sap egress queue-override queue hs-wrr-weight

configure service epipe sap egress queue-override queue hs-wrr-weight

Description

This command overrides the WRR relative weight as defined within the associated HS attachment policy.

The **no** form of this command removes the WRR weight override value from the configuration.

Parameters

weight

Specifies the HS WRR group queue weight.

Values 1 to 127

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Platforms

7750 SR-7/12/12e

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>service>vpls>sap>egress>queue-override>queue hs-wrr-weight)

Full Context

configure service vpls sap egress queue-override queue hs-wrr-weight

Description

This command overrides the WRR relative weight with which this queue should parent into an HSQ WRR group defined within the associated HS attachment policy.

The **no** form of this command removes the WRR weight override value from the configuration.

Parameters

weight

Specifies the HS WRR group queue weight.

Values 1 to 127

Platforms

7750 SR-7/12/12e

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue hs-wrr-weight)

Full Context

configure service ies interface sap egress queue-override queue hs-wrr-weight

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Description

This command overrides the Weighted Round Robin (WRR) relative weight with which this queue should parent into an HSQ WRR group defined within the associated HS attachment policy.

The **no** form of this command removes the WRR weight override value from the configuration.

Parameters

weight

Specifies the HS WRR group queue weight.

Values 1 to 127

Platforms

7750 SR-7/12/12e

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue hs-wrr-weight)

Full Context

configure service vprn interface sap egress queue-override queue hs-wrr-weight

Description

This command overrides the WRR relative weight with which this queue should parent into an HSQ Weighted Round Robin (WRR) group defined within the associated HS attachment policy.

The **no** form of this command removes the WRR weight override value from the configuration.

Parameters

weight

Specifies the HS WRR group queue weight.

Values 1 to 127

Platforms

7750 SR-7/12/12e

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hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>qos>network-queue>queue hs-wrr-weight)

Full Context

configure qos network-queue queue hs-wrr-weight

Description

This command specifies the WRR relative weight, with which this queue should parent into an HSQ WRR group defined within the associated HS attachment policy. The weight of each queue determines how much bandwidth that queue gets out of the total rate for the HSQ WRR group.

The **no** form of the command reverts to the default value.

Default

hs-wrr-weight 1

Parameters

weight

Specifies the HS WRR group queue weight.

Values 1 to 127

Platforms

7750 SR-7/12/12e

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>qos>sap-egress>queue hs-wrr-weight)

Full Context

configure qos sap-egress queue hs-wrr-weight

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Description

This command specifies the WRR relative weight, with which this queue should parent into an HSQ WRR group defined within the associated HS attachment policy. The weight of each queue determines how much bandwidth that queue gets out of the total rate for the HSQ WRR group.

The **no** form of the command reverts to the default value.

Default

hs-wrr-weight 1

Parameters

weight

Specifies the HS WRR group queue weight.

Values 1 to 127

Platforms

7750 SR-7/12/12e

hs-wrr-weight

Syntax

hs-wrr-weight *weight*

no hs-wrr-weight

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue hs-wrr-weight)

Full Context

configure qos queue-group-templates egress queue-group queue hs-wrr-weight

Description

This command specifies the WRR relative weight, with which this queue should parent into an HSQ WRR group defined within the associated HS attachment policy. The weight of each queue determines how much bandwidth that queue gets out of the total rate for the HSQ WRR group.

The **no** form of the command reverts to the default value.

Default

hs-wrr-weight 1

Parameters

weight

Specifies HS WRR group queue weight.

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Values 1 to 127

Platforms

7750 SR-7/12/12e

19.109 http-auth

http-auth

Syntax

http-auth password *password* [**hash | hash2**]

http-auth username *user-name*

http-auth username *user-name* **password** *password* [**hash | hash2**]

no http-auth

Context

[Tree] (config>system>security>pki>est-profile http-auth)

Full Context

configure system security pki est-profile http-auth

Description

This command configures HTTP authentication parameters. HTTP authentication is used by a client when requested by the server. When disabled, there is no HTTP-level client authentication.

The **no** form of the command reverts to the default value.

Default

no http-auth

Parameters

password

Specifies a text string containing the password. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

user-name

Specifies the name of the user to authenticate, up to 32 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys

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are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

Platforms

All

19.110 http-connections

http-connections

Syntax

http-connections [*ip-address/prefix-length*]

http-connections any

http-connections [*ipv6-address/prefix-length*]

no http-connections

Context

[Tree] (debug>system http-connections)

Full Context

debug system http-connections

Description

This command displays HTTP connections debug information.

Parameters

ip-address/prefix-length

Displays information for the specified host IP address and prefix length.

Values ip-address: a.b.c.d

prefix-length: 0 to 32

any

Specifies that any address can be used.

ipv6-address/prefix-length

Displays information for the specified host IPv6 address and prefix length.

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Values ipv6-address:

- x:x:x:x:x:x:x:x: (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x [0 to FFFFF] H
- d [0 to 255] D

prefix-length: 0 to 128

Platforms

All

19.111 http-enrich

http-enrich

Syntax

http-enrich *http-enrich-name* [**create**]

no http-enrich *http-enrich-name*

Context

[Tree] (config>app-assure>group http-enrich)

Full Context

configure application-assurance group http-enrich

Description

This command configures an HTTP enrichment policy.

The **no** form of this command removes the http enrichment policy from the configuration.

Parameters

http-enrich-name

Specifies the name of the http enrichment policy up to 32 characters.

create

Mandatory keyword used when creating an application profile. The create keyword requirement can be enabled and disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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http-enrich

Syntax

http-enrich *http-enrich-name*

no http-enrich

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action http-enrich)

Full Context

configure application-assurance group policy app-qos-policy entry action http-enrich

Description

This command configures the HTTP header enrichment template name that will be applied as defined in the tmnxBsxHttpEnrichTable. An empty value specifies no HTTP header enrichment template.

Default

no http-enrich

Parameters

http-enrich-name

Specifies the HTTP header enrichment template name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.112 http-enrich-max-pkt

http-enrich-max-pkt

Syntax

[**no**] **http-enrich-max-pkt** *size*

Context

[Tree] (config>isa>aa-grp http-enrich-max-pkt)

Full Context

configure isa application-assurance-group http-enrich-max-pkt

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Description

This command configures the maximum HTTP enriched packet size.

Parameters

size

Specifies the maximum HTTP enriched packet size in octets.

Values 576 to 9212

Default 1500

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.113 http-error-redirect

http-error-redirect

Syntax

http-error-redirect *redirect-name* [**create**]

no http-error-redirect *redirect-name*

Context

[Tree] (config>app-assure>group http-error-redirect)

Full Context

configure application-assurance group http-error-redirect

Description

This command configures an HTTP error redirect policy. The policy contains important information relevant to the redirect server.

The **no** form of this command removes the redirect name from the group configuration.

Parameters

redirect-name

Specifies a string, up to 32 characters, that identifies the HTTP error redirect policy.

create

Keyword to create the HTTP error redirect policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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http-error-redirect

Syntax

http-error-redirect *redirect-name*

no http-error-redirect

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action http-error-redirect)

Full Context

configure application-assurance group policy app-qos-policy entry action http-error-redirect

Description

This command specifies the HTTP error redirect that will be applied as defined in the redirect table. An empty value specifies no HTTP error redirect.

Default

no http-error-redirect

Parameters

redirect-name

Specifies an http-error redirect action, up to 32 characters, for flows matching this entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.114 http-host

http-host

Syntax

http-host *http-host*

no http-host

Context

[Tree] (config>app-assure>group>http-error-redirect http-host)

Full Context

configure application-assurance group http-error-redirect http-host

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Description

This command refers to the http host name of the landing server (Barefruit or Xerocole). It is used in the HTTP GET operation from the client (which is being redirected) to the redirect search landing server. It must contain a valid IP address or HTTP host name / URI for the HTTP GET from the client to the landing server to work.

The **no** form of this command removes the HTTP host string from the configuration.

Default

no http-host

Parameters

http-host

Specifies a string of 255 chars max length, that refers to the HTTP host name of the landing server (barefruit or xerocole).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.115 http-host-recorder

http-host-recorder

Syntax

[**no**] **http-host-recorder**

Context

[Tree] (debug>app-assure>group http-host-recorder)

Full Context

debug application-assurance group http-host-recorder

Description

This command enables the http-host-recorder feature on a particular group:partition.

The **no** form of the command disables the http-host-recorder feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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19.116 http-listening-port

http-listening-port

Syntax

http-listening-port *http-listening-port*

no http-listening-port

Context

[Tree] (config>service>upnp>upnp-policy http-listening-port)

Full Context

configure service upnp upnp-policy http-listening-port

Description

This command specifies the listening port of UPnP server.

The **no** form of the command reverts to the default.

Default

http-listening-port 5000

Parameters

http-listening-port

Specifies the HTTP TCP port this UPnP IGD listens to.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.117 http-match-all-requests

http-match-all-requests

Syntax

[**no**] **http-match-all-requests**

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Context

[Tree] (config>app-assure>group http-match-all-requests)

[Tree] (config>app-assure>group>policy>app-filter>entry http-match-all-requests)

Full Context

configure application-assurance group http-match-all-requests

configure application-assurance group policy app-filter entry http-match-all-requests

Description

This command enables HTTP matching for all requests for a given HTTP expression.

The **no** form of this command restores the default (removes http-match-all-request for this particular expression) by this app-filter entry.

Default

no http-match-all-requests

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.118 http-notification

http-notification

Syntax

http-notification *http-notification-name* [**create**]

no http-notification *http-notification-name*

Context

[Tree] (config>app-assure>group http-notification)

Full Context

configure application-assurance group http-notification

Description

This command configures an http-notification object for subscriber in browser notification.

The **no** form of this command removes the http notification policy from the configuration.

Parameters

http-notification-name

Specifies the name of the HTTP Notification policy.

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create

Specifies the mandatory keyword to create the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

http-notification

Syntax

http-notification *http-notification*

no http-notification

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action http-notification)

Full Context

configure application-assurance group policy app-qos-policy entry action http-notification

Description

This command configures an HTTP notification action for flows matching this entry.

Default

no http-notification

Parameters

http-notification

specifies the Application-Assurance HTTP Notification that will be applied as defined in the tmnxBsxHttpNotifTable. If no string is configured then no HTTP notification will occur.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.119 http-port

http-port

Syntax

http-port {**eq** | **neq**} *port-num*

http-port {**eq** | **neq**} **port-list** *port-list-name*

no http-port

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Context

[Tree] (config>app-assure>group>policy>app-filter>entry http-port)

Full Context

configure application-assurance group policy app-filter entry http-port

Description

This command specifies an HTTP server TCP or UDP port number or port list to use in the application definition.

The **no** form of this command restores the default by removing the HTTP port or port list from the application criteria defined by this app-filter entry.

Default

no http-port

Parameters

eq

Specifies that the value configured and the value in the flow are equal.

neq

Specifies that the value configured differs from the value in the flow.

port-list-name

Specifies the name of the port list containing a set or range of ports, up to 32 characters.

port-num

Specifies a valid server port number.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.120 http-redirect

http-redirect

Syntax

http-redirect *redirect-name* [**create**]

no http-redirect *redirect-name*

Context

[Tree] (config>app-assure>group http-redirect)

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Full Context

configure application-assurance group http-redirect

Description

This command configures an HTTP redirect.

The **no** form of this command removes the HTTP redirect policy from the configuration.

Parameters

redirect-name

Specifies the HTTP redirect that will be applied. If no redirect name is specified, then HTTP redirect is not enabled.

create

Keyword to create the HTTP redirect policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

http-redirect

Syntax

http-redirect *http-redirect–name* **flow-type** *flow-type*

no http-redirect

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action http-redirect)

Full Context

configure application-assurance group policy app-qos-policy entry action http-redirect

Description

This command assigns an existing http redirect policy as an action on flows matching this AQP entry.

The redirect only takes effect if the matching flows are HTTP and the condition specified after the **http-redirect** command, admitted flows or dropped-flows, is met. The condition specified by "dropped-flows" means the flow is dropped due to an AQP actions such as "flow rate/count policers" or "drop" actions. HTTP Policy Redirect on admitted-flows allows the operator to redirect HTTP traffic to a web portal while allowing non-HTTP matching the same AQP rule to be forwarded.

No HTTP redirect will take place if HTTP redirect action and a "drop/flow-police" action are part of the default AQP policy, because in this case, any flow drop actions will take place before identification of the application/application-group.

The **no** form of this command removes http redirect from actions on flows matching this AQP entry.

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Default

no http-redirect

Parameters

http-redirect-name

Specifies the name of the existing http policy redirect for this application assurance profile. The HTTP redirect name is configured in the **config>app-assure>group>http-redirect** context.

flow-type

Specifies the flow type.

Values **admitted-flows** — Redirect HTTP flows matching the AQP criteria.

dropped-flows — Redirects those HTTP flows that are dropped due to an AQP action.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

http-redirect

Syntax

http-redirect *http-redirect-name*

Context

[Tree] (config>app-assure>group>sess-fltr>entry>action http-redirect)

Full Context

configure application-assurance group session-filter entry action http-redirect

Description

This command configures a session filter entry action to HTTP redirect the subscriber flows. The HTTP redirect policy referenced within this session filter entry is configured for captive redirect with the appropriate VLAN id assigned.

Parameters

http-redirect-name

Specifies the name of the http-redirect-policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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http-redirect

Syntax

http-redirect *http-redirect-name*

no http-redirect

Context

[Tree] (config>app-assure>group>url-filter http-redirect)

Full Context

configure application-assurance group url-filter http-redirect

Description

This command specifies the HTTP redirect that will be applied when the URL filter blocks an HTTP request.

Default

no http-redirect

Parameters

http-redirect-name

Specifies the HTTP redirect name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

http-redirect

Syntax

http-redirect *http-redirect-name*

no http-redirect

Context

[Tree] (config>app-assure>group>url-filter>web-service http-redirect)

[Tree] (config>app-assure>group>url-filter>local-filtering>deny-list http-redirect)

[Tree] (config>app-assure>group>url-filter>icap http-redirect)

Full Context

configure application-assurance group url-filter web-service http-redirect

configure application-assurance group url-filter local-filtering deny-list http-redirect

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configure application-assurance group url-filter icap http-redirect

Description

This command creates or modifies an HTTP redirect policy.

Default

no http-redirect

The **no** form of this command removes the HTTP redirect policy from the configuration.

Parameters

http-redirect-name

Specifies the name of the HTTP redirect policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

http-redirect

Syntax

http-redirect *rdr-url-string* [**allow-radius-override**]

http-redirect url-from-cpf

Context

[Tree] (config>filter>ipv6-filter>entry>action http-redirect)

[Tree] (config>filter>ip-filter>entry>action http-redirect)

Full Context

configure filter ipv6-filter entry action http-redirect

configure filter ip-filter entry action http-redirect

Description

This command sets the filter entry action to **http-redirect** and specifies the redirect URL.

Parameters

rdr-url-string

Specifies the HTTP redirect URL, up to 255 characters. This option can be used for any session.

Values The following macro substitutions may be used:

$URL — request-URI in the HTTP GET request received

$MAC — a string that represents the MAC address of the subscriber host

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$IP — a string that represents the IP address of the subscriber host

$SUB — a string that represents the subscriber ID

$SAP — a string that represents a SAP ID

$SAPDESC — description string configured on the SAP

$CID — a string that represents the circuit ID or interface ID of the subscriber host (hexadecimal format)

$RID — a string that represents the remote ID of the subscriber host (hexadecimal format)

allow-radius-override

Specifies that the HTTP redirect URL configured by *rdr-url-string* can be optionally overridden by a URL returned by the RADIUS server; this does not apply for the **url-from-cpf** option.

url-from-cpf

Specifies that the HTTP redirect URL is from the BNG CUPS CPF. This option can be used for BNG CUPS ESM sessions only.

Platforms

All

http-redirect

Syntax

http-redirect *url*

Context

[Tree] (config>filter>mac-filter>entry>action http-redirect)

Full Context

configure filter mac-filter entry action http-redirect

Description

This command sets the MAC filter entry action to HTTP redirect.

Parameters

url

Specifies the URL, up to 255 characters.

Platforms

All

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19.121 http-redirect-policy

http-redirect-policy

Syntax

http-redirect-policy *policy-name*

no http-redirect-policy

Context

[Tree] (config>subscr-mgmt http-redirect-policy)

Full Context

configure subscriber-mgmt http-redirect-policy

Description

This command configures the redirect policy to constrain forwarding of an unauthenticated "migrant" WIFI user.

Parameters

policy-name

Specifies the HTTP redirect policy name up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

http-redirect-policy

Syntax

http-redirect-policy *policy-name*

no http-redirect-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range http-redirect-policy)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range http-redirect-policy)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range http-redirect-policy

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range http-redirect-policy

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Description

This command specifies http redirect policy on ISA to redirect http traffic to the URL specified in the policy.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the name of the http redirect policy under subscriber-management context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

19.122 http-request-filtering

http-request-filtering

Syntax

http-request-filtering {**all** | **first**}

Context

[Tree] (config>app-assure>group>url-filter http-request-filtering)

Full Context

configure application-assurance group url-filter http-request-filtering

Description

HTTP Filtering can either be enabled for all HTTP request within a flow or limited to the first HTTP request in a flow.

Default

http-request-filtering all

Parameters

all

Specifies all HTTP Request within a flow.

first

Specifies the first HTTP Request within a flow.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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19.123 http-response-timeout

http-response-timeout

Syntax

http-response-timeout *timeout*

no http-response-timeout

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 http-response-timeout)

Full Context

configure system security pki ca-profile cmpv2 http-response-timeout

Description

This command specifies the timeout value for HTTP response that is used by CMPv2.

The **no** form of this command reverts to the default.

Default

http-response-timeout 30

Parameters

timeout

Specifies the HTTP response timeout in seconds.

Values 1 to 3600

Platforms

All

19.124 http-version

http-version

Syntax

http-version [**1.0** | **1.1**]

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Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 http-version)

Full Context

configure system security pki ca-profile cmpv2 http-version

Description

This command configures the HTTP version for CMPv2 messages.

Default

http-version 1.1

Platforms

All

19.125 http-x-online-host

http-x-online-host

Syntax

[**no**] **http-x-online-host**

Context

[Tree] (config>app-assure>group http-x-online-host)

Full Context

configure application-assurance group http-x-online-host

Description

This command specifies whether X-Online-Host header field is used as a replacement for the HTTP Host header field.

The **no** form of this command disables the use of X-Online-Host header field used as a replacement.

Default

no http-x-online-host

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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19.126 hw-agg-shaper-queues

hw-agg-shaper-queues

Syntax

[**no**] **hw-agg-shaper-queues** {**queue-set-size** *queue-set-size* | **non-shaper-queues**}

Context

[Tree] (cfg>qos>qgrps>egr>qgrp hw-agg-shaper-queues)

[Tree] (config>qos>sap-egress hw-agg-shaper-queues)

Full Context

configure qos queue-group-templates egress queue-group hw-agg-shaper-queues

configure qos sap-egress hw-agg-shaper-queues

Description

This command configures the pool of queue-set sizes or non-shaper queues from which the objects using this egress queue-group template draw their queues.

Default

no hw-agg-shaper-queues

Parameters

queue-set-size

Specifies the queue-set size to use for a specific egress queue-group template.

Values 2 to 8

non-shaper-queues

Keyword to use non-shaper queues for a specific egress queue-group template.

Platforms

7750 SR-1, 7750 SR-s

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19.127 hw-agg-shaper-scheduler-policy

hw-agg-shaper-scheduler-policy

Syntax

hw-agg-shaper-scheduler-policy *policy-name*

no hw-agg-shaper-scheduler-policy

Context

[Tree] (config>port>ethernet>egress hw-agg-shaper-scheduler-policy)

[Tree] (config>port>ethernet>access>egress>vport hw-agg-shaper-scheduler-policy)

Full Context

configure port ethernet egress hw-agg-shaper-scheduler-policy

configure port ethernet access egress vport hw-agg-shaper-scheduler-policy

Description

This command assigns a hardware aggregate shaper scheduler policy to the specified vport.

The **no** form removes the policy from the vport.

Parameters

policy-name

Specifies the policy name.

Platforms

7750 SR-1, 7750 SR-s

hw-agg-shaper-scheduler-policy

Syntax

hw-agg-shaper-scheduler-policy *policy-name* **[create]**

no hw-agg-shaper-scheduler-policy

Context

[Tree] (config>qos hw-agg-shaper-scheduler-policy)

Full Context

configure qos hw-agg-shaper-scheduler-policy

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Description

This command configures the name of the hardware aggregate shaper scheduler policy.

The **no** form removes the policy.

Parameters

policy-name

Specifies the policy name, up to 64 characters.

create

Creates a new policy.

Platforms

7750 SR-1, 7750 SR-s

19.128 hw-agg-shapers

hw-agg-shapers

Syntax

hw-agg-shapers [subscribers] [saps] [queue-groups]

no hw-agg-shapers

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers hw-agg-shapers)

Full Context

configure qos fp-resource-policy aggregate-shapers hw-agg-shapers

Description

This command enables the use of hardware aggregate shapers for subscribers, SAPs, or queue groups on the specified FP.

The **no** form of this command disables the use of hardware aggregate shapers on the specified FP.

Default

no hw-agg-shapers

Parameters

subscribers

Keyword to enable hardware aggregate shapers for subscribers.

saps

Keyword to enable hardware aggregate shapers for SAPs.

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queue-groups

Keyword to enable hardware aggregate shapers for queue groups.

Platforms

7750 SR-1, 7750 SR-s

19.129 hybrid-buffer-allocation

hybrid-buffer-allocation

Syntax

hybrid-buffer-allocation

Context

[Tree] (config>port hybrid-buffer-allocation)

Full Context

configure port hybrid-buffer-allocation

Description

Commands in this context configure hybrid port buffer allocation parameters.

Platforms

All

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20 i Commands – Part I

20.1 i-counters

i-counters

Syntax

i-counters [**all**]

no i-counters

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue i-counters)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue i-counters)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters

Description

This command configures ingress counter parameters for this custom record.

The **no** form of this command reverts to the default.

Parameters

all

Includes all counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

i-counters

Syntax

i-counters [**all**]

no i-counters

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Context

[Tree] (config>log>acct-policy>cr>ref-policer i-counters)

[Tree] (config>log>acct-policy>cr>policer i-counters)

[Tree] (config>log>acct-policy>cr>ref-queue i-counters)

[Tree] (config>log>acct-policy>cr>queue i-counters)

Full Context

configure log accounting-policy custom-record ref-policer i-counters

configure log accounting-policy custom-record policer i-counters

configure log accounting-policy custom-record ref-queue i-counters

configure log accounting-policy custom-record queue i-counters

Description

This command configures ingress counter parameters for this custom record.

The **no** form of this command reverts all ingress counters to their default value.

Default

i-counters

Parameters

all

Specifies that all ingress counters should be included.

Platforms

All

20.2 i-sid

i-sid

Syntax

i-sid *i-sid*

no i-sid

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>pbb i-sid)

[Tree] (config>test-oam>build-packet>header>pbb i-sid)

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Full Context

debug oam build-packet packet field-override header pbb i-sid

configure test-oam build-packet header pbb i-sid

Description

This command defines the iSID value to be used in the test PBB header.

The **no** form of this command reverts to the default value.

Default

i-sid 0

Parameters

i-sid

Specifies the iSID value to be used in the test PBB header.

Values 0 to 16777215

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.3 ia-na

ia-na

Syntax

ia-na

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client ia-na)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client ia-na)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na

Description

This command configures the IA-NA for the DHCPv6 client.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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20.4 ibgp-multipath

ibgp-multipath

Syntax

[**no**] **ibgp-multipath**

Context

[Tree] (config>service>vprn>bgp ibgp-multipath)

Full Context

configure service vprn bgp ibgp-multipath

Description

This command defines the type of IBGP multipath to use when adding BGP routes to the route table if the route resolving the BGP nexthop offers multiple next-hops.

The **no** form of this command disables the IBGP multipath load balancing feature.

Platforms

All

ibgp-multipath

Syntax

[**no**] **ibgp-multipath**

Context

[Tree] (config>router>bgp ibgp-multipath)

Full Context

configure router bgp ibgp-multipath

Description

This command enables IBGP multipath load balancing when adding BGP routes to the route table if the route resolving the BGP nexthop offers multiple next-hops.

The **no** form of this command disables the IBGP multipath load balancing feature.

Default

no ibgp-multipath

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Platforms

All

20.5 icmp

icmp

Syntax

icmp

Context

[Tree] (config>service>vprn>nw-if icmp)

[Tree] (config>service>vprn>if icmp)

[Tree] (config>service>ies>if icmp)

[Tree] (config>service>ies>sub-if>grp-if icmp)

Full Context

configure service vprn network-interface icmp

configure service vprn interface icmp

configure service ies interface icmp

configure service ies subscriber-interface group-interface icmp

Description

Commands in this context configure Internet Control Message Protocol (ICMP) parameters on a service.

Platforms

All

- configure service vprn network-interface icmp
- configure service vprn interface icmp
- configure service ies interface icmp

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface icmp

icmp

Syntax

icmp

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Context

[Tree] (config>subscr-mgmt>git>ipv4 icmp)

Full Context

configure subscriber-mgmt group-interface-template ipv4 icmp

Description

Commands in this context configure IPv4 Internet Control Message Protocol (ICMP) parameters.

Default

icmp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

icmp

Syntax

icmp

Context

[Tree] (config>router>if icmp)

Full Context

configure router interface icmp

Description

This command enables access to the context to configure Internet Control Message Protocol (ICMP) parameters on a network IP interface. ICMP is a message control and error reporting protocol that also provides information relevant to IP packet processing.

Platforms

All

icmp

Syntax

[**no**] **icmp**

Context

[Tree] (debug>router>ip icmp)

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Full Context
debug router ip icmp

Description
This command enables ICMP debugging.

Platforms
All

icmp

Syntax
[**no**] **icmp**

Context
[Tree] (config>sys>security>cpu-protection>ip>included-protocols icmp)

Full Context
configure system security cpu-protection ip-src-monitoring included-protocols icmp

Description
This command includes the extracted IPv4 ICMP packets for ip-src-monitoring. IPv4 ICMP packets will be subject to the per-source-rate of CPU protection policies.

Default
no icmp

Platforms
7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

icmp

Syntax
icmp

Context
[Tree] (config>test-oam icmp)

Full Context
configure test-oam icmp

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Description

Commands in this context configure test ICMP OAM parameters.

Platforms

All

20.6 icmp-code

icmp-code

Syntax

icmp-code *icmp-code*

no icmp-code

Context

[Tree] (config>filter>ipv6-exception>entry>match icmp-code)

[Tree] (config>filter>ipv6-filter>entry>match icmp-code)

[Tree] (config>filter>ip-exception>entry>match icmp-code)

[Tree] (config>filter>ip-filter>entry>match icmp-code)

Full Context

configure filter ipv6-exception entry match icmp-code

configure filter ipv6-filter entry match icmp-code

configure filter ip-exception entry match icmp-code

configure filter ip-filter entry match icmp-code

Description

Configures matching on /ICMPv6 code field in the /ICMPv6 header of an IPv4 or IPv6 packet as a filter match criterion or configures matching on the ICMP code field in the ICMP header of an IPv4 packet as an exception filter match criterion. An entry containing Layer 4 non-zero match criteria will not match non-initial (for example, 2nd, 3rd) fragments of a fragmented packet because only the first fragment contains the Layer 4 information. Similarly an entry containing " **icmp-code** 0" match criterion, may match non-initial fragments when the Layer 4 header is not present in a packet fragment and other match criteria are also met.

The **no** form of the command removes the criterion from the match entry.

Default

no icmp-code

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Parameters

icmp-code

Specifies the /ICMPv6 code value that must be present to match. Value can be expressed as a decimal integer, as well as in hexadecimal or binary format, or even using keywords. The following value shows decimal integer only.

Values 0 to 255

Platforms

VSR

- configure filter ip-exception entry match icmp-code
- configure filter ipv6-exception entry match icmp-code

All

- configure filter ip-filter entry match icmp-code
- configure filter ipv6-filter entry match icmp-code

icmp-code

Syntax

icmp-code *icmp-code*

no icmp-code

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match icmp-code)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match icmp-code)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match icmp-code)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match icmp-code)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match icmp-code

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match icmp-code

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match icmp-code

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match icmp-code

Description

This command configures the ICMP code match condition.

The **no** form of this command reverts to the default.

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Parameters

icmp-code

Specifies the ICMP code numbers accepted in DHB.

Values [0 to 255]D, [0X0..0XFF]H, [0b0..0b11111111]B

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

icmp-code

Syntax

icmp-code *icmp-code*

no icmp-code

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match icmp-code)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match icmp-code)

Full Context

configure system security cpm-filter ipv6-filter entry match icmp-code

configure system security cpm-filter ip-filter entry match icmp-code

Description

This command configures matching on ICMP code field in the ICMP header of an IP packet as an IP filter match criterion.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, and so on) fragments of a fragmented packet because only the first fragment contains the Layer 4 information.

The behavior of the **icmp-code** value is dependent on the configured **icmp-type** value, therefore, a configuration with only an **icmp-code** value specified will have no effect. To match on the **icmp-code**, an associated **icmp-type** must also be specified.

The **no** form of this command removes the criterion from the match entry.

Default

no icmp-code

Parameters

icmp-code

Specifies the ICMP code values that must be present to match.

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Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.7 icmp-echo-reply

icmp-echo-reply

Syntax

[**no**] **icmp-echo-reply**

Context

[Tree] (config>service>vprn>nat>outside>pool icmp-echo-reply)

[Tree] (config>router>nat>outside>pool icmp-echo-reply)

Full Context

configure service vprn nat outside pool icmp-echo-reply

configure router nat outside pool icmp-echo-reply

Description

IPv4 addresses in a NAT pool can be configured to respond to ICMP Echo Requests (PINGs). The configuration can be toggled online while the pool is in use.

In L2-aware NAT when **port-block-extensions** is disabled, the reply from an outside IP address is generated only when this IP address has at least one host (binding) behind it.

In L2-aware NAT when **port-block-extensions** is enabled, the reply from an outside IP address is generated regardless if a binding is present.

In LSN, the reply from an outside IP address is generated regardless if a binding is present.

The **no** form of the command disables ICMP echo replies.

Default

no icmp-echo-reply

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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20.8 icmp-generation

icmp-generation

Syntax

icmp-generation

Context

[Tree] (config>service>vprn>if>sap>ipsec-tunnel icmp-generation)

[Tree] (config>router>if>ipsec>ipsec-tunnel icmp-generation)

[Tree] (config>service>vprn>if>sap>ip-tunnel icmp-generation)

[Tree] (config>service>ies>if>sap>ip-tunnel icmp-generation)

[Tree] (config>ipsec>tunnel-template icmp-generation)

Full Context

configure service vprn interface sap ipsec-tunnel icmp-generation

configure router interface ipsec ipsec-tunnel icmp-generation

configure service vprn interface sap ip-tunnel icmp-generation

configure service ies interface sap ip-tunnel icmp-generation

configure ipsec tunnel-template icmp-generation

Description

This command enables the context to configure ICMP generation information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template icmp-generation
- configure service vprn interface sap ip-tunnel icmp-generation
- configure service ies interface sap ip-tunnel icmp-generation
- configure service vprn interface sap ipsec-tunnel icmp-generation

VSR

- configure router interface ipsec ipsec-tunnel icmp-generation

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20.9 icmp-ping

icmp-ping

Syntax

icmp-ping {*ip-address* | *dns-name*} [{**bypass-routing** | {**interface** *interface-name*} | {**next-hop** *ip-address*}}] [**count** *requests*] [**do-not-fragment**] [**fc** *fc-name*] [**interval** { *centisecs* | *secs*}] [**pattern** *pattern*] [**rapid**] [{ **router** *router-or-service* | **router-instance** *router-instance* | **service-name** *service-name*}] [**size** *bytes*] [**source** *ip-address*] [**timeout** *timeout*] [**tos** *type-of-service*] [**ttl** *time-to-live*]

Context

[Tree] (config>saa>test>type icmp-ping)

Full Context

configure saa test type icmp-ping

Description

This command configures an ICMP traceroute test.

Parameters

ip-address* | *dns-name

Specifies the far-end IP address or DNS name to which to send the **svc-ping** request message in dotted-decimal notation.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
	interface	up to 32 characters. This is mandatory for link local addresses.
dns-name	up to 128 characters	

bypass-routing

Specifies whether to send the ping request to a host on a directly attached network bypassing the routing table.

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interface-name

Specifies the name used to refer to the interface, up to 32 characters. The name must already exist in the **config>router>interface** context.

next-hop *ip-address*

Displays only static routes with the specified next-hop IP address.

Values

ipv4-address:	a.b.c.d (host bits must be 0)
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

requests

Specifies the number of times to perform an OAM ping probe operation. Each OAM echo message request must either time out or receive a reply before the next message request is sent.

Values 1 to 100000

Default 5

do-not-fragment

Sets the DF (Do Not Fragment) bit in the ICMP ping packet (does not apply to ICMPv6).

fc-name

Specifies the forwarding class of the SAA.

Values be, l2, af, l1, h2, ef, h1, nc

Default nc

interval {*centisecs* | *secs*}

Specifies the minimum amount of time, in seconds, that must expire before the next message request is sent. If the **rapid** parameter is configured, this value is measured in centiseconds (hundredths of a second) instead of seconds.

Values 1 to 10000

Default 1

pattern

Specifies the date portion in a ping packet is filled with the pattern value specified. If not specified, a system-generated sequential pattern is used.

Values 0 to 65535

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rapid

Configures the *interval* parameter to use centiseconds (hundredths of a second) instead of seconds.

router-or-service

Specifies the numerical reference to the router instance or service. Well known router names "Base", "management", "vpm-vr-name", and " vpls-management" are allowed for convenience, but are mapped numerically.

Values {*router-name* | *vprn-svc-id*}

router-name: Base, management, cmp-vr-name, vpls-management

vprn-svc-id: 1 to 2147483647

cpm-vr-name: Up to 32 characters

The parameter *router-instance* is preferred for specifying the router or service.

Default Base

router-instance

Specifies the preferred method for entering a service name. Stored as the service name. Only the service linking function is allowed for both mixed-mode and model-driven configuration modes.

Values *router-name*, *vprn-svc-name*

router-name: Base, management, vpls-management, *cpm-vr-name*

vprn-svc-name: up to 64 characters

cpm-vr-name: up to 32 characters

service-name

Specifies the alias function that allows the service name to be used, converted and stored as a service ID, up to 64 characters.

The *router-instance* parameter is preferred for specifying the router or service.

bytes

Specifies the request packet size in bytes, expressed as a decimal integer.

Values 0 to 16384

Default 56

source *ip-address*

Specifies the IP address to be used.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x

x:x:x:x:x:x:d.d.d.d

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x: [0 to FFFF]H

d: [0 to 255]D

timeout

Specifies the override time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of the time out, the test is marked complete and no more packets are processed for any of those request probes.

Values 1 to 10

Default 5

type-of-service

Specifies the service type.

Values 0 to 255

Default 0

time-to-live

Specifies the TTL value for the MPLS label, expressed as a decimal integer.

Values 1 to 128

Default 64

Platforms

All

20.10 icmp-query

icmp-query

Syntax

icmp-query [**min** *minutes*] [**sec** *seconds*]

no icmp-query

Context

[Tree] (config>service>nat>nat-policy>timeouts icmp-query)

[Tree] (config>service>nat>up-nat-policy>timeouts icmp-query)

Full Context

configure service nat nat-policy timeouts icmp-query

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configure service nat up-nat-policy timeouts icmp-query

Description

This command configures the timeout applied to an ICMP query session.

Default

icmp-query min 1

Parameters

min *minutes*

Specifies the timeout, in minutes, applied to an ICMP query session.

Values 1 to 4

Default 1

sec *seconds*

Specifies the timeout, in seconds, applied to an ICMP query session.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.11 icmp-trace

icmp-trace

Syntax

icmp-trace [*ip-address* | *dns-name*] [**router** *router-or-service* | **router-instance** *router-instance* | **service-name** *service-name*] [**source** *ip-address*] [**tos** *type-of-service*] [**ttl** *ttl*] [**wait** *milliseconds*]

Context

[Tree] (config>saa>test>type icmp-trace)

Full Context

configure saa test type icmp-trace

Description

This command configures an ICMP traceroute test.

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Parameters

ip-address

Specifies the far-end IP address to which to send the **svc-ping** request message in dotted-decimal notation.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
dns-name	up to 63 characters	

dns-name

Specifies the DNS name of the far-end device to which to send the **svc-ping** request message, up to 63 characters.

router-instance

Specifies the preferred method for entering a service name. Stored as the service name. Only the service linking function is allowed for both mixed-mode and model-driven configuration modes.

Values {*router-name* | *vprn-svc-name*}

router-name: Base, management, vpls-management, *cpm-vr-name*

vprn-svc-name: up to 64 characters

cpm-vr-name: up to 32 characters

Default Base

router-or-service

Specifies the numerical reference to the router instance or service. Well known router names "Base", "management" and " vpls-management" are allowed for convenience, but are mapped numerically.

Values {*router-name* | *vprn-svc-id*}

router-name: Base, management, vpls-management

vprn-svc-id: 1 to 2147483647

The parameter *router-instance* is preferred for specifying the router or service.

Default Base

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service-name

Specifies the alias function that allows the service name to be used, converted and stored as service ID, up to 64 characters.

The parameter *router-instance* is preferred for specifying the router or service.

source *ip-address*

Specifies the IP address to be used.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

type-of-service

Specifies the service type.

Values 0 to 255

Default 0

ttl

Specifies the TTL value for the MPLS label, expressed as a decimal integer.

Values 1 to 255

Default 30

milliseconds

Specifies the time, in milliseconds, to wait for a response to a probe, expressed as a decimal integer.

Values 10 to 60000

Default 5000

Platforms

All

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20.12 icmp-tunneling

icmp-tunneling

Syntax

[**no**] **icmp-tunneling**

Context

[Tree] (config>router icmp-tunneling)

Full Context

configure router icmp-tunneling

Description

This command enables the tunneling of ICMP reply packets over MPLS LSP at a LSR node as per RFC 3032.

The LSR part of this feature consists of crafting the reply ICMP packet of type=11- 'time exceeded', with a source address set to a local address of the LSR node, and appending the IP header and leading payload octets of the original datagram. The system skips the lookup of the source address of the sender of the label TTL expiry packet, which becomes the destination address of the ICMP reply packet. Instead, CPM injects the ICMP reply packet in the forward direction of the MPLS LSP the label TTL expiry packet was received from. The TTL of pushed labels should be set to 255.

The source address of the ICMP reply packet is determined as follows. The LSR uses the address of the outgoing interface for the MPLS LSP. With LDP LSP or BGP LSP multiple ECMP next-hops can exist and in such a case the first outgoing interface is selected. If that interface does not have an address of the same family (IPv4 or IPv6) as the ICMP packet, then the system address of the same family is selected. If one is not configured, the packet is dropped.

When the packet is received by the egress LER, it performs a regular user packet lookup in the data path in the GRT context for BGP shortcut, 6PE, and BGP label route prefixes, or in VPRN context for VPRN and 6VPE prefixes. It then forwards it to the destination, which is the sender of the original packet which TTL expired at the LSR.

If the egress LER does not have a route to the destination of the ICMP packet, it drops the packets.

The rate of the tunneled ICMP replies at the LSR can be directly or indirectly controlled by the existing IOM level and CPM levels mechanisms. Specifically, the rate of the incoming UDP traceroute packets received with a label stack can be controlled at ingress IOM using the distributed CPU protection feature. The rate of the ICMP replies by CPM can also be directly controlled by configuring a system wide rate limit for packets ICMP replies to MPLS expired packets which are successfully forwarded to CPM using the command 'configure system security vprn-network-exceptions'. While this command's name refers to VPRN service, this feature rate limits ICMP replies for packets received with any label stack, including VPRN and shortcuts.

The 7450 ESS, 7750 SR, and 7950 XRS implementation supports appending to the ICMP reply of type Time Exceeded the MPLS label stack object defined in RFC 4950. It does not include it in the ICMP reply type of Destination unreachable.

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The new MPLS Label Stack object permits an LSR to include label stack information including label value, EXP, and TTL field values, from the encapsulation header of the packet that expired at the LSR node. The ICMP message continues to include the IP header and leading payload octets of the original datagram.

In order to include the MPLS Label Stack object, SR OS implementation adds support of RFC 4884 which defines extensions for a multi-part ICMPv4/v6 message of type Time Exceeded.

The **no** form of command disables the tunneling of ICMP reply packets over MPLS LSP at a LSR node.

Default

no icmp-tunneling

Platforms

All

20.13 icmp-type

icmp-type

Syntax

icmp-type *icmp-type*

no icmp-type

Context

[Tree] (config>filter>ip-exception>entry>match icmp-type)

[Tree] (config>filter>ipv6-filter>entry>match icmp-type)

[Tree] (config>filter>ip-filter>entry>match icmp-type)

[Tree] (config>filter>ipv6-exception>entry>match icmp-type)

Full Context

configure filter ip-exception entry match icmp-type

configure filter ipv6-filter entry match icmp-type

configure filter ip-filter entry match icmp-type

configure filter ipv6-exception entry match icmp-type

Description

This command configures matching on the /ICMPv6 type field in the /ICMPv6 header of an IPv4 or IPv6 packet as a filter match criterion or configures matching on the ICMP type field in the ICMP header of an IPv4 packet as an exception filter match criterion. An entry containing Layer 4 non-zero match criteria will not match non-initial (2nd, 3rd, etc.) fragments of a fragmented packet because only the first fragment contains the Layer 4 information. Similarly an entry containing " **icmp-type** 0" match criterion, may match non-initial fragments when the Layer 4 header is not present in a packet fragment and other match criteria are also met.

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The **no** form of the command removes the criterion from the match entry.

Default

no icmp-type

Parameters

icmp-type

Specifies the /ICMPv6 type value that must be present to match. Value can be expressed as a decimal integer, as well as in hexadecimal or binary format, or even using keywords. The following value shows decimal integer only.

Values 0 to 255

Platforms

VSR

- configure filter ip-exception entry match icmp-type
- configure filter ipv6-exception entry match icmp-type

All

- configure filter ipv6-filter entry match icmp-type
- configure filter ip-filter entry match icmp-type

icmp-type

Syntax

icmp-type *icmp-type*

no icmp-type

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match icmp-type)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match icmp-type)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match icmp-type)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match icmp-type)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match icmp-type

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match icmp-type

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match icmp-type

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configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match icmp-type

Description

This command configures the ICMP type match condition.

The **no** form of this command reverts to the default.

Parameters

icmp-type

Specifies the ICMP type numbers accepted in DHB.

Values [0 to 255]D, [0X0..0XFF]H, [0b0..0b11111111]B

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

icmp-type

Syntax

icmp-type *icmp-type*

no icmp-type

Context

[Tree] (config>qos>network>egress>ip-criteria>entry>match icmp-type)

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match icmp-type)

Full Context

configure qos network egress ip-criteria entry match icmp-type

configure qos network egress ipv6-criteria entry match icmp-type

Description

This command configures matching on the ICMP or ICMPv6 type field in the ICMP or ICMPv6 header of an IPv4 or IPv6 packet as a network QoS match criterion.

An entry containing Layer 4 non-zero match criteria will not match non-initial (2nd, 3rd, etc.) fragments of a fragmented packet since only the first fragment contains the Layer 4 information. Similarly, an entry containing " **icmp-type** 0" match criterion, may match non-initial fragments when the Layer 4 header is not present in a packet fragment and other match criteria are also met.

The **no** form of the command removes the criterion from the match entry.

Default

no icmp-type

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Parameters

icmp-type

Specifies the ICMP or ICMPv6 type value that must be present to match. Value can be expressed as a decimal integer, or in hexadecimal or binary format, or even using keywords.

Values 0 to 255 (Decimal)
0 to FF (Hexadecimal)
0 to 11111111 (Binary)

Platforms

All

icmp-type

Syntax

icmp-type *icmp-type*

no icmp-type

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match icmp-type)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match icmp-type)

Full Context

configure system security cpm-filter ipv6-filter entry match icmp-type

configure system security cpm-filter ip-filter entry match icmp-type

Description

This command configures matching on ICMP type field in the ICMP header of an IP packet as an IP filter match criterion.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The **no** form of this command removes the criterion from the match entry.

Default

no icmp-type

Parameters

icmp-type

Specifies the ICMP type values that must be present to match.

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Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.14 icmp6

icmp6

Syntax

icmp6

Context

[Tree] (config>service>vprn>if>ipv6 icmp6)

[Tree] (config>service>ies>if>ipv6 icmp6)

Full Context

configure service vprn interface ipv6 icmp6

configure service ies interface ipv6 icmp6

Description

This command configures ICMPv6 parameters for the interface.

Platforms

All

icmp6

Syntax

icmp6

Context

[Tree] (config>router>if>ipv6 icmp6)

Full Context

configure router interface ipv6 icmp6

Description

Commands in this context configure ICMPv6 parameters for the interface.

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Platforms

All

icmp6

Syntax

icmp6 [*ip-int-name*]

no icmp6

Context

[Tree] (debug>router>ip icmp6)

Full Context

debug router ip icmp6

Description

This command enables ICMPv6 debugging.

Platforms

All

20.15 icmp6-generation

icmp6-generation

Syntax

icmp6-generation

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn icmp6-generation)

[Tree] (config>service>vprn>if>sap>ip-tunnel icmp6-generation)

[Tree] (config>service>vprn>if>sap>ipsec-tun icmp6-generation)

[Tree] (config>service>ies>if>sap>ip-tunnel icmp6-generation)

[Tree] (config>router>if>ipsec>ipsec-tunnel icmp6-generation)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel icmp6-generation)

[Tree] (config>ipsec>tnl-temp icmp6-generation)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel icmp6-generation)

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Full Context

configure router interface ipsec ipsec-tunnel dyn icmp6-generation

configure service vprn interface sap ip-tunnel icmp6-generation

configure service vprn interface sap ipsec-tunnel icmp6-generation

configure service ies interface sap ip-tunnel icmp6-generation

configure router interface ipsec ipsec-tunnel icmp6-generation

configure service vprn interface ipsec ipsec-tunnel icmp6-generation

configure ipsec tunnel-template icmp6-generation

configure service ies interface ipsec ipsec-tunnel icmp6-generation

Description

This command enables the ICMPv6 packet generation configuration context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template icmp6-generation
- configure service vprn interface sap ipsec-tunnel icmp6-generation
- configure service vprn interface sap ip-tunnel icmp6-generation
- configure service ies interface sap ip-tunnel icmp6-generation

VSR

- configure router interface ipsec ipsec-tunnel icmp6-generation
- configure service ies interface ipsec ipsec-tunnel icmp6-generation
- configure service vprn interface ipsec ipsec-tunnel icmp6-generation

20.16 icmp6-query

icmp6-query

Syntax

icmp6-query [**min** *minutes*] [**sec** *seconds*]

no icmp6-query

Context

[Tree] (config>service>nat>firewall-policy>timeouts icmp6-query)

Full Context

configure service nat firewall-policy timeouts icmp6-query

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Description

This command configures the timeout interval for ICMPv6 query mappings.

The **no** form of the command reverts the timeout interval to the default of 1 minute.

Default

icmp6-query min 1

Parameters

minutes

Specifies the number of minutes in the ICMP query mapping timeout interval.

Values 1 to 4

seconds

Specifies the number of seconds in the ICMP query mapping timeout interval.

Values 0 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.17 icmpv6-reply-on-filtering-and-unknown-sessions

icmpv6-reply-on-filtering-and-unknown-sessions

Syntax

[**no**] **icmpv6-reply-on-filtering-and-unknown-sessions**

Context

[Tree] (config>isa>nat-group icmpv6-reply-on-filtering-and-unknown-sessions)

Full Context

configure isa nat-group icmpv6-reply-on-filtering-and-unknown-sessions

Description

This command suppresses the ICMPv6 response when a packet is dropped because of an unknown-sessions filtering restriction.

By default, IPv6 stateful inbound filtering responds to packets originating from the outside that are dropped because of a **no matching session** or filtering restrictions with an ICMPv6 Destination Unreachable Message (Type 1, Code 1): **Communication with destination administratively prohibited**.

These ICMPv6 messages are rate-limited.

This command is applicable to all IPv6 traffic arriving from the outside in this NAT group.

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The **no** form of this command allows the ICMPv6 response when a packet is dropped.

Default

no icmpv6-reply-on-filtering-and-unknown-sessions

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.18 id

id

Syntax

[**no**] **id** *service-id*

Context

[Tree] (debug>service id)

Full Context

debug service id

Description

This command enables debugging for the specified service ID.

The **no** form of this command disables the debugging.

Parameters

service-id

The ID that uniquely identifies a service.

Values service-id: 1 to 214748364

svc-name: A string up to 64 characters in length

Platforms

All

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20.19 id-permission

id-permission

Syntax

id-permission {**chassis**}

no id-permission

Context

[Tree] (cfg>eth-cfm>domain>assoc>bridge id-permission)

Full Context

configure eth-cfm domain association bridge-identifier id-permission

Description

This command allows the operator to include the sender-id TLV information that was specified under the **config>eth>system>sender-id** configuration for service MEPs and MIPs. When this option is present under the maintenance association, the specific MPs in the association includes the **sender-id** TLV information in ETH-CFM PDUs. MEPs include the **sender-id** TLV for CCM (not sub second CCM enabled MEPs), LBM/LBR, and LTM/LTR. MIPs includes this value in the LBR and LTR PDUs.

Note:
LBR functions reflect all TLVs received in the LBM unchanged including the SenderID TLV. Transmission of the Management Domain and Management Address fields are not supported in this TLV.

Parameters

chassis

Sends the configured chassis information defined under in the **eth-cfm>system>sender-id** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

id-permission

Syntax

id-permission {**chassis** | **defer**}

no id-permission

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Context

[Tree] (config>eth-cfm>default-domain>bridge-identifier id-permission)

Full Context

configure eth-cfm default-domain bridge-identifier id-permission

Description

This command enables the inclusion of the Sender ID TLV information specified under the **config**>**eth**>**system**>**sender-id** command for installed MEPs and MIPs. The inclusion of the Sender ID TLV is based on the configured value. The Sender ID TLV is supported for ETH-CC, ETH-LB, and ETH-LB PDUs.

Note: LBR functions reflect back all TLVs received in the LBM, unchanged, including the Sender ID TLV. Transmission of the Management Domain and Management Address fields are not supported in this TLV.

The **no** form of this command disables the inclusion of the Sender ID TLV.

Default

id-permission defer (config>eth-cfm>default-domain>bridge-identifier)

no id-permission (config>eth-cfm>domain>association>bridge)

Parameters

chassis

Keyword to include the Sender ID TLV with a value equal to the *sender-id* configured under the eth-cfm>system context.

defer

Keyword to specify that **id-permission** will inherit the value from the global read-only system values.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.20 identification-strings

identification-strings

Syntax

identification-strings *option-number* [**create**]

no identification-strings

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host identification-strings)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host identification-strings)

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Full Context

configure subscriber-mgmt local-user-db ipoe host identification-strings

configure subscriber-mgmt local-user-db ppp host identification-strings

Description

This command specifies identification strings for the subscriber. This is useful when the server is centralized with Enhanced Subscriber Management (ESM) in a lower level in the network. These strings are parsed by a downstream Python script or they can be used literally if the **strings-from-option** option in the **config>subscr-mgmt>sub-ident-policy** context is set to this option number. In this case, the option number may be set to any allowed number (between 224 and 254 is suggested, as these are not dedicated to specific purposes). If the option number is not given, a default value of 254 is used. For PPPoE only, if the local user database is attached to the PPPoE node under the group interface and not to a local DHCP server, the strings are used internally so the option number is not used.

The **no** form of this command returns to the default.

Parameters

option-number

Specifies identification strings for the subscriber.

Values 1 to 254

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.21 idi

idi

Syntax

idi any

idi ipv4-prefix {**any** | *ipv4-prefix/ipv4-prefix-length*}

idi ipv6-prefix {**any** | *ipv6-prefix/ipv6-prefix-length*}

idi string-type *string-type* **string-value** *string-value*

no idi

Context

[Tree] (config>ipsec>client-db>client>client-id idi)

Full Context

configure ipsec client-db client client-identification idi

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Description

This command specifies a match criteria that uses the peer's identification initiator (IDi) as the input, only one IDi criteria can be configured for a given client entry. This command supports the following matching methods:

- **idi any**: Matches any type of IDi with any value.
- **idi ipv4-prefix**: Matches an IDi with the type ID_IPV4_ADDR. If the **any** parameter is specified, then it will match any IPv4 address. If an IPv4 prefix is specified, then it will match an IPv4 address that is within the specified prefix.
- **idi ipv6-prefix**: Matches an IDi with the type ID_IPV6_ADDR. If the **any** parameter is specified, then it will match any IPv6 address. If an IPv6 prefix is specified, then it will match an IPv6 address that is within the specified prefix.
- **idi string-type**: Supports following type of IDi:
  - FQDN: Either a full match or a suffix match
  - RFC822: Either a full match or a suffix match

The **no** form of this command reverts to the default.

Default

no idi

Parameters

any

Matches any type of IDi with any value.

ipv4-prefix/ipv4-prefix-length

Matches any IPv4 address and prefix.

ipv6-prefix/ipv6-prefix-length

Matches any IPv6 address and prefix.

string-type

Matches the type of IDi value for this IPsec client entry.

Values fqdn, fqdn-suffix, rfc822, rfc822-suffix, regexp

string-value

Matches the IDi value within the client ID for this IPsec client entry up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

idi

Syntax

[**no**] **idi**

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Context

[Tree] (config>ipsec>client-db>match-list idi)

Full Context

configure ipsec client-db match-list idi

Description

This command enables the Identification Initiator (IDi) type in the IPsec client matching process.

The **no** form of this command disables the IDi matching process.

Default

no idi

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.22 idle-cycle-flag

idle-cycle-flag

Syntax

idle-cycle-flag {**flags** | **ones**}

no idle-cycle-flag

Context

[Tree] (config>port>tdm>e3 idle-cycle-flag)

[Tree] (config>port>tdm>ds3 idle-cycle-flag)

Full Context

configure port tdm e3 idle-cycle-flag

configure port tdm ds3 idle-cycle-flag

Description

This command configures the value that the HDLC TDM DS-0, E-3, or DS-3 interface transmits during idle cycles. For ATM ports/channels/channel-groups, the configuration does not apply and only the no form is accepted.

The **no** form of this command reverts the idle cycle flag to the default value.

Default

flags (0x7E)

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no flags (ATM)

Parameters

flags

Specifies that 0x7E is used as the idle cycle flag.

ones

Specifies that 0xFF is used as the idle cycle flag.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

20.23 idle-filter

idle-filter

Syntax

[**no**] **idle-filter**

Context

[Tree] (config>service>vpls>gsmp>group idle-filter)

[Tree] (config>service>vprn>gsmp>group idle-filter)

Full Context

configure service vpls gsmp group idle-filter

configure service vprn gsmp group idle-filter

Description

This command when applied will filter out new incoming ANCP messages while the subscriber DSL-line-state is idle. The command takes effect at the time that it is applied. Existing subscribers already in idle state are not purged from the database.

The **no** form of this command reverts to the default.

Platforms

All

idle-filter

Syntax

[**no**] **idle-filter**

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Context

[Tree] (config>service>vpls>gsmp idle-filter)

Full Context

configure service vpls gsmp idle-filter

Description

This command when applied will filter out new subscriber’s ANCP messages from subscriber with "DSL-line-state” IDLE.

Default

no idle-filter

Platforms

All

idle-filter

Syntax

idle-filter

no idle-filter

Context

[Tree] (config>service>vprn>gsmp idle-filter)

Full Context

configure service vprn gsmp idle-filter

Description

This command when applied will filter out new subscriber’s ANCP messages from subscriber with "DSL-line-state” IDLE.

Default

no idle-filter

Platforms

All

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20.24 idle-time

idle-time

Syntax

idle-time *idle*

no idle-time

Context

[Tree] (config>system>telemetry>destination-group>tcp-keepalive idle-time)

[Tree] (config>system>grpc-tunnel>destination-group>tcp-keepalive idle-time)

[Tree] (config>system>grpc>tcp-keepalive idle-time)

Full Context

configure system telemetry destination-group tcp-keepalive idle-time

configure system grpc-tunnel destination-group tcp-keepalive idle-time

configure system grpc tcp-keepalive idle-time

Description

This command configures the amount of time, in seconds, that the connection must remain idle before TCP keepalive probes are sent.

The **no** form of this command reverts to the default value.

Default

idle-time 600

Parameters

idle

Specifies the number of seconds before the first TCP keepalive probe is sent.

Values 1 to 100000

Default 600

Platforms

All

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20.25 idle-timeout

idle-timeout

Syntax

idle-timeout *idle-timeout*

idle-timeout infinite

no idle-timeout

Context

[Tree] (config>service>vprn>l2tp>group>tunnel idle-timeout)

[Tree] (config>router>l2tp>group idle-timeout)

[Tree] (config>router>l2tp>group>tunnel idle-timeout)

[Tree] (config>service>vprn>l2tp>group idle-timeout)

[Tree] (config>service>vprn>l2tp idle-timeout)

Full Context

configure service vprn l2tp group tunnel idle-timeout

configure router l2tp group idle-timeout

configure router l2tp group tunnel idle-timeout

configure service vprn l2tp group idle-timeout

configure service vprn l2tp idle-timeout

Description

This command configures the period of time that an established tunnel with no active sessions persists before being disconnected.

Enter the **no** form of this command to maintain a persistent tunnel.

The **no** form of this command removes the idle timeout from the configuration.

Default

no idle-timeout

Parameters

idle-timeout

Specifies the idle timeout value, in seconds until the group is removed.

Default no idle-timeout

Values 0 to 3600

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infinite

Specifies that the tunnel is not closed when idle.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

idle-timeout

Syntax

idle-timeout *timeout*

no idle-timeout

Context

[Tree] (config>subscr-mgmt>sla-prof>cat-map>category idle-timeout)

Full Context

configure subscriber-mgmt sla-profile category-map category idle-timeout

Description

This command defines the idle-timeout value.

The **no** form of this command reverts to the default.

Parameters

timeout

Specifies the idle-timeout, in seconds.

Values 60 to 15552000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

idle-timeout

Syntax

idle-timeout action *idle-timeout-action*

no idle-timeout

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range idle-timeout)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range idle-timeout)

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Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range idle-timeout

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range idle-timeout

Description

This command specifies idle-timeout behavior for DSM UEs and UEs undergoing (ISA-based) portal authentication. This knob only specifies the desired action, idle-timeout is activated by RADIUS on a per-UE basis.

The **no** form of this command resets the idle-timeout to its default.

Default

idle-timeout action remove

Parameters

action

Specifies which action to perform when the idle-timeout timer goes off.

Values remove, shcv

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

idle-timeout

Syntax

idle-timeout {*minutes* | **disable**}

no idle-timeout

Context

[Tree] (config>system>login-control idle-timeout)

Full Context

configure system login-control idle-timeout

Description

This command configures the idle timeout for console, FTP, Telnet, and SSH sessions before the session is terminated by the system.

By default, each idle console, FTP, Telnet, and SSH session times out after 30 minutes of inactivity.

The **no** form of this command reverts to the default value.

Default

idle-timeout 30

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Parameters

minutes

Specifies the idle timeout in minutes. Allowed values are 1 to 1440.

Values 1 to 1440

disable

When the **disable** option is specified, a session will never timeout. To re-enable idle timeout, enter the command without the disable option.

Platforms

All

idle-timeout

Syntax

idle-timeout *idle-timeout*

no idle-timeout

Context

[Tree] (configure>system>netconf>listen idle-timeout)

[Tree] (configure>system>netconf>call-home>netconf-client idle-timeout)

Full Context

configure system netconf listen idle-timeout

configure system netconf call-home netconf-client idle-timeout

Description

This command configures the idle timeout (in minutes) for sessions. If no messages are received during the configured idle timeout period, the session is terminated.

The **no** form of this command removes the configured idle timeout.

Default

no idle-timeout

Parameters

idle-timeout

Specifies the idle timeout for sessions in minutes.

Values 0 to 10080

Platforms

All

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20.26 idle-timeout-action

idle-timeout-action

Syntax

idle-timeout-action {**shcv-check** | **terminate**}

no idle-timeout-action

Context

[Tree] (config>subscr-mgmt>sla-prof>cat-map>category idle-timeout-action)

Full Context

configure subscriber-mgmt sla-profile category-map category idle-timeout-action

Description

This command defines the action to be executed when the idle-timeout is reached. The action is performed for all hosts associated with the sla-profile instance.

The **no** form of this command reverts to the default.

Default

idle-timeout-action terminate

Parameters

shcv-check

Performs a subscriber host connectivity verification check (IPoE hosts only).

Note:
Host connectivity verification must be enabled on the group-interface where the host is connected.

If the check is successful, the hosts are not disconnected and the idle-timeout timer is reset.

If the check fails, the hosts are deleted, similar as for **idle-timeout-action terminate**.

terminate

Deletes the subscriber host from the system: for PPP hosts, a terminate request is send; for IPoE hosts a DHCP release is send to the DHCP server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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20.27 idle-timeout-policy

idle-timeout-policy

Syntax

idle-timeout *policy-name* [**create**]

no idle-timeout *policy-name*

Context

[Tree] (config>subscr-mgmt idle-timeout-policy)

Full Context

configure subscriber-mgmt idle-timeout-policy

Description

This command configures the idle timeout policy.

The **no** form of this command removes the idle timeout policy.

Parameters

policy-name

Specifies the idle policy name, up to 32 characters.

create

Keyword used to create the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

idle-timeout-policy

Syntax

idle-timeout *policy-name*

no idle-timeout

Context

[Tree] (config>subscr-mgmt>sla-prof idle-timeout-policy)

Full Context

configure subscriber-mgmt sla-profile idle-timeout-policy

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Description

This command associates an idle timeout policy with the SLA profile. An idle-timeout policy defines the idle timeout parameters that apply to subscriber sessions using this SLA profile.

The **no** form of this command removes the idle timeout policy.

Parameters

policy-name

Specifies the idle policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.28 ies

ies

Syntax

ies *service-id* [**customer** *customer-id*] [**create**] [**vpn** *vpn-id*] [**name** *name*]

no ies *service-id*

Context

[Tree] (config>service ies)

Full Context

configure service ies

Description

This command creates or edits an IES service instance.

The **ies** command creates or maintains an Internet Ethernet Service (IES). If the *service-id* does not exist, a context for the service is created. If the *service-id* exists, the context for editing the service is entered.

IES services allow the creation of customer facing IP interfaces in the same routing instance used for service network core routing connectivity. IES services require that the IP addressing scheme used by the subscriber must be unique between it and other addressing schemes used by the provider and potentially the entire Internet.

IP interfaces defined within the context of an IES service ID must have a SAP created as the access point to the subscriber network. This allows a combination of bridging and IP routing for redundancy purposes.

When a service is created, the **customer** keyword and *customer-id* must be specified and associates the service with a customer. The *customer-id* must already exist having been created using the **customer** command in the service context. Once a service has been created with a customer association, it is not possible to edit the customer association. The service must be deleted and recreated with a new customer association.

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Once a service is created, the use of the **customer** *customer-id* is optional for navigating into the service configuration context. Attempting to edit a service with the incorrect *customer-id* specified results in an error.

Multiple IES services are created to separate customer owned IP interfaces. More than one IES service may be created for a single customer ID. More than one IP interface may be created within a single IES service ID. All IP interfaces created within an IES service ID belongs to the same customer.

By default, no IES service instances exist until they are explicitly created.

The **no** form of this command deletes the IES service instance with the specified *service-id*. The service cannot be deleted until all the IP interfaces defined within the service ID have been shut down and deleted.

Parameters

service-id

Specifies the unique service identification number identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every router on which this service is defined.

Values *service-id*: 1 to 214748364

svc-name: A string up to 64 characters

customer-id

Specifies the customer ID number to be associated with the service. This parameter is required on service creation and optional for service editing or deleting.

Values 1 to 2147483647

vpn-id

Specifies the VPN ID number used to identify virtual private networks (VPNs) by a VPN identification number.

Values 1 to 2147483647

Default **null** (0)

create

Keyword used to create the service ID. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

name

This parameter configures an optional service name, up to 64 characters, which adds a name identifier to a given service to then use that service name in configuration references as well as display and use service names in show commands throughout the system. This helps the service provider or administrator to identify and manage services within the SR OS platforms.

All services are required to assign a service ID to initially create a service. However, either the service ID or the service name can be used to identify and reference a given service once it is initially created.

If a name is not specified at creation time, then SR OS assigns a string version of the service-id as the name.

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Service names may not begin with an integer (0 to 9).

Values *name*: up to 64 characters

Platforms

All

ies

Syntax

ies *service-id* **interface** *ip-int-name* [**direction** {**ingress | egress | both**}]

no ies *service-id* **interface** *ip-int-name*

ies *service-id* **subscriber-interface** *ip-int-name* **group-interface** *ip-int-name* [**direction** {**ingress | egress | both**}]

no ies *service-id* **subscriber-interface** *ip-int-name*

Context

[Tree] (config>cflowd>collector>exp-filter>if-list>svc ies)

Full Context

configure cflowd collector export-filter interface-list service ies

Description

This command configures the IES service interface flow data sent to this collector.

The **no** form of this command removes the values from the configuration.

Parameters

service-id

Specifies the unique service ID number or string identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number for every SR OS on which this service is defined.

Values *service-id*: 1 to 2147483647

svc-name: 64 characters maximum

interface *ip-int-name*

Specifies the name of the IP interface. Interface names must be unique within the group of defined IP interfaces for **configure router interface** and **configure service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be from 1 to 32 alphanumeric characters and must start with a letter. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

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subscriber-interface *ip-int-name*

Specifies the interface name of a subscriber interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes and must start with a letter.

group-interface *ip-int-name*

Specifies the interface name of a group interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes and must start with a letter.

ingress

Keyword to specify that ingress flows are sent to the associated Cflowd Collector.

Default both

egress

Keyword to specify that egress flows are sent to the associated Cflowd Collector.

Default both

both

Keyword to specify that both ingress and egress flows are sent to the associated Cflowd Collector.

Default both

Platforms

All

20.29 ies-vprn-only-sap-parameters

ies-vprn-only-sap-parameters

Syntax

ies-vprn-only-sap-parameters

Context

[Tree] (config>subscr-mgmt>msap-policy ies-vprn-only-sap-parameters)

Full Context

configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters

Description

Commands in this context configure managed SAP IES and VPRN properties. VPRN services are supported on the 7750 SR only.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.30 if-attribute

if-attribute

Syntax

if-attribute

Context

[Tree] (config>service>ies>interface if-attribute)

[Tree] (config>service>vprn>interface if-attribute)

[Tree] (config>router if-attribute)

[Tree] (config>router>interface if-attribute)

Full Context

configure service ies interface if-attribute

configure service vprn interface if-attribute

configure router if-attribute

configure router interface if-attribute

Description

This command creates the context to configure or apply IP interface attributes such as administrative group (admin-group) or Shared Risk Loss Group (SRLG).

Platforms

All

20.31 if-num

if-num

Syntax

if-num *if-num*

no if-num

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Context

[Tree] (config>router>mpls>if>mpls-tp-mep if-num)

Full Context

configure router mpls interface mpls-tp-mep if-num

Description

This command configures the MPLS-TP interface number for the MPLS interface. This is a 32-bit unsigned integer that is node-wide unique.

Parameters

if-num

Specifies a 32-bit value that is unique to the node.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.32 if-num-validation

if-num-validation

Syntax

if-num-validation {**enable** | **disable**}

no if-num-validation

Context

[Tree] (config>router>mpls>if>mpls-tp-mep if-num-validation)

Full Context

configure router mpls interface mpls-tp-mep if-num-validation

Description

The if-num-validation command is used to enable or disable validation of the if-num in LSP Trace packet against the locally configured if-num for the interface over which the LSP Trace packet was received at the egress LER. This is because some third-party implementations may not perform interface validation for unnumbered MPLS-TP interfaces and instead set the if-num in the DSMAP TLV to 0. If the value is **enable**, the node performs the validation of the ingress and egress if-nums received in the LSP echo request messages that ingress on this MPLS-interface. It validates that the message arrives on the interface as identified by the ingress if-num, and is forwarded on the interface as identified by the egress if-num.

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If the value is **disable**, no validation is performed for the ingress and egress if-nums received in the LSP echo request messages that ingress on this MPLS-interface.

Default

if-num-validation enable

Parameters

enable

Enables interface number validation.

disable

Disables interface number validation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.33 if-policy

if-policy

Syntax

if-policy *mcac-if-policy-name*

no if-policy

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac if-policy)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac if-policy

Description

This command assigns an existing MCAC interface policy to this MSAP policy.

The **no** form of this command removes the MCAC interface policy association.

Parameters

mcac-if-policy-name

Specifies an existing MCAC interface policy up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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if-policy

Syntax

if-policy *if-policy-name*

no if-policy

Context

[Tree] (config>service>vpls>sap>igmp-snooping>mcac if-policy)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping>mcac if-policy)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping>mcac if-policy)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping>mcac if-policy)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping>mcac if-policy)

[Tree] (config>service>vpls>sap>mld-snooping>mcac if-policy)

Full Context

configure service vpls sap igmp-snooping mcac if-policy

configure service vpls spoke-sdp mld-snooping mcac if-policy

configure service vpls mesh-sdp mld-snooping mcac if-policy

configure service vpls spoke-sdp igmp-snooping mcac if-policy

configure service vpls mesh-sdp igmp-snooping mcac if-policy

configure service vpls sap mld-snooping mcac if-policy

Description

This command assigns existing MCAC interface policy to this interface. MCAC interface policy is not supported with MLD-snooping, therefore executing the command in the mld-snooping contexts will return an error.

The **no** form of this command removes the MCAC interface policy association.

Default

no if-policy

Parameters

mcac-if-policy-name

Specifies an existing MCAC interface policy

Platforms

All

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if-policy

Syntax

if-policy *if-policy-name*

no if-policy

Context

[Tree] (config>service>vprn>mld>if>mcac if-policy)

[Tree] (config>service>vprn>mld>grp-if>mcac if-policy)

[Tree] (config>service>vprn>igmp>if>mcac if-policy)

[Tree] (config>service>vprn>pim>if>mcac if-policy)

[Tree] (config>service>vprn>igmp>grp-if>mcac if-policy)

Full Context

configure service vprn mld interface mcac if-policy

configure service vprn mld group-interface mcac if-policy

configure service vprn igmp interface mcac if-policy

configure service vprn pim interface mcac if-policy

configure service vprn igmp group-interface mcac if-policy

Description

This command assigns existing an MCAC interface policy to this interface.

The **no** form of this command removes the MCAC interface policy association.

Default

no if-policy

Parameters

if-policy-name

Specifies an existing MCAC interface policy, up to 32 characters.

Platforms

All

- configure service vprn igmp interface mcac if-policy
- configure service vprn pim interface mcac if-policy
- configure service vprn mld interface mcac if-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface mcac if-policy
- configure service vprn mld group-interface mcac if-policy

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if-policy

Syntax

ip-policy *if-policy-name*

no if-policy

Context

[Tree] (config>router>igmp>if>mcac if-policy)

[Tree] (config>router>pim>if>mcac if-policy)

[Tree] (config>router>igmp>grp-if>mcac if-policy)

[Tree] (config>router>mld>if>mcac if-policy)

[Tree] (config>router>mld>grp-if>mcac if-policy)

Full Context

configure router igmp interface mcac if-policy

configure router pim interface mcac if-policy

configure router igmp group-interface mcac if-policy

configure router mld interface mcac if-policy

configure router mld group-interface mcac if-policy

Description

This command assigns an existing MCAC interface policy to the interface.

The **no** form removes the MCAC interface policy association.

Default

no if-policy

Parameters

if-policy-name

Specifies an existing MCAC interface policy, up to 32 characters.

Platforms

All

- configure router igmp interface mcac if-policy
- configure router mld interface mcac if-policy
- configure router pim interface mcac if-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface mcac if-policy
- configure router mld group-interface mcac if-policy

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if-policy

Syntax

[**no**] **if-policy** *if-policy-name*

Context

[Tree] (config>router>mcac if-policy)

Full Context

configure router mcac if-policy

Description

This command creates an MCAC interface policy and enables the context to configure parameters for the policy.

The **no** form of this command deletes the MCAC interface policy.

Parameters

if-policy-name

Specifies the name of the MCAC interface policy, up to 32 characters.

Platforms

All

20.34 ifdv-avg

ifdv-avg

Syntax

[**no**] **ifdv-avg** {**forward** | **backward** | **round-trip**}

Context

[Tree] (config>oam-pm>streaming>delay-template ifdv-avg)

Full Context

configure oam-pm streaming delay-template ifdv-avg

Description

This command specifies the sending of average inter-frame delay variation for a specified direction.

The **no** form of this command deletes the specified average direction.

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Note:
All directions can be specified if all directions are important for reporting. However, only enable those directions that are required.

Parameters

forward

Specifies the measurement in the forward direction.

backward

Specifies the measurement in the backward direction.

round-trip

Specifies the measurement for the round trip.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.35 igmp

igmp

Syntax

[**no**] **igmp** [**host** *ip-address*] [**group** *grp-address*]

Context

[Tree] (debug>mcast-mgmt>mcast-rprt-dest igmp)

Full Context

debug mcast-management mcast-reporting-dest igmp

Description

This command sets mcast reporting dest debug filtering options.

Platforms

All

igmp

Syntax

[**no**] **igmp**

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Context

[Tree] (config>redundancy>multi-chassis>peer>sync igmp)

Full Context

configure redundancy multi-chassis peer sync igmp

Description

This command specifies whether IGMP protocol information should be synchronized with the multi-chassis peer.

Default

no igmp

Platforms

All

igmp

Syntax

[**no**] **igmp**

Context

[Tree] (config>service>vprn igmp)

Full Context

configure service vprn igmp

Description

Commands in this context configure IGMP parameters.

The **no** form of this command disables IGMP.

Default

no igmp

Platforms

All

igmp

Syntax

[**no**] **igmp**

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Context

[Tree] (config>router igmp)

Full Context

configure router igmp

Description

This command enables the Internet Group Management Protocol (IGMP) context. When the context is created, the IGMP protocol is enabled.

The Internet Group Management Protocol (IGMP) is used by IPv4 systems (hosts and routers) to report their IP multicast group memberships to neighboring multicast routers. An IP multicast router can be a member of one or more multicast groups, in which case it performs both the "multicast router part" of the protocol which collects the membership information needed by its multicast routing protocol, and the "group member part" of the protocol which informs itself and other neighboring multicast routers of its memberships.

The **no** form of the command disables the IGMP instance. To start or suspend execution of IGMP without affecting the configuration, use the **no shutdown** command.

Platforms

All

igmp

Syntax

[**no**] **igmp**

Context

[Tree] (config>sys>security>cpu-protection>ip>included-protocols igmp)

Full Context

configure system security cpu-protection ip-src-monitoring included-protocols igmp

Description

This command includes the extracted IPv4 IGMP packets for ip-src-monitoring. IPv4 IGMP packets will be subject to the per-source-rate of CPU protection policies.

Default

no igmp

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

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20.36 igmp-host-tracking

igmp-host-tracking

Syntax

igmp-host-tracking

Context

[Tree] (config>subscr-mgmt>msap-policy igmp-host-tracking)

Full Context

configure subscriber-mgmt msap-policy igmp-host-tracking

Description

Commands in this context configure IGMP host tracking parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

igmp-host-tracking

Syntax

igmp-host-tracking

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap igmp-host-tracking)

Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking

Description

Commands in this context configure IGMP host tracking parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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igmp-host-tracking

Syntax

igmp-host-tracking

Context

[Tree] (config>service>vpls igmp-host-tracking)

[Tree] (config>service>vpls>sap igmp-host-tracking)

Full Context

configure service vpls igmp-host-tracking

configure service vpls sap igmp-host-tracking

Description

Commands in this context configure IGMP host tracking parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

igmp-host-tracking

Syntax

igmp-host-tracking

Context

[Tree] (config>service>ies>sub-if>grp-if>sap igmp-host-tracking)

[Tree] (config>service>ies igmp-host-tracking)

Full Context

configure service ies subscriber-interface group-interface sap igmp-host-tracking

configure service ies igmp-host-tracking

Description

Commands in this context configure IGMP host tracking parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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igmp-host-tracking

Syntax

igmp-host-tracking

Context

[Tree] (config>service>vprn igmp-host-tracking)

[Tree] (config>service>vprn>sap igmp-host-tracking)

Full Context

configure service vprn igmp-host-tracking

configure service vprn sap igmp-host-tracking

Description

Commands in this context configure IGMP host tracking parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.37 igmp-policy

igmp-policy

Syntax

igmp-policy *policy-name* [**create**]

no igmp-policy

Context

[Tree] (config>subscr-mgmt igmp-policy)

Full Context

configure subscriber-mgmt igmp-policy

Description

This command configures an IGMP policy.

The **no** form of this command reverts to the default value.

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Parameters

policy-name

Specifies the policy name up to 32 characters.

create

Keyword used to create the IGMP policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

igmp-policy

Syntax

igmp-policy *policy-name*

no igmp-policy

Context

[Tree] (config>subscr-mgmt>sub-prof igmp-policy)

Full Context

configure subscriber-mgmt sub-profile igmp-policy

Description

This command will enable IGMP processing per subscriber host. Without this command IGMP states will not be maintained per subscriber hosts. The referenced policy is defined under the **configure>subscr-mgmt** context and can be only applied via the sub-profile.

The referenced policy contains entries such as:

- description statement
- import statement — IGMP filters
- egress-rate-modify statement—HQoS Adjustment
- mcast-redirection statement—redirection to alternate interface
- static statement—definition of static IGMP groups
- version statement —IGMP version
- fast-leave statement
- max-num-groups statement—the maximum number of multicast groups allowed

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the name of the IGMP policy for the subscriber. The policy itself is defined under the **configure>sub-mgmt** context.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.38 igmp-snooping

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (config>service>vpls igmp-snooping)

[Tree] (config>service>vpls>allow-ip-int-bind igmp-snooping)

[Tree] (config>service>vpls>sap igmp-snooping)

[Tree] (config>service>vpls>spoke-sdp igmp-snooping)

[Tree] (config>service>vpls>mesh-sdp igmp-snooping)

Full Context

configure service vpls igmp-snooping

configure service vpls allow-ip-int-bind igmp-snooping

configure service vpls sap igmp-snooping

configure service vpls spoke-sdp igmp-snooping

configure service vpls mesh-sdp igmp-snooping

Description

This command enables the Internet Group Management Protocol (IGMP) snooping context.

Platforms

All

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only igmp-snooping)

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Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping

Description

Commands in this context configure Internet Group Management Protocol (IGMP) snooping parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

igmp-snooping

Syntax

[**no**] **igmp-snooping**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync igmp-snooping)

Full Context

configure redundancy multi-chassis peer sync igmp-snooping

Description

This command specifies whether IGMP snooping information should be synchronized with the multi-chassis peer.

Default

no igmp-snooping

Platforms

All

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (config>service>vpls>vxlan igmp-snooping)

Full Context

configure service vpls vxlan igmp-snooping

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Description

This command enables the Internet Group Management Protocol (IGMP) snooping context.

Platforms

All

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (config>service>vpls>pbb>bvpls>sap igmp-snooping)

[Tree] (config>service>vpls>pbb>bvpls>sdp igmp-snooping)

[Tree] (config>service>vpls>pbb>bvpls igmp-snooping)

Full Context

configure service vpls pbb backbone-vpls sap igmp-snooping

configure service vpls pbb backbone-vpls sdp igmp-snooping

configure service vpls pbb backbone-vpls igmp-snooping

Description

This command configures IGMP snooping attributes for I-VPLS.

Platforms

All

igmp-snooping

Syntax

[**no**] **igmp-snooping**

Context

[Tree] (debug>service>id igmp-snooping)

Full Context

debug service id igmp-snooping

Description

This command enables and configures IGMP-snooping debugging.

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Platforms

All

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (config>service>pw-template igmp-snooping)

Full Context

configure service pw-template igmp-snooping

Description

This command enables the Internet Group Management Protocol (IGMP) snooping context.

Platforms

All

20.39 ignore-app-profile

ignore-app-profile

Syntax

ignore-app-profile

no ignore-app-profile

Context

[Tree] (config>subscr-mgmt>http-redirect-policy ignore-app-profile)

Full Context

configure subscriber-mgmt http-redirect-policy ignore-app-profile

Description

When enabled, the Alc-App-Prof-Str VSA is ignored in a RADIUS Accept that enables portal redirection using this redirect policy. AA functionality is disabled during portal authentication.

The **no** form of this command allows an Alc-App-Prof-Str to be present and enables Application Assurance during portal authentication. In this case redirection rules defined in this policy are bypassed and it is assumed the AA function is configured for portal redirection.

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Default

no ignore-app-profile

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.40 ignore-attached-bit

ignore-attached-bit

Syntax

ignore-attached-bit

no ignore-attached-bit

Context

[Tree] (config>service>vprn>isis ignore-attached-bit)

Full Context

configure service vprn isis ignore-attached-bit

Description

This command configures IS-IS to ignore the attached bit on received Level 1 LSPs to disable installation of default routes.

Platforms

All

ignore-attached-bit

Syntax

ignore-attached-bit

[**no**] **ignore-attached-bit**

Context

[Tree] (config>router>isis ignore-attached-bit)

Full Context

configure router isis ignore-attached-bit

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Description

This command configures IS-IS to ignore the attached bit on received Level 1 LSPs to disable installation of default routes.

Platforms

All

20.41 ignore-avps

ignore-avps

Syntax

ignore-avps [**sequencing-required**]

no ignore-avps

Context

[Tree] (config>service>vprn>l2tp ignore-avps)

[Tree] (config>router>l2tp ignore-avps)

Full Context

configure service vprn l2tp ignore-avps

configure router l2tp ignore-avps

Description

This command specifies the L2TP AVPs that should be ignored in L2TP session control.

The **no** form of this command reverts to the default.

Parameters

sequencing-required

Ignores the [39] Sequencing Required AVP on LNS when present in the L2TP ICCN message received from LAC. By default, the session at LNS would be disconnected, in this case with the Call Disconnect Notify (CDN) error code unknownMandatoryReceive(8). Note that when configured, to ignore the Sequencing Required AVP there is no Sequence Numbers inserted into the data channel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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20.42 ignore-default

ignore-default

Syntax

[**no**] **ignore-default**

Context

[Tree] (config>service>vprn>sub-if>grp-if ignore-default)

[Tree] (config>service>ies>if>ipv6 ignore-default)

[Tree] (config>service>ies>if ignore-default)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 ignore-default)

[Tree] (config>service>ies>sub-if>grp-if ignore-default)

Full Context

configure service vprn subscriber-interface group-interface ignore-default

configure service ies interface ipv6 ignore-default

configure service ies interface ignore-default

configure service ies subscriber-interface group-interface ipv6 ignore-default

configure service ies subscriber-interface group-interface ignore-default

Description

This command enables the default route when performing a uRPF check.

The **no** form of this command disables the default route.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface ipv6 ignore-default
- configure service ies subscriber-interface group-interface ignore-default
- configure service vprn subscriber-interface group-interface ignore-default

All

- configure service ies interface ipv6 ignore-default
- configure service ies interface ignore-default

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ignore-default

Syntax

[**no**] **ignore-default**

Context

[Tree] (config>router>if>ipv6>urpf-check ignore-default)

[Tree] (config>router>if>urpf-check ignore-default)

Full Context

configure router interface ipv6 urpf-check ignore-default

configure router interface urpf-check ignore-default

Description

This command configures the uRPF check (if enabled) to ignore default routes for purposes of determining the validity of incoming packets. By default, default routes are considered eligible.

Platforms

All

20.43 ignore-df-bit

ignore-df-bit

Syntax

[**no**] **ignore-df-bit**

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ignore-df-bit)

Full Context

configure subscriber-mgmt local-user-db ppp host ignore-df-bit

Description

When this command is enabled for a subscriber host, the do-not-fragment (DF) bit in the IPv4 header for frames egressing the subscriber interface is ignored, the frames are fragmented according the applicable egress MTU. The DF bit is reset for frames that are fragmented.

This command applies to PPPoE PTA and L2TP LNS frames only. It is not applicable for L2TP LAC frames.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ignore-df-bit

Syntax

[**no**] **ignore-df-bit**

Context

[Tree] (config>service>ies>sub-if>grp-if ignore-df-bit)

[Tree] (config>service>vprn>sub-if>grp-if ignore-df-bit)

Full Context

configure service ies subscriber-interface group-interface ignore-df-bit

configure service vprn subscriber-interface group-interface ignore-df-bit

Description

This command enables the **ignore-df-bit** flag that ignores the **do-not-fragment** (DF) bit for frames egressing the WLAN-GW group interface and fragments the frame according to the applicable egress MTU. The DF bit is reset for the frames that are fragmented.

The **no** form of this command causes the router to fragment a packet larger than the MTU if the DF bit is set to 0 and drops the packet if the DF bit is set to 1.

Default

no ignore-df-bit

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.44 ignore-dn-bit

ignore-dn-bit

Syntax

[**no**] **ignore-dn-bit**

Context

[Tree] (config>service>vprn>ospf ignore-dn-bit)

[Tree] (config>service>vprn>ospf3 ignore-dn-bit)

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Full Context

configure service vprn ospf ignore-dn-bit

configure service vprn ospf3 ignore-dn-bit

Description

This command specifies whether to ignore the DN bit for OSPF LSA packets for this instance of OSPF on the router. When enabled, the DN bit for OSPF LSA packets are ignored.

The **no** form of this command does not ignore the DN bit for OSPF LSA packets.

Default

no ignore-dn-bit

Platforms

All

20.45 ignore-efm-state

ignore-efm-state

Syntax

[**no**] **ignore-efm-state**

Context

[Tree] (config>port>ethernet>efm-oam ignore-efm-state)

Full Context

configure port ethernet efm-oam ignore-efm-state

Description

When the **ignore-efm-state** command is configured, any failure in the protocol state machine (discovery, configuration, timeout, loops, and so on) does not impact the state of the port. There is only a protocol warning message on the port. If this optional command is not configured, the port state is affected by any existing EFM-OAM protocol fault condition.

Default

no ignore-efm-state

Platforms

All

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20.46 ignore-l2vpn-mtu-mismatch

ignore-l2vpn-mtu-mismatch

Syntax

ignore-l2vpn-mtu-mismatch

no ignore-l2vpn-mtu-mismatch

Context

[Tree] (config>service>epipe ignore-l2vpn-mtu-mismatch)

Full Context

configure service epipe ignore-l2vpn-mtu-mismatch

Description

This command enables the router to bring up a BGP-VPWS service regardless of any MTU mismatch. The router does not check the value of the Layer 2 MTU in the Layer2 Info Extended Community received in a BGP update message against the local service MTU or locally signaled MTU.

The **no** form of this command disables the functionality. When this command is disabled, the router does not bring up a BGP-VPWS service if an MTU mismatch occurs.

Default

no ignore-l2vpn-mtu-mismatch

Platforms

All

ignore-l2vpn-mtu-mismatch

Syntax

ignore-l2vpn-mtu-mismatch

no ignore-l2vpn-mtu-mismatch

Context

[Tree] (config>service>vpls ignore-l2vpn-mtu-mismatch)

Full Context

configure service vpls ignore-l2vpn-mtu-mismatch

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Description

This command enables the router to bring up a VPLS service, regardless of any MTU mismatch. The router does not check the value of the Layer 2 MTU in the Layer 2 Info Extended Community received in a BGP update message or the value of the MTU interface parameter received in a LDP label mapping message against the local service MTU or locally signaled MTU.

The **no** form of this command disables the functionality. When this functionality is disabled, the router does not bring up a VPLS service if an MTU mismatch occurs.

Default

no ignore-l2vpn-mtu-mismatch

Platforms

All

20.47 ignore-lsp-errors

ignore-lsp-errors

Syntax

[**no**] **ignore-lsp-errors**

Context

[Tree] (config>router>isis ignore-lsp-errors)

[Tree] (config>service>vprn>isis ignore-lsp-errors)

Full Context

configure router isis ignore-lsp-errors

configure service vprn isis ignore-lsp-errors

Description

This command specifies that for this VPRN instance, ISIS will ignore LSP packets with errors. When enabled, IS-IS LSP errors will be ignored and the associated record will not be purged.

This command enables ISIS to ignore the ATT bit and therefore suppress the installation of default routes.

The **no** form of this command specifies that ISIS will not ignore LSP errors.

Platforms

All

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20.48 ignore-match

ignore-match

Syntax

ignore-match

Context

[Tree] (config>filter>ipv6-filter>entry>action ignore-match)

[Tree] (config>filter>mac-filter>entry>action ignore-match)

[Tree] (config>filter>ip-filter>entry>action ignore-match)

Full Context

configure filter ipv6-filter entry action ignore-match

configure filter mac-filter entry action ignore-match

configure filter ip-filter entry action ignore-match

Description

This command sets the filter entry action to **ignore-match**, as a result this filter entry is ignored and not programmed in hardware.

Platforms

All

20.49 ignore-mclt-on-takeover

ignore-mclt-on-takeover

Syntax

[**no**] **ignore-mclt-on-takeover**

Context

[Tree] (config>service>vprn>dhcp>server>failover ignore-mclt-on-takeover)

[Tree] (config>service>vprn>dhcp6>server>failover ignore-mclt-on-takeover)

[Tree] (config>service>vprn>dhcp>server>pool>failover ignore-mclt-on-takeover)

[Tree] (config>service>vprn>dhcp6>server>pool>failover ignore-mclt-on-takeover)

[Tree] (config>router>dhcp6>server>failover ignore-mclt-on-takeover)

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[Tree] (config>router>dhcp>server>failover ignore-mclt-on-takeover)

[Tree] (config>router>dhcp>server>pool>failover ignore-mclt-on-takeover)

[Tree] (config>router>dhcp6>server>pool>failover ignore-mclt-on-takeover)

Full Context

configure service vprn dhcp local-dhcp-server failover ignore-mclt-on-takeover

configure service vprn dhcp6 local-dhcp-server failover ignore-mclt-on-takeover

configure service vprn dhcp local-dhcp-server pool failover ignore-mclt-on-takeover

configure service vprn dhcp6 local-dhcp-server pool failover ignore-mclt-on-takeover

configure router dhcp6 local-dhcp-server failover ignore-mclt-on-takeover

configure router dhcp local-dhcp-server failover ignore-mclt-on-takeover

configure router dhcp server pool failover ignore-mclt-on-takeover

configure router dhcp6 server pool failover ignore-mclt-on-takeover

Description

With this flag enabled, the remote IP address or prefix can be taken over immediately upon entering the PARTNER-DOWN state of the intercommunication link, without having to wait for the Maximum Client Lead Time (MCLT) to expire. By setting this flag, the lease times of the existing DHCP clients, while the intercommunication link is in the PARTNER-DOWN state, will still be reduced to the MCLT over time and all new lease times are set to MCLT. This behavior remains the same as originally intended for MCLT.

Some deployments require that the remote IP address/prefix range starts delegating new IP addresses and prefixes upon the failure of the intercommunication link, without waiting for the intercommunication link to transition from the COMM-INT state into the PARTNER-DOWN state and the MCLT to expire while in PARTNER-DOWN state.

This can be achieved by enabling the **ignore-mclt-on-takeover** flag and by configuring the **partner-down-delay** to 0.

Enabling this functionality must be exercised with caution. One needs to keep in mind that the partner-down-delay and MCLT timers were originally introduced to prevent IP address duplication in cases where DHCP redundant nodes transition out-of-sync due to the failure of intercommunication link. These timers (**partner-down-delay** and MCLT) would ensure that during their duration, the new IP addresses and prefixes are delegated only from one node, the one with local IP address-range/prefix. This causes the new IP address delegation to be delayed and the service is impacted.

If it can be assured that the intercommunication link is always available, then the DHCP nodes would stay in sync and the two timers would not be needed. Therefore, it is important that in this mode of operation, the intercommunication link is well protected by providing multiple paths between the two DHCP nodes. The only event that should cause intercommunication link to fail is the entire nodal failure. This failure is acceptable since in this case only one DHCP node is available to provide new IP addresses and prefixes.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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20.50 ignore-mtu-mismatch

ignore-mtu-mismatch

Syntax

[**no**] **ignore-mtu-mismatch**

Context

[Tree] (config>service>vpls>bgp-evpn ignore-mtu-mismatch)

Full Context

configure service vpls bgp-evpn ignore-mtu-mismatch

Description

This command enables the system to ignore the received Layer 2 MTU in the L2 attributes extended community of the IMET route for a peer.

The **no** form of this command configures the system to compare the local service MTU against the received Layer 2 MTU and if there is a mismatch, keep the EVPN destination to the peer with operational state down.

Default

no ignore-mtu-mismatch

Platforms

All

20.51 ignore-narrow-metric

ignore-narrow-metric

Syntax

[**no**] **ignore-narrow-metric**

Context

[Tree] (config>service>vprn>isis ignore-narrow-metric)

Full Context

configure service vprn isis ignore-narrow-metric

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Description

This command specifies that IS-IS ignores links with narrow metrics when wide-metrics support has been enabled.

The **no** form of this command specifies that IS-IS does not ignore these links.

Platforms

All

ignore-narrow-metric

Syntax

[**no**] **ignore-narrow-metric**

Context

[Tree] (config>router>isis ignore-narrow-metric)

Full Context

configure router isis ignore-narrow-metric

Description

This command specifies that IS-IS will ignore links with narrow metrics when wide-metrics support has been enabled.

The **no** form of this command specifies that IS-IS will not ignore these links.

Platforms

All

20.52 ignore-nh-metric

ignore-nh-metric

Syntax

[**no**] **ignore-nh-metric**

Context

[Tree] (config>service>vprn>bgp>best-path-selection ignore-nh-metric)

[Tree] (config>service>vprn ignore-nh-metric)

[Tree] (config>router>bgp>best-path-selection ignore-nh-metric)

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Full Context

configure service vprn bgp best-path-selection ignore-nh-metric

configure service vprn ignore-nh-metric

configure router bgp best-path-selection ignore-nh-metric

Description

This command instructs BGP to disregard the resolved distance to the BGP next-hop in its decision process for selecting the best route to a destination. When configured in the config>router>bgp>best-path-selection context, this command applies to the comparison of two BGP routes with the same NLRI learned from base router BGP peers. When configured in the config>service>vprn context, this command applies to the comparison of two BGP-VPN routes for the same IP prefix imported into the VPRN from the base router BGP instance. When configured in the config>service>vprn>bgp>best-path-selection context, this command applies to the comparison of two BGP routes for the same IP prefix learned from VPRN BGP peers.

The **no** form of this command (no ignore-nh-metric) restores the default behavior whereby BGP factors distance to the next-hop into its decision process.

Default

no ignore-nh-metric

Platforms

All

20.53 ignore-oper-down

ignore-oper-down

Syntax

[**no**] **ignore-oper-down**

Context

[Tree] (config>service>epipe>sap ignore-oper-down)

Full Context

configure service epipe sap ignore-oper-down

Description

This command enables the ability to ignore the operationally down status for service oper state calculation. An Epipe service does not transition to Oper State: Down when a SAP fails and when this optional command is configured under that specific SAP. Only a single SAP in an Epipe may have this optional command included. The command can be used in Epipes with or without EVPN enabled.

The **no** form of this command disables whether a service ignores the operationally down state of the SAP.

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Default

no ignore-oper-down

Platforms

All

20.54 ignore-rapid-commit

ignore-rapid-commit

Syntax

[**no**] **ignore-rapid-commit**

Context

[Tree] (config>service>vprn>dhcp6>server ignore-rapid-commit)

[Tree] (config>router>dhcp6>server ignore-rapid-commit)

Full Context

configure service vprn dhcp6 local-dhcp-server ignore-rapid-commit

configure router dhcp6 local-dhcp-server ignore-rapid-commit

Description

This command enables the Rapid Commit Option for DHCP6.

The **no** form of this command disables the Rapid Commit Option.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.55 ignore-received-srv6-tlvs

ignore-received-srv6-tlvs

Syntax

[**no**] **ignore-received-srv6-tlvs**

Context

[Tree] (config>router>bgp>srv6>family ignore-received-srv6-tlvs)

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Full Context

configure router bgp segment-routing-v6 family ignore-received-srv6-tlvs

Description

This command specifies that SRv6 TLVs are ignored when present in received routes of the associated family. In this case the route resolution is only based on the BGP next hop.

The **no** form of this command specifies that the SRv6 TLV is processed when a route of the family is received with a prefix SID attribute carrying an SRv6 TLV. In this case, a route is resolved only if both its BGP next hop and the locator prefix are reachable. The datapath programming and IGP cost to reach the next hop (used by the BGP decision process) is based on the route to the locator prefix.

Default

ignore-received-srv6-tlvs

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

20.56 ignore-router-id

ignore-router-id

Syntax

ignore-router-id include-internal *family* [*family*]

[**no**] **ignore-router-id**

Context

[Tree] (config>service>vprn>bgp>best-path-selection ignore-router-id)

[Tree] (config>router>bgp>best-path-selection ignore-router-id)

Full Context

configure service vprn bgp best-path-selection ignore-router-id

configure router bgp best-path-selection ignore-router-id

Description

When the **ignore-router-id** command is present, and the current best path to a destination was learned from EBGP peer X with BGP identifier x and a new path is received from EBGP peer Y with BGP identifier y, the best path remains unchanged if the new path is equivalent to the current best path up to the BGP identifier comparison – even if y is less than x.

The **no** form of this command restores the default behavior of selecting the route with the lowest BGP identifier (y) as best.

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Default

no ignore-router-id

Parameters

family

Specifies up to two internal families to be included in this configuration.

Values mvpn-ipv4, mvpn-ipv6

include-internal

Specifies to ignore the router ID value even when comparing two IGBP paths or an EBGP and an IBGP path.

Platforms

All

20.57 ignore-standby-signaling

ignore-standby-signaling

Syntax

[**no**] **ignore-standby-signaling**

Context

[Tree] (config>service>vpls>spoke-sdp ignore-standby-signaling)

[Tree] (config>service>vpls>endpoint ignore-standby-signaling)

Full Context

configure service vpls spoke-sdp ignore-standby-signaling

configure service vpls endpoint ignore-standby-signaling

Description

When this command is enabled, the node ignores the standby-bit received from the TLDP peers for the specific spoke-SDP and performs internal tasks without taking it into account.

This command is present at the endpoint level and the spoke-SDP level. If the spoke-SDP is part of the explicit-endpoint, this setting cannot be changed at the spoke-SDP level. The existing spoke-SDP will become part of the explicit-endpoint only if the setting is not conflicting. The newly created spoke-SDP, which is a part of the specified explicit-endpoint, will inherit this setting from the endpoint configuration.

Default

no ignore-standby-signaling

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Platforms

All

20.58 ignore-tos

ignore-tos

Syntax

[**no**] **ignore-tos**

Context

[Tree] (config>service>vprn>nat>inside>nat64 ignore-tos)

[Tree] (config>router>nat>inside>nat64 ignore-tos)

Full Context

configure service vprn nat inside nat64 ignore-tos

configure router nat inside nat64 ignore-tos

Description

This command specifies whether the IPv4 ToS is ignored and the IPv6 traffic class bits set to zero.

When disabled, the system copies the IPv4 ToS into the IPv6 traffic class.

The **no** form of the command recognizes the IPv4 ToS.

Default

disabled

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.59 ignore-unknown-mandatory-vsas

ignore-unknown-mandatory-vsas

Syntax

[**no**] **ignore-unknown-mandatory-vsas**

Context

[Tree] (config>system>security>tacplus ignore-unknown-mandatory-vsas)

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[Tree] (config>service>vprn>aaa>rmt-srv>tacplus ignore-unknown-mandatory-vsas)

Full Context

configure system security tacplus ignore-unknown-mandatory-vsas

configure service vprn aaa remote-servers tacplus ignore-unknown-mandatory-vsas

Description

This command configures the system to ignore unknown mandatory VSAs received in a reply from the TACACS+ server. Authentication fails and the user is disconnected because the system cannot process a mandatory VSA that is unknown.

The **no** form of this command ignores unknown mandatory VSAs and authentication succeeds.

Default

ignore-unknown-mandatory-vsas

Platforms

All

20.60 igp-instance

igp-instance

Syntax

igp-instance *igp-instance*

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-isis igp-instance)

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-ospf3 igp-instance)

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-ospf igp-instance)

Full Context

configure oam-pm session ip tunnel mpls sr-isis igp-instance

configure oam-pm session ip tunnel mpls sr-ospf3 igp-instance

configure oam-pm session ip tunnel mpls sr-ospf igp-instance

Description

This command configures the IGP instance to tunnel IP packets for the session test.

Default

igp-instance 0

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Parameters

igp-instance

Specifies the IGP instance used to tunnel packets for the session.

Values

isis-inst	0 to 127
ospf-inst	0 to 31
ospf3-inst	0 to 31,64 to 95

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.61 igp-instance-id

igp-instance-id

Syntax

igp-instance-id *igp-instance*

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp>peer-tnl-attrs igp-instance-id)

Full Context

configure anysec mpls tunnel-encryption encryption-group peer-tunnel-attributes igp-instance-id

Description

This command configures the IGP instance ID. This ID must be a match for the outgoing tunnel. This IGP instance ID should match the IGP instance the LSP is being signaled on in order for ANYsec to encrypt the LSP.

Default

igp-instance-id 0

Parameters

igp-instance

Specifies the IGP instance used to tunnel packets for the session.

Values

isis-inst	0 to 127
ospf-inst	0 to 31

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ospf3-inst	64 to 95

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

igp-instance-id

Syntax

igp-instance-id *igp-instance*

Context

[Tree] (config>anysec>mpls>sec-term-pols>policy igp-instance-id)

Full Context

configure anysec mpls security-termination-policies policy igp-instance-id

Description

This command configures the IGP instance ID. This IGP instance ID must match the IGP instance that the incoming encrypted LSP was signaled on.

Default

igp-instance-id 0

Parameters

igp-instance

Specifies the IGP instance used to tunnel packets for the session.

Values

isis-inst	0 to 127
ospf-inst	0 to 31
ospf3-inst	64 to 95

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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20.62 igp-shortcut

igp-shortcut

Syntax

igp-shortcut [**lfa-protect** | **lfa-only**] [**allow-sr-over-srte**]

igp-shortcut relative-metric [*offset*] [**allow-sr-over-srte**]

no igp-shortcut

Context

[Tree] (config>router>mpls>lsp igp-shortcut)

[Tree] (config>router>mpls>lsp-template igp-shortcut)

Full Context

configure router mpls lsp igp-shortcut

configure router mpls lsp-template igp-shortcut

Description

This command enables the use of a specific RSVP LSP by IS-IS and OSPF routing protocols as a shortcut or as a forwarding adjacency for resolving IGP routes.

When the **igp-shortcut** or the **advertise-tunnel-link** option is enabled at the IGP instance level, all RSVP LSPs originating on this node are eligible by default as long as the destination address of the LSP, as configured in **config>router>mpls>lsp>to**, corresponds to a router-id of a remote node.

The **lfa-protect** option allows an LSP to be included in both the main SPF and the Loop-Free Alternate (LFA) SPF. For a given prefix, the LSP can be used either as a primary next-hop or as an LFA next-hop, but not both. If the main SPF computation selected a tunneled primary next-hop for a prefix, the LFA SPF will not select an LFA next-hop for this prefix and the protection of this prefix will rely on the RSVP LSP FRR protection. If the main SPF computation selected a direct primary next-hop, then the LFA SPF will select an LFA next-hop for this prefix but will prefer a direct LFA next-hop over a tunneled LFA next-hop.

The **lfa-only** option allows an LSP to be included in the LFA SPF only such that the introduction of IGP shortcuts does not impact the main SPF decision. For a given prefix, the main SPF always selects a direct primary next-hop. The LFA SPF selects an LFA next-hop for this prefix but will prefer a direct LFA next-hop over a tunneled LFA next-hop.

When the **relative-metric** option is enabled, IGP will apply the shortest IGP cost between the endpoints of the LSP plus the value of the offset (instead of the LSP operational metric) when computing the cost of a prefix which is resolved to the LSP. The offset value is optional and it defaults to zero. The minimum net cost for a prefix is one (1) after applying the offset. The TTM continues the show the LSP operational metric as provided by MPLS. In other words, applications such as LDP-over-RSVP (when IGP shortcut is disabled) and BGP and static route shortcuts will continue to use the LSP operational metric.

The **relative-metric** option is mutually exclusive with the **lfa-protect** or the **lfa-only** options. In other words, an LSP with the **relative-metric** option enabled cannot be included in the LFA SPF, and vice-versa, when the **igp-shortcut** option is enabled in the IGP.

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Finally, the **relative-metric** option is ignored when forwarding adjacency is enabled in IS-IS or OSPF. In this case, IGP advertises the LSP as a point-to-point unnumbered link along with the LSP operational metric as returned by MPLS and capped to maximum link metric allowed in that IGP. Both the main SPF and the LFA SPFs will use the local IGP database to resolve the routes.

When the router performs local SPF, the SR-TE LSP is used as an eligible IGP shortcut for SRv4 or SRv6 only if the LSP is explicitly allowed using the **allow-sr-over-srte** option when the top SID in the SR-TE LSP is an adjacency SID.

The **no** form of this command disables the use of a specific RSVP LSP by IS-IS and OSPF routing protocols as a shortcut or a forwarding adjacency for resolving IGP routes.

Default

igp-shortcut. All RSVP LSPs originating on this node are eligible by default as long as the destination address of the LSP corresponds to a router-id of a remote node.

Parameters

lfa-protect

Specifies an LSP is included in both the main SPF and the LFA SPF.

lfa-only

Specifies an LSP is included in the LFA SPF only.

relative-metric [*offset*]

Specifies the shortest IGP cost between the endpoints of the LSP plus the configured offset, instead of the LSP operational metric returned by MPLS, is used when calculating the cost of prefix resolved to this LSP. The offset parameter is an integer and is optional. An offset value of zero is used when the relative-metric option is enabled without specifying the offset parameter value.

Values [-10, +10]

allow-sr-over-srte

Specifies that the LSP or LSP template is eligible as an IGP shortcut.

Platforms

All

igp-shortcut

Syntax

igp-shortcut

Context

[Tree] (config>router>isis igp-shortcut)

Full Context

configure router isis igp-shortcut

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Description

This command enables the use of an RSVP-TE or SR-TE shortcut for resolving IGP routes by OSPF or IS-IS routing protocols.

This command instructs IGP to include RSVP LSPs and SR-TE LSPs originating on this node and terminating on the router ID of a remote node as direct links with a metric equal to the metric provided by MPLS.

During the IP reach calculation to determine the reachability of nodes and prefixes, LSPs are overlaid and the LSP metric is used to determine the subset of paths that are equal lowest cost to reach a node or a prefix. If the user enabled the **relative-metric** option for this LSP, IGP will apply the shortest IGP cost between the endpoints of the LSP plus the value of the offset, instead of the LSP operational metric, when computing the cost of a prefix that is resolved to the LSP.

When a prefix is resolved to a tunnel next-hop, the packet is sent labeled with the label stack corresponding to the NHLFE of the RSVP-TE or SR-TE LSP, as well as the explicit-null IPv6 label at the bottom of the stack in the case of an IPv6 prefix. Any network event causing one or more IGP shortcuts to go down will trigger a full SPF computation, which may result in installing a new route over an updated set of tunnel next-hops and IP next-hops.

When **igp-shortcut** is enabled at the IGP instance level, all RSVP-TE and SR-TE LSPs originating on this node are eligible by default as long as the destination address of the LSP, as configured in **config>router>mpls>lsp>to**, corresponds to a router ID of a remote node. LSPs with a destination corresponding to an interface address or any other loopback interface address of a remote node are automatically not considered by IGP. The user can, however, exclude a specific RSVP-TE or SR-TE LSP from being used as a shortcut for resolving IGP routes by entering the **config>router>mpls>lsp>no igp-shortcut** command.

The SPF in IGP only uses RSVP LSPs as forwarding adjacencies, IGP shortcuts, or as endpoints for LDP-over-RSVP. These applications of RSVP LSPs are mutually exclusive at the IGP instance level. If two or more options are enabled in the same IGP instance, then forwarding adjacency takes precedence over the shortcut application, which takes precedence over the LDP-over-RSVP application.

The SPF in IGP uses SR-TE LSPs as IGP shortcuts only.

When ECMP is enabled on the system and multiple equal-cost paths exist for a prefix, the following selection criteria are used to pick up the set of tunnel and IP next-hops to program in the data path.

- Where a destination is a tunnel-endpoint (including external prefixes with tunnel-endpoint as the next-hop), the tunnel with lowest tunnel-index is selected (the IP next-hop is never used in this case).
- Where a destination is not a tunnel-endpoint:
  - LSPs with metric higher than underlying IGP cost between the endpoint of the LSP are excluded
  - Tunnel next-hops are preferred over IP next-hops
  - Within tunnel next-hops, the following priority applies to selection:
    1. The lowest endpoint-to-destination cost is selected
    2. If the endpoint-to-destination costs are the same, the lowest endpoint node router ID is selected
    3. If the router IDs are the same, the lowest tunnel index is selected
  - Within IP next-hops, the following priority applies to selection:
    1. The lowest downstream router ID is selected
    2. If the downstream router IDs are the same, the lowest interface-index is selected

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Note:
Although ECMP is not performed across both the IP and tunnel next-hops, the tunnel endpoint may lie in one of the shortest IGP paths for that prefix. In that case, the tunnel next-hop is always selected as long as the prefix cost using the tunnel is equal to or lower than the IGP cost.

When both RSVP-TE and SR-TE IGP shortcuts are available, the IP reach calculation, in the unicast routing table, will first follow the above ECMP tunnel and IP next-hop selection rules when resolving a prefix over IGP shortcuts. After the set of ECMP tunnel and IP next-hops have been selected, the preference of tunnel type is then applied based on the user setting for prefix family resolution. If the user enabled resolution of the prefix family to both RSVP-TE and SR-TE tunnel types, the TTM tunnel preference value is used to select one type for the prefix. In other words, an RSVP-TE LSP type is preferred to an SR-TE LSP type on a per-prefix basis.

The ingress IOM sprays the packets for this prefix over the set of tunnel next-hops and IP next-hops based on the hashing routine currently supported for IPv4 packets.

This feature provides IGP with the capability to populate the multicast RTM with the prefix IP next-hop when both the **igp-shortcut** and the **multicast-import** options are enabled in IGP. The unicast RTM can still use the tunnel next-hop for the same prefix. The SPF keeps track of both the direct first hop and the tunneled first hop of a node, which is added to the Dijkstra tree.

Platforms

All

igp-shortcut

Syntax

igp-shortcut

Context

[Tree] (config>router>ospf3 igp-shortcut)

[Tree] (config>router>ospf igp-shortcut)

Full Context

configure router ospf3 igp-shortcut

configure router ospf igp-shortcut

Description

This command enables the use of an RSVP-TE or SR-TE shortcut for resolving IGP routes by OSPF or IS-IS routing protocols.

This command instructs IGP to include RSVP LSPs and SR-TE LSPs originating on this node and terminating on the router ID of a remote node as direct links with a metric equal to the metric provided by MPLS.

During the IP reach calculation to determine the reachability of nodes and prefixes, LSPs are overlaid and the LSP metric is used to determine the subset of paths that are equal lowest cost to reach a node or a prefix. If the user enabled the **relative-metric** option for this LSP, IGP will apply the shortest IGP cost

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between the endpoints of the LSP plus the value of the offset, instead of the LSP operational metric, when computing the cost of a prefix that is resolved to the LSP.

When a prefix is resolved to a tunnel next hop, the packet is sent labeled with the label stack corresponding to the NHLFE of the RSVP-TE or SR-TE LSP, as well as the explicit-null IPv6 label at the bottom of the stack in the case of an IPv6 prefix. Any network event causing one or more IGP shortcuts to go down will trigger a full SPF computation, which may result in installing a new route over an updated set of tunnel next-hops and IP next-hops.

When **igp-shortcut** is enabled at the IGP instance level, all RSVP-TE and SR-TE LSPs originating on this node are eligible by default as long as the destination address of the LSP, as configured in **config>router>mpls>lsp>to**, corresponds to a router ID of a remote node. LSPs with a destination corresponding to an interface address or any other loopback interface address of a remote node are automatically not considered by IGP. The user can, however, exclude a specific RSVP-TE or SR-TE LSP from being used as a shortcut for resolving IGP routes by entering the **config>router>mpls>lsp>no igp-shortcut** command.

The SPF in IGP only uses RSVP LSPs as forwarding adjacencies, IGP shortcuts, or as endpoints for LDP-over-RSVP. These applications of RSVP LSPs are mutually exclusive at the IGP instance level. If two or more options are enabled in the same IGP instance, then forwarding adjacency takes precedence over the shortcut application, which takes precedence over the LDP-over-RSVP application.

The SPF in IGP uses SR-TE LSPs as IGP shortcuts only.

When ECMP is enabled on the system and multiple equal-cost paths exist for a prefix, the following selection criteria are used to pick up the set of tunnel and IP next-hops to program in the data path.

- Where a destination is a tunnel-endpoint (including external prefixes with tunnel-endpoint as the next hop), the tunnel with lowest tunnel-index is selected (the IP next hop is never used in this case).
- Where a destination is not a tunnel-endpoint:
  - LSPs with metric higher than underlying IGP cost between the endpoint of the LSP are excluded
  - Tunnel next-hops are preferred over IP next-hops
  - Within tunnel next-hops:
    1. The lowest endpoint-to-destination cost is selected
    2. If the endpoint-to-destination costs are the same, the lowest endpoint node router ID is selected
    3. If the router IDs are the same, the lowest tunnel index is selected
  - Within IP next-hops:
    1. The lowest downstream router ID is selected
    2. If the downstream router IDs are the same, the lowest interface-index is selected

Note:
Although ECMP is not performed across both the IP and tunnel next-hops, the tunnel endpoint may lie in one of the shortest IGP paths for that prefix. In that case, the tunnel next hop is always selected as long as the prefix cost using the tunnel is equal or lower than the IGP cost.

When both RSVP-TE and SR-TE IGP shortcuts are available, the IP reach calculation, in the unicast routing table, will first follow the above ECMP tunnel and IP next hop selection rules when resolving a prefix over IGP shortcuts. After the set of ECMP tunnel and IP next-hops have been selected, the preference of tunnel type is then applied based on the user setting of the resolution of the family of the prefix. If the user enabled resolution of the prefix family to both RSVP-TE and SR-TE tunnel types, the

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TTM tunnel preference value is used to select one type for the prefix. In other words, the RSVP-TE LSP type is preferred to an SR-TE LSP type on a per-prefix basis.

The ingress IOM sprays the packets for this prefix over the set of tunnel next-hops and IP next-hops based on the hashing routine currently supported for IPv4 packets.

This feature provides IGP with the capability to populate the multicast RTM with the prefix IP next hop when both the **igp-shortcut** and the **multicast-import** options are enabled in IGP. The unicast RTM can still make use of the tunnel next hop for the same prefix. This change is made possible with the enhancement by which SPF keeps track of both the direct first hop and the tunneled first hop of a node which is added to the Dijkstra tree.

Platforms

All

20.63 iid-tlv-enable

iid-tlv-enable

Syntax

[**no**] **iid-tlv-enable**

Context

[Tree] (config>service>vprn>isis iid-tlv-enable)

Full Context

configure service vprn isis iid-tlv-enable

Description

This command enables IS-IS multi-instance (MI) as described in draft-ietf-isis-mi-02. Multiple instances allow instance-specific adjacencies to be formed that support multiple network topologies on the same physical interfaces. Each instance has an LSDB, and each PDU contains a TLV identifying the instance and the topology to which the PDU belongs.

The **iid-tlv-enable** (based on draft-ietf-isis-mi-02) and **standard-multi-instance** (based on draft-ginsberg-isis-mi-bis-01) commands cannot be configured in the same instance, because the MAC addresses and PDUs in each standard are incompatible.

Default

no iid-tlv-enable

Platforms

All

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iid-tlv-enable

Syntax

[**no**] **iid-tlv-enable**

Context

[Tree] (config>router>isis iid-tlv-enable)

Full Context

configure router isis iid-tlv-enable

Description

This command enables IS-IS multi-instance (MI) as described in *draft-ietf-isis-mi-02*. Multiple instances allows the formation of instance-specific adjacencies that support multiple network topologies on the same physical interfaces. Each instance has an LSDB, and each PDU contains a TLV that identifies the instance and the topology to which the PDU belongs.

The **iid-tlv-enable** (based on *draft-ietf-isis-mi-02*) and **standard-multi-instance** (based on *draft-ginsberg-isis-mi-bis-01*) commands cannot be configured in the same instance, because the MAC addresses and PDUs in each standard are incompatible.

The **no** form of this command disables IS-IS MI.

Platforms

All

20.64 ike-auth-algorithm

ike-auth-algorithm

Syntax

ike-auth-algorithm {**md5** | **sha1** | **sha256** | **sha384** | **sha512** | **aes-xcbc** | **auth-encryption**}

Context

[Tree] (config>ipsec>ike-transform ike-auth-algorithm)

Full Context

configure ipsec ike-transform ike-auth-algorithm

Description

This command configures the IKE authentication algorithm for the IKE transform.

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Default

ike-auth-algorithm sha256

Parameters

auth-algorithm

Specifies the values used to identify the hashing algorithm

Values **md5** – Configures the HMAC-MD5 algorithm for authentication

sha1 – Configures the HMAC-SHA1 algorithm for authentication

sha256 – Configures the HMAC-SHA256 algorithm for authentication

sha384 – Configures the HMAC-SHA384 algorithm for authentication

sha512 – Configures the HMAC-SHA512 algorithm for authentication

aes-xcbc – Configures the use of AES-XCBC (RFC 3566, *The AES-XCBC-MAC-96 Algorithm and Its Use With IPsec*) algorithm for authentication

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.65 ike-encryption-algorithm

ike-encryption-algorithm

Syntax

ike-encryption-algorithm {**des** | **3des** | **aes128** | **aes192** | **aes256** | **aes128-gcm8** | **aes128-gcm16** | **aes256-gcm8** | **aes256-gcm16**}

Context

[Tree] (config>ipsec>ike-transform ike-encryption-algorithm)

Full Context

configure ipsec ike-transform ike-encryption-algorithm

Description

This command configures the IKE encryption algorithm to be used in the IKE transform instance.

Default

ike-encryption-algorithm aes128

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Parameters

encryption-algorithm

Specifies the IKE encryption algorithm.

Values **des** – Specifies the 56-bit DES algorithm for encryption. It is a weak algorithm, in terms of security strength, and is not recommended if a stronger algorithm, like aes128, can be used.

3des – Specifies the 3DES algorithm for encryption. It is a weak algorithm, in terms of security strength, and is not recommended if a stronger algorithm, like aes128, can be used.

aes128 – Specifies the AES algorithm, with a block size of 128 bits.

aes192 – Specifies the AES algorithm, with a block size of 192 bits.

aes256 – Specifies the AES algorithm, with a block size of 256 bits.

aes128-gcm8 – Specifies the AES-GCM algorithm, with a 128-bit key size and an 8-byte ICV, for encryption and authentication.

aes128-gcm16 – Specifies the AES-GCM algorithm, with a 128-bit key size and a 16-byte ICV, for encryption and authentication.

aes256-gcm8 – Specifies the AES-GCM algorithm, with a 256-bit key size and an 8-byte ICV, for encryption and authentication.

aes256-gcm16 – Specifies the AES-GCM algorithm, with a 256-bit key size and a 16-byte ICV, for encryption and authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.66 ike-mode

ike-mode

Syntax

ike-mode {**main** | **aggressive**}

no ike-mode

Context

[Tree] (config>ipsec>ike-policy ike-mode)

Full Context

configure ipsec ike-policy ike-mode

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Description

This command specifies one of either two modes of operation. IKE version 1 can support main mode and aggressive mode. The difference lies in the number of messages used to establish the session.

The **no** form of this command reverts to the default.

Default

no ike-mode

Parameters

main

Specifies identity protection for the hosts initiating the IPsec session. This mode takes slightly longer to complete.

aggressive

Specifies that the aggressive mode provides no identity protection but is faster.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.67 ike-policy

ike-policy

Syntax

ike-policy *ike-policy-id* [**create**]

no ike-policy *ike-policy-id*

Context

[Tree] (config>ipsec ike-policy)

Full Context

configure ipsec ike-policy

Description

Commands in this context configure an IKE policy.

The **no** form of this command

Parameters

ike-policy-id

Specifies a policy ID value to identify the IKE policy.

Values 1 to 2048

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ike-policy

Syntax

ike-policy *ike-policy-id*

no ike-policy

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn ike-policy)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn ike-policy)

[Tree] (config>ipsec>trans-mode-prof>dyn ike-policy)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn ike-policy)

[Tree] (config>service>vprn>if>sap>ipsec-gw ike-policy)

[Tree] (config>service>ies>if>sap>ipsec-gw ike-policy)

Full Context

configure router interface ipsec ipsec-tunnel dynamic-keying ike-policy

configure service ies interface ipsec ipsec-tunnel dynamic-keying ike-policy

configure ipsec ipsec-transport-mode-profile dynamic-keying ike-policy

configure service vprn interface ipsec ipsec-tunnel dynamic-keying ike-policy

configure service vprn interface sap ipsec-gw ike-policy

configure service ies interface sap ipsec-gw ike-policy

Description

This command specifies the ID of the IKE policy used for IKE negotiation.

The **no** form of this command removes the IKE policy ID from the configuration.

Parameters

ike-policy-id

Specifies the IKE policy ID.

Values 1 to 2048

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel dynamic-keying ike-policy
- configure router interface ipsec ipsec-tunnel dynamic-keying ike-policy
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying ike-policy

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7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-gw ike-policy
- configure ipsec ipsec-transport-mode-profile dynamic-keying ike-policy
- configure service ies interface sap ipsec-gw ike-policy

20.68 ike-prf-algorithm

ike-prf-algorithm

Syntax

ike-prf-algorithm {**md5** | **sha1** | **sha256** | **sha384** | **sha512** | **aes-xcbc** | **same-as-auth**}

Context

[Tree] (config>ipsec>ike-transform ike-prf-algorithm)

Full Context

configure ipsec ike-transform ike-prf-algorithm

Description

This command specifies the PRF algorithm to use for IKE security association.

Note:
If an authenticated encryption algorithm like AES-GCM is used for IKE encryption algorithm, **same-as-auth** cannot be used for **ike-prf-algorithm**.

Default

ike-prf-algorithm same-as-auth

Parameters

md5

This parameter configures IKE to use the **hmac-md5** algorithm for PRF.

sha1

This parameter configures IKE to use the **hmac-sha1** algorithm for PRF.

sha256

This parameter configures IKE to use the **hmac-sha256** algorithm for PRF.

sha384

This parameter configures IKE to use the **hmac-sha384** algorithm for PRF.

sha512

This parameter configures IKE to use the **hmac-sha512** algorithm for PRF.

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aes-xcbc

This parameter configures IKE to use the **aes128-xcbc** algorithm for PRF.

same-as-auth

This parameter configures the same algorithm as IKE authentication algorithm.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.69 ike-transform

ike-transform

Syntax

ike-transform *ike-transform-id* [*ike-transform-id* ...(up to 4 max)]

no ike-transform

Context

[Tree] (config>ipsec>ike-policy ike-transform)

Full Context

configure ipsec ike-policy ike-transform

Description

This command specifies the IKE transform to be used in the IKE policy. Up to four IKE transforms can be specified. If multiple IDs are specified, the system selects an IKE transform based on the peer's proposal. If the system is a tunnel initiator, it uses the configured IKE transform to generate the SA payload.

Default

no ike-transform

Parameters

ike-transform-id

Specifies up to four existing IKE transform instances to be associated with this IKE policy.

Values 1 to 4096

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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ike-transform

Syntax

ike-transform *ike-transform-id* [**create**]

no ike-transform *ike-transform-id*

Context

[Tree] (config>ipsec ike-transform)

Full Context

configure ipsec ike-transform

Description

This commands creates a new or enters an existing IKE transform instance. The IKE transform include following configuration for IKE SA:

- DH Group
- IKE authentication algorithm
- IKE encryption algorithm
- IKE SA lifetime

The *ike-transform-id* is referenced in the **ike-policy** configuration.

Parameters

ike-transform

Specifies a number used to uniquely identify an IKE transform instance.

Values 1 to 4096

create

Keyword used to create the ike-transform instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.70 ike-version

ike-version

Syntax

ike-version {**1** | **2**}

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Context

[Tree] (config>ipsec>ike-policy ike-version)

Full Context

configure ipsec ike-policy ike-version

Description

This command configures the IKE version (1 or 2) that the IKE policy uses.

Default

ike-version 2

Parameters

1 | 2

Specifies the version of IKE protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.71 ikev1-ph1-responder-delete-notify

ikev1-ph1-responder-delete-notify

Syntax

[**no**] **ikev1-ph1-responder-delete-notify**

Context

[Tree] (config>ipsec>ike-policy ikev1-ph1-responder-delete-notify)

Full Context

configure ipsec ike-policy ikev1-ph1-responder-delete-notify

Description

This command configures the system to send a delete notification to the peer when deleting an IKEv1 phase 1 SA for which it was the responder. This command only applies when the IKE version 1 is configured. This command is ignored with IKE version 2.

The **no** form of this command reverts to the default.

Default

ikev1-ph1-responder-delete-notify

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.72 ikev2-fragment

ikev2-fragment

Syntax

ikev2-fragment mtu *octets* **reassembly-timeout** *seconds*

no ikev2-fragment

Context

[Tree] (config>ipsec>ike-policy ikev2-fragment)

Full Context

configure ipsec ike-policy ikev2-fragment

Description

This command enables IKEv2 protocol level fragmentation (RFC 7383). The specified MTU is the maximum size of IKEv2 packet.

Default

no ikev2-fragment

Parameters

octets

Specifies the MTU for IKEv2 messages.

Values 512 to 9000

seconds

Specifies the timeout for reassembly.

Values 1 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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20.73 image-digital-signature-validate

image-digital-signature-validate

Syntax

image-digital-signature-validate *file-url*

Context

[Tree] (admin>system>security image-digital-signature-validate)

Full Context

admin system security image-digital-signature-validate

Description

This command validates the digital signature of the following software image files located at the specified URL: cpm.tim, both.tim, iom.tim, boot.ldr, support.tim, kernel.tim, hypervisor.tim, isa-aa.tim.

The signatures.txt file must be present in the same folder as the preceding files. To ensure the signatures.txt file is present on both the active and standby CF, see "DS upgrade procedure" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide*.

Parameters

file-url

Specifies the URL of the software image location, up to 256 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.74 imei

imei

Syntax

[**no**] **imei**

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute imei)

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute imei)

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Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute imei

configure subscriber-mgmt radius-accounting-policy include-radius-attribute imei

Description

This command enables the inclusion of the IMEI in AA protocols as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

imei

Syntax

[**no**] **imei**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp imei)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp imei

Description

This command enables the inclusion of the IMEI AVP, as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the AVP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.75 implicit-generation

implicit-generation

Syntax

[**no**] **implicit-generation**

Context

[Tree] (config>subscr-mgmt>auto-sub-id-key implicit-generation)

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Full Context

configure subscriber-mgmt auto-sub-id-key implicit-generation

Description

By default, the system automatically generates a subscriber identifier, using the characters A to Z and 0 to 9, that is used when a subscriber ID is not provided during the authentication of a subscriber host or session and when no explicit default **def-sub-id** is configured at the SAP or in the MSAP policy.

A subscriber ID obtained from authentication sources can conflict with the format of an implicit, automatically generated subscriber ID. When this happens, the subscriber host or session setup fails and generates the following message: "Non auto-generated sub-id 4574233754 with an auto sub-id format not allowed". Therefore, when implicit subscriber ID generation is enabled (the default behavior), a 10-character string containing characters A to Z and 0 to 9 should not be returned from authentication sources.

The **no** form of this command disables the implicit automatic generation of subscriber IDs. When a subscriber ID is not provided in authentication and no explicit **def-sub-id** is configured, then the host or session setup fails and generates the following message: "Missing subscriber id". A 10-character (A to Z and 0 to 9) subscriber ID format can be returned from authentication sources without the risk of conflicts.

Disabling the implicit automatic generation of subscriber IDs fail when there are active subscribers with an implicit automatically generated subscriber ID.

Enabling the implicit automatic generation of subscriber IDs fails when there are active subscribers.

Default

implicit-generation

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.76 implicit-null-label

implicit-null-label

Syntax

[**no**] **implicit-null-label**

Context

[Tree] (config>router>ldp implicit-null-label)

Full Context

configure router ldp implicit-null-label

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Description

This command enables the use of the implicit null label. Use this command to signal the implicit null option for all LDP FECs for which this node is the egress LER.

The **no** form of this command disables the signaling of the implicit null label.

Default

no implicit-null-label

Platforms

All

implicit-null-label

Syntax

[**no**] **implicit-null-label**

Context

[Tree] (config>router>rsvp implicit-null-label)

Full Context

configure router rsvp implicit-null-label

Description

This command enables the use of the implicit null label.

Signaling the IMPLICIT NULL label value for all RSVP LSPs can be enabled for which this node is the egress LER. RSVP must be shut down before being able to change this configuration option.

The egress LER does not signal the implicit null label value on P2MP RSVP LSPs. However, the Penultimate Hop Popping (PHP) node can honor a Resv message with the label value set to the implicit null.

The **no** form of this command disables the signaling of the implicit null label.

Default

no implicit-null-label

Platforms

All

implicit-null-label

Syntax

implicit-null-label [**enable** | **disable**]

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no implicit-null-label

Context

[Tree] (config>router>rsvp>interface implicit-null-label)

Full Context

configure router rsvp interface implicit-null-label

Description

This command enables the use of the implicit null label over a specific RSVP interface.

All LSPs for which this node is the egress LER and for which the path message is received from the previous hop node over this RSVP interface will signal the implicit null label. This means that if the egress LER is also the merge-point (MP) node, then the incoming interface for the path refresh message over the bypass dictates if the packet will use the implicit null label or not. The same for a 1-to-1 detour LSP.

The user must shut down the RSVP interface before being able to change the implicit null configuration option.

The **no** form of this command returns the RSVP interface to use the RSVP level configuration value.

Default

no implicit-null-label

Parameters

enable

Enables the implicit null label.

disable

Disables the implicit null label.

Platforms

All

20.77 import

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>mld-parameters import)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>mld-parameters import)

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Full Context

configure subscriber-mgmt local-user-db ppp host mld-parameters import

configure subscriber-mgmt local-user-db ipoe host mld-parameters import

Description

This command configures an MLD import policy.

The LUDB allows a list of up to 14 MLD import policies per host. The MLD policy also allows the configuration of an additional import policy, providing a total of 15 MLD import policies per host. The import policy inside the MLD policy is always applied last, which determines if the list is a black list or a white list. To configure an MLD white list, the import policies in the LUDB should all be allowed or forward entries and the import policy in the MLD policy should have a default action to deny all. To configure a black list, the import policies inside the LUDB should drop entries and the MLD policy import policy default action should be to forward all. The 15 import policies can be configured to be a mixed white and black list. Since it is difficult to control the order of the import policies within the LUDB, it is recommended to provision the import policy inside the MLD policy first for deterministic behavior.

The **no** form of this command removes the specified import policy.

Parameters

policy-name

Specifies the MLD import policy, up to 32 characters, used to control the multicast group accessible for the subscriber host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping import)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping import)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping import)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping import)

[Tree] (config>service>vpls>sap>igmp-snooping import)

[Tree] (config>service>vpls>sap>mld-snooping import)

Full Context

configure service vpls mesh-sdp igmp-snooping import

configure service vpls spoke-sdp mld-snooping import

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configure service vpls spoke-sdp igmp-snooping import

configure service vpls mesh-sdp mld-snooping import

configure service vpls sap igmp-snooping import

configure service vpls sap mld-snooping import

Description

This command specifies the import routing policy to be used for IGMP packets to be used on this SAP or SDP. Only a single policy can be imported on a SAP at any time.

The **no** form of this command removes the policy association from the SAP or SDP.

Default

no import

Parameters

policy-name

Specifies the routing policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Routing policies are configured in the **config>router>policy-options** context The router policy must be defined before it can be imported.

Platforms

All

import

Syntax

import *policy* [*policy*]

no import

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy import)

Full Context

configure subscriber-mgmt bgp-peering-policy import

Description

This command specifies the import policies to be used to control routes advertised to BGP neighbors. Route policies are configured in the **config>router>policy-options** context. When multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied.

The **no** form of this command removes all route policy names from the import list.

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Default

no import — BGP accepts all routes from configured BGP neighbors. Import policies can be used to limit or modify the routes accepted and their corresponding parameters and metrics.

Parameters

policy

Specifies route policy statement name, up to 32 characters. Up to five policies can be specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>subscr-mgmt>igmp-policy import)

Full Context

configure subscriber-mgmt igmp-policy import

Description

This command specifies the import policy to filter IGMP packets.

The **no** form of this command reverts to the default value.

Parameters

policy-name

Specifies the policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

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Context

[Tree] (config>subscr-mgmt>msap-policy>igmp-host-tracking import)

Full Context

configure subscriber-mgmt msap-policy igmp-host-tracking import

Description

This command specifies the import routing policy to be used for IGMP packets to be used on this SAP or SDP. Only a single policy can be imported on a single SAP at any time.

The **no** form of this command removes the policy association from the SAP or SDP.

Parameters

policy-name

Specifies the routing policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp import)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping import

Description

This command specifies the import routing policy to be used for IGMP packets to be used on this SAP or SDP. Only a single policy can be imported on a single SAP at any time.

The **no** form of this command removes the policy association from the SAP or SDP.

Parameters

policy-name

Specifies the routing policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Routing policies are configured in the **config>router>policy-options** context The router policy must be defined before it can be imported.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>subscr-mgmt>mld-policy import)

Full Context

configure subscriber-mgmt mld-policy import

Description

This command specifies the import routing policy to be used. Only a single policy can be imported at a time.

The **no** form of this command removes the policy association.

Parameters

policy-name

Specifies the import policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Routing policies are configured in the **config>router>policy-options** context The router policy must be defined before it can be imported.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>igmp-trk import)

Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking import

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Description

This command specifies the import routing policy to be used for IGMP packets on this SAP or SDP. Only a single policy can be imported on a single SAP at any time.

The **no** form of this command removes the policy association from the SAP or SDP.

Parameters

policy-name

Specifies the routing policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Routing policies are configured in the **configure router policy-options** context. The router policy must be defined before it can be imported.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>service>vpls>sap>igmp-host-tracking import)

Full Context

configure service vpls sap igmp-host-tracking import

Description

This command associates an import policy to filter IGMP packets.

The **no** form of this command removes the values from the configuration.

Default

no import

Parameters

policy-name

Specifies the import policy name

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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import

Syntax

import *policy-name*

no import

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>igmp-host-tracking import)

Full Context

configure service ies subscriber-interface group-interface sap igmp-host-tracking import

Description

This command specifies the import routing policy to be used for IGMP packets to be used on this SAP. Only a single policy can be imported on a single SAP at any time.

The **no** form of this command removes the policy association from the SAP.

Default

no import — No import policy is specified.

Parameters

policy-name

Specifies the import policy name. Values can be string up to 32 characters long of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. These policies are configured in the **config>router> policy-options** context. The router policy must be defined before it can be imported.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

import

Syntax

import *plcy-or-long-expr* [*plcy-or-expr*]

no import

Context

[Tree] (config>service>vprn>bgp>group>neighbor import)

[Tree] (config>service>vprn>bgp>group import)

[Tree] (config>service>vprn>bgp import)

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Full Context

configure service vprn bgp group neighbor import

configure service vprn bgp group import

configure service vprn bgp import

Description

This command is used to specify route policies that control the handling of inbound routes received from certain peers. Route policies are configured in the **config>router>policy-options** context.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in a peer-group) or neighbor level (only applies to the specified peer). The most specific level is used

The **import** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine the modifications of each route and the final action to accept or reject the route.

Only one of the 15 objects referenced by the **import** command can be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters while the remaining 14 objects have a maximum length of 64 characters each.

When multiple **import** commands are issued, the last command entered overrides the previous command.

When an import policy is not specified, BGP routes are accepted by default.

The **no** form of this command removes the policy association.

Default

no import

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters).

plcy-or-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters).

Platforms

All

import

Syntax

import *policy-name*

no import

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Context

[Tree] (config>service>vprn>igmp>if import)

[Tree] (config>service>vprn>igmp>grp-if import)

Full Context

configure service vprn igmp interface import

configure service vprn igmp group-interface import

Description

This command imports a policy to filter IGMP packets.

The **no** form of this command removes the policy association from the IGMP instance.

Default

no import — No import policy specified.

Parameters

policy-name

Specifies the import route policy name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

The specified name(s) must already be defined.

Platforms

All

- configure service vprn igmp interface import

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface import

import

Syntax

import *policy-name* [*policy-name* ... (up to 5 max)]

no import

Context

[Tree] (config>service>vprn>isis import)

Full Context

configure service vprn isis import

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Description

This command applies one or more (up to five) route polices as IS-IS import policies.

When a prefix received in an IS-IS LSP is accepted by an entry in an IS-IS import policy, it is installed in the routing table, if it is the most preferred route to the destination.

When a prefix received in an IS-IS LSP is rejected by an entry in an IS-IS import policy, it is not installed in the routing table, even if it has the lowest preference value among all the routes to that destination.

The flooding of LSPs is unaffected by IS-IS import policy actions.

The **no** form of this command removes all policies from the configuration.

Default

no import

Parameters

policy-name

Identifies the export route policy name. Allowed values are any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. The specified name(s) must already be defined.

Platforms

All

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>service>vprn>mld>if import)

Full Context

configure service vprn mld interface import

Description

This command specifies the import route policy to be used for determining which membership reports are accepted by the router. Route policies are configured in the **config>router>policy-options** context.

When an import policy is not specified, all the MLD reports are accepted.

The **no** form of this command removes the policy association from the MLD instance.

Default

no import

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Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

import

Syntax

import *policy-name* [*policy-name* **...**(**up to 5 max**)]

no import

Context

[Tree] (config>service>vprn>msdp>group import)

[Tree] (config>service>vprn>msdp>group>peer import)

[Tree] (config>service>vprn>msdp>peer import)

[Tree] (config>service>vprn>msdp import)

Full Context

configure service vprn msdp group import

configure service vprn msdp group peer import

configure service vprn msdp peer import

configure service vprn msdp import

Description

This command specifies the policies to import source active state from Multicast Source Discovery Protocol (MSDP) into source active list.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple import commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

If you configure an import policy at the global level, each individual peer inherits the global policy.

If you configure an import policy at the group level, each individual peer in a group inherits the group's policy.

If you configure an import policy at the peer level, then policy only applies to the peer where it is configured.

The **no** form of this command removes all policies from the configuration.

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Default

no import

Parameters

policy-name

Specifies the import policy name. Up to five policy-name arguments can be specified.

Platforms

All

import

Syntax

import {**unicast** | *ext-community*}

Context

[Tree] (config>service>vprn>mvpn>vrf-target import)

Full Context

configure service vprn mvpn vrf-target import

Description

This command specifies communities to be accepted from peers.

Parameters

unicast

Specifies to use unicast vrf-target ext-community for the multicast VPN.

ext-comm

An extended BGP community in the **type**:**x**:**y** format. The value **x** can be an integer or IP address. The **type** can be the target or origin. **x** and **y** are 16-bit integers.

Values target:{*ip-address*:*comm-val* | *2byte-asnumber:ext-comm-val* | 4byte-asnumber:comm-val}

ip-address:	a.b.c.d
comm-val:	0 to 65535
2byte-asnumber:	1 to 65535
4byte-asnumber	0 to 4294967295

Platforms

All

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import

Syntax

import *policy-name* [*policy-name*]

no import

Context

[Tree] (config>service>vprn>ospf>area import)

[Tree] (config>service>vprn>ospf3>area import)

Full Context

configure service vprn ospf area import

configure service vprn ospf3 area import

Description

This command configures ABR import policies to filter OSPFv2 Type 3 Summary-LSAs or OSPFv3 Inter-Area-Prefix-LSA between areas, to only permit the specified routes from being imported into an area.

This command cannot be used in OSPF area 0.

The **no** form of this command reverts to the default value.

Default

no import

Parameters

policy-name

Specifies the export route policy name. A maximum of five policy names can be specified. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified policy names must be predefined and already exist in the system.

Platforms

All

import

Syntax

import *policy-name* [*policy-name*]

no import

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Context

[Tree] (config>service>vprn>ospf import)

[Tree] (config>service>vprn>ospf3 import)

Full Context

configure service vprn ospf import

configure service vprn ospf3 import

Description

This command applies one or more (up to five) route polices as OSPF import policies. When a prefix received in an OSPF LSA is accepted by an entry in an OSPF import policy it is installed in the routing table if it is the most preferred route to the destination. When a prefix received in an OSPF LSA is rejected by an entry in an OSPF import policy it is not installed in the routing table, even if it has the lowest preference value among all the routes to that destination. The flooding of LSAs is unaffected by OSPF import policy actions. This command only applies to the 7750 SR.

Default

If an OSPF route has the lowest preference value among all routes to a destination it is installed in the routing table.

Parameters

policy-name

Specifies the import route policy name. A maximum of five policy names can be specified. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

The specified policy name(s) must be predefined and already exist in the system.

Platforms

All

import

Syntax

import {**join-policy** | **register-policy**} *policy-name* [*policy-name* **...**(**up to 5 max**)]

no import {**join-policy** | **register-policy**}

Context

[Tree] (config>service>vprn>pim import)

Full Context

configure service vprn pim import

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Description

This command specifies the import route policy to be used for determining which routes are accepted from peers. Route policies are configured in the **config>router>policy-options** context. When an import policy is not specified, BGP routes are accepted by default.

The **no** form of this command removes the policy association from the IGMP instance.

Default

no import join-policy

no import register-policy

Parameters

join-policy

Use this command to filter PIM join messages which prevents unwanted multicast streams from traversing the network.

register-policy

This keyword filters register messages. PIM register filters prevent register messages from being processed by the RP. This filter can only be defined on an RP. When a match is found, the RP immediately sends back a register-stop message.

policy-name

Specifies the route policy name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

import

Syntax

import *policy-name* [*policy-name* **...**(**up to 5 max**)]

no import

Context

[Tree] (config>service>vprn>ripng>group>neighbor import)

[Tree] (config>service>vprn>ripng import)

[Tree] (config>service>vprn>rip>group>neighbor import)

[Tree] (config>service>vprn>ripng>group import)

[Tree] (config>service>vprn>rip>group import)

[Tree] (config>service>vprn>rip import)

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Full Context

configure service vprn ripng group neighbor import

configure service vprn ripng import

configure service vprn rip group neighbor import

configure service vprn ripng group import

configure service vprn rip group import

configure service vprn rip import

Description

This command configures import route policies to determine routes that will be accepted from RIP neighbors. If no import policy is specified, RIP accepts all routes from configured RIP neighbors. Import policies can be used to limit or modify the routes accepted and their corresponding parameters and metrics.

If multiple policy names are specified, the policies are evaluated in the order that they are specified. The first policy that matches is applied. If multiple import commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of this command removes all policies from the configuration.

Default

no import

Parameters

policy-name

The import route policy name. Allowed values are any string up to 32 characters in length and composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. The specified names must already be defined.

Platforms

All

import

Syntax

import *policy-name* [*policy-name*]

no import

Context

[Tree] (config>router>ldp import)

Full Context

configure router ldp import

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Description

This command configures import route policies to determine which label bindings (FECs) are accepted from LDP neighbors. Policies are configured in the **config>router>policy-options** context.

If no import policy is specified, LDP accepts all label bindings from configured LDP neighbors. Import policies can be used to limit or modify the routes accepted and their corresponding parameters and metrics.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple import commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of this command removes all policies from the configuration.

Default

no import

Parameters

policy-name

Specifies up to five import route policy names, up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified name(s) must already be defined.

Platforms

All

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>router>igmp>if import)

[Tree] (config>router>igmp>group-interface import)

Full Context

configure router igmp interface import

configure router igmp group-interface import

Description

This command applies the referenced IGMP policy (filter) to an interface subscriber or a group-interface. An IGMP filter is also known as a black/white list and it is defined under the **config>router>policy-options**.

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When redirection is applied, only the import policy from the subscriber will be in effect. The import policy under the group interface is applicable only for IGMP states received directly on the SAP (AN in IGMP proxy mode).

The **no** form of the command removes the policy association from the IGMP instance.

Default

no import

Parameters

policy-name

The route policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

- configure router igmp interface import

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface import

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>router>mld>if import)

[Tree] (config>router>mld>group-interface import)

Full Context

configure router mld interface import

configure router mld group-interface import

Description

This command specifies the import route policy to determine which membership reports are accepted by the router. Route policies are configured in the **config>router>policy-options** context.

When an import policy is not specified, all the MLD reports are accepted.

The **no** form of this command removes the policy association from the MLD instance.

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Default

no import

Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

- configure router mld interface import

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface import

import

Syntax

import *policy-name* [*policy-name...* (up to 5 max)]

no import

Context

[Tree] (config>router>msdp>peer import)

[Tree] (config>router>msdp import)

[Tree] (config>router>msdp>group>peer import)

[Tree] (config>router>msdp>group import)

Full Context

configure router msdp peer import

configure router msdp import

configure router msdp group peer import

configure router msdp group import

Description

This command specifies the policies to import SA states from MSDP into the SA list.

If multiple policy names are specified, the router evaluates the policies in the order they are specified, and applies the first policy that matches. If multiple import commands are issued, the last command entered overrides the previous command.

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If an import policy is configured at the global level, each individual peer inherits the global policy. If an import policy is configured at the group level, each individual peer in a group inherits the group's policy. If an import policy is configured at the peer level, then policy only applies to the peer where it is configured.

The **no** form of this command applies no import policies and all SA messages are allowed.

Default

no import

Parameters

policy-name

Specifies the import policy name, up to 32 characters. A maximum of five policy names can be specified.

Platforms

All

import

Syntax

import {**join-policy** | **register-policy**} [*policy-name* [*policy-name*]]

no import {**join-policy** | **register-policy**}

Context

[Tree] (config>router>pim import)

Full Context

configure router pim import

Description

This command specifies the import route policy to be used. Route policies are configured in the **config>router>policy-options** context.

When an import policy is not specified, BGP routes are accepted by default. Up to five import policy names can be specified.

The **no** form of this command removes the policy association from the instance.

Default

no import

Parameters

join-policy

Filters PIM join messages which prevents unwanted multicast streams from traversing the network.

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register-policy

Filters register messages. PIM register filters prevent register messages from being processed by the RP. This filter can only be defined on an RP. When a match is found, the RP immediately sends back a register-stop message.

policy-name

Specifies the route policy name, up to 32 characters. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

import

Syntax

import *policy-name*

no import

Context

[Tree] (config>service>pw-template>igmp-snooping import)

Full Context

configure service pw-template igmp-snooping import

Description

This command specifies the import routing policy to be used for IGMP packets. Only a single policy can be imported at a time.

The **no** form of the command removes the policy association.

Default

no import

Parameters

policy-name

Specifies the import policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Routing policies are configured in the config>router>policy-options context The router policy must be defined before it can be imported.

Platforms

All

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import

Syntax

import type {**cert** | **key** | **crl**} **input** *url-string* **output** *filename* **format** *input-format* [**password** [*32 chars max*]]

Context

[Tree] (admin>certificate import)

Full Context

admin certificate import

Description

This command converts an input file (key/certificate/CRL) to a system format file. The following list summarizes the formats supported by this command:

- Certificate
  - PKCS #12
  - PKCS #7 PEM encoded
  - PKCS #7 DER encoded
  - PEM
  - DER
- Key
  - PKCS #12
  - PEM
  - DER
- CRL
  - PKCS #7 PEM encoded
  - PKCS #7 DER encoded
  - PEM
  - DER

Note:
If there are multiple objects with the same type in the input file, only the first object is extracted and converted.

Parameters

input *url-string*

Specifies the URL for the input file. This URL could be either a local CF card URL file or a FP URL to download the input file.

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Values

url-string	<local-url> up to 99 characters
local-url	<cflash-id>/<file-path>
cflash-id	cf1:| cf2:| cf3:

output *filename*

Specifies the name of output file up to 95 characters. The output directory depends on the file type like following:

- Key: cf3:\system-pki\key
- Cert: cf3:\system-pki\cert
- CRL: cf3:\system-pki\CRL

type

The type of input file.

Values cert, key, crl

format

Specifies the format of input file.

Values pkcs12, pkcs7-der, pkcs7-pem, pem, der

password

Specifies the password to decrypt the input file in case that it is an encrypted PKCS#12 file.

Platforms

All

import

Syntax

import *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]]

no import

Context

[Tree] (config>router>bgp import)

[Tree] (config>router>bgp>group import)

[Tree] (config>router>bgp>group>neighbor import)

Full Context

configure router bgp import

configure router bgp group import

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configure router bgp group neighbor import

Description

This command specifies route policies that control the handling of inbound routes received from certain peers. Route policies are configured in the **config>router>policy-options** context.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific level is used.

The **import** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine the modifications of each route and the final action to accept or reject the route.

Only one of the 15 objects referenced by the **import** command is allowed to be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters; the remaining 14 objects have a maximum length of 64 characters each.

When multiple **import** commands are issued, the last command entered overrides the previous command.

When an import policy is not specified, BGP routes are accepted by default.

The **no** form of this command removes the policy association.

Default

no import

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters long) or a policy logical expression (up to 255 characters long). Allowed values are any string up to 255 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

plcy-or-expr

Specifies the route policy name (up to 64 characters long) or a policy logical expression (up to 64 characters long). Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

import

Syntax

import *policy-name* [*policy-name*]

no import

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Context

[Tree] (config>router>isis import)

Full Context

configure router isis import

Description

This command specifies up to five route polices as IS-IS import policies.

When a prefix received in an IS-IS LSP is accepted by an entry in an IS-IS import policy, it is installed in the routing table, if it is the most preferred route to the destination.

When a prefix received in an IS-IS LSP is rejected by an entry in an IS-IS import policy, it is not installed in the routing table, even if it has the lowest preference value among all the routes to that destination.

The flooding of LSPs is unaffected by IS-IS import policy actions.

The **no** form of this command removes all policies from the configuration.

Default

no import

Parameters

policy-name

Specifies the import route policy name. Allowed values are any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The specified names must already be defined.

Platforms

All

import

Syntax

import *policy-name* [*policy-name*]

no import

Context

[Tree] (config>router>ospf3 import)

[Tree] (config>router>ospf import)

Full Context

configure router ospf3 import

configure router ospf import

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Description

This command applies one or more (up to 5) route polices as OSPF import policies. When a prefix received in an OSPF LSA is accepted by an entry in an OSPF import policy, it is installed in the routing table if it is the most preferred route to the destination. When a prefix received in an OSPF LSA is rejected by an entry in an OSPF import policy, it is not installed in the routing table, even if it has the lowest preference value among all the routes to that destination. The flooding of LSAs is unaffected by OSPF import policy actions. The **no** form of this command removes all policies from the configuration.

Default

no import

Parameters

policy-name

Specifies up to 5 export route policy names. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The specified names must already be defined.

Platforms

All

import

Syntax

[**no**] **import** *policy-name* [*policy-name*]

Context

[Tree] (config>router>ospf3>area import)

[Tree] (config>router>ospf>area import)

Full Context

configure router ospf3 area import

configure router ospf area import

Description

This command configures ABR import policies to filter OSPFv2 Type 3 Summary-LSAs or OSPFv3 Inter-Area-Prefix-LSA between areas, in order to only permit the specified routes from being imported into an area.

This command cannot be used in OSPF area 0.

The **no** form of this command reverts to the default value.

Default

no import

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Parameters

policy-name

Specifies up to five import route policy names. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The specified names must already be defined.

Platforms

All

import

Syntax

import *policy-name* [*policy-name*]

no import

Context

[Tree] (config>router>ripng>group import)

[Tree] (config>router>rip>group>neighbor import)

[Tree] (config>router>rip>group import)

[Tree] (config>router>rip import)

[Tree] (config>router>ripng>group>neighbor import)

[Tree] (config>router>ripng import)

Full Context

configure router ripng group import

configure router rip group neighbor import

configure router rip group import

configure router rip import

configure router ripng group neighbor import

configure router ripng import

Description

This command configures import route policies to determine which routes are accepted from RIP neighbors. If no import policy is specified, RIP accepts all routes from configured RIP neighbors. Import policies can be used to limit or modify the routes accepted and their corresponding parameters and metrics.

If multiple policy names are specified, the policies are evaluated in the order they are specified. The first policy that matches is applied. If multiple import commands are issued, the last command entered will override the previous command. A maximum of five policy names can be specified.

The **no** form of the command removes all policies from the configuration.

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Default

no import

Parameters

policy-name

Specifies up to five import route policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified names must already be defined.

Platforms

All

import

Syntax

import {**ignore** | **accept** | **drop**}

Context

[Tree] (config>service>vprn>bgp-ipvpn>attribute-set import)

Full Context

configure service vprn bgp-ipvpn attribute-set import

Description

This command configures the reception behavior for ATTR_SETs in received VPN-IP routes.

Default

import ignore

Parameters

accept

Keyword to configure BGP to accept and process ATTR_SETs in received unicast VPN-IP routes (MPLS or SRv6) when they are imported into the VPRN. The path attributes contained inside the ATTR_SET are used for best-path selection within the VPRN, instead of the outer-path attributes attached to the imported VPN-IP route. The path attributes inside the ATTR_SET determine the path attributes of BGP routes advertised to PE-CE peers of the VPRN. However, the ATTR_SET is removed at the time of advertisement. VPRN BGP routes with attributes derived from **accept** processing are only advertised to EBGP peers and IBGP route reflector client peers. VPRN BGP routes are not advertised to BGP confederation peers. If the origin AS in the ATTR_SET attribute does not match the configured ASN, VPRN BGP routes with attributes derived from **accept** processing are advertised to IBGP peers that are not covered by a cluster configuration.

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drop

Keyword to configure BGP to ignore and silently discard ATTR_SETs in received VPN-IP routes when they are imported into the VPRN. The path attributes contained inside the ATTR_SET are not used for best path selection within the VPRN. If a VPRN is not involved in an independent domain Layer 3 VPN service, Nokia recommends configuring the **import** command to **drop**.

ignore

Keyword to configure BGP to ignore ATTR_SETs in received VPN-IP routes when they are imported into the VPRN. The path attributes contained inside the ATTR_SET are not used for best-path selection within the VPRN. With the **ignore** parameter, the ATTR_SET attribute is transmitted unchanged to the CE. Nokia does not recommend configuring the **import** command to **ignore** in most deployments.

Platforms

All

20.78 import-grt

import-grt

Syntax

import-grt *plcy-or-long-expr* [*plcy-or-expr*]

no import-grt

Context

[Tree] (config>service>vprn>grt import-grt)

Full Context

configure service vprn grt-lookup import-grt

Description

This command associates policies to control the leaking of GRT routes into the associated VPRN.

The GRT route must have first been leaked by a **leak-export** policy defined under the **config>router** context. Then the route must match a route entry in the specified **import-grt** policy with an accept action. Refer to the *IP Router Configuration Command Reference* section in the *7750 SR Extensible Routing System Virtualized Service Router*.

The **no** form of this command removes route leaking policy associations and disables the leaking of GRT routes into the local VPRN.

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Parameters

plcy-or-long-expr

Specifies route policy names, up to 64 characters, or a policy logical expression, up to 255 characters.

Values *plcy-or-long-expr*: *policy-name* | *long-expr*

policy-name: up to 64 characters

long-expr: up to 255 characters

plcy-or-expr

Specifies up to four route policy names, up to 64 characters, or a policy logical expression, up to 64 characters.

Values *plcy-or-expr*: *policy-name* | *expr*

policy-name: up to 64 characters

expr: up to 64 characters

Platforms

All

20.79 import-mcast-policy

import-mcast-policy

Syntax

import-mcast-policy *policy-name* [*policy-name*]

no import-mcast-policy

Context

[Tree] (config>router>ldp import-mcast-policy)

Full Context

configure router ldp import-mcast-policy

Description

This command configures an import policy for mLDP FECs arriving on the node. This command does not work for self-generated mLDP FECs. The action of the policy will accept or reject the FEC. If the FEC is rejected, it will be kept but is not resolved.

The **no** form of this command removes all policies from the configuration.

Default

no import-mcast-policy

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Parameters

policy-name

Specifies up to five import route policy names, up to 32 characters, to be assigned to mLDP. The specified name(s) must already be defined.

Platforms

All

20.80 import-pmsi-routes

import-pmsi-routes

Syntax

import-pmsi-routes

Context

[Tree] (config>router>ldp import-pmsi-routes)

Full Context

configure router ldp import-pmsi-routes

Description

Commands in this context configure import-pmsi-routes.

For option B, the leafs or ABR/ASBR that are not directly connected to the root have no visibility of the root. As such, for LDP to build the recursive FEC it needs to cache the MVPN PMSI AD routes, this command gives the user the ability to manually enable caching of MVPN PMSI AD routes internally in LDP for EVPN or MVPN inter-as or **mvpn_no_export_community** intra-as.

Platforms

All

20.81 import-prefixes

import-prefixes

Syntax

[**no**] **import-prefixes** *policy-name*

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Context

[Tree] (config>router>ldp>session-params>peer import-prefixes)

Full Context

configure router ldp session-parameters peer import-prefixes

Description

This command configures the import FEC prefix policy to determine which prefixes received from this LDP peer are imported and installed by LDP on this node. If resolved these FEC prefixes are then re-distributed to other LDP and T-LDP peers. A FEC prefix that is filtered out (deny) will not be imported. A FEC prefix that is filtered in (accept) will be imported.

If no import policy is specified, the node will import all prefixes received from this LDP/T-LDP peer. This policy is applied in addition to the global LDP policy and targeted session policy.

Policies are configured in the **config>router>policy-options** context. A maximum of five policy names can be specified. Peer address has to be the peer LSR-ID address.

The **no** form of the command removes the policy from the configuration.

Default

no import-prefixes - no import route policy is specified

Parameters

policy-name

Specifies up to five import-prefix route policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string. The specified name(s) must already be defined.

Platforms

All

import-prefixes

Syntax

import-prefixes *policy-name* [*policy-name*]

no import-prefixes

Context

[Tree] (config>router>ldp>targeted-session import-prefixes)

Full Context

configure router ldp targeted-session import-prefixes

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Description

This command configures the import route policy to determine which FEC prefix label bindings are accepted from targeted LDP neighbors into this node. A label binding that is filtered out (deny) will not be imported. A route that is filtered in (accept) will be imported.

If no import policy is specified, this node session will accept all bindings from configured targeted LDP neighbors. This policy is applied in addition to the global LDP policy.

Policies are configured in the **config>router>policy-option**s context. A maximum of five policy names can be specified.

The **no** form of this command removes the policy from the configuration.

Parameters

policy-name

Specifies up to five import policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

20.82 import-tunnel-table

import-tunnel-table

Syntax

import-tunnel-table *policy-name* [*policy-name*]

no import-tunnel-table

Context

[Tree] (config>router>ldp import-tunnel-table)

Full Context

configure router ldp import-tunnel-table

Description

This command controls the import, in the tunnel table, of LDP tunnels to non-host prefixes. This command is only intended for importing tunnels; it cannot be used for preventing the import of any specific prefix and only non-host prefixes will be considered when evaluating this policy in this context. The LDP tunnels to these non-host prefixes must be created before they can be imported.

This command does not affect the automatic import of LDP tunnels to host prefixes.

The **no** version of this command removes all of the import policies and, by consequence, any tunnels to non-host prefixes from the tunnel table. If a non-host prefix tunnel is currently being used for forwarding, disabling this command may be service-impacting.

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Default

no import-tunnel-table

Parameters

policy-name

Specifies up to five import route policy names. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified policy names must already be defined.

Platforms

All

20.83 imported-format

imported-format

Syntax

imported-format {**any** | **secure**}

Context

[Tree] (config>system>security>pki imported-format)

Full Context

configure system security pki imported-format

Description

This command specifies the allowed format of imported certificates or keys in the cf3:/system-pki directory.

Default

imported-format any

Parameters

any

Allows any imported format.

secure

Only allows enhanced secure imported formats.

Platforms

All

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20.84 improved-assert

improved-assert

Syntax

[**no**] **improved-assert**

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>pim improved-assert)

Full Context

configure service vprn mvpn provider-tunnel inclusive pim improved-assert

Description

This command enables improved assert procedure on the PIM inclusive provider tunnel.

The **no** form of this command disables improved assert procedure.

Default

enabled

Platforms

All

improved-assert

Syntax

[**no**] **improved-assert**

Context

[Tree] (config>service>vprn>pim>if improved-assert)

Full Context

configure service vprn pim interface improved-assert

Description

This command enables improved assert processing on this interface. The PIM assert process establishes a forwarder for a LAN and requires interaction between the control and forwarding planes.

The assert process is started when data is received on an outgoing interface. This could impact performance if data is continuously received on an outgoing interface.

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When enabled, the PIM assert process is done entirely on the control-plane with no interaction between the control and forwarding plane.

Default

improved-assert

Platforms

All

improved-assert

Syntax

[**no**] **improved-assert**

Context

[Tree] (config>router>pim>interface improved-assert)

Full Context

configure router pim interface improved-assert

Description

This command enables improved assert processing. The PIM assert process establishes a forwarder for a LAN and requires interaction between the control and forwarding planes. The assert process is started when data is received on an outgoing interface meaning that duplicate traffic is forwarded to the LAN until the forwarder is negotiated among the routers.

When the **improved-assert** command is enabled, the PIM assert process is done entirely in the control plane. The advantages are that it eliminates duplicate traffic forwarding to the LAN. It also improves performance since it removes the required interaction between the control and data planes.

Note:
improved-assert is still fully interoperable with the RFC 4601, *Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised)* and RFC 2362, *Protocol Independent Multicast-Sparse Mode (PIM-SM)*, implementations. However, there may be conformance tests that may fail if the tests expect control-data plane interaction in determining the assert winner. Disabling the **improved-assert** command when performing conformance tests is recommended.

Default

improved-assert

Platforms

All

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20.85 imsi

imsi

Syntax

[**no**] **imsi** *imsi*

Context

[Tree] (debug>gtp imsi)

Full Context

debug gtp imsi

Description

This command restricts debugging to only data related to the specified IMSI. This command can be repeated multiple times, where only data for any of the specified IMSIs is debugged.

The **no** form of this command removes the filter for the specified IMSI. If the last IMSI filter is removed, all data is debugged again, but may be restricted by other filters.

Parameters

imsi

Specifies the mobile subscriber identity, as a string of up to 15 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

imsi

Syntax

[**no**] **imsi**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute imsi)

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute imsi)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute imsi

configure subscriber-mgmt authentication-policy include-radius-attribute imsi

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Description

This command includes the IMSI RADIUS attribute for FWA sessions.

The **no** form of this command excludes the RADIUS IMSI attribute.

Default

no imsi

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.86 imsi-apn-filter

imsi-apn-filter

Syntax

imsi-apn-filter

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter imsi-apn-filter)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter imsi-apn-filter

Description

This command configures a TCA for the counter capturing hits due to the GTP IMSI-APN filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

imsi-apn-filter

Syntax

imsi-apn-filter

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr imsi-apn-filter)

Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter

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Description

Commands in this context configure IMSI and APN filtering. By default, no APN or IMSI filtering is performed.

The **gtpc-inspection** command must be enabled before using this command.

This command applies only to the GTP packets that contain IMSI or APN information elements (IEs).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.87 in-band-control-path

in-band-control-path

Syntax

in-band-control-path

Context

[Tree] (config>redundancy>mc>peer>mcr>ring in-band-control-path)

[Tree] (config>redundancy>mc>peer>mc>l3-ring in-band-control-path)

Full Context

configure redundancy multi-chassis peer mc-ring ring in-band-control-path

configure redundancy multi-chassis peer multi-chassis l3-ring in-band-control-path

Description

Commands in this context configure control path parameters.

The **no** form of this command reverts to the default.

Platforms

All

20.88 in-label

in-label

Syntax

in-label *in-label* **out-label** *out-label* **out-link** *if-name* [**next-hop** *next-hop*]

no in-label

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Context

[Tree] (config>router>mpls>mpls-tp>transit-path>reverse-path in-label)

[Tree] (config>router>mpls>mpls-tp>transit-path>forward-path in-label)

Full Context

configure router mpls mpls-tp transit-path reverse-path in-label

configure router mpls mpls-tp transit-path forward-path in-label

Description

This command configures the label mapping associated with a forward path or reverse path of an MPLS-TP transit path to be configured.

The incoming label, outgoing label and outgoing interface must be configured, using the **in-label**, **out-label** and **out-link** parameters. If the out-link refers to a numbered IP interface, the user may optionally configure the **next-hop** parameter and the system will determine the interface to use to reach the configured next-hop, but will check that the user-entered value for the *out-link* corresponds to the link returned by the system. If they do not correspond, then the path will not come up.

Default

no in-label

Parameters

in-label

Specifies the in label.

Values 32 to 16415

out-label

Specifies the out label.

Values 32 to 16415

if-name

Specifies the name of the outgoing interface use for the path.

next-hop

Specifies the next-hop.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

in-label

Syntax

in-label *in-label*

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no in-label

Context

[Tree] (config>router>mpls>lsp>working-tp-path in-label)

[Tree] (config>router>mpls>lsp>protect-tp-path in-label)

Full Context

configure router mpls lsp working-tp-path in-label

configure router mpls lsp protect-tp-path in-label

Description

This command configures the incoming label for the reverse path or the working path or the protect path of an MPLS-TP LSP. MPLS-TP LSPs are bidirectional, and so an incoming label value must be specified for each path.

Default

no in-label

Parameters

in-label

Specifies the in label.

Values 32 to 16415

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.89 in-plus-profile-octets-discarded-count

in-plus-profile-octets-discarded-count

Syntax

[**no**] **in-plus-profile-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-plus-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-plus-profile-octets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters in-plus-profile-octets-discarded-count

configure log accounting-policy custom-record policer e-counters in-plus-profile-octets-discarded-count

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Description

This command includes the in-plus profile octets discarded count.

The **no** form of this command excludes the in-plus profile octets discarded count.

Default

no in-plus-profile-octets-discarded-count

Platforms

All

20.90 in-plus-profile-octets-forwarded-count

in-plus-profile-octets-forwarded-count

Syntax

[**no**] **in-plus-profile-octets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-plus-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-plus-profile-octets-forwarded-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters in-plus-profile-octets-forwarded-count

configure log accounting-policy custom-record policer e-counters in-plus-profile-octets-forwarded-count

Description

This command includes the in-plus profile octets forwarded count.

The **no** form of this command excludes the in-plus profile octets forwarded count.

Default

no in-plus-profile-octets-forwarded-count

Platforms

All

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20.91 in-plus-profile-octets-offered-count

in-plus-profile-octets-offered-count

Syntax

[**no**] **in-plus-profile-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-plus-profile-octets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-plus-profile-octets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters in-plus-profile-octets-offered-count

configure log accounting-policy custom-record policer e-counters in-plus-profile-octets-offered-count

Description

This command includes the in-plus profile octets offered count.

The **no** form of this command excludes the in-plus profile octets offered count.

Default

no in-plus-profile-octets-offered-count

Platforms

All

20.92 in-plus-profile-packets-discarded-count

in-plus-profile-packets-discarded-count

Syntax

[**no**] **in-plus-profile-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-plus-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-plus-profile-packets-discarded-count)

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Full Context

configure log accounting-policy custom-record ref-policer e-counters in-plus-profile-packets-discarded-count

configure log accounting-policy custom-record policer e-counters in-plus-profile-packets-discarded-count

Description

This command includes the in-plus profile packets discarded count.

The **no** form of this command excludes the in-plus profile packets discarded count.

Default

no in-plus-profile-packets-discarded-count

Platforms

All

20.93 in-plus-profile-packets-forwarded-count

in-plus-profile-packets-forwarded-count

Syntax

[**no**] **in-plus-profile-packets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>policer>e-counters in-plus-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-plus-profile-packets-forwarded-count)

Full Context

configure log accounting-policy custom-record policer e-counters in-plus-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-policer e-counters in-plus-profile-packets-forwarded-count

Description

This command includes the in-plus profile packets forwarded count.

The **no** form of this command excludes the in-plus profile packets forwarded count.

Default

no in-plus-profile-packets-forwarded-count

Platforms

All

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20.94 in-plus-profile-packets-offered-count

in-plus-profile-packets-offered-count

Syntax

[**no**] **in-plus-profile-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>policer>e-counters in-plus-profile-packets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-plus-profile-packets-offered-count)

Full Context

configure log accounting-policy custom-record policer e-counters in-plus-profile-packets-offered-count

configure log accounting-policy custom-record ref-policer e-counters in-plus-profile-packets-offered-count

Description

This command includes the in-plus profile packets offered count.

The **no** form of this command excludes the in-plus profile packets offered count.

Default

no in-plus-profile-packets-offered-count

Platforms

All

20.95 in-profile-octets-discarded-count

in-profile-octets-discarded-count

Syntax

[**no**] **in-profile-octets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-counters in-profile-octets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-counters in-profile-octets-discarded-count)

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Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters in-profile-octets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters in-profile-octets-discarded-count

Description

This command includes the in-profile octets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv4 octets discarded count instead.

The **no** form of this command excludes the in-profile octets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

in-profile-octets-discarded-count

Syntax

[**no**] **in-profile-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>queue>e-counters in-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters in-profile-octets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters in-profile-octets-discarded-count

configure log accounting-policy custom-record queue e-counters in-profile-octets-discarded-count

configure log accounting-policy custom-record policer e-counters in-profile-octets-discarded-count

configure log accounting-policy custom-record ref-queue e-counters in-profile-octets-discarded-count

Description

This command includes the in-profile octets discarded count.

The **no** form of this command excludes the in-profile octets discarded count.

Default

no in-profile-octets-discarded-count

Platforms

All

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in-profile-octets-discarded-count

Syntax

[**no**] **in-profile-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters in-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters in-profile-octets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-policer i-counters in-profile-octets-discarded-count

configure log accounting-policy custom-record policer i-counters in-profile-octets-discarded-count

Description

This command includes the in-profile octets discarded count.

The **no** form of this command excludes the in-profile octets discarded count.

Default

no in-profile-octets-discarded-count

Platforms

All

20.96 in-profile-octets-forwarded-count

in-profile-octets-forwarded-count

Syntax

[**no**] **in-profile-octets-forwarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-count in-profile-octets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-count in-profile-octets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-count in-profile-octets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-count in-profile-octets-forwarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters in-profile-octets-forwarded-count

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configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters in-profile-octets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters in-profile-octets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters in-profile-octets-forwarded-count

Description

This command includes the in-profile octets forwarded count. For queues with **stat-mode v4-v6**, this command includes the IPv4 octets forwarded count instead.

The **no** form of this command excludes the in-profile octets forwarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

in-profile-octets-forwarded-count

Syntax

[**no**] **in-profile-octets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>e-counters in-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters in-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-profile-octets-forwarded-count)

Full Context

configure log accounting-policy custom-record queue e-counters in-profile-octets-forwarded-count

configure log accounting-policy custom-record policer e-counters in-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-queue e-counters in-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-policer e-counters in-profile-octets-forwarded-count

Description

This command includes the in-profile octets forwarded count.

The **no** form of this command excludes the in-profile octets forwarded count.

Default

no in-profile-octets-forwarded-count

Platforms

All

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in-profile-octets-forwarded-count

Syntax

[**no**] **in-profile-octets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters in-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters in-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters in-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters in-profile-octets-forwarded-count)

Full Context

configure log accounting-policy custom-record ref-policer i-counters in-profile-octets-forwarded-count

configure log accounting-policy custom-record policer i-counters in-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-queue i-counters in-profile-octets-forwarded-count

configure log accounting-policy custom-record queue i-counters in-profile-octets-forwarded-count

Description

This command includes the in profile octets forwarded count.

The **no** form of this command excludes the in profile octets forwarded count.

Default

no in-profile-octets-forwarded-count

Platforms

All

20.97 in-profile-octets-offered-count

in-profile-octets-offered-count

Syntax

[**no**] **in-profile-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>policer>e-counters in-profile-octets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-profile-octets-offered-count)

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Full Context

configure log accounting-policy custom-record policer e-counters in-profile-octets-offered-count

configure log accounting-policy custom-record ref-policer e-counters in-profile-octets-offered-count

Description

This command includes the in profile octets offered count.

The **no** form of this command excludes the in-profile octets offered count.

Default

no in-profile-octets-offered-count

Platforms

All

in-profile-octets-offered-count

Syntax

[**no**] **in-profile-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>policer>i-counters in-profile-octets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters in-profile-octets-offered-count)

Full Context

configure log accounting-policy custom-record policer i-counters in-profile-octets-offered-count

configure log accounting-policy custom-record ref-policer i-counters in-profile-octets-offered-count

Description

This command includes the in-profile octets offered count.

The **no** form of this command excludes the in-profile octets offered count.

Default

no in-profile-octets-offered-count

Platforms

All

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20.98 in-profile-packets-discarded-count

in-profile-packets-discarded-count

Syntax

[**no**] **in-profile-packets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-counters in-profile-packets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-counters in-profile-packets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters in-profile-packets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters in-profile-packets-discarded-count

Description

This command includes the in-profile packets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv4 packets discarded count instead.

The **no** form of this command excludes the in-profile packets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

in-profile-packets-discarded-count

Syntax

[**no**] **in-profile-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>e-counters in-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters in-profile-packets-discarded-count)

Full Context

configure log accounting-policy custom-record queue e-counters in-profile-packets-discarded-count

configure log accounting-policy custom-record ref-policer e-counters in-profile-packets-discarded-count

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configure log accounting-policy custom-record policer e-counters in-profile-packets-discarded-count

configure log accounting-policy custom-record ref-queue e-counters in-profile-packets-discarded-count

Description

This command includes the in-profile packets discarded count.

The **no** form of this command excludes the in-profile packets discarded count.

Default

no in-profile-packets-discarded-count

Platforms

All

in-profile-packets-discarded-count

Syntax

[**no**] **in-profile-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters in-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters in-profile-packets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-policer i-counters in-profile-packets-discarded-count

configure log accounting-policy custom-record policer i-counters in-profile-packets-discarded-count

Description

This command includes the in-profile packets discarded count.

The **no** form of this command excludes the in-profile packets discarded count.

Default

no in-profile-packets-discarded-count

Platforms

All

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20.99 in-profile-packets-forwarded-count

in-profile-packets-forwarded-count

Syntax

[**no**] **in-profile-packets-forwarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-count in-profile-packets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-count in-profile-packets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-count in-profile-packets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-count in-profile-packets-forwarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters in-profile-packets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters in-profile-packets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters in-profile-packets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters in-profile-packets-forwarded-count

Description

This command includes the in-profile packets forwarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv4 packets forwarded count instead.

The **no** form of this command excludes the in-profile packets forwarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

in-profile-packets-forwarded-count

Syntax

[**no**] **in-profile-packets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>e-counters in-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-profile-packets-forwarded-count)

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[Tree] (config>log>acct-policy>cr>ref-queue>e-counters in-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-profile-packets-forwarded-count)

Full Context

configure log accounting-policy custom-record queue e-counters in-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-policer e-counters in-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-queue e-counters in-profile-packets-forwarded-count

configure log accounting-policy custom-record policer e-counters in-profile-packets-forwarded-count

Description

This command includes the in-profile packets forwarded count.

The **no** form of this command excludes the in-profile packets forwarded count.

Default

no in-profile-packets-forwarded-count

Platforms

All

in-profile-packets-forwarded-count

Syntax

[**no**] **in-profile-packets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>i-counters in-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters in-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters in-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters in-profile-packets-forwarded-count)

Full Context

configure log accounting-policy custom-record queue i-counters in-profile-packets-forwarded-count

configure log accounting-policy custom-record policer i-counters in-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-policer i-counters in-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-queue i-counters in-profile-packets-forwarded-count

Description

This command includes the in profile packets forwarded count.

The **no** form of this command excludes the in profile packets forwarded count.

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Default

no in-profile-packets-forwarded-count

Platforms

All

20.100 in-profile-packets-offered-count

in-profile-packets-offered-count

Syntax

[**no**] **in-profile-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters in-profile-packets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters in-profile-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters in-profile-packets-offered-count

configure log accounting-policy custom-record policer e-counters in-profile-packets-offered-count

Description

This command includes the in profile packets offered count.

The **no** form of this command excludes the in profile packets offered count.

Default

no in-profile-packets-offered-count

Platforms

All

in-profile-packets-offered-count

Syntax

[**no**] **in-profile-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters in-profile-packets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters in-profile-packets-offered-count)

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Full Context

configure log accounting-policy custom-record ref-policer i-counters in-profile-packets-offered-count

configure log accounting-policy custom-record policer i-counters in-profile-packets-offered-count

Description

This command includes the in-profile packets offered count.

The **no** form of this command excludes the in-profile packets offered count.

Default

no in-profile-packets-offered-count

Platforms

All

20.101 in-remark

in-remark

Syntax

in-remark {**dscp** *dscp-name* | **prec** *ip-prec-value*}

no in-remark

Context

[Tree] (config>qos>sap-ingress>fc in-remark)

Full Context

configure qos sap-ingress fc in-remark

Description

This command is used in a SAP ingress QoS policy to define an explicit in-profile remark action for a forwarding class or subclass. While the SAP ingress QoS policy may be applied to any SAP, the remarking functions are only enforced when the SAP is associated with an IP or subscriber interface (in an IES or VPRN). When the policy is applied to a Layer 2 SAP (i.e., Epipe or VPLS), the remarking definitions are silently ignored.

In the case where the policy is applied to a Layer 3 SAP, the in-profile remarking definition will be applied to packets that have been classified to the forwarding class or subclass. It is possible for a packet to match a classification command that maps the packet to a particular forwarding class or subclass, only to have a more explicit (higher priority match) override the association. Only the highest priority match forwarding class or subclass association will drive the in-profile marking.

The in-remark command is only applicable to ingress IP routed packets that are considered in-profile. The profile of a SAP ingress packet is affected by either the explicit in-profile/out-of-profile definitions or the ingress policing function applied to the packet. Table 52: Effect of In-Remark Command on Received SAP

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Ingress Packets shows the effect of the in-remark command on received SAP ingress packets. Within the in-profile IP packet's ToS field, either the six DSCP bits or the three precedence bits are remarked.

Table 52: Effect of In-Remark Command on Received SAP Ingress Packets

SAP Ingress Packet State	in-remark Command Effect
Non-Routed, Policed In-Profile	No Effect (non-routed packet)
Non-Routed, Policed Out-of-Profile	No Effect (non-routed packet)
Non-Routed, Explicit In-Profile	No Effect (non-routed packet)
Non-Routed, Explicit Out-of-Profile	No Effect (non-routed packet)
IP Routed, Policed In-Profile	in-remark value applied to IP header ToS field
IP Routed, Policed Out-of-Profile	No Effect (out-of-profile packet)
IP Routed, Explicit In-Profile	in-remark value applied to IP header ToS field
IP Routed, Explicit Out-of-Profile	No Effect (out-of-profile packet)

The **no** form of this command disables ingress remarking of in-profile packets classified to the forwarding class or subclass.

Parameters

dscp *dscp-name*

Specifies that the matching packet's DSCP bits should be overridden with the value represented by dscp-name.

The *dscp-name* parameter is a 6-bit value. It must be one of the predefined DSCP names defined on the system.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

prec *ip-prec-value*

Specifies that the matching packet's precedence bits should be overridden with the value represented by *ip-prec-value*.

Values 0 to 7

Platforms

All

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20.102 inactive-flow-timeout

inactive-flow-timeout

Syntax

inactive-flow-timeout *seconds*

no inactive-flow-timeout

Context

[Tree] (config>cflowd inactive-flow-timeout)

Full Context

configure cflowd inactive-flow-timeout

Description

This command specifies the length of time, in seconds, that must elapse without a packet matching a flow before the flow is considered inactive.

The **no** form of this command resets the inactive flow timeout back to the default of 15 seconds.

Existing flows do not inherit the new **inactive-flow-timeout** value if this parameter is changed while **cflowd** is active. The **inactive-flow-timeout** value for a flow is set when the flow is first created in the active cache table and does not change dynamically.

Default

inactive-flow-timeout 15

Parameters

seconds

Specifies the length of time, in seconds, without a packet matching a flow before the flow is considered inactive.

Values 10 to 600

Platforms

All

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20.103 inactivity-mon

inactivity-mon

Syntax

[**no**] **inactivity-mon**

Context

[Tree] (config>app-assure>group>transit-ip-policy>transit-auto-create inactivity-mon)

Full Context

configure application-assurance group transit-ip-policy transit-auto-create inactivity-mon

Description

This command enables auto removal of inactive transit subscribers. Periodically AA removes any inactive auto-created subscriber where an inactive sub is defined as having no active flows in the last period.

The **no** form of this command disables the auto removal of inactive transit subscribers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

20.104 inactivity-timeout

inactivity-timeout

Syntax

inactivity-timeout *seconds*

no inactivity-timeout

Context

[Tree] (config>test-oam>twamp>server inactivity-timeout)

Full Context

configure test-oam twamp server inactivity-timeout

Description

This command configures the inactivity time out for all TWAMP-control connections. If no TWAMP control message is exchanged over the TCP connection for this duration of time the connection is closed and all in-progress tests are terminated.

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The **no** form of this command returns the value to the default.

Default

inactivity-timeout 900

Parameters

seconds

Specifies the duration of the inactivity time out.

Values 60 to 3600

Default 900

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

inactivity-timeout

Syntax

inactivity-timeout *seconds*

no inactivity-timeout

Context

[Tree] (config>test-oam>twamp>twamp-light inactivity-timeout)

Full Context

configure test-oam twamp twamp-light inactivity-timeout

Description

This command configures the length of time to maintain stale state on the session reflector. Stale state is test data that has not been refreshed or updated by newly arriving probes for that specific test in a predetermined length of time. Any single reflector can maintain up state for a maximum of 12000 tests. If the maximum value is exceeded, the session reflector lacks memory to allocate to new tests.

The **no** form of this command returns the value to the default.

Default

inactivity-timeout 100

Parameters

seconds

Specifies the value in seconds for maintaining stale state.

Values 10 to 100

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Default 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.105 inactivity-timer

inactivity-timer

Syntax

inactivity-timer [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no inactivity-timer

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-sol inactivity-timer)

[Tree] (config>service>ies>sub-if>ipv6>rtr-sol inactivity-timer)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-sol inactivity-timer)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-solicit inactivity-timer

configure service ies subscriber-interface ipv6 router-solicit inactivity-timer

configure service vprn subscriber-interface ipv6 router-solicit inactivity-timer

Description

This command specifies the time before an inactive host is removed.

The **no** form of this command reverts to the default.

Parameters

infinite

Specifies that the idle host is never removed.

days

Specifies that the idle host is removed if idle within the number of specified days.

hours

Specifies that the idle host is removed if idle within the number of specified hours.

minutes

Specifies that the idle host is removed if idle within the number of specified minutes.

seconds

Specifies that the idle host is removed if idle within the number of specified seconds.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

inactivity-timer

Syntax

inactivity-timer *timer*

no inactivity-timer

Context

[Tree] (config>eth-cfm>slm inactivity-timer)

Full Context

configure eth-cfm slm inactivity-timer

Description

This command configures the time the responder keeps a test active. If the time between packets exceeds this value within a test, the responder marks the previous test as complete. The responder treats any new packets from a peer with the same test ID, source MAC address, and MEP ID as a new test responding with sequence number one.

The **no** form of this command reverts the timeout to the default value.

Default

inactivity-timer 100

Parameters

timer

Specifies the amount of time in seconds.

Values 10 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.106 inband

inband

Syntax

inband *service-id*

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no inband

Context

[Tree] (config>system>security>vprn-aaa-server inband)

Full Context

configure system security vprn-aaa-server inband

Description

This command configures TACACS+ or RADIUS servers in a VPRN to be used for AAA by that VPRN and by sessions in the Base routing instance.

The **no** form of this command disables the use of servers for in-band management.

Default

no inband

Parameters

service-id

Specifies the VPRN server for AAA to use for in-band sessions.

Values *service-id*: 1 to 2147483648

svc-name: 64 characters maximum

Platforms

All

20.107 inband-collector-export-only

inband-collector-export-only

Syntax

[**no**] **inband-collector-export-only**

Context

[Tree] (config>cflowd inband-collector-export-only)

Full Context

configure cflowd inband-collector-export-only

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Description

This command, when the **inband-collector-export-only** command is enabled, allows only collectors that are reachable through inband interfaces and enables a higher flow export rate.

The **no** form of this command, the default, re-enables the use of the out-of-band management Ethernet port.

Platforms

All

20.108 inbound-max-sessions

inbound-max-sessions

Syntax

inbound-max-sessions *number-of-sessions*

no inbound-max-sessions

Context

[Tree] (config>system>login-control>ftp inbound-max-sessions)

Full Context

configure system login-control ftp inbound-max-sessions

Description

This command configures the maximum number of concurrent inbound FTP sessions.

This value is the combined total of inbound and outbound sessions.

The **no** form of this command reverts to the default value.

Default

inbound-max-sessions 3

Parameters

value

Specifies the maximum number of concurrent FTP sessions on the node.

Values 0 to 5

Platforms

All

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inbound-max-sessions

Syntax

inbound-max-sessions *number-of-sessions*

no inbound-max-sessions

Context

[Tree] (config>system>login-control>telnet inbound-max-sessions)

[Tree] (config>system>login-control>ssh inbound-max-sessions)

Full Context

configure system login-control telnet inbound-max-sessions

configure system login-control ssh inbound-max-sessions

Description

This parameter limits the number of inbound Telnet and SSH sessions. A maximum of 30 telnet and ssh connections can be established to the router. The local serial port cannot be disabled.

Telnet and SSH maximum sessions can also use the combined total of both inbound sessions (SSH +Telnet). While it is acceptable to continue to internally limit the combined total of SSH and Telnet sessions to N, either SSH or Telnet sessions can use the inbound maximum sessions, if so required by the Operator.

The **no** form of this command reverts to the default value.

Default

inbound-max-sessions 5

Parameters

number-of-sessions

The maximum number of concurrent inbound Telnet sessions, expressed as an integer.

Values 0 **to** 50 (default = 5) or 0 **to** N where N is the new total number of SSH +Telnet sessions if they are scaled

Platforms

All

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20.109 incl-mcast-l2-attributes-advertisement

incl-mcast-l2-attributes-advertisement

Syntax

[**no**] **incl-mcast-l2-attributes-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn incl-mcast-l2-attributes-advertisement)

Full Context

configure service vpls bgp-evpn incl-mcast-l2-attributes-advertisement

Description

This command triggers the advertisement of the Layer 2 attributes extended community including:

- the service MTU in the Layer 2 MTU field
- the F bit, which is set to 1 if the **hash-label** command is set to true (in the **configure service vpls bgp-evpn mpls** context); otherwise, the F bit is set to 0
- the C bit, which is set to 1 if the **control-word** command is set to true (in the **configure service vpls bgp-evpn mpls** context); otherwise, the C bit is set to 0

The router compares the received Layer 2 MTU from a peer with the local service MTU. If there is a mismatch, the operation state of the EVPN destination is set to down, except if the **configure service vpls bgp-evpn ignore-mtu-mismatch** command is enabled.

A mismatch between the received C bit and the local **control-word** setting (in the **configure service vpls bgp-evpn mpls** context) results in the operational state of the EVPN destination being set to down.

A mismatch between the received F bit and the local F bit (via the hash label configuration) results in the operational state of the EVPN destination being set to down.

The **no** form of this command prevents the router from advertising the Layer 2 attributes extended community along with the IMET route for the service.

Default

no incl-mcast-l2-attributes-advertisement

Platforms

All

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20.110 incl-mcast-orig-ip

incl-mcast-orig-ip

Syntax

incl-mcast-orig-ip *ip-address*

no incl-mcast-orig-ip

Context

[Tree] (config>service>vpls>bgp-evpn incl-mcast-orig-ip)

Full Context

configure service vpls bgp-evpn incl-mcast-orig-ip

Description

The IP address configured by the user in the **incl-mcast-orig-ip** command is encoded in the **originating-ip** field of EVPN Inclusive Multicast Routes with tunnel type Ingress Replication (value 6), mLDP (2), and Composite IR and mLDP (130).

The configured address does not need to be reachable in the base router or have an interface in the base router. The originating-ip address is used solely for BGP route-key selection.

The originating-ip is never changed for Inclusive Multicast Routes with tunnel type AR (Assisted Replication, value 10).

The **no** version of the command withdraws the affected Inclusive Multicast Routes and re-advertises it with the default system-ip address in the originating-ip field.

Default

incl-mcast-orig-ip 1

Parameters

ip-address

Specifies the IPv4 address value.

Values a.b.c.d

Platforms

All

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20.111 include

include

Syntax

include *group-name* [*group-name*]

no include [*group-name* [*group-name*]]

Context

[Tree] (config>router>mpls>lsp>primary include)

[Tree] (config>router>mpls>lsp>primary-p2mp-instance include)

[Tree] (config>router>mpls>lsp>secondary include)

[Tree] (config>router>mpls>lsp-template include)

[Tree] (config>router>mpls>lsp include)

Full Context

configure router mpls lsp primary include

configure router mpls lsp primary-p2mp-instance include

configure router mpls lsp secondary include

configure router mpls lsp-template include

configure router mpls lsp include

Description

This command specifies the admin groups to be included when an LSP is set up. Up to five groups per operation can be specified, up to 32 maximum. The **include** statement instructs the CSPF algorithm to pick TE links among the links which belong to one or more of the specified admin groups. A link that does not belong to at least one of the specified admin groups is excluded and thus pruned from the TE database before the CSPF computation. However, a link can still be selected if it belongs to one of the groups in a **include** statement but also belongs to other groups which are not part of any **include** statement in the LSP or primary/secondary path configuration. In other words, the **include** statements implements the "include-any" behavior.

The **config**>**router**>**mpls**>**lsp**>**primary-p2mp-instance**> **include** command is not supported on the 7450 ESS.

The **no** form of this command deletes the specified groups in the specified context.

Default

no include

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Parameters

group-name

Specifies admin groups to be included when an LSP is set up.

Platforms

All

include

Syntax

[**no**] **include**

Context

[Tree] (config>service>nat>syslog>syslog-export-policy include)

Full Context

configure service nat syslog syslog-export-policy include

Description

Commands in this context specify the optional fields to include in the NAT syslog messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

include

Syntax

[**no**] **include** *tag*

Context

[Tree] (config>router>admin-tags>route-admin-tag-policy include)

Full Context

configure router admin-tags route-admin-tag-policy include

Description

This configures an admin tag to be included when matching a route against an LSP.

Up to eight inclusion statements are supported per policy.

The **no** form of this command removes the admin tag from the include statement.

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Parameters

tag

Specifies the value of the admin tag, up to 32 characters.

Platforms

All

20.112 include-all

include-all

Syntax

include-all

Context

[Tree] (config>router>fad>flex-algo include-all)

Full Context

configure router flexible-algorithm-definitions flex-algo include-all

Description

Commands in this context configure administrative groups to include in the flexible algorithm topology graph. Administrative groups are attributes associated with a link and are generally referred to as link colors.

Flexible algorithms provide the possibility to restrict inclusion into the topology graph to links that have a pre-defined combination of associated administrative groups. The **include-all** command requires that all configured administrative groups must be present in a link before the link can be included in the topology graph.

Platforms

All

20.113 include-any

include-any

Syntax

include-any

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Context

[Tree] (config>router>fad>flex-algo include-any)

Full Context

configure router flexible-algorithm-definitions flex-algo include-any

Description

Commands in this context configure administrative groups to include in the flexible algorithm topology graph. Administrative groups are attributes associated with a link and are generally referred to as link colors.

Flexible algorithms provide the possibility to restrict inclusion into the topology graph to links that have a pre-defined combination of associated administrative groups. The **include-any** command requires that one of the configured administrative groups must be present on a link before the link can be included in the topology graph.

Platforms

All

20.114 include-avp

include-avp

Syntax

[**no**] **include-avp**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy include-avp)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx include-avp)

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq include-avp)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp

configure subscriber-mgmt diameter-application-policy gx include-avp

configure subscriber-mgmt diameter-application-policy nasreq include-avp

Description

Commands in this context configure AVPs and their format to be included in Diameter Gx, Gy, or NASREQ application messages. For full description each AVP, refer to the 7750 SR and VSR RADIUS Attributes Reference Guide.

AVP name:

- an-gw-address

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- apn-ambr
- called-station-id
- calling-station-id
- charging-characteristics
- dynamic-address-flag
- ip-can-type
- logical-access-id
- nas-port
- nas-port-id
- nas-port-type
- pdn-connection-id
- physical-access-id
- rai
- rat-type
- selection-mode
- sgsn-mcc-mnc
- supported-features
- user-equipment-info
- user-location-info

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

20.115 include-dns

include-dns

Syntax

[**no**] **include-dns**

Context

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv include-dns)

[Tree] (config>subscr-mgmt>rtr-adv-plcy>dns-opt include-dns)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 include-dns)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 include-dns)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv include-dns)

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Full Context

configure service ies subscriber-interface ipv6 rtr-adv include-dns

configure subscriber-mgmt router-advertisement-policy dns-options include-dns

configure service vprn subscriber-interface group-interface ipv6 include-dns

configure service ies subscriber-interface group-interface ipv6 include-dns

configure service vprn subscriber-interface ipv6 rtr-adv include-dns

Description

This command specifies to include the Recursive DNS Server (RDNSS) Option as defined in RFC 6106 in IPv6 router advertisements for DNS name resolution of IPv6 SLAAC hosts.

The **no** form of this command returns the command to the default setting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

include-dns

Syntax

[**no**] **include-dns**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv>dns-opt include-dns)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv>dns-opt include-dns)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv>dns-opt include-dns)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv>dns-opt include-dns)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements dns-options include-dns

configure service vprn subscriber-interface ipv6 router-advertisements dns-options include-dns

configure service vprn subscriber-interface group-interface ipv6 router-advertisements dns-options include-dns

configure service ies subscriber-interface ipv6 router-advertisements dns-options include-dns

Description

This command specifies to include the Recursive DNS Server (RDNSS) Option as defined in RFC 6106 in IPv6 Router Advertisements for DNS name resolution of IPv6 SLAAC hosts.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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include-dns

Syntax

[**no**] **include-dns**

Context

[Tree] (config>service>vprn>router-advert>if>dns-options include-dns)

Full Context

configure service vprn router-advertisement interface dns-options include-dns

Description

This command enables the Recursive DNS Server (RDNSS) Option in router advertisements. This must be enabled for each interface on which the RDNSS option is required in router advertisement messages.

The **no** form of this command disables the RDNSS option in router advertisements.

Default

include-dns

Platforms

All

include-dns

Syntax

[**no**] **include-dns**

Context

[Tree] (config>router>router-advert>if>dns-opt include-dns)

Full Context

configure router router-advertisement interface dns-options include-dns

Description

This command enables the Recursive DNS Server (RDNSS) Option in router advertisements. This must be enabled for each interface on which the RDNSS option is required in router advertisement messages.

The **no** form of this command disables the RDNSS option in router advertisements.

Default

include-dns

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Platforms

All

20.116 include-group

include-group

Syntax

include-group *ip-admin-group-name* [**pref** *preference*]

no include-group *ip-admin-group-name*

Context

[Tree] (config>router>route-next-hop-policy>template include-group)

Full Context

configure router route-next-hop-policy template include-group

Description

This command configures the admin group constraint into the route next-hop policy template.

Each group is entered individually. The **include-group** statement instructs the LFA SPF selection algorithm to pick up a subset of LFA next-hops among the links which belong to one or more of the specified admin groups. A link which does not belong to at least one of the admin-groups is excluded. However, a link can still be selected if it belongs to one of the groups in a include-group statement but also belongs to other groups which are not part of any include-group statement in the route next-hop policy.

The **pref** option is used to provide a relative preference for the admin group to select. A lower preference value means that LFA SPF will first attempt to select a LFA backup next-hop which is a member of the corresponding admin group. If none is found, then the admin group with the next higher preference value is evaluated. If no preference is configured for a given admin group name, then it is supposed to be the least preferred, that is, numerically the highest preference value.

When evaluating multiple **include-group** statements within the same preference, any link which belongs to one or more of the included admin groups can be selected as an LFA next-hop. There is no relative preference based on how many of those included admin groups the link is a member of.

The **exclude-group** statement simply prunes all links belonging to the specified admin group before making the LFA backup next-hop selection for a prefix.

If the same group name is part of both include and exclude statements, the exclude statement will win. It other words, the exclude statement can be viewed as having an implicit preference value of 0.

The admin-group criteria are applied before running the LFA next-hop selection algorithm.

The **no** form deletes the admin group constraint from the route next-hop policy template.

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Parameters

ip-admin-group-name

Specifies the name of the group, up to 32 characters.

preference

An integer specifying the relative preference of a group.

Values 1 to 255

Default 255

Platforms

All

20.117 include-radius-attribute

include-radius-attribute

Syntax

[**no**] **include-radius-attribute**

Context

[Tree] (config>aaa>l2tp-acct-plcy include-radius-attribute)

Full Context

configure aaa l2tp-accounting-policy include-radius-attribute

Description

Commands in this context specify the RADIUS attributes that the system should include into RADIUS Access-Request (for authentication) and Accounting-Request (for accounting) messages.

The **no** form of this command disables the RADIUS attributes to be included.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

include-radius-attribute

Syntax

[**no**] **include-radius-attribute**

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Context

[Tree] (config>subscr-mgmt>auth-plcy include-radius-attribute)

[Tree] (config>subscr-mgmt>acct-plcy include-radius-attribute)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute

configure subscriber-mgmt radius-accounting-policy include-radius-attribute

Description

Commands in this context specify the RADIUS attributes that the system should include in RADIUS Access-Request (for authentication) and Accounting-Request (for accounting) messages.

The **no** form of this command reverts to the default values.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

include-radius-attribute

Syntax

[**no**] **include-radius-attribute**

Context

[Tree] (config>ipsec>rad-auth-plcy include-radius-attribute)

[Tree] (config>ipsec>rad-acct-plcy include-radius-attribute)

Full Context

configure ipsec radius-authentication-policy include-radius-attribute

configure ipsec radius-accounting-policy include-radius-attribute

Description

Commands in this context specify the RADIUS attributes that the system should include into RADIUS Access-Request (for authentication) and Accounting-Request (for accounting) messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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20.118 include-system-info

include-system-info

Syntax

[**no**] **include-system-info**

Context

[Tree] (config>log>accounting-policy include-system-info)

Full Context

configure log accounting-policy include-system-info

Description

This command allows the operator to optionally include router information at the top of each accounting file generated for a given accounting policy.

The **no** form of this command configures the router to not include optional router information at the top of the file.

Default

no include-system-info

Platforms

All

20.119 included-protocols

included-protocols

Syntax

included-protocols

Context

[Tree] (config>sys>security>cpu-protection>ip included-protocols)

Full Context

configure system security cpu-protection ip-src-monitoring included-protocols

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Description

This context allows configuration of which protocols are included for ip-src-monitoring. This is system-wide configuration that applies to cpu protection globally.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

20.120 inclusive

inclusive

Syntax

inclusive

Context

[Tree] (config>service>vpls>provider-tunnel inclusive)

Full Context

configure service vpls provider-tunnel inclusive

Description

Commands in this context configure the use of a P2MP LSP as the default tree for forwarding Broadcast, Unknown unicast, and Multicast (BUM) packets of a VPLS or B-VPLS instance. The P2MP LSP is referred to, in this case, as the Inclusive Provider Multicast Service Interface (I-PMSI).

When enabled, this feature relies on BGP Auto-Discovery (BGP-AD), BGP-VPLS or BGP-EVPN to discover the PE nodes participating in a specified VPLS/B-VPLS instance. In the case of BGP-AD or BGP-VPLS, the BGP route contains the information required to signal both point-to-point (P2P) PWs used to forward unicast known Ethernet frames, and the RSVP or mLDP P2MP LSP used to forward the BUM frames. In the case of BGP-EVPN, the EVPN IMET route contains the information to set up the mLDP P2MP LSP and may also contain the information that enables the remote leaf-only nodes to setup an EVPN destination to the sending PE.

Note:
The provider-tunnel for a specified service must be configured with an owner protocol (BGP-AD, BGP-VPLS or BGP-EVPN); only one owner must be configured. Use the **owner {bgp-ad|bgp-vpls|bgp-evpn-mpls}** command to configure an owner.

With an mLDP I-PMSI, each leaf node will initiate the signaling of the mLDP P2MP LSP upstream using the P2MP FEC information in the I-PMSI tunnel information discovered through the BGP.

If IGMP or PIM snooping are configured on the VPLS/B-VPLS instance, multicast packets matching an L2 multicast Forwarding Information Base (FIB) record will also be forwarded over the P2MP LSP.

Use the **mldp** command to enable the use of an LDP P2MP LSP as the I-PMSI for forwarding Ethernet BUM and IP multicast packets in a VPLS instance:

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config>service>vpls [b-vpls]>provider-tunnel>inclusive>mldp

When a **no shutdown** is performed under the context of the inclusive node and the expiration of a delay timer, BUM packets will be forwarded over an automatically signaled mLDP P2MP LSP.

Use the **root-and-leaf** command to configure the node to operate as both root and leaf in the VPLS instance:

config>service>vpls [b-vpls]>provider-tunnel>inclusive>root-and-leaf

The node behaves as a leaf-only node by default. For the I-PMSI of type mLDP, the leaf-only node will join I-PMSI rooted at other nodes it discovered but will not include a PMSI Tunnel Attribute in BGP route update messages. This way a leaf-only node will forward packets to other nodes in the VPLS/B-VPLS using the point-to-point spoke-SDPs in the case of BGP-AD or BGP-VPLS, or using EVPN destinations in the case of BGP-EVPN.

Note:
Either BGP-AD/VPLS or BGP-EVPN must be enabled in the VPLS/B-VPLS instance otherwise the execution of the **no shutdown** command under the context of the inclusive node will fail and the I-PMSI will not come up.

If the P2MP LSP instance goes down, the VPLS/B-VPLS immediately reverts the forwarding of BUM packets to the P2P PWs or EVPN destinations (in the case of BGP-EVPN). Performing a shutdown under the context of the inclusive node will allow the user to restore BUM packet forwarding over the P2P PWs or EVPN destinations.

This feature is supported with VPLS and B-VPLS; it is not supported with I-VPLS. Although Routed VPLS is supported, routed traffic cannot be sent over the I-PMSI tree.

Platforms

All

inclusive

Syntax

inclusive

Context

[Tree] (config>service>vprn>mvpn>provider-tunnel inclusive)

Full Context

configure service vprn mvpn provider-tunnel inclusive

Description

Commands in this context specify inclusive provider tunnels.

Platforms

All

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inclusive

Syntax

inclusive

Context

[Tree] (config>router>gtm>provider-tunnel inclusive)

Full Context

configure router gtm provider-tunnel inclusive

Description

Commands in this context configure inclusive provider tunnels parameters.

Platforms

All

20.121 incoming-sid

incoming-sid

Syntax

incoming-sid *static label*

no incoming-sid

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls incoming-sid)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls incoming-sid

Description

This command configures the incoming replication SID for this P2MP SR tree replication segment entry.

The **no** form of this command removes the incoming replication SID.

Default

no incoming-sid

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Parameters

static label

Specifies the incoming replication SID label.

Values 0 to 4294967295

Platforms

All

incoming-sid

Syntax

incoming-sid

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>srv6 incoming-sid)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-v6 incoming-sid

Description

Commands in this context configure the incoming replication SID for the P2MP SR tree replication segment.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

20.122 incremental-spf-wait

incremental-spf-wait

Syntax

incremental-spf-wait *incremental-spf-wait*

no incremental-spf-wait

Context

[Tree] (config>router>ospf>timers incremental-spf-wait)

[Tree] (config>router>ospf3>timers incremental-spf-wait)

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Full Context

configure router ospf timers incremental-spf-wait

configure router ospf3 timers incremental-spf-wait

Description

This command sets the delay before an incremental SPF calculation is performed when LSA types 3, 4, 5, or 7 are received. This allows multiple updates to be processed in the same SPF calculation. Type 1 or type 2 LSAs are considered a topology change and will always trigger a full SPF calculation.

The **no** form of this command resets the timer value back to the default value.

Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is ≥ 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

incremental-spf-wait 1000

Parameters

incremental-spf-wait

Specifies the OSPF incremental SPF calculation delay, in milliseconds.

Values 0 to 1000

Platforms

All

20.123 index

index

Syntax

index *index* [**create**]

no index *index*

Context

[Tree] (config>service>dynsvc>ladb>user index)

Full Context

configure service dynamic-services local-auth-db user-name index

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Description

This command creates an index entry containing authentication data for a dynamic service SAP. Up to 32 indexes can be created per user name entry, representing up to 32 dynamic service SAPs that can be instantiated with a single dynamic service data trigger. One of the dynamic service SAPs must be the data trigger SAP.

The **no** form of this command removes the index entry from the user name entry in the local authentication database configuration.

Parameters

index

Specifies the index entry identifier.

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

index

Syntax

index *index-id* **instance-id** *instance-value*

no index *index-id*

Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy>candidate-path>instances index)

Full Context

configure router p2mp-sr-tree p2mp-policy candidate-path path-instances index

Description

This command configures the candidate path instance for the P2MP SR tree as primary or secondary, and the instance identifier.

The **no** form of this command removes the candidate path instance.

Parameters

index-id

Specifies the instance as primary (1) or secondary (2).

Values 1, 2

instance-value

Specifies the instance identifier.

Values 1 to 4294967295

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Platforms

All

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21 i Commands – Part II

21.1 indirect

indirect

Syntax

[**no**] **indirect** *ip-address*

Context

[Tree] (config>service>vprn>static-route-entry indirect)

Full Context

configure service vprn static-route-entry indirect

Description

This command specifies that the route is indirect and specifies the next hop IP address used to reach the destination.

The configured *ip-addr*ess is not directly connected to a network configured on this node. The destination can be reached via multiple paths. The indirect address can only be resolved from dynamic routing protocol. Another static route cannot be used to resolve the indirect address.

The *ip-address* configured here can be either on the network side or the access side and is typically at least one hop away from this node.

Default

no indirect

Parameters

ip-address

The IP address of the IP interface.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x-[interface]

Platforms

All

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indirect

Syntax

[**no**] **indirect** *ip-address*

Context

[Tree] (config>router>static-route-entry indirect)

Full Context

configure router static-route-entry indirect

Description

This command specifies that the route is indirect and specifies the next hop IP address used to reach the destination.

The configured *ip-addr*ess is not directly connected to a network configured on this node. The destination can be reached via multiple paths. The indirect address can only be resolved from dynamic routing protocol. Another static route cannot be used to resolve the indirect address.

The *ip-address* configured here can be either on the network side or the access side and is typically at least one hop away from this node.

Default

no indirect

Parameters

ip-address

Specifies the IP address of the IP interface.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x-[interface]

Platforms

All

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21.2 ine-identifier

ine-identifier

Syntax

ine-identifier *identifier*

no ine-identifier

Context

[Tree] (config>li>x-interfaces ine-identifier)

Full Context

configure li x-interfaces ine-identifier

Description

This command configures the Intercepting Network Element (INE).

The **no** form of this command reverts to the default.

Parameters

identifier

Specifies the INE name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.3 info

info

Syntax

info [**detail**] [**objective**]

info [**detail**] [**objective**] **operational**

Context

[Tree] (info)

Full Context

info

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Description

This command displays the running configuration for the configuration context where it is entered and all branches below that context level. It can be used in any branch under configure, but not with **configure** itself.

By default, the command only enters the configuration parameters that vary from the default values.

The **detail** keyword causes all configuration parameters to be displayed. The **include-dynamic** objective keyword includes configuration parameters from dynamic sources such as dynamic data services Python scripts. These dynamic configuration parameters are not saved in the configuration file.

The **operational** keyword is available in edit-cfg mode only, in which case the keyword is mandatory when using the **info** command.

Example:

```
A:ALA-48>config>router>if-attr# info
----------------------------------
            admin-group "green" value 15
            admin-group "red" value 25
            admin-group "yellow" value 20
A:ALA-48>config>router>mpls# info
----------------------------------
            interface "system"
            exit
            interface "to-104"
                admin-group "green"
                admin-group "red"
                admin-group "yellow"
                label-map 35
                    swap 36 nexthop 10.10.10.91
                    no shutdown
                exit
            exit
            path "secondary-path"
                hop 1 10.10.0.111  strict
                hop 2 10.10.0.222  strict
                hop 3 10.10.0.123  strict
                no shutdown
            exit
            path "to-NYC"
                hop 1 10.10.10.104  strict
                hop 2 10.10.0.210  strict
                no shutdown
            exit
            path "to-104"
                no shutdown
            exit
            lsp "to-104"
                to 10.10.10.104
                from 10.10.10.103
                rsvp-resv-style ff
                cspf
...
-------------------------------------------
A:ALA-48>config>router>mpls#
A:ALA-48>config>router>mpls# info detail
-------------------------------------------
            frr-object
            no resignal-timer
            interface "system"
                no admin-group
                no shutdown
```


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```
            exit
            interface "to-104"
                admin-group "green"
                admin-group "red"
                admin-group "yellow"
                label-map 35
                    swap 36 nexthop 10.10.10.91
                    no shutdown
                exit
                no shutdown
            exit
            path "secondary-path"
                hop 1 10.10.0.111  strict
                hop 2 10.10.0.222  strict
                hop 3 10.10.0.123  strict
                no shutdown
            exit
            path "to-NYC"
                hop 1 10.10.10.104  strict
                hop 2 10.10.0.210  strict
                no shutdown
            exit
            path "to-104"
                no shutdown
            exit
            lsp "to-104"
                to 10.10.10.104
                from 10.10.10.103
                rsvp-resv-style ff
                adaptive
                cspf
                include "red"
                exclude "green"
                adspec
                fast-reroute one-to-one
                    no bandwidth
                    no hop-limit
                    node-protect
                exit
                hop-limit 10
                retry-limit 0
                retry-timer 30
                secondary "secondary-path"
                    no standby
                    no hop-limit
                    adaptive
                    no include
                    no exclude
                    record
                    record-label
                    bandwidth 50000
                    no shutdown
                exit
                primary "to-NYC"
                    hop-limit 50
                    adaptive
                    no include
                    no exclude
                    record
                    record-label
                    no bandwidth
                    no shutdown
                exit
                no shutdown
```


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```
            exit
...
-----------------------------------------------
A:ALA-48>config>router>mpls#
```

Parameters

detail

Displays all configuration parameters including parameters at their default values.

objective

Provides an output objective that controls the configuration parameters to be displayed.

Values **include-dynamic**: includes configuration parameters from dynamic sources such as dynamic data services Python scripts.

Platforms

All

21.4 info-notification

info-notification

Syntax

info-notification

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>local-sf-action info-notification)

Full Context

configure port ethernet efm-oam link-monitoring local-sf-action info-notification

Description

The context allows the operator to set different flags in the Information OAM PDU. The flags can be used to notify the peer that a local signal failure threshold has been exceeded within the configured window. This is useful when the local node supports the link monitoring function, but the remote peer does not support this capability. Information OAM PDUs are sent on the interval where the Event Notification OAM PDU is typically only sent on the initial sf-threshold crossing event. It is strongly suggested one of the Information OAM PDU Flag fields used to continually communicate current monitor state to the peer.

Interactions: The signal failure threshold will trigger these actions.

Platforms

All

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21.5 info-output

info-output

Syntax

info-output

Context

[Tree] (config>system>management-interface>cli>md-cli>environment info-output)

Full Context

configure system management-interface cli md-cli environment info-output

Description

Commands in this context configure the elements that are displayed in the MD-CLI session.

Platforms

All

21.6 ing-percentage-of-rate

ing-percentage-of-rate

Syntax

ing-percentage-of-rate *ing-rate-percentage*

no ing-percentage-of-rate

Context

[Tree] (config>port>modify-buffer-allocation-rate ing-percentage-of-rate)

Full Context

configure port modify-buffer-allocation-rate ing-percentage-of-rate

Description

This command increases or decreases the active bandwidth associated with the ingress port that affects the amount of ingress buffer space managed by the port. Changing a port's active bandwidth using the **ing-percentage-of-rate** command is an effective means of artificially lowering the buffers managed by one ingress port and giving them to other ingress ports on the same MDA.

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The **ing-percentage-of-rate** command accepts a percentage value that increases or decreases the active bandwidth based on the defined percentage. A value of 50% causes the active bandwidth to be reduced by 50%. A value of 150% causes the active bandwidth to be increased by 50%. Values from 1 to 1000 percent are supported.

A value of 100 (the default value) is equivalent to executing the **no ing-percentage-of-rate** command and restores the ingress active rate to the normal value.

The **no** form of this command removes any artificial increase or decrease of the ingress active bandwidth used for ingress buffer space allocation to the port. The **no ing-percentage-of-rate** command sets the ingress rate percentage to 100%.

Parameters

ing-rate-percentage

The *ing-rate-percentage* parameter is required and specifies the percentage value used to modify the current ingress active bandwidth of the port. This does not actually change the bandwidth available on the port in any way. The defined *ing-rate-percentage* parameter is multiplied by the ingress active bandwidth of the port. A value of 150 results in an increase of 50% (1.5 x Rate).

Values 1 to 1000

Default 100 (no change to active rate)

Platforms

All

21.7 ing-weight

ing-weight

Syntax

ing-weight access *access-weight* **network** *network-weight*

no ing-weight

Context

[Tree] (config>port>hybrid-buffer-allocation ing-weight)

Full Context

configure port hybrid-buffer-allocation ing-weight

Description

This command configures the sharing of the ingress buffers allocated to a hybrid port among the access and network contexts. By default, it is split equally between network and access.

The **no** form of this command reverts to the default values for the ingress access and network weights.

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Parameters

access-weight

Specifies the access weight as an integer.

Values 0 to 100

Default 50

network-weight

Specifies the network weight as an integer.

Values 0 to 100

Default 50

Platforms

All

21.8 ingress

ingress

Syntax

ingress

Context

[Tree] (config>card>fp ingress)

Full Context

configure card fp ingress

Description

This command enables access to the ingress fp CLI context.

Platforms

All

ingress

Syntax

ingress

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Context

[Tree] (config>subscr-mgmt>ancp>ancp-policy ingress)

Full Context

configure subscriber-mgmt ancp ancp-policy ingress

Description

Commands in this context configure ingress ANCP policy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>subscr-mgmt>msap-policy>ies-vprn ingress)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only ingress)

Full Context

configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters ingress

configure subscriber-mgmt msap-policy vpls-only-sap-parameters ingress

Description

Commands in this context configure ingress policies for Managed SAPs (MSAPs).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>subscr-mgmt>sla-profile ingress)

Full Context

configure subscriber-mgmt sla-profile ingress

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Description

Commands in this context configure ingress parameters for the SLA profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>sub-if>grp-if ingress)

Full Context

configure service vprn subscriber-interface group-interface ingress

Description

Commands in this context configure ingress network filter parameters for the interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap ingress)

[Tree] (config>service>ies>sub-if>grp-if>sap ingress)

Full Context

configure service vprn subscriber-interface group-interface sap ingress

configure service ies subscriber-interface group-interface sap ingress

Description

Commands in this context configure ingress SAP Quality of Service (QoS) policies and filter policies.

If no SAP ingress QoS policy is defined, the system default sap-ingress QoS policy is used for ingress processing. If no ingress filter is defined, no filtering is performed.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>service>ies>if>sap ingress)

[Tree] (config>service>vpls>mesh-sdp ingress)

[Tree] (config>service>vpls>sap ingress)

[Tree] (config>service>ies>if>spoke-sdp ingress)

[Tree] (config>service>ies>red-if>spoke-sdp>egress ingress)

[Tree] (config>service>vpls>spoke-sdp ingress)

Full Context

configure service ies interface sap ingress

configure service vpls mesh-sdp ingress

configure service vpls sap ingress

configure service ies interface spoke-sdp ingress

configure service ies red-if spoke-sdp egress ingress

configure service vpls spoke-sdp ingress

Description

Commands in this context configure ingress Quality of Service (QoS) policies and filter policies.

If no QoS policy is defined, the system default sap-ingress QoS policy is used for ingress processing. If no ingress filter is defined, no filtering is performed.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>port>access ingress)

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[Tree] (config>card>mda>access ingress)

Full Context

configure port access ingress

configure card mda access ingress

Description

Commands in this context configure ingress buffer pool parameters which define the percentage of the pool buffers that are used for CBS calculations and specify the slope policy that is configured in the **config>qos>slope-policy** context.

On the MDA level, access ingress pools are only allocated on channelized MDAs.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>port>ethernet>access ingress)

Full Context

configure port ethernet access ingress

Description

This command configures Ethernet access ingress port parameters.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>cpipe>sap ingress)

[Tree] (config>service>epipe>sap ingress)

[Tree] (config>service>ipipe>sap ingress)

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Full Context

configure service cpipe sap ingress

configure service epipe sap ingress

configure service ipipe sap ingress

Description

Commands in this context configure ingress SAP Quality of Service (QoS) policies.

If no sap-ingress QoS policy is defined, the system default sap-ingress QoS policy is used for ingress processing.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress

All

- configure service ipipe sap ingress
- configure service epipe sap ingress

ingress

Syntax

ingress

Context

[Tree] (config>service>cpipe>spoke-sdp ingress)

[Tree] (config>service>ipipe>spoke-sdp ingress)

[Tree] (config>service>epipe>spoke-sdp ingress)

Full Context

configure service cpipe spoke-sdp ingress

configure service ipipe spoke-sdp ingress

configure service epipe spoke-sdp ingress

Description

This command configures the ingress SDP context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp ingress

All

- configure service ipipe spoke-sdp ingress

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- configure service epipe spoke-sdp ingress

ingress

Syntax

ingress

Context

[Tree] (config>service>template>epipe-sap-template ingress)

Full Context

configure service template epipe-sap-template ingress

Description

Commands in this context configure ingress SAP Quality of Service (QoS) policies and filter policies.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>service>vpls>vxlan>network ingress)

Full Context

configure service vpls vxlan network ingress

Description

Commands in this context configure network ingress parameters for the VPLS VXLAN service.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

ingress

Syntax

ingress

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Context

[Tree] (config>service>ies>aarp-interface>spoke-sdp ingress)

Full Context

configure service ies aarp-interface spoke-sdp ingress

Description

Commands in this context configure the ingress for a spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>service>ies>if>vpls ingress)

Full Context

configure service ies interface vpls ingress

Description

The ingress node in this context under the vpls binding is used to define the routed IPv4 and IPv6 optional filter overrides.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>ies>if ingress)

Full Context

configure service ies interface ingress

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Description

This command enters context to configure ingress parameters for network interfaces.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>network ingress)

Full Context

configure service vprn network ingress

Description

Commands in this context configure network ingress parameters for the VPRN service.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>aarp-interface>spoke-sdp ingress)

Full Context

configure service vprn aarp-interface spoke-sdp ingress

Description

Commands in this context configure the ingress for a spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>if ingress)

Full Context

configure service vprn interface ingress

Description

This command enters context to configure ingress parameters for network interfaces.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>if>sap ingress)

Full Context

configure service vprn interface sap ingress

Description

Commands in this context configure ingress SAP Quality of Service (QoS) policies and filter policies.

If no sap-ingress QoS policy is defined, the system default sap-ingress QoS policy is used for ingress processing. If no ingress filter is defined, no filtering is performed.

Platforms

All

ingress

Syntax

ingress

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Context

[Tree] (config>service>vprn>if>vpls ingress)

Full Context

configure service vprn interface vpls ingress

Description

The ingress node in this context under the vpls binding is used to define the routed IPv4 and IPv6 optional filter overrides.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>aa-interface>sap ingress)

[Tree] (config>service>ies>aa-interface>sap ingress)

Full Context

configure service vprn aa-interface sap ingress

configure service ies aa-interface sap ingress

Description

Commands in this context configure ingress parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax

ingress

Context

[Tree] (config>card>mda>network ingress)

Full Context

configure card mda network ingress

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Description

Commands in this context configure MDA-level IOM Quality of Service (QoS).

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>video-interface>video-sap ingress)

[Tree] (config>service>ies>video-interface>video-sap ingress)

Full Context

configure service vprn video-interface video-sap ingress

configure service ies video-interface video-sap ingress

Description

Commands in this context configure in parameters for the service's video SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

ingress

Syntax

ingress

Context

[Tree] (config>service>vprn>red-if>spoke-sdp ingress)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp ingress)

[Tree] (config>mirror>mirror-dest>spoke-sdp ingress)

[Tree] (config>service>vprn>ipmirrorif>spoke-sdp ingress)

Full Context

configure service vprn redundant-interface spoke-sdp ingress

configure mirror mirror-dest remote-source spoke-sdp ingress

configure mirror mirror-dest spoke-sdp ingress

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configure service vprn ip-mirror-interface spoke-sdp ingress

Description

Commands in this context configure spoke SDP ingress parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp ingress

All

- configure service vprn ip-mirror-interface spoke-sdp ingress
- configure mirror mirror-dest remote-source spoke-sdp ingress

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure mirror mirror-dest spoke-sdp ingress

ingress

Syntax

ingress

Context

[Tree] (config>qos>network ingress)

Full Context

configure qos network ingress

Description

This command is used to enter the CLI node that creates or edits policy entries that specify the DiffServ code points-to-forwarding class mapping for all IP packets and define the MPLS EXP bits-to-forwarding class mapping for all labeled packets.

When premarked IP or MPLS packets ingress on a network port, they get a Per Hop Behavior (that is, the QoS treatment through the router, based on the mapping defined under the current node).

Platforms

All

ingress

Syntax

ingress

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Context

[Tree] (config>qos>queue-group-templates ingress)

Full Context

configure qos queue-group-templates ingress

Description

Commands in this context create ingress queue group templates. Ingress queue group templates can be applied to ingress ports to create an ingress queue group of the same name.

An ingress template must be created for a group-name prior to creating a queue group with the same name on an ingress port.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>router>if ingress)

Full Context

configure router interface ingress

Description

This command enables access to the context to configure ingress network filter policies for the IP interface. If an ingress filter is not defined, no filtering is performed.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>cust>multi-service-site ingress)

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Full Context

configure service customer multi-service-site ingress

Description

Commands in this context configure the ingress node associate an existing scheduler policy name with the customer site. The ingress node is an entity to associate commands that complement the association.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>pw-template ingress)

Full Context

configure service pw-template ingress

Description

Commands in this context configure spoke SDP binding ingress filter parameters.

Platforms

All

ingress

Syntax

ingress

Context

[Tree] (config>service>sdp>binding>pw-port ingress)

Full Context

configure service sdp binding pw-port ingress

Description

This command configures ingress parameters for the PW port.

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Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ingress

Syntax
ingress

Context
[Tree] (config>subscr-mgmt>sub-prof ingress)

Full Context
configure subscriber-mgmt sub-profile ingress

Description
Commands in this context configure subscriber profile ingress setting parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ingress

Syntax
ingress

Context
[Tree] (cfg>service>vprn>vxlan>inst>network ingress)

Full Context
configure service vprn vxlan instance network ingress

Description
Commands in this context configure VPRN VXLAN ingress setting parameters.

Platforms
7750 SR-1, 7750 SR-s

ingress

Syntax
ingress

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Context

[Tree] (config>subscr-mgmt>idle-timeout-policy ingress)

Full Context

configure subscriber-mgmt idle-timeout-policy ingress

Description

Commands in this context configure subscriber management idle timout policy ingress parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.9 ingress-buffer-allocation

ingress-buffer-allocation

Syntax

ingress-buffer-allocation *percentage*

no ingress-buffer-allocation

Context

[Tree] (config>card>fp ingress-buffer-allocation)

Full Context

configure card fp ingress-buffer-allocation

Description

This command allows the user to configure an ingress buffer allocation percentage per forwarding plane from 20.00% to 80.00%. Ingress buffer allocation applies to user-accessible buffers (total buffers less those reserved for system use).

The ingress buffer allocation percentage determines how much of the user-accessible buffers will be available for ingress purposes. The remaining buffers will be available for egress purposes.

This command is supported on all 50G FP2-based and 100G/200G FP3-based hardware. It is not supported on other FP2 or FP3-based hardware, nor on FP4-based hardware.

The **no** form of this command reverts the ingress buffer allocation to the default value.

Default

ingress-buffer-allocation 50.00

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Parameters

percentage

Specifies the buffer allocation percentage.

Values 20.00 to 80.00

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, 7950 XRS

21.10 ingress-counter-map

ingress-counter-map

Syntax

ingress-counter-map policer *policer-id* **traffic-type** { **unicast** | **multicast** | **broadcast**} [**create**]

ingress-counter-map queue *queue-id* **traffic-type** { **unicast** | **multicast** | **broadcast**} [**create**]

no ingress-counter-map policer *policer-id*

no ingress-counter-map queue *queue-id*

Context

[Tree] (config>sflow ingress-counter-map)

Full Context

configure sflow ingress-counter-map

Description

This command configures the ingress counter map for sFlow. The map must be configured so sFlow agent understands how to interpret data collected against SAP queues and policers. Multiple queues/policers can be mapped to the same **traffic-type** using separate line entries.

The **no** form of this command deletes a SAP policy queue/policer from the map.

Parameters

policer-id

Specifies the policer ID in a SAP ingress QoS policy. If the SAP policy does not have a policer with the specified ID, the map entry will be ignored for this SAP.

Values 1 to 32

queue-id

Specifies the queue ID in a SAP ingress QoS policy. If the SAP policy does not have a queue with the specified ID, the map entry will be ignored for this SAP.

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Values 1 to 32

Platforms
7750 SR, 7750 SR-s, 7950 XRS

21.11 ingress-ip-filter-entries

ingress-ip-filter-entries

Syntax
[**no**] **ingress-ip-filter-entries**

Context
[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl ingress-ip-filter-entries)

Full Context
configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries

Description
Commands in this context configure the ingress IP filter parameters.

The **no** form of this command reverts to the default.

Default
ingress-ip-filter-entries

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.12 ingress-ipv6-filter-entries

ingress-ipv6-filter-entries

Syntax
[**no**] **ingress-ipv6-filter-entries**

Context
[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl ingress-ipv6-filter-entries)

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Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries

Description

Commands in this context configure the ingress IPv6 filter parameters.

The **no** form of this command reverts to the default.

Default

ingress-ipv6-filter-entries

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.13 ingress-label

ingress-label

Syntax

ingress-label *label* [*label*]

no ingress-label [*label*]

Context

[Tree] (debug>mirror-source ingress-label)

Full Context

debug mirror-source ingress-label

Description

This command enables ingress mirroring based on MPLS labels with the following limitations.

- The ingress label provisioned must be a MPLS transport label and can be at any label stack as long as it is known by the system. Transport label distributed by LDP, RSVP, and segment routing are supported. For BGP-specific label distribution mirroring, the following are supported.
  - BGP label-unicast (RFC 8277, *Using BGP to Bind MPLS Labels to Address Prefixes*)
  - VPN service labels distributed by BGP for Carrier Supporting Carrier (CSC) VPNs (RFC 4364, *BGP/MPLS IP Virtual Private Networks (VPNs)*)
  - VPN service labels distributed by BGP in an ASBR (inter-as-option-B)
  - VPN service labels distributed by BGP in a route reflector with next-hop-self (RR + NHS)
- VPN service label mirroring is not supported in a provider edge (PE) router.

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- The ingress label can only be mirrored to a single mirror destination. If the same label is defined with multiple mirror destinations, an error is generated and the original mirror destination remains unchanged.

The ingress label mirror source overrides all other mirror source definitions. The MPLS frame is mirrored to the mirror destination as it is received on the ingress network port. The router MPLS label space is global for the system. A specific label is mirrored to a mirror destination regardless of the ingress interface. In addition to mirroring known labels, debug also allows pre-provisioning label values which are yet to be known by the system. Be aware that debug mirroring requires provisioning of static label values while labels distributed by label distribution protocols are dynamic in nature. Therefore, when label values change due to network changes, labels provisioned in debug mirroring must be changed or deleted manually.

By default, no ingress MPLS frames are mirrored. The **ingress-label** command must be executed to start mirroring on a specific MPLS label.

Parameters

label

Specifies up to eight transport labels received on ingress to be mirrored. Each label can only be mirrored to a single mirror destination.

If the label does not exist on any ingress network ports, no packets are mirrored for that label. An error will not occur. Once the label exists on a network port, ingress mirroring begins for that label.

Values 0 to 1048575

The local MPLS stack may not support portions of this range.

Platforms

All

21.14 ingress-percent-of-total

ingress-percent-of-total

Syntax

ingress-percent-of-total *percent-of-total-queues*

no ingress-percent-of-total

Context

[Tree] (config>qos>fp-resource-policy>queues ingress-percent-of-total)

Full Context

configure qos fp-resource-policy queues ingress-percent-of-total

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Description

This command configures the percentage of the total number of queues on the FP on which the policy is applied that are allocated to ingress, with the remainder allocated to egress. The ingress and egress buffer pool sizes are not affected by the queue allocation.

The allocation is performed in sets of 8192 queues, with a minimum of 8192 queues at ingress and 8192 queues at egress. If the percentage configured results in the queue allocation not being a multiple of 8192, the number of queues at ingress is rounded down to the next 8192 boundary, and consequently the number of queues at egress is rounded up to the next 8192 boundary, both while respecting the minimum at ingress and egress.

If the FP resources policy being applied to any FP and the updated allocation is not achievable with the current ingress or egress queue consumption on any of the related FPs, then the command fails.

The configuration of **ingress-percent-of-total** command, including removing this parameter to return to its default configuration, causes the router to immediately reset the associated cards, XIOMs, and MDAs, except on the 7750 SR-1 where the configuration must be saved, and the router rebooted, immediately after committing the configuration transaction.

The **no** form of this command reverts the percentage of ingress queues, and consequently egress queues, to their default allocation.

Default

ingress-percent-of-total 50.00

Parameters

percent-of-total-queues

Specifies the percentage of total ingress queues as two fraction digits.

Values 4.00 to 97.00

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

21.15 ingress-policer

ingress-policer

Syntax

ingress-policer *policer-name*

no ingress-policer

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm ingress-policer)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm ingress-policer)

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Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt ingress-policer

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt ingress-policer

Description

This command specifies the ingress policer applied to all UEs corresponding to default vlan-range (such as group-interface) or the specified vlan-range. The policer can be created in the **config>subscr-mgmt>isa-policer** context. The ingress policer can be overridden per UE from RADIUS via access-accept or COA.

The **no** form of this command reverts to the default.

Parameters

policer-name

Specifies the identifier of the distributed-sub-mgmt policer for ingress traffic.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.16 ingress-rate

ingress-rate

Syntax

ingress-rate *sub-rate*

no ingress-rate

Context

[Tree] (config>port>ethernet ingress-rate)

Full Context

configure port ethernet ingress-rate

Description

This command configures the maximum amount of ingress bandwidth that this port can receive with the configured sub-rate using packet-based accounting.

The **no** form of this command returns the value to the default.

Default

no ingress-rate

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Parameters

sub-rate

Specifies the ingress rate, in Mb/s.

Values 1 to 400000

Platforms

All

21.17 ingress-repl-inc-mcast-advertisement

ingress-repl-inc-mcast-advertisement

Syntax

[**no**] **ingress-repl-inc-mcast-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn ingress-repl-inc-mcast-advertisement)

Full Context

configure service vpls bgp-evpn ingress-repl-inc-mcast-advertisement

Description

This command enables and disables the advertisement of the Inclusive Multicast Ethernet Tag route (IMET route) with tunnel-type Ingress-Replication in the PMSI Tunnel Attribute, or with the tunnel-type Composite Point-to-Multipoint and Ingress-Replication (P2MP+IR) in the root-and-leaf nodes. The following must be considered:

- When **no ingress-repl-inc-mcast-advertisement** is configured, no IMET routes will be sent for the service unless the **provider-tunnel** is configured with **owner bgp-evpn-mpls** and **root-and-leaf**, in which case, an IMET-P2MP route is sent.
- When **ingress-repl-inc-mcast-advertisement** and **provider-tunnel** are configured for **bgp-evpn-mpls** with **root-and-leaf**, the system will send an IMET-P2MP-IR route, that is, an IMET route with a composite P2MP+IR tunnel type.
- When **no ingress-repl-inc-mcast-advertisement** and **assisted-replication replicator** are configured, the system will send IMET-AR routes, but IMET-IR routes will not be sent.

Default

ingress-repl-inc-mcast-advertisement

Platforms

All

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21.18 ingress-replication-bum-label

ingress-replication-bum-label

Syntax

[**no**] **no-ingress-replication-bum-label**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls ingress-replication-bum-label)

Full Context

configure service vpls bgp-evpn mpls ingress-replication-bum-label

Description

This command allows the user to configure the system so that a separate label is sent for BUM (Broadcast, Unknown unicast and Multicast) traffic in a specified service. By default (**no ingress-replication-bum-label**), the same label is used for unicast and flooded BUM packets when for-warding traffic to remote PEs.

When saving labels, this might cause transient traffic duplication for all-active multihoming. By enabling **ingress-replication-bum-label**, the system will advertise two labels per EVPN VPLS instance, one for unicast and one for BUM traffic. The ingress PE will use the BUM label for flooded traffic to the advertising egress PE, so that the egress PE can determine if the unicast traffic has been flooded by the ingress PE. Depending on the scale required in the network, the user may choose between saving label space or avoiding transient packet duplication sent to an all-active multihomed CE for certain macs.

Default

no ingress-replication-bum-label

Platforms

All

21.19 ingress-statistics

ingress-statistics

Syntax

ingress-statistics

Context

[Tree] (config>router>mpls ingress-statistics)

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Full Context

configure router mpls ingress-statistics

Description

Commands in this context enable ingress-statistics on an MPLS-TP LSP.

Platforms

All

ingress-statistics

Syntax

ingress-statistics

Context

[Tree] (config>router>mpls>lsp ingress-statistics)

Full Context

configure router mpls lsp ingress-statistics

Description

Commands in this context enter the LSP names for the purpose of enabling ingress data path statistics at the terminating node of the LSP, for example, egress LER.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ingress-statistics

Syntax

[**no**] **ingress-statistics**

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy ingress-statistics)

Full Context

configure router mpls forwarding-policies forwarding-policy ingress-statistics

Description

This command configures ingress statistics in an MPLS forwarding policy.

The ingress statistics are associated with a binding label, that is the ILM of the forwarding policy, and provides aggregate packet and byte counters for packets matching the binding label.

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The **no** form of this command removes the statistics from the MPLS forwarding policy.

Platforms

All

ingress-statistics

Syntax

ingress-statistics

Context

[Tree] (config>router>isis>segm-rtng ingress-statistics)

[Tree] (config>router>ospf3>segm-rtng ingress-statistics)

[Tree] (config>router>ospf>segm-rtng ingress-statistics)

Full Context

configure router isis segment-routing ingress-statistics

configure router ospf3 segment-routing ingress-statistics

configure router ospf segment-routing ingress-statistics

Description

Commands in this context configure the ingress statistics for IGP SIDs.

Platforms

All

ingress-statistics

Syntax

[**no**] **ingress-statistics**

Context

[Tree] (config>router>segment-routing>sr-policies ingress-statistics)

Full Context

configure router segment-routing sr-policies ingress-statistics

Description

This command administratively enables the collection of ingress traffic statistics for all segment routing policies. The statistics provide counts for the number of incoming packets and bytes corresponding to each (color, endpoint) combination.

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If there are any SR-MPLS interfaces on an FP2 or older line-cards, an attempt to enable this command will fail.

The **no** form of this command disables ingress stats collection for all segment routing policies.

Default

no ingress-statistics

Platforms

All

ingress-statistics

Syntax

[**no**] **ingress-statistics**

Context

[Tree] (config>router>policy-options>policy-statement>default-action ingress-statistics)

[Tree] (config>router>policy-options>policy-statement>entry>action ingress-statistics)

Full Context

configure router policy-options policy-statement default-action ingress-statistics

configure router policy-options policy-statement entry action ingress-statistics

Description

This command enables the allocation of statistical indexes to BGP-LU route entries that are programmed on ingress data paths. For effective operation, a prefix must be advertised with a label per prefix for ILM statistics.

The **no** form of this command disables the allocation of statistical indexes to BGP-LU route entries.

Default

no ingress-statistics

Platforms

All

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21.20 ingress-xpl

ingress-xpl

Syntax

ingress-xpl

Context

[Tree] (config>card>mda ingress-xpl)

Full Context

configure card mda ingress-xpl

Description

Commands in this context configure ingress MDA XPL interface error parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.21 init

init

Syntax

init [**detail**]

no init

Context

[Tree] (debug>router>ldp>peer>packet init)

Full Context

debug router ldp peer packet init

Description

This command enables debugging for LDP Init packets.

The **no** form of the command disables the debugging output.

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Parameters

detail

Displays detailed information.

Platforms

All

21.22 init-cwnd-size

init-cwnd-size

Syntax

init-cwnd-size *init-cwnd-size*

Context

[Tree] (config>app-assure>group>tcp-optimizer init-cwnd-size)

Full Context

configure application-assurance group tcp-optimizer init-cwnd-size

Description

This command configures the maximum segment size (MSS) of the initial congestion window used by the TCP optimizer (TCPO) during the Slow Start (SS) period.

Default

10

Parameters

init-cwnd-size

Specifies the MSS of the initial TCP congestion window.

Values 1 to 256

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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21.23 init-delay

init-delay

Syntax

init-delay *seconds*

no init-delay

Context

[Tree] (config>service>ies>if>ipv6>vrrp init-delay)

Full Context

configure service ies interface ipv6 vrrp init-delay

Description

This command configures a VRRP initialization delay timer.

Default

no init-delay

Parameters

seconds

Specifies the initialization delay timer for VRRP, in seconds.

Values 1 to 65535

Platforms

All

init-delay

Syntax

init-delay *seconds*

no init-delay

Context

[Tree] (config>service>ies>if>vrrp init-delay)

Full Context

configure service ies interface vrrp init-delay

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Description

This command configures a VRRP initialization delay timer.

Default

no init-delay

Parameters

seconds

Specifies the initialization delay timer for VRRP, in seconds.

Values 1 to 65535

Platforms

All

init-delay

Syntax

init-delay *seconds*

no init-delay

Context

[Tree] (config>service>vprn>if>ipv6>vrrp init-delay)

[Tree] (config>service>vprn>if>vrrp init-delay)

Full Context

configure service vprn interface ipv6 vrrp init-delay

configure service vprn interface vrrp init-delay

Description

This command configures a VRRP initialization delay timer.

Default

no init-delay

Parameters

seconds

Specifies the initialization delay timer for VRRP, in seconds.

Values 1 to 65535

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Platforms

All

init-delay

Syntax

init-delay *seconds*

no init-delay

Context

[Tree] (config>router>if>ipv6>vrrp init-delay)

[Tree] (config>router>if>vrrp init-delay)

Full Context

configure router interface ipv6 vrrp init-delay

configure router interface vrrp init-delay

Description

This command configures a VRRP initialization delay timer.

Default

no init-delay

Parameters

seconds

Specifies the initialization delay timer for VRRP, in seconds.

Values 1 to 65535

Platforms

All

21.24 init-extract-prio-mode

init-extract-prio-mode

Syntax

init-extract-prio-mode {**uniform** | **l3-classify**}

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Context

[Tree] (config>card>fp init-extract-prio-mode)

Full Context

configure card fp init-extract-prio-mode

Description

This command determines the scheme used to select the initial drop priority of extracted control plane traffic. The initial drop priority of extracted packets can be either low or high priority. The drop priority of the extracted packets can be subsequently altered by mechanisms such as CPU protection. High-priority traffic receives preferential treatment in control plane congestion situations over low-priority traffic.

Default

init-extract-prio-mode uniform

Parameters

uniform

Initializes the drop priority of all extracted control traffic as high priority. Drop priority can then be altered (marked low priority) by distributed CPU protection (DCP) or centralized CPU protection rate-limiting functions in order to achieve protocol and interface isolation.

l3-classify

Initializes the drop priority of Layer 3 extracted control traffic (BGP and OSPF) based on the QoS classification of the packets. This is useful in networks where the DSCP and EXP markings can be trusted as the primary method to distinguish, protect, and isolate good terminating protocol traffic from unknown or potentially harmful protocol traffic instead of using the rate-based DCP and centralized CPU protection traffic marking/coloring mechanisms (for example, **out-profile-rate** and **exceed-action low-priority**).

For network interfaces, the QoS classification profile result selects the drop priority (in = high priority, out = low priority) for extracted control traffic, and the default QoS classification maps different DSCP and EXP values to different in/out profile states.

For access interfaces, the QoS classification priority result typically selects the drop priority for extracted control traffic. The default access QoS classification (**default-priority**) maps all traffic to **low**. If the queues in the access QoS policy are configured as **profile-mode** queues (rather than the default **priority-mode**) extracted traffic will use the QoS classification profile value configured against the associated FC (rather than the priority result) to select the drop priority.

Layer 2 extracted control traffic (ARP or ETH-CFM) and protocols that cannot always be QoS-classified, such as IS-IS, are initialized as low drop priority in order to protect Layer 2 protocol traffic on uniform interfaces (which would typically be subject to centralized CPU protection). Alternately, DCP can be used (by configuring a non-zero rate with **exceed-action** of **low-priority** for the **all-unspecified** protocol) to mark some of this traffic as high priority.

Platforms

All

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21.25 init-ss-threshold

init-ss-threshold

Syntax

init-ss-threshold *init-ss-threshold*

Context

[Tree] (config>app-assure>group>tcp-optimizer init-ss-threshold)

Full Context

configure application-assurance group tcp-optimizer init-ss-threshold

Description

This command configures the initial Slow Start (SS) threshold for a given TCP optimizer policy. Nokia recommends to set the threshold close to the access network Bandwidth Delay Product (BDP).

Default

1000000

Parameters

init-ss-threshold

Specifies the initial SS threshold value in kilobytes.

Values auto, 0 to 1000000

The auto value instructs the system to use an intelligent mechanism to set the optimum value for the initial SS threshold to dynamically track the BDP of the access network.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.26 initial-app-profile

initial-app-profile

Syntax

initial-app-profile *app-profile-name*

no initial-app-profile

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Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>wpp initial-app-profile)

[Tree] (config>service>vprn>sub-if>grp-if>wpp initial-app-profile)

[Tree] (config>service>ies>sub-if>grp-if>wpp initial-app-profile)

Full Context

configure subscriber-mgmt local-user-db ipoe host wpp initial-app-profile

configure service vprn subscriber-interface group-interface wpp initial-app-profile

configure service ies subscriber-interface group-interface wpp initial-app-profile

Description

This command specifies the initial app-profile for the hosts created on the group-interface. This initial app-profile is replaced after hosts pass web portal authentication.

The **no** form of this command reverts to the default.

Default

no initial-app-profile

Parameters

app-profile-name

Specifies the initial application profile, up to 32 characters, to be used during the WPP authentication phase of the IPoE hosts.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.27 initial-hold-time

initial-hold-time

Syntax

initial-hold-time *seconds*

initial-hold-time [**min** *min*] [**sec** *sec*]

no initial-hold-time

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile initial-hold-time)

Full Context

configure subscriber-mgmt vrgw brg brg-profile initial-hold-time

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Description

This hold time applies to BRG instances that are created without any hosts; for example, triggered due to proxy authentication. During this initial hold-time the BRG is not deleted and no connectivity-verification is started. When this timer expires, connectivity verification is started. If connectivity verification is disabled and no hosts are associated with the BRG upon expiry, the regular hold time is started and the BRG instance will be removed.

This command allows an operator to have fast BRG removal (no connectivity-verification and **no hold-time**) but still use BRG proxy authentication. Without an initial hold time the BRG would be removed immediately after creation.

This command does not apply to BRG instances that are created through host setup.

The **no** form of this command reverts to the default.

Default

initial-hold-time min 5

Parameters

seconds

Specifies the initial time, in seconds, to hold on to a BRG after the system considered it down.

Values 0 to 900

min

Specifies the initial time in minutes.

Values 1 to 15

sec

Specifies the initial time in seconds.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.28 initial-lease-time

initial-lease-time

Syntax

initial-lease-time [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no initial-lease-time

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Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp initial-lease-time)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>dhcp initial-lease-time)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>dhcp initial-lease-time)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp initial-lease-time)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp initial-lease-time

configure service ies subscriber-interface group-interface wlan-gw dhcp initial-lease-time

configure service vprn subscriber-interface group-interface wlan-gw dhcp initial-lease-time

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp initial-lease-time

Description

This command configures the lease time for a user which is migrant (unauthenticated).

Default

initial-lease-time min 10

Parameters

hours

Specifies the number of initial lease time hours.

Values 1 to 1

minutes

Specifies the number of initial lease time minutes.

Values 5 to 59

seconds

Specifies the number of initial lease time.

Values 1 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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21.29 initial-member-lsp-bw

initial-member-lsp-bw

Syntax

initial-member-lsp-bw *bandwidth*

no initial-member-lsp-bw

Context

[Tree] (config>router>mpls>lsp-cont initial-member-lsp-bw)

Full Context

configure router mpls lsp-container initial-member-lsp-bw

Description

This command configures the bandwidth, in Mb/s, reserved by each member LSP when the LSP container transitions to being administratively up. If this command is not configured, the system uses **min-bandwidth** (under the **auto-bandwidth** context).

The **no** form of this command reverts to the default value.

Default

no initial-member-lsps-bw

Parameters

bandwidth

Specifies the bandwidth established when the LSP container is administratively up.

Values 0 to 6400000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.30 initial-member-lsps

initial-member-lsps

Syntax

initial-member-lsps *number*

no initial-member-lsps

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Context

[Tree] (config>router>mpls>lsp-cont initial-member-lsps)

Full Context

configure router mpls lsp-container initial-member-lsps

Description

This command configures the number of member LSPs the LSP container creates when it transitions to being administratively up. If this command is not configured, the system uses **min-member-lsps** (under the **lsp-container** context).

The **no** form of this command reverts to the default value.

Default

no initial-member-lsps

Parameters

number

Specifies the number of LSPs created when the LSP container is administratively up.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.31 initial-preferred-lifetime

initial-preferred-lifetime

Syntax

initial-preferred-lifetime [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no initial-preferred-lifetime

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 initial-preferred-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>slaac initial-preferred-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 initial-preferred-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>slaac initial-preferred-lifetime)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 initial-preferred-lifetime

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configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac initial-preferred-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 initial-preferred-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac initial-preferred-lifetime

Description

This command specifies the signaled preferred lifetime in DHCPv6 or SLAAC after full authentication (DSM and/or ESM).

The **no** form of this command reverts to the default.

Default

initial-preferred-lifetime min 5

Parameters

hours

Specifies the number of initial preferred lifetime hours.

Values 1 to 1

minutes

Specifies the number of initial preferred lifetime minutes.

Values 5 to 59

seconds

Specifies the number of initial preferred lifetime seconds.

Values 1 to 59

Combined values: min 5 – hrs 1

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.32 initial-registration

initial-registration

Syntax

initial-registration ca *ca-profile-name* **key-to-certify** *key-filename* **protection-alg** {**password** *password* **reference** *ref-number* | **signature** [**cert** *cert-file-name* [**send-chain** [**with-ca** *ca-profile-name*]]] [**protection-key** *key-file-name*] [**hash-alg** {**md5** | **sha1** | **sha224** | **sha256** | **sha384** | **sha512**}]}

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subject-dn *dn* [**domain-name** *domain-names*] [**ip-addr** *ip-address* | *ipv6-address*] **save-as** *save-path-of-result-cert*

Context

[Tree] (admin>certificate>cmpv2 initial-registration)

Full Context

admin certificate cmpv2 initial-registration

Description

This command configures the system to request an initial certificate from CA by using CMPv2 initial registration procedure.

The **ca** parameter specifies a CA-profile which includes CMP server information.

The **key-to-certify** is an imported key file to be certified by the CA.

The **protection-key** is an imported key file used to for message protection if the **protection-alg** is **signature**.

The request is authenticated using the following methods:

- A password and a reference number that was pre-distributed by CA via out-of-band means. The specified password and reference number are not necessarily in the CMP key list configured in the corresponding CA profile.
- A signature signed by the **protection-key** or **key-to-certify**, optionally along with the corresponding certificate. If the **protection-key** is not specified, the system uses the **key-to-certify** for message protection. The hash algorithm used for the signature depends on the key type:
  - DSA key: SHA1
  - RSA key: MD5 | SHA1 | SHA224 | SHA256 | SHA384 | SHA512, by default is SHA256

Optionally, the system could also send a certificate or a chain of certificates in the extraCerts field.

In some cases, CA may not return the certificate immediately, for instance, if request processing needs manual intervention. In such cases, use the **admin certificate cmpv2 poll** command to poll the request status. If a key list is not configured in the corresponding **ca-profile**, the system uses the existing password to authenticate the CMPv2 packets from the server if they are password protected.

If a key list is configured in the corresponding **ca-profile** and the server does not send SenderKID, the system uses the lexicographical first key in the key list to authenticate the CMPv2 packets from the server when they are password protected.

Parameters

ca-profile-name

Specifies a CA profile name, which includes the CMP server information up to 32 characters.

key-filename

Specifies the filename of the key to certify, up to 95 characters.

protection-alg

Keyword that specifies the protection algorithm.

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password

Specifies an ASCII string, up to 64 characters.

ref-number

Specifies the reference number for this CA initial authentication key, up to 64 characters.

signature

Keyword that specifies the use of the digital signature instead of password to protect the message.

cert-file-name

Specifies the certificate file, up to 95 characters. It must include the public key of the key used for message protection.

send-chain

Keyword that specifies the sending of a certificate chain.

with-ca *ca-profile-name*

Specifies the name of the CA certificate in the send chain.

key-file-name

Specifies the protection key associated with the action on the CA profile.

hash-algorithm

Specifies the hash algorithm for key.

Values **md5** – Configures the HMAC-MD5 algorithm
sha1 – Configures the HMAC-SHA1 algorithm
sha224 – Configures the HMAC-SHA224 algorithm
sha256 – Configures the HMAC-SHA256 algorithm
sha384 – Configures the HMAC-SHA384 algorithm
sha512 – Configures the HMAC-SHA512 algorithm

Default sha256

dn

Specifies the subject of the requesting certificate, up to 256 characters.

Values attr1 equals val1
attr2 equals val2 where: attrN equals {C | ST | O | OU | CN}

domain-name *domain-names*

Specifies FQDNs for SubjectAltName of the requesting certificate, separated by commas, up to 512 characters.

ip-address* | *ipv6-address

Specifies an IPv4 or IPv6 address for SubjectAtName of the requesting certificate.

save-path-of-result-cert

Specifies the system save the full pathname when saving the result certificate, up to 200 characters.

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Platforms

All

21.33 initial-send-delay-zero

initial-send-delay-zero

Syntax

[**no**] **initial-send-delay-zero**

Context

[Tree] (config>service>vprn>bgp initial-send-delay-zero)

[Tree] (config>service>vprn>bgp>group>neighbor initial-send-delay-zero)

[Tree] (config>service>vprn>bgp>group initial-send-delay-zero)

Full Context

configure service vprn bgp initial-send-delay-zero

configure service vprn bgp group neighbor initial-send-delay-zero

configure service vprn bgp group initial-send-delay-zero

Description

This command configures BGP to send UPDATE messages announcing reachability information to a peer or set of peers immediately after the sessions come up (become established) with these peers.

The default behavior, provided by the **no** form of this command, is to wait for min-route-advertisement time after each session is established before sending the first set of UPDATE messages.

Platforms

All

initial-send-delay-zero

Syntax

[**no**] **initial-send-delay-zero**

Context

[Tree] (config>router>bgp>group>neighbor initial-send-delay-zero)

[Tree] (config>router>bgp>group initial-send-delay-zero)

[Tree] (config>router>bgp initial-send-delay-zero)

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Full Context

configure router bgp group neighbor initial-send-delay-zero

configure router bgp group initial-send-delay-zero

configure router bgp initial-send-delay-zero

Description

This command configures BGP to send UPDATE messages announcing reachability information to a peer or set of peers immediately after the sessions become established with these peers.

The **no** form of this command waits for **min-route-advertisement** time after each session is established before sending the first set of UPDATE messages.

Platforms

All

21.34 initial-sla-profile

initial-sla-profile

Syntax

initial-sla-profile *sla-profile-name*

no initial-sla-profile

Context

[Tree] (config>service>vprn>sub-if>grp-if>wpp initial-sla-profile)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>wpp initial-sla-profile)

[Tree] (config>service>ies>sub-if>grp-if>wpp initial-sla-profile)

Full Context

configure service vprn subscriber-interface group-interface wpp initial-sla-profile

configure subscriber-mgmt local-user-db ipoe host wpp initial-sla-profile

configure service ies subscriber-interface group-interface wpp initial-sla-profile

Description

This command specifies the initial sla-profile for the hosts created on the group-interface. This initial sla-profile is replaced after hosts pass web portal authentication.

The **no** form of this command reverts to the default.

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Parameters

sla-profile-name

Specifies the initial SLA profile, up to 32 characters, to be used during the WPP authentication phase of the IPOE host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

initial-sla-profile

Syntax

initial-sla-profile *profile-name*

no initial-sla-profile

Context

[Tree] (config>router>wpp initial-sla-profile)

Full Context

configure router wpp initial-sla-profile

Description

This command specifies the initial sla-profile for the hosts created on the group-interface. This initial sla-profile is replaced after hosts pass the web portal authentication.

Default

no initial-sla-profile

Parameters

profile-name

Specifies the name of sla-profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.35 initial-sub-profile

initial-sub-profile

Syntax

initial-sub-profile *sub-profile-name*

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no initial-sub-profile

Context

[Tree] (config>service>vprn>sub-if>grp-if>wpp initial-sub-profile)

[Tree] (config>service>ies>sub-if>grp-if>wpp initial-sub-profile)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>wpp initial-sub-profile)

Full Context

configure service vprn subscriber-interface group-interface wpp initial-sub-profile

configure service ies subscriber-interface group-interface wpp initial-sub-profile

configure subscriber-mgmt local-user-db ipoe host wpp initial-sub-profile

Description

This command specifies the initial sub-profile for the hosts created on the group-interface. This initial sub-profile is replaced after hosts pass web portal authentication.

The **no** form of this command reverts to the default.

Default

no initial-sub-profile

Parameters

sub-profile-name

Specifies the initial subscriber profile, up to 32 characters, to be used during the WPP authentication phase of the IPoE host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.36 initial-valid-lifetime

initial-valid-lifetime

Syntax

initial-valid-lifetime [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no initial-valid-lifetime

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 initial-valid-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>slaac initial-valid-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp6 initial-valid-lifetime)

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[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>slaac initial-valid-lifetime)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 initial-valid-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac initial-valid-lifetime

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp6 initial-valid-lifetime

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range slaac initial-valid-lifetime

Description

This command specifies the signaled preferred lifetime in DHCPv6 or SLAAC during a migrant phase.

The **no** form of this command reverts to the default.

Default

initial-valid-lifetime min 5

Parameters

hours

Specifies the number of initial preferred lifetime hours.

Values 1 to 1

minutes

Specifies the number of initial preferred lifetime minutes.

Values 5 to 59

seconds

Specifies the number of initial preferred lifetime seconds.

Values 1 to 59

Combined values: min 5 – hrs 1

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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21.37 initiation-message

initiation-message

Syntax

initiation-message [*initiation-message*]

no initiation-message

Context

[Tree] (config>bmp>station initiation-message)

Full Context

configure bmp station initiation-message

Description

This command configures a free-form initiation message for a type 0 TLV to be sent to the BMP monitoring station. The message is transmitted when a BMP monitoring station establishes a connection to the device. Information can be provided to the BMP station system administrator (for example, a contact phone number). The initiation message includes a type 1 TLV containing the SNMP sysDescr value specified in RFC 1213, *Management Information Base for Network Management of TCP/IP-based internets: MIB-II*, and a type 2 TLV containing the SNMP sysName value also from RFC 1213. The string in the initiation-message is UTF-8 encoded.

The **no** form of this command removes initiation message from the configuration and causes a free-form message to be included in the type 0 information TLV and the corresponding tlv-length is made 0.

Parameters

initiation-message

Specifies an initiation message up to 256 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

21.38 inner-tag

inner-tag

Syntax

inner-tag *value* [*vid-mask*]

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no inner-tag

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match inner-tag)

Full Context

configure qos sap-ingress mac-criteria entry match inner-tag

Description

This command configures the matching of the second tag that is carried transparently through the service. The inner tag on ingress is the second tag on the frame if there are no service delimiting tags. The inner tag is the second tag before any service delimiting tags on egress but is dependent in the ingress configuration and may be set to 0 even in cases where additional tags are on the frame. This allows matching VLAN tags for explicit filtering or QoS setting when using default or null encapsulations.

The inner tag is not applicable in ingress on dot1Q SAPs. The inner tag may be populated on egress depending on the ingress SAP type.

On QinQ SAPs of null and default that do not strip tags, the inner-tag will contain the second tag (which is still the second tag carried transparently through the service.) On ingress SAPs that strip any tags, the inner tag will contain 0 even if there are more than two tags on the frame.

The optional vid_mask is defaulted to 4095 (exact match) but may be specified to allow pattern matching. The masking operation is ((value and vid-mask) = = (tag and vid-mask)). A value of 6 and a mask of 7 would match all VIDs with the lower 3 bits set to 6.

For QoS, the VID type cannot be specified on the default QoS policy.

The default vid-mask is set to 4095 for exact match.

Platforms

All

inner-tag

Syntax

inner-tag *value* [*vid-mask*]

no inner-tag

Context

[Tree] (config>filter>mac-filter>entry>match inner-tag)

Full Context

configure filter mac-filter entry match inner-tag

Description

This command configures the matching of the second tag that is carried transparently through the service. The inner-tag on ingress is the second tag on the frame if there are no service delimiting tags. Inner tag is

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the second tag before any service delimiting tags on egress but is dependent in the ingress configuration and may be set to 0 even in cases where additional tags are on the frame. This allows matching VLAN tags for explicit filtering or QoS setting when using default or null encapsulations.

The inner-tag is not applicable in ingress on dot1Q SAPs. The inner-tag may be populated on egress depending on the ingress SAP type.

On QinQ SAPs of null and default that do not strip tags inner-tag will contain the second tag (which is still the second tag carried transparently through the service.) On ingress SAPs that strip any tags, inner-tag will contain 0 even if there are more than 2 tags on the frame.

The optional *vid-mask* is defaulted to 4095 (exact match) but may be specified to allow pattern matching. The masking operation is ((value and vid-mask) = = (tag and vid-mask)). A value of 6 and a mask of 7 would match all VIDs with the lower 3 bits set to 6.

For QoS the VID type cannot be specified on the default QoS policy.

The default vid-mask is set to 4095 for exact match.

Default

no inner-tag

Platforms

All

21.39 input

input

Syntax

input

Context

[Tree] (config>system>sync-if-timing>bits input)

Full Context

configure system sync-if-timing bits input

Description

This command provides a context to enable or disable the external BITS timing reference inputs to the central clock of the router. In redundant systems with BITS ports, there are two possible BITS-in interfaces, one for each CPM or CCM.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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21.40 input-power-mode

input-power-mode

Syntax

input-power-mode *amperage*

Context

[Tree] (cfg>sys>pwr-mgmt>peq input-power-mode)

Full Context

configure system power-management peq input-power-mode

Description

This command sets the input-power-mode of the APEQ for the designated APEQ slot.

Parameters

amperage

Sets the APEQ input power mode.

Values 60, 80

Default 60

Platforms

7750 SR-12e, 7950 XRS

21.41 insert

insert

Syntax

insert [*line*]

Context

[Tree] (candidate insert)

Full Context

candidate insert

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Description

This command inserts the contents of the temporary buffer (populated by a previous copy or delete command) into the candidate configuration. The contents are inserted by default after the current edit point. Optional parameters allow the insertion after some other point of the candidate. The contents of the temporary buffer are deleted when the operator exits candidate edit mode.

Insertions are context-aware. The temporary buffer always stores the CLI context (such as the current CLI branch) for each line deleted or copied. If the lines to be inserted are supported at the context of the insertion point then the lines are simply inserted into the configuration. If the lines to be inserted are not supported at the context of the insertion point, then the context at the insertion point is first closed using multiple exit statements, the context of the lines to be inserted is built (added) into the candidate at the insertion point, then the lines themselves are added, the context of the inserted lines is closed using exit statements and finally the context from the original insertion point is built again leaving the context at the same point as it was before the insertion.

Parameters

line

Indicates where to insert the line starting at the point indicated by the following options.

Values line, offset, **first**, **edit-point**, **last**

line	absolute line number
offset	relative line number to current edit point. Prefixed with '+' or '-'
first	keyword - first line
edit-point	keyword - current edit point
last	keyword - last line that is not 'exit'

Platforms

All

21.42 insert-ipv6-fragment-header

insert-ipv6-fragment-header

Syntax

[**no**] **insert-ipv6-fragment-header**

Context

[Tree] (config>service>vprn>nat>inside>nat64 insert-ipv6-fragment-header)

[Tree] (config>router>nat>inside>nat64 insert-ipv6-fragment-header)

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Full Context

configure service vprn nat inside nat64 insert-ipv6-fragment-header

configure router nat inside nat64 insert-ipv6-fragment-header

Description

This command specifies whether the NAT64 node will insert IPv6 fragment header to IPv6 packets for which the DF bit is not set in the corresponding IPv4 packet, and is not already a fragment.

The **no** form of the command disables the insertion.

Default

disabled

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.43 insert-message-authenticator

insert-message-authenticator

Syntax

[**no**] **insert-message-authenticator**

Context

[Tree] (config>service>vprn>radius-server>server insert-message-authenticator)

[Tree] (config>router>radius-server>server insert-message-authenticator)

Full Context

configure service vprn radius-server server insert-message-authenticator

configure router radius-server server insert-message-authenticator

Description

This command enables the inclusion of a Message Authenticator attribute as the first attribute in Access-Request messages.

The **no** form of this command does not insert a Message-Authenticator attribute.

Default

no insert-message-authenticator

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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insert-message-authenticator

Syntax

[**no**] **insert-message-authenticator**

Context

[Tree] (config>router>radius-proxy>server insert-message-authenticator)

[Tree] (config>service>vprn>radius-proxy>server insert-message-authenticator)

Full Context

configure router radius-proxy server insert-message-authenticator

configure service vprn radius-proxy server insert-message-authenticator

Description

This command enables the inclusion of a Message Authenticator attribute as the first attribute in responses to Access-Request Messages forwarded to the RADIUS client.

This command is ignored when configured for a distributed RADIUS proxy running on ISA/ESA.

The **no** form of this command does not include a Message-Authenticator attribute.

Default

no insert-message-authenticator

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.44 insert-nsh

insert-nsh

Syntax

[**no**] **insert-nsh**

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action insert-nsh)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action insert-nsh

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Description

Commands in this context configure NSH parameters in the steered traffic.

The **no** form of this command removes insert NSA parameters from the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.45 insert-subscriber-id

insert-subscriber-id

Syntax

[**no**] **insert-subscriber-id**

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action>insert-nsh>meta-data insert-subscriber-id)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action insert-nsh meta-data insert-subscriber-id

Description

This command specifies that the metadata to be inserted in NSH (with MD-Type set to 1) must contain a subscriber identifier that is derived from the subscriber string that comes from the AAA server (in Alc-Subsc-Id-Str VSA). The subscriber string is truncated after the first 16 bytes, and therefore, the first 16 bytes should be unique. The **insert-subscriber-id** and **insert-subscriber-id** commands are mutually exclusive.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.46 inside

inside

Syntax

inside

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Context

[Tree] (config>router>nat inside)

[Tree] (config>service>vprn>nat inside)

Full Context

configure router nat inside

configure service vprn nat inside

Description

Commands in this context the inside NAT instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.47 inside-service-id

inside-service-id

Syntax

[**no**] **inside-service-id**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes inside-service-id)

Full Context

configure aaa isa-radius-policy acct-include-attributes inside-service-id

Description

This command enables the inclusion of the NAT inside service ID attributes.

The **no** form of the command excludes NAT inside service ID attributes.

Default

no inside-service-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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21.48 install-backup-path

install-backup-path

Syntax

install-backup-path

no install-backup-path

Context

[Tree] (config>router>policy-options>policy-statement>entry>action install-backup-path)

[Tree] (config>router>policy-options>policy-statement>default-action install-backup-path)

Full Context

configure router policy-options policy-statement entry action install-backup-path

configure router policy-options policy-statement default-action install-backup-path

Description

When the best BGP route for an IPv4 or IPv6 prefix is matched by a policy entry or policy default action with this command, BGP attempts to find and install a preprogrammed backup path for the prefix in order to provide BGP fast reroute protection.

The **install-backup-path** command overrides and has no dependency on commands such as the BGP instance **backup-path** command or the VPRN-level **enable-bgp-vpn-backup** command, which enable BGP fast reroute for an entire address family. The **install-backup-path** command provides more precise control over which IP prefixes are supported with preprogrammed backup paths.

In VPRN, if the best path for an IP prefix is provided by a VPRN BGP route, the backup path can be provided by another VPRN BGP route or an imported VPN-IP route. If the best path for an IP prefix is provided by an imported VPN-IP route, the backup path can be provided by another VPN-IP route.

The **install-backup-path** command is supported only in BGP and VRF import policies and has no effect on other types. The **install-backup-path** command applies only to the following types of matched routes: IPv4, IPv6, label-IPv4, label-IPv6, VPN-IPv4, and VPN-IPv6.

The **no** form of this command disables the install-backup-path functionality.

Default

no install-backup-path

Platforms

All

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21.49 instance

instance

Syntax

instance *instance*

Context

[Tree] (debug>dynsvc>scripts instance)

Full Context

debug dynamic-services scripts instance

Description

Commands in this context configure dynamic services script debugging for a specific instance.

Parameters

instance

Specifies the instance name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

instance

Syntax

[**no**] **instance** *vxlan-instance* [**create**] [**vni** *vni-id*]

Context

[Tree] (cfg>service>vprn>vxlan instance)

Full Context

configure service vprn vxlan instance

Description

Commands in this context configure the specific VXLAN instance.

The **no** form of this command removes the configuration.

Default

instance 1 vni 1

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Parameters

vxlan-instance

Specifies the VXLAN instance number.

Values 1 to 1

vni-id

Specifies the VNI ID.

Values 1 to 16777215

create

Keyword used to create the entry.

Platforms

7750 SR-1, 7750 SR-s

21.50 instance-id

instance-id

Syntax

instance-id *instance-id*

no instance-id

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment instance-id)

Full Context

configure router p2mp-sr-tree replication-segment instance-id

Description

This command configures the instance ID for the P2MP SR tree replication segment entry.

The ID is a unique identifier for the P2MP LSP on the root. The combination of root ID, tree ID, and instance ID uniquely identifies a P2MP LSP throughout the network.

The **no** form of this command removes the instance.

Default

no instance-id

Parameters

instance-id

Specifies the ID of the instance.

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Values 1 to 4294967295

Platforms

All

21.51 instant-prune-echo

instant-prune-echo

Syntax

[**no**] **instant-prune-echo**

Context

[Tree] (config>service>vprn>pim>if instant-prune-echo)

Full Context

configure service vprn pim interface instant-prune-echo

Description

This command enables PIM to send an instant prune echo when the router starts the prune pending timer for a group on the interface. All downstream routers will see the prune message immediately, and can send a join override if they are interested in receiving the group. Configuring instant-prune-echo is recommended on broadcast interfaces with more than one PIM neighbor to optimize multicast convergence.

The **no** form of this command disables instant Prune Echo on the PIM interface.

Default

no instant-prune-echo

Platforms

All

instant-prune-echo

Syntax

[**no**] **instant-prune-echo**

Context

[Tree] (config>router>pim>interface instant-prune-echo)

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Full Context

configure router pim interface instant-prune-echo

Description

This command enables PIM to send an instant prune echo when the router starts the prune pending timer for a group on the interface. All downstream routers will see the prune message immediately, and can send a join override if they are interested in receiving the group. Configuring instant-prune-echo is recommended on broadcast interfaces with more than one PIM neighbor to optimize multicast convergence.

The **no** form of this command disables instant Prune Echo on the PIM interface.

Default

no instant-prune-echo

Platforms

All

21.52 int-dest-id

int-dest-id

Syntax

int-dest-id *int-dest-id*

no int-dest-id

Context

[Tree] (config>service>sdp>binding>pw-port>egress>shaper int-dest-id)

Full Context

configure service sdp binding pw-port egress shaper int-dest-id

Description

This command configures an intermediate destination identifier applicable to ESM PW SAPs.

The **no** form of the command removes the intermediate destination identifier from the configuration.

Default

no int-dest-id

Parameters

int-dest-id

Specifies the intermediate destination ID.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

int-dest-id

Syntax

int-dest-id *name*

no int-dest-id

Context

[Tree] (config>service>epipe>pw-port>egress>shaper int-dest-id)

Full Context

configure service epipe pw-port egress shaper int-dest-id

Description

This command configures an intermediate destination identifier applicable to ESM PW SAPs.

Parameters

name

Specifies the default intermediate destination identifier, up to 32 characters in length, on the egress side for this PW-port entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.53 inter-chassis-redundancy

inter-chassis-redundancy

Syntax

inter-chassis-redundancy

Context

[Tree] (config>isa>nat-group inter-chassis-redundancy)

Full Context

configure isa nat-group inter-chassis-redundancy

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Description

Commands in this context configure inter-chassis redundancy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.54 inter-dest-id

inter-dest-id

Syntax

inter-dest-id *intermediate-destination-id*

no inter-dest-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings inter-dest-id)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings inter-dest-id)

Full Context

configure subscriber-mgmt local-user-db ipoe host identification-strings inter-dest-id

configure subscriber-mgmt local-user-db ppp host identification-strings inter-dest-id

Description

This command specifies the intermediate destination identifier which is encoded in the identification strings.

The **no** form of this command returns to the default.

Parameters

intermediate-destination-id

Specifies the intermediate destination identifier, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

inter-dest-id

Syntax

inter-dest-id *intermediate-destination-id*

no inter-dest-id

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Context

[Tree] (config>service>vpls>sap>static-host inter-dest-id)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host inter-dest-id)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host inter-dest-id)

[Tree] (config>service>ies>if>sap>static-host inter-dest-id)

[Tree] (config>service>vprn>if>sap>static-host inter-dest-id)

Full Context

configure service vpls sap static-host inter-dest-id

configure service vprn subscriber-interface group-interface sap static-host inter-dest-id

configure service ies subscriber-interface group-interface sap static-host inter-dest-id

configure service ies interface sap static-host inter-dest-id

configure service vprn interface sap static-host inter-dest-id

Description

This command specifies to which intermediate destination (for example a DSLAM) this host belongs.

The **no** form of this command reverts to the default.

Parameters

intermediate-destination-id

Specifies the intermediate destination identifier, up to 32 characters in length.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.55 inter-vlan

inter-vlan

Syntax

[**no**] **inter-vlan**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>mobility inter-vlan)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>mobility inter-vlan)

Full Context

configure service ies subscriber-interface group-interface wlan-gw mobility inter-vlan

configure service vprn subscriber-interface group-interface wlan-gw mobility inter-vlan

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Description

This command enables mobility within different VLANs of the same range. When enabled, mobility between different VLANs in a single vlan-range is allowed for the configured mobility triggers.

The **no** form of this command disables mobility between VLANs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.56 interactive-authentication

interactive-authentication

Syntax

[**no**] **interactive-authentication**

Context

[Tree] (config>system>security>radius interactive-authentication)

[Tree] (config>service>vprn>aaa>rmt-srv>radius interactive-authentication)

Full Context

configure system security radius interactive-authentication

configure service vprn aaa remote-servers radius interactive-authentication

Description

This command enables RADIUS interactive authentication for the system. Enabling interactive-authentication forces RADIUS to fall into challenge/response mode.

Default

no interactive-authentication

Platforms

All

interactive-authentication

Syntax

[**no**] **interactive-authentication**

Context

[Tree] (config>system>security>tacplus interactive-authentication)

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[Tree] (config>service>vprn>aaa>rmt-srv>tacplus interactive-authentication)

Full Context

configure system security tacplus interactive-authentication

configure service vprn aaa remote-servers tacplus interactive-authentication

Description

This configuration instructs the SR OS to send no username nor password in the TACACS+ start message, and to display the *server_msg* in the GETUSER and GETPASS response from the TACACS+ server. Interactive authentication can be used to support a One Time Password scheme (such as an S/Key). An example flow (such as with a telnet connection) is as follows:

- The SR OS sends an authentication start request to the TACACS+ server with no username nor password.
- TACACS+ server replies with TAC_PLUS_AUTHEN_STATUS_GETUSER and a *server_msg*.
- The SR OS displays the *server_msg*, and collects the username.
- The SR OS sends a continue message with the username.
- TACACS+ server replies with TAC_PLUS_AUTHEN_STATUS_GETPASS and a *server_msg*.
- The SR OS displays the *server_msg* (which may contain, for example, an S/Key for One Time Password operation), and collects the password.
- The SR OS sends a continue message with the password.
- TACACS+ server replies with PASS or FAIL.

When interactive-authentication is disabled, the SR OS will send the username and password in the *tacplus* start message. An example flow (such as with a telnet connection) is as follows:

- TAC_PLUS_AUTHEN_TYPE_ASCII.
  - the login username in the "user” field.
  - the password in the *user_msg* field (while this is non-standard, it does not cause interoperability problems).
- TACACS+ server ignores the password and replies with TAC_PLUS_AUTHEN_STATUS_GETPASS.
- The SR OS sends a continue packet with the password in the *user_msg* field.
- TACACS+ server replies with PASS or FAIL.

When interactive-authentication is enabled, tacplus must be the first method specified in the authentication-order configuration.

Default

no interactive-authentication

Platforms

All

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21.57 intercept-id

intercept-id

Syntax

intercept-id *id*

no intercept-id

Context

[Tree] (config>li>li-source>nat>l2-aware-sub intercept-id)

[Tree] (config>li>li-source>nat>dslite-lsn-sub intercept-id)

[Tree] (config>li>li-source>nat>ethernet-header intercept-id)

[Tree] (config>li>li-source>nat>nat64-lsn-sub intercept-id)

[Tree] (config>li>li-source>nat>classic-lsn-sub intercept-id)

Full Context

configure li li-source nat l2-aware-sub intercept-id

configure li li-source nat dslite-lsn-sub intercept-id

configure li li-source nat ethernet-header intercept-id

configure li li-source nat nat64-lsn-sub intercept-id

configure li li-source nat classic-lsn-sub intercept-id

Description

This command configures the intercept-id that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This **intercept-id** can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs.

For nat mirroring (a **nat li-source** entry type), when the mirror service is not configured with any routable encap (for example, no ip-udp-shim or ip-gre configured under **config>mirror>mirror-dest>encap**), the presence of a configured intercept-id against an li-source (nat) entry will cause the insertion of the intercept-id after a configurable mac-da, mac-sa and etype (configured under **li-source>nat>ethernet-header**), at the front of each packet mirrored for that particular li-source entry. If there is no **intercept-id** configured (for a **nat** entry using a mirror service without routable encap), then a configurable mac-da and mac-sa are added to the front of the packets (but no intercept-id). In both cases a non-configurable etype is also added immediately before the mirrored customer packet. Note that routable encapsulation configured in the mirror-dest takes precedence over the ethernet-header configuration in the li-source nat entries. If routable encapsulation is configured, then the ethernet-header config is ignored and no mac header is added to the packet (the encap is determined by the mirror-dest in this case).

For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, an intercept-id field (as part of the routable encap) is always present in the mirrored packets. If there is no intercept ID configured for an li-source entry, then the default value will be

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inserted. When the mirror service is configured with ip-gre routable encap, no intercept-id is inserted and none should be specified against the **li-source** entries.

The **no** form of this command removes the value from the configuration.

Default

no intercept-id (an id of 0, or no id)

Parameters

id

Specifies the intercept ID value to insert into the header of the mirrored packets.

Values 1 to 4294967295 (32b) For nat li-source entries that are using a mirror service that is not configured with routable encap

Values 1 to 1,073,741,824 (30b) For all types of li-source entries that are using a mirror service with routable ip-udp-shim encap and no direction-bit.

Values 1 to 536,870,912 (29b) For all types of li-source entries that are using a mirror service with routable ip-udp-shim encap and with the direction-bit enabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

intercept-id

Syntax

intercept-id [*intercept-id*]

no intercept-id

Context

[Tree] (config>li>li-source>wlan-gw intercept-id)

Full Context

configure li li-source wlan-gw intercept-id

Description

This command configures the intercept-id inserted in the packet header for all mirrored packets of the associated li-source. When the mirror service is configured with the **ip-udp-shim** routable encapsulation, the intercept-id field (as part of the routable encap) is always present in the mirrored packets. The intercept ID can be used by the LIG to identify a particular LI session to which the packet belongs.

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Parameters

intercept-id

Specifies the intercept ID inserted in the LI header.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.58 interconnect

interconnect

Syntax

interconnect {**ring-id** *ring-index* | **vpls**}

no interconnect

Context

[Tree] (config>eth-ring>sub-ring interconnect)

Full Context

configure eth-ring sub-ring interconnect

Description

This command links the G.8032 sub-ring to a ring instance or to a VPLS instance. The ring instance must be a complete ring with two paths but may itself be a sub-ring or a major ring (declared by its configuration on another node).

When the interconnection is to another node, the sub-ring may have a virtual link or a non-virtual-link.

When the sub-ring is configured with a non-virtual link, the sub ring may be alternatively connected to a VPLS service.

This command is only valid on the interconnection node where a single sub-ring port connects to a major ring or terminates on a VPLS service.

The **no** form of this command removes the interconnect node.

Default

no interconnect

Parameters

ring-id

Specifies the identifier for the ring instance of the connection ring for this sub-ring on this node.

Values 0 to 128

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vpls

Specifies that the sub-ring is connected to the VPLS instance that contains the sub-ring SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.59 interface

interface

Syntax

interface *ip-int-name* **service-id** *service-id*

no interface

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host interface)

Full Context

configure subscriber-mgmt local-user-db ipoe host interface

Description

This command specifies the interface where IPoE sessions are terminated.

The **no** version of this command disables the parameter.

Parameters

ip-int-name

Specifies the name of the group interface.

service-id

Specifies the service ID or name where the group interface resides.

Values *service-id* — 1 to 2147483647

service-name — up to 64 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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interface

Syntax

interface *ip-int-name* **service-id** *service-id*

no interface

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host interface)

Full Context

configure subscriber-mgmt local-user-db ppp host interface

Description

This command configures the interface where PPP sessions are terminated.

The **no** form of this command reverts to the default.

Parameters

ip-int-name

Specifies the name of the group interface, up to 32 characters, where the PPP sessions are established.

service-id

Specifies the service ID or name of the service where the PPP sessions are established.

Values *service-id*: 1 to 2147483647

service-name: up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interface

Syntax

interface *ip-int-name*

no interface

Context

[Tree] (config>service>vprn>dhcp6 interface)

[Tree] (config>service>vprn>dhcp interface)

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Full Context

configure service vprn dhcp6 interface

configure service vprn dhcp interface

Description

Commands in this context configure interface parameters.

Parameters

ip-int-name

Specifies the name of the IP interface, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interface

Syntax

interface *ip-int-name* [**create**]

interface *ip-int-name* [**create**] **tunnel**

no interface *ip-int-name*

Context

[Tree] (config>service>ies interface)

[Tree] (config>service>vprn interface)

Full Context

configure service ies interface

configure service vprn interface

Description

This command creates a logical IP routing interface. Once created, attributes like an IP address and service access point (SAP) can be associated with the IP interface.

The **interface** command, under the context of services, is used to create and maintain IP routing interfaces within service IDs. The **interface** command can be executed in the context of a service ID. The IP interface created is associated with the service core network routing instance and default routing table. The typical use for IP interfaces created in this manner is for subscriber Internet access. An IP address cannot be assigned to an IES interface. Multiple SAPs can be assigned to a single group interface.

Interface names are case sensitive and must be unique within the group of defined IP interfaces defined for **config>router>interface**, **config>service>ies>interface** and **config>service>vprn>interface** (that is, the network core router instance). Interface names must not be in the dotted decimal notation of an IP address. For example, the name "1.1.1.1” is not allowed, but "int-1.1.1.1” is allowed. Show commands for router interfaces use either interface names or the IP addresses. Use unique IP address values and IP

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address names to maintain clarity. It could be unclear to the user if the same IP address and IP address name values are used. Although not recommended, duplicate interface names can exist in different router instances.

When a new name is entered, a new logical router interface is created. When an existing interface name is entered, the user enters the router interface context for editing and configuration.

By default, there are no default IP interface names defined within the system. All IP interfaces must be explicitly defined. Interfaces are created in an enabled state.

The **no** form of this command removes IP the interface and all the associated configuration. The interface must be administratively shut down before issuing the **no interface** command.

The IP interface must be shut down before the SAP on that interface may be removed. IES and VPRN services do not have the **shutdown** command in the SAP CLI context. The service SAPs rely on the interface status to enable and disable them.

Parameters

ip-int-name

Specifies the name of the IP interface. Interface names must be unique within the group of defined IP interfaces for **config router interface** and config service vprn interface commands. An interface name cannot be in the form of an IP address. Interface names can be from 1 to 32 alphanumeric characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

If *ip-int-name* already exists within the service ID, the context will be changed to maintain that IP interface. If *ip-int-name* already exists within another service ID or is an IP interface defined within the **config router** commands, an error will occur and context will not be changed to that IP interface. If *ip-int-name* does not exist, the interface is created and context is changed to that interface for further command processing.

tunnel

Specifies that the interface is configured as tunnel interface, which could be used to terminate IPsec or GRE runnels in the private service.

create

Creates the IPsec interface instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>igmp interface)

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Full Context

configure router igmp interface

Description

Commands in this context configure an IGMP interface. The interface is a local identifier of the network interface on which reception of the specified multicast address is to be enabled or disabled.

The **no** form of the command deletes the IGMP interface. The **shutdown** command in the **config>router>igmp>interface** context can be used to disable an interface without removing the configuration for the interface.

Default

no interface

Parameters

ip-int-name

The IP interface name. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

If the IP interface name does not exist or does not have an IP address configured an error message will be returned.

If the IP interface exists in a different area it will be moved to this area.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>mld interface)

Full Context

configure router mld interface

Description

Commands in this context configure an Multicast Listener Discovery (MLD) interface. The interface is a local identifier of the network interface on which reception of the specified multicast address is to be enabled or disabled.

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The **no** form of this command deletes the MLD interface. The **shutdown** command in the **config>router>mld>interface** context can be used to disable an interface without removing the configuration for the interface.

Default

no interface — No interfaces are defined.

Parameters

ip-int-name

Specifies the IP interface name. Interface names must be unique within the group of defined IP interfaces for **config>router>interface** and **config>service>ies>interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

If the IP interface name does not exist or does not have an IP address configured an error message will be returned.

If the IP interface exists in a different area it will be moved to this area.

Platforms

All

interface

Syntax

interface *interface-name* [**create**]

no interface *interface-name*

Context

[Tree] (config>router>gtp>s11 interface)

[Tree] (config>service>vprn>gtp>s11 interface)

Full Context

configure router gtp s11 interface

configure service vprn gtp s11 interface

Description

This command activates GTP termination on the specified interface.

The **no** form of this command disables GTP termination on the specified interface, if there are no active sessions associated with the interface.

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Parameters

interface-name

Specifies the name of the interface, up to 32 characters. The name must begin with a letter.

create

Creates an entry.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

interface

Syntax

interface *ip-int-name*

no interface

Context

[Tree] (config>redundancy>mc>peer>mcr>ring>in-band-control-path interface)

[Tree] (config>redundancy>mc>peer>mc>l3-ring>in-band-control-path interface)

Full Context

configure redundancy multi-chassis peer mc-ring ring in-band-control-path interface

configure redundancy multi-chassis peer multi-chassis l3-ring in-band-control-path interface

Description

This command specifies the name of the IP interface used for the inband control connection.

If an interface name is not configured, the ring cannot become operational.

The **no** form of this command reverts to the default.

Parameters

ip-int-name

Specifies an interface name up to 32 characters.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

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Context

[Tree] (config>router>radius-proxy>server interface)

[Tree] (config>service>vprn>radius-proxy>server interface)

Full Context

configure router radius-proxy server interface

configure service vprn radius-proxy server interface

Description

This command configures the IP interface the RADIUS-proxy server will bind to. One RADIUS-proxy server could bind to multiple interfaces.

Parameters

ip-int-name

Specifies the name of an IP interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interface

Syntax

interface router *router-instance* **name** *interface-name*

no interface

Context

[Tree] (config>subscr-mgmt>pfcp-association interface)

Full Context

configure subscriber-mgmt pfcp-association interface

Description

This command configures the interface from which PFCP messages are sent and on which PFCP messages are received.

The **no** form of this command removes the interface.

Default

no interface

Parameters

router-instance

Specifies the router instance.

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Values *router-name* | *vprn-svc-id*

router-name: Base Default - Base

vprn-svc-id: 1 to 2147483647

interface-name

Specifies the interface name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>service>vpls interface)

Full Context

configure service vpls interface

Description

This command creates a logical IP routing interface for a VPLS service. Once created, attributes such as IP address and service access points (SAP) can be associated with the IP interface.

The interface command, under the context of services, is used to create and maintain IP routing interfaces within the VPLS service IDs. The IP interface created is associated with the VPLS management routing instance. This instance does not support routing.

Interface names are case-sensitive and must be unique within the group of defined IP interfaces defined for the network core router instance. Interface names in the dotted decimal notation of an IP address are not allowed. For example, the name "1.1.1.1” is not allowed, but "int-1.1.1.1” is allowed. Show commands for router interfaces use either interface names or the IP addresses. Use unique IP address values and IP address names to maintain clarity. Duplicate interface names can exist in different router instances.

Enter a new name to create a logical router interface. When an existing interface name is entered, the user enters the router interface context for editing and configuration.

By default, no default IP interface names are defined within the system. All VPLS IP interfaces must be explicitly defined in an enabled state.

The no form of this command removes the IP interface and the entire associated configuration. The interface must be administratively shut down before issuing the no interface command.

For VPLS services, the IP interface must be shut down before the SAP on that interface is removed.

For VPLS service, ping and traceroute are the only applications supported.

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Parameters

ip-int-name

Specifies the name of the IP interface. Interface names must be unique within the group of defined IP.

An interface name:

- Should not be in the form of an IP address.
- Can be from 1 to 32 alphanumeric characters.
- If the string contains special characters (such as #,$,spaces), the entire string must be enclosed within double quotes.

If ip-int-name already exists within the service ID, the context changes to maintain that IP interface. If ip-int-name already exists within another service ID, an error occurs and the context does not change to that IP interface. If ip-int-name does not exist, the interface is created and the context is changed to that interface for further command processing.

Platforms

All

interface

Syntax

[**no**] **interface** [*ip-int-name* | *ip-address*]

Context

[Tree] (debug>router>igmp interface)

Full Context

debug router igmp interface

Description

This command enables debugging for IGMP interfaces.

The **no** form of this command disables the IGMP interface debugging for the specifies interface name or IP address.

Parameters

ip-int-name

Debugs the information associated with the specified IP interface name.

ip-address

Debugs the information associated with the specified IP address.

Platforms

All

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interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>service>vprn>igmp interface)

Full Context

configure service vprn igmp interface

Description

Commands in this context configure interface parameters.

Parameters

ip-int-name

Specifies the name of the IP interface, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>service>vprn>isis interface)

Full Context

configure service vprn isis interface

Description

This command creates the context to configure an IS-IS interface.

When an area is defined, the interfaces belong to that area. Interfaces cannot belong to separate areas.

When the interface is a POS channel, the OSI Network Layer Control Protocol (OSINLCP) is enabled when the interface is created and removed when the interface is deleted.

The **no** form of this command removes IS-IS from the interface.

The **shutdown** command in the **config>router>isis>if** context administratively disables IS-IS on the interface without affecting the IS-IS configuration.

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Default

no interface — No IS-IS interfaces are defined.

Parameters

ip-int-name

Identify the IP interface name created in the **config>router>if** context. The IP interface name must already exist.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>service>vprn>mld interface)

Full Context

configure service vprn mld interface

Description

Commands in this context configure an Multicast Listener Discovery (MLD) interface. The interface is a local identifier of the network interface on which reception of the specified multicast address is to be enabled or disabled.

The **no** form of this command deletes the MLD interface. The **shutdown** command in the **config>router>mld>if** context can be used to disable an interface without removing the configuration for the interface.

Default

no interface

Parameters

ip-int-name

Specifies the IP interface name. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

If the IP interface name does not exist or does not have an IP address configured an error message will be returned.

If the IP interface exists in a different area it will be moved to this area.

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Platforms

All

interface

Syntax

interface *ip-int-name* [**secondary**]

no interface *ip-int-name*

Context

[Tree] (config>service>vprn>ospf3>area interface)

[Tree] (config>service>vprn>ospf>area interface)

Full Context

configure service vprn ospf3 area interface

configure service vprn ospf area interface

Description

This command creates a context to configure an OSPF interface.

By default interfaces are not activated in any interior gateway protocol, such as OSPF, unless explicitly configured.

The **no** form of this command deletes the OSPF interface configuration for this interface. The **shutdown** command in the **config>router>ospf>if** context can be used to disable an interface without removing the configuration for the interface.

Default

no interface

Parameters

ip-int-name

Specifies the IP interface name. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service vprn interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

If the IP interface name does not exist or does not have an IP address configured an error message will be returned.

If the IP interface exists in a different area it will be moved to this area.

secondary

Keyword used to allow multiple secondary adjacencies, in addition to the primary adjacency, to be established over a single IP interface. This keyword can also be applied

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to the system interface and to loopback interfaces to allow them to participate in multiple areas, although no adjacencies are formed over these types of interfaces.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>service>vprn>pim interface)

Full Context

configure service vprn pim interface

Description

This command enables PIM on an interface and enables the context to configure interface-specific parameters. By default interfaces are activated in PIM based on the **apply-to** command, and do not have to be configured on an individual basis unless the default values must be changed.

The **no** form of this command deletes the PIM interface configuration for this interface. If the **apply-to** command parameter is configured, then the **no interface** form must be saved in the configuration to avoid automatic (re)creation after the next **apply-to** is executed as part of a reboot.

The **shutdown** command can be used to disable an interface without removing the configuration for the interface.

Default

Interfaces are activated in PIM based on the apply-to command.

Parameters

ip-int-name

Specifies the interface name. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

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Context

[Tree] (config>service>vprn>router-advertisement interface)

Full Context

configure service vprn router-advertisement interface

Description

This command configures router advertisement properties on a specific interface. The interface must already exist in the **config>router>if** context.

Default

No interfaces are configured by default.

Parameters

ip-int-name

Specifies the interface name. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name* [**dual-stack**]

Context

[Tree] (config>router>ldp>interface-parameters interface)

Full Context

configure router ldp interface-parameters interface

Description

This command enables LDP on the specified IP interface.

The **no** form of the command deletes the LDP interface and all configuration information associated with the LDP interface.

The LDP interface must be disabled using the **shutdown** command before it can be deleted.

The user can configure different parameters for IPv4 and IPv6 LDP interfaces by entering **ipv4** or **ipv6** as the next command.

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Parameters

ip-int-name

Specifies the name of an existing interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

dual-stack

This optional keyword allows the user to explicitly indicate if this interface should create the IPv4 context automatically or not. With the introduction of LDP IPv6, the creation of the interface does not automatically mean it is to be used for IPv4 like with legacy IPv4 only LDP interface. Thus the dual-stack keyword is an indication to the system that user will manually enable the IPv4, IPv6, or the dual-stack IPv4/IPv6 contexts manually.

The following are some of the key points for this keyword:

- If the keyword is provided, then IPv4 interface context will not be created automatically. If it is not provided, the IPv4 interface context will be created like in the legacy single stack LDP IPv4 interface behavior.
- This new keyword will always show in a configuration.
- When entering an already configured interface, there is no need to provide the keyword, but it will be ignored if provided.
- When deleting a configured interface, the keyword will not be accepted in the **no** version of the **interface** command.

Platforms

All

interface

Syntax

[**no**] **interface** *interface-name family*

Context

[Tree] (debug>router>ldp interface)

Full Context

debug router ldp interface

Description

Use this command for debugging an LDP interface.

Parameters

interface-name

The name of an existing interface.

family

Specifies the family type.

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Values ipv4, ipv6

Platforms

All

interface

Syntax

interface *ip-address* **srlg-group** *group-name* [*group-name*]

no interface *ip-address* [**srlg-group** *group-name*]

Context

[Tree] (config>router>mpls>srlg-database>router-id interface)

Full Context

configure router mpls srlg-database router-id interface

Description

This command allows the operator to manually enter the SRLG membership information for any link in the network, including links on this node, into the user SRLG database.

An interface can be associated with up to five SRLG groups for each execution of this command. The operator can associate an interface with up to 64 SRLG groups by executing the command multiple times.

CSPF will not use entered SRLG membership if an interface is not validated as part of a router ID in the routing table.

The **no** form of this command deletes a specific interface entry in this user SRLG database. The *group-name* must already exist in the config>router>if-attribute>srlg-group context.

Parameters

ip-address

Specifies the IPv4 address in a.b.c.d

srlg-group group-name

Specifies the SRLG group name. Up to 1024 group names can be defined in the config>router>if-attribute context. The SRLG group names must be identical across all routers in a single domain.

Platforms

All

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interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>mpls interface)

Full Context

configure router mpls interface

Description

This command specifies MPLS protocol support on an IP interface. No MPLS commands are executed on an IP interface where MPLS is not enabled. An MPLS interface must be explicitly enabled (**no shutdown**).

The **no** form of this command deletes all MPLS commands such as **label-map** which are defined under the interface. The MPLS interface must be shutdown first in order to delete the interface definition. If the interface is not shutdown, the **no interface** *ip-int-name* command does nothing except issue a warning message on the console indicating that the interface is administratively up.

Default

shutdown

Parameters

ip-int-name

Specifies the name of the network IP interface. An interface name cannot be in the form of an IP address. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Values 1 to 32 alphanumeric characters.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>rsvp interface)

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Full Context

configure router rsvp interface

Description

This command enables RSVP protocol support on an IP interface. No RSVP commands are executed on an IP interface where RSVP is not enabled.

The **no** form of this command deletes all RSVP commands such as **hello-interval** and **subscription**, which are defined for the interface. The RSVP interface must be **shutdown** it can be deleted. If the interface is not shut down, the **no interface** *ip-int-name* command does nothing except issue a warning message on the console indicating that the interface is administratively up.

Default

shutdown

Parameters

ip-int-name

Specifies the name of the network IP interface. An interface name cannot be in the form of an IP address. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Values 1 to 32

Platforms

All

interface

Syntax

interface [*ip-int-name* | *mt-int-name* | *ip-address*] [**detail**]

no interface

Context

[Tree] (debug>router>pim interface)

Full Context

debug router pim interface

Description

This command enables debugging for PIM interface information.

The **no** form of this command disables PIM interface debugging.

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Parameters

ip-int-name

Debugs the information associated with the specified IP interface name.

Values IPv4 or IPv6 interface address

mt-int-name

Debugs the information associated with the specified VPRN ID and group address.

ip-address

Debugs the information associated with the specified IP address.

detail

Debugs detailed IP interface information.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>pim interface)

Full Context

configure router pim interface

Description

This command creates a PIM interface.

Interface names are case-sensitive and must be unique within the group of defined IP interfaces defined for **config>router>interface**, **config>service>ies>interface**, and **config>service>ies>subscriber-interface>group-interface**. Interface names must not be in the dotted decimal notation of an IP address. For example, the name "1.1.1.1" is not allowed, but "int-1.1.1.1" is allowed. Show commands for router interfaces use either the interface names or the IP addresses. Ambiguity can exist if an IP address is used as an IP address and an interface name. Duplicate interface names can exist in different router instances, although this is not recommended because it may be confusing.

By default, no interfaces or names are defined within PIM.

The **no** form of this command removes the IP interface and all the associated configurations.

Parameters

ip-int-name

Specifies the name of the IP interface, up to 32 characters. Interface names must be unique within the group of defined IP interfaces for **config router interface**, **config service ies interface**, and **config service ies subscriber-interface group-interface**

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commands. An interface name cannot be in the form of an IP address. If the string contains special characters (#, $, spaces, and so on.), the entire string must be enclosed within double quotes.

If the *ip-int-name* already exists, the context is changed to maintain that IP interface. If *ip-int-name* does not exist, the interface is created and the context is changed to that interface for further command processing.

Platforms

All

interface

Syntax

interface *interface-name* [**unnumbered-mpls-tp**]

interface *interface-name* **pdn**

no interface *interface-name*

Context

[Tree] (config>router interface)

Full Context

configure router interface

Description

This command creates a logical IP routing or unnumbered MPLS-TP interface. Once created, attributes like IP address, port, or system can be associated with the IP interface.

Interface names are case-sensitive and must be unique within the group of IP interfaces defined for **config router interface** and **config service ies interface**. Interface names must not be in the dotted decimal notation of an IP address.; for example, the name "1.1.1.1” is not allowed, but "int-1.1.1.1” is allowed. Show commands for router interfaces use either the interface names or the IP addresses. Ambiguity can exist if an IP address is used as an IP address and an interface name. Duplicate interface names can exist in different router instances, although this is not recommended because it is confusing. Nokia recommends that names are meaningful and unique to remove ambiguity when displaying the state associated with IP interfaces through show commands.

When a new name is entered, a new logical router interface is created. When an existing interface name is entered, the user enters the router interface context for editing and configuration.

Although not a keyword, the ip-int-name "**system**” is associated with the network entity (such as a specific router), not a specific interface. The system interface is also referred to as the loopback address.

An unnumbered MPLS-TP interface is a special type of interface that is only intended for MPLS-TP LSPs. IP routing protocols are blocked on interfaces of this type. If an interface is configured as unnumbered-mpls-tp, then it can only be associated with an Ethernet port or VLAN, using the port command, then either a unicast, multicast, or broadcast remote MAC address may be configured. Only static ARP is supported.

The control-tunnel parameter creates a loopback interface representing a GRE tunnel. One IP tunnel can be created in this interface.

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Only the primary IPv4 interface address and only one IP tunnel per interface are allowed. Multiple tunnels can be configured using up to four controlTunnel loopback interfaces. A static route can take the new controlTunnel interface as a next hop.

The **no** form of this command removes the IP interface and all the associated configurations. The interface must be administratively shut down before issuing the **no interface** command.

Parameters

interface-name

Specifies the name of the IP interface. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Values 1 to 32 alphanumeric characters

If the *ip-int-name* already exists, the context is changed to maintain that IP interface. If *ip-int-name* already exists within another service ID or is an IP interface defined within the **config router** commands, an error will occur and the context will not be changed to that IP interface. If *ip-int-name* does not exist, the interface is created and the context is changed to that interface for further command processing.

unnumbered-mpls-tp

Specifies that an interface is an unnumbered MPLS-TP. An unnumbered MPLS-TP interface is a special type of interface that is only intended for MPLS-TP LSPs. IP routing protocols are blocked on interfaces of this type. If an interface is configured as **unnumbered-mpls-tp**, then it can only be associated with an Ethernet port or VLAN, using the **port** command. A unicast, multicast, or broadcast remote MAC address can be configured using the **static-arp** command. Only static ARP is supported.

pdn

Specifies that the interface is a PDN.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>router-advert interface)

Full Context

configure router router-advertisement interface

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Description

This command configures router advertisement properties on a specific interface. The interface must already exist in the **config**>**router**>**if** context.

Parameters

ip-int-name

Specifies the interface name. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

interface

Syntax

[**no**] **interface** *interface-name*

Context

[Tree] (config>router>pcp-server>server interface)

Full Context

configure router pcp-server server interface

Description

This command associates an interface.

The **no** form of this command reverts to the default value.

Parameters

interface-name

Specifies the interface name, up to 32 characters. The interface name must start with a letter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

interface

Syntax

[**no**] **interface** [{*ip-int-name* | *ip-address*}]

Context

[Tree] (debug>router>ip interface)

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Full Context

debug router ip interface

Description

This command displays the router IP interface table sorted by interface index.

Parameters

ip-int-name

Only displays the interface information associated with the specified IP interface name.

Values 32 characters maximum

ip-address

Only displays the interface information associated with the specified IP address.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Values The following values apply to the 7450 ESS:

ipv4-address: a.b.c.d (host bits must be 0)

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>isis interface)

Full Context

configure router isis interface

Description

This command creates the context to configure an IS-IS interface.

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When an area is defined, the interfaces belong to that area. Interfaces cannot belong to separate areas.

When the interface is a POS channel, the OSINLCP is enabled when the interface is created and removed when the interface is deleted.

The **no** form of this command removes IS-IS from the interface.

The **shutdown** command in the **config>router>isis>interface** context administratively disables IS-IS on the interface without affecting the IS-IS configuration.

Parameters

ip-int-name

Identify the IP interface name created in the **config>router>interface** context. The IP interface name must already exist.

Platforms

All

interface

Syntax

interface [*ip-int-name* | *ip-address*]

no interface

Context

[Tree] (debug>router>isis interface)

Full Context

debug router isis interface

Description

This command enables debugging for IS-IS interface.

The **no** form of the command disables debugging.

Parameters

ip-address

When specified, only the interface with the specified interface address is debugged.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H

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- d: [0 to 255]D

ip-int-name

When specified, only the interface with the specified interface name is debugged.

Platforms

All

interface

Syntax

interface *ip-int-name* [**secondary**]

no interface *ip-int-name*

Context

[Tree] (config>router>ospf>area interface)

[Tree] (config>router>ospf3>area interface)

Full Context

configure router ospf area interface

configure router ospf3 area interface

Description

This command configures an OSPF interface.

Unless they are explicitly configured, interfaces are not activated, by default, in any interior gateway protocol, such as OSPF.

The **no** form of this command deletes the OSPF interface configuration for this interface. Use the **shutdown** command in the **config**>**router**>**ospf**>**interface** context to disable an interface without removing the configuration for the interface.

Default

no interface

Parameters

ip-int-name

Specifies the IP interface name. Interface names must be unique within the group of defined IP interfaces for the **configure router interface** and **configure service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

If the IP interface name does not exist or does not have an IP address configured, an error message is returned.

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If the IP interface exists in a different area it is moved to this area.

secondary

Keyword used to allow multiple secondary adjacencies, in addition to the primary adjacency, to be established over a single IP interface. This keyword can also be applied to the system interface and to loopback interfaces to allow them to participate in multiple areas, although no adjacencies are formed over these types of interfaces.

Platforms

All

interface

Syntax

interface [*ip-int-name* | *ip-address*]

interface [**interface-name**]

no interface

Context

[Tree] (debug>router>ospf3 interface)

[Tree] (debug>router>ospf interface)

Full Context

debug router ospf3 interface

debug router ospf interface

Description

This command enables debugging for an OSPF and OSPF3 interface.

Parameters

ip-int-name

Specifies the IP interface name, in the **debug**>**router**>**ospf** context. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

ip-address

Specifies the interface's IP address, in the **debug**>**router**>**ospf** context.

interface-name

Specifies the interface name, in the **debug**>**router**>**ospf3** context.

Platforms

All

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interface

Syntax

interface *interface-name*

no interface

Context

[Tree] (config>router>policy-options>policy-statement>entry>from interface)

Full Context

configure router policy-options policy-statement entry from interface

Description

This command specifies the router interface, specified either by name or address, as a filter criterion.

The **no** form of this command removes the criterion from the configuration.

Default

no interface

Parameters

ip-int-name

Specifies the name of the interface as a match criterion for this entry. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

interface

Syntax

interface *interface-name*

no interface

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func>end-x interface)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-x interface

Description

This command configures an interface for the End.X function.

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The **no** form of this command removes the interface name from the configuration.

Default

no interface

Parameters

interface-name

Specifies an existing interface name, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

interface

Syntax

interface *interface-name*

no interface

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func>ua interface)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function ua interface

Description

This command configures an interface for the uA function.

The **no** form of this command removes the interface name from the configuration.

Default

no interface

Parameters

interface-name

Specifies an existing interface name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>router>bgp>group>dynamic-neighbor interface)

Full Context

configure router bgp group dynamic-neighbor interface

Description

Commands in this context configure an unnumbered base router network interface for dynamic neighbors.

If this interface connects to a network with other BGP routers, sessions with the other routers can be set up automatically without explicitly configuring them as BGP neighbors. The interface must be IPv6 enabled, but because the interface is considered unnumbered, it does not require an IPv4 address or a global-unicast IPv6 address. The sessions are set up using IPv6 link-local addresses.

The BGP unnumbered feature supports all address families that allow IPv6 link-local BGP next-hop addresses. This includes IPv4 with the use of RFC 8950 extensions.

When an interface is added to the list of dynamic-neighbor interfaces, an outgoing connection attempt is initiated toward any directly connected router on the interface that announces itself using an ICMPv6 router advertisement message. The session attempt is unsuccessful if the peer type is not EBGP, the reported AS number of the peer does not match one of the allowed values, or the maximum session limit of the interface would be exceeded.

The **no** form of this command removes the interface from the list of dynamic-neighbor interfaces.

Parameters

ip-int-name

Specifies the name of a base router IP interface, up to 32 characters.

Platforms

All

interface

Syntax

[**no**] **interface** *ip-int-name*

Context

[Tree] (config>service>vprn>bgp>group>dynamic-neighbor interface)

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Full Context

configure service vprn bgp group dynamic-neighbor interface

Description

Commands in this context configure an unnumbered VPRN access IP interface for dynamic neighbors.

If this interface connects to a network with other BGP routers, sessions with the other routers can be set up automatically without explicitly configuring them as BGP neighbors. The interface must be IPv6 enabled, but because the interface is considered unnumbered, it does not require an IPv4 address or a global-unicast IPv6 address. The sessions are set up using IPv6 link-local addresses.

The BGP unnumbered feature supports all address families that allow IPv6 link-local BGP next-hop addresses. This includes IPv4 with the use of RFC 8950 extensions.

When an interface is added to the list of dynamic-neighbor interfaces, an outgoing connection attempt is initiated toward any directly connected router on the interface that announces itself using an ICMPv6 router advertisement message. The session attempt is unsuccessful if the peer type is not EBGP, the reported AS number of the peer does not match one of the allowed values, or the maximum session limit of the interface would be exceeded.

The **no** form of this command removes the interface from the list of dynamic-neighbor interfaces.

Parameters

ip-int-name

Specifies the name of a VPRN access IP interface, up to 32 characters.

Platforms

All

21.60 interface-a

interface-a

Syntax

interface-a

Context

[Tree] (config>fwd-path-ext>fpe>pw-port-ext interface-a)

Full Context

configure fwd-path-ext fpe pw-port-extension interface-a

Description

Commands in this context configure the parameters of network interface A of the PW port extension FPE.

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Platforms

All

interface-a

Syntax

interface-a

Context

[Tree] (config>fwd-path-ext>fpe>srv6 interface-a)

Full Context

configure fwd-path-ext fpe srv6 interface-a

Description

This command enables the context to configure the parameters of the network interface-a of the SRv6 FPE.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

21.61 interface-b

interface-b

Syntax

interface-b

Context

[Tree] (config>fwd-path-ext>fpe>pw-port-ext interface-b)

Full Context

configure fwd-path-ext fpe pw-port-extension interface-b

Description

Commands in this context configure the parameters of network interface B of the PW port extension FPE.

Platforms

All

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interface-b

Syntax

interface-b

Context

[Tree] (config>fwd-path-ext>fpe>srv6 interface-b)

Full Context

configure fwd-path-ext fpe srv6 interface-b

Description

This command enables the context to configure the parameters of the network interface-b of the SRv6 FPE.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

21.62 interface-disable-sample

interface-disable-sample

Syntax

[**no**] **interface-disable-sample**

Context

[Tree] (config>filter>ip-filter>entry interface-disable-sample)

[Tree] (config>filter>ipv6-filter>entry interface-disable-sample)

Full Context

configure filter ip-filter entry interface-disable-sample

configure filter ipv6-filter entry interface-disable-sample

Description

This command disables cflowd sampling for packets matching this filter entry, for the IP interface set to **cflowd interface** mode. This allows the option to not sample specific types of traffic when interface sampling is enabled.

If the cflowd is either not enabled or set to **cflowd acl** mode, this command is ignored.

The **no** form of this command enables sampling.

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Default
no interface-disable-sample

Platforms
All

21.63 interface-ful

interface-ful

Syntax
interface-ful

Context
[Tree] (config>service>system>bgp-evpn>ip-prefix-routes interface-ful)

Full Context
configure service system bgp-evpn ip-prefix-routes interface-ful

Description
Commands in this context configure IP prefix routes for Interface-ful (IFF) configurations.

Platforms
All

21.64 interface-id

interface-id

Syntax
interface-id [**ascii-tuple**]

interface-id ifindex

interface-id sap-id

interface-id string *string*

no interface-id

Context
[Tree] (config>service>vprn>if>ipv6>dhcp6>option interface-id)

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[Tree] (config>service>ies>if>ipv6>dhcp6>option interface-id)

Full Context

configure service vprn interface ipv6 dhcp6-relay option interface-id

configure service ies interface ipv6 dhcp6-relay option interface-id

Description

This command enables the sending of interface ID options in the DHCPv6 relay packet.

The **no** form of this command disables the sending of interface ID options in the DHCPv6 relay packet.

Parameters

ascii-tuple

Specifies that the ASCII-encoded concatenated tuple is used which consists of the access-node-identifier, service-id, and interface-name, separated by "| ".

ifindex

Specifies that the interface index is used. The If Index of a router interface can be displayed using the **show>router>interface>detail** command.

sap-id

Specifies that the SAP identifier is used.

string

Specifies that a string is used.

string

Specifies a string of up to 80 characters long, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

interface-id

Syntax

interface-id [**ascii-tuple**]

interface-id ifindex

interface-id sap-id

interface-id string *string*

no interface-id

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>option interface-id)

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Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 option interface-id

Description

This command enables the sending of interface ID options in the DHCPv6 relay packet.

The **no** form of this command disables the sending of interface ID options in the DHCPv6 relay packet.

Parameters

ascii-tuple

Specifies that the ASCII-encoded concatenated tuple is used which consists of the access-node-identifier, service-id, and interface-name, separated by "| ".

ifindex

Specifies that the interface index is used (the If Index of a router interface can be displayed using the command **show>router>if>detail**).

sap-id

Specifies that the SAP identifier is used.

string

Specifies a string, up to 32 characters long, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interface-id

Syntax

interface-id [**ascii-tuple**]

interface-id [**vlan-ascii-tuple**]

no interface-id

Context

[Tree] (config>service>vpls>sap>dhcp6>ldra>options interface-id)

Full Context

configure service vpls sap dhcp6 ldra options interface-id

Description

This command enables the sending of interface ID options in the DHCPv6 LDRA.

The **no** form of this command disables the sending of interface ID options in the DHCPv6 LDRA.

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Parameters

ascii-tuple

Specifies the use of the ASCII-encoded concatenated tuple, which consists of the *system name*, *service-id*, and *sap-id* separated by "| ".

vlan-ascii-tuple

Specifies the use of the ASCII-encoded concatenated tuple enhanced with VLAN ID and dot1p bits, consisting of the *system name*, *service-id*, *sap-id*, *dot1p-inner-vlan*, and *inner-vplan-id*, separated by "| ".

Platforms

All

21.65 interface-id-mapping

interface-id-mapping

Syntax

[**no**] **interface-id-mapping**

Context

[Tree] (config>service>vprn>dhcp6>server interface-id-mapping)

[Tree] (config>router>dhcp6>server interface-id-mapping)

Full Context

configure service vprn dhcp6 local-dhcp-server interface-id-mapping

configure router dhcp6 local-dhcp-server interface-id-mapping

Description

This command enables the behavior where unique /64 prefix is allocated per interface-id, and all clients having the same interface-id get an address allocated out of this /64 prefix for DHCP6. This is relevant for bridged clients behind the same local-loop (and same SAP), where sharing the same prefix allows communication between bridged clients behind the same local-loop to stay local. For SLAAC based assignment, downstream neighbor-discovery is automatically enabled to resolve the assigned address.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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21.66 interface-less

interface-less

Syntax

interface-less

Context

[Tree] (config>service>system>bgp-evpn>ip-prefix-routes interface-less)

Full Context

configure service system bgp-evpn ip-prefix-routes interface-less

Description

Commands in this context configure IP prefix routes for Interface-less (IFL) configurations.

Platforms

7750 SR-1, 7750 SR-s

21.67 interface-list

interface-list

Syntax

interface-list

Context

[Tree] (config>cflowd>collector>exp-filter interface-list)

Full Context

configure cflowd collector export-filter interface-list

Description

Commands in this context allow the administrator to specify which interface's flow data should be exported to the associated collector.

Table 53: Cflowd Export Filter Precedence describes the cflowd export filter precedence.

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Table 53: Cflowd Export Filter Precedence

Family Filter	Router Filter	Interface Filter	Export to Collector
0	0	0	export all
0	0	1	export if matched interface only
0	1	0	export if matched router only
0	1	1	export if router match *OR* interface match
1	0	0	not exported due to family exclusion filter
1	0	1	not exported due to family exclusion filter
1	1	0	not exported due to family exclusion filter
1	1	1	not exported due to family exclusion filter

Platforms

All

21.68 interface-parameters

interface-parameters

Syntax

interface-parameters

Context

[Tree] (config>router>ldp interface-parameters)

Full Context

configure router ldp interface-parameters

Description

Commands in this context configure LDP interfaces and parameters applied to LDP interfaces. The user can configure different default parameters for IPv4 and IPv6 LDP interfaces by entering **ipv4** or **ipv6** as the next command.

Platforms

All

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21.69 interface-subnets

interface-subnets

Syntax

interface-subnets [**service** *service-id*] *interface-name*

no interface-subnets

Context

[Tree] (config>router>policy-options>policy-statement>entry>from interface-subnets)

Full Context

configure router policy-options policy-statement entry from interface-subnets

Description

This command configures the applied router instance and interfaces that are used as matching condition within each policy-statement entry. A maximum of 10 *interface-name* entries is supported, and all entries must belong to the same routing context (either **base** or **service**). The interface subnet policy-statement match criterion is applied to the following unicast use case contexts:

- **export**, when used with OSPFv2, OSPFv3, IS-IS, RIP, RIPng, and BGP
- **route-table-import**, when used with BGP
- **vrf-export**, when used with MP-BGP

The **no** form of this command removes all policies from the configuration.

Default

no interface-subnets

Parameters

service

Specifies the context in which the configured interface exists. By default, the base routing instance is assumed. However, the configured service context is used only when the service is configured.

service-id

Specifies the service ID of the service to match.

Values *service-id* — 1 to 2147483647

svc-name — 64 characters maximum

interface-name

Specifies the interface name, up to 32 characters, to match when exporting the IP address of the associated interface to a routing protocol.

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Platforms

All

21.70 interface-support-enable

interface-support-enable

Syntax

[**no**] **interface-support-enable**

Context

[Tree] (config>port>ethernet>eth-cfm>mep>ais-enable interface-support-enable)

Full Context

configure port ethernet eth-cfm mep ais-enable interface-support-enable

Description

This command enables and disables the generation of AIS PDUs based on the associated endpoint state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interface-support-enable

Syntax

[**no**] **interface-support-enable**

Context

[Tree] (config>service>vpls>sap>eth-cfm>mep>ais interface-support-enable)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>ais interface-support-enable)

[Tree] (config>service>epipe>sap>eth-cfm>mep>ais interface-support-enable)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>ais interface-support-enable)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>ais interface-support-enable)

Full Context

configure service vpls sap eth-cfm mep ais-enable interface-support-enable

configure service vpls mesh-sdp eth-cfm mep ais-enable interface-support-enable

configure service epipe sap eth-cfm mep ais-enable interface-support-enable

configure service epipe spoke-sdp eth-cfm mep ais-enable interface-support-enable

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configure service vpls spoke-sdp eth-cfm mep ais-enable interface-support-enable

Description

This command enables the AIS function to consider the operational state of the entity on which it is configured. ETH-AIS on down MEPs are triggered and cleared based on the operational status of the entity on which they are configured. If CCM is also enabled, transmission of the AIS PDU is based on either the non-operational state of the entity or on any CCM defect condition. AIS generation ceases if the operational state is up and the CCM has no defect conditions. If the MEP is not CCM enabled, the operational state of the entity is the only consideration, assuming this command is present for the MEP. By default, AIS is not generated or stopped based on the state of the entity on which the down MEP is configured.

The **no** form of this command disables the AIS function to consider the operational state of the entity on which it is configured.

Default

no interface-support-enabled

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interface-support-enable

Syntax

[**no**] **interface-support-enable**

Context

[Tree] (config>service>ies>sap>eth-cfm>mep>ais-enable interface-support-enable)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>ais-enable interface-support-enable)

[Tree] (config>service>ies>spoke-sdp>eth-cfm>mep>ais-enable interface-support-enable)

Full Context

configure service ies sap eth-cfm mep ais-enable interface-support-enable

configure service ies subscriber-interface group-interface sap eth-cfm mep ais-enable interface-support-enable

configure service ies spoke-sdp eth-cfm mep ais-enable interface-support-enable

Description

This command enables the AIS function to consider the operational state of the entity on which it is configured. With this command, ETH-AIS on DOWN MEPs will be triggered and cleared based on the operational status of the entity on which it is configured. If CCM is also enabled then transmission of the AIS PDU will be based on either the non-operational state of the entity or on any CCM defect condition. AIS generation will cease if BOTH operational state is UP and CCM has no defect conditions. If the MEP is not CCM enabled then the operational state of the entity is the only consideration assuming this command is present for the MEP.

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Default

no interface-support-enable (AIS will not be generated or stopped based on the state of the entity on which the DOWN MEP is configured).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

interface-support-enable

Syntax

[**no**] **interface-support-enable**

Context

[Tree] (cfg>svc>vprn>if>sap>eth-cfm>mep>ais interface-support-enable)

[Tree] (cfg>svc>vprn>if>spoke-sdp>eth-cfm>mep>ais interface-support-enable)

Full Context

configure service vprn interface sap eth-cfm mep ais-enable interface-support-enable

configure service vprn interface spoke-sdp eth-cfm mep ais-enable interface-support-enable

Description

This command enables the AIS function to consider the operational state of the entity on which it is configured. With this command, ETH-AIS on DOWN MEPs is triggered and cleared based on the operational status of the entity on which it is configured. If CCM is also enabled, transmission of the AIS PDU is based on either the non-operational state of the entity or on ANY CCM defect condition. AIS generation ceases if BOTH operational state is UP and CCM has no defect conditions. If the MEP is not CCM enabled, the operational state of the entity is the only consideration assuming this command is present for the MEP.

The **no** form of this command means that AIS is not generated or stopped based on the state of the entity on which the DOWN MEP is configured.

Default

no interface-support-enable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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21.71 interface-type

interface-type

Syntax

interface-type {**gn** | **s2a** | **s2b** | **s11**}

no interface-type

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile interface-type)

Full Context

configure subscriber-mgmt gtp peer-profile interface-type

Description

This command specifies the interface applicable for communications to the peer. If the interface type does not match the given context in an uplink context, the peer setup will fail.

The **no** form of this command reverts to the default value.

Default

interface-type s2a

Parameters

gn

Signaling interface with the peer is Gn as specified in 3GPP TS 29.060.

s2a

Signaling interface with the peer is s2a as specified in 3GPP TS 29.274.

s2b

Signaling interface with the peer is s2b as specified in 3GPP TS 29.274.

s11

Signaling interface with the peer is s11 as specified in 3GPP TS 29.274.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

interface-type

Syntax

interface-type {**broadcast** | **point-to-point**}

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no interface-type

Context

[Tree] (config>service>vprn>isis>if interface-type)

Full Context

configure service vprn isis interface interface-type

Description

This command configures the IS-IS interface type as either broadcast or point-to-point.

Use this command to set the interface type of an Ethernet link to point-to-point to avoid having to carry the designated IS-IS overhead if the link is used as a point-to-point.

If the interface type is not known at the time the interface is added to IS-IS and subsequently the IP interface is bound (or moved) to a different interface type, then this command must be entered manually.

The **no** form of this command reverts to the default value.

Default

point-to-point — For IP interfaces on SONET channels.

broadcast — For IP interfaces on Ethernet or unknown type physical interfaces.

Parameters

broadcast

Configures the interface to maintain this link as a broadcast network.

point-to-point

Configures the interface to maintain this link as a point-to-point link.

Platforms

All

interface-type

Syntax

interface-type {**broadcast** | **point-to-point** | **non-broadcast** | **p2mp-nbma**}

no interface-type

Context

[Tree] (config>service>vprn>ospf3>area>if interface-type)

[Tree] (config>service>vprn>ospf>area>if interface-type)

Full Context

configure service vprn ospf3 area interface interface-type

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configure service vprn ospf area interface interface-type

Description

This command configures the interface type to:

- broadcast
- non-broadcast
- point-to-point
- point-to-multipoint on a link without broadcast or multicast support

Use this command to set the interface type of an Ethernet link to point-to-point to avoid having to carry the broadcast adjacency maintenance overhead if the Ethernet link provided the link is used as a point-to-point.

For subscriber interfaces, configure the adjacent interface (CPE) with interface type point-to-point. For subscriber interfaces, when the interface is configured as P2MP-NBMA, the subscriber interface becomes an active OPSF interface, allowing it to both send and receive OSPF LSAs. For all other interface types, subscriber interfaces remain as passive OSPF interfaces by default.

The **no** form of this command reverts to the default value.

Default

point-to-point — If the physical interface is SONET.

broadcast — If the physical interface is Ethernet or unknown.

Parameters

broadcast

Specifies the interface as a broadcast network. To significantly improve adjacency forming and network convergence, configure the network as point-to-point if only two routers are connected, even if the network is a broadcast media such as Ethernet.

point-to-point

Specifies the interface as a point-to-point link. Set the interface type of an Ethernet link to point-to-point to avoid having to carry the broadcast adjacency maintenance overhead if the Ethernet link provided is used as a point-to-point.

non-broadcast

Specifies the interface as a non-broadcast network.

p2mp-nbma

Specifies the interface as a point-to-multipoint on a link without broadcast or multicast support. No designated router or backup designated router is elected on this type of interface and all OSPF neighbors connect through individual point-to-point links. Only VPRN and IES services interfaces support this interface type.

Platforms

All

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interface-type

Syntax

interface-type {**ds1** [{**esf** | **sf**}] | **e1** [{**pcm30crc** | **pcm31crc**}]}

no interface-type

Context

[Tree] (config>system>sync-if-timing>bits interface-type)

Full Context

configure system sync-if-timing bits interface-type

Description

This command configures the Building Integrated Timing Source (BITS) timing reference.

The **no** form of the command reverts to the default configuration.

Default

interface-type ds1 esf

Parameters

ds1 esf

Specifies Extended Super Frame (ESF). This is a framing type used on DS1 circuits that consists of 24 192-bit frames, The 193rd bit provides timing and other functions.

ds1 sf

Specifies Super Frame (SF), also called D4 framing. This is a common framing type used on DS1 circuits. SF consists of 12 192-bit frames. The 193rd bit provides error checking and other functions. ESF supersedes SF.

e1 pcm30crc

Specifies the pulse code modulation (PCM) type. PCM30CRC uses PCM to separate the signal into 30 user channels with CRC protection.

e1 pcm31crc

Specifies the pulse code modulation (PCM) type. PCM31CRC uses PCM to separate the signal into 31 user channels with CRC protection.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interface-type

Syntax

interface-type {**broadcast** | **point-to-point**}

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no interface-type

Context

[Tree] (config>router>isis>interface interface-type)

Full Context

configure router isis interface interface-type

Description

This command configures the IS-IS interface type as either broadcast or point-to-point.

Use this command to set the interface type of an Ethernet link to point-to-point to avoid having to carry the designated IS-IS overhead if the link is used as a point-to-point.

If the interface type is not known at the time the interface is added to IS-IS and subsequently the IP interface is bound (or moved) to a different interface type, then this command must be entered manually.

The **no** form of this command reverts to the default value.

Default

interface-type point-to-point — For IP interfaces on SONET channels.

interface-type broadcast — For IP interfaces on Ethernet or unknown type physical interfaces.

Parameters

broadcast

Configures the interface to maintain this link as a broadcast network.

point-to-point

Configures the interface to maintain this link as a point-to-point link.

Platforms

All

interface-type

Syntax

interface-type {**broadcast** | **point-to-point** | **non-broadcast** | **p2mp-nbma**}

no interface-type

Context

[Tree] (config>router>ospf3>area>interface interface-type)

[Tree] (config>router>ospf>area>interface interface-type)

Full Context

configure router ospf3 area interface interface-type

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configure router ospf area interface interface-type

Description

This command configures the interface type to:

- broadcast
- non-broadcast
- point-to-point
- point-to-multipoint on a link without broadcast or multicast support

Use this command to set the interface type of an Ethernet link to point-to-point to avoid having to carry the broadcast adjacency maintenance overhead of the Ethernet link provided the link is used as point-to-point.

For subscriber interfaces, configure the adjacent interface (CPE) with interface type point-to-point. For subscriber interfaces, when the interface is configured as P2MP-NBMA, the subscriber interface becomes an active OPSF interface, allowing it to both send and receive OSPF LSAs. For all other interface types, subscriber interfaces remain as passive OSPF interfaces by default.

The **no** form of this command returns the setting to the default value.

Default

interface-type point-to-point (if the physical interface is SONET)

interface-type broadcast (if the physical interface is Ethernet or unknown)

Parameters

broadcast

Specifies the interface as a broadcast network. To significantly improve adjacency forming and network convergence, configure a network as point-to-point if only two routers are connected, even if the network is a broadcast media such as Ethernet.

point-to-point

Specifies the interface as a point-to-point link. Set the interface type of an Ethernet link to point-to-point to avoid having to carry the broadcast adjacency maintenance overhead if the Ethernet link provided is used as a point-to-point.

non-broadcast

Specifies the interface as a non-broadcast network.

p2mp-nbma

Specifies the interface as a point-to-multipoint on a link without broadcast or multicast support. No designated router or backup designated router is elected on this type of interface and all OSPF neighbors connect through individual point-to-point links. Only VPRN and IES services interfaces support this interface type.

Platforms

All

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interface-type

Syntax

interface-type {**client-facing** | **network-facing**}

no interface-type

Context

[Tree] (config>service>vpls>sap>dhcp6>ldra interface-type)

Full Context

configure service vpls sap dhcp6 ldra interface-type

Description

This command configures LDRA interface type as either client or network facing.

The **no** form of this command reverts to the default value.

Default

no interface-type

Parameters

client-facing

Configures the SAP as an untrusted client-facing interface. Only DHCPv6 client messages are accepted and encapsulated in a Relay-Forward message. It is mandatory to configure an interface ID for client-facing SAPs. Relay-Forward, Relay-Reply, and DHCPv6 server messages are silently dropped when received on a client-facing SAP

network-facing

Configures the SAP as a network-facing interface. Only Relay-Reply messages are accepted: the server message is extracted from the Relay-Reply message and forwarded in the VPLS. All other DHCPv6 message types are silently dropped when received on a network-facing SAP.

Platforms

All

21.72 interfaces

interfaces

Syntax

interfaces *criterion-index* **interface** *reg-exp*

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interfaces *criterion-index* **router** *router-name* **interface** *reg-exp*

interfaces *criterion-index* **router service-name** *service-name* **interface** *reg-exp*

no interfaces *criterion-index*

Context

[Tree] (config>filter>match-list>ip-pfx-list>apply-path interfaces)

[Tree] (config>filter>match-list>ipv6-pfx-list>apply-path interfaces)

Full Context

configure filter match-list ip-prefix-list apply-path interfaces

configure filter match-list ipv6-prefix-list apply-path interfaces

Description

This command configures the autogeneration of address filter prefix lists based on the configuration of interfaces on the system.

The **no** form of this command removes the configuration of interfaces for autogeneration of address prefixes for the specified index value.

Parameters

criterion-index

Specifies an integer enumerating interfaces autogeneration configuration within this list.

Values 1 to 255

reg-exp

Specifies a regular expression that defines a match string, up to 255 characters, used to match against interface names under the Base router, IES, and VPRN service configuration.

svc-name-reg-exp

Specifies a regular expression that defines a match string, up to 255 characters, used to match against the target service name.

router-name

Specifies the router name.

Values router-instance: *router-name* or *vprn-svc-id*

router-name - "Base"

vprn-svc-id - 1 to 2147483647

Platforms

All

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21.73 interim-credit

interim-credit

Syntax

interim-credit

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh interim-credit)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling interim-credit

Description

Commands in this context configure interim credit parameters for Extended Failure Handling (EFH).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.74 interim-update

interim-update

Syntax

interim-update

interim-update include-counters [**hold-down** *seconds*]

no interim-update

Context

[Tree] (config>service>vprn>wlan-gw>mobility-triggered-acct interim-update)

[Tree] (config>router>wlan-gw>mobility-triggered-acct interim-update)

Full Context

configure service vprn wlan-gw mobility-triggered-acct interim-update

configure router wlan-gw mobility-triggered-acct interim-update

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Description

This command enables the inclusion of counters with a **hold-down** time option in mobility-triggered interim updates. When enabled, to disable the inclusion of counters, interim updates must be disabled and then re-enabled without the **include-counters** keyword. By default, the **hold-down** time is not imposed.

The **no** form of this command disables generation of flash interim accounting updates to RADIUS when change in location of the UE is detected.

Default

no interim-update

Parameters

include-counters

Specifies the inclusion of counters in mobility-triggered interim updates.

seconds

Specifies the time, in seconds, that must elapse after a mobility-triggered interim with counters sent for the next mobility-triggered interim with counters to be sent.

Values 60 to 864000

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.75 interim-update-interval

interim-update-interval

Syntax

interim-update-interval *minutes*

no interim-update-interval

Context

[Tree] (config>app-assure>rad-acct-plcy interim-update-interval)

Full Context

configure application-assurance radius-accounting-policy interim-update-interval

Description

This command configures the interim update interval.

The **no** form of this command reverts to the default.

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Default

no interim-update-interval

Parameters

minutes

Specifies the interval at which subscriber accounting data will be updated. If set no value is specified then no interim updates will be sent.

Values 5 to 1080

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.76 interleave

interleave

Syntax

[**no**] **interleave**

Context

[Tree] (config>service>vprn>l2tp>group>mlppp interleave)

[Tree] (config>router>l2tp>group>mlppp interleave)

Full Context

configure service vprn l2tp group mlppp interleave

configure router l2tp group mlppp interleave

Description

This command is applicable only to LNS. Interleaving is supported only on MLPPPoX bundles that contain a single member link. If more than one link is present in the MLPPPoX bundle, interleaving is automatically disabled and a TRAP/log (tmnxMlpppBundleIndicatorsChange) is generated.

The minimum supported rate of the link on which interleaving is performed is 1 kb/s.

If configured at this level, interleaving is enabled on all tunnels within the group, unless it is explicitly disable per tunnel.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

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interleave

Syntax

interleave {**always** | **never**}

no interleave

Context

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp interleave)

[Tree] (config>router>l2tp>group>tunnel>mlppp interleave)

Full Context

configure service vprn l2tp group tunnel mlppp interleave

configure router l2tp group tunnel mlppp interleave

Description

This command configures the user of link fragmentation and interleaving and is applicable only to LNS. Interleaving is supported only on MLPPPoX bundles that contain a single member link. If more than one link is present in the MLPPPoX bundle, interleaving is automatically disabled and a TRAP/log (tmnxMlpppBundleIndicatorsChange) is generated.

The minimum supported rate of the link on which interleaving is performed is 1 kb/s.

Interleaving configured on this level overwrites the configuration option under the group hierarchy. If the **no** form of this command is configured for interleaving at this level, the interleaving configuration inherits the configuration option configured under the L2TP group.

The **no** form of this command reverts to the default.

Parameters

always

Always perform interleaving on single linked MLPPPoX sessions within this tunnel, regardless of the configuration option for interleaving under the group level.

never

Never perform interleaving on single linked MLPPPoX sessions within this tunnel, regardless of the configuration option for interleaving under the group level.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

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21.77 intermediate-agent

intermediate-agent

Syntax

[**no**] **intermediate-agent**

Context

[Tree] (config>service>vpls>sap>pppoe intermediate-agent)

Full Context

configure service vpls sap pppoe intermediate-agent

Description

Commands in this context configure a PPPoE Intermediate Agent function. This function intercepts all PPPoE discovery stage packets (PADI, PADR and upstream PADT) sent by the PPPoE client and manipulates PPPoE TAGs in the packet that is sent upstream.

The **no** form of this command removes the configuration.

Default

intermediate-agent

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.78 internal-ip4-address

internal-ip4-address

Syntax

[**no**] **internal-ip4-address**

Context

[Tree] (config>ipsec>ike-policy>relay-unsol-attr internal-ip4-address)

Full Context

configure ipsec ike-policy relay-unsolicited-cfg-attribute internal-ip4-address

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Description

This command will return IPv4 address from source (such as a RADIUS server) to IKEv2 remote-access tunnel client regardless if the client has requested it in the CFG_REQUEST payload.

Default

no internal-ip4-address

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.79 internal-ip4-dns

internal-ip4-dns

Syntax

[**no**] **internal-ip4-dns**

Context

[Tree] (config>ipsec>ike-policy>relay-unsol-attr internal-ip4-dns)

Full Context

configure ipsec ike-policy relay-unsolicited-cfg-attribute internal-ip4-dns

Description

This command will return IPv4 DNS server address from source (such as a RADIUS server) to IKEv2 remote-access tunnel client regardless if the client has requested it in the CFG_REQUEST payload.

Default

no internal-ip4-dns

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.80 internal-ip4-netmask

internal-ip4-netmask

Syntax

[**no**] **internal-ip4-netmask**

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Context

[Tree] (config>ipsec>ike-policy>relay-unsol-attr internal-ip4-netmask)

Full Context

configure ipsec ike-policy relay-unsolicited-cfg-attribute internal-ip4-netmask

Description

This command will return IPv4 netmask from source (such as a RADIUS server) to IKEv2 remote-access tunnel client regardless if the client has requested it in the CFG_REQUEST payload.

Default

no internal-ip4-netmask

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.81 internal-ip6-address

internal-ip6-address

Syntax

[**no**] **internal-ip6-address**

Context

[Tree] (config>ipsec>ike-policy>relay-unsol-attr internal-ip6-address)

Full Context

configure ipsec ike-policy relay-unsolicited-cfg-attribute internal-ip6-address

Description

This command will return IPv6 address from source (such as a RADIUS server) to IKEv2 remote-access tunnel client regardless if the client has requested it in the CFG_REQUEST payload.

Default

no internal-ip6-address

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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21.82 internal-ip6-dns

internal-ip6-dns

Syntax

[**no**] **internal-ip6-dns**

Context

[Tree] (config>ipsec>ike-policy>relay-unsol-attr internal-ip6-dns)

Full Context

configure ipsec ike-policy relay-unsolicited-cfg-attribute internal-ip6-dns

Description

This command will return IPv6 DNS server address from source (RADIUS server) to IKEv2 remote-access tunnel client regardless if the client has requested it in the CFG_REQUEST payload.

Default

no internal-ip6-dns

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.83 internal-lease-ipsec

internal-lease-ipsec

Syntax

[**no**] **internal-lease-ipsec**

Context

[Tree] (config>service>vprn>dhcp6>server>lease-hold-time-for internal-lease-ipsec)

[Tree] (config>router>dhcp6>server>lease-hold-time-for internal-lease-ipsec)

[Tree] (config>service>vprn>dhcp>server>lease-hold-time-for internal-lease-ipsec)

[Tree] (config>router>dhcp>server>lease-hold-time-for internal-lease-ipsec)

Full Context

configure service vprn dhcp6 local-dhcp-server lease-hold-time-for internal-lease-ipsec

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configure router dhcp6 local-dhcp-server lease-hold-time-for internal-lease-ipsec

configure service vprn dhcp local-dhcp-server lease-hold-time-for internal-lease-ipsec

configure router dhcp local-dhcp-server lease-hold-time-for internal-lease-ipsec

Description

This command enables the server to hold up the lease of local IPsec clients.

The **no** form of this command disables the ability of the server to hold up the lease of local IPsec clients.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.84 internal-scheduler-weight-mode

internal-scheduler-weight-mode

Syntax

internal-scheduler-weight-mode {**default** | **force-equal** | **offered-load** | **capped-offered-load**}

no internal-scheduler-weight-mode

Context

[Tree] (config>card>virt-sched-adj internal-scheduler-weight-mode)

Full Context

configure card virtual-scheduler-adjustment internal-scheduler-weight-mode

Description

This command specifies the internal scheduler (tier 0) weight mode for all ingress queues on a LAG on the card on which it is applied.

Default

internal-scheduler-weight-mode default

Parameters

default

Specifies that ingress queues are weighted based on port speed or, if configured, the hash weight.

force-equal

Specifies that the ingress queues are always equally weighted.

offered-load

Specifies that the ingress queues are weighted based on observed offered load.

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capped-offered-load

Specifies that the ingress queues are weighted based on observed offered load capped by PIR.

Platforms

All

internal-scheduler-weight-mode

Syntax

internal-scheduler-weight-mode {**default** | **force-equal** | **offered-load** | **capped-offered-load**}

no internal-scheduler-weight-mode

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution internal-scheduler-weight-mode)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution internal-scheduler-weight-mode

Description

This command specifies the internal scheduler (tier 0) weight mode for the queues on a LAG on which the advanced configuration policy is applied.

Default

internal-scheduler-weight-mode default

Parameters

default

Specifies that queues are weighted based on the port speed or, if configured, the hash weight.

force-equal

Specifies that the queues are always equally weighted.

offered-load

Specifies that the queues are weighted based on the observed offered load.

capped-offered-load

Specifies that the queues are weighted based on the observed offered load capped by PIR.

Platforms

All

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21.85 intersite-shared

intersite-shared

Syntax

intersite-shared [**persistent-type5-adv**] [**kat-type5-adv-withdraw**]

no intersite-shared

Context

[Tree] (config>service>vprn>mvpn intersite-shared)

Full Context

configure service vprn mvpn intersite-shared

Description

This command specifies whether to use inter-site shared C-trees or not. Optional parameters allow enabling additional inter-site shared functionality. Not specifying an optional parameter when executing the command disables that parameter.

Default

n/a

Parameters

persistent-type5-adv

When specified for inter-site shared trees enabled, this parameter ensures that Type 5 SA routes are generated for the multicast source even if no joins are present for that source. When the parameter is not specified, the Type 5 SA routes are withdrawn where the prune from the last receiver is received for the multicast source.

kat-type5-adv-withdraw

When specified for inter-site shared trees, this parameter allows operators to enable KeepAlive Timers (KAT) on source PEs for ng-MVPN inter-site shared deployments. On a multicast source failure, a KAT expiry on source PEs will trigger a withdrawal of Type-5 Source-Active (S-A) route and switch from (C-S,C-G) to (C-*,C-G). When receiver PEs process reflected Type-5 S-A route withdrawals, they will withdraw their Type-7 ng-MVPN routes to the failed multicast source. The following conditions apply:

- KAT must only be enabled on source PEs.
- Functionality is supported with mLDP and RSVP-TE in the P-instance.
- Local receiver per (C-S, C-G) must be configured on source PEs running KAT.

Platforms

All

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21.86 interval

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>ccrt-replay interval)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>ccrt-replay interval)

Full Context

configure subscriber-mgmt diameter-application-policy gx ccrt-replay interval

configure subscriber-mgmt diameter-application-policy gy ccrt-replay interval

Description

This command specifies the interval at which CCR-T messages for Diameter Gx or Gy sessions that belong to the Diameter application policy are replayed, until a valid CCA-t response is received or until the configured **max-lifetime** period expires.

The **no** form of this command resets the interval to the default setting.

Default

interval 3600

Parameters

seconds

Specifies the interval at which the CCR-T messages are replayed for a gx session. The messages are replayed until a valid CCA-t response is received or until a 24 hour period expires, whichever comes first.

Values 60 to 86400

Default 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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interval

Syntax

interval *interval*

Context

[Tree] (config>redundancy>mc>peer>mcr>ring>cv interval)

[Tree] (config>redundancy>mc>peer>mc>l3-ring>cv interval)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify interval

configure redundancy multi-chassis peer multi-chassis l3-ring cv interval

Description

This command specifies the polling interval of the ring-node connectivity verification of this ring node.

The **no** form of this command reverts to the default.

Default

interval 5

Parameters

interval

Specifies the polling interval of the ring-node connectivity verification of this ring node.

Values 1 to 6000

Platforms

All

interval

Syntax

interval *minutes*

no interval

Context

[Tree] (config>subscr-mgmt>shcv-policy>periodic interval)

Full Context

configure subscriber-mgmt shcv-policy periodic interval

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Description

This command specifies the time interval which all known sources should be verified. The actual rate is dependent on the number of known hosts and intervals.

The **no** form of this command reverts to the default.

Default

interval 30 minutes

Parameters

minutes

Specifies the interval, in minutes, between periodic connectivity checks.

Values 1 to 6000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>aaa>radius-srv-plcy>servers>health-check>test-account interval)

Full Context

configure aaa radius-server-policy servers health-check test-account interval

Description

This command specifies the intervals at which the test account will send its access requests to probe the RADIUS servers.

Default

interval 3

Parameters

seconds

Specifies the probing interval.

Values 1 to 60

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interval

Syntax

interval *seconds*

Context

[Tree] (config>subscr-mgmt>pfcp-association>heartbeat interval)

Full Context

configure subscriber-mgmt pfcp-association heartbeat interval

Description

This command configures the interval between successive, successful heartbeats.

Default

interval 60

Parameters

seconds

Specifies the time frame, in seconds, between successive, successful heartbeats. This interval must be identical on both the BNG UPF and CPF. For information about the BNG CUPS CPF configuration, refer to the *CMG BNG CUPS Control Plane Function Guide* and the *7750 SR MG and CMG CLI Reference Guide*.

Values 60 to 180

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interval

Syntax

interval {**1** | **60**}

no interval

Context

[Tree] (config>port>ethernet>eth-cfm>mep>ais-enable interval)

[Tree] (config>lag>eth-cfm>mep>ais-enable interval)

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Full Context

configure port ethernet eth-cfm mep ais-enable interval

configure lag eth-cfm mep ais-enable interval

Description

This command specifies the transmission interval of AIS messages in seconds.

The **no** form of this command reverts to the default values.

Parameters

1 | 60

The transmission interval of AIS messages, in seconds.

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interval

Syntax

interval *deci-seconds*

no interval

Context

[Tree] (config>service>mac-notification interval)

Full Context

configure service mac-notification interval

Description

This command controls the frequency of subsequent MAC notification messages.

Parameters

deci-seconds

Specifies the frequency of subsequent MAC notification messages, in deciseconds

Values 1 to 100

Platforms

All

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interval

Syntax

interval {**1** | **60**}

no interval

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>ais-enable interval)

[Tree] (config>service>epipe>sap>eth-cfm>mep>ais-enable interval)

Full Context

configure service epipe spoke-sdp eth-cfm ais-enable interval

configure service epipe sap eth-cfm mep ais-enable interval

Description

This command configures the transmission interval of AIS messages in seconds.

Parameters

1 | 60

Specifies the transmission interval of AIS messages in seconds.

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interval

Syntax

interval *deci-seconds*

no interval

Context

[Tree] (config>service>vpls>mac-notification interval)

Full Context

configure service vpls mac-notification interval

Description

This command controls the frequency of subsequent MAC notification messages.

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By default, this command inherits the chassis level configuration from **config**>**service**> **mac-notification**.

Parameters

deci-seconds

Specifies the frequency of subsequent MAC notification messages, in deciseconds.

Values 1 to 100

Platforms

All

interval

Syntax

interval {**1** | **60**}

no interval

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>ais-enable interval)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>ais-enable interval)

Full Context

configure service vpls mesh-sdp eth-cfm mep ais-enable interval

configure service vpls spoke-sdp eth-cfm mep ais-enable interval

Description

This command specifies the transmission interval of AIS messages in seconds.

Parameters

1 | 60

The transmission interval of AIS messages in seconds

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interval

Syntax

interval *seconds*

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no interval

Context

[Tree] (config>service>vprn>static-route-entry>next-hop>cpe-check interval)

[Tree] (config>service>vprn>static-route-entry>indirect>cpe-check interval)

Full Context

configure service vprn static-route-entry next-hop cpe-check interval

configure service vprn static-route-entry indirect cpe-check interval

Description

This optional parameter specifies the interval between ICMP pings to the target IP address.

Default

interval 1

Parameters

seconds

An integer interval value.

Values 1 to 255

Platforms

All

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>router>mpls>lsp-self-ping interval)

Full Context

configure router mpls lsp-self-ping interval

Description

This command configures the interval at which LSP Self Ping packets are periodically sent on a candidate path of an RSVP LSP. This value is used for all LSPs that have LSP Self Ping enabled.

The **no** form of this command reverts to the default value.

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Default

interval 1

Parameters

seconds

Specifies the value, in seconds, used as the fast retry timer for a secondary path.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interval

Syntax

interval {**one-time** | *minimum-interval*}

Context

[Tree] (config>app-assure>group>http-notif interval)

Full Context

configure application-assurance group http-notification interval

Description

This command configures the minimum interval in between notification messages. It can be set to **one-time** or a value in minutes from 1 to 1440.

The **no** form of this command removes the interval from the http-notification policy.

Default

interval one-time

Parameters

minimum-interval

Represents the minimum interval value in minutes in between two http notifications.

Values 1 to 1440

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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interval

Syntax

interval *seconds*

Context

[Tree] (config>router>if>ipsec-tunnel>icmp-gen>pkt-too-big interval)

Full Context

configure router interface ipsec-tunnel icmp-gen pkt-too-big interval

Description

This command configures the maximum interval during which messages can be sent.

Parameters

seconds

Specifies the maximum interval during which messages can be sent, in seconds.

Values 1 to 60

Default 10

interval

Syntax

interval *seconds*

Context

[Tree] (config>ipsec>tnl-temp>icmp6-gen>pkt-too-big interval)

[Tree] (config>router>if>ipsec-tunnel>icmp6-gen>pkt-too-big interval)

[Tree] (config>service>ies>if>ipsec-tunnel>icmp6-gen>pkt-too-big interval)

[Tree] (config>service>vprn>if>sap>ipsec-tun>icmp6-gen>pkt-too-big interval)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>icmp6-gen>pkt-too-big interval)

Full Context

configure ipsec tunnel-template icmp6-generation pkt-too-big interval

configure router interface ipsec ipsec-tunnel icmp6-generation pkt-too-big interval

configure service ies interface ipsec ipsec-tunnel icmp6-generation pkt-too-big interval

configure service vprn interface sap ipsec-tunnel icmp6-generation pkt-too-big interval

configure service vprn interface ipsec ipsec-tunnel icmp6-generation pkt-too-big interval

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Description

This command configures the interval for sending ICMPv6 Packet Too Big (code 2) messages. The maximum number of messages that can be sent during the interval is configured by the **message-count** command.

The **no** form of the command reverts to the default value.

Default

interval 10

Parameters

seconds

Specifies the time, in seconds, for sending 'message-count' ICMPv6 messages.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template icmp6-generation pkt-too-big interval
- configure service vprn interface sap ipsec-tunnel icmp6-generation pkt-too-big interval

VSR

- configure router interface ipsec ipsec-tunnel icmp6-generation pkt-too-big interval
- configure service ies interface ipsec ipsec-tunnel icmp6-generation pkt-too-big interval
- configure service vprn interface ipsec ipsec-tunnel icmp6-generation pkt-too-big interval

interval

Syntax

interval *minutes*

no interval

Context

[Tree] (config>test-oam>ldp-treetrace>path-discovery interval)

Full Context

configure test-oam ldp-treetrace path-discovery interval

Description

This command configures the frequency of the LDP ECMP OAM path discovery. Every interval, the node sends LSP trace messages to attempt to discover the entire ECMP path tree for a given destination FEC.

The **no** form of this command removes the value from the configuration.

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Default

no interval

Parameters

minutes

Specifies the number of minutes to wait before repeating the LDP tree auto discovery process.

Values 60 to 1440

Platforms

All

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>test-oam>icmp>ping-template interval)

Full Context

configure test-oam icmp ping-template interval

Description

This command configures the packet transmit interval used when the interface is operational and possibly transitioning from up to down, but not down to up, because of the ping-template function.

The **no** form of this command reverts to the default value.

Default

interval 60

Parameters

seconds

Sets the packet transmit interval, in seconds, when the interface is operational.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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interval

Syntax

interval *minutes*

no interval

Context

[Tree] (config>test-oam>ldp-treetrace>path-probing interval)

Full Context

configure test-oam ldp-treetrace path-probing interval

Description

This command configures the frequency of the LSP Ping messages used in the path probing phase to probe the paths of all LDP FECs discovered by the LDP tree trace path discovery.

The **no** form of this command resets the interval to its default value.

Default

no interval

Parameters

minutes

Specifies the number of minutes to probe all active ECMP paths for each LDP FEC.

Values 1 to 60

Platforms

All

interval

Syntax

interval *interval*

no interval

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping interval)

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy interval)

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy interval)

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Full Context

configure saa test type-multi-line lsp-ping interval

configure saa test type-multi-line lsp-ping sr-policy interval

configure saa test type-multi-line lsp-trace sr-policy interval

Description

This command configures the number of seconds to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

The **no** form of this command reverts to the default value.

Default

interval 1

Parameters

interval

Specifies the number of seconds to wait before the next message request is sent.

Values 1 to 10

Default 1

Platforms

All

interval

Syntax

interval *milliseconds*

no interval

Context

[Tree] (config>oam-pm>session>ethernet>lmm interval)

[Tree] (config>oam-pm>session>ethernet>dmm interval)

Full Context

configure oam-pm session ethernet lmm interval

configure oam-pm session ethernet dmm interval

Description

This command configures the message period or probe spacing for the transmission of the DMM or LMM frame.

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The **no** form of this command sets the interval to the default. If an LMM test is in **no shutdown** state, it always has timing parameters, whether default or operator configured.

Parameters

milliseconds

Specifies the number of milliseconds between the transmission of the DMM frames. The default value for the DMM interval differs from the default interval for SLM. This is intentional.

Values 50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 10000

Default 1000

Platforms

All

interval

Syntax

interval *milliseconds*

no interval

Context

[Tree] (config>oam-pm>session>ip>twamp-light interval)

Full Context

configure oam-pm session ip twamp-light interval

Description

This command defines the message period, or probe spacing, for transmitting a TWAMP Light frame.

The **no** form of this command sets the interval to the default value.

Default

interval 1000

Parameters

milliseconds

Specifies the number of milliseconds between TWAMP Light frame transmission.

Values 50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 10000

Default 1000

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interval

Syntax

interval *milliseconds*

no interval

Context

[Tree] (config>oam-pm>session>mpls>dm interval)

Full Context

configure oam-pm session mpls dm interval

Description

This command defines the message period, or probe spacing, to transmit a DM frame.

The **no** form of this command sets the interval to the default value.

Parameters

milliseconds

Specifies the number of milliseconds between DM frame transmissions.

Values 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000

Default 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

interval

Syntax

interval [*seconds*]

no interval

Context

[Tree] (config>filter>redirect-policy>dest>ping-test interval)

Full Context

configure filter redirect-policy destination ping-test interval

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Description

This command specifies the amount of time, in seconds, between consecutive requests sent to the far end host.

Default

interval 1

Parameters

seconds

Specifies the amount of time, in seconds, between consecutive requests sent to the far end host.

Values 1 to 60

Platforms

All

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>router>static-route-entry>next-hop>cpe-check interval)

[Tree] (config>router>static-route-entry>indirect>cpe-check interval)

Full Context

configure router static-route-entry next-hop cpe-check interval

configure router static-route-entry indirect cpe-check interval

Description

This optional parameter specifies the interval between ICMP pings to the target IP address.

Default

interval 1

Parameters

seconds

Specifies the interval value, in seconds.

Values 1 to 255

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Platforms

All

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>vrrp>policy>priority-event>host-unreachable interval)

Full Context

configure vrrp policy priority-event host-unreachable interval

Description

This command configures the number of seconds between host unreachable priority event ICMP echo request messages directed to the host IP address.

The **no** form of the command reverts to the default value.

Default

interval 1

Parameters

seconds

Specifies the number of seconds between the ICMP echo request messages sent to the host IP address for the host unreachable priority event.

Values 1 to 60

Platforms

All

interval

Syntax

interval *seconds*

no interval

Context

[Tree] (config>system>cron>sched interval)

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Full Context

configure system cron schedule interval

Description

This command specifies the interval between runs of an event.

Default

no interval

Parameters

seconds

Specifies the interval, in seconds, between runs of an event.

Values 30 to 42949672

Platforms

All

interval

Syntax

interval *interval*

no interval

Context

[Tree] (config>system>grpc-tunnel>destination-group>tcp-keepalive interval)

[Tree] (config>system>grpc>tcp-keepalive interval)

[Tree] (config>system>telemetry>destination-group>tcp-keepalive interval)

Full Context

configure system grpc-tunnel destination-group tcp-keepalive interval

configure system grpc tcp-keepalive interval

configure system telemetry destination-group tcp-keepalive interval

Description

This command configures the amount of time, in seconds, between successive TCP keepalive probes sent by the router.

The **no** form of this command reverts to the default value.

Default

interval 15

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Parameters

interval

Specifies the number of seconds between TCP keepalive probes.

Values 1 to 100000

Default 15

Platforms

All

interval

Syntax

interval *seconds*

Context

[Tree] (config>ipsec>tnl-temp>icmp-gen>frag-required interval)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>icmp-generation>frag-required interval)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>icmp-generation>frag-required interval)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>icmp-generation>frag-required interval)

[Tree] (config>router>if>ipsec>ipsec-tunnel>icmp-generation>frag-required interval)

[Tree] (config>service>vprn>if>sap>ip-tunnel>icmp-generation>frag-required interval)

Full Context

configure ipsec tunnel-template icmp-generation frag-required interval

configure service vprn interface ipsec ipsec-tunnel icmp-generation frag-required interval

configure service vprn interface sap ipsec-tunnel icmp-generation frag-required interval

configure service ies interface ipsec ipsec-tunnel icmp-generation frag-required interval

configure router interface ipsec ipsec-tunnel icmp-generation frag-required interval

configure service vprn interface sap ip-tunnel icmp-generation frag-required interval

Description

This command configures the interval for sending ICMP Destination Unreachable "fragmentation needed and DF set" messages (type 3, code 4). The maximum number of messages that can be sent during the interval is configured by the **message-count** command.

The **no** form of the command reverts to the default value.

Default

interval 10

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Parameters

seconds

Specifies the time, in seconds, for sending ICMPv6 Destination Unreachable "fragmentation needed and DF set" messages (type 3, code 4).

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template icmp-generation frag-required interval
- configure service vprn interface sap ip-tunnel icmp-generation frag-required interval
- configure service vprn interface sap ipsec-tunnel icmp-generation frag-required interval

VSR

- configure router interface ipsec ipsec-tunnel icmp-generation frag-required interval
- configure service vprn interface ipsec ipsec-tunnel icmp-generation frag-required interval
- configure service ies interface ipsec ipsec-tunnel icmp-generation frag-required interval

interval

Syntax

interval *seconds*

Context

[Tree] (config>test-oam>link-meas>template interval)

Full Context

configure test-oam link-measurement measurement-template interval

Description

This command configures the length of time between test packet transmission.

Default

interval 1

Parameters

seconds

Specifies the elapsed time between transmission of test packets for the specified template

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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interval

Syntax

interval *seconds*

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check interval)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check interval)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check interval

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check interval

Description

This command configures the interval between ICMP pings to the target CPE IP address.

Default

interval 1

Parameters

seconds

Specifies the interval value, in seconds.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

interval

Syntax

interval *seconds*

Context

[Tree] (config>test-oam>lag-meas>template interval)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template interval

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Description

This command configures the length of time (in seconds) between test packet transmission.

Default

interval 1

Parameters

seconds

Specifies the number of seconds between test packet transmission.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.87 intervals-stored

intervals-stored

Syntax

intervals-stored *intervals*

no intervals-stored

Context

[Tree] (config>oam-pm>session>meas-interval intervals-stored)

Full Context

configure oam-pm session meas-interval intervals-stored

Description

This command defines the number of completed measurement intervals per session to be stored in volatile system memory. The entire block of memory is allocated for the measurement interval when the test is active (**no shutdown**) to ensure memory is available. The numbers are increasing from 1 to the configured value + 1. The active pm data is stored in the interval number 1 and older runs are stored, in order, to the upper most number with the oldest rolling off when the number of completed measurement intervals exceeds the configured value+1. As new test measurement intervals complete for the session, the stored intervals are renumbered to maintain the described order. Use caution when setting this value. There must be a balance between completed runs stored in volatile memory and the use of the write-to-flash function of the accounting policy.

The **5-mins** and **15-mins** measurement intervals share the same (1 to 96) retention pool. In the event that both intervals are required, the sum total of both intervals cannot exceed 96. The **1-hour** and **1-day** measurement intervals utilize their own ranges.

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If this command is omitted when configuring the measurement interval, the default value is used.

The **no** form of the command reverts to the default.

Default

intervals-stored 1

Parameters

intervals

Specifies the number of measurement intervals.

Values **5-mins**: 1 to 96
15-mins: 1 to 96
1-hour: 1 to 24
1-day: 1

Default **5-mins**: 32
15-mins: 32
1-hour: 8
1-day: 1

Platforms

All

21.88 invert-match

invert-match

Syntax

[**no**] **invert-match**

Context

[Tree] (config>app-assure>group>tether-detect>sngl-dev invert-match)

Full Context

configure application-assurance group tethering-detection single-device invert-match

Description

This command configures AA to classify flows with expected TTL values as coming from connected devices (tethered).

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The **no** form of this command configures AA to classify flows with expected TTL values as coming from the host device (untethered).

Default

no invert-match

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.89 iom

iom

Syntax

iom *slot-number* **type** {[**load-balancer**] [**ue-anchor**]}

no iom *slot-number*

Context

[Tree] (config>isa>wlan-gw-group iom)

Full Context

configure isa wlan-gw-group iom

Description

This command designates the specified IOM as a WLAN-GW IOM. Each WLAN-GW IOM must be provisioned with two ISA-BB modules on a hardware chassis and with an ISA-BB module in the first MDA slot in the VSR.

The **no** form of this command removes the IOM from the configuration.

Parameters

slot-number

Indicates the IOM slot to be used in the WLAN-GW group.

Values 1 to 10

type {[load-balancer] [ue-anchor]}

This parameter is supported on the VSR only. It determines if an IOM slot is used for load-balancing or UE anchoring and processing, or both. When the **wlan-gw-group** has only a single IOM, it is required to put this IOM in both modes at the same time.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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iom

Syntax

iom [**detail**]

no iom

Context

[Tree] (debug>router>mpls>event iom)

Full Context

debug router mpls event iom

Description

This command reports MPLS debug events originating from the XMA.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about MPLS events originating from the XMA.

Platforms

All

21.90 ip

ip

Syntax

ip *address*

no ip

Context

[Tree] (config>service>vpls>mcr-default-gtw ip)

Full Context

configure service vpls mcr-default-gtw ip

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Description

This command relates to a system configured for Dual Homing in L2-TPSDA. It defines the IP address used when the system sends out a gratuitous ARP on an active SAP after a ring heals or fails in order to attract traffic from subscribers on the ring with connectivity to that SAP.

The **no** form of this command reverts to the default.

Default

no ip

Parameters

address

Specifies the IP address in a.b.c.d. format.

Platforms

All

ip

Syntax

ip *ip-filter-id*

no ip

Context

[Tree] (config>service>template>epipe-sap-template>egress>filter ip)

[Tree] (config>service>template>epipe-sap-template>ingress>filter ip)

Full Context

configure service template epipe-sap-template egress filter ip

configure service template epipe-sap-template ingress filter ip

Description

This command associates an existing IP filter policy with the template.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**).

Parameters

ip-filter-id

Specifies the IP filter policy ID. The filter ID must already exist within the created IP filters.

Values 1 to 65535

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip

Syntax

ip *name*

no ip

Context

[Tree] (config>service>template>epipe-sap-template>egress>filter-name ip)

[Tree] (config>service>template>epipe-sap-template>ingress>filter-name ip)

Full Context

configure service template epipe-sap-template egress filter-name ip

configure service template epipe-sap-template ingress filter-name ip

Description

This command associates an existing IP filter policy with the template.

Parameters

name

Specifies the IP filter policy name, up to 64 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip

Syntax

ip *name*

no ip

Context

[Tree] (config>service>template>vpls-sap-template>ingress>filter-name ip)

[Tree] (config>service>template>vpls-sap-template>egress>filter-name ip)

Full Context

configure service template vpls-sap-template ingress filter-name ip

configure service template vpls-sap-template egress filter-name ip

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Description

This command associates an existing IP filter policy with the template.

Parameters

name

Specifies the IP filter policy name, up to 64 characters.

Platforms

All

ip

Syntax

[**no**] **ip** *ip-address*

Context

[Tree] (debug>service>id>arp-host ip)

Full Context

debug service id arp-host ip

Description

This command displays ARP host events for a particular IP address.

Parameters

ip-address

The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip

Syntax

[**no**] **ip** *ip-address*

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Context

[Tree] (debug>service>id>host-connectivity-verify ip)

Full Context

debug service id host-connectivity-verify ip

Description

This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular IP address.

Parameters

ip-address

The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values ipv4-prefix: a.b.c.d (host bits must be 0)

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip

Syntax

[**no**] **ip** *ip-address*[/*mask*]

Context

[Tree] (config>app-assure>group>transit-ip>static-aa-sub ip)

Full Context

configure application-assurance group transit-ip-policy static-aa-sub ip

Description

This command configures the /32 IP address for a static transit aa-sub.

The **no** form of this command deletes the ip address assigned to the static transit aa-sub from the configuration.

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Parameters

ip-address

Specifies the IP address in a.b.c.d form.

Values		
	ipv6-address/ prefix:	ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D
		prefix-length /32 to /64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip

Syntax

ip src *ip-address* **dest** *ip-address*

no ip

Context

[Tree] (config>mirror>mirror-dest>encap>layer-3-encap>gateway ip)

Full Context

configure mirror mirror-dest encap layer-3-encap gateway ip

Description

This command configures the source IPv4 address and destination IPv4 address to use in the IPv4 header part of the routable LI encapsulation.

Parameters

src *ip-address*

Specifies source IP address.

Values a.b.c.d

dest *ip-address*

Specifies destination IP address.

Values a.b.c.d

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Platforms

All

ip

Syntax

ip

Context

[Tree] (config>oam-pm>session ip)

Full Context

configure oam-pm session ip

Description

Commands in this context configure the IP-specific source and destination information, the priority, and the IP test tools on the launch point.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ip

Syntax

[**no**] **ip** *ip-filter-id*

Context

[Tree] (config>filter>system-filter ip)

Full Context

configure filter system-filter ip

Description

This command activates an IPv4 system filter policy. Once activated, all IPv4 ACL filter policies that chain to the system filter (**config>filter>ip-filter>chain-to-system-filter**) will automatically execute system filter policy rules first.

The **no** form of the command deactivates the system filter policy.

Parameters

ip-filter-id

Specifies the existing IPv4 filter policy with scope **system**. This parameter can either be expressed as a decimal integer, or as an ASCII string of up to 64 characters.

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Values 1 to 65535 or the filter policy name (*filter-name*, 64 char max)

Platforms
All

ip

Syntax
[**no**] **ip**

Context
[Tree] (debug>router ip)

Full Context
debug router ip

Description
This command configures debugging for IP.

Platforms
All

ip

Syntax
ip

Context
[Tree] (config>system ip)

Full Context
configure system ip

Description
This command configures system-wide IP router parameters.

Platforms
All

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ip

Syntax

ip *ip-address netmask*

ip *ip-address/mask*

ip ip-prefix-list *ip-prefix-list-name*

no ip

Context

[Tree] (config>filter>ip-filter>entry>match ip)

Full Context

configure filter ip-filter entry match ip

Description

This command configures a destination or source IP address to be used as an IP match criterion.

Parameters

ip-address/mask

Specifies the IPv4 address and mask.

Values ip-address a.b.c.d

netmask

Specifies the name of the IP prefix list, up to 256 characters.

ip-prefix-list-name

Specifies the name of an IP prefix list, up to 32 characters.

Platforms

All

ip

Syntax

ip *ipv6-address ipv6-address-mask*

ip *ipv6-address/mask*

ip ipv6-prefix-list *prefix-list-name*

no ip

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Context

[Tree] (config>filter>ipv6-filter>entry>match ip)

Full Context

configure filter ipv6-filter entry match ip

Description

This command configures a destination or source IP address to be used as an IP match criterion.

Parameters

ipv6-address/mask

Specifies the IPv6 address and mask.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

ip-prefix-list-name

Specifies the name of an IPv6 prefix list, up to 32 characters.

Platforms

All

21.91 ip-addr-backup

ip-addr-backup

Syntax

ip-addr-backup *ip-address*[*:port*]

no ip-addr-backup

Context

[Tree] (config>sflow>receiver ip-addr-backup)

Full Context

configure sflow receiver ip-addr-backup

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Description

This command configures back-up IPv4 or IPv6 destination address for the sFlow agent to send sFlow datagrams to. Optionally a destination port can also be configured (by default port 6343 is used).

The **no** form of this command deletes backup sFlow receiver destination.

Parameters

ip-address

Specifies the IPv4 or IPv6 address to send the sFlow datagrams to.

Values

a.b.c.d	(IPv4)
x:x:x:x:x:x:x:x	(IPv6)
[x:x:x:x:x:x:x:x]	(IPv6)
x - [0 to FFFF]H	

port

Specifies the UDP destination port to send the sFlow datagrams to.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-s, 7950 XRS

21.92 ip-addr-primary

ip-addr-primary

Syntax

ip-addr-primary *ip-address*[:*port*]

no ip-addr-primary

Context

[Tree] (config>sflow>receiver ip-addr-primary)

Full Context

configure sflow receiver ip-addr-primary

Description

This command configures primary IPv4 or IPv6 destination address for the sFlow agent to send sFlow datagrams to. Optionally a destination port can also be configured (by default port 6343 is used).

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The **no** form of this command deletes primary sFlow receiver destination.

Parameters

ip-address

Specifies the IPv4 or IPv6 address to send the sFlow datagrams.

Values

a.b.c.d	(IPv4)
x:x:x:x:x:x:x:x	(IPv6)
[x:x:x:x:x:x:x:x]	(IPv6)
x - [0..FFFF]H	

port

Specifies the UDP destination port to send the sFlow datagrams.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-s, 7950 XRS

21.93 ip-addr1

ip-addr1

Syntax

ip-addr1 {**eq** | **neq**} *ip-address*

no ip-addr1

Context

[Tree] (debug>app-assure>group>traffic-capture>match ip-addr1)

Full Context

debug application-assurance group traffic-capture match ip-addr1

Description

This command configures debugging on IP address 1.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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21.94 ip-addr2

ip-addr2

Syntax

ip-addr2 {**eq** | **neq**} *ip-address*

no ip-addr2

Context

[Tree] (debug>app-assure>group>traffic-capture>match ip-addr2)

Full Context

debug application-assurance group traffic-capture match ip-addr2

Description

This command configures debugging on IP address 2.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.95 ip-address

ip-address

Syntax

ip-address *ipv6-address*

no ip-address

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>srv6>binding-sid ip-address)

Full Context

configure router segment-routing sr-policies static-policy segment-routing-v6 binding-sid ip-address

Description

This command configures an SRv6 binding SID for a remote SRv6 policy. It cannot be used with a local head-end location (defined with the **head-end local** command in the **conf>router>segment-routing>sr-policies>policy**).

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This command and the **locator** or **micro-segment-locator** command in the **conf>router>segment-routing>sr-policies>policy>srv6>binding-sid** context are mutually exclusive.

If the remote head-end is an SR OS system, the binding SID can either be regular or uSID and, in the latter case, must be configured with the node ID in the following format: <block><uN><uB6>::.

The **no** form of this command removes the configuration.

Parameters

ipv6-address

Specifies the SRv6 binding SID as a 128 bit IPv6 address.

Values x:x:x:x:x:x:x:x (16 eight-bit pieces) or x:x:x:x:x:x:d:d:d:d

x — [0 to FFFF]H

d — [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

ip-address

Syntax

ip-address *unicast-ip-address*

no ip-address

Context

[Tree] (config>aaa>isa-radius-plcy>servers>server ip-address)

Full Context

configure aaa isa-radius-policy servers server ip-address

Description

This command configures the IP address of the RADIUS server.

The **no** form of this command removes the IP address.

Default

no ip-address

Parameters

unicast-ip-address

Specifies the unicast IPv4 or IPv6 address of the RADIUS server.

Values ipv4-address: a.b.c.d

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ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.96 ip-advertise-routes

ip-advertise-routes

Syntax

ip-advertise-routes

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn>export ip-advertise-routes)

Full Context

configure subscriber-mgmt isa-service-chaining evpn export ip-advertise-routes

Description

Commands in this context configure EVPN routes to be advertised to a BGP EVPN peer participating in service chaining.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.97 ip-assigned

ip-assigned

Syntax

[**no**] **ip-assigned**

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Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state ip-assigned)

Full Context

configure subscriber-mgmt wlan-gw ue-query state ip-assigned

Description

This command enables matching on UEs in an IP-assigned state, meaning that the UE already has an IP assigned but it is not yet authorized. This usually only applies when **auth-on-dhcp** is not configured.

The **no** form of this command disables matching on UEs in an IP-assigned state, unless all state matching is disabled.

Default

no ip-assigned

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.98 ip-assigned-authorized

ip-assigned-authorized

Syntax

[**no**] **ip-assigned-authorized**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state ip-assigned-authorized)

Full Context

configure subscriber-mgmt wlan-gw ue-query state ip-assigned-authorized

Description

This command enables matching on UEs in an IP-assigned and authorized state, meaning that the UE already has an IP assigned and is authorized, but is not yet promoted to a final state such as ESM or DSM. This applies to UEs authenticated by distributed RADIUS proxy without **auth-on-dhcp** configured. UEs move to this state upon DHCP completion and continue to a more final state (such as DSM, ESM, or portal) upon receiving the first data packet.

The **no** form of this command disables matching on UEs in an IP-assigned and authorized state, unless all state matching is disabled.

Default

no ip-assigned-authorized

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Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.99 ip-cache

ip-cache

Syntax
ip-cache

Context
[Tree] (config>app-assure>group>dns-ip-cache ip-cache)

Full Context
configure application-assurance group dns-ip-cache ip-cache

Description
This command configures the dns-ip-cache cache parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

21.100 ip-can-type

ip-can-type

Syntax
[**no**] **ip-can-type**

Context
[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp ip-can-type)

Full Context
configure subscriber-mgmt diameter-application-policy gx include-avp ip-can-type

Description
This command includes the ip-can-type.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

21.101 ip-criteria

ip-criteria

Syntax

[**no**] **ip-criteria**

Context

[Tree] (config>qos>sap-ingress ip-criteria)

[Tree] (config>qos>sap-egress ip-criteria)

Full Context

configure qos sap-ingress ip-criteria

configure qos sap-egress ip-criteria

Description

IP criteria-based SAP ingress or egress policies are used to select the appropriate ingress or egress queue or policer and corresponding forwarding class and packet profile for matched traffic.

This command is used to enter the context to create or edit policy entries that specify IP criteria such as IP quintuple lookup or DiffServ code point.

The software implementation will exit on the first match found and execute the actions in accordance with the accompanying action command. For this reason, entries must be sequenced correctly from most to least explicit.

The **no** form of this command deletes all the entries specified under this node. When IP criteria entries are removed from a SAP ingress or egress policy, the IP criteria is removed from all services where that policy is applied.

Platforms

All

ip-criteria

Syntax

[**no**] **ip-criteria**

Context

[Tree] (config>qos>network>ingress ip-criteria)

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[Tree] (config>qos>network>egress ip-criteria)

Full Context

configure qos network ingress ip-criteria

configure qos network egress ip-criteria

Description

IP criteria-based network ingress and egress policies are used to select the appropriate ingress or egress queue or policer, and the corresponding forwarding class and packet profile for matched traffic. This command is used to enter the context to create or edit policy entries that specify IP criteria such as IP quintuple lookup or DSCP.

The 7750 SR OS implementation will exit on the first match found and execute the actions in accordance with the accompanying action command. Entries must be sequenced correctly from most to least explicit.

The ingress classification only applies to the outer IP header of non-tunneled traffic. The only exception is for traffic received on a Draft Rosen tunnel, for which only classification on the outer IP header is supported.

Attempting to apply a network QoS policy containing an **ip-criteria** statement to any object except a network IP interface will result in an error.

The **no** form of this command deletes all entries specified under this node. When IP criteria entries are removed from a network policy, the IP criteria are removed from all network interfaces to which that policy is applied.

Platforms

All

ip-criteria

Syntax

[**no**] **ip-criteria**

Context

[Tree] (config>service>vpls>sap>ingress>criteria-overrides ip-criteria)

[Tree] (config>service>ies>if>sap>ingress>criteria-overrides ip-criteria)

[Tree] (config>service>ipipe>sap>ingress>criteria-overrides ip-criteria)

[Tree] (config>service>vprn>if>sap>ingress>criteria-overrides ip-criteria)

[Tree] (config>service>cpipe>sap>ingress>criteria-overrides ip-criteria)

[Tree] (config>service>epipe>sap>ingress>criteria-overrides ip-criteria)

Full Context

configure service vpls sap ingress criteria-overrides ip-criteria

configure service ies interface sap ingress criteria-overrides ip-criteria

configure service ipipe sap ingress criteria-overrides ip-criteria

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configure service vprn interface sap ingress criteria-overrides ip-criteria

configure service cpipe sap ingress criteria-overrides ip-criteria

configure service epipe sap ingress criteria-overrides ip-criteria

Description

Commands in this context configure IPv4 criteria overrides.

The **no** form of this command removes any existing IPv4 overrides from the SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

21.102 ip-exception

ip-exception

Syntax

ip-exception *filter-id*

no ip-exception

Context

[Tree] (config>router>if>ipsec ip-exception)

[Tree] (config>service>vprn>if>ipsec ip-exception)

[Tree] (config>service>ies>if>ipsec ip-exception)

Full Context

configure router interface ipsec ip-exception

configure service vprn interface ipsec ip-exception

configure service ies interface ipsec ip-exception

Description

This command configures the IP exception filter for the secured interface. All ingress traffic matching by the specified filter bypasses IPsec processing.

The **no** form of this command removes the policy from the configuration.

Default

no ip-exception

Parameters

filter-id

Specifies IP filter policy that will be used to bypass encryption.

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Platforms

VSR

ip-exception

Syntax

ip-exception *filter-id* [**create**]

no ip-exception *filter-id*

Context

[Tree] (config>filter ip-exception)

Full Context

configure filter ip-exception

Description

Commands in this context configure the specified IPv4 exception filter.

The **no** form of the command deletes the IPv4 exception filter.

Parameters

filter-id

Specifies the IPv4 filter policy ID expressed as a decimal integer.

Values 1 to 65535

create

This keyword is required to create the configuration context. Once it is created, the context can be enabled with or without the **create** keyword.

Platforms

VSR

ip-exception

Syntax

ip-exception *filter-id* **direction** {**inbound** | **outbound**}

no ip-exception direction {**inbound** | **outbound**}

Context

[Tree] (config>router>if>group-encryption ip-exception)

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Full Context

configure router interface group-encryption ip-exception

Description

This command associates an IP exception filter policy with an NGE-enabled router interface to allow packets matching the exception criteria to transit the NGE domain as clear text.

When an exception filter is added for inbound traffic, packets matching the criteria in the IP exception filter policy are allowed to be received in clear text even if an inbound key group is configured. If no inbound key group is configured, then associated inbound IP exception filter policies will be ignored.

When an exception filter is added for outbound traffic, packets matching the criteria in the IP exception filter policy are not encrypted when sent out of the router interface even if an outbound key group is configured. If no outbound key group is configured, then associated outbound IP exception filter policies will be ignored.

The **no** form of this command removes the IP exception filter policy from the specified direction.

Default

no ip-exception direction inbound

no ip-exception direction outbound

Parameters

filter-id

Specifies the IP exception filter policy. The IP exception ID or exception name must have already been created.

Values 1 to 6553, *filter-name* (64 characters maximum)

inbound

Binds the exception filter policy in the inbound direction.

outbound

Binds the exception filter policy in the outbound direction.

Platforms

VSR

21.103 ip-fast-reroute

ip-fast-reroute

Syntax

[**no**] **ip-fast-reroute**

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Context

[Tree] (config>router ip-fast-reroute)

Full Context

configure router ip-fast-reroute

Description

This command enables IP Fast-Reroute (FRR) feature on the system.

This feature provides for the use of a Loop-Free Alternate (LFA) backup next-hop for forwarding in-transit and CPM generated IP packets when the primary next-hop is not available. IP FRR is supported on IPv4 and IPv6 OSPF/IS-IS prefixes forwarded in the base router instance to a network IP interface or to an IES SAP interface or spoke interface. It is also supported for VPRN VPN-IPv4 OSPF prefixes and VPN-IPv6 OSPF prefixes forwarded to a VPRN SAP interface or spoke interface.

IP FRR also provides a LFA backup next-hop for the destination prefix of a GRE tunnel used in an SDP or in VPRN auto-bind.

When any of the following events occurs, IGP instructs in the fast path on the XMAs to enable the LFA backup next-hop:

- OSPF/IS-IS interface goes operationally down: physical or local admin shutdown.
- Timeout of a BFD session to a next-hop when BFD is enabled on the OSPF/IS-IS interface

When the SPF computation determines there is more than one primary next-hop for a prefix, it will not program any LFA next-hop in RTM. Therefore, the IP prefix will resolve to the multiple equal-cost primary next-hops that provide the required protection.

The **no** form of this command disables the IP FRR feature on the system

Default

no ip-fast-reroute

Platforms

All

21.104 ip-filter

ip-filter

Syntax

ip-filter *filter-id*

no ip-filter [**force**]

Context

[Tree] (config>subscr-mgmt>sla-profile>ingress ip-filter)

[Tree] (config>subscr-mgmt>sla-profile>egress ip-filter)

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Full Context

configure subscriber-mgmt sla-profile ingress ip-filter

configure subscriber-mgmt sla-profile egress ip-filter

Description

This command configures an egress or ingress IP filter.

The **no** form of this command reverts to the default.

Parameters

filter-id

Specifies an existing IP filter policy ID.

Values 1 to 65535, or name, up to 64 characters

force

Forces the exclusion of the IP filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip-filter

Syntax

ip-filter *ip-filter-id* **entry** *entry-id* [*entry-id*]

no ip-filter *ip-filter-id* [**entry** *entry-id*]

Context

[Tree] (config>mirror>mirror-source ip-filter)

Full Context

configure mirror mirror-source ip-filter

Description

This command enables mirroring of packets that match specific entries in an existing IP filter.

The **ip-filter** command directs packets which match the defined list of entry IDs to be mirrored to the mirror destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The IP filter must already exist in order for the command to execute. Filters are configured in the **config>filter** context. If the IP filter does not exist, an error will occur. If the filter exists but has not been associated with a SAP or IP interface, an error is not generated but mirroring will not be enabled (there are no packets to mirror). Once the IP filter is defined to a SAP or IP interface, mirroring is enabled.

If the IP filter is defined as ingress, only ingress packets are mirrored. Ingress mirrored packets are mirrored to the mirror destination prior to any ingress packet modifications.

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If the IP filter is defined as egress, only egress packets are mirrored. Egress mirrored packets are mirrored to the mirror destination after all egress packet modifications.

An *entry-id* within an IP filter can only be mirrored to a single mirror destination. If the same *entry-id* is defined multiple times, an error occurs and only the first **mirror-source** definition is in effect.

By default, no packets matching any IP filters are mirrored. Mirroring of IP filter entries must be explicitly defined.

The **no ip-filter** command, without the **entry** keyword, removes mirroring on all *entry-id*'s within the *ip-filter-id*.

When the **no** command is executed with the **entry** keyword and one or more *entry-id*'s, mirroring of that list of *entry-id*'s is terminated within the *ip-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being mirrored, no error will occur for that *entry-id* and the command will execute normally.

Parameters

ip-filter-id

Specifies the IP filter ID whose entries are mirrored. If the *ip-filter-id* does not exist, an error will occur and the command will not execute. Mirroring of packets will commence once the *ip-filter-id* is defined on a SAP or IP interface.

Values 1 to 65535

name, up to 64 characters

entry-id

Specifies the IP filter entries to use as match criteria for packet mirroring. The **entry** keyword begins a list of *entry-id*'s for mirroring. Multiple *entry-id* entries may be specified with a single command. Each *entry-id* must be separated by a space.

If an *entry-id* does not exist within the IP filter, an error occurs and the command will not execute.

If the filter's *entry-id* is renumbered within the IP filter definition, the old *entry-id* is removed but the new *entry-id* must be manually added to the configuration to include the new (renumbered) entry's criteria.

Values 1 to 2097151

Platforms

All

ip-filter

Syntax

[**no**] **ip-filter** *ip-filter-id*

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block ip-filter)

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Full Context

configure li li-filter-block-reservation li-reserved-block ip-filter

Description

This command configures to which normal IPv4 address filters the entry reservation is applied.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**).

The **no** form of this command removes the IPv4 filter ID from the configuration.

Parameters

ip-filter-id

Specifies the filter identification identifies the normal IPv4 address filters.

Values {*filter-id* | *filter-name*}

filter-id:	1 to 65535
filter-name:	up to 64 characters (*filter-name* is an alias for input only. The *filter-name* gets replaced with an id automatically by SR OS in the configuration).

Platforms

All

ip-filter

Syntax

[**no**] **ip-filter** *ip-filter-id*

Context

[Tree] (config>li>li-filter-assoc>li-ip-fltr ip-filter)

Full Context

configure li li-filter-associations li-ip-filter ip-filter

Description

This command specifies the IP filter(s) into which the entries from the specified li-ip-filter are to be inserted. The **li-ip-filter** and **ip-filter** must already exist before the association is made. If the normal IP filter is deleted then the association is also removed (and not re-created if the IP filter comes into existence in the future).

The **no** form of this command removes the IP filter name from the configuration.

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Parameters

ip-filter-id

Specifies an existing IP filter policy.

Values *filter-id* — 1 to 65535

filter-name — up to 64 characters

Platforms

All

ip-filter

Syntax

ip-filter *ip-filter-id* **entry** *entry-id* [*entry-id*] [**intercept-id** *intercept-id* [*intercept-id*]] [**session-id** *session-id* [*session-id*]]

no ip-filter *ip-filter-id* [**entry** *entry-id* [*entry-id*]]

Context

[Tree] (config>li>li-source ip-filter)

Full Context

configure li li-source ip-filter

Description

This command enables lawful interception (LI) of packets that match specific entries in an existing IP filter.

The **ip-filter** command directs packets which match the defined list of entry IDs to be intercepted to the destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The IP filter must already exist in order for the command to execute. Filters are configured in the **config>filter** context. If the IP filter does not exist, an error occurs. If the filter exists but has not been associated with a SAP or IP interface, an error is not generated but mirroring will not be enabled (there are no packets to mirror). Once the IP filter is defined to a SAP, IP interface or subscriber, mirroring is enabled.

If the IP filter is defined as ingress, only ingress packets are intercepted. Ingress packets are sent to the destination prior to any ingress packet modifications.

If the IP filter is defined as egress, only egress packets are intercepted. Egress packets are sent to the destination after all egress packet modifications.

An *entry-id* within an IP filter can only be intercepted to a single destination. If the same *entry-id* is defined multiple times, an error occurs and only the first definition is in effect.

By default, no packets matching any IP filters are intercepted. Interception of IP filter entries must be explicitly defined.

When the **no** command is executed with the **entry** keyword and one or more *entry-id*'s, interception of that list of *entry-id*'s is terminated within the *ip-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being intercepted, no error will occur for that *entry-id* and the command will execute normally.

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Parameters

ip-filter-id

Specifies the IP filter ID whose entries are to be intercepted. If the *ip-filter-id* does not exist, an error will occur and the command will not execute. Intercepting packets will commence when the *ip-filter-id* is defined on a SAP or IP interface.

entry-id

Specifies the IP filter entries to use as match criteria for lawful intercept (LI). The **entry** keyword begins a list of *entry-id*'s for interception. Multiple *entry-id* entries can be specified with a single command. Each *entry-id* must be separated by a space. Up to <N><n> 8 entry IDs may be specified in a single command.

If an *entry-id* does not exist within the IP filter, an error occurs and the command will not execute.

If the filter's *entry-id* is renumbered within the IP filter definition, the old *entry-id* is removed but the new *entry-id* must be manually added to the configuration to include the new (renumbered) entry's criteria.

intercept-id

Specifies the intercept ID that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This intercept ID can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, an *intercept-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *intercept-id* configured for an **li-source** entry, then the default value is inserted. When the mirror service is configured with **ip-gre** routable encapsulation, no *intercept-id* is inserted and none should be specified against the **li-source** entries.

Values 1 to 4294967295 (32b) for **nat li-source** entries that are using a mirror service that is not configured with routable encap

1 to 1073741824 (30b) for all types of **li-source** entries that are using a mirror service with routable ip-udp-shim encap and no direction-bit.

1 to 536870912 (29b) for all types of **li-source** entries that are using a mirror service with routable **ip-udp-shim** encapsulation and with the **direction-bit** enabled.

session-id

Specifies the *session-id* that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This *session-id* can be used (for example by a downstream LI Gateway) to identify the particular LI session to which the packet belongs. The *session-id* is only valid and used for mirror services that are configured with **ip-udp-shim** routable encap (**config>mirror>mirror-dest>encap>ip-udp-shim**). For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, a *session-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *session-id* configured for an **li-source** entry, then the default value is inserted. When a mirror service is configured with **ip-gre** routable encap, no *session-id* is inserted and none should be specified against the **li-source** entries.

Values 1 to 4,294,967,295 (32b)

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Platforms

All

ip-filter

Syntax

ip-filter *ip-filter-id* **entry** *entry-id* [*entry-id*]

no ip-filter *ip-filter-id* [**entry** *entry-id*]

Context

[Tree] (debug>mirror-source ip-filter)

Full Context

debug mirror-source ip-filter

Description

This command enables mirroring of packets that match specific entries in an existing IP filter.

The **ip-filter** command directs packets which match the defined list of entry IDs to be mirrored to the mirror destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The IP filter must already exist in order for the command to execute. Filters are configured in the **config>filter** context. If the IP filter does not exist, an error will occur. If the filter exists but has not been associated with a SAP or IP interface, an error is not generated but mirroring will not be enabled (there are no packets to mirror). Once the IP filter is defined to a SAP or IP interface, mirroring is enabled.

If the IP filter is defined as ingress, only ingress packets are mirrored. Ingress mirrored packets are mirrored to the mirror destination prior to any ingress packet modifications.

If the IP filter is defined as egress, only egress packets are mirrored. Egress mirrored packets are mirrored to the mirror destination after all egress packet modifications.

An *entry-id* within an IP filter can only be mirrored to a single mirror destination. If the same *entry-id* is defined multiple times, an error occurs and only the first **mirror-source** definition is in effect.

By default, no packets matching any IP filters are mirrored. Mirroring of IP filter entries must be explicitly defined.

The **no ip-filter** command, without the **entry** keyword, removes mirroring on all *entry-id*'s within the *ip-filter-id*.

When the **no** command is executed with the **entry** keyword and one or more *entry-id*'s, mirroring of that list of *entry-id*'s is terminated within the *ip-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being mirrored, no error will occur for that *entry-id* and the command will execute normally.

Parameters

ip-filter-id

The IP filter ID whose entries are mirrored. If the *ip-filter-id* does not exist, an error will occur and the command will not execute. Mirroring of packets will commence once the *ip-filter-id* is defined on a SAP or IP interface.

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entry-id

The IP filter entries to use as match criteria for packet mirroring. The **entry** keyword begins a list of *entry-id*'s for mirroring. A maximum of eight *entry-id* entries may be specified with a single command. Each *entry-id* must be separated by a space.

If an *entry-id* does not exist within the IP filter, an error occurs and the command will not execute.

If the filter's *entry-id* is renumbered within the IP filter definition, the old *entry-id* is removed but the new *entry-id* must be manually added to the configuration to include the new (renumbered) entry's criteria.

Platforms

All

ip-filter

Syntax

ip-filter *filter-id* [**name**] [**create**]

no ip-filter {*filter-id* | *filter-name*}

Context

[Tree] (config>filter ip-filter)

Full Context

configure filter ip-filter

Description

Commands in this context configure the specified IPv4 filter policy.

The **no** form of the command deletes the IPv4 filter policy. A filter policy cannot be deleted until it is removed from all objects where it is applied.

Parameters

filter-id

Specifies the IPv4 filter policy ID expressed as a decimal integer.

Values 1 to 65535

name

Configures an optional filter name, up to 64 characters in length, to a given filter. This filter name can then be used in configuration references, display, and show commands throughout the system. A defined filter name can help the service provider or administrator to identify and manage filters within the SR OS platforms.

To create a filter, you must assign a filter ID, however, after it is created, either the filter ID or filter name can be used to identify and reference a filter.

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If a name is not specified at creation time, then SR OS assigns a string version of the *filter-id* as the name.

Filter names may not begin with an integer (0 to 9).

filter-name

Specifies a string, up to 64 characters, uniquely identifying this IPv4 filter policy.

create

This keyword is required to create the configuration context. Once it is created, the context can be enabled with or without the **create** keyword.

Platforms

All

ip-filter

Syntax

[**no**] **ip-filter**

Context

[Tree] (config>system>security>mgmt-access-filter ip-filter)

Full Context

configure system security management-access-filter ip-filter

Description

Commands in this context configure management access IP filter parameters.

Platforms

All

ip-filter

Syntax

[**no**] **ip-filter**

Context

[Tree] (config>system>security>cpm-filter ip-filter)

Full Context

configure system security cpm-filter ip-filter

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Description

Commands in this context configure CPM IP filter parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ip-filter

Syntax

ip-filter *src-filter-id* [**src-entry** *src-entry-id*] **to** *dst-filter-id* [**dst-entry** *dst-entry-id*] [**overwrite**]

Context

[Tree] (config>filter>copy ip-filter)

Full Context

configure filter copy ip-filter

Description

This command copies an existing filter entry for a specific filter ID to another filter ID. The command is a configuration level maintenance tool used to create new entries using an existing filter policy. If **overwrite** is not specified, an error will occur if the destination filter entry exists.

Parameters

src-filter-id

Identifies the source filter policy from which the copy command will attempt to copy. The filter policy must exist within the context of the preceding keyword (**ip-filter**).

dst-filter-id

Identifies the destination filter policy to which the copy command will attempt to copy. If the **overwrite** keyword is not specified, the filter entry ID cannot already exist in the destination filter policy. If the **overwrite** keyword is present, the destination entry ID may or may not exist.

overwrite

Specifies that the destination filter entry may exist. If it does, everything in the existing destination filter entry will be completely overwritten with the contents of the source filter entry. If the destination filter entry exists, either **overwrite** must be specified or an error message will be returned. If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make” manner and therefore should be handled with care.

Platforms

All

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22 i Commands – Part III

22.1 ip-filter-max-size

ip-filter-max-size

Syntax

ip-filter-max-size {*value* | **default**}

Context

[Tree] (config>service>vprn>flowspec ip-filter-max-size)

Full Context

configure service vprn flowspec ip-filter-max-size

Description

This command configures the maximum number of FlowSpec routes or rules that can be embedded into an ingress IP filter policy for a specified routing instance. FlowSpec filter entries embedded in a filter policy in this routing instance will use filter entries from the range between the embedding offset and "offset + ip-filter-max-size – 1".

The sum of this command and the highest offset in any IPv4 filter that embeds IPv4 FlowSpec rules from this routing instance (excluding filters that embed at offset 262143) must not exceed 262143.

This command can be configured to a higher or lower value at any time. If the number of IPv4 FlowSpec rules that are currently installed is *M*, and the new configured limit is *N*, where *N*<*M*, then the last set of rules from *N* to *M* (by FlowSpec order) are immediately removed, but are retained in the BGP RIB. If the limit is increased, new rules are programmed only as they are received again in new BGP updates.

Default

ip-filter-max-size 512

Parameters

value

The maximum number of FlowSpec routes or rules that can be embedded into an ingress IP filter policy.

Values 0 to 262143

default

Keyword to configure the maximum size as 512.

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Platforms

All

ip-filter-max-size

Syntax

ip-filter-max-size {*value* | **default**}

Context

[Tree] (config>router>flowspec ip-filter-max-size)

Full Context

configure router flowspec ip-filter-max-size

Description

This command configures the maximum number of FlowSpec routes or rules that can be embedded into the auto-created embedded filter (fSpec- *X*). FlowSpec filter entries embedded in a filter policy in this routing instance will use filter entries from the range between "embedding offset + 1" and "embedding offset + ip-filter-max-size".

The sum of this command and the highest offset in any IPv4 filter that embeds IPv4 FlowSpec rules from this routing instance (excluding filters that embed at offset 262143) must not exceed 262143.

This command can be configured to a higher or lower value at any time. If the number of IPv4 FlowSpec rules that are currently installed is *M*, and the new configured limit is *N*, where *N*<*M*, then the last set of rules from *N* to *M* (by FlowSpec order) are immediately removed, but are retained in the BGP RIB. If the limit is increased, new rules are programmed only as they are received again in new BGP updates.

Default

ip-filter-max-size 512

Parameters

value

Specifies the maximum number of FlowSpec routes or rules that can be embedded into an ingress IP filter policy.

Values 0 to 262143

default

Keyword to configure the maximum size as 512.

Platforms

All

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22.2 ip-filter-name

ip-filter-name

Syntax

[**no**] **ip-filter-name** *filter-name*

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block ip-filter-name)

Full Context

configure li li-filter-block-reservation li-reserved-block ip-filter-name

Description

This command configures an IP filter in which the reservation is done through name.

The **no** form of this command removes the IP filter name.

Parameters

filter-name

Specifies the IP filter name, up to 64 characters.

Platforms

All

ip-filter-name

Syntax

[**no**] **ip-filter-name** *filter-name*

Context

[Tree] (config>li>li-filter-assoc>li-ip-fltr ip-filter-name)

Full Context

configure li li-filter-associations li-ip-filter ip-filter-name

Description

This command associates an IP filter with a specified LI IP filter through its name.

The **no** form of this command removes the IP filter name.

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Parameters

filter-name

Specifies the IP filter name, up to 64 characters.

Platforms

All

22.3 ip-fragmentation

ip-fragmentation

Syntax

ip-fragmentation {**disabled** | **fragment-ipv6** | **fragment-ipv6-unless-ipv4-df-set**}

no ip-fragmentation

Context

[Tree] (config>service>vprn>nat>inside>nat64 ip-fragmentation)

[Tree] (config>service>vprn>nat>inside>dslite>addressip-fragmentation ip-fragmentation)

[Tree] (config>router>nat>inside>dslite>address ip-fragmentation)

[Tree] (config>router>nat>inside>nat64 ip-fragmentation)

Full Context

configure service vprn nat inside nat64 ip-fragmentation

configure service vprn nat inside dslite addressip-fragmentation ip-fragmentation

configure router nat inside dual-stack-lite address ip-fragmentation

configure router nat inside nat64 ip-fragmentation

Description

This command configures downstream IPv6 fragmentation behavior in DS-Lite and NAT64. IPv6 fragmentation is performed in the ISA. IPv4 fragmentation is not affected by this command. If desired, downstream IPv4 packet can be fragmented in the carrier IOM before the packet reaches ISA (and the NAT function). The IPv4 fragmentation in the downstream direction can be set by the **config>router/vprn>nat>outside>mtu** command.

DS-Lite IPv6 Fragmentation in Downstream Direction (IPv4 to IPv6)

In case that the length of the received IPv4 packet is larger than the configured tunnel-mtu value while fragmentation is allowed, the resulting IPv6 packet will be fragmented (IPv4 is tunneled within IPv6). The maximum size of the of the fragmented IPv6 packet will be 48bytes larger than the configured tunnel-mtu value. This is due to the size of the tunneling IPv6 header: 40bytes basic IPv6 header + 8 bytes of extended fragmentation IPv6 header.

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In case that fragmentation is not allowed while the IPv4 packet size is larger than configured tunnel-mtu size, the IPv4 packet will be dropped and an ICMPv4 Datagram Too Big message will be generated towards the source. The advertised mtu size in that ICMP message will be set to configured tunnel-mtu value.

NAT64 IPv6 Fragmentation in Downstream Direction (IPv4to IPv6)

In contrast to DS-Lite, NAT64 transport is not based on tunneling. Instead, IP headers are translated between IPv4 and IPv6. Consequently, NAT64 fragmentation operates based on the ipv6-mtu, as opposed to tunnel-mtu in DS-Lite which represents the size of the tunnel payload (IPv4 packet).

In case that the length of the translated IPv6 packet exceeds the size of the configured ipv6-mtu value while fragmentation is allowed, the resulting IPv6 packet will be fragmented. The maximum size of the of the fragmented IPv6 packet will be the configured ipv6-mtu value.

In case that fragmentation is not allowed while the translated IPv6 packet size is larger than configured ipv6-mtu size, the IPv4 packet (that is supposed to be translated into IPv6) will be dropped and an ICMPv4 Datagram Too Big message will be generated towards the source. The advertised mtu size in that ICMP message will be set to the ipv6-mtu value minus 28bytes. The 28bytes comes from the size of the IPv6 overhead of the translated packet (20bytes difference between the IP header sizes 40bytes in IPv6 vs 20bytes in IPv4; 8 bytes for extended IPv6 fragmentation header).

Default

disabled

Parameters

disabled

IPv6 Fragmentation is disabled. In case that the packet size is larger

than what is set by the mtu value (tunnel-mtu or ipv6-mtu) the IPv4 packet will be dropped and ICPMv4 Datagram Too Big messages will be sent back to the source.

fragment-ipv6

IPv6 fragmentation will be performed in all cases, regardless of the DF bit setting in the tunneled/translated IPv4 packet.

fragment-ipv6-unless-ipv4-df-set

IPv6 Fragmentation will be performed only in cases when DF bit in tunneled/translated IPv4 packet is cleared.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-fragmentation

Syntax

[**no**] **ip-fragmentation**

Context

[Tree] (conf>service>nat>map-domain ip-fragmentation)

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Full Context

configure service nat map-domain ip-fragmentation

Description

This command enables the context to configure IP fragmentation.

The **no** form of this commands disables IP fragmentation.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

22.4 ip-helper-address

ip-helper-address

Syntax

ip-helper-address *gateway-address*

no ip-helper-address

Context

[Tree] (config>service>ies>if ip-helper-address)

Full Context

configure service ies interface ip-helper-address

Description

This command enables broadcast UDP packets received on the associated interface to be redirected to the specified gateway address and then forwarded on to the gateway.

The **no** form of this command removes the gateway address from the interface configuration and stops the UDP broadcast redirect function.

Parameters

gateway-address

Specifies the IPv4 address of the target UDP broadcast gateway.

Platforms

All

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ip-helper-address

Syntax

ip-helper-address *gateway-address*

no ip-helper-address

Context

[Tree] (config>service>vprn>if ip-helper-address)

Full Context

configure service vprn interface ip-helper-address

Description

This command enables broadcast UDP packets received on the associated interface to be redirected to the specified gateway address and then forwarded on to the gateway.

The **no** form of this command removes the gateway address from the interface configuration and stops the UDP broadcast redirect function.

Parameters

gateway-address

Specifies the IPv4 address of the target UDP broadcast gateway.

Platforms

All

ip-helper-address

Syntax

ip-helper-address *gateway-address*

no ip-helper-address

Context

[Tree] (config>router>if ip-helper-address)

Full Context

configure router interface ip-helper-address

Description

This command enables broadcast UDP packets received on the associated interface to be redirected to the specified gateway address and then forwarded on to the gateway.

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The **no** form of this command removes the gateway address from the interface configuration and stops the UDP broadcast redirect function.

Parameters

gateway-address

Specifies the IPv4 address of the target UDP broadcast gateway.

Platforms

All

22.5 ip-identification-assist

ip-identification-assist

Syntax

ip-identification-assist

Context

[Tree] (config>app-assure>group ip-identification-assist)

Full Context

configure application-assurance group ip-identification-assist

Description

Commands in this context configure the IP identification assist feature, which uses IP addresses to assist in traffic identification.

This optional mechanism is enabled by default and consults an internally generated and stored database when app-filters fail to classify the traffic as one of the configured applications from the AppDB.

Use the **configure application-assurance group ip-identification-assist shutdown** command to administratively disable the IP identification assist feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-identification-assist

Syntax

[**no**] **ip-identification-assist**

Context

[Tree] (config>app-assure>group>policy>app-filter>entry ip-identification-assist)

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Full Context

configure application-assurance group policy app-filter entry ip-identification-assist

Description

This command configures the router to perform a network IP address lookup that overrides the assigned application if it finds the network IP address in its internal application-IP database.

If an IP match is found, the application assigned from the app-filter is overridden with the application from the IP lookup. This also affects the app-group and charging group.

If an IP match is not found, the application assigned from the app-filter is not overridden and remains (including the app-group and charging group).

The **no** form of this command disables the router from performing a network IP address lookup and overriding the assigned application.

Default

no ip-identification-assist

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.6 ip-identification-contribute

ip-identification-contribute

Syntax

[**no**] **ip-identification-contribute**

Context

[Tree] (config>app-assure>group ip-identification-contribute)

Full Context

configure application-assurance group ip-identification-contribute

Description

This command configures the router to collect information from traffic in the partition and contribute it to the database that is built by the IP identification assist feature.

The **no** form of this command disables the router from contributing traffic information in this partition to the database.

Default

ip-identification-contribute

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.7 ip-mirror

ip-mirror

Syntax

ip-mirror

Context

[Tree] (config>mirror>mirror-dest>sap>egress ip-mirror)

Full Context

configure mirror mirror-dest sap egress ip-mirror

Description

This command configures IP mirror information.

Platforms

All

22.8 ip-mirror-interface

ip-mirror-interface

Syntax

ip-mirror-interface *ip-int-name* [**create**]

no ip-mirror-interface *ip-int-name*

Context

[Tree] (config>service>vprn ip-mirror-interface)

Full Context

configure service vprn ip-mirror-interface

Description

This command is used for remote mirroring, where the mirror source is a separate system then the mirror destination. The mirror source can only be of IP type and is only supported for the following services: IES,

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VPRN, VPLS and Ipipe. The mirror destination on a remote system will configure an interface on a VPRN as **ip-mirror-interface**. This interface only supports spoke sdp termination. The IP mirror interface requires PBR to determine the next outgoing interface for the mirror packet to be delivered to.

The **no** form of this command removes the interface name from the configuration.

Parameters

ip-int-name

Specifies the name of the IP interface, up to 32 characters. An interface name cannot be in the form of an IP address.

create

Keyword used to create an IP mirror interface.

Platforms

All

22.9 ip-mtu

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>ies>sub-if>grp-if ip-mtu)

[Tree] (config>service>vprn>sub-if>grp-if ip-mtu)

Full Context

configure service ies subscriber-interface group-interface ip-mtu

configure service vprn subscriber-interface group-interface ip-mtu

Description

This command specifies the maximum size of IP packets on this group interface. Packets larger than this are fragmented.

The **ip-mtu** applies to all IPoE host types (dhcp, arp, static). For PPP/L2TP sessions, the **ip-mtu** is not considered for the MTU negotiation. The **ppp-mtu** in the **ppp-policy** should be used instead.

The **no** form of this command reverts to the default.

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Parameters

octets

Specifies the largest frame size (in octets) that this interface can handle.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>vprn>if ip-mtu)

Full Context

configure service vprn interface ip-mtu

Description

This command specifies the maximum size of IP packets on this group interface. Packets larger than this are fragmented.

The **ip-mtu** applies to all IPoE host types (DHCP, ARP, or static). For PPP/L2TP sessions, the **ip-mtu** is not considered for the MTU negotiation. The **ppp-mtu** in the PPP policy should be used instead.

The **no** form of this command reverts to the default.

Default

no ip-mtu

Parameters

octets

Specifies the largest frame size (in octets) that this interface can handle.

Values 512 to 9000

Platforms

All

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ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>ies>if ip-mtu)

[Tree] (config>service>ies>if>sap>ip-tunnel ip-mtu)

Full Context

configure service ies interface ip-mtu

configure service ies interface sap ip-tunnel ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for this interface.

Because this connects a Layer 2 to a Layer 3 service, this parameter can be adjusted under the IES interface.

The MTU that is advertised from the IES size is:

MINIMUM((SdpOperPathMtu - EtherHeaderSize), (Configured ip-mtu))

By default (for Ethernet network interface) if no ip-mtu is configured it is (1568 - 14) = 1554.

The **no** form of this command returns the default value.

Default

no ip-mtu

Parameters

octets

Specifies the maximum number of octets that can be transmitted.

Values 512 to 9786 (for IES interface)
512 to 9000 (for ip-tunnel interface)

Platforms

All

- configure service ies interface ip-mtu

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ip-tunnel ip-mtu

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ip-mtu

Syntax

ip-mtu *bytes*

no ip-mtu

Context

[Tree] (config>service>vprn>if>sap>ipsec-tunnel ip-mtu)

[Tree] (config>router>if>ipsec>ipsec-tunnel ip-mtu)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel ip-mtu)

[Tree] (config>service>vprn>if>sap>ip-tunnel ip-mtu)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel ip-mtu)

Full Context

configure service vprn interface sap ipsec-tunnel ip-mtu

configure router interface ipsec ipsec-tunnel ip-mtu

configure service ies interface ipsec ipsec-tunnel ip-mtu

configure service vprn interface sap ip-tunnel ip-mtu

configure service vprn interface ipsec ipsec-tunnel ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for this interface.

Because this connects a Layer 2 to a Layer 3 service, this parameter can be adjusted under the IES interface.

The MTU that is advertised from the IES size is:

MINIMUM((SdpOperPathMtu - EtherHeaderSize), (Configured ip-mtu))

By default (for the Ethernet network interface), if no ip-mtu is configured it is (1568 - 14) equals 1554.

The **ip-mtu** command instructs the MS-ISA to perform IP packet fragmentation, prior to IPsec encryption and encapsulation, based on the configured MTU value. In particular:

If the length of a payload IP packet (including its header) exceeds the configured MTU value and the DF flag is clear (due to the presence of the clear-df-bit command or because the original DF value was 0) then the MS-ISA fragments the payload packet as efficiently as possible (i.e. it creates the minimum number of fragments each less than or equal to the configured MTU size); in each created fragment the DF bit shall be 0.

If the length of a payload IP packet (including its header) exceeds the configured MTU value and the DF flag is set (because the original DF value was 1 and the tunnel has no clear-df-bit in its configuration) then the MS-ISA discards the payload packet without sending an ICMP type 3/code 4 message back to the packet's source address.

The effective MTU for packets entering a tunnel is the minimum of the private tunnel SAP interface IP MTU value (used by the IOM) and the tunnel IP MTU value (configured using the above command and used

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by the MS-ISA). To fragment IP packets larger than X bytes with DF set, rather than discarding them, the tunnel IP MTU should be set to X and the private tunnel SAP interface IP MTU should be set to a value larger than X.

The **no ip-mtu** command, corresponding to the default behavior, disables fragmentation of IP packets by the MS-ISA; all IP packets, regardless of size or DF bit setting, are allowed into the tunnel.

Default

no ip-mtu

Parameters

bytes

Specifies the IP maximum transmit unit (packet) for this interface.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel ip-mtu
- configure service vprn interface sap ip-tunnel ip-mtu

VSR

- configure router interface ipsec ipsec-tunnel ip-mtu
- configure service vprn interface ipsec ipsec-tunnel ip-mtu
- configure service ies interface ipsec ipsec-tunnel ip-mtu

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>vprn>subscriber-interface ip-mtu)

[Tree] (config>service>ies>subscriber-interface ip-mtu)

Full Context

configure service vprn subscriber-interface ip-mtu

configure service ies subscriber-interface ip-mtu

Description

This command specifies the maximum size of frames on this group-interface. Packets larger than this will get fragmented.

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The **no** form of this command removes this functionality.

Parameters

octets.

Specifies the largest frame size (in octets) that this interface can handle.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>subscr-mgmt>git ip-mtu)

Full Context

configure subscriber-mgmt group-interface-template ip-mtu

Description

This command configures the maximum size of outgoing IP packets on this group interface. Packets larger than this are fragmented.

The **no** form of this command removes the configuration.

Default

no ip-mtu

Parameters

octets

Specifies the largest frame size (in octets) that this interface can handle.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>ies>aarp-interface ip-mtu)

Full Context

configure service ies aarp-interface ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for this interface.

The **no** form of this command returns the default value.

Default

no ip-mtu

By default (for Ethernet network interface) if no ip-mtu is configured it is (1568 - 14) = 1554.

Parameters

octets

Specifies the maximum number of octets that can be transmitted.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>ies>red-if ip-mtu)

Full Context

configure service ies redundant-interface ip-mtu

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Description

This command configures the IP maximum transmit unit (packet) for the associated router IP interface.

The configured IP-MTU cannot be larger than the calculated IP MTU based on the port MTU configuration.

The MTU that is advertised from the IES size is:

MINIMUM((SdpOperPathMtu - EtherHeaderSize), (Configured ip-mtu))

The **no** form of this command returns the associated IP interfaces MTU to its default value, which is calculated based on the port MTU setting. For Ethernet ports this will typically be 1554.

Default

no ip-mtu

Parameters

octets

Specifies the octets.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no up-mtu

Context

[Tree] (config>service>vprn>aarp-interface ip-mtu)

Full Context

configure service vprn aarp-interface ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for this interface.

The **no** form of this command returns the default value. By default (for Ethernet network interface) if no ip-mtu is configured it is (1568 - 14) = 1554.

Default

no ip-mtu

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Parameters

octets

Specifies the maximum number of octets that can be transmitted.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>vprn>red-if ip-mtu)

[Tree] (config>service>vprn>nw-if ip-mtu)

Full Context

configure service vprn redundant-interface ip-mtu

configure service vprn network-interface ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for the associated router IP interface.

The configured IP-MTU cannot be larger than the calculated IP MTU based on the port MTU configuration.

The MTU that is advertised from the IES size is:

MINIMUM((SdpOperPathMtu - EtherHeaderSize), (Configured ip-mtu))

The **no** form of this command returns the associated IP interfaces MTU to its default value, which is calculated based on the port MTU setting. For Ethernet ports this will typically be 1554.

Default

no ip-mtu

Parameters

octets

Specifies the octets.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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- configure service vprn redundant-interface ip-mtu

All

- configure service vprn network-interface ip-mtu

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>service>vprn>aa-interface ip-mtu)

[Tree] (config>service>ies>aa-interface ip-mtu)

Full Context

configure service vprn aa-interface ip-mtu

configure service ies aa-interface ip-mtu

Description

This command configures the AA interface IP MTU.

Default

no ip-mtu

Parameters

octets

Specifies the MTU value.

Values 512 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>ipsec>tnl-temp ip-mtu)

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Full Context

configure ipsec tunnel-template ip-mtu

Description

This command configures the template IP MTU.

Default

no ip-mtu

Parameters

octets

Specifies the maximum size in octets.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *bytes*

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy ip-mtu)

Full Context

configure isa nat-group inter-chassis-redundancy ip-mtu

Description

This command configures the IP-MTU size that is used to transport flow synchronization records between the ISAs. Multiple flow synchronization events can be packed into a single frame up to the IP-MTU size.

Default

ip-mtu 1500

Parameters

bytes

Specifies the IP-MTU size in bytes.

Values 512 to 9000

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (config>router>if ip-mtu)

Full Context

configure router interface ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for the associated router IP interface.

The operational IP MTU that is used for the interface is determined based on both the configured IP MTU and the port MTU of the port bound to this interface.

The MTU that is used is:

MINIMUM((Port_MTU - EthernetHeaderSize), (configured ip-mtu))

The **no** form of this command returns the associated IP interfaces MTU to its default value, which is calculated based on the port MTU setting. (For Ethernet ports the default IP MTU is 1500 octets.)

Default

no ip-mtu

Parameters

octets

Specifies the IP MTU value associated with the IP interface, specified in octets. If the interface supports IPv6 packets, the IP-MTU must be set to a value greater than or equal to (≥) 1280 in accordance with RFC 2460 *Internet Protocol, Version 6 (IPv6) Specification*.

Values 512 to 9786

Platforms

All

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ip-mtu

Syntax

ip-mtu *octets*

no ip-mtu

Context

[Tree] (bof ip-mtu)

Full Context

bof ip-mtu

Description

This command configures the IP maximum transmit unit (packet) for the management router instance.

The operational IP MTU that is used for the interface is determined based on both the configured IP MTU and the port MTU of the port bound to this interface.

The MTU that is used is:

MINIMUM((Port_MTU - EthernetHeaderSize), (configured ip-mtu))

For the management port, the port MTU is fixed at 1514 and the EthernetHeaderSize is 14 so the first element of the equation above is 1500 octets.

The **no** form of this command returns the associated IP interfaces MTU to its default value, which is calculated based on the port MTU setting. (For the management port the default IP MTU is 1500 octets.)

Default

ip-mtu 1500

Parameters

octets

Specifies the IP MTU value associated with the IP interface, specified in octets. If the interface supports IPv6 packets, the IP-MTU must be set to a value greater than or equal to (≥) 1280 in accordance with RFC 2460 *Internet Protocol, Version 6 (IPv6) Specification*.

Values 512 to 9786

Platforms

All

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22.10 ip-packet-length-list

ip-packet-length-list

Syntax

ip-packet-length-list *pkt-len-list-name* [**create**]

[**no**] **ip-packet-length-list** *pkt-len-list-name*

Context

[Tree] (config>filter>match-list ip-packet-length-list)

Full Context

configure filter match-list ip-packet-length-list

Description

This command configures a list of IPv4 packet lengths for match criteria in IPv4 filter policies. The **create** keyword is mandatory when configuring a packet length list.

The **no** form of this command deletes the specified list.

Parameters

pkt-len-list-name

Specifies the name of the packet length list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

22.11 ip-prefix

ip-prefix

Syntax

ip-prefix *ip-prefix/ip-prefix-length*

no ip-prefix

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident ip-prefix)

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Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification ip-prefix

Description

This command specifies the source IPv4/IPv6 address/prefix of the data trigger packet as the host identification.

Note:
This command is only used when **ip** is configured as one of the **match-list** parameters.

The **no** form of this command removes the IP prefix from the configuration.

Parameters

ip-prefix/ip-prefix-length

Specifies the IPv4 address, IPv6 address, or IPv6 prefix.

Values ipv4-prefix a.b.c.d
ipv4-prefix-length 0 to 32
ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:d.d.d.d
x to [0 to FFFF]H
d to [0 to 255]D
ipv6-prefix-length 0 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ip-prefix

Syntax

ip-prefix *ipv6-prefix/prefix-length*

no ip-prefix

Context

[Tree] (conf>router>segment-routing>srv6>loc>prefix ip-prefix)

Full Context

configure router segment-routing segment-routing-v6 locator prefix ip-prefix

Description

This command configures the IPv6 prefix and prefix length for an SRv6 locator.

The locator prefix length is the sum of the lengths of the block field and that of the node ID field.

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The **no** form of this command deletes the IPv6 prefix from this locator.

Default

no ip-prefix

Parameters

ipv6-prefix/prefix-length

Specifies an IPv6 address prefix written as hexadecimal numbers separated by colons with host bits set to 0.

Values		
	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	ipv6-prefix-length	4 to 96

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

ip-prefix

Syntax

ip-prefix *ipv6-prefix*/*prefix-length*

no ip-prefix

Context

[Tree] (conf>router>sr>srv6>ms>block>prefix ip-prefix)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block prefix ip-prefix

Description

This command configures the IPv6 prefix and prefix length for an SRv6 micro-segment locator.

For micro-segment SRv6, the locator prefix length must be equal to the micro-segment block length.

The **no** form of this command deletes the IPv6 prefix from this micro-segment locator.

Default

no ip-prefix

Parameters

ipv6-prefix/prefix-length

Specifies an IPv6 address prefix written as hexadecimal numbers separated by colons with host bits set to 0.

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Values	ipv6-prefix	x:x:x:x:x:x:x:x (eight 4-hexadecimal pieces)
	ipv6-prefix-length	8 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

22.12 ip-prefix-list

ip-prefix-list

Syntax

ip-prefix-list *ip-prefix-list-name* [**create**]

no ip-prefix-list *ip-prefix-list-name*

Context

[Tree] (config>app-assure>group ip-prefix-list)

Full Context

configure application-assurance group ip-prefix-list

Description

This command configures an IP prefix list.

Parameters

ip-prefix-list-name

Specifies the name of the IP prefix list, up to 32 characters.

create

Mandatory keyword used when creating an application profile. The create keyword requirement can be enabled or disabled in the **environment**>**create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-prefix-list

Syntax

ip-prefix-list *ip-prefix-list-name* [**create**]

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no ip-prefix-list *ip-prefix-list-name*

Context

[Tree] (config>qos>match-list ip-prefix-list)

Full Context

configure qos match-list ip-prefix-list

Description

This command creates a list of IPv4 prefixes for match criteria in QoS policies.

An IP prefix list must contain only IPv4 address prefixes created using the prefix command and cannot be deleted if it is referenced by a QoS policy.

The **no** form of this command deletes the specified list.

Parameters

ip-prefix-list-name

A string of up to 32 characters of printable ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The name **default** (case insensitive) is reserved by the system.

Platforms

All

ip-prefix-list

Syntax

ip-prefix-list *ip-prefix-list-name* [**create**]

no ip-prefix-list *ip-prefix-list-name*

Context

[Tree] (config>filter>match-list ip-prefix-list)

Full Context

configure filter match-list ip-prefix-list

Description

This command creates a list of IPv4 prefixes for match criteria in IPv4 ACL and CPM filter policies.

The **no** form of this command deletes the specified list.

Operational Notes:

An **ip-prefix-list** must contain only IPv4 address prefixes.

An IPv4 prefix match list cannot be deleted if it is referenced by a filter policy.

See general description related to match-list usage in filter policies.

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Parameters

ip-prefix-list-name

Specifies a string of up to 32 printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

All

22.13 ip-prefix-routes

ip-prefix-routes

Syntax

ip-prefix-routes

Context

[Tree] (config>service>system>bgp-evpn ip-prefix-routes)

Full Context

configure service system bgp-evpn ip-prefix-routes

Description

Commands in this context configure attribute uniform propagation and BGP path selection.

Platforms

All

22.14 ip-protocol-num

ip-protocol-num

Syntax

ip-protocol-num {**eq** | **neq**} *protocol-id*

no ip-protocol-num

Context

[Tree] (config>app-assure>group>policy>app-filter>entry ip-protocol-num)

[Tree] (config>app-assure>group>policy>aqp>entry>match ip-protocol-num)

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Full Context

configure application-assurance group policy app-filter entry ip-protocol-num

configure application-assurance group policy app-qos-policy entry match ip-protocol-num

Description

This command configures the IP protocol to use in the application definition.

The **no** form of this command restores the default (removes IP protocol number from application criteria defined by this app-filter entry).

Default

no ip-protocol-num

Parameters

eq

Specifies that the value configured and the value in the flow must be equal.

neq

Specifies that the value configured differs from the value in the flow.

protocol-id

Specifies the decimal value representing the IP protocol to be used as an IP filter match criterion. Well known protocol numbers include ICMP (1), TCP (6), UDP (17).

The **no** form the command removes the protocol from the match criteria.

Values 1 to 255 (Decimal, Hexadecimal, or Binary representation).

Supported IANA IP protocol names:

none, crtp, crudp, egp, eigrp, encap, ether-ip, gre, icmp, idrp, igmp, igp, ip, ipv6, ipv6-frag, ipv6-icmp, ipv6-no-nxt, ipv6-opts, ipv6-route, isis, iso-ip, l2tp, ospf-igp, pim, pnni, ptp, rdp, rsvp, sctp, stp, tcp, udp, vrrp

* - udp/tcp wildcard

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-protocol-num

Syntax

ip-protocol-num *ip-protocol number*

no ip-protocol-num

Context

[Tree] (config>app-assure>group>sess-fltr>entry>match ip-protocol-num)

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Full Context

configure application-assurance group session-filter entry match ip-protocol-num

Description

This command configures the IP protocol to use in the application definition.

The **no** form of this command restores the default (removes IP protocol number from application criteria defined by this app-filter entry).

Default

no ip-protocol-num

Parameters

ip-protocol-number

Specifies the decimal value representing the IP protocol to be used as an IP filter match criterion. Well known protocol numbers include ICMP (1), TCP (6), UDP (17).

The **no** form the command removes the protocol from the match criteria.

Values *protocol-number*: 0 to 255 (decimal, hexadecimal, or binary representation)

protocol-name: Supported IANA IP protocol names:

none, crtp, crudp, egp, eigrp, encap, ether-ip, gre, icmp, idrp, igmp, igp, ip, ipv6, ipv6-frag, ipv6-icmp, ipv6-no-nxt, ipv6-opts, ipv6-route, isis, iso-ip, l2tp, ospf-igp, pim, pnni, ptp, rdp, rsvp, sctp, stp, tcp, udp, vrrp

* - udp/tcp wildcard

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ip-protocol-num

Syntax

ip-protocol-num {**eq** | **neq**} *protocol-id*

no ip-protocol-num

Context

[Tree] (debug>app-assure>group>traffic-capture>match ip-protocol-num)

Full Context

debug application-assurance group traffic-capture match ip-protocol-num

Description

This command configures debugging on an IP protocol number.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.15 ip-route-advertisement

ip-route-advertisement

Syntax

ip-route-advertisement [**incl-host**] [**domain-id** *global-field*:*local-field*]

no ip-route-advertisement

Context

[Tree] (config>service>vpls>bgp-evpn ip-route-advertisement)

Full Context

configure service vpls bgp-evpn ip-route-advertisement

Description

This command enables and disables the advertisement of IP prefixes in EVPN. If enabled, any active route in the R-VPLS VPRN route table are advertised in EVPN using the VPLS BGP configuration. The interface host addresses are not advertised in EVPN unless the **ip-route-advertisement incl-host** command is enabled.

The **no** form of this command disables IP prefixes advertisement in EVPN.

Default

no ip-route-advertisement

Parameters

incl-host

Specifies to advertise the interface host addresses in EVPN.

global-field:local-field

Specifies the domain ID.

Values *4byte-GlobalAdminValue:2byte-LocalAdminValue*

4byte-GlobalAdminValue:	0 to 4294967295
2byte-LocalAdminValue	0 to 65535

Platforms

All

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22.16 ip-route-link-bandwidth

ip-route-link-bandwidth

Syntax

ip-route-link-bandwidth

Context

[Tree] (config>service>vpls>bgp-evpn ip-route-link-bandwidth)

Full Context

configure service vpls bgp-evpn ip-route-link-bandwidth

Description

Commands in this context configure the IP route link bandwidth.

Platforms

All

22.17 ip-src

ip-src

Syntax

ip-src *ip-address*

no ip-src

Context

[Tree] (config>li>mirror-dest-template>layer-3-encap ip-src)

Full Context

configure li mirror-dest-template layer-3-encap ip-src

Description

This command configures the source IPv4 address to use in the IPv4 header part of the routable LI encapsulation.

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Parameters

ip-address

Specifies the source IPv4 address.

Values a.b.c.d

Platforms

All

22.18 ip-ttl

ip-ttl

Syntax

ip-ttl *hops*

no ip-ttl

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile ip-ttl)

Full Context

configure subscriber-mgmt gtp peer-profile ip-ttl

Description

This command configures the value to put in the IP header's TTL field for GTP control messages.

The **no** form of this command reverts to the default value.

Default

ip-ttl 255

Parameters

hops

Specifies the IP TTL.

Values 1 to 255

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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22.19 ip-tunnel

ip-tunnel

Syntax

ip-tunnel *name* [**create**]

no ip-tunnel *name*

Context

[Tree] (config>service>vprn>if>sap ip-tunnel)

[Tree] (config>service>ies>if>sap ip-tunnel)

Full Context

configure service vprn interface sap ip-tunnel

configure service ies interface sap ip-tunnel

Description

This command is used to configure an IP-GRE or IP-IP tunnel and associate it with a private tunnel SAP within an IES or VPRN service.

The **no** form of this command deletes the specified IP/GRE or IP-IP tunnel from the configuration. The tunnel must be administratively shutdown before issuing the **no ip-tunnel** command.

Default

no-ip tunnel *name*

Parameters

name

Specifies the name of the IP tunnel. Tunnel names can be from 1 to 32 alphanumeric characters. If the string contains special characters (for example, #, $, spaces), the entire string must be enclosed within double quotes.

Platforms

All

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22.20 ipcp-subnet-negotiation

ipcp-subnet-negotiation

Syntax

no ipcp-subnet-negotiation

Context

[Tree] (config>service>vprn>l2tp>group>ppp ipcp-subnet-negotiation)

[Tree] (config>router>l2tp>group>tunnel>ppp ipcp-subnet-negotiation)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp ipcp-subnet-negotiation)

[Tree] (config>router>l2tp>group>ppp ipcp-subnet-negotiation)

Full Context

configure service vprn l2tp group ppp ipcp-subnet-negotiation

configure router l2tp group tunnel ppp ipcp-subnet-negotiation

configure service vprn l2tp group tunnel ppp ipcp-subnet-negotiation

configure router l2tp group ppp ipcp-subnet-negotiation

Description

This command configures the IPCP subnet negotiation using PPP IPCP Subnet-Mask option (0x90) if requested by the client. The subnet can be obtained from RADIUS (Framed-IP-Netmask attribute) or local user database. The subnet is installed as a managed route of the PPP session. This requires the anti-spoof type on the SAP to be configured to nh-mac.

By default, an IPCP Config Request with IPCP Subnet-Mask option (0x90) is rejected.

The **no** form of this command reverts to the default value.

Default

no ipcp-subnet-negotiation

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipcp-subnet-negotiation

Syntax

[**no**] **ipcp-subnet-negotiation**

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Context

[Tree] (config>subscr-mgmt>ppp-policy ipcp-subnet-negotiation)

Full Context

configure subscriber-mgmt ppp-policy ipcp-subnet-negotiation

Description

This command enables subnet negotiation using PPP IPCP Subnet-Mask option (0x90) if requested by the client. The subnet can be obtained from RADIUS (Framed-IP-Netmask attribute) or local user database. The subnet is installed as a managed route of the PPP session. This requires the anti-spoof type on the SAP to be configured to nh-mac.

By default, an IPCP Config Request with IPCP Subnet-Mask option (0x90) is rejected.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.21 ipfix

ipfix

Syntax

ipfix

Context

[Tree] (config>service ipfix)

Full Context

configure service ipfix

Description

Commands in this context configure IPFIX parameters.

Platforms

All

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22.22 ipfix-export-policy

ipfix-export-policy

Syntax

ipfix-export-policy *policy-name*

no ipfix-export-policy

Context

[Tree] (config>service>nat>up-nat-policy ipfix-export-policy)

[Tree] (config>service>nat>nat-policy ipfix-export-policy)

Full Context

configure service nat up-nat-policy ipfix-export-policy

configure service nat nat-policy ipfix-export-policy

Description

This command configures the IP flow information export policy.

The **no** form of the command removes the IP flow information export policy.

Default

no ipfix-export-policy

Parameters

policy-name

Specifies the name of the policy, up to 32 characters. The specified policy must be created in the **config**>**service**>**ipfix ipfix-export-policy** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipfix-export-policy

Syntax

ipfix-export-policy *policy-name* [**create**]

no ipfix-export-policy *policy-name*

Context

[Tree] (config>service>ipfix ipfix-export-policy)

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Full Context

configure service ipfix ipfix-export-policy

Description

This command creates an IPFIX export policy with a set of transport parameters that will be used to transmit IPFIX records generated by an application within 7750 SR node to an external collector node. This policy name can be referenced from each application within 7750 SR that requires flow logging.

Parameters

policy-name

Specifies the name of the policy that can be referenced within an application in 7750 SR node that requires flow logging.

create

Keyword used to create the policy.

Platforms

All

22.23 ipipe

ipipe

Syntax

ipipe *service-id* [**customer** *customer-id*] [**create**] [**vpn** *vpn-id*] [**vc-switching**] [**name** *name*]

no ipipe *service-id*

Context

[Tree] (config>service ipipe)

Full Context

configure service ipipe

Description

This command configures an IP-Pipe service.

Parameters

service-id

The unique service identification number or string identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every 7450 ESS or 7750 SR on which this service is defined.

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Values *service-id*: 1 to 2147483647

svc-name: up to 64 characters

customer-id

Specifies the customer ID number to be associated with the service. This parameter is required on service creation and optional for service editing or deleting.

Values 1 to 2147483647

vpn vpn-id

Specifies the VPN ID number which allows you to identify virtual private networks (VPNs) by a VPN identification number.

Values 1 to 2147483647

Default null (0)

vc-switching

Specifies if the pseudowire switching signaling is used for the spoke SDPs configured in this service.

create

Keyword used to create the Ipipe service instance. The **create** keyword requirement can be enabled/disabled in the **environment**>**create** context.

name name

Configures an optional service name identifier, up to 64 characters, to a given service. This service name can then be used in configuration references, display, and show commands throughout the system. A defined service name can help the service provider or administrator to identify and manage services within the SR OS platforms.

To create a service, you must assign a service ID; however, after it is created, either the service ID or the service name can be used to identify and reference a service.

If a name is not specified at creation time, then SR OS assigns a string version of the *service-id* as the name.

Values *name*: up to 64 characters

Platforms

All

22.24 ipoe

ipoe

Syntax

ipoe

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Context

[Tree] (config>subscr-mgmt>loc-user-db ipoe)

Full Context

configure subscriber-mgmt local-user-db ipoe

Description

Commands in this context configure IPoE host parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipoe

Syntax

ipoe

Context

[Tree] (debug>call-trace ipoe)

Full Context

debug call-trace ipoe

Description

Commands in this context set up call trace debugging for IP over Ethernet (IPoE) sessions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipoe

Syntax

ipoe *origin*

Context

[Tree] (config>li>x-interfaces>correlation-id ipoe)

Full Context

configure li x-interfaces correlation-id ipoe

Description

This command specifies the type of RADIUS accounting session ID to use for IPoE subscriber correlation.

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Default

host

Parameters

origin

Specifies the correlation identifier origin type for IPoE.

Values host, queue, session

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ipoe

Syntax

ipoe *max-nr-of-sessions*

no ipoe

Context

[Tree] (config>subscr-mgmt>sla-profile>session-limits ipoe)

[Tree] (config>subscr-mgmt>sub-profile>session-limits ipoe)

Full Context

configure subscriber-mgmt sla-profile session-limits ipoe

configure subscriber-mgmt sub-profile session-limits ipoe

Description

This command configures the maximum number of IPoE sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPoE sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of IPoE sessions.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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ipoe

Syntax

[**no**] **ipoe**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>subscriber-mgmt ipoe)

Full Context

configure redundancy multi-chassis peer sync subscriber-mgmt ipoe

Description

This command configures the router to synchronize subscriber management IPoE information with the multi-chassis peer.

The **no** form of this command disables the router from synchronizing subscriber management IPoE information with the multi-chassis peer.

Note: The configuration of this command must match on both nodes. Otherwise, the subscriber management synchronization fails.

Default

no ipoe

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.25 ipoe-bridged-mode

ipoe-bridged-mode

Syntax

[**no**] **ipoe-bridged-mode**

Context

[Tree] (config>service>vprn>sub-if>ipv6 ipoe-bridged-mode)

[Tree] (config>service>ies>sub-if>ipv6 ipoe-bridged-mode)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 ipoe-bridged-mode)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 ipoe-bridged-mode)

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Full Context

configure service vprn subscriber-interface ipv6 ipoe-bridged-mode

configure service ies subscriber-interface ipv6 ipoe-bridged-mode

configure service vprn subscriber-interface group-interface ipv6 ipoe-bridged-mode

configure service ies subscriber-interface group-interface ipv6 ipoe-bridged-mode

Description

This command enables IPv6 IPoE bridged mode.

The **no** form of this command disables the IPv6 IPoE bridged mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.26 ipoe-linking

ipoe-linking

Syntax

ipoe-linking

Context

[Tree] (config>service>ies>sub-if ipoe-linking)

[Tree] (config>service>vprn>sub-if>grp-if ipoe-linking)

[Tree] (config>service>vprn>sub-if ipoe-linking)

[Tree] (config>service>ies>sub-if>grp-if ipoe-linking)

Full Context

configure service ies subscriber-interface ipoe-linking

configure service vprn subscriber-interface group-interface ipoe-linking

configure service vprn subscriber-interface ipoe-linking

configure service ies subscriber-interface group-interface ipoe-linking

Description

Commands in this context configure IPoE host linking.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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22.27 ipoe-session

ipoe-session

Syntax

[**no**] **ipoe-session**

Context

[Tree] (config>service>ies>sub-if>grp-if ipoe-session)

[Tree] (config>service>vpls>sap ipoe-session)

[Tree] (config>service>ies>sub-if ipoe-session)

[Tree] (config>service>vprn>sub-if>grp-if ipoe-session)

[Tree] (config>service>vprn>sub-if ipoe-session)

Full Context

configure service ies subscriber-interface group-interface ipoe-session

configure service vpls sap ipoe-session

configure service ies subscriber-interface ipoe-session

configure service vprn subscriber-interface group-interface ipoe-session

configure service vprn subscriber-interface ipoe-session

Description

Commands in this context configure IPoE session parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.28 ipoe-session-policy

ipoe-session-policy

Syntax

ipoe-session-policy *policy-name* [**create**]

no ipoe-session-polic*y policy-name*

Context

[Tree] (config>subscr-mgmt ipoe-session-policy)

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Full Context

configure subscriber-mgmt ipoe-session-policy

Description

This command configures an IPoE session policy. The policies are referenced from subscriber interfaces, group interfaces and capture SAPs. Multiple IPoE session policies can be configured.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the IPoE policy name up to 32 characters.

create

Keyword required to create the configuration context

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipoe-session-policy

Syntax

ipoe-session-policy *policy-name*

no ipoe-session-policy

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session ipoe-session-policy)

[Tree] (config>service>vpls>sap>ipoe-session ipoe-session-policy)

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session ipoe-session-policy)

Full Context

configure service vprn subscriber-interface group-interface ipoe-session ipoe-session-policy

configure service vpls sap ipoe-session ipoe-session-policy

configure service ies subscriber-interface group-interface ipoe-session ipoe-session-policy

Description

This command specifies the IPoE session policy applicable for this group interface or capture SAP.

On WLAN GW group interfaces, it is not possible to change this value.

The **no** form of this command reverts to the default.

Default

no ipoe-session-policy ipoe-session-policy default on WLAN GW group interfaces

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Parameters

policy-name

Specifies the IPoE session policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.29 ipoe-sub-id-key

ipoe-sub-id-key

Syntax

ipoe-sub-id-key *sub-id-key* [*sub-id-key*]

no ipoe-sub-id-key

Context

[Tree] (config>subscr-mgmt>auto-sub-id-key ipoe-sub-id-key)

Full Context

configure subscriber-mgmt auto-sub-id-key ipoe-sub-id-key

Description

This command enables certain fields to become the base for auto-generation of the default sub-id name. The sub-id name is auto generated if there is not a more specific method available. Such more specific methods would be a default sub-id name as a sap-id, a preconfigured static string or explicit mappings based on RADIUS/LUDB returned strings.

In case that a more specific sub-id name generation method is not available and the auto-id keyword is defined under the def-sub-id hierarchy, the sub-id name is generated by concatenating fields defined in this command separated by a "|" character.

The maximum length of the auto-generated sub-id name is 64 characters while the concatenation of subscriber identification fields can exceed 64 characters. Subscriber host instantiation fails if the sub-id name is based on subscriber identification fields whose concatenated length exceeds 64 characters. Failing the host creation rather than truncating the sub-id name on a 64 character boundary prevents collision of sub-ids (subscriber name duplication).

If the more specific sub-id name generation method is not available and the **auto-id** keyword is not defined under the **def-sub-id** hierarchy, the sub-id name is a random 10 character encoded string based on the fields defined under this command.

There is only one set of identification fields allowed per host type (IPoE or PPP) per chassis.

The **no** form of this command reverts to the default.

Default

ipoe-sub-id-key mac sap-id

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Parameters

sub-id-key

Specifies the auto-generated sub-id keys for IPoE hosts.

Values **mac** — Specifies that the MAC address can be combined with other subscriber host identification fields (circuit-id, remote-id, session-id, sap-id, or service-name) to form a sub-id name in a user readable format or as a random 10 character encoded value.

In case that the mac address is used as a concatenation field in the sub-id name, then its format becomes a string xx:xx:xx:xx:xx:xx with the length 17B.

The MAC address as the subscriber host identification field is not applicable to static hosts.

circuit-id — Specifies that the circuit-id can be combined with other subscriber host identification fields (mac, remote-id, session-id, sap-id, or service-name) to form a sub-id name in a user readable format or as a random 10 character encoded value.

In case that the circuit-id is used as a concatenation field in the sub-id name, then its format becomes access-node-id eth slot/port:[vlan-id] or access-node-id atm slot/port:vpi.vci with a variable length.

Note:
If circuit-id contains any non-printable ASCII characters, the entire circuit-id string is formatted in hex in the sub-id name output. Otherwise all characters in circuit-id is converted to ASCII. ASCII printable characters contain bytes in range 0x20 to 0x7E.

The circuit-id as the subscriber identification field is not applicable to ARP hosts or static hosts.

remote-id — Specifies that the remote-id can be combined with other subscriber host identification fields (mac, circuit-id, session-id, sap-id, or service-name) to form a sub-id name in a user readable format or as a random 10 character encoded value.

In case that the remote-id is used as a concatenation field in the sub-id name, then its format becomes a remote-id string with a variable length.

Note:
If remote-id contains any non-printable ASCII characters, the entire remote-id string is formatted in hex in the sub-id name output. Otherwise all characters in remote-id is converted to ASCII. ASCII printable characters contain bytes in range 0x20 to 0x7E.

The remote-id as the subscriber identification field is not applicable to ARP hosts or static hosts.

sap-id — Specifies that the sap-id can be combined with other subscriber host identification fields (mac, circuit-id, remote-id, session-

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id, or service-name) to form a sub-id name in a user readable format or as a random 10 character encoded value.

If a circuit-id is used as a concatenation field in the sub-id name, then its format becomes: slot/mda:[outer-vlan].[inner-vlan] with a variable length.

The sap-id as the subscriber identification field is applicable to all hosts types with exception of static hosts.

dual-stack-remote-id — Specifies that the dual stack remote ID is used as the base for the auto-generated subscriber identification

service-name — Specifies that the service name that terminates the subscriber is used as the base for auto-generated subscriber identification.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.30 ipsec

ipsec

Syntax

ipsec

Context

[Tree] (admin ipsec)

Full Context

admin ipsec

Description

Commands in this context perform Internet Protocol Security (IPsec) operations. IPsec is a structure of open standards to ensure private, secure communications over Internet Protocol (IP) networks by using cryptographic security services.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipsec

Syntax

[**no**] **ipsec**

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Context

[Tree] (config>redundancy>multi-chassis>peer>sync ipsec)

Full Context

configure redundancy multi-chassis peer sync ipsec

Description

This command enables multi-chassis synchronization of IPsec states on system level.

Default

no ipsec

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipsec

Syntax

ipsec

Context

[Tree] (config ipsec)

Full Context

configure ipsec

Description

Commands in this context configure Internet Protocol Security (IPsec) parameters. IPsec is a structure of open standards to ensure private, secure communications over Internet Protocol (IP) networks by using cryptographic security services.

Platforms

All

ipsec

Syntax

ipsec [**tunnel-group** *ipsec-group-id*] [**public-sap** *public-sap*]

no ipsec

Context

[Tree] (config>service>ies ipsec)

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[Tree] (config>router>if ipsec)

[Tree] (config>service>vprn ipsec)

[Tree] (config>service>ies>if ipsec)

Full Context

configure service ies ipsec

configure router interface ipsec

configure service vprn ipsec

configure service ies interface ipsec

Description

Commands in this context configure IPsec policies on a VSR.

Parameters

ipsec-group-id

Specifies the IPsec group ID used for the IPsec tunnels configured under this context.

Values 1 to 16

public-sap

Specifies the public SAP ID used for the IPsec tunnels configured under this context.

Values 0 to 4096

Platforms

All

- configure service ies ipsec

VSR

- configure service ies interface ipsec
- configure router interface ipsec

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec

22.31 ipsec-auth

ipsec-auth

Syntax

ipsec-auth

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Context

[Tree] (debug>oam>build-packet>packet>field-override>header ipsec-auth)

[Tree] (config>test-oam>build-packet>header ipsec-auth)

Full Context

debug oam build-packet packet field-override header ipsec-auth

configure test-oam build-packet header ipsec-auth

Description

This command causes the associated header to be defined as an IPsec header template and enters the context to define the IPsec parameters. This same context can be used for IPv4 and IPv6 packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

22.32 ipsec-domain

ipsec-domain

Syntax

ipsec-domain *ipsec-domain-id* [**create**]

no ipsec-domain *ipsec-domain-id*

Context

[Tree] (config>redundancy>multi-chassis ipsec-domain)

Full Context

configure redundancy multi-chassis ipsec-domain

Description

Commands in this context configure parameters for the multi-chassis IPsec domain configured on this system.

The **no** form of this command removes the ID from the configuration.

Parameters

ipsec-domain-id

Specifies IPsec domain ID.

Values 1 to 255

create

Keyword used to create the command instance.

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.33 ipsec-gw

ipsec-gw

Syntax
ipsec-gw *name*
no ipsec-gw

Context
[Tree] (config>service>ies>if>sap ipsec-gw)
[Tree] (config>service>vprn>if>sap ipsec-gw)

Full Context
configure service ies interface sap ipsec-gw
configure service vprn interface sap ipsec-gw

Description
This command configures an IPsec gateway.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.34 ipsec-lifetime

ipsec-lifetime

Syntax
ipsec-lifetime *ipsec-lifetime*
no ipsec-lifetime

Context
[Tree] (config>ipsec>ike-policy ipsec-lifetime)

Full Context
configure ipsec ike-policy ipsec-lifetime

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Description

This command specifies the lifetime of the Phase 2 IKE key.

The **no** form of this command reverts to the default, which is 3600 seconds.

Default

no ipsec-lifetime

Parameters

ipsec-lifetime

Specifies the Phase 2 lifetime for this IKE policy in seconds.

Values 1200 to 31536000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipsec-lifetime

Syntax

ipsec-lifetime *seconds*

ipsec-lifetime inherit

Context

[Tree] (config>ipsec>ipsec-transform ipsec-lifetime)

Full Context

configure ipsec ipsec-transform ipsec-lifetime

Description

This command specifies the CHILD_SA. If the **inherit** parameter is specified, then the system uses the IPsec lifetime configuration in the corresponding IKE policy configured in the same IPsec gateway or IPsec tunnel.

Default

ipsec-lifetime inherit

Parameters

seconds

Specifies the lifetime of the Phase 2 IKE key in seconds.

Values 1200 to 31536000

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inherit

Specifies that the system uses the **ipsec-lifetime** configuration in the corresponding IKE policy that is configured for the same IPsec gateway or IPsec tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.35 ipsec-responder-only

ipsec-responder-only

Syntax

[**no**] **ipsec-responder-only**

Context

[Tree] (config>isa>tunnel-group ipsec-responder-only)

Full Context

configure isa tunnel-group ipsec-responder-only

Description

With this command configured, system will only act as IKE responder except for the automatic CHILD_SA re-key upon MC-IPsec switchover.

Default

no ipsec-responder-only

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.36 ipsec-transform

ipsec-transform

Syntax

ipsec-transform *transform-id* [**create**]

no ipsec-transform *transform-id*

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Context

[Tree] (config>ipsec ipsec-transform)

Full Context

configure ipsec ipsec-transform

Description

Commands in this context create an **ipsec-transform** policy. IPsec transforms policies can be shared. A change to the ipsec-transform is allowed at any time. The change will not impact tunnels that have been established until they are renegotiated. If the change is required immediately the tunnel must be cleared (reset) for force renegotiation.

IPsec transform policy assignments to a tunnel require the tunnel to be shutdown.

The **no** form of this command removes the ID from the configuration.

Parameters

transform-id

Specifies a policy ID value to identify the IPsec transform policy.

Values 1 to 2048

create

This keyword is mandatory when creating an ipsec-transform policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.37 ipsec-transport-mode-profile

ipsec-transport-mode-profile

Syntax

ipsec-transport-mode-profile *name* [**create**]

no ipsec-transport-mode-profile *name*

Context

[Tree] (config>ipsec ipsec-transport-mode-profile)

Full Context

configure ipsec ipsec-transport-mode-profile

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Description

Commands in this context configure an IPsec transport mode profile.

The **no** form of this command removes the name from the configuration.

Parameters

name

Specifies the name of the IPsec transport mode profile, up to 32 characters.

create

Keyword used to create the IPsec transport mode profile instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipsec-transport-mode-profile

Syntax

ipsec-transport-mode-profile *name*

no ipsec-transport-mode-profile

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel ipsec-transport-mode-profile)

[Tree] (config>service>ies>if>sap>ip-tunnel ipsec-transport-mode-profile)

Full Context

configure service vprn interface sap ip-tunnel ipsec-transport-mode-profile

configure service ies interface sap ip-tunnel ipsec-transport-mode-profile

Description

This command specifies an IPsec transport mode profile name to the SAP.

The **no** form of this command removes the profile name from the service configuration.

Parameters

name

Specifies the name of an existing IPsec transport mode profile, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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22.38 ipsec-tunnel

ipsec-tunnel

Syntax

ipsec-tunnel *ipsec-tunnel-name*

no ipsec-tunnel [*ipsec-tunnel-name*]

Context

[Tree] (config>service>vprn>static-route-entry ipsec-tunnel)

Full Context

configure service vprn static-route-entry ipsec-tunnel

Description

This command creates a static route in a VPRN service context that points to the global routing context (base router). This is primarily used to allow traffic that ingress through a VPRN service to be routed out of the global routing context.

This **next-hop** type cannot be used in conjunction with any other next-hop types.

Default

no ipsec-tunnel

Parameters

ipsec-tunnel-name

IPsec tunnel name; maximum length up to 32 characters.

Platforms

All

ipsec-tunnel

Syntax

ipsec-tunnel *name* [**private-sap** [*0..4094*]] [**private-service-name** *private-service-name*] [**create**]

no ipsec-tunnel *ipsec-tunnel-name*

Context

[Tree] (config>service>ies>if>ipsec ipsec-tunnel)

[Tree] (config>router>if>ipsec ipsec-tunnel)

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[Tree] (config>service>vprn>if>sap ipsec-tunnel)

Full Context

configure service ies interface ipsec ipsec-tunnel

configure router interface ipsec ipsec-tunnel

configure service vprn interface sap ipsec-tunnel

Description

This command configures a secured interface IPsec tunnel. If the **private-service-name** is not specified, the private service is the secured interface service.

The **no** form of this command removes the IPsec tunnel from the configuration.

Parameters

name

Specifies the name of the IPsec tunnel.

private-sap

Specifies the private SAP ID.

Values 0 to 4094

private-service-name

Specifies the private service name.

create

Keyword used to create the IPsec tunnel instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel
- configure router interface ipsec ipsec-tunnel

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel

22.39 ipv4

ipv4

Syntax

ipv4

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Context

[Tree] (config>subscr-mgmt>git ipv4)

Full Context

configure subscriber-mgmt group-interface-template ipv4

Description

Commands in this context configure IPv4 parameters.

Default

ipv4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv4

Syntax

ipv4

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>to-client-options ipv4)

Full Context

configure subscriber-mgmt local-user-db ipoe host to-client-options ipv4

Description

Commands in this context configure DHCPv4 options.

Default

ipv4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv4

Syntax

ipv4 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** { **same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no ipv4

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Context

[Tree] (config>service>vprn>bgp>multi-path ipv4)

Full Context

configure service vprn bgp multi-path ipv4

Description

This command sets ECMP multipath parameters that apply only to the (unlabeled) IPv4 unicast address family. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

To qualify as a multipath, a non-best route must meet the following criteria (some criteria are controlled by this command):

- The multi-path route must be the same type of route as the best path (same AFI/SAFI and, in some cases, same next-hop resolution method).
- The multi-path route must be tied with the best path for all criteria of greater significance than next-hop cost, except for criteria that are configured to be ignored.
- If the best path selection reaches the next-hop cost comparison, the multi-path route must have the same next-hop cost as the best route unless the **unequal-cost** option is configured.
- The multi-path route must not have the same BGP next-hop as the best path or any other multi-path route.
- The multi-path route must not cause the ECMP limit of the routing instance to be exceeded (configured using the **ecmp** command with a value in the range 1 to 64).
- The multi-path route must not cause the applicable *max-paths* limit to be exceeded. If the best path is an EBGP learned route and the **ebgp** option is used, the *ebgp-max-paths* limit overrides the *max-paths* limit. If the best path is an IBGP-learned route and the **ibgp** option is used, the *ibgp-max-paths* limit overrides the *max-paths* limit. All path limits are configurable up to a maximum of 64. Multi-path is effectively disabled if a value is set to 1.
- The multi-path route must have the same neighbor AS in its AS path as the best path if the **restrict same-neighbor-as** option is configured. By default, any path with the same AS path length as the best path (regardless of neighbor AS) is eligible for multi-path.
- The route must have the same AS path as the best path if the **restrict exact-as-path** option is configured. By default, any path with the same AS path length as the best path (regardless of the actual AS numbers) is eligible for multi-path.

The **no** form of this command removes IPv4-specific overrides.

Default

no ipv4

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Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

egp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path-as

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

ipv4

Syntax

ipv4

Context

[Tree] (config>router>ldp>if-params>if ipv4)

Full Context

configure router ldp interface-parameters interface ipv4

Description

Commands in this context configure LDP interfaces and parameters applied to an IPv4 LDP interface.

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Platforms

All

ipv4

Syntax

[**no**] **ipv4**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy>family ipv4)

Full Context

configure subscriber-mgmt bgp-peering-policy family ipv4

Description

This command configures Multiprotocol Border Gateway Protocol (MPBGP) support for the IPv4 address family.

The **no** form of this command removes the IPv4 configuration.

Default

no ipv4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv4

Syntax

[**no**] **ipv4**

Context

[Tree] (config>router>ldp>if-params ipv4)

Full Context

configure router ldp interface-parameters ipv4

Description

Commands in this context configure IPv4 LDP parameters applied to the interface.

Platforms

All

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ipv4

Syntax

ipv4

Context

[Tree] (config>router>ldp>targeted-session ipv4)

Full Context

configure router ldp targeted-session ipv4

Description

Commands in this context configure parameters applied to targeted sessions to all IPv4 LDP peers.

Platforms

All

ipv4

Syntax

ipv4

Context

[Tree] (config>router>ldp>targeted-session>auto-tx ipv4)

[Tree] (config>router>ldp>targeted-session>auto-rx ipv4)

Full Context

configure router ldp targeted-session auto-tx ipv4

configure router ldp targeted-session auto-rx ipv4

Description

Commands in this context configure IPv4 parameters of an automatic targeted LDP session.

Platforms

All

ipv4

Syntax

ipv4

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Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>lcl-addr-assign ipv4)

[Tree] (config>service>ies>if>sap>ipsec-gw>lcl-addr-assign ipv4)

Full Context

configure service vprn interface sap ipsec-gw local-address-assignment ipv4

configure service ies interface sap ipsec-gw local-address-assignment ipv4

Description

Commands in this context configure IPv4 local address assignment parameters for the IPsec gateway.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv4

Syntax

ipv4

Context

[Tree] (debug>oam>build-packet>packet>field-override>header ipv4)

[Tree] (config>test-oam>build-packet>header ipv4)

Full Context

debug oam build-packet packet field-override header ipv4

configure test-oam build-packet header ipv4

Description

This command causes the associated header to be defined as an IPv4 header template and enables the context to define the IPv4 parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ipv4

Syntax

[**no**] **ipv4**

Context

[Tree] (config>cflowd>collector>export-filter>family ipv4)

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Full Context

configure cflowd collector export-filter family ipv4

Description

This command filters IPv4 flow data from being sent to the associated collector.

The **no** form of this command removes the filter, allowing IPv4 flow data to be sent to the associated collector.

Default

no ipv4

Platforms

All

ipv4

Syntax

ipv4

Context

[Tree] (config>filter>gre-tun-tmp ipv4)

Full Context

configure filter gre-tunnel-template ipv4

Description

Commands in this context configure GRE tunnel template IPv4 parameters.

Platforms

All

ipv4

Syntax

ipv4

Context

[Tree] (bof>autoconfigure ipv4)

Full Context

bof autoconfigure ipv4

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Description

Commands in this context autoconfigure the IPv4 DHCP client.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

ipv4

Syntax

ipv4 *ip-address*

ipv4 auto-generate [**vendor-id-value** *vendor-id-value*]

no ipv4

Context

[Tree] (config>system>ned>prof>neip ipv4)

Full Context

configure system network-element-discovery profile neip ipv4

Description

This command configures the IPv4 NEIP for this profile. The NEIP can be configured manually or set to be automatically generated using the NEID. If the NEID option is set, the first most significant byte of the IPv4 NEIP is set to 140 and the remaining 3 bytes are set to the NEID value. The NEID can be configured with a vendor ID value, in which case the first most significant byte of the IPv4 NEIP is set to this vendor ID value.

The **no** form of this command removes the IPv4 address association for this profile.

Default

no ipv4

Parameters

ip-address

Specifies the IPv4 address of the NEIP.

auto-generate

Specifies that the NEIP is automatically generated using the NEID.

vendor-id-value

Specifies the vendor ID value.

Values 1 to 255

Platforms

All

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ipv4

Syntax

ipv4 send *send-limit* **receive** [**none**]

ipv4 send *send-limit*

no ipv4

Context

[Tree] (config>router>bgp>group>add-paths ipv4)

[Tree] (config>router>bgp>group>neighbor>add-paths ipv4)

[Tree] (config>router>bgp>add-paths ipv4)

Full Context

configure router bgp group add-paths ipv4

configure router bgp group neighbor add-paths ipv4

configure router bgp add-paths ipv4

Description

This command configures the add-paths capability for unlabeled IPv4 unicast routes. By default, add-paths is not enabled for unlabeled IPv4 unicast routes.

The maximum number of unlabeled unicast paths per IPv4 prefix to send is the configured send limit, which is a mandatory parameter. The capability to receive multiple unlabeled IPv4 unicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command the receive capability is enabled by default.

The **no** form of this command disables add-paths support for unlabeled IPv4 unicast routes, causing sessions established using add-paths for unlabeled IPv4 unicast to go down and come back up without the add-paths capability.

Default

no ipv4

Parameters

send-limit

Specifies the maximum number of paths per unlabeled IPv4 unicast prefix that are allowed to be advertised to add-paths peers, the actual number of advertised routes may be less. If the value is **none**, the router does not negotiate the send capability with respect to IPv4 AFI/SAFI. If the value is **multipaths**, then BGP advertises all of the used BGP multipaths for each IPv4 NLRI if the peer has signaled support to receive multiple add-paths.

Values 1 to 16, none, multipaths

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receive

Specifies that the router negotiates to receive multiple unlabeled unicast routes per IPv4 prefix.

none

Specifies that the router does not negotiate to receive multiple unlabeled unicast routes per IPv4 prefix.

Platforms

All

ipv4

Syntax

ipv4 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** { **same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no ipv4

Context

[Tree] (config>router>bgp>multi-path ipv4)

Full Context

configure router bgp multi-path ipv4

Description

This command sets ECMP multipath parameters that apply only to the (unlabeled) IPv4 unicast address family. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

The **no** form of this command removes IPv4-specific overrides.

Default

no ipv4

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

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ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

ipv4

Syntax

ipv4

Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp ipv4)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv4

Description

Commands in this context select, enable, and specify the IPv4 addressing used to carry the TWAMP Light test packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ipv4

Syntax

ipv4

Context

[Tree] (config>ipsec>client-db>client>lcl-addr-assign ipv4)

Full Context

configure ipsec client-db client local-address-assignment ipv4

Description

Commands in this context configure the local address assignment IPv4 information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.40 ipv4-address

ipv4-address

Syntax

ipv4-address *ip-address*

no ipv4-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query ipv4-address)

Full Context

configure subscriber-mgmt wlan-gw ue-query ipv4-address

Description

This command enables matching on UEs with the specified IPv4 address.

The **no** form of this command disables matching on the IPv4 address.

Default

no ipv4-address

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Parameters

ip-address

Specifies the IPv4 address.

Values a.b.c.d

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv4-address

Syntax

ipv4-address *ip-address*

no ipv4-address

Context

[Tree] (config>port>ethernet>ptp-timestamping ipv4-address)

[Tree] (config>lag>ptp-timestamping ipv4-address)

Full Context

configure port ethernet ptp-timestamping ipv4-address

configure lag ptp-timestamping ipv4-address

Description

This command configures an IPv4 destination address by which to filter the PTP messages. Only unicast addresses are supported.

The **no** form of this command removes the IPv4 address from the filter.

Default

no ipv4-address

Parameters

ip-address

Specifies the IPv4 address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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ipv4-address

Syntax

ipv4-address *ip-address*

no ipv4-address

Context

[Tree] (conf>sys>sat>eth-sat>ptp-ip ipv4-address)

Full Context

configure system satellite eth-sat ptp-ip ipv4-address

Description

This command configures the IPv4 destination address of PTP messages received into the satellite client ports. Use the same IPv4 address used for the PTP process on the host system. Only unicast addresses can be used.

The **no** form of this command removes the IPv4 destination address.

Default

no ipv4-address

Parameters

ip-address

Specifies the IPv4 address.

Values

ipv4-address	a.b.c.d (host bits must be 0)

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

22.41 ipv4-adjacency-sid

ipv4-adjacency-sid

Syntax

ipv4-adjacency-sid label *value*

no ipv4-adjacency-sid

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Context

[Tree] (config>router>isis>interface ipv4-adjacency-sid)

Full Context

configure router isis interface ipv4-adjacency-sid

Description

This command allows a static value to be assigned to an IPv4 adjacency SID in IS-IS segment routing.

The **label** option specifies that the value is assigned to an MPLS label.

The **no** form of this command removes the adjacency SID.

Parameters

value

Specifies the adjacency SID label.

Values 18432 to 5248 | 1048575 (FP4 or FP5 only)

Platforms

All

22.42 ipv4-arp

ipv4-arp

Syntax

ipv4-arp *max-nr-of-hosts*

no ipv4-arp

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv4-arp)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv4-arp)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv4-arp

configure subscriber-mgmt sla-profile host-limits ipv4-arp

Description

This command configures the maximum number of IPv4 ARP hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv4 ARP hosts limit.

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Parameters

max-nr-of-hosts

Specifies the maximum number of IPv4 ARP hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.43 ipv4-dhcp

ipv4-dhcp

Syntax

ipv4-dhcp *max-nr-of-hosts*

no ipv4-dhcp

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv4-dhcp)

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv4-dhcp)

Full Context

configure subscriber-mgmt sla-profile host-limits ipv4-dhcp

configure subscriber-mgmt sub-profile host-limits ipv4-dhcp

Description

This command limits the number of IPv4 DHCP hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv4 DHCP hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv4 DHCP hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

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Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.44 ipv4-mtu

ipv4-mtu

Syntax

ipv4-mtu *bytes*

no ipv4-mtu

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile ipv4-mtu)

Full Context

configure subscriber-mgmt gtp peer-profile ipv4-mtu

Description

This command configures the value of the IPv4-MTU PCO sent in S11 GTP messages. This is the MTU a device should honor when sending data toward the SGW/PGW. For IPv6, this value is signaled in the RA message and which can be configured in the **grp-if> ipv6>rtr-adv>mtu** context.

The **no** form of this command resets the signaled IPv4 MTU to the default.

Default

ipv4-mtu 1400

Parameters

bytes

Specifies the MTU value in bytes.

Values 512 to 9000

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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22.45 ipv4-multicast

ipv4-multicast

Syntax

[**no**] **ipv4-multicast**

Context

[Tree] (config>service>vprn>isis>multi-topology ipv4-multicast)

Full Context

configure service vprn isis multi-topology ipv4-multicast

Description

This command enables support for the IPv4 topology (MT3) within the associate IS-IS instance.

The **no** form of this command disables support for the IPv4 topology (MT3) within the associated IS-IS instance.

Default

no ipv4-multicast

Platforms

All

ipv4-multicast

Syntax

[**no**] **ipv4-multicast**

Context

[Tree] (config>router>isis>multi-topology ipv4-multicast)

Full Context

configure router isis multi-topology ipv4-multicast

Description

This command enables support for the IPv4 topology (MT3) within the associate IS-IS instance.

The **no** form of this command disables support for the IPv4 topology (MT3) within the associated IS-IS instance.

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Default

no ipv4-multicast

Platforms

All

22.46 ipv4-multicast-disable

ipv4-multicast-disable

Syntax

[**no**] **ipv4-multicast-disable**

Context

[Tree] (config>service>vpls>pim-snooping ipv4-multicast-disable)

Full Context

configure service vpls pim-snooping ipv4-multicast-disable

Description

This command disables PIM snooping for IPv4 multicast traffic within a VPLS service.

The **no** form of this command enables PIM snooping for IPv4 multicast traffic within a VPLS service. To fully remove PIM snooping from a VPLS service it is necessary to issue the no pim-snooping command.

Default

no ipv4-multicast-disable

Platforms

All

ipv4-multicast-disable

Syntax

[**no**] **ipv4-multicast-disable**

Context

[Tree] (config>service>vprn>isis>if ipv4-multicast-disable)

Full Context

configure service vprn isis interface ipv4-multicast-disable

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Description

This command administratively disables/enables ISIS operation for IPv4.

Default

no ipv4-multicast-disable

Platforms

All

ipv4-multicast-disable

Syntax

[**no**] **ipv4-multicast-disable**

Context

[Tree] (config>service>vprn>pim>if ipv4-multicast-disable)

[Tree] (config>service>vprn>pim ipv4-multicast-disable)

Full Context

configure service vprn pim interface ipv4-multicast-disable

configure service vprn pim ipv4-multicast-disable

Description

This command administratively disables/enables PIM operation for IPv4.

Default

no ipv4-multicast-disable

Platforms

All

ipv4-multicast-disable

Syntax

[**no**] **ipv4-multicast-disable**

Context

[Tree] (config>router>pim>interface ipv4-multicast-disable)

[Tree] (config>router>pim ipv4-multicast-disable)

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Full Context

configure router pim interface ipv4-multicast-disable

configure router pim ipv4-multicast-disable

Description

This command administratively enables PIM operation for IPv4.

IPv4 multicast must be enabled to enable MLDP in-band signaling for IPv4 PIM joins; see **config>router>pim>interface p2mp-ldp-tree-join**.

The **no** form of this command disables the PIM operation for IPv4.

Default

no ipv4-multicast-disable

Platforms

All

ipv4-multicast-disable

Syntax

[**no**] **ipv4-multicast-disable**

Context

[Tree] (config>router>isis>interface ipv4-multicast-disable)

Full Context

configure router isis interface ipv4-multicast-disable

Description

This command disables IS-IS IPv4 multicast routing for the interface.

The **no** form of this command enables IS-IS IPv4 multicast routing for the interface.

Platforms

All

22.47 ipv4-multicast-metric

ipv4-multicast-metric

Syntax

ipv4-multicast-metric *metric*

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no ipv4-multicast-metric

Context

[Tree] (config>service>vprn>isis>if>level ipv4-multicast-metric)

Full Context

configure service vprn isis interface level ipv4-multicast-metric

Description

This command configures IS-IS interface metric for IPv4 multicast for the VPRN instance.

The **no** form of this command removes the metric from the configuration.

Parameters

metric

Specifies the IS-IS interface metric for IPv4 multicast.

Values 1 to 16777215

Platforms

All

ipv4-multicast-metric

Syntax

ipv4-multicast-metric *metric*

no ipv4-multicast-metric

Context

[Tree] (config>router>isis>if>level ipv4-multicast-metric)

Full Context

configure router isis interface level ipv4-multicast-metric

Description

This command configures the IS-IS interface metric for IPv4 multicast.

The **no** form of this command removes the metric from the configuration.

Parameters

metric

Specifies the IS-IS interface metric for IPv4 multicast.

Values 1 to 16777215

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Platforms

All

22.48 ipv4-multicast-metric-offset

ipv4-multicast-metric-offset

Syntax

ipv4-multicast-metric-offset *offset-value*

no ipv4-multicast-metric-offset

Context

[Tree] (config>service>vprn>isis>link-group>level ipv4-multicast-metric-offset)

Full Context

configure service vprn isis link-group level ipv4-multicast-metric-offset

Description

This command sets the offset value for the IPv4 multicast address family. If the number of operational links drops below the oper-members threshold, the configured offset is applied to the interface metric for the IPv4 multicast topology

The **no** form of this command reverts the offset value to 0.

Default

no ipv4-multicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold.

Values 0 to 6777215

Platforms

All

ipv4-multicast-metric-offset

Syntax

ipv4-multicast-metric-offset *offset-value*

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no ipv4-multicast-metric-offset

Context

[Tree] (config>router>isis>link-group>level ipv4-multicast-metric-offset)

Full Context

configure router isis link-group level ipv4-multicast-metric-offset

Description

This command sets the offset value for the IPv4 multicast address family. If the number of operational links drops below the oper-members threshold, the configured offset is applied to the interface metric for the IPv4 multicast topology.

The **no** form of this command reverts the offset value to 0.

Default

no ipv4-multicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold

Values 0 to 6777215

Platforms

All

22.49 ipv4-multicast-routing

ipv4-multicast-routing

Syntax

ipv4-multicast-routing {**native** | **mt**}

[**no**] **ipv4-multicast-routing**

Context

[Tree] (config>service>vprn>isis ipv4-multicast-routing)

Full Context

configure service vprn isis ipv4-multicast-routing

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Description

The multicast RTM is used for Reverse Path Forwarding checks. This command controls which IS-IS topology is used to populate the IPv4 multicast RTM.

The **no** ipv4-multicast-routing form of this command results in none of the IS-IS routes being populated in the IPv4 multicast RTM and would be used if multicast is configured to use the unicast RTM for the RPF check.

Default

ipv4-multicast-routing native

Parameters

native

Causes IPv4 routes from the MT0 topology to be added to the multicast RTM for RPF checks.

mt

Causes IPv4 routes from the MT3 topology to be added to the multicast RTM for RPF checks.

Platforms

All

ipv4-multicast-routing

Syntax

ipv4-multicast-routing {**native** | **mt**}

[**no**] **ipv4-multicast-routing**

Context

[Tree] (config>router>isis ipv4-multicast-routing)

Full Context

configure router isis ipv4-multicast-routing

Description

The multicast RTM is used for Reverse Path Forwarding checks. This command controls which IS-IS topology is used to populate the IPv4 multicast RTM.

The **no** form of this command results in none of the IS-IS routes being populated in the IPv4 multicast RTM and would be used if multicast is configured to use the unicast RTM for the RPF check.

Default

ipv4-multicast-routing native

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Parameters

native

Causes IPv4 routes from the MT0 topology to be added to the multicast RTM for RPF checks.

mt

Causes IPv4 routes from the MT3 topology to be added to the multicast RTM for RPF checks.

Platforms

All

22.50 ipv4-node-sid

ipv4-node-sid

Syntax

ipv4-node-sid index *index-value* [**clear-n-flag**]

ipv4-node-sid label *label-value* [**clear-n-flag**]

no ipv4-node-sid

Context

[Tree] (config>router>isis>interface ipv4-node-sid)

Full Context

configure router isis interface ipv4-node-sid

Description

This command assigns a node SID index or label value to the prefix representing the primary address of an IPv4 network interface of **type loopback**. Only a single node SID can be assigned to an interface. The secondary address of an IPv4 interface cannot be assigned a node SID index and does not inherit the SID of the primary IPv4 address.

The command fails if the network interface is not of **type loopback** or if the interface is defined in an IES or a VPRN context. Also, assigning the same SID index or label value to the same interface in two different IGP instances is not allowed within the same node.

The value of the label or index SID is taken from the range configured for this IGP instance. When using the global mode of operation, a new segment routing module checks that the same index or label value cannot be assigned to more than one loopback interface address. When using the per-instance mode of operation, this check is not required since the index and thus label ranges of the various IGP instance are not allowed to overlap.

The **clear-n-flag** option allows the user to clear the N-flag (node-sid flag) in an IS-IS prefix SID sub-TLV originated for the IPv4 prefix of a loopback interface on the system.

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By default, the prefix SID sub-TLV for the prefix of a loopback interface is tagged as a node SID, meaning that it belongs to this node only. However, when the user wants to configure and advertise an anycast SID using the same loopback interface prefix on multiple nodes, you must clear the N-flag to assure interoperability with third party implementations, which may perform a strict check on the receiving end and drop duplicate prefix SID sub-TLVs when the N-flag is set.

The SR OS implementation is relaxed on the receiving end and accepts duplicate prefix SIDs with the N-flag set or cleared. SR OS will resolve to the closest owner, or owners if ECMP is configured, of the prefix SID according to its cost.

Default

no ipv4-node-sid

Parameters

index index-value

Specifies the index value.

Values 0 to 4294967295

label label-value

Specifies the label value.

Values 0 to 4294967295

clear-n-flag

Clears the node SID flag.

Default no clear-n-flag

Platforms

All

22.51 ipv4-overall

ipv4-overall

Syntax

ipv4-overall *max-nr-of-hosts*

no ipv4-overall

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv4-overall)

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv4-overall)

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Full Context

configure subscriber-mgmt sla-profile host-limits ipv4-overall

configure subscriber-mgmt sub-profile host-limits ipv4-overall

Description

This command configures the maximum number of IPv4 hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv4 hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv4 hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.52 ipv4-ppp

ipv4-ppp

Syntax

ipv4-ppp *max-nr-of-hosts*

no ipv4-ppp

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv4-ppp)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv4-ppp)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv4-ppp

configure subscriber-mgmt sla-profile host-limits ipv4-ppp

Description

This command configures the maximum number of IPv4 PPP hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv4 PPP hosts limit.

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Parameters

max-nr-of-hosts

Specifies the maximum number of IPv4 PPP hosts.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.53 ipv4-prefix

ipv4-prefix

Syntax

ipv4-prefix *ipv4-prefix*

no ipv4-prefix

Context

[Tree] (config>service>nat>map-domain>mapping-rule ipv4-prefix)

Full Context

configure service nat map-domain mapping-rule ipv4-prefix

Description

This command configures an IPv4 MAP rule prefix.

Parameters

ipv4-prefix

Specifies the IPv4 MAP prefix.

Values <*ipv4-prefix*>/<*ipv4-prefix-length*>

<*ipv4-prefix*> : a.b.c.d (host bits must be 0)

<*ipv4-prefix-length*> : [0..32]

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

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ipv4-prefix

Syntax

[**no**] **ipv4-prefix**

Context

[Tree] (debug>router>rpki-session>packet ipv4-prefix)

Full Context

debug router rpki-session packet ipv4-prefix

Description

This command enables debugging for IPv4 prefix RPKI packets.

The **no** form of this command disables debugging for IPv4 prefix RPKI packets.

Platforms

All

22.54 ipv4-routing

ipv4-routing

Syntax

[**no**] **ipv4-routing**

Context

[Tree] (config>service>vprn>isis ipv4-routing)

Full Context

configure service vprn isis ipv4-routing

Description

This command specifies whether this IS-IS instance supports IPv4.

The **no** form of this command disables IPv4 on the IS-IS instance.

Default

ipv4-routing

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Platforms

All

ipv4-routing

Syntax

[**no**] **ipv4-routing**

Context

[Tree] (config>router>isis ipv4-routing)

Full Context

configure router isis ipv4-routing

Description

This command specifies whether this IS-IS instance supports IPv4.

The **no** form of this command disables IPv4 on the IS-IS instance.

Default

ipv4-routing

Platforms

All

22.55 ipv4-sid

ipv4-sid

Syntax

ipv4-sid index *index-id*

ipv4-sid label *label-id*

no ipv4-sid

Context

[Tree] (config>router>segment-routing>sr-mpls>prefix-sids ipv4-sid)

Full Context

configure router segment-routing sr-mpls prefix-sids ipv4-sid

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Description

This command is used to configure the IPv4 segment routing SID associated with the primary IPv4 address of the loopback or system interface.

The **no** form of this command removes the configuration of the IPv4 segment routing SID associated with the primary IPv4 interface address.

Default

no ipv4-sid

Parameters

index *index-id*

Specifies the node SID index for this interface.

Values 0 to 4294967295

label *label-id*

Specifies the label value for the node SID.

Values 32 to 1048575

Platforms

All

ipv4-sid

Syntax

ipv4-sid index *index-id*

ipv4-sid label *label-id*

no ipv4-sid

Context

[Tree] (config>router>segment-routing>sr-mpls>prefix-sids>flex-algo ipv4-sid)

Full Context

configure router segment-routing sr-mpls prefix-sids flex-algo ipv4-sid

Description

This command configures IPv4 SIDs associated with the flexible algorithm instances on the shared loopback interfaces used with IS-IS or OSPF.

The **no** form of this command removes the IPv4 SID configuration associated with the flexible algorithm instances on the shared loopback interfaces used with IS-IS or OSPF.

Default

no ipv4-sid

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Parameters

index-id

Specifies the node SID index for this interface.

Values 0 to 4294967295

label-id

Specifies the label value for the node SID.

Values 32 to 1048575

Platforms

All

22.56 ipv4-source-address

ipv4-source-address

Syntax

ipv4-source-address *ipv4-address*

no ipv4-source-address

Context

[Tree] (config>service>vprn>dns ipv4-source-address)

Full Context

configure service vprn dns ipv4-source-address

Description

This command configures the IPv4 address of the default secondary DNS server for the subscribers using this interface. Subscribers that cannot obtain an IPv4 DNS server address by other means, can use this for DNS name resolution.

The ipv4-address value can only be set to a nonzero value if the value of VPRN type is set to **subscriber-split-horizon**.

The **no** form of this command reverts to the default.

Parameters

ipv4-address

Specifies the IPv4 address of the default secondary DNS server.

Values ipv4-address - a.b.c.d

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Platforms

All

ipv4-source-address

Syntax

ipv4-source-address *ip-address*

no ipv4-source-address

Context

[Tree] (config>system>file-trans-prof ipv4-source-address)

Full Context

configure system file-transmission-profile ipv4-source-address

Description

This command specifies the IPv4 source address used for transport protocol.

The **no** form of this command uses the default source address which typically is the address of the egress interface.

Default

no ipv4-source-address

Parameters

ip-address

Specifies a unicast v4 address. This should be a local interface address.

Platforms

All

ipv4-source-address

Syntax

ipv4-source-address *ip-address*

no ipv4-source-address

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>collector ipv4-source-address)

Full Context

configure service nat syslog syslog-export-policy collector ipv4-source-address

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Description

This command configures the IPv4 source address from which the UDP streams containing syslog flow records are sourced.

The **no** form of the command removes the IPv4 address from the configuration.

Parameters

ip-address

Specifies the source IPv4 address from which UDP streams are sent.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.57 ipv4-unicast-metric-offset

ipv4-unicast-metric-offset

Syntax

ipv4-unicast-metric-offset *offset-value*

no ipv4-unicast-metric-offset

Context

[Tree] (config>service>vprn>isis>link-group>level ipv4-unicast-metric-offset)

Full Context

configure service vprn isis link-group level ipv4-unicast-metric-offset

Description

This command sets the offset value for the IPv4 unicast address family. If the number of operational links drops below the oper-members threshold, the configured offset is applied to the interface metric.

The **no** form of this command reverts the offset value to 0.

Default

no ipv4-unicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold.

Values 0 to 6777215

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Platforms

All

ipv4-unicast-metric-offset

Syntax

ipv4-unicast-metric-offset *offset-value*

no ipv4-unicast-metric-offset

Context

[Tree] (config>router>isis>link-group>level ipv4-unicast-metric-offset)

Full Context

configure router isis link-group level ipv4-unicast-metric-offset

Description

This command sets the offset value for the IPv4 unicast address family. If the number of operational links drops below the oper-members threshold, the configured offset is applied to the interface metric.

The **no** form of this command reverts the offset value to 0.

Default

no ipv4-unicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold.

Values 0 to 6777215

Platforms

All

22.58 ipv6

ipv6

Syntax

[no] ipv6

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Context

[Tree] (config>service>ies>sub-if>lcl-addr-assign ipv6)

[Tree] (config>service>vprn>sub-if ipv6)

[Tree] (config>service>ies>if ipv6)

[Tree] (config>service>vprn>if ipv6)

[Tree] (config>service>vprn>sub-if>grp-if ipv6)

[Tree] (config>service>ies>sub-if>grp-if ipv6)

[Tree] (config>service>vprn>sub-if>lcl-addr-assign ipv6)

[Tree] (config>service>ies>sub-if ipv6)

Full Context

configure service ies subscriber-interface local-address-assignment ipv6

configure service vprn subscriber-interface ipv6

configure service ies interface ipv6

configure service vprn interface ipv6

configure service vprn subscriber-interface group-interface ipv6

configure service ies subscriber-interface group-interface ipv6

configure service vprn subscriber-interface local-address-assignment ipv6

configure service ies subscriber-interface ipv6

Description

Commands in this context configure IPv6 parameters for the interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface local-address-assignment ipv6
- configure service vprn subscriber-interface local-address-assignment ipv6
- configure service ies subscriber-interface group-interface ipv6
- configure service vprn subscriber-interface ipv6
- configure service ies subscriber-interface ipv6
- configure service vprn subscriber-interface group-interface ipv6

All

- configure service vprn interface ipv6
- configure service ies interface ipv6

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ipv6

Syntax

[**no**] **ipv6**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy>family ipv6)

Full Context

configure subscriber-mgmt bgp-peering-policy family ipv6

Description

This command configures Multiprotocol Border Gateway Protocol (MPBGP) support for the IPv6 address family.

The **no** form of this command removes the IPv6 configuration.

Default

no ipv6

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6 *ipv6-filter-id*

no ipv6

Context

[Tree] (config>service>template>epipe-sap-template>egress>filter ipv6)

[Tree] (config>service>template>epipe-sap-template>ingress>filter ipv6)

Full Context

configure service template epipe-sap-template egress filter ipv6

configure service template epipe-sap-template ingress filter ipv6

Description

This command associates an existing IPv6 filter policy with the template.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**).

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Parameters

ipv6-filter-id

Specifies the IPv6 filter policy. The filter ID must already exist within the created IPv6 filters.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6 *name*

no ipv6

Context

[Tree] (config>service>template>epipe-sap-template>ingress>filter-name ipv6)

[Tree] (config>service>template>epipe-sap-template>egress>filter-name ipv6)

Full Context

configure service template epipe-sap-template ingress filter-name ipv6

configure service template epipe-sap-template egress filter-name ipv6

Description

This command associates an existing IP filter policy with the template.

Parameters

name

Specifies the IPv6 filter policy name, up to 64 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6 *name*

no ipv6

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Context

[Tree] (config>service>template>vpls-sap-template>egress>filter-name ipv6)

[Tree] (config>service>template>vpls-sap-template>ingress>filter-name ipv6)

Full Context

configure service template vpls-sap-template egress filter-name ipv6

configure service template vpls-sap-template ingress filter-name ipv6

Description

This command associates an existing IP filter policy with the template.

Parameters

name

Specifies the IPv6 filter policy name, up to 64 characters.

Platforms

All

ipv6

Syntax

ipv6 max-paths [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** { **same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no ipv6

Context

[Tree] (config>service>vprn>bgp>multi-path ipv6)

Full Context

configure service vprn bgp multi-path ipv6

Description

This command sets ECMP multipath parameters that apply only to the (unlabeled) IPv6 unicast address family. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

To qualify as a multipath, a non-best route must meet the following criteria (some criteria are controlled by this command):

- The multi-path route must be the same type of route as the best path (same AFI/SAFI and, in some cases, same next-hop resolution method).

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- The multi-path route must be tied with the best path for all criteria of greater significance than next-hop cost, except for criteria that are configured to be ignored.
- If the best path selection reaches the next-hop cost comparison, the multi-path route must have the same next-hop cost as the best route unless the **unequal-cost** option is configured.
- The multi-path route must not have the same BGP next-hop as the best path or any other multi-path route.
- The multi-path route must not cause the ECMP limit of the routing instance to be exceeded (configured using the **ecmp** command with a value in the range 1 to 64)
- The multi-path route must not cause the applicable *max-paths* limit to be exceeded. If the best path is an EBGP learned route and the **ebgp** option is used, the *ebgp-max-paths* limit overrides the *max-paths* limit. If the best path is an IBGP-learned route and the **ibgp** option is used, the *ibgp-max-paths* limit overrides the *max-paths* limit. All path limits are configurable up to a maximum of 64. Multi-path is effectively disabled if a value is set to 1.
- The multi-path route must have the same neighbor AS in its AS path as the best path if the **restrict same-neighbor-as** option is configured. By default, any path with the same AS path length as the best path (regardless of neighbor AS) is eligible for multi-path.
- The route must have the same AS path as the best path if the **restrict exact-as-path** option is configured. By default, any path with the same AS path length as the best path (regardless of the actual AS numbers) is eligible for multi-path.

The **no** form of this command removes IPv6-specific overrides.

Default

no ipv6

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

egp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

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restrict exact-as-path-as

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

When enabled, the Alc-App-Prof-Str VSA is ignored in a radius Accept that enables portal redirection using this redirect policy. AA functionality will be disabled during portal authentication.

The **no** version of this command allows an Alc-App-Prof-Str to be present and will enable Application Assurance during portal authentication. In this case redirection rules defined in this policy are bypassed and it is assumed the AA function is configured for portal redirection.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>to-client-options ipv6)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>to-client-options ipv6)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>to-server-options ipv6)

Full Context

configure subscriber-mgmt local-user-db ipoe host to-client-options ipv6

configure subscriber-mgmt local-user-db ppp host to-client-options ipv6

configure subscriber-mgmt local-user-db ipoe host to-server-options ipv6

Description

This command enables the context to configure DHCPv6 options.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6

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Context

[Tree] (config>subscr-mgmt>isa-filter ipv6)

Full Context

configure subscriber-mgmt isa-filter ipv6

Description

Commands in this context configure IPv6 parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6

Context

[Tree] (config>service>vprn>mvpn>red-source-list ipv6)

Full Context

configure service vprn mvpn red-source-list ipv6

Description

This command enables context to configure list of redundant IPv6 source prefixes for preferred source selection.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>service>vprn>pim>rp ipv6)

Full Context

configure service vprn pim rp ipv6

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Description

This command enables access to the context to configure the rendezvous point (RP) of a PIM IPv6 protocol instance.

A Nokia IPv6 PIM router acting as an RP must respond to an IPv6 PIM register message specifying an SSM multicast group address by sending to the first hop router stop register message(s). It does not build an (S, G) shortest path tree toward the first hop router. An SSM multicast group address can be either from the SSM default range or from a multicast group address range that was explicitly configured for SSM.

Default

ipv6 RP enabled when IPv6 PIM is enabled.

Platforms

All

ipv6

Syntax

[**no**] **ipv6**

Context

[Tree] (config>router>ldp>if-params>if ipv6)

Full Context

configure router ldp interface-parameters interface ipv6

Description

Commands in this context configure IPv6 LDP parameters applied to the interface.

This command is not supported on the 7450 ESS.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>router>ldp>if-params ipv6)

Full Context

configure router ldp interface-parameters ipv6

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Description

Commands in this context configure LDP interfaces and parameters applied to an IPv6 LDP interface.

This command is not supported on the 7450 ESS.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>router>ldp>targeted-session ipv6)

Full Context

configure router ldp targeted-session ipv6

Description

Commands in this context configure parameters applied to targeted sessions to all IPv6 LDP peers.

This command is not supported on the 7450 ESS.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>lcl-addr-assign ipv6)

[Tree] (config>service>ies>if>sap>ipsec-gw>lcl-addr-assign ipv6)

Full Context

configure service vprn interface sap ipsec-gw local-address-assignment ipv6

configure service ies interface sap ipsec-gw local-address-assignment ipv6

Description

Commands in this context configure IPv6 local address assignment parameters for the IPsec gateway.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6

Context

[Tree] (config>router>pim>rp ipv6)

Full Context

configure router pim rp ipv6

Description

Commands in this context configure IPv6 parameters.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (debug>oam>build-packet>packet>field-override>header ipv6)

[Tree] (config>test-oam>build-packet>header ipv6)

Full Context

debug oam build-packet packet field-override header ipv6

configure test-oam build-packet header ipv6

Description

This command causes the associated header to be defined as an IPv6 header template and enters the context to define the IPv6 parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ipv6

Syntax

[**no**] **ipv6**

Context

[Tree] (config>cflowd>collector>export-filter>family ipv6)

Full Context

configure cflowd collector export-filter family ipv6

Description

This command filters IPv6 flow data from being sent to the associated collector.

The **no** form of this command removes the filter, allowing IPv6 flow data to be sent to the associated collector.

Default

no ipv6

Platforms

All

ipv6

Syntax

[**no**] **ipv6** *ipv6-filter-id*

Context

[Tree] (config>filter>system-filter ipv6)

Full Context

configure filter system-filter ipv6

Description

This command activates an IPv6 system filter policy. Once activated, all IPv6 ACL filter policies that chain to the system filter (**config>filter>ipv6-filter>chain-to-system-filter**) will automatically execute system filter policy rules first.

The **no** form of the command deactivates the system filter policy.

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Parameters

ipv6-filter-id

Specifies the existing IPv6 filter policy with scope **system**. This parameter can either be expressed as a decimal integer, or as an ASCII string of up to 64 characters in length.

Values 1 to 65535 or the filter policy name

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>router ipv6)

Full Context

configure router ipv6

Description

Commands in this context configure the IPv6 interface of the router.

Default

ipv6

Platforms

All

ipv6

Syntax

[**no**] **ipv6**

Context

[Tree] (config>router>if ipv6)

Full Context

configure router interface ipv6

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Description

This command configures IPv6 for a router interface.

The **no** form of this command disables IPv6 on the interface.

Default

no ipv6

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (bof>autoconfigure ipv6)

Full Context

bof autoconfigure ipv6

Description

Commands in this context autoconfigure the IPv6 DHCP client.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

ipv6

Syntax

ipv6 *ipv6-address*

ipv6 auto-generate [**vendor-id-value** *vendor-id*]

no ipv6

Context

[Tree] (config>system>ned>prof>neip ipv6)

Full Context

configure system network-element-discovery profile neip ipv6

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Description

This command configures the IPv6 NEIP for this profile. The NEIP can be configured manually or set to be automatically generated. If the NEIP is set to be automatically generated, the NEID is used for the subnet and host portion of the IPv6 address and the vendor ID value is set to 140 by default. The vendor ID value can be configured.

The **no** form of this command removes the IPv6 address association for this profile.

Default

no ipv6

Parameters

ipv6-address

Specifies the IPv6 address of the NEIP.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0..FFFF]H
	d: [0..255]D

auto-generate

Specifies that the NEIP is automatically generated using the NEID.

vendor-id-value

Specifies the vendor ID value.

Values 1 to 255

Platforms

All

ipv6

Syntax

ipv6 send *send-limit* **receive** [**none**]

ipv6 send *send-limit*

no ipv6

Context

[Tree] (config>router>bgp>group>add-paths ipv6)

[Tree] (config>router>bgp>add-paths ipv6)

[Tree] (config>router>bgp>group>neighbor>add-paths ipv6)

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Full Context

configure router bgp group add-paths ipv6

configure router bgp add-paths ipv6

configure router bgp group neighbor add-paths ipv6

Description

This command configures the add-paths capability for unlabeled IPv6 unicast routes. By default, add-paths is not enabled for unlabeled IPv6 unicast routes.

The maximum number of unlabeled unicast paths per IPv6 prefix to send is the configured send limit, which is a mandatory parameter. The capability to receive multiple unlabeled IPv6 unicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command the receive capability is enabled by default.

The **no** form of this command disables add-paths support for unlabeled IPv6 unicast routes, causing sessions established using add-paths for unlabeled IPv6 unicast to go down and come back up without the add-paths capability.

Default

no ipv6

Parameters

send *send-limit*

Specifies the maximum number of paths per unlabeled IPv6 unicast prefix that are allowed to be advertised to add-paths peers. (The actual number of advertised routes may be less.) If the value is **none**, the router does not negotiate the send capability with respect to IPv6 AFI/SAFI. If the value is **multipaths**, then BGP advertises all the used BGP multipaths for each IPv6 NLRI if the peer has signaled support to receive multiple add-paths.

Values 1 to 16, none, multipaths

receive

Specifies the router negotiates to receive multiple unlabeled unicast routes per IPv6 prefix.

none

Specifies the router does not negotiate to receive multiple unlabeled unicast routes per IPv6 prefix.

Platforms

All

ipv6

Syntax

ipv6 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** { **same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no ipv6

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Context

[Tree] (config>router>bgp>multi-path ipv6)

Full Context

configure router bgp multi-path ipv6

Description

This command sets ECMP multipath parameters that apply only to the (unlabeled) IPv6 unicast address family. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

The **no** form of this command removes IPv6-specific overrides.

Default

no ipv6

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

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Platforms

All

ipv6

Syntax

[**no**] **ipv6**

Context

[Tree] (config>router>isis>traffic-engineering-options ipv6)

Full Context

configure router isis traffic-engineering-options ipv6

Description

This command enables the advertisement of IPv6 TE in the IS-IS instance. When this command is enabled, traffic engineering behavior with IPv6 TE links is enabled. This IS-IS instance automatically begins advertising the new RFC 6119 IPv6 and TE TLVs and sub-TLVs.

The **no** form of this command disables IPv6 TE in this ISIS instance.

Default

no ipv6

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp ipv6)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv6

Description

Commands in this context select, enable, and specify the IPv6 addressing used to carry the TWAMP Light test packet.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ipv6

Syntax

ipv6

Context

[Tree] (config>test-oam>icmp ipv6)

Full Context

configure test-oam icmp ipv6

Description

Commands in this context configure IPv6 traceroute packet handling.

Platforms

All

ipv6

Syntax

ipv6

Context

[Tree] (config>aaa>isa-radius-plcy>servers ipv6)

Full Context

configure aaa isa-radius-policy servers ipv6

Description

Commands in this context configure how to communicate with IPv6 RADIUS servers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6

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Context

[Tree] (config>service>ies>red-if ipv6)

[Tree] (config>service>vprn>red-if ipv6)

Full Context

configure service ies redundant-interface ipv6

configure service vprn redundant-interface ipv6

Description

Commands in this context configure IPv6 addresses on this interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6

Syntax

ipv6

Context

[Tree] (config>ipsec>client-db>client>lcl-addr-assign ipv6)

Full Context

configure ipsec client-db client local-address-assignment ipv6

Description

Commands in this context configure the local address assignment IPv6 information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.59 ipv6-address

ipv6-address

Syntax

ipv6-address *ipv6-address*

no ipv6-address

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Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-address)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-address)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-address

configure subscriber-mgmt local-user-db ppp host ipv6-address

Description

This command configures static DHCPv6 IA-NA address for the host. This address is delegated to the client as /128 via DHCPv6 proxy function within the router. This IP address must not be part of any DHCP pool within internal DHCP server.

The **no** form of this command removes the IPv6 address from the host configuration.

Parameters

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address:	ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6-address

Syntax

ipv6-address *ipv6-address*

no ipv6-address

Context

[Tree] (config>service>vprn>radius-proxy>server>wlan-gw ipv6-address)

[Tree] (config>router>radius-proxy>server>wlan-gw ipv6-address)

Full Context

configure service vprn radius-proxy server wlan-gw ipv6-address

configure router radius-proxy server wlan-gw ipv6-address

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Description

This command configures the IPv6 address of the distributed RADIUS proxy server for use by the access points.

The **no** form of this command removes the address from the configuration.

Parameters

ipv6-address

Specifies the destination IPv6 address of the RADIUS proxy server.

Values *ipv6-prefix* x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6-address

Syntax

[**no**] **framed-ipv6-address**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute ipv6-address)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute ipv6-address

Description

This command enables the generation of the **ipv6-address** RADIUS attribute.

The **no** form of this command disables the generation of the **ipv6-address** RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6-address

Syntax

[**no**] **ipv6-address**

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Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes ipv6-address)

Full Context

configure aaa isa-radius-policy auth-include-attributes ipv6-address

Description

This attribute defines if the ipv6 address of the UE is present during authentication if the datatrigger packet is IPv6.

Default

no ipv6-address

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6-address

Syntax

[**no**] **ipv6-address**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes ipv6-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes ipv6-address

Description

If an active IA_NA lease exists, this attribute defines if the IA_NA address of the UE is present in accounting.

Default

no ipv6-address

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

ipv6-address

Syntax

ipv6-address *ipv6-address*

no ipv6-address

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Context

[Tree] (config>port>ethernet>ptp-timestamping ipv6-address)

[Tree] (config>lag>ptp-timestamping ipv6-address)

Full Context

configure port ethernet ptp-timestamping ipv6-address

configure lag ptp-timestamping ipv6-address

Description

This command configures an IPv6 destination address by which to filter the PTP messages. Only unicast addresses are supported.

The **no** form of this command removes the IPv6 address from the filter.

Default

no ipv6-address

Parameters

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address:	ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

ipv6-address

Syntax

ipv6-address *ipv6-address*

no ipv6-address

Context

[Tree] (conf>sys>sat>eth-sat>ptp-ip ipv6-address)

Full Context

configure system satellite eth-sat ptp-ip ipv6-address

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Description

This command configures the IPv6 destination address of PTP messages received into the satellite client ports. Use the same IPv6 address used for the PTP process on the host system. Only unicast addresses can be used.

The **no** form of this command removes the IPv6 address.

Default

no ipv6-address

Parameters

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address	x:x:x:x:x:x:x:x[-interface] x:x:x:x:x:x:d.d.d.d[-interface] where: x: [0 to FFFF]H d: [0 to 255]D interface: up to 32 characters, mandatory for link local addresses

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

22.60 ipv6-address-prefix-length

ipv6-address-prefix-length

Syntax

ipv6-address-prefix-length *IPv6-prefix-length*

no ipv6-address-prefix-length

Context

[Tree] (config>app-assure>group>transit-ip-policy ipv6-address-prefix-length)

Full Context

configure application-assurance group transit-ip-policy ipv6-address-prefix-length

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Description

This command configures a transit IP policy IPv6 address prefix length.

Default

no ipv6-address-prefix-length

Parameters

IPv6-prefix-length

Specifies the prefix length of IPv6 addresses in this policy for both static and dynamic transits.

Values 32 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.61 ipv6-adjacency-sid

ipv6-adjacency-sid

Syntax

ipv6-adjacency-sid label *value*

no ipv6-adjacency-sid

Context

[Tree] (config>router>isis>interface ipv6-adjacency-sid)

Full Context

configure router isis interface ipv6-adjacency-sid

Description

This command allows a static value to be assigned to an IPv6 adjacency SID in IS-IS segment routing.

The **label** option specifies that the value is assigned to an MPLS label.

The **no** form of this command removes the adjacency SID.

Parameters

value

Specifies the adjacency SID label.

Values 18432 to 5248, 1048575 (FP4 or FP5 only)

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Platforms

All

22.62 ipv6-criteria

ipv6-criteria

Syntax

[**no**] **ipv6-criteria**

Context

[Tree] (config>qos>sap-ingress ipv6-criteria)

[Tree] (config>qos>sap-egress ipv6-criteria)

Full Context

configure qos sap-ingress ipv6-criteria

configure qos sap-egress ipv6-criteria

Description

IPv6 criteria-based SAP egress or ingress policies are used to select the appropriate ingress or egress queue or policer and corresponding forwarding class and packet profile for matched traffic.

This command is used to enter the node to create or edit policy entries that specify IPv6 criteria such as IP quintuple lookup or DiffServ code point.

The OS implementation will exit on the first match found and execute the actions in accordance with the accompanying action command. For this reason, entries must be sequenced correctly from most to least explicit.

The **no** form of this command deletes all the entries specified under this node. When ipv6-criteria entries are removed from a SAP ingress policy, the ipv6-criteria is removed from all services where that policy is applied.

Platforms

All

ipv6-criteria

Syntax

[**no**] **ipv6-criteria**

Context

[Tree] (config>qos>network>ingress ipv6-criteria)

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[Tree] (config>qos>network>egress ipv6-criteria)

Full Context

configure qos network ingress ipv6-criteria

configure qos network egress ipv6-criteria

Description

IPv6 criteria-based network ingress and egress policies are used to select the appropriate ingress or egress queue or policer, and the corresponding forwarding class and packet profile for matched traffic. This command is used to enter the context to create or edit policy entries that specify IPv6 criteria such as IP quintuple lookup or DSCP.

The 7750 SR OS implementation will exit on the first match found and execute the actions in accordance with the accompanying action command. Entries must be sequenced correctly from most to least explicit.

The ingress classification only applies to the outer IPv6 header of non-tunneled traffic.

Attempting to apply a network QoS policy containing an **ipv6-criteria** statement to any object except a network IP interface will result in an error.

The **no** form of this command deletes all entries specified under this node. When IP criteria entries are removed from a network policy, the IPv6 criteria are removed from all network interfaces to which that policy is applied.

Platforms

All

ipv6-criteria

Syntax

[**no**] **ipv6-criteria**

Context

[Tree] (config>service>ies>if>sap>ingress>criteria-overrides ipv6-criteria)

[Tree] (config>service>vprn>if>sap>ingress>criteria-overrides ipv6-criteria)

[Tree] (config>service>epipe>sap>ingress>criteria-overrides ipv6-criteria)

[Tree] (config>service>vpls>sap>ingress>criteria-overrides ipv6-criteria)

[Tree] (config>service>cpipe>sap>ingress>criteria-overrides ipv6-criteria)

[Tree] (config>service>ipipe>sap>ingress>criteria-overrides ipv6-criteria)

Full Context

configure service ies interface sap ingress criteria-overrides ipv6-criteria

configure service vprn interface sap ingress criteria-overrides ipv6-criteria

configure service epipe sap ingress criteria-overrides ipv6-criteria

configure service vpls sap ingress criteria-overrides ipv6-criteria

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configure service cpipe sap ingress criteria-overrides ipv6-criteria

configure service ipipe sap ingress criteria-overrides ipv6-criteria

Description

Commands in this context configure IPv6 criteria overrides.

The **no** form of this command removes any existing IPv6 overrides from the SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

22.63 ipv6-delegated-prefix

ipv6-delegated-prefix

Syntax

ipv6-delegated-prefix *ipv6-prefix/prefix-length*

no ipv6-delegated-prefix

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-delegated-prefix)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-delegated-prefix)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-delegated-prefix

configure subscriber-mgmt local-user-db ppp host ipv6-delegated-prefix

Description

This command configures static DHCPv6 IA-PD prefix for the host. This prefix can be further delegated by the host itself to its clients. The prefix length is restricted to 48 to 64 bits. This prefix must not be part of any DHCP pool within internal DHCP server.

Parameters

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address:	ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

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prefix-length 48 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.64 ipv6-delegated-prefix-length

ipv6-delegated-prefix-length

Syntax

ipv6-delegated-prefix-length *bits*

no ipv6-delegated-prefix-length

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-delegated-prefix-length)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-delegated-prefix-length)

Full Context

configure subscriber-mgmt local-user-db ppp host ipv6-delegated-prefix-length

configure subscriber-mgmt local-user-db ipoe host ipv6-delegated-prefix-length

Description

This command allows configuration of delegated prefix length via local user database.

The **no** form of this command reverts to the default.

Parameters

bits

Specifies the delegated prefix length, in bits.

Values 48 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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22.65 ipv6-delegated-prefix-pool

ipv6-delegated-prefix-pool

Syntax

ipv6-delegated-prefix-pool *pool-name*

no ipv6-delegated-prefix-pool

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-delegated-prefix-pool)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-delegated-prefix-pool)

Full Context

configure subscriber-mgmt local-user-db ppp host ipv6-delegated-prefix-pool

configure subscriber-mgmt local-user-db ipoe host ipv6-delegated-prefix-pool

Description

This command configures the pool name that is used in DHCPv6 server for DHCPv6 IA-PD prefix selection.

The **no** form of this command removes the pool name from the configuration.

Parameters

pool-name

Specifies the pool name, up to 32 characters, to be assigned to the delegated prefix pool.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.66 ipv6-destination-discovery

ipv6-destination-discovery

Syntax

ipv6-destination-discovery

Context

[Tree] (config>test-oam>link-meas>template>twl ipv6-destination-discovery)

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Full Context

configure test-oam link-measurement measurement-template twamp-light ipv6-destination-discovery

Description

Commands in this context configure IPv6 discovery of a directly-connected IPv6 peer address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

22.67 ipv6-eh

ipv6-eh

Syntax

ipv6-eh {**max** | **limited**}

no ipv6-eh

Context

[Tree] (config>system>ip ipv6-eh)

Full Context

configure system ip ipv6-eh

Description

This command defines the maximum number of IPv6 extension headers parsed in the line cards. The system parses up to six extension headers when **ipv6-eh max** is configured.

When the **ipv6-eh limited** command is configured, the system does not parse IPv6 extension headers and provides consistent ipv6-filter matches for the next-header value found in the IPv6 packet header. LAG and ECMP hashing of IPv6 packets with extension headers is limited to Layer 3 IP addresses. Layer 4 ports, TEID, and SPI values are not available for hashing. MLD snooping on Layer 2 services is also not supported in this mode.

The **no** form of this command reverts to the default value.

Default

ipv6-eh max

Parameters

max

Specifies that the maximum number of IPv6 extension headers is parsed in the line cards.

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limited

Specifies that the system does not parse IPv6 extension headers and provides consistent ipv6-filter matches for the next-header value found in the IPv6 packet header.

Platforms

All

22.68 ipv6-error

ipv6-error

Syntax

[**no**] **ipv6-error**

Context

[Tree] (debug>router>ip>event ipv6-error)

Full Context

debug router ip event ipv6-error

Description

This command enables debugging for IPv6 error events.

The **no** form of this command disables debugging for IPv6 error events

Platforms

All

22.69 ipv6-exception

ipv6-exception

Syntax

ipv6-exception *exception*

no ipv6-exception

Context

[Tree] (config>service>vprn>if>ipsec ipv6-exception)

[Tree] (config>service>ies>if>ipsec ipv6-exception)

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[Tree] (config>router>if>ipsec ipv6-exception)

Full Context

configure service vprn interface ipsec ipv6-exception

configure service ies interface ipsec ipv6-exception

configure router interface ipsec ipv6-exception

Description

This command configures the IPv6 filter exception for an IPsec-secured IPv6 interface. When an IPv6 filter exception is added, clear text packets that match the exception criteria in the IPv6 filter exception policy can ingress the interface, even when IPsec is enabled on that interface.

The **no** form of this command removes the IPv6 filter exception.

Default

no ipv6-exception

Parameters

exception

Specifies the IPv6 filter exception that is used to bypass encryption.

Values *exception-id*: 1 to 65535

exception-name: An existing IPv6 filter exception name up to 64 characters.

Platforms

VSR

ipv6-exception

Syntax

ipv6-exception *exception-id* [**name** *exception-name*] [**create**]

no ipv6-exception {*exception-id* | *exception-name*}

Context

[Tree] (config>filter ipv6-exception)

Full Context

configure filter ipv6-exception

Description

Commands in this context configure the specified IPv6 exception filter.

The **no** form of the command deletes the IPv6 exception filter.

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Parameters

exception-id

Specifies the IPv6 filter exception ID expressed as a decimal integer.

Values 1 to 65535

name *exception-name*

Specifies the IPv6 filter exception as a name, up to 64 characters.

create

This keyword is required to create the configuration context. Once it is created, the context can be enabled with or without the **create** keyword.

Platforms

VSR

22.70 ipv6-filter

ipv6-filter

Syntax

ipv6-filter *ipv6-filter-id*

no ipv6-filter [**force**]

Context

[Tree] (config>subscr-mgmt>sla-profile>egress ipv6-filter)

[Tree] (config>subscr-mgmt>sla-profile>ingress ipv6-filter)

Full Context

configure subscriber-mgmt sla-profile egress ipv6-filter

configure subscriber-mgmt sla-profile ingress ipv6-filter

Description

This command configures an egress or ingress IPv6 filter.

The **no** form of this command reverts to the default.

Parameters

ipv6-filter-id

Specifies an existing IPv6 filter policy ID.

Values 1 to 65535, or name, up to 64 characters

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force

Forces the exclusion of the IPv6 filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6-filter

Syntax

ipv6-filter *ipv6-filter-id* **entry** *entry-id* [*entry-id*]

no ipv6-filter *ipv6-filter-id* [**entry** *entry-id*]

Context

[Tree] (config>mirror>mirror-source ipv6-filter)

Full Context

configure mirror mirror-source ipv6-filter

Description

This command enables mirroring of packets that match specific entries in an existing IPv6 filter.

The **ipv6-filter** command directs packets which match the defined list of entry IDs to be mirrored to the mirror destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The IPv6 filter must already exist in order for the command to execute. Filters are configured in the **config>filter** context. If the IPv6 filter does not exist, an error will occur. If the filter exists but has not been associated with a SAP or IPv6 interface, an error is not generated but mirroring will not be enabled (there are no packets to mirror). Once the IPv6 filter is defined to a SAP or IPv6 interface, mirroring is enabled.

If the IPv6 filter is defined as ingress, only ingress packets are mirrored. Ingress mirrored packets are mirrored to the mirror destination prior to any ingress packet modifications.

If the IPv6 filter is defined as egress, only egress packets are mirrored. Egress mirrored packets are mirrored to the mirror destination after all egress packet modifications.

An *entry-id* within an IPv6 filter can only be mirrored to a single mirror destination. If the same *entry-id* is defined multiple times, an error occurs and only the first **mirror-source** definition is in effect.

By default, no packets matching any IPv6 filters are mirrored. Mirroring of IPv6 filter entries must be explicitly defined.

The **no ipv6-filter** command, without the **entry** keyword, removes mirroring on all *entry-id*'s within the *ip-filter-id*.

When the **no** form of this command is executed with the **entry** keyword and one or more *entry-id*'s, mirroring that *entry-id* list is terminated within the *ip-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being mirrored, no error will occur for that *entry-id* and the command will execute normally.

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Parameters

ipv6-filter-id

Specifies the IPv6 filter ID whose entries are mirrored. If the *ipv6-filter-id* does not exist, an error will occur and the command will not execute. Mirroring of packets will commence once the *ipv6-filter-id* is defined on a SAP or IPv6 interface.

entry-id

Specifies the IP filter entries to use as match criteria for packet mirroring. The **entry** keyword begins a list of *entry-id*'s for mirroring. Multiple *entry-id* entries may be specified with a single command. Each *entry-id* must be separated by a space.

If an *entry-id* does not exist within the IP filter, an error occurs and the command will not execute.

If the filter's *entry-id* is renumbered within the IP filter definition, the old *entry-id* is removed but the new *entry-id* must be manually added to the configuration to include the new (renumbered) entry's criteria.

Platforms

All

ipv6-filter

Syntax

[**no**] **ipv6-filter** *ipv6-filter-id*

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block ipv6-filter)

Full Context

configure li li-filter-block-reservation li-reserved-block ipv6-filter

Description

This command configures to which normal IPv6 address filters the entry reservation is applied.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**).

The **no** form of this command removes the IPv6 filter ID from the configuration.

Parameters

ipv6-filter-id

Specifies the filter identification identifies the normal IPv6 address filters.

Values {*filter-id* | *filter-name*}

filter-id: 1 to 65535

filter-name: up to 64 characters (*filter-name* is an alias for input only. The *filter-name* gets replaced

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with an id automatically by SR OS in the configuration).

Platforms

All

ipv6-filter

Syntax

[**no**] **ipv6-filter** *ipv6-filter-id*

Context

[Tree] (config>li>li-fltr-assoc>li-ipv6-fltr ipv6-filter)

Full Context

configure li li-filter-associations li-ipv6-filter ipv6-filter

Description

This command specifies the IP filter(s) into which the entries from the specified **li-ipv6-filter** are to be inserted. The **li-ipv6-filter** and **ipv6-filter** must already exist before the association is made. If the normal IPv6 filter is deleted then the association is also removed (and not re-created if the IPv6 filter comes into existence in the future).

The **no** form of this command removes the IPv6 filter ID from the configuration.

Parameters

ipv6-filter-id

Specifies an existing IPv6 filter policy.

Values *filter-id* — 1 to 65535

filter-name — up to 64 characters

Platforms

All

ipv6-filter

Syntax

ipv6-filter *ipv6-filter-id* **entry** *entry-id* [*entry-id*] [**intercept-id** *intercept-id* [*intercept-id*]] [**session-id** *session-id* [*session-id*]]

no ipv6-filter *ipv6-filter-id* [**entry** *entry-id* [*entry-id*]]

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Context

[Tree] (config>li>li-source ipv6-filter)

Full Context

configure li li-source ipv6-filter

Description

This command enables lawful interception (LI) of packets that match specific entries in an existing IPv6 filter.

The **ipv6-filter** command directs packets which match the defined list of entry IDs to be intercepted to the destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The IPv6 filter must already exist in order for the command to execute. Filters are configured in the **config>filter** context. If the IPv6 filter does not exist, an error will occur. If the filter exists but has not been associated with a SAP or IPv6 interface, an error is not generated but mirroring will not be enabled (there are no packets to mirror). Once the IPv6 filter is defined to a SAP, IPv6 interface or subscriber, mirroring is enabled (subscriber mirroring applies only to the 7750 SR).

If the IPv6 filter is defined as ingress, only ingress packets are intercepted. Ingress packets are sent to the destination prior to any ingress packet modifications.

If the IPv6 filter is defined as egress, only egress packets are intercepted. Egress packets are sent to the destination after all egress packet modifications.

An *entry-id* within an IPv6 filter can only be intercepted to a single destination. If the same *entry-id* is defined multiple times, an error occurs and only the first definition is in effect.

By default, no packets matching any IPv6 filters are intercepted. Interception of IPv6 filter entries must be explicitly defined.

When the **no** command is executed with the **entry** keyword and one or more *entry-id*'s, interception of that list of *entry-id*'s is terminated within the *ipv6-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being intercepted, no error will occur for that *entry-id* and the command will execute normally.

Parameters

ipv6-filter-id

Specifies the IPv6 filter ID whose entries are to be intercepted. If the *ipv6-filter-id* does not exist, an error will occur and the command will not execute. Intercepting packets will commence when the *ipv6-filter-id* is defined on a SAP or IPv6 interface.

entry-id

Specifies the IPv6 filter entries to use as match criteria for lawful intercept (LI). The **entry** keyword begins a list of *entry-id*'s for interception. Multiple *entry-id* entries can be specified with a single command. Each *entry-id* must be separated by a space. Up to <N><n> 8 entry IDs may be specified in a single command.

If an *entry-id* does not exist within the IPv6 filter, an error occurs and the command will not execute.

If the filter's *entry-id* is renumbered within the IPv6 filter definition, the old *entry-id* is removed but the new *entry-id* must be manually added to the configuration to include the new (renumbered) entry's criteria.

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intercept-id

Specifies the intercept ID that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This intercept ID can be used (for example by a downstream LI Gateway) to identify the particular LI session to which the packet belongs. For all types of **li-source** entries (**filter**, **nat**, **sap**, **subscriber**), when the mirror service is configured with **ip-udp-shim** routable encap, an *intercept-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no intercept ID configured for an **li-source** entry, then the default value will be inserted. When the mirror service is configured with **ip-gre** routable encapsulation, no *intercept-id* is inserted and none should be specified against the **li-source** entries.

Values 1 to 4294967295 (32b) For nat li-source entries that are using a mirror service that is not configured with routable encap

Values 1 to 1,073,741,824 (30b) For all types of li-source entries that are using a mirror service with routable ip-udp-shim encap and no direction-bit.

Values 1 to 536,870,912 (29b) For all types of li-source entries that are using a mirror service with routable ip-udp-shim encap and with the direction-bit enabled.

session-id

Specifies the *session-id* that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This *session-id* can be used (for example by a downstream LI Gateway) to identify the particular LI session to which the packet belongs. The *session-id* is only valid and used for mirror services that are configured with **ip-udp-shim** routable encap (**config>mirror>mirror-dest>encap>ip-udp-shim**). For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encapsulation, a *session-id* field (as part of the routable encapsulation) is always present in the mirrored packets. If there is no *session-id* configured for an **li-source** entry, then the default value will be inserted. When a mirror service is configured with **ip-gre** routable encap, no *session-id* is inserted and none should be specified against the **li-source** entries.

Values 1 to 4,294,967,295 (32b)

Platforms

All

ipv6-filter

Syntax

ipv6-filter *filter-id* [**name** *filter-name*] [**create**]

no ipv6-filter {*filter-id* | *filter-name*}

Context

[Tree] (config>filter ipv6-filter)

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Full Context

configure filter ipv6-filter

Description

Commands in this context configure the specified IPv6 filter policy.

The **no** form of the command deletes the IPv6 filter policy. A filter policy cannot be deleted until it is removed from all objects where it is applied.

Parameters

filter-id

Specifies the IPv6 filter policy ID expressed as a decimal integer.

Values 1 to 65535

name

Configures an optional filter name, up to 64 characters in length, to a given filter. This filter name can then be used in configuration references, display, and show commands throughout the system. A defined filter name can help the service provider or administrator to identify and manage filters within the SR OS platforms.

To create a filter, you must assign a filter ID, however, after it is created, either the filter ID or filter name can be used to identify and reference a filter.

If a name is not specified at creation time, then SR OS assigns a string version of the *filter-id* as the name.

Filter names may not begin with an integer (0 to 9).

Values *name*: 64 characters maximum

filter-name

Specifies a string of up to 64 characters uniquely identifying this IPv6 filter policy.

create

This keyword is required to create the configuration context. Once it is created, the context can be enabled with or without the **create** keyword.

Platforms

All

ipv6-filter

Syntax

[**no**] **ipv6-filter**

Context

[Tree] (config>system>security>mgmt-access-filter ipv6-filter)

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Full Context

configure system security management-access-filter ipv6-filter

Description

Commands in this context configure management access IPv6 filter parameters. This command only applies to the 7750 SR and 7950 XRS.

Platforms

All

ipv6-filter

Syntax

[**no**] **ipv6-filter**

Context

[Tree] (config>system>security>cpm-filter ipv6-filter)

Full Context

configure system security cpm-filter ipv6-filter

Description

Commands in this context configure CPM IPv6 filter parameters. This command applies only to the 7750 SR and 7950 XRS.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ipv6-filter

Syntax

ipv6-filter *src-filter-id* [**src-entry** *src-entry-id*] **to** *dst-filter-id* [**dst-entry** *dst-entry-id*] [**overwrite**]

Context

[Tree] (config>filter>copy ipv6-filter)

Full Context

configure filter copy ipv6-filter

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Description

This command copies an existing filter entry for a specific filter ID to another filter ID. The command is a configuration level maintenance tool used to create new entries using an existing filter policy. If **overwrite** is not specified, an error will occur if the destination filter entry exists.

Parameters

src-filter-id

Identifies the source filter policy from which the copy command will attempt to copy. The filter policy must exist within the context of the preceding keyword (**ipv6-filter**).

dst-filter-id

Identifies the destination filter policy to which the copy command will attempt to copy. If the **overwrite** keyword is not specified, the filter entry ID cannot already exist in the destination filter policy. If the **overwrite** keyword is present, the destination entry ID may or may not exist.

overwrite

Specifies that the destination filter entry may exist. If it does, everything in the existing destination filter entry will be completely overwritten with the contents of the source filter entry. If the destination filter entry exists, either **overwrite** must be specified or an error message will be returned. If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make" manner and therefore should be handled with care.

Platforms

All

22.71 ipv6-filter-max-size

ipv6-filter-max-size

Syntax

ipv6-filter-max-size {*value* | **default**}

Context

[Tree] (config>service>vprn>flowspec ipv6-filter-max-size)

Full Context

configure service vprn flowspec ipv6-filter-max-size

Description

This command configures the maximum number of IPv6 FlowSpec routes or rules that can be embedded into an ingress IPv6 filter policy for a specified routing instance. Flowspec filter entries embedded in a filter policy in this routing instance will use filter entries from the range between the embedding offset and "offset + ip-filter-max-size – 1".

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The sum of this command and the highest offset in any IPv6 filter that embeds IPv6 FlowSpec rules from this routing instance (excluding filters that embed at offset 262143) must not exceed 262143.

This command can be configured to a higher or lower value at any time. If the number of IPv6 FlowSpec rules that are currently installed is *M*, and the new configured limit is *N*, where *N*<*M*, then the last set of rules from *N* to *M* (by FlowSpec order) are immediately removed, but are retained in the BGP RIB. If the limit is increased, new rules are programmed only as they are received again in new BGP updates.

Default

ipv6-filter-max-size 512

Parameters

value

The maximum number of FlowSpec routes or rules that can be embedded into an ingress IP filter policy.

Values 0 to 262143

default

Keyword to configure the maximum size as 512.

Platforms

All

ipv6-filter-max-size

Syntax

ipv6-filter-max-size {*value* | **default**}

Context

[Tree] (config>router>flowspec ipv6-filter-max-size)

Full Context

configure router flowspec ipv6-filter-max-size

Description

This command configures the maximum number of IPv6 FlowSpec routes or rules that can be embedded into the auto-created embedded filter (fSpec- *X*). FlowSpec filter entries embedded in a filter policy in this routing instance will use filter entries from the range between "embedding offset + 1” and "embedding offset + ip-filter-max-size”.

The sum of this command and the highest offset in any IPv6 filter that embeds IPv6 FlowSpec rules from this routing instance (excluding filters that embed at offset 262143) must not exceed 262143.

This command can be configured to a higher or lower value at any time. If the number of IPv6 FlowSpec rules that are currently installed is *M*, and the new configured limit is *N*, where *N*<*M*, then the last set of rules from *N* to *M* (by FlowSpec order) are immediately removed, but are retained in the BGP RIB. If the limit is increased, new rules are programmed only as they are received again in new BGP updates.

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Default

ipv6-filter-max-size 512

Parameters

value

Specifies the maximum number of FlowSpec routes or rules that can be embedded into an ingress IP filter policy.

Values 0 to 262143

default

Keyword to configure the maximum size as 512.

Platforms

All

22.72 ipv6-filter-name

ipv6-filter-name

Syntax

[**no**] **ipv6-filter-name** *filter-name*

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block ipv6-filter-name)

Full Context

configure li li-filter-block-reservation li-reserved-block ipv6-filter-name

Description

This command configures an IPv6 filter in which the reservation is done through name.

The **no** form of this command removes the IPv6 filter name.

Parameters

filter-name

Specifies the IPv6 filter name, up to 64 characters.

Platforms

All

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ipv6-filter-name

Syntax

[**no**] **ipv6-filter-name** *filter-name*

Context

[Tree] (config>li>li-fltr-assoc>li-ipv6-fltr ipv6-filter-name)

Full Context

configure li li-filter-associations li-ipv6-filter ipv6-filter-name

Description

This command associates an IPv6 filter with a specified LI IPv6 filter through its name.

The **no** form of this command removes the IPv6 filter name.

Parameters

filter-name

Specifies the IPv6 filter name, up to 64 characters.

Platforms

All

22.73 ipv6-fragment

ipv6-fragment

Syntax

ipv6-fragment

Context

[Tree] (config>test-oam>build-packet>header ipv6-fragment)

Full Context

configure test-oam build-packet header ipv6-fragment

Description

This command causes the associated header to be defined as an IPv6 fragment header template.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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22.74 ipv6-lease-times

ipv6-lease-times

Syntax

[**no**] **ipv6-lease-times**

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-lease-times)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-lease-times)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-lease-times

configure subscriber-mgmt local-user-db ppp host ipv6-lease-times

Description

Commands in this context configure lease times for DHCPv6.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.75 ipv6-mtu

ipv6-mtu

Syntax

ipv6-mtu *ipv6-mtu*

no ipv6-mtu

Context

[Tree] (config>service>vprn>nat>inside>nat64 ipv6-mtu)

[Tree] (config>router>nat>inside>nat64 ipv6-mtu)

Full Context

configure service vprn nat inside nat64 ipv6-mtu

configure router nat inside nat64 ipv6-mtu

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Description

This command sets the size of the IPv6 downstream packet in NAT64. This packet is translated from IPv4.

The **no** form of the command reverts to the default.

Default

ipv6-mtu 1520

Parameters

ipv6-mtu

Specifies the IPv6 MTU.

Values 1280 to 9212

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.76 ipv6-multicast

ipv6-multicast

Syntax

[**no**] **ipv6-multicast**

Context

[Tree] (config>router>isis>multi-topology ipv6-multicast)

Full Context

configure router isis multi-topology ipv6-multicast

Description

This command enables support for the IPv6 topology (MT4) within the associate IS-IS instance.

The **no** form of this command disables support for the IPv6 topology (MT4) within the associated IS-IS instance.

Default

no ipv6-multicast

Platforms

All

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22.77 ipv6-multicast-disable

ipv6-multicast-disable

Syntax

[**no**] **ipv6-multicast-disable**

Context

[Tree] (config>service>vpls>pim-snooping ipv6-multicast-disable)

Full Context

configure service vpls pim-snooping ipv6-multicast-disable

Description

This command disables PIM snooping for IPv6 multicast traffic within a VPLS service.

The **no** form of this command enables PIM snooping for IPv6 multicast traffic within a VPLS service. To fully remove PIM snooping from a VPLS service it is necessary to issue the no pim-snooping command.

Default

ipv6-multicast-disable

Platforms

All

ipv6-multicast-disable

Syntax

ipv6-multicast-disable

Context

[Tree] (config>service>vprn>pim>if ipv6-multicast-disable)

[Tree] (config>service>vprn>pim ipv6-multicast-disable)

Full Context

configure service vprn pim interface ipv6-multicast-disable

configure service vprn pim ipv6-multicast-disable

Description

This command administratively disables/enables PIM operation for IPv6.

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Default

ipv6-multicast-disable (config>service>vprn>pim)

no ipv6-multicast-disable (config>service>vprn>pim>if)

Platforms

All

ipv6-multicast-disable

Syntax

[**no**] **ipv6-multicast-disable**

Context

[Tree] (config>router>pim>interface ipv6-multicast-disable)

[Tree] (config>router>pim ipv6-multicast-disable)

Full Context

configure router pim interface ipv6-multicast-disable

configure router pim ipv6-multicast-disable

Description

This command administratively enables PIM operation for IPv6.

IPv6 multicast must be enabled to enable MLDP in-band signaling for IPv6 PIM joins; see **config>router>pim>interface p2mp-ldp-tree-join**.

The **no** form of this command disables the PIM operation for IPv6.

Default

ipv6-multicast-disable

Platforms

All

ipv6-multicast-disable

Syntax

[**no**] **ipv6-multicast-disable**

Context

[Tree] (config>router>isis>interface ipv6-multicast-disable)

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Full Context

configure router isis interface ipv6-multicast-disable

Description

This command disables IS-IS IPv6 multicast routing for the interface.

The **no** form of this command enables IS-IS IPv6 multicast routing for the interface.

Platforms

All

22.78 ipv6-multicast-metric

ipv6-multicast-metric

Syntax

ipv6-multicast-metric *metric*

no ipv6-multicast-metric

Context

[Tree] (config>router>isis>if>level ipv6-multicast-metric)

Full Context

configure router isis interface level ipv6-multicast-metric

Description

This command configures the IS-IS interface metric for IPv6 multicast.

The **no** form of this command removes the metric from the configuration.

Default

no ipv6-multicast-metric

Parameters

metric

Specifies the IS-IS interface metric for IPv6 multicast.

Values 1 to 16777215

Platforms

All

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22.79 ipv6-multicast-metric-offset

ipv6-multicast-metric-offset

Syntax

ipv6-multicast-metric-offset *offset-value*

no ipv6-multicast-metric-offset

Context

[Tree] (config>router>isis>link-group>level ipv6-multicast-metric-offset)

Full Context

configure router isis link-group level ipv6-multicast-metric-offset

Description

This command sets the offset value for the IPv6 multicast address family. If the number of operational links drops below the oper-members threshold, the configured offset is applied to the interface metric for the IPv6 multicast topology.

The **no** form of this command reverts the offset value to 0.

Default

no ipv6-multicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold

Values 0 to 6777215

Platforms

All

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22.80 ipv6-multicast-routing

ipv6-multicast-routing

Syntax

ipv6-multicast-routing {**native** | **mt**}

[**no**] **ipv6-multicast-routing**

Context

[Tree] (config>router>isis ipv6-multicast-routing)

Full Context

configure router isis ipv6-multicast-routing

Description

The multicast RTM is used for Reverse Path Forwarding checks. This command controls which IS-IS topology is used to populate the IPv6 multicast RTM.

The **no** form of this command results in none of the IS-IS routes being populated in the IPv4 multicast RTM and would be used if multicast is configured to use the unicast RTM for the RPF check.

Default

ipv6-multicast-routing native

Parameters

native

Causes IPv6 routes from the MT0 topology to be added to the multicast RTM for RPF checks.

mt

Causes IPv6 routes from the MT3 topology to be added to the multicast RTM for RPF checks.

Platforms

All

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22.81 ipv6-node-sid

ipv6-node-sid

Syntax

ipv6-node-sid index *index-value* [**clear-n-flag**]

ipv6-node-sid label *label-value* [**clear-n-flag**]

no ipv6-node-sid

Context

[Tree] (config>router>isis>interface ipv6-node-sid)

Full Context

configure router isis interface ipv6-node-sid

Description

This command assigns a node SID index or label value to the prefix representing the primary address of an IPv6 network interface of type loopback. Only a single node SID can be assigned to an IPv6 interface. When an IPv6 interface has multiple global addresses, the primary address is always the first one in the list, as displayed by the **interface info** command.

The command fails if the network interface is not of loopback type or if the interface is defined in an IES or a VPRN context. Assigning the same SID index/label value to the same interface in two different IGP instances is not allowed within the same node.

The value of the label or index SID is taken from the range configured for this IGP instance. When using the global mode of operation, a new segment routing module checks that the same index or label value cannot be assigned to more than one loopback interface address. When using the per-instance mode of operation, this check is not required since the index and thus label ranges of the various IGP instance are not allowed to overlap.

The **clear-n-flag** option allows the user to clear the N-flag (node-sid flag) in an IS-IS prefix SID sub-TLV originated for the IPv6 prefix of a loopback interface on the system.

By default, the prefix SID sub-TLV for the prefix of a loopback interface is tagged as a node SID, meaning that it belongs to this node only. However, when the user wants to configure and advertise an anycast SID using the same loopback interface prefix on multiple nodes, you must clear the N-flag to assure interoperability with third-party implementations, which may perform a strict check on the receiving end and drop duplicate prefix SID sub-TLVs when the N-flag is set.

The SR OS implementation is relaxed on the receiving end and accepts duplicate prefix SIDs with the N-flag set or cleared. SR OS will resolve to the closest owner, or owners if ECMP is configured, of the prefix SID according to its cost.

Default

no ipv6-node-sid

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Parameters

index-value

Specifies the index value.

Values 0 to 4294967295

label-value

Specifies the label value.

Values 0 to 4294967295

clear-n-flag

Clears the node SID flag.

Default no clear-n-flag

Platforms

All

22.82 ipv6-overall

ipv6-overall

Syntax

ipv6-overall *max-nr-of-hosts*

no ipv6-overall

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-overall)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-overall)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv6-overall

configure subscriber-mgmt sla-profile host-limits ipv6-overall

Description

This command configures the maximum number of IPv6 hosts per SLA profile instance or subscriber.

The **no** form of this command removes the maximum number of IPv6 hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 hosts.

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Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.83 ipv6-packet-length-list

ipv6-packet-length-list

Syntax

ipv6-packet-length-list *pkt-len-list-name* [**create**]

[**no**] **ipv6-packet-length-list** *pkt-len-list-name*

Context

[Tree] (config>filter>match-list ipv6-packet-length-list)

Full Context

configure filter match-list ipv6-packet-length-list

Description

This command configures a list of IPv6 packet lengths for match criteria in IPv6 filter policies. The **create** keyword is mandatory when configuring a packet length list.

The **no** form of this command deletes the specified list.

Parameters

pkt-len-list-name

Specifies the name of the packet length list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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22.84 ipv6-pd-ipoe-dhcp

ipv6-pd-ipoe-dhcp

Syntax

ipv6-pd-ipoe-dhcp *max-nr-of-hosts*

no ipv6-pd-ipoe-dhcp

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-pd-ipoe-dhcp)

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-pd-ipoe-dhcp)

Full Context

configure subscriber-mgmt sla-profile host-limits ipv6-pd-ipoe-dhcp

configure subscriber-mgmt sub-profile host-limits ipv6-pd-ipoe-dhcp

Description

This command configures the maximum number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) per SLA profile instance or per subscriber.

Note:
Prefix delegation hosts that are modeled as a managed route do not count against this limit.

The **no** form of this command removes the maximum number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit.

Parameters

max-nr-of-hosts

Specifies the total number of IPv6 IPoE DHCP Prefix Delegation hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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22.85 ipv6-pd-overall

ipv6-pd-overall

Syntax

ipv6-pd-overall max-nr-of-hosts

no ipv6-pd-overall

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-pd-overall)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-pd-overall)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv6-pd-overall

configure subscriber-mgmt sla-profile host-limits ipv6-pd-overall

Description

This command configures the maximum number of IPv6 DHCP Prefix Delegation hosts (IA-PD) per SLA profile instance or per subscriber.

Note:
Prefix delegation hosts that are modeled as a managed route do not count against this limit.

The **no** form of this command removes the maximum number of IPv6 Prefix Delegation hosts (IA-PD) limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 Prefix Delegation hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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22.86 ipv6-pd-ppp-dhcp

ipv6-pd-ppp-dhcp

Syntax

ipv6-pd-ppp-dhcp *max-nr-of-hosts*

no ipv6-pd-ppp-dhcp

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-pd-ppp-dhcp)

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-pd-ppp-dhcp)

Full Context

configure subscriber-mgmt sla-profile host-limits ipv6-pd-ppp-dhcp

configure subscriber-mgmt sub-profile host-limits ipv6-pd-ppp-dhcp

Description

This command configures the maximum number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) per SLA profile instance or per subscriber.

Note:
Prefix delegation hosts that are modeled as a managed route do not count against this limit.

The **no** form of this command removes the maximum number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 PPPoE DHCP Prefix Delegation hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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22.87 ipv6-prefix

ipv6-prefix

Syntax

[**no**] **ipv6-prefix**

Context

[Tree] (debug>router>rpki-session>packet ipv6-prefix)

Full Context

debug router rpki-session packet ipv6-prefix

Description

This command enables debugging for IPv6 prefix RPKI packets.

The **no** form of this command disables debugging for IPv6 prefix RPKI packets.

Platforms

All

22.88 ipv6-prefix-list

ipv6-prefix-list

Syntax

ipv6-prefix-list *ipv6-prefix-list-name* [**create**]

no ipv6-prefix-list *ipv6-prefix-list-name*

Context

[Tree] (config>qos>match-list ipv6-prefix-list)

Full Context

configure qos match-list ipv6-prefix-list

Description

This command creates a list of IPv6 prefixes for match criteria in QoS policies. An ipv6-prefix-list must contain only IPv6 address prefixes created using the **prefix** command and cannot be deleted if it is referenced by a QoS policy.

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The **no** form of this command deletes the specified list.

Parameters

ipv6-prefix-list-name

A string of up to 32 characters of printable ASCII characters. If special characters are used (#, ?, space), the string must be enclosed within double quotes. The name **default** (case insensitive) is reserved by the system.

create

Creates IPv6 prefixes for match criteria in QoS policies.

Platforms

All

ipv6-prefix-list

Syntax

ipv6-prefix-list *ipv6-prefix-list-name* [**create**]

no ipv6-prefix-list *ipv6-prefix-list-name*

Context

[Tree] (config>filter>match-list ipv6-prefix-list)

Full Context

configure filter match-list ipv6-prefix-list

Description

This command creates a list of IPv6 prefixes for match criteria in ACL and CPM IPv6 filter policies.

The **no** form of this command deletes the specified list.

Operational Notes:

An IPv6 prefix list must contain only IPv6 address prefixes.

An IPv6 prefix list cannot be deleted if it is referenced by a filter policy.

See general description related to match-list usage in filter policies.

Parameters

ipv6-prefix-list-name

Specifies a string of up to 32 printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

All

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22.89 ipv6-routing

ipv6-routing

Syntax

[**no**] **ipv6-routing** {**native** | **mt**}

Context

[Tree] (config>service>vprn>isis ipv6-routing)

Full Context

configure service vprn isis ipv6-routing

Description

This command enables IPv6 routing.

The **no** form of this command disables support for IS-IS IPv6 TLVs for IPv6 routing.

Default

no ipv6-routing

Parameters

native

Enables IS-IS IPv6 TLVs for IPv6 routing and enables support for native IPv6 TLVs.

mt

Enables IS-IS multi-topology TLVs for IPv6 routing. When this parameter is specified, the support for native IPv6 TLVs is disabled.

Platforms

All

ipv6-routing

Syntax

[**no**] **ipv6-routing** {**native** | **mt**}

Context

[Tree] (config>router>isis ipv6-routing)

Full Context

configure router isis ipv6-routing

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Description

This command enables IPv6 routing.

The **no** form of this command disables support for IS-IS IPv6 TLVs for IPv6 routing.

Default

no ipv6-routing

Parameters

native

Enables IS-IS IPv6 TLVs for IPv6 routing and enables support for native IPv6 TLVs.

mt

Enables IS-IS multi-topology TLVs for IPv6 routing. When this parameter is specified, the support for native IPv6 TLVs is disabled.

Platforms

All

22.90 ipv6-sid

ipv6-sid

Syntax

ipv6-sid index *index-id*

ipv6-sid label *label-id*

no ipv6-sid

Context

[Tree] (config>router>segment-routing>sr-mpls>prefix-sids ipv6-sid)

Full Context

configure router segment-routing sr-mpls prefix-sids ipv6-sid

Description

This command is used to configure the IPv6 segment routing SID associated with the primary IPv6 address of the loopback or system interface.

The **no** form of this command removes the configuration of the IPv6 segment routing SID associated with the primary IPv6 interface address.

Default

no ipv6-sid

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Parameters

index *index-id*

Specifies the node SID index for this interface.

Values 0 to 4294967295

label *label-id*

Specifies the label value for the node SID.

Values 32 to 1048575

Platforms

All

ipv6-sid

Syntax

ipv6-sid index *index-id*

ipv6-sid label *label-id*

no ipv6-sid

Context

[Tree] (config>router>segment-routing>sr-mpls>prefix-sids>flex-algo ipv6-sid)

Full Context

configure router segment-routing sr-mpls prefix-sids flex-algo ipv6-sid

Description

This command configures IPv6 SIDs associated with the flexible algorithm instances on shared loopback interfaces used with IS-IS or OSPF.

The **no** form of this command removes the IPv6 SID configuration associated with the flexible algorithm instances on shared loopback interfaces used with IS-IS or OSPF.

Default

no ipv6-sid

Parameters

index-id

Specifies the node SID index for this interface.

Values 0 to 4294967295

label-id

Specifies the label value for the node SID.

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Values 32 to 1048575

Platforms

All

22.91 ipv6-slaac-prefix

ipv6-slaac-prefix

Syntax

ipv6-slaac-prefix *ipv6-prefix/prefix-length*

no ipv6-slaac-prefix

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-slaac-prefix)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-slaac-prefix)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-slaac-prefix

configure subscriber-mgmt local-user-db ppp host ipv6-slaac-prefix

Description

This command configures static IPv6 SLAAC prefix (PIO) for the host. The host will assign an IPv6 address to itself based on this prefix. The prefix length is 64 bits.

The **no** form of this command removes the static IPv6 SLAAC prefix (PIO) for the host from the configuration.

Default

no ipv6-slaac-prefix

Parameters

ipv6-prefix/prefix-length

Specifies the IPv6 address and prefix length.

Values ipv6-prefix/prefix-length : ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

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prefix-length 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.92 ipv6-slaac-prefix-pool

ipv6-slaac-prefix-pool

Syntax

ipv6-slaac-prefix-pool *pool*

no ipv6-slaac-prefix-pool

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-slaac-prefix-pool)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-slaac-prefix-pool)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-slaac-prefix-pool

configure subscriber-mgmt local-user-db ppp host ipv6-slaac-prefix-pool

Description

This command configures the IPv6 SLAAC prefix pool of this host.

The **no** form of this command reverts to the default.

Parameters

pool

Specifies the pool name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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22.93 ipv6-source-address

ipv6-source-address

Syntax

ipv6-source-address *ipv6-address* [**allow-connections**]

no ipv6-source-address

Context

[Tree] (config>aaa>diam>node ipv6-source-address)

Full Context

configure aaa diameter node ipv6-source-address

Description

This command configures IPv6 source address that the SR OS node will use for its peering connection.

The **no** form of this command removes the IPv6 source address from the configuration.

Parameters

ipv6-address

Specifies the source IPv6 address to use for outgoing diameter messages to an IPv6-reachable peer.

Values

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

allow-connections

Specifies to accept peering connections on the configured source IPv6 address. The peer initiating the connection can only be an inter-chassis peer.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6-source-address

Syntax

ipv6-source-address *ipv6-address*

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no ipv6-source-address

Context

[Tree] (config>aaa>radius-srv-plcy>servers ipv6-source-address)

Full Context

configure aaa radius-server-policy servers ipv6-source-address

Description

This command configures the source address of an IPv6 RADIUS packet.

When no ipv6-source-address is configured, the system IPv6 address (inband RADIUS server connection) or Boot Option File (BOF) IPv6 address (outband RADIUS server connection) must be configured in order for the RADIUS client to work with an IPv6 RADIUS server.

This address is also used in the NAS-IPv6-Address attribute.

The **no** form of this command reverts to the default value.

Parameters

ipv6-address

Specifies the source address of an IPv6 RADIUS packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ipv6-source-address

Syntax

ipv6-source-address *ipv6-address*

no ipv6-source-address

Context

[Tree] (config>service>vprn>dns ipv6-source-address)

Full Context

configure service vprn dns ipv6-source-address

Description

This command configures the IPv6 address of the default secondary DNS server for the subscribers using this interface. Subscribers that cannot obtain an IPv6 DNS server address by other means, can use this for DNS name resolution.

The ipv6-address value can only be set to a nonzero value if the value of VPRN type is set to **subscriber-split-horizon**.

The **no** form of this command reverts to the default.

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Parameters

ipv6-address

Specifies the IPv6 address of the default secondary DNS server.

Values ipv6-address - a.b.c.d

Platforms

All

ipv6-source-address

Syntax

ipv6-source-address *ipv6-address*

no ipv6-source-address

Context

[Tree] (config>system>file-trans-prof ipv6-source-address)

Full Context

configure system file-transmission-profile ipv6-source-address

Description

This command specifies the IPv6 source address used for transport protocol.

The **no** form of this command uses the default source address which typically is the address of egress interface.

Default

no ipv6-source-address

Parameters

Ipv6-address

Specifies a unicast v6 address. This should be a local interface address.

Platforms

All

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22.94 ipv6-tcp-mss-adjust

ipv6-tcp-mss-adjust

Syntax

ipv6-tcp-mss-adjust *segment-size*

no ipv6-tcp-mss-adjust

Context

[Tree] (config>service>vprn>wlan-gw>dsm ipv6-tcp-mss-adjust)

[Tree] (config>router>wlan-gw>dsm ipv6-tcp-mss-adjust)

Full Context

configure service vprn wlan-gw distributed-sub-mgmt ipv6-tcp-mss-adjust

configure router wlan-gw distributed-sub-mgmt ipv6-tcp-mss-adjust

Description

This command specifies the value used for TCP-MSS-adjust in the IPv6 upstream direction for DSM. The downstream direction for both IPv4 and IPv6 are both configured under the group-interface. The upstream direction for IPv4 NAT hosts is configured under the NAT policy.

The defined segment size is inserted in a TCP SYN message if there is no existing MSS option or the value in the MSS option is bigger than the configured value.

The **no** form of this command disables upstream TCP MSS adjust for IPv6 DSM.

Default

no ipv6-tcp-mss-adjust

Parameters

segment-size

Specifies the segment size to be inserted.

Values 160 to 10240

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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22.95 ipv6-te-router-id

ipv6-te-router-id

Syntax

ipv6-te-router-id interface *interface-name*

no ipv6-te-router-id

Context

[Tree] (config>router ipv6-te-router-id)

Full Context

configure router ipv6-te-router-id

Description

This command configures the IPv6 TE Router ID. The IPv6 TE Router ID, when configured, uniquely identifies the router as being IPv6 TE capable to other routers in an IGP TE domain.

IS-IS advertises this information using the IPv6 TE Router ID TLV.

If this command is not configured, the IPv6 TE Router ID will use the global unicast address of the system interface by default. The user can specify the system interface using this command to achieve the same result. If a different interface is specified, the preferred primary global unicast address of that interface is used instead

The **no** form of this command reverts the IPv6 TE Router ID to the default value.

Parameters

interface interface-name

Specifies the name of the interface to be added or removed. Only system and loopback interfaces are accepted.

Platforms

All

22.96 ipv6-udp-checksum-recalculation

ipv6-udp-checksum-recalculation

Syntax

[**no**]**ipv6-udp-checksum-recalculation**

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Context

[Tree] (conf>service>nat>map-domain ipv6-udp-checksum-recalculation)

Full Context

configure service nat map-domain ipv6-udp-checksum-recalculation

Description

This command configures the recalculation of the UDP checksum for translated IPv6 packets when the incoming IPv4 packet has a zero UDP checksum.

The **no** form of this command reverts to the default value.

Default

no ipv6-udp-checksum-recalculation

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

22.97 ipv6-unicast

ipv6-unicast

Syntax

[**no**] **ipv6-unicast**

Context

[Tree] (config>service>vprn>isis>multi-topology ipv6-unicast)

Full Context

configure service vprn isis multi-topology ipv6-unicast

Description

This command enables multi-topology TLVs.

The **no** form of this command disables multi-topology TLVs.

Platforms

All

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ipv6-unicast

Syntax

[**no**] **ipv6-unicast**

Context

[Tree] (config>router>isis>multi-topology ipv6-unicast)

Full Context

configure router isis multi-topology ipv6-unicast

Description

This command enables multi-topology TLVs.

The **no** form of this command disables multi-topology TLVs.

Default

no ipv6-unicast

Platforms

All

22.98 ipv6-unicast-disable

ipv6-unicast-disable

Syntax

[**no**] **ipv6-unicast-disable**

Context

[Tree] (config>service>vprn>isis>if ipv6-unicast-disable)

[Tree] (config>router>isis>if ipv6-unicast-disable)

Full Context

configure service vprn isis interface ipv6-unicast-disable

configure router isis interface ipv6-unicast-disable

Description

This command disables IS-IS IPv6 unicast routing for the interface.

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By default IPv6 unicast on all interfaces is enabled. However, IPv6 unicast routing on IS-IS is in effect when the **config>router>isis>ipv6-routing mt** command is configured.

The **no** form of this command enables IS-IS IPv6 unicast routing for the interface.

Platforms

All

22.99 ipv6-unicast-metric

ipv6-unicast-metric

Syntax

ipv6-unicast-metric *metric*

no ipv6-unicast-metric

Context

[Tree] (config>service>vprn>isis>if>level ipv6-unicast-metric)

Full Context

configure service vprn isis interface level ipv6-unicast-metric

Description

This command configures IS-IS interface metric for IPv6 unicast.

The **no** form of this command removes the metric from the configuration.

Parameters

metric

Specifies the IS-IS interface metric for IPv6 unicast.

Values 1 to 16777215

Platforms

All

ipv6-unicast-metric

Syntax

ipv6-unicast-metric *metric*

no ipv6-unicast-metric

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Context

[Tree] (config>router>isis>if>level ipv6-unicast-metric)

Full Context

configure router isis interface level ipv6-unicast-metric

Description

This command configures the IS-IS interface metric for IPv6 unicast.

The **no** form of this command removes the metric from the configuration.

Default

no ipv6-unicast-metric

Parameters

metric

Specifies the IS-IS interface metric for IPv6 unicast.

Values 1 to 16777215

Platforms

All

22.100 ipv6-unicast-metric-offset

ipv6-unicast-metric-offset

Syntax

ipv6-unicast-metric-offset *offset-value*

no ipv6-unicast-metric-offset

Context

[Tree] (config>service>vprn>isis>link-group>level ipv6-unicast-metric-offset)

Full Context

configure service vprn isis link-group level ipv6-unicast-metric-offset

Description

This command sets the offset value for the IPv6 unicast address family. If the number of operational links drops below the **oper-members** threshold, the configured offset is applied to the interface metric for the IPv6 topology.

The **no** form of this command reverts the offset value to 0.

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Default

no ipv6-unicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold.

Values 0 to 6777215

Platforms

All

ipv6-unicast-metric-offset

Syntax

ipv6-unicast-metric-offset *offset-value*

no ipv6-unicast-metric-offset

Context

[Tree] (config>router>isis>link-group>level ipv6-unicast-metric-offset)

Full Context

configure router isis link-group level ipv6-unicast-metric-offset

Description

This command sets the offset value for the IPv6 unicast address family. If the number of operational links drops below the **oper-members** threshold, the configured offset is applied to the interface metric for the IPv6 topology.

The **no** form of this command reverts the offset value to 0.

Default

no ipv6-unicast-metric-offset

Parameters

offset-value

Specifies the amount the interface metric for the associated address family is to be increased if the number of operational members in the associated link-group drops below the oper-members threshold.

Values 0 to 6777215

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Platforms

All

22.101 ipv6-wan-address-pool

ipv6-wan-address-pool

Syntax

ipv6-wan-address-pool *pool-name*

no ipv6-wan-address-pool

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host ipv6-wan-address-pool)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ipv6-wan-address-pool)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-wan-address-pool

configure subscriber-mgmt local-user-db ppp host ipv6-wan-address-pool

Description

This command configures the pool name that is used in the DHCPv6 server for DHCPv6 IA-PA address selection.

The **no** form of this command removes the pool name from the configuration.

Parameters

pool-name

Specifies the WAN address pool, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.102 ipv6-wan-ipoe-dhcp

ipv6-wan-ipoe-dhcp

Syntax

ipv6-wan-ipoe-dhcp *max-nr-of-hosts*

no ipv6-wan-ipoe-dhcp

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Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-wan-ipoe-dhcp)

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-wan-ipoe-dhcp)

Full Context

configure subscriber-mgmt sla-profile host-limits ipv6-wan-ipoe-dhcp

configure subscriber-mgmt sub-profile host-limits ipv6-wan-ipoe-dhcp

Description

This command configures the maximum number of IPv6 IPoE DHCP WAN hosts (IA-NA) per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 IPoE DHCP WAN hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.103 ipv6-wan-ipoe-slaac

ipv6-wan-ipoe-slaac

Syntax

ipv6-wan-ipoe-slaac *max-nr-of-hosts*

no ipv6-wan-ipoe-slaac

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-wan-ipoe-slaac)

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-wan-ipoe-slaac)

Full Context

configure subscriber-mgmt sla-profile host-limits ipv6-wan-ipoe-slaac

configure subscriber-mgmt sub-profile host-limits ipv6-wan-ipoe-slaac

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Description

This command configures the maximum number of IPv6 IPoE SLAAC WAN hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv6 IPoE SLAAC WAN hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 IPoE SLAAC WAN hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.104 ipv6-wan-overall

ipv6-wan-overall

Syntax

ipv6-wan-overall *max-nr-of-hosts*

no ipv6-wan-overall

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-wan-overall)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-wan-overall)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv6-wan-overall

configure subscriber-mgmt sla-profile host-limits ipv6-wan-overall

Description

This command configures the maximum number of IPv6 WAN hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPV6 WAN hosts limit.

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Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 WAN hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.105 ipv6-wan-ppp-dhcp

ipv6-wan-ppp-dhcp

Syntax

ipv6-wan-ppp-dhcp *max-nr-of-hosts*

no ipv6-wan-ppp-dhcp

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-wan-ppp-dhcp)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-wan-ppp-dhcp)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv6-wan-ppp-dhcp

configure subscriber-mgmt sla-profile host-limits ipv6-wan-ppp-dhcp

Description

This command configures the maximum number of IPv6 PPPoE DHCP WAN hosts (IA-NA) per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 PPPoE DHCP WAN hosts (IA-NA).

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Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.106 ipv6-wan-ppp-slaac

ipv6-wan-ppp-slaac

Syntax

ipv6-wan-ppp-slaac *max-nr-of-hosts*

no ipv6-wan-ppp-slaac

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits ipv6-wan-ppp-slaac)

[Tree] (config>subscr-mgmt>sla-profile>host-limits ipv6-wan-ppp-slaac)

Full Context

configure subscriber-mgmt sub-profile host-limits ipv6-wan-ppp-slaac

configure subscriber-mgmt sla-profile host-limits ipv6-wan-ppp-slaac

Description

This command configures the maximum number of IPv6 PPPoE SLAAC WAN hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of IPv6 PPPoE SLAAC WAN hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of IPv6 PPPoE SLAAC WAN hosts.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies

Values 0 to 131071

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Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.107 isa

isa

Syntax
isa

Context
[Tree] (config isa)

Full Context
configure isa

Description
Commands in this context configure Integrated Services Adapter (ISA) parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.108 isa-aa-group

isa-aa-group

Syntax
isa-aa-group *aa-group-id*
no isa-aa-group

Context
[Tree] (config>isa>wlan-gw-group>distributed-sub-mgmt isa-aa-group)

Full Context
configure isa wlan-gw-group distributed-sub-mgmt isa-aa-group

Description
This command configures an ISA application assurance group for WLAN gateway DSM subscribers.

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

isa-aa-group

Syntax

isa-aa-group *isa-aa-group-id* {**all** | **unknown**}

no isa-aa-group *isa-aa-group-id*

Context

[Tree] (debug>mirror-source isa-aa-group)

Full Context

debug mirror-source isa-aa-group

Description

This command configures AA ISA group as a mirror source for this mirror service. Traffic is mirrored after AA processing takes place on AA ISAs of the group, therefore, any packets dropped as part of that AA processing are not mirrored.

Parameters

isa-aa-group-id

Specifies the ISA ISA-AA group ID.

Values 1 to 255

all

Specifies that all traffic after AA processing will be mirrored.

unknown

Specifies that all traffic during the identification phase (may match policy entry or entries that have mirror action configured) and traffic that had been identified as unknown_tcp or unknown_udp after AA processing will be mirrored.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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22.109 isa-aa-oversubscription-factor

isa-aa-oversubscription-factor

Syntax

isa-aa-oversubscription-factor *factor*

no isa-aa-oversubscription-factor

Context

[Tree] (config>isa>wlan-gw-group>distributed-sub-mgmt isa-aa-oversubscription-factor)

Full Context

configure isa wlan-gw-group distributed-sub-mgmt isa-aa-oversubscription-factor

Description

This command specifies by how much an AA ISA is oversubscribed when linked to a WLAN-GW group. A factor of 1 indicates that each AA ISA is linked to a single WLAN-GW ISA, while a factor of 10 indicates that each AA ISA is linked to up to 10 WLAN-GW ISAs. The factor must be an integer but poses an oversubscription limit, not an exact ratio. For example, for 2 AA ISAs and 5 WLAN-GW ISAs, a factor of 3 or higher is valid. Additional standby ISAs can be added until the oversubscription limit is reached.

The **no** form of this command resets the configuration to the default value.

Default

isa-aa-oversubscription-factor 1

Parameters

factor

The number of WLAN GW ISAs that can be served by a single AA ISA.

Values 1 to 10

Platforms

7750 SR, 7750 SR-e, 7750 SR-s

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22.110 isa-capacity-cost-high-threshold

isa-capacity-cost-high-threshold

Syntax

isa-capacity-cost-high-threshold *threshold*

no isa-capacity-cost-high-threshold

Context

[Tree] (config>isa>aa-grp isa-capacity-cost-high-threshold)

Full Context

configure isa application-assurance-group isa-capacity-cost-high-threshold

Description

This command configures the ISA-AA capacity cost high threshold.

The **no** form of this command reverts the threshold to the default value.

Default

isa-capacity-cost-high-threshold 4294967295

Parameters

threshold

Specifies the capacity cost high threshold for the ISA-AA group.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.111 isa-capacity-cost-low-threshold

isa-capacity-cost-low-threshold

Syntax

isa-capacity-cost-low-threshold *threshold*

no isa-capacity-cost-low-threshold

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Context

[Tree] (config>isa>aa-grp isa-capacity-cost-low-threshold)

Full Context

configure isa application-assurance-group isa-capacity-cost-low-threshold

Description

This command configures the ISA-AA capacity cost low threshold.

The **no** form of this command reverts the threshold to the default value.

Default

isa-capacity-cost-low-threshold 0

Parameters

threshold

Specifies the capacity cost low threshold for the ISA-AA group.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.112 isa-dp-cpu-usage

isa-dp-cpu-usage

Syntax

[**no**] **isa-dp-cpu-usage**

Context

[Tree] (config>isa>tunnel-grp>stats-collection isa-dp-cpu-usage)

Full Context

configure isa tunnel-group stats-collection isa-dp-cpu-usage

Description

This command enables the system to collect statistics used to derive ISA CPU data plane usage. When enabled, this command impacts the ISA performance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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22.113 isa-filter

isa-filter

Syntax

isa-filter *name* [**type** {**dsm**}] [**create**]

no isa-filter *name*

Context

[Tree] (config>subscr-mgmt isa-filter)

Full Context

configure subscriber-mgmt isa-filter

Description

Commands in this context configure ISA filter parameters.

Parameters

name

Specifies the name of the filter.

type dsm

Selects DSM as the type.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.114 isa-overload-cut-through

isa-overload-cut-through

Syntax

[**no**] **isa-overload-cut-through**

Context

[Tree] (config>isa>aa-grp isa-overload-cut-through)

Full Context

configure isa application-assurance-group isa-overload-cut-through

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Description

This command configures the ISA group to enable cut-through of traffic if an overload event occurs, triggered when the IOM weighted average queues depth exceeds the **wa-shared-high-wmark**. In this ISA state, packets are cut-through from application analysis but retain subscriber context with default subscriber policy applied.

The **no** form of this command disables cut-through processing on overload.

Default

no isa-overload-cut-through

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.115 isa-policer

isa-policer

Syntax

isa-policer *policer-name* [**type** *policer-type*] [**create**]

no isa-policer *policer-name*

Context

[Tree] (config>subscr-mgmt isa-policer)

Full Context

configure subscriber-mgmt isa-policer

Description

This command creates the context to configure an ISA policer. When creating a policer for the first time, both the **create** and **type** parameters are required.

The **no** form of this command reverts to the default.

Parameters

policer-name

Specifies the name by which this policer is referenced up to 32 characters.

policer-type

Specifies the policer type. The dual-bucket-bandwidth policer applies both a CIR and PIR.

Values single-bucket-bandwidth, dual-bucket-bandwidth

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

22.116 isa-radius-policy

isa-radius-policy

Syntax

isa-radius-policy *name* [**create**]

no isa-radius-policy *name*

Context

[Tree] (config>aaa isa-radius-policy)

Full Context

configure aaa isa-radius-policy

Description

This command creates a policy template related to transport of accounting messages from the BB-ISA card to the accounting server. It also defines accounting attributes that will be included in accounting messages. The policy template will be instantiated once it is applied to the BB-ISA cards in the nat-group.

The **no** form of the command removes the policy name from the configuration.

Parameters

name

Specifies the name of the ISA RADIUS policy that can be referenced by a NAT application.

create

Keyword used to create the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.117 isa-service-chaining

isa-service-chaining

Syntax

[**no**] **isa-service-chaining**

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Context

[Tree] (config>router isa-service-chaining)

Full Context

configure router isa-service-chaining

Description

Commands in this context configure ISA service chaining parameters.

The **no** form of this command disables ISA service chaining parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

isa-service-chaining

Syntax

isa-service-chaining

Context

[Tree] (config>subscr-mgmt isa-service-chaining)

Full Context

configure subscriber-mgmt isa-service-chaining

Description

Commands in this context configure ISA-based service chaining for subscribers with L2-Aware NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.118 isakmp-lifetime

isakmp-lifetime

Syntax

isakmp-lifetime *seconds*

Context

[Tree] (config>ipsec>ike-transform isakmp-lifetime)

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Full Context

configure ipsec ike-transform isakmp-lifetime

Description

This command specifies the lifetime of the IKE SA.

Default

isakmp-lifetime 86400

Parameters

seconds

Specifies the Phase 1 life time for this IKE transform.

Values 1200 to 31536000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

22.119 isid

isid

Syntax

isid *start* [**to** *to*]

no isid *start*

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-carving>manual isid)

Full Context

configure service system bgp-evpn ethernet-segment service-carving manual isid

Description

This command configures the ISID ranges for which the PE is primary, or uses the lowest preference algorithm.

Note:
Multiple individual ISID values and ranges are allowed.

The following service-carving manual algorithms are supported for DF election:

- Manual non-preference

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A **preference** command is not configured for this algorithm. The primary PE for the configured ISIDs is determined by the ISID range. The manual non-preference algorithm only supports two PEs in the Ethernet Segment

- Manual preference-based

  If a **preference** command is configured, the algorithm uses the configured value to determine the DF election. For ISIDs not defined in the range, the highest-preference algorithm is used. For configured ISIDs, the lowest-preference algorithm is used.

Parameters

start

Specifies the initial **isid** value of the range.

Values 1 to 16777215

to

Specifies the end **isid** value of the range. If not configured, only the individual start value is considered.

Values 1 to 16777215

Platforms

All

isid

Syntax

isid *value* [**to** *higher-value*]

no isid

Context

[Tree] (config>filter>mac-filter>entry>match isid)

Full Context

configure filter mac-filter entry match isid

Description

This command configures an ISID value or a range of ISID values to be matched by the mac-filter parent. The pbb-etype value for the related SAP (inherited from the ethernet port configuration) or for the related SDP binding (inherited from SDP configuration) will be used to identify the ISID tag.

The **no** form of this command removes the ISID match criterion.

Default

no isid

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Parameters

value

Specifies the ISID value, 24 bits as a decimal integer. When just one present identifies a specific ISID to be used for matching.

Values 0 to 16777215

higher-value

Identifies a range of ISIDs to be used as matching criteria.

Platforms

All

isid

Syntax

isid *value* [**to** *higher-value*]

no isid

no isid *value* [**to** *higher-value*]

Context

[Tree] (config>serv>mrp>mrp-policy>entry>match isid)

Full Context

configure service mrp mrp-policy entry match isid

Description

This command configures an ISID value or a range of ISID values to be matched by the mrp-policy parent when looking at the related MMRP attributes (Group B-MACs). The pbb-etype value for the related SAP (inherited from the ethernet port configuration) or for the related SDP binding (inherited from SDP configuration) will be used to identify the ISID tag.

Multiple ISID statements are allowed under a match node. The following rules govern the usage of multiple ISID statements:

- Overlapping values are allowed:
  - isid from 1 to 10
  - isid from 5 to 15
  - isid 16
- The minimum and maximum values from overlapping ranges are considered and displayed. The above entries will be equivalent with the "isid from 1 to 16” statement.
- There is no consistency check with the content of ISID statements from other entries. The entries are evaluated in the order of their IDs and the first match causes the implementation to execute the associated action for that entry and then to exit the mrp-policy.

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- If there are no ISID statements under a match criteria but the **mac-filter** type is **isid** the following behaviors apply for different actions:
  - For **end-station**, it treats any ISID value as no match and goes to next entry or default action which must be "block" in this case
  - For **allow**, it treats any ISID value as a match and allows it
  - For **block**, it treats any ISID value as a match and blocks it

The **no** form of the command can be used in two ways:

no isid removes all the previous statements under one match node.

no isid *value* | **from** *value* **to** *higher-value* removes a specific ISID value or range. It must match a previously used positive statement: for example if the command **isid 16 to 100** was used using **no isid 16 to 50** will not work but **no isid 16 to 100** will be successful.

Default

no isid

Parameters

value or higher-value

Specifies the ISID value in 24 bits. When just one value is present, it identifies a particular ISID to be used for matching.

Values 0 to 16777215

from value to higher-value

Identifies a range of ISIDs to be used as matching criteria.

Platforms

All

22.120 isid-policy

isid-policy

Syntax

isid-policy

Context

[Tree] (config>service>vpls isid-policy)

Full Context

configure service vpls isid-policy

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Description

This command configures ISID policies for individual ISIDs or ISID ranges in a B-VPLS using SPBM. The ISIDs may belong to I-VPLS services or may be static-isids defined on this node. Multiple entry statements are allowed under a **isid-policy**. ISIDs that are declared as static do not require and **isid-policy** unless the ISIDs are not to be advertised.

isid-policy allows finer control of ISID multicast but is not typically required for SPBM operation. Use of ISID policies can cause additional flooding of multicast traffic.

Platforms

All

22.121 isid-range

isid-range

Syntax

isid-range *from* [**to** *to*] {**auto-rt** | **route-target** *rt*}

no isid-range *from*

Context

[Tree] (config>service>vpls>bgp-evpn>isid-route-target isid-range)

Full Context

configure service vpls bgp-evpn isid-route-target isid-range

Description

This command creates a range of ISIDs associated with a specified route-target that is advertised with BMAC-ISID and IMET-ISID routes for the ISID. The route-target can be explicitly configured or automatically assigned by the system if the **auto-rt** option is configured. Auto routes assignment is based on RFC 7623 as follows:

<2-byte-as-number>:<4-byte-value>, where 4-byte-value = 0x30+ISID

The **no** form of the command deletes the **isid-range** and its association with the **route-target**.

The **no** form is the default action, which advertises the BMAC-ISID and IMET-ISID routes with the B-VPLS configured route-target.

Default

no isid-range

Parameters

from

Specifies the start of the ISID range.

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Values 1 to 16777215

to

Specifies the end of the ISID range. If it is not configured, the range is comprised of (only) the ISID specified in the *to* option.

Values 1 to 16777215

auto-rt

Automatically generates an ISID-derived **route-target** in the format: AS_number:0x30+ISID.

route-target

Specifies an explicit route target.

Values rt - target:{<ip-addr:comm-val>| <2byte-as-number:extcomm-val>| <4byte-asnumber:comm-val>}

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-as-number: [0 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [0 to 4294967295]

Platforms

All

22.122 isid-route-target

isid-route-target

Syntax

isid-route-target

Context

[Tree] (config>service>vpls>bgp-evpn isid-route-target)

Full Context

configure service vpls bgp-evpn isid-route-target

Description

Commands in this context configure the isid-range to route-target associations.

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Platforms

All

22.123 isis

isis

Syntax

[**no**] **isis** *isis-instance*

Context

[Tree] (config>service>vprn isis)

Full Context

configure service vprn isis

Description

Commands in this context configure the Intermediate-System-to-Intermediate-System (IS-IS) protocol instance in the VPRN.

The IS-IS protocol instance is enabled with the **no shutdown** command in the **config>service>vprn>isis** context. Alternatively, the IS-IS protocol instance is disabled with the **shutdown** command in the **config>service>vprn>isis** context.

IS-IS instances are **shutdown** when created, so that all parameters can be configured prior to the instance being enabled.

The **no** form of this command disables the ISIS protocol instance from the given VPRN service.

Default

0

Parameters

isis-instance

Specifies the instance ID for an IS-IS instance.

Values 0 to 127

Platforms

All

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isis

Syntax

[**no**] **isis** [*isis-instance*]

Context

[Tree] (config>router isis)

Full Context

configure router isis

Description

Commands in this context configure the Intermediate-System-to-Intermediate-System (IS-IS) protocol instance.

The IS-IS protocol instance is enabled with the **no shutdown** command in the **config>router>isis** context. Alternatively, the IS-IS protocol instance is disabled with the **shutdown** command in the **config>router>isis** context.

IS-IS instances are shutdown when created, so that all parameters can be configured prior to the instance being enabled.

The **no** form of this command deletes the IS-IS protocol instance. Deleting the protocol instance removes all configuration parameters for this IS-IS instance.

Parameters

isis-instance

Specifies the instance ID for an IS-IS instance.

Values 0 to 127

Platforms

All

isis

Syntax

isis [*isis-instance*]

Context

[Tree] (debug>router isis)

Full Context

debug router isis

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Description

Commands in this context debug IS-IS protocol entities.

Parameters

isis-instance

Specifies the IS-IS instance.

Values 0 to 127

Platforms

All

Output

The following output is an example of the debugging information.

Output Example

```
*A:Dut-C# /tools dump router isis sr-database  prefix 10.20.1.5 detail
===============================================================================
Rtr Base ISIS Instance 0 SR Database
===============================================================================
103   474390 10.20.1.5       LfaNhops  1   0  15      1000    1    1
  1492   1500    1500   0 0  1  1   0100.2000.1005 SR_ERR_OK
        IP:10.10.5.5 gifId:3 ifId:4 protectId:7 numLabels:1 outLbl:474390 isAdv:1 is
LfaX:0
        IP:10.10.12.2 gifId:5 ifId:6 protectId:0 numLabels:2 outLbl1:474389 outLbl2:
474390 numLfaNhops:1 isAdv:0
-------------------------------------------------------------------------------
D = duplicate pending
xL = exclude from LFA
rL = remote LFA
Act = tunnel active
LDP = LDP FEC is the SID NH for SR-LDP stitching
===============================================================================
```

```
*A:Dut-C# /tools dump router isis sr-database nh-type ldp  detail
===============================================================================
Rtr Base ISIS Instance 0 SR Database
===============================================================================
SID   Label  Prefix          Last-act  Lev MT TnlPref Metric  IpNh SrNh
  Mtu    MtuPrim MtuBk  D xL rL Act AdvSystemId    SrErr
-------------------------------------------------------------------------------
1000  475287 10.20.1.4       AddTnl    1   0  15      0       1    1
  0      0       0      0 0  0  1   0100.2000.1004 SR_ERR_OK
        LDP: IP:10.20.1.4 tnlId:65546 tnlTyp:2
1001  475288 10.20.1.5       AddTnl    1   0  15      0       1    1
  0      0       0      0 0  0  1   0100.2000.1005 SR_ERR_OK
        LDP: IP:10.20.1.5 tnlId:65548 tnlTyp:2
1002  475289 10.20.1.6       AddTnl    1   0  15      0       1    1
  0      0       0      0 0  0  1   0100.2000.1006 SR_ERR_OK
        LDP: IP:10.20.1.6 tnlId:65549 tnlTyp:2
-------------------------------------------------------------------------------
D = duplicate pending
xL = exclude from LFA
rL = remote LFA
Act = tunnel active
LDP = LDP FEC is the SID NH for SR-LDP stitching
```


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```
===============================================================================
```


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23 j Commands

23.1 jitter-event

jitter-event

Syntax

jitter-event rising-threshold *threshold* [**falling-threshold** *threshold*] [*direction*]

no jitter-event

Context

[Tree] (config>saa>test jitter-event)

Full Context

configure saa test jitter-event

Description

This command specifies that at the termination of an SAA test probe, the calculated jitter value is evaluated against the configured rising and falling jitter thresholds. SAA threshold events are generated as required.

Once the threshold (rising/falling) is crossed, it is disabled from generating additional events until the opposite threshold is crossed. If a **falling-threshold** is not supplied, the **rising- threshold** is re-enabled when it falls below the threshold after the initial crossing that generated the event.

The configuration of jitter event thresholds is optional.

The **no** form of the command disables the jitter event.

Parameters

rising-threshold *threshold*

Specifies a rising threshold jitter value, in milliseconds. When the test run is completed, the calculated jitter value is compared to the configured jitter rising threshold. If the test run jitter value is greater than the configured rising threshold value then an SAA threshold event is generated. The SAA threshold event is tmnxOamSaaThreshold, logger application OAM, event #2101.

Values 0 to 2147483

Default 0

falling-threshold *threshold*

Specifies a falling threshold jitter value, in milliseconds. When the test run is completed, the calculated jitter value is compared to the configured jitter falling threshold. If the test

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run jitter value is greater than the configured falling threshold value then an SAA threshold event is generated. The SAA threshold event is tmnxOamSaaThreshold, logger application OAM, event #2101.

Values 0 to 2147483

Default 0

direction

Specifies the direction for OAM ping responses received for an OAM ping test run.

Values **inbound** — Monitor the value of jitter calculated for the inbound, one-way, OAM ping responses received for an OAM ping test run.

outbound — Monitor the value of jitter calculated for the outbound, one-way, OAM ping requests sent for an OAM ping test run.

roundtrip — Monitor the value of jitter calculated for the round trip, two-way, OAM ping requests and replies for an OAM ping test run.

Default roundtrip

Platforms

All

23.2 join-time

join-time

Syntax

join-time *value*

no join-time

Context

[Tree] (config>service>vpls>mesh-sdp>mrp join-time)

[Tree] (config>service>vpls>spoke-sdp>mrp join-time)

[Tree] (config>service>vpls>sap>mrp join-time)

Full Context

configure service vpls mesh-sdp mrp join-time

configure service vpls spoke-sdp mrp join-time

configure service vpls sap mrp join-time

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Description

This command controls the interval between transmit opportunities that are applied to the Applicant state machine. An instance of this Join Period Timer is required on a per-Port, per-MRP Participant basis. For additional information, refer to IEEE 802.1ak-2007 section 10.7.4.1.

Default

join-time 2

Parameters

value

The interval between transmit opportunities, in tenths of a second.

Values 1 to 10

Platforms

All

23.3 join-tlv-packing-disable

join-tlv-packing-disable

Syntax

[**no**] **join-tlv-packing-disable**

Context

[Tree] (config>service>vprn>mvpn>pt>selective join-tlv-packing-disable)

Full Context

configure service vprn mvpn provider-tunnel selective join-tlv-packing-disable

Description

This command enables packing of MDT join TLVs into a single PDU to improve efficiency, if multiple join TLVs are available at the time of transmission.

The **no** form of this command disables packing of MDT join TLVs into a single PDU.

Default

no join-tlv-packing-disable

Platforms

All

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23.4 jp

jp

Syntax

jp [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no jp

Context

[Tree] (debug>service>id>pim-snooping jp)

Full Context

debug service id pim-snooping jp

Description

This command enables or disables debugging for the PIM Join-Prune mechanism.

Parameters

grp-ip-address

Debugs information associated with the specified Join-Prune mechanism.

Values multicast group address (ipv4 or ipv6) or zero

ip-address

Debugs information associated with the specified Join-Prune mechanism

Values source IP address (IPv4 or IPv6)

detail

Debugs detailed Join-Prune mechanism information

Platforms

All

jp

Syntax

jp [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no jp

Context

[Tree] (debug>router>pim jp)

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Full Context

debug router pim jp

Description

This command enables debugging for PIM join and prune mechanisms.

The **no** form of this command disables PIM join and prune mechanisms debugging.

Parameters

grp-ip-address

Debugs information associated with the specified Join-Prune mechanism.

Values multicast group address (ipv4, ipv6) or zero

ip-address

Debugs information associated with the specified Join-Prune mechanism.

Values source address (ipv4, ipv6)

detail

Debugs detailed Join-Prune mechanism information.

Platforms

All

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24 k Commands

24.1 kb-memory-use-alarm

kb-memory-use-alarm

Syntax

kb-memory-use-alarm rising-threshold *threshold* [**falling-threshold** *threshold*] **interval** *seconds* [*rmon-event-type*] [**startup-alarm** *alarm-type*]

no kb-memory-use-warn

Context

[Tree] (config>system>thresholds kb-memory-use-alarm)

Full Context

configure system thresholds kb-memory-use-alarm

Description

This command configures memory use, in kilobytes, alarm thresholds.

The **no** form of the command removes the parameters from the configuration.

Parameters

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated startup-alarm is equal to rising or either.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal the falling-threshold value.

The threshold value represents units of kilobytes.

Values -2147483648 to 2147483647

Default 0

falling-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater

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than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated startup-alarm is equal to falling or either.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal the rising-threshold value.

The threshold value represents units of kilobytes.

Values -2147483648 to 2147483647

Default 0

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

Values log — In the case of log, an entry is made in the RMON-MIB log table for each event occurrence. This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

startup-alarm *alarm-type*

Specifies the alarm that may be sent when this alarm is first created. If the first sample is greater than or equal to the rising threshold value and startup-alarm is equal to rising or either, then a single rising threshold crossing event is generated. If the first sample is less than or equal to the falling threshold value and startup-alarm is equal to falling or either, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

Platforms

All

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24.2 kb-memory-use-warn

kb-memory-use-warn

Syntax

kb-memory-use-warn rising-threshold *threshold* [**falling-threshold** *threshold*] **interval** *seconds* [*rmon-event-type*] [**startup-alarm** *alarm-type*]

no kb-memory-use-warn

Context

[Tree] (config>system>thresholds kb-memory-use-warn)

Full Context

configure system thresholds kb-memory-use-warn

Description

This command configures memory usage, in kilobytes, for warning thresholds

Parameters

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated startup-alarm is equal to rising or either.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal the falling-threshold value.

The threshold value represents units of kilobytes.

Values -2147483648 to 2147483647

Default 0

falling-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated startup-alarm is equal to falling or either.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal the rising-threshold value.

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The threshold value represents units of kilobytes.

Values -2147483648 to 2147483647

Default 0

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

Values log — An entry is made in the RMON-MIB log table for each event occurrence. This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the show>system>thresholds CLI command.

trap — An SR OSS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

alarm-type

Specifies the alarm that may be sent when this alarm is first created. If the first sample is greater than or equal to the rising threshold value and startup-alarm is equal to rising or either, then a single rising threshold crossing event is generated. If the first sample is less than or equal to the falling threshold value and startup-alarm is equal to falling or either, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

Platforms

All

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24.3 keep-alive

keep-alive

Syntax

keep-alive [**interval** *seconds*] [**retry-count** *value*] [**timeout** *retry-seconds*]

no keep-alive

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile keep-alive)

Full Context

configure subscriber-mgmt gtp peer-profile keep-alive

Description

This command configures Echo-Request messages.

The **no** form of this command reverts to the default values.

Default

keep-alive interval 60 retry-count 4 timeout 5

Parameters

seconds

Specifies, in seconds, the interval between keep-alive Echo-Request messages towards the same peer.

Values 0, 60 to 180

Default 60

value

Specifies, in seconds, the interval between keep-alive Echo-Request messages towards the same peer.

Values 1 to 15

Default 4

retry-seconds

Specifies the retry timeout, in seconds.

Values 1 to 20

Default 5

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

keep-alive

Syntax

keep-alive *timer*

no keep-alive

Context

[Tree] (config>port>ethernet>dwl keep-alive)

Full Context

configure port ethernet down-when-looped keep-alive

Description

This command configures the time interval between keep-alive PDUs.

Default

no keep-alive

Parameters

timer

Specifies the time interval, in seconds, between keep-alive PDUs.

Values 1 to 120

Platforms

All

keep-alive

Syntax

keep-alive *seconds*

Context

[Tree] (config>li>x-interfaces>x2>timeouts keep-alive)

[Tree] (config>li>x-interfaces>x3>timeouts keep-alive)

Full Context

configure li x-interfaces x2 timeouts keep-alive

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configure li x-interfaces x3 timeouts keep-alive

Description

This command configures the X2 and X3 keep-alive timeout.

Parameters

seconds

Specifies the maximum time to wait for a LIC reply to a keep alive request. The system retries up to three more times, and if no reply is received, the system declares a connection fault and logs the failure event.

Values 300 to 600

Default 300

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

keep-alive

Syntax

keep-alive

Context

[Tree] (config>service>sdp keep-alive)

Full Context

configure service sdp keep-alive

Description

This command enables the context to configure SDP connectivity monitoring keepalive messages for the SDP ID.

SDP ID keepalive messages use SDP Echo Request and Reply messages to monitor SDP connectivity. The operating state of the SDP is affected by the keepalive state on the SDP ID. SDP Echo Request messages are only sent when the SDP ID is completely configured and administratively up. If the SDP ID is administratively down, keepalives for that SDP ID are disabled. SDP Echo Requests (when sent for keepalive messages) are always sent with the *originator-sdp-id*. All SDP ID keepalive SDP Echo Replies are sent using generic IP/GRE OAM encapsulation.

When a keepalive response is received that indicates an error condition, the SDP ID will immediately be brought operationally down. Once a response is received that indicates the error has cleared and the **hold-down-time** interval has expired, the SDP ID will be eligible to be put into the operationally up state. If no other condition prevents the operational change, the SDP ID will enter the operational state.

A set of event counters track the number of keepalive requests sent, the size of the message sent, non-error replies received and error replies received. A keepalive state value is kept indicating the last

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response event. A keepalive state timestamp value is kept indicating the time of the last event. With each keepalive event change, a log message is generated indicating the event type and the timestamp value.

Table 54: Keepalive Interpretation and Effect of SDP Echo Reply describes the keepalive interpretation of SDP echo reply response conditions and the effect on the SDP ID operational status.

Table 54: Keepalive Interpretation and Effect of SDP Echo Reply

Result of Request	Stored Response State	Operational State
keepalive request timeout without reply	Request Timeout	Down
keepalive request not sent due to non-existent *orig-sdp-id* (This condition should not occur)	Orig-SDP Non-Existent	Down
keepalive request not sent due to administratively down *orig-sdp-id*	Orig-SDP Admin-Down	Down
keepalive reply received, invalid origination-id	Far End: Originator-ID Invalid	Down
keepalive reply received, invalid responder-id	Far End: Responder-ID Error	Down
keepalive reply received, No Error	Success	Up (If no other condition prevents)

Platforms

All

24.4 keep-alive-interval

keep-alive-interval

Syntax

keep-alive-interval *interval*

no keep-alive-interval

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-lag keep-alive-interval)

Full Context

configure redundancy multi-chassis peer mc-lag keep-alive-interval

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Description

This command sets the interval at which keep-alive messages are exchanged between two systems participating in MC-LAG. These keep-alive messages are used to determine remote-node failure and the interval is set in deciseconds.

The **no** form of this command sets the interval to default value.

Default

keep-alive-interval 10

Parameters

interval

The time interval expressed in tenths of a second.

Values 5 to 500

Platforms

All

keep-alive-interval

Syntax

keep-alive-interval *interval*

no keep-alive-interval

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp keep-alive-interval)

[Tree] (config>service>ies>sub-if>grp-if>srrp keep-alive-interval)

Full Context

configure service vprn subscriber-interface group-interface srrp keep-alive-interval

configure service ies subscriber-interface group-interface srrp keep-alive-interval

Description

This command defines the interval between SRRP advertisement messages sent when operating in the master state. The interval is also the basis for setting the master-down timer used to determine when the master is no longer sending. The system uses three times the keep-alive interval to set the timer. Every time an SRRP advertisement is seen that is better than the local priority, the timer is reset. If the timer expires, the SRRP instance assumes that a master does not exist and initiates the attempt to become master.

When in backup state, the SRRP instance takes the keep-alive interval of the master as represented in the masters SRRP advertisement message. Once in master state, the SRRP instance uses its own configured keep-alive interval.

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The keep-alive-interval may be changed at any time, but will have no effect until the SRRP instance is in the master state.

The **no** form of this command restores the default interval.

Default

keep-alive-interval 10

Parameters

interval

Specifies the interval, in deciseconds, between SRRP advertisement messages sent when operating in the master state.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

keep-alive-interval

Syntax

keep-alive-interval *interval*

no keep-alive-interval

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ep keep-alive-interval)

Full Context

configure redundancy multi-chassis peer mc-endpoint keep-alive-interval

Description

This command sets the interval at which keep-alive messages are exchanged between two systems participating in MC-EP when bfd is not enabled or is down. These fast keep-alive messages are used to determine remote-node failure and the interval is set in deciseconds.

The **no** form of this command sets the interval to default value

Default

no keep-alive-interval

Parameters

interval

The time interval expressed in tenths of a second.

Values 5 to 500

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Platforms

All

keep-alive-interval

Syntax

keep-alive-interval *interval*

no keep-alive-interval

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec keep-alive-interval)

Full Context

configure redundancy multi-chassis peer mc-ipsec keep-alive-interval

Description

This command specifies the time interval of the mastership election protocol sending keep-alive packet.

The **no** form of this command reverts to the default.

Default

keep-alive-interval 10

Parameters

interval

Specifies the keep alive interval in tenths of seconds.

Values 5 to 500

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

24.5 keep-count

keep-count

Syntax

keep-count *count*

no keep-count

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Context

[Tree] (config>bmp>station>connection>tcp-keepalive keep-count)

Full Context

configure bmp station connection tcp-keepalive keep-count

Description

This command configures the number of missed keepalives before the TCP connection is declared down.

The **no** form of this command reverts to the default.

Default

keep-count 4

Parameters

count

Specifies the number of missed keepalives before the TCP connection is declared down.

Values 3 to 100

Platforms

All

24.6 keep-idle

keep-idle

Syntax

keep-idle *idle*

no keep-idle

Context

[Tree] (config>bmp>station>connection>tcp-keepalive keep-idle)

Full Context

configure bmp station connection tcp-keepalive keep-idle

Description

This command configures the time until the first TCP keepalive probe is sent.

The **no** form of this command reverts to the default.

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Default

keep-idle 600

Parameters

idle

Specifies the time, in seconds, until the first TCP keepalive probe is sent.

Values 1 to 100000

Platforms

All

24.7 keep-interval

keep-interval

Syntax

keep-interval *interval*

no keep-interval

Context

[Tree] (config>bmp>station>connection>tcp-keepalive keep-interval)

Full Context

configure bmp station connection tcp-keepalive keep-interval

Description

This command configures the time between two TCP keepalives probes.

The **no** form of this command reverts to the default.

Default

keep-interval 15

Parameters

interval

Specifies the time, in seconds, between two TCP keepalives probes.

Values 1 to 100000

Platforms

All

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24.8 keep-multiplier

keep-multiplier

Syntax

[**no**] **keep-multiplier** *number*

no keep-multiplier

Context

[Tree] (config>router>rsvp keep-multiplier)

Full Context

configure router rsvp keep-multiplier

Description

The **keep-multiplier** *number* is an integer used by RSVP to declare that a reservation is down or the neighbor is down.

The **no** form of this command reverts to the default value.

Default

keep-multiplier 3

Parameters

number

Specifies the **keep-multiplier** value.

Values 1 to 255

Platforms

All

24.9 keepalive

keepalive

Syntax

keepalive *seconds* [**hold-up-multiplier** *multiplier*]

no keepalive

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Context

[Tree] (config>router>l2tp>group>tunnel>ppp keepalive)

[Tree] (config>router>l2tp>group>ppp keepalive)

[Tree] (config>service>vprn>l2tp>group>ppp keepalive)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp keepalive)

Full Context

configure router l2tp group tunnel ppp keepalive

configure router l2tp group ppp keepalive

configure service vprn l2tp group ppp keepalive

configure service vprn l2tp group tunnel ppp keepalive

Description

This command configures the PPP keepalive interval and multiplier.

Default

keepalive 30 hold-up-multiplier 3

Parameters

seconds

Specifies in seconds the interval.

Values 10 to 300

multiplier

Specifies the multiplier.

Values 1 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

keepalive

Syntax

keepalive *seconds* [**hold-up-multiplier** *multiplier*]

no keepalive

Context

[Tree] (config>subscr-mgmt>ppp-policy keepalive)

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Full Context

configure subscriber-mgmt ppp-policy keepalive

Description

This command defines the keepalive interval and the number of keepalives that can be missed before the session is declared down for this PPP policy.

The **no** form of this command reverts to the default value.

Default

keepalive 30 hold-up-multiplier 3

Parameters

seconds

Specifies the keepalive interval in seconds.

Values 4 to 300

hold-up-multiplier *multiplier*

Specifies the number of keepalives that can be missed.

Values 1 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

keepalive

Syntax

keepalive *seconds* [**hold-up-multiplier** *multiplier*]

no keepalive

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>plcy-parms keepalive)

Full Context

configure subscriber-mgmt local-user-db ppp host ppp-policy-parameters keepalive

Description

This command configures the keepalive time interval in seconds at which LCP echo requests are transmitted for the PPP session and the number of LCP echo replies that can be missed before the PPP session is brought down. Overrides the values configured in **subscriber-mgmt ppp-policy** for PPPoE PTA sessions or in the Base router or VPRN service **l2tp group** context for L2TP LNS sessions.

The **no** form of this command removes the LCP keepalive parmeter overrides.

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Default

no keepalive

Parameters

seconds

Specifies the keepalive interval in seconds.

Values 4 to 300

hold-up-multiplier *multiplier*

Specifies the number of keepalives that can be missed.

Values 1 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

keepalive

Syntax

keepalive *seconds*

no keepalive

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy keepalive)

Full Context

configure subscriber-mgmt bgp-peering-policy keepalive

Description

This command configures the BGP keepalive timer. A keepalive message is sent every time this timer expires.

The keepalive value is generally one-third of the hold-time interval. Even though the OS implementation allows the keepalive value and the hold-time interval to be independently set, under the following circumstances, the configured keepalive value is overridden by the hold-time value:

If the specified keepalive value is greater than the configured hold-time, then the specified value is ignored, and the keepalive is set to one third of the current hold-time value.

If the specified hold-time interval is less than the configured keepalive value, then the keepalive value is reset to one third of the specified hold-time interval.

If the hold-time interval is set to zero, then the configured value of the keepalive value is ignored. This means that the connection with the peer is up permanently and no keepalive packets are sent to the peer.

The **no** form of this command used at the global level reverts to the default value.

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Default

keepalive 30

Parameters

seconds

Specifies the keepalive timer in seconds, expressed as a decimal integer.

Values 0 to 21845

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

keepalive

Syntax

keepalive *seconds*

no keepalive

Context

[Tree] (config>service>vprn>gsmp>group keepalive)

[Tree] (config>service>vpls>gsmp>group keepalive)

Full Context

configure service vprn gsmp group keepalive

configure service vpls gsmp group keepalive

Description

This command configures keepalive values for the GSMP connections in this group.

The **no** form of this command reverts to the default.

Default

no keepalive

Parameters

seconds

Specifies the GSMP keepalive timer value in seconds.

Values 1 to 25

Platforms

All

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keepalive

Syntax

keepalive *seconds* [**hold-up-multiplier** *multiplier*]

no keepalive

Context

[Tree] (config>subscr-mgmt>pppoe-client-policy keepalive)

Full Context

configure subscriber-mgmt pppoe-client-policy keepalive

Description

This command defines the **keepalive** interval and the number of times the **keepalive** can be missed before the session is declared down for this PPPoE client policy.

The **no** form of this command reverts to the default.

Default

keepalive 30 hold-up-multiplier 3

Parameters

seconds

Specifies the **keepalive** interval in seconds.

Values 10 to 300

multiplier

Specifies the number times **keepalive** can be missed.

Values 1 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

keepalive

Syntax

keepalive *seconds*

no keepalive

Context

[Tree] (config>service>vprn>bgp>group keepalive)

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[Tree] (config>service>vprn>bgp>group>neighbor keepalive)

[Tree] (config>service>vprn>bgp keepalive)

Full Context

configure service vprn bgp group keepalive

configure service vprn bgp group neighbor keepalive

configure service vprn bgp keepalive

Description

This command configures the BGP keepalive timer. A keepalive message is sent every time this timer expires. The **seconds** parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The **keepalive** value is generally one-third of the **hold-time** interval. Even though the OS implementation allows the **keepalive** value and the **hold-time** interval to be independently set, under the following circumstances, the configured **keepalive** value is overridden by the **hold-time** value:

If the specified **keepalive** value is greater than the configured **hold-time**, then the specified value is ignored, and the **keepalive** is set to one third of the current **hold-time** value.

If the specified **hold-time** interval is less than the configured **hold-time** value, then the **keepalive** value is reset to one third of the specified **hold-time** interval.

If the **hold-time** interval is set to zero, then the configured value of the **keepalive** value is ignored. This means that the connection with the peer is up permanently and no **keepalive** packets are sent to the peer.

The **no** form of this command used at the global level reverts to the default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

keepalive 30

Parameters

seconds

The keepalive timer in seconds, expressed as a decimal integer.

Values 0 to 21845

Platforms

All

keepalive

Syntax

keepalive *timeout factor*

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no keepalive

Context

[Tree] (config>router>ldp>if-params>ipv4 keepalive)

[Tree] (config>router>ldp>targ-session>ipv6 keepalive)

[Tree] (config>router>ldp>targ-session>peer keepalive)

[Tree] (config>router>ldp>if-params>if>ipv6 keepalive)

[Tree] (config>router>ldp>targ-session>ipv4 keepalive)

[Tree] (config>router>ldp>if-params>if>ipv4 keepalive)

[Tree] (config>router>ldp>if-params>ipv6 keepalive)

[Tree] (config>router>ldp>targ-session>peer-template keepalive)

Full Context

configure router ldp interface-parameters ipv4 keepalive

configure router ldp targeted-session ipv6 keepalive

configure router ldp targeted-session peer keepalive

configure router ldp interface-parameters interface ipv6 keepalive

configure router ldp targeted-session ipv4 keepalive

configure router ldp interface-parameters interface ipv4 keepalive

configure router ldp interface-parameters ipv6 keepalive

configure router ldp targeted-session peer-template keepalive

Description

This command configures the time interval (in s), that LDP waits before tearing down the session. The **factor** parameter derives the keepalive interval.

The **config**>**router**>**ldp**>**if-params**>**ipv6**>**keepalive** and **config**>**router**>**ldp**>**targ-session**>**ipv6**>**keepalive** commands are not supported on the 7450 ESS.

If no LDP messages are exchanged for the configured time interval, the LDP session is torn down. Keepalive timeout is usually three times the keepalive interval. To maintain the session permanently, regardless of the activity, set the value to zero.

When LDP session is being set up, the keepalive timeout is negotiated to the lower of the two peers. Once an operational value is agreed upon, the keepalive factor is used to derive the value of the keepalive interval.

The **no** form of the command at the interface-parameters and targeted-session levels sets the **keepalive timeout** and the **keepalive factor** to the default value.

The **no** form of this command, at the interface level, sets the **keepalive timeout** and the **keepalive factor** to the value defined under the **interface-parameters** level.

The **no** form of this command, at the peer level, sets the **keepalive timeout** and the **keepalive factor** to the value defined under the **targeted-session** level.

The session must be flapped for the new settings to operate.

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Default

Table 55: Timeout Factor Defaults lists the default values.

Table 55: Timeout Factor Defaults

Context	Timeout	Factor
config>router>ldp>if-params	30	3
config>router>ldp>targ-session	40	4
config>router>ldp>if-params>if	Inherits values from interface-parameters context.	
config>router>ldp>targ-session>peer	Inherits values from targeted-session context.	

Parameters

timeout

Configures the time interval, in seconds, that LDP waits before tearing down the session.

Values 1 to 65535

factor

Specifies the number of keepalive messages, expressed as a decimal integer, that should be sent on an idle LDP session in the keepalive timeout interval.

Values 1 to 255

Platforms

All

keepalive

Syntax

[**no**] **keepalive**

Context

[Tree] (debug>router>ldp>peer>packet keepalive)

Full Context

debug router ldp peer packet keepalive

Description

This command enables debugging for LDP Keepalive packets.

The **no** form of the command disables the debugging output.

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Platforms

All

keepalive

Syntax

keepalive *seconds*

no keepalive

Context

[Tree] (config>router>pcep>pce keepalive)

[Tree] (config>router>pcep>pcc keepalive)

Full Context

configure router pcep pce keepalive

configure router pcep pcc keepalive

Description

This command configures the PCEP session keep-alive value. A PCEP speaker (PCC or PCE) must send a keep-alive message if no other PCEP message is sent to the peer at the expiry of this timer. This timer is restarted every time a PCEP message or keep-alive message is sent.

The keep-alive mechanism is asymmetric, meaning that each peer can use a different keep-alive timer value at its end.

The **no** form of the command returns the keep-alive timer to the default value.

Default

keepalive 30

Parameters

seconds

the keep-alive value, in seconds

Values 1 to 255

Platforms

VSR-NRC

- configure router pcep pce keepalive

All

- configure router pcep pcc keepalive

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keepalive

Syntax

keepalive *deciseconds* **dropcount** *count*

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy keepalive)

Full Context

configure isa nat-group inter-chassis-redundancy keepalive

Description

This command configures keepalives between the CPMs residing on different chassis. The keepalives are used to detect the presence of the peering node. If the redundant peer connectivity is lost beyond the limit defined by keepalives, then each node in the redundant pair transitions into a standalone mode. Keepalives use UDP transport.

Default

keepalive 30 dropcount 2

Parameters

deciseconds

Specifies the number of keepalives that are transported periodically at intervals defined by this parameter.

Values 2 to 250

count

Specifies the drop count. If the number of consecutive keepalives defined by this parameter is lost, then the peer is considered unreachable and the node transitions into a standalone mode of operation.

Values 2 to 20

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

keepalive

Syntax

keepalive *seconds*

no keepalive

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Context

[Tree] (config>router>bgp>group keepalive)

[Tree] (config>router>bgp keepalive)

[Tree] (config>router>bgp>group>neighbor keepalive)

Full Context

configure router bgp group keepalive

configure router bgp keepalive

configure router bgp group neighbor keepalive

Description

This command configures the BGP keepalive timer. A keepalive message is sent every time this timer expires.

The **keepalive** parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The **keepalive** value is generally one-third of the **hold-time** interval. Even though the implementation allows the **keepalive** value and the **hold-time** interval to be independently set, under the following circumstances, the configured **keepalive** value is overridden by the **hold-time** value:

- If the specified **keepalive** value is greater than the configured **hold-time**, then the specified value is ignored and the **keepalive** is set to one third of the current **hold-time** value.
- If the specified **hold-time** interval is less than the configured **keepalive** value, then the **keepalive** value is reset to one third of the specified **hold-time** interval.
- If the **hold-time** interval is set to zero, then the configured value of the **keepalive** value is ignored. This means that the connection with the peer is up permanently and no **keepalive** packets are sent to the peer.

The **no** form of this command used at the global level reverts to the default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

keepalive 30

Parameters

seconds

Specifies the keepalive timer, in seconds, expressed as a decimal integer.

Values 0 to 21845

Platforms

All

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keepalive

Syntax

keepalive [**neighbor** *ip-addr* | **group** *name*]

no keepalive

Context

[Tree] (debug>router>bgp keepalive)

Full Context

debug router bgp keepalive

Description

This command decodes and logs all sent and received keepalive messages in the debug log.

The **no** form of this command disables the debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

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24.10 keepalive-override

keepalive-override

Syntax

keepalive-override *keepalive-timer*

no keepalive-override

Context

[Tree] (config>mcast-mgmt>multicast-info-policy>bundle>channel>source-override keepalive-override)

[Tree] (config>mcast-mgmt>multicast-info-policy>bundle keepalive-override)

[Tree] (config>mcast-mgmt>multicast-info-policy>bundle>channel keepalive-override)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override keepalive-override

configure mcast-management multicast-info-policy bundle keepalive-override

configure mcast-management multicast-info-policy bundle channel keepalive-override

Description

This command configures the keepalive timer override. The PIM (S,G) Keepalive Timer (KAT) is used to maintain the (S,G) state when (S,G) join is not received. Expiry of the KAT causes the (S,G) entry to be removed.

The KAT override configuration is performed with a multicast information policy, which must be applied to the related PIM routing instance. When a KAT override is configured under a channel (a group or a group range), it applies to all (S,G) entries that fall under it, except when the source-override is configured and a KAT override is also configured under the source-override. In this scenario, the specific KAT override must be used for the (S,G) entries that fall under the source-override, while other (S,G) entries under the bundle use the KAT override configured under the channel.

Parameters

keepalive-timer

Specifies the keepalive timer override, in seconds.

Values 10 to 86000

Platforms

All

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24.11 kernel

kernel

Syntax

kernel [**-password** *password*] [**-token** *token*]

no kernel

Context

[Tree] (environment kernel)

Full Context

environment kernel

Description

This command allows Nokia technical support to access the **kernel** and **vmhost** commands. These commands are used only by Nokia technical support for troubleshooting.

The **no** form of this command disables the **kernel** and **vmhost** commands.

Parameters

password

Specifies the password to access the commands, up to 256 characters.

token

Specifies the token to access the commands, up to 4096 characters.

Platforms

All

24.12 kex

kex

Syntax

kex *index* **name** *kex-name*

no kex *index*

Context

[Tree] (config>system>security>ssh>server-kex-list kex)

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[Tree] (config>system>security>ssh>client-kex-list kex)

Full Context

configure system security ssh server-kex-list kex

configure system security ssh client-kex-list kex

Description

This command configures phase 1 SSH v2 KEX algorithms for SR OS as an SSH server or an SSH client. By default, the client and server lists are empty. If the user configures this list, SSH uses the hard-coded list with the first-listed algorithm having the highest priority and so on. An empty server or client list is the default list and contains the following algorithms:

ecdh-sha2-nistp512

ecdh-sha2-nistp384

ecdh-sha2-nistp256

diffie-hellman-group16-sha512

diffie-hellman-group14-sha256

diffie-hellman-group14-sha1

diffie-hellman-group-exchange-sha1

diffie-hellman-group1-sha1

The **no** form of this command removes the specified KEX index. If all KEX indexes are removed, the default list is used again.

Parameters

index

Specifies the index of the algorithm in the list. The lowest index in the list is negotiated first on the SSH negotiation list, while the highest index is at the bottom of the SSH negotiation list.

Values 1 to 255

kex-name

Specifies the KEX algorithm for computing the shared secret key.

Values diffie-hellman-group16-sha512, diffie-hellman-group14-sha256, diffie-hellman-group14-sha1, diffie-hellman-group-exchange-sha1, diffie-hellman-group1-sha1

Platforms

All

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24.13 key

key

Syntax

key *key-file-name*

Context

[Tree] (config>system>security>pki>cert-auto-upd>cert key)

Full Context

configure system security pki certificate-auto-update cert key

Description

This command configures the filename of the key corresponding to the certificate.

Parameters

key-file-name

Specifies the filename of the key.

Platforms

All

key

Syntax

key packet-type {**accept** | **request**} **attribute-type** *attribute-type* [**vendor** *vendor-id*]

no key

Context

[Tree] (config>router>radius-proxy>server>cache key)

[Tree] (config>service>vprn>radius-proxy>server>cache key)

Full Context

configure router radius-proxy server cache key

configure service vprn radius-proxy server cache key

Description

This command specifies the RADIUS cache key that is used to match the information in subsequent DHCP requests for authorization.

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Parameters

packet-type

Specifies the packet type of the RADIUS messages to use to generate the key for the cache of this RADIUS proxy server.

Values accept, request

attribute-type

Specifies the RADIUS attribute type to cache for this RADIUS proxy. server.

Values 1 to 255

vendor-id

Specifies the RADIUS vendor ID.

Values 1 to 16777215, nokia

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

key

Syntax

key *key-filename*

no key

Context

[Tree] (config>ipsec>cert-profile>entry key)

Full Context

configure ipsec cert-profile entry key

Description

This command specifies the filename of an imported key for the **cert-profile entry**.

The **no** form of this command removes the key filename from the entry configuration.

Default

no key

Parameters

key-filename

Specifies the filename of an imported key.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

key

Syntax

key *password* [**hash** | **hash2** | **custom**] **reference** *reference-number*

no key reference *reference-number*

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2>key-list key)

Full Context

configure system security pki ca-profile cmpv2 key-list key

Description

This command specifies a pre-shared key used for CMPv2 initial registration. Multiples of key commands are allowed to be configured under this context.

The password and reference-number is distributed by the CA via out-of-band means.

The configured password is stored in configuration file in an encrypted form by using SR OS hash2 algorithm.

The **no** form of this command removes the parameters from the configuration.

Parameters

password

Specifies a printable ASCII string, up to 64 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

reference *reference-number*

Specifies a printable ASCII string, up to 64 characters in length.

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Platforms

All

key

Syntax

key *key-filename*

no key

Context

[Tree] (config>system>security>tls>cert-profile>entry key)

Full Context

configure system security tls cert-profile entry key

Description

This command specifies the file name of an imported key for the **cert-profile** entry.

The **no** form of the command removes the key.

Default

no key

Parameters

key-filename

Specifies the file name of the key.

Platforms

All

24.14 key-generation

key-generation

Syntax

key-generation dsa size *bits*

key-generation ecdsa curve *curve*

key-generation rsa size *bits*

key-generation same-as-existing-key

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Context

[Tree] (config>system>security>pki>cert-upd-prof key-generation)

Full Context

configure system security pki certificate-update-profile key-generation

Description

This command configures the key generation algorithm and behavior.

Default

key-generation same-as-existing-key

Parameters

bits

Specifies the size in bits..

Values 512 to 8192

Default 2048

curve

Specifies the elliptic curve for key generation.

Values secp256r1, secp384r1, secp521r1

Default secp256r1

same-as-existing-key

Specifies to use the same algorithm and key or size curve as the existing key.

Platforms

All

24.15 key-list

key-list

Syntax

key-list

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 key-list)

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Full Context

configure system security pki ca-profile cmpv2 key-list

Description

This command enables the context to configure pre-shared key list parameters.

Platforms

All

24.16 key-re-exchange

key-re-exchange

Syntax

key-re-exchange

Context

[Tree] (config>system>security>ssh key-re-exchange)

Full Context

configure system security ssh key-re-exchange

Description

This command enables the key re-exchange context.

Platforms

All

24.17 key-rollover-interval

key-rollover-interval

Syntax

key-rollover-interval *key-rollover-interval*

Context

[Tree] (config>service>vprn>ospf3>area key-rollover-interval)

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Full Context

configure service vprn ospf3 area key-rollover-interval

Description

This command configures the key rollover interval.

The **no** form of this command reverts to the default.

Default

key-rollover-interval 10

Parameters

key-rollover-interval

Specifies the time, in seconds, after which a key rollover will start.

Values 10 to 300

Platforms

All

key-rollover-interval

Syntax

key-rollover-interval *seconds*

Context

[Tree] (config>router>ospf3>area key-rollover-interval)

Full Context

configure router ospf3 area key-rollover-interval

Description

This command configures the key rollover interval.

Default

key-rollover-interval 10

Parameters

seconds

Specifies the time, in seconds, after which a key rollover will start.

Values 10 to 300

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Platforms

All

24.18 key-update

key-update

Syntax

key-update ca *ca-profile-name* **newkey** *key-filename* **oldkey** *key-filename* **oldcert** *cert-filename* [**hash-alg** *hash-algorithm*] **save-as** *save-path-of-result-cert*

Context

[Tree] (admin>certificate>cmpv2 key-update)

Full Context

admin certificate cmpv2 key-update

Description

This command requests a new certificate from the CA to update an existing certificate due to reasons such as key refresh or replacing a compromised key.

In some cases, the CA may not return the certificate immediately, due to reasons such as if the request processing needs manual intervention. In such cases, use the **admin certificate cmpv2 poll** command to poll the status of the request.

Parameters

ca-profile-name

Specifies a CA profile name, which includes CMP server information, up to 32 characters.

newkey ***key-filename***

Specifies the key file of the requesting certificate, up to 95 characters.

oldkey ***key-filename***

Specifies the key to be replaced, up to 95 characters.

cert-filename

Specifies the filename of an imported certificate to be replaced, up to 95 characters.

hash-algorithm

Specifies the hash algorithm for the key.

Values **md5** – Configures the HMAC-MD5 algorithm
sha1 – Configures the HMAC-SHA1 algorithm
sha224 – Configures the HMAC-SHA224 algorithm
sha256 – Configures the HMAC-SHA256 algorithm

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sha384 – Configures the HMAC-SHA384 algorithm

sha512 – Configures the HMAC-SHA512 algorithm

Default sha256

save-path-of-result-cert

Specifies the system save the full pathname when saving the result certificate, up to 200 characters.

Platforms

All

24.19 key-value

key-value

Syntax

key-value *public-key-value*

no key-value

Context

[Tree] (config>system>security>user>public-keys>rsa>rsa-key key-value)

[Tree] (config>system>security>user>public-keys>ecdsa>ecdsa-key key-value)

Full Context

configure system security user public-keys rsa rsa-key key-value

configure system security user public-keys ecdsa ecdsa-key key-value

Description

This command configures a value for the RSA or ECDSA public key. The public key must be enclosed in quotation marks. For RSA, the key is between 768 and 4096 bits. For ECDSA, the key is between 1 and 1024 bits.

Default

no key-value

Parameters

public-key-value

Specifies the public key value, up to 800 characters for RSA and up to 255 characters for ECDSA.

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Platforms

All

key-value

Syntax

key-value *public-key-value*

no key-value

Context

[Tree] (config>system>security>ssh>client-known-hosts>host-key key-value)

Full Context

configure system security ssh client-known-hosts host-key key-value

Description

This command configures the host public key value.

The **no** form of this command removes the key value.

Default

no key-value

Parameters

public-key-value

Specifies the key value, up to 800 characters.

Platforms

All

24.20 keychain

keychain

Syntax

[**no**] **keychain** *keychain-name*

Context

[Tree] (config>system>security keychain)

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Full Context

configure system security keychain

Description

This command enables the context to configure keychain parameters. A keychain must be configured on the system before it can be applied to a session.

The **no** form of this command removes the keychain nodal context and everything under it from the configuration. If the keychain to be removed is in use when the no keychain command is entered, the command will not be accepted and an error indicating that the keychain is in use will be printed.

Parameters

keychain-name

Specifies a keychain name which identifies this particular keychain entry.

Values An ASCII string up to 32 characters.

Platforms

All

24.21 keygroup-name

keygroup-name

Syntax

keygroup-name *keygroup-name*

no keygroup-name

Context

[Tree] (config>grp-encryp>encryp-keygrp keygroup-name)

Full Context

configure group-encryption encryption-keygroup keygroup-name

Description

This command is used to name the key group. The key group name can be used to reference a key group when configuring services or displaying information.

The **no** form of the command reverts to the default value.

Parameters

keygroup-name

The name of the key group, up to 64 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

24.22 kill-session

kill-session

Syntax

[**no**] **kill-session**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization kill-session)

Full Context

configure system security profile netconf base-op-authorization kill-session

Description

This command authorizes a user associated with the profile to send a NETCONF <kill-session> RPC. This kill session operation allows a NETCONF client to kill another NETCONF session, but not the session in which the operation is requested.

The **no** form of the command denies the user from requesting a kill-session.

Default

no kill-session

Platforms

All

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25 I Commands – Part I

25.1 I2

I2

Syntax

[**no**] **I2**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>type I2)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query type I2

Description

This command enables matching on Layer 2 tunnels.

The **no** form of this command disables matching on Layer 2 access points, unless no other tunnel type specifier is configured.

Default

no I2

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

I2

Syntax

[**no**] **I2**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state I2)

Full Context

configure subscriber-mgmt wlan-gw ue-query state I2

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Description

This command enables matching on UEs in a Layer 2 wholesale state.

The **no** form of this command disables matching on UEs in a Layer 2 wholesale state, unless all state matching is disabled.

Default

no l2

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.2 l2-access-id-alias

l2-access-id-alias

Syntax

l2-access-id-alias *string*

no l2-access-id-alias

Context

[Tree] (config>service>vpls>sap>pfcp l2-access-id-alias)

Full Context

configure service vpls sap pfcp l2-access-id-alias

Description

This command defines a Layer 2 access ID alias for the capture SAP. It replaces the default underlying port-based or LAG-based Layer 2 access ID. Different capture SAPs on the same underlying port or LAG can have different Layer 2 access ID aliases.

The **no** form of the command removes the configuration.

Parameters

string

Specifies the Layer 2 access ID alias, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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25.3 l2-access-points

l2-access-points

Syntax

l2-access-points

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw l2-access-points)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw l2-access-points)

Full Context

configure service ies subscriber-interface group-interface wlan-gw l2-access-points

configure service vprn subscriber-interface group-interface wlan-gw l2-access-points

Description

Commands in this context configure Layer 2 access points in WLAN gateway group interfaces.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.4 l2-ap

l2-ap

Syntax

l2-ap *sap-id* [**create**]

no l2-ap *sap-id*

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>l2-access-points l2-ap)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points l2-ap)

Full Context

configure service ies subscriber-interface group-interface wlan-gw l2-access-points l2-ap

configure service vprn subscriber-interface group-interface wlan-gw l2-access-points l2-ap

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Description

This command adds a specific SAP where Layer 2 WLAN gateway aggregation is performed. The following SAPs are supported:

- Ethernet
- LAG
- MPLS pseudowire SDPs

This command can be repeated multiple times to create multiple Layer 2 access points.

The **no** form of this command removes the Layer 2 access point. This is only allowed if the Layer 2 access point SAP is shutdown.

Parameters

sap-id

Specifies SAP to be created.

create

Keyword used to create the Layer 2 WLAN gateway aggregation instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.5 l2-ap-auto-sub-id-fmt

l2-ap-auto-sub-id-fmt

Syntax

l2-ap-auto-sub-id-fmt {**include-ap-tags** | **sap-only**}

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw l2-ap-auto-sub-id-fmt)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw l2-ap-auto-sub-id-fmt)

Full Context

configure service ies subscriber-interface group-interface wlan-gw l2-ap-auto-sub-id-fmt

configure service vprn subscriber-interface group-interface wlan-gw l2-ap-auto-sub-id-fmt

Description

This command configures the contents of the auto-generated subscriber ID when the **ipoe-sub-id-key** command is set to include **sap-id** and the **def-sub-id** command is configured with **use-auto-id**. The VLANs must be configured so that the subscriber ID length is not exceeded.

This command can include either the SAP or the SAP + AP delimiting tags.

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The **no** form of this command reverts to the default configuration.

Default

l2-ap-auto-sub-id-fmt include-ap-tags

Parameters

include-ap-tags

Specifies that the SAP + AP delimiting tags is used.

sap-only

Specifies that the SAP only is used.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.6 l2-ap-encap-type

l2-ap-encap-type

Syntax

l2-ap-encap-type {**null** | **dot1q** | **qinq**}

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw l2-ap-encap-type)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw l2-ap-encap-type)

Full Context

configure service ies subscriber-interface group-interface wlan-gw l2-ap-encap-type

configure service vprn subscriber-interface group-interface wlan-gw l2-ap-encap-type

Description

This parameter specifies the number of AP identifying VLAN tags for an AP. This is the default value that can be overridden per SAP. This value must be at least equal to the number of VLANs configured in the SAP or enabling a SAP will fail.

A SAP VLAN is explicitly configured, for example **l2-ap 1/1/1:25**. Other VLANs on the same port can still be used in other contexts.

The number of VLAN tags Epiped to the WLAN gateway IOM equals the **l2-ap-encap-type** minus the encaps of the SAP. Upon receipt of a packet, these VLANs are stored as a Layer 2 tunnel identifier, and are only used in context of WLAN gateway.

The **no** form of this command sets the default value.

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Default

l2-ap-encap-type null

Parameters

null

Both the SAP and the AP are not VLAN-tagged.

dot1q

Either the AP or the SAP uses one VLAN tag.

qinq

Up to two VLAN tags are used by the AP or SAP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.7 l2-aware

l2-aware

Syntax

l2-aware

Context

[Tree] (config>service>vprn>nat>inside l2-aware)

Full Context

configure service vprn nat inside l2-aware

Description

Commands in this context configure parameters specific to Layer2-Aware NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

l2-aware

Syntax

l2-aware

Context

[Tree] (config>router>nat>inside l2-aware)

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Full Context

configure router nat inside l2-aware

Description

Commands in this context configure Layer2-Aware NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

l2-aware

Syntax

l2-aware subscriber *sub-ident-string* **ip** *ip-address* **protocol** {**tcp** | **udp**} [**port** *port*] [**outside-ip** *ip-address*] [**outside-port** *port*] [**nat-policy** *policy-name*] [**member** *member-id*] [**port-range-start** *port*]

no l2-aware subscriber *sub-ident-string* **ip** *ip-address* **protocol** {**tcp** | **udp port** *port*

Context

[Tree] (config>service>nat>fwd l2-aware)

Full Context

configure service nat port-forwarding l2-aware

Description

This command creates NAT static port forwards for Layer2-Aware subscribers. The ESM subscriber must be present in the system before this command is executed. The **no** form of the command deletes NAT static port forwards for Layer2-Aware subscribers.

Parameters

subscriber *sub-ident-string*

This mandatory parameter specifies the ESM subscriber for which the SPF is to be created; ESM subscriber must be present in the system before the SPF can be created.

ip *ip-address*

This mandatory parameter specifies the source IPv4/IPv6 address for which SPF will be created.

protocol {tcp | udp}

This mandatory parameter specifies the protocol to use, either TCP or UDP.

port *port*

This optional parameter specifies a source port.

Values 1 to 65535

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outside-ip ***ipv4-address***

This mandatory parameter specifies the outside IPv4 address. If the outside IPv4 address is specified, then all other optional parameters become mandatory.

outside-port ***port***

This optional parameter specifies the outside port.

nat-policy ***policy-name***

If multiple NAT policies are used inside the routing context, then the NAT policy should be specified in the SPF request so the SPF is created in the correct NAT pool. Otherwise, the default NAT policy from the inside routing context will be used.

member ***member-id***

This optional parameter should not be used by the operator. It is used only if the command is replayed via the **exec** command or at **boot-config**. The member ID indicates the identifier of the NAT ISA group member associated with this NAT subscriber.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.8 l2-aware-ip-address

l2-aware-ip-address

Syntax

l2-aware-ip-address *ip-address*

l2-aware-ip-address from-pool

no l2-aware-ip-address

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp l2-aware-ip-address)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp l2-aware-ip-address)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp l2-aware-ip-address

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp l2-aware-ip-address

Description

This command configures the Layer2-Aware NAT inside IP address to be assigned via DHCP on the WLAN-GW ISA.

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If the **from-pool** parameter is specified instead of an IPv4 address, a unique address is allocated to each UE. The pool used is managed by the dhcpv4-nat pool manager, configured under the same subscriber interface. This option is only available when **auth-on-dhcp** is also configured.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the Layer2-Aware NAT inside IP address.

from-pool

Specifies that the Layer2-Aware IP address is allocated from a pool.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.9 l2-aware-nat-bypass

l2-aware-nat-bypass

Syntax

[**no**] **l2-aware-nat-bypass**

Context

[Tree] (config>filter>ip-filter>entry>action l2-aware-nat-bypass)

Full Context

configure filter ip-filter entry action l2-aware-nat-bypass

Description

This command enables bypassing NAT for packets pertaining to L2-Aware hosts and matching this entry. This action is only applicable to L2-Aware NAT subscribers and it must be configured together with **action forward**. Traffic identified in the match condition bypasses L2-Aware NAT. A common use case is to bypass NAT for on-net destinations (within the customer network).

Traffic that is not classified for bypass is automatically diverted to L2-Aware NAT, unless it is explicitly configured in the IP filter to be dropped.

For selective NAT bypass to take effect, in addition to the IP filter configuration, the L2-Aware NAT subscriber must be specifically enabled for selective bypass via the **nat-allow-bypass** configuration option in the NAT CLI node in the SLA profile.

The **no** form of this command automatically diverts traffic to L2-Aware NAT, unless it is explicitly configured in the IP filter to be dropped.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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25.10 l2-aware-sub

l2-aware-sub

Syntax

[**no**] **l2-aware-sub** *sub-ident-string*

Context

[Tree] (config>li>li-source>nat l2-aware-sub)

Full Context

configure li li-source nat l2-aware-sub

Description

This command configures a Layer-2-Aware subscriber source.

The **no** form of this command removes the values from the configuration.

Parameters

sub-ident-string

Specifies a source name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.11 l2-inner-vlan

l2-inner-vlan

Syntax

l2-inner-vlan *q-tag*

no l2-inner-vlan

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query l2-inner-vlan)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query l2-inner-vlan

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Description

This command enables matching on a Layer 2 access point with a specified C-VLAN.

The **no** form of this command disables matching on a C-VLAN.

Default

no l2-inner-vlan

Parameters

q-tag

Specifies the *q-tag* for the C-VLAN.

Values 0 to 4095

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.12 l2-ip

l2-ip

Syntax

[**no**] **l2-ip**

Context

[Tree] (config>cflowd>collector>export-filter>family l2-ip)

Full Context

configure cflowd collector export-filter family l2-ip

Description

This command filters Layer 2 IP flow data from being sent to the associated collector.

The **no** form of this command removes the filter, allowing Layer 2 IP flow data to be sent to the associated collector.

Default

no l2-ip

Platforms

All

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25.13 l2-outer-vlan

l2-outer-vlan

Syntax

l2-outer-vlan *q-tag*

no l2-outer-vlan

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query l2-outer-vlan)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query l2-outer-vlan

Description

This command enables matching on a Layer 2 access point with a specified S-VLAN.

The **no** form of this command disables matching on an S-VLAN.

Default

no l2-outer-vlan

Parameters

q-tag

Specifies the *q-tag* for the S-VLAN.

Values 0 to 4095

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.14 l2-outside

l2-outside

Syntax

l2-outside

no l2-outside

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Context

[Tree] (config>service>nat>nat-policy l2-outside)

[Tree] (config>service>nat>firewall-policy l2-outside)

Full Context

configure service nat nat-policy l2-outside

configure service nat firewall-policy l2-outside

Description

This command configures a NAT policy to be used with a Layer 2 outside service instead of a Layer 3 outside service. This command and the **pool** command are mutually exclusive.

Default

no l2-outside

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy l2-outside

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy l2-outside

25.15 l2-sap

l2-sap

Syntax

l2-sap *sap-id*

no l2-sap

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query l2-sap)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query l2-sap

Description

This command enables matching on Layer 2 access points active on the specified SAP.

The **no** form of this command disables matching on the SAP.

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Default

no l2-sap

Parameters

sap-id

Specifies the SAP ID. For details on SAP ID parameter values, refer to section *Monitor CLI Commands* in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide*.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.16 l2-service

l2-service

Syntax

l2-service *service-id*

no l2-service

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range l2-service)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range l2-service)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range l2-service

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range l2-service

Description

This command specifies the VPLS service used for L2 wholesale. When such a service is configured no other configuration is allowed under the vlan-range.

The **no** form of this command removes the L2 wholesale service, this is only allowed if the l2-service node is shut down.

Parameters

service-id

Specifies the VPLS service ID to use for Layer 2 wholesale.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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25.17 l2pt-termination

l2pt-termination

Syntax

l2pt-termination [**cdp**] [**dtp**] [**pagp**] [**stp**] [**udld**] [**vtp**]

no l2pt-termination

Context

[Tree] (config>service>vpls>spoke-sdp l2pt-termination)

[Tree] (config>service>template>vpls-sap-template l2pt-termination)

[Tree] (config>service>vpls>sap l2pt-termination)

Full Context

configure service vpls spoke-sdp l2pt-termination

configure service template vpls-sap-template l2pt-termination

configure service vpls sap l2pt-termination

Description

This command enables Layer 2 Protocol Tunneling (L2PT) termination on a specified SAP or spoke-SDP. L2PT termination is supported only for STP BPDUs. PDUs of other protocols are discarded.

This feature can be enabled only if STP is disabled in the context of the specified VPLS service.

The **no** form of this command reverts to the default.

Default

no l2pt-termination

Parameters

cdp

Specifies the Cisco discovery protocol

dtp

Specifies the dynamic trunking protocol

pagp

Specifies the port aggregation protocol

stp

Specifies all spanning tree protocols: stp, rstp, mstp, pvst (default)

udld

Specifies unidirectional link detection

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vtp

Specifies the virtual trunk protocol

Platforms

All

l2pt-termination

Syntax

l2pt-termination [**cdp**] [**dtp**] [**pagp**] [**stp**] [**udld**] [**vtp**]

no l2pt-termination

Context

[Tree] (config>service>pw-template l2pt-termination)

Full Context

configure service pw-template l2pt-termination

Description

This command enables Layer 2 Protocol Tunneling (L2PT) termination on a given SAP or spoke SDP. L2PT termination will be supported only for STP BPDUs. PDUs of other protocols will be discarded.

This feature can be enabled only if STP is disabled in the context of the given VPLS service.

Default

no l2pt-termination

Parameters

cdp

Specifies the Cisco discovery protocol.

dtp

Specifies the dynamic trunking protocol.

pagp

Specifies the port aggregation protocol.

stp

Specifies all spanning tree protocols: stp, rstp, mstp, pvst (default).

udld

Specifies unidirectional link detection.

vtp

Specifies the virtual trunk protocol.

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Platforms

All

25.18 l2tp

l2tp

Syntax

l2tp

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host l2tp)

Full Context

configure subscriber-mgmt local-user-db ppp host l2tp

Description

Commands in this context configure L2TP parameters for the host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

l2tp

Syntax

l2tp

Context

[Tree] (config>router l2tp)

Full Context

configure router l2tp

Description

Commands in this context configure L2TP parameters. L2TP extends the PPP model by allowing Layer 2 and PPP endpoints to reside on different devices interconnected by a packet-switched network.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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l2tp

Syntax

[**no**] **l2tp**

Context

[Tree] (debug>router>l2tp>packet l2tp)

[Tree] (debug>router>l2tp>assignment-id>packet l2tp)

[Tree] (debug>router>l2tp>group>packet l2tp)

[Tree] (debug>router>l2tp>peer>packet l2tp)

[Tree] (debug>router l2tp)

Full Context

debug router l2tp packet l2tp

debug router l2tp assignment-id packet l2tp

debug router l2tp group packet l2tp

debug router l2tp peer packet l2tp

debug router l2tp

Description

This command sets debugging for L2TP packets.

The **no** form of this command removes the settings of debugging for L2TP packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

l2tp

Syntax

[**no**] **l2tp**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync l2tp)

Full Context

configure redundancy multi-chassis peer sync l2tp

Description

This command enables L2TP.

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The **no** form of this command disables L2TP.

Platforms

All

l2tp

Syntax

l2tp [**terminate-only**]

no l2tp

Context

[Tree] (debug>service>id>ppp>event l2tp)

Full Context

debug service id ppp event l2tp

Description

This command enables PPP L2TP event debug.

Parameters

terminate-only

Enables debug for local terminated PPP session.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

l2tp

Syntax

[**no**] **l2tp**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>type l2tp)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query type l2tp

Description

This command enables matching on L2TP tunnels.

The **no** form of this command disables matching on L2TP tunnels, unless no other tunnel type specifier is configured.

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Default

no l2tp

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

l2tp

Syntax

[**no**] **l2tp**

Context

[Tree] (config>service>vprn l2tp)

Full Context

configure service vprn l2tp

Description

Commands in this context configure L2TP parameters. L2TP extends the PPP model by allowing Layer 2 and PPP endpoints to reside on different devices interconnected by a packet-switched network.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

l2tp

Syntax

l2tp

Context

[Tree] (debug>oam>build-packet>packet>field-override>header l2tp)

[Tree] (config>test-oam>build-packet>header l2tp)

Full Context

debug oam build-packet packet field-override header l2tp

configure test-oam build-packet header l2tp

Description

This command causes the associated header to be defined as an L2TP header template and enables the context to define the L2TP parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.19 l2tp-accounting-policy

l2tp-accounting-policy

Syntax

l2tp-accounting-policy *policy-name* [**create**]

no l2tp-accounting-policy *policy-name*

Context

[Tree] (config>aaa l2tp-accounting-policy)

Full Context

configure aaa l2tp-accounting-policy

Description

This command configures an L2TP accounting policy.

The **no** form of this command removes the policy-name from the configuration.

Parameters

policy-name

Specifies a policy name.

create

This keyword is required when first creating the configuration context. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.20 l2tp-lns

l2tp-lns

Syntax

l2tp-lns *max-nr-of-sessions*

no l2tp-lns

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Context

[Tree] (config>subscr-mgmt>sla-profile>session-limits l2tp-lns)

[Tree] (config>subscr-mgmt>sub-profile>session-limits l2tp-lns)

Full Context

configure subscriber-mgmt sla-profile session-limits l2tp-lns

configure subscriber-mgmt sub-profile session-limits l2tp-lns

Description

This command configures the maximum number of L2TP LNS sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of L2TP LNS sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of L2TP LNS sessions.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.21 l2tp-load-balancing

l2tp-load-balancing

Syntax

[**no**] **l2tp-load-balancing**

Context

[Tree] (config>system>load-balancing l2tp-load-balancing)

Full Context

configure system load-balancing l2tp-load-balancing

Description

This command enables the inclusion of the L2TPv2 session ID into the load-balancing hash algorithm to induce more variation and better load distribution over available links and next-hops.

The **no** form of this command disables the inclusion of the session-id.

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Platforms

All

25.22 l2tp-lts

l2tp-lts

Syntax

l2tp-lts *max-nr-of-sessions*

no l2tp-lts

Context

[Tree] (config>subscr-mgmt>sla-profile>session-limits l2tp-lts)

[Tree] (config>subscr-mgmt>sub-profile>session-limits l2tp-lts)

Full Context

configure subscriber-mgmt sla-profile session-limits l2tp-lts

configure subscriber-mgmt sub-profile session-limits l2tp-lts

Description

This command configures the maximum number of L2TP LTS sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of L2TP LTS sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of L2TP LTS sessions.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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25.23 l2tp-overall

l2tp-overall

Syntax

l2tp-overall *max-nr-of-sessions*

no l2tp-overall

Context

[Tree] (config>subscr-mgmt>sub-profile>session-limits l2tp-overall)

[Tree] (config>subscr-mgmt>sla-profile>session-limits l2tp-overall)

Full Context

configure subscriber-mgmt sub-profile session-limits l2tp-overall

configure subscriber-mgmt sla-profile session-limits l2tp-overall

Description

This command configures the maximum number of L2TP sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of L2TP sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of L2TP sessions.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.24 l2tp-tunnel-id-range

l2tp-tunnel-id-range

Syntax

l2tp-tunnel-id-range start *l2tp-tunnel-id* **end** *l2tp-tunnel-id*

no l2tp-tunnel-id-range

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Context

[Tree] (config>redundancy>multi-chassis>peer>sync>track-srrp-instances>track-srrp l2tp-tunnel-id-range)

Full Context

configure redundancy multi-chassis peer sync track-srrp-instances track-srrp l2tp-tunnel-id-range

Description

This command sets the tunnel-id range that is used to allocate a new tunnel-id for a tunnel for which multi-chassis redundancy is configured to this MCS peer.

The **no** form of this command reverts to the default.

Parameters

start *l2tp-tunnel-id*

Specifies the start of the range of L2TP tunnel identifiers that can be allocated by L2TP on this system, to be synchronized with Multi Chassis Redundancy Synchronization (MCS).

Values 1 to 16383

end *l2tp-tunnel-id*

Specifies the end of the range of L2TP tunnel identifiers that can be allocated by L2TP on this system, to be synchronized with Multi Chassis Redundancy Synchronization (MCS).

Values 1 to 16383

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.25 l2tpv3

l2tpv3

Syntax

l2tpv3

Context

[Tree] (config>service>vprn>l2tp l2tpv3)

[Tree] (config>router>l2tp>group>tunnel l2tpv3)

[Tree] (config>router>l2tp>group l2tpv3)

[Tree] (config>router>l2tp l2tpv3)

[Tree] (config>service>vprn>l2tp>group>tunnel l2tpv3)

[Tree] (config>service>vprn>l2tp>group l2tpv3)

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Full Context

configure service vprn l2tp l2tpv3

configure router l2tp group tunnel l2tpv3

configure router l2tp group l2tpv3

configure router l2tp l2tpv3

configure service vprn l2tp group tunnel l2tpv3

configure service vprn l2tp group l2tpv3

Description

Commands in this context configure L2TPv3 parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

l2tpv3

Syntax

l2tpv3

Context

[Tree] (config>service>epipe>spoke-sdp>ingress l2tpv3)

[Tree] (config>service>epipe>spoke-sdp>egress l2tpv3)

Full Context

configure service epipe spoke-sdp ingress l2tpv3

configure service epipe spoke-sdp egress l2tpv3

Description

Commands in this context configure L2TPv3 spoke SDPs for Epipe services.

Platforms

All

l2tpv3

Syntax

l2tpv3

Context

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>ingress l2tpv3)

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[Tree] (config>mirror>mirror-dest>spoke-sdp>egress l2tpv3)

[Tree] (config>mirror>mirror-dest>spoke-sdp>ingress l2tpv3)

Full Context

configure mirror mirror-dest remote-source spoke-sdp ingress l2tpv3

configure mirror mirror-dest spoke-sdp egress l2tpv3

configure mirror mirror-dest spoke-sdp ingress l2tpv3

Description

Commands in this context configure an RX/TX cookie for L2TPv3 egress spoke SDP or for the remote-source ingress spoke SDP.

Platforms

All

- configure mirror mirror-dest spoke-sdp egress l2tpv3
- configure mirror mirror-dest remote-source spoke-sdp ingress l2tpv3

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure mirror mirror-dest spoke-sdp ingress l2tpv3

25.26 l2tpv3-session

l2tpv3-session

Syntax

l2tpv3-session [**create**]

no l2tpv3-session

Context

[Tree] (config>service>vpls>sap l2tpv3-session)

[Tree] (config>service>epipe>sap l2tpv3-session)

Full Context

configure service vpls sap l2tpv3-session

configure service epipe sap l2tpv3-session

Description

This command creates the configuration context to define the L2TPv3 tunnel parameters.

The **no** form of this command deletes the L2TPv3 configuration context.

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Parameters

create

This keyword is mandatory while creating a L2TPv3 session.

Platforms

All

25.27 l2w

l2w

Syntax

[**no**] **l2w**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>ue-state l2w)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query ue-state l2w

Description

This command enables matching on tunnels with L2W UEs.

The **no** form of this command disables matching on L2W UEs, unless UE state matching is disabled altogether.

Default

no l2w

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.28 l3-ring

l3-ring

Syntax

l3-ring *name* [**create**]

no l3-ring name

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Context

[Tree] (config>redundancy>mc>peer>mcr l3-ring)

Full Context

configure redundancy multi-chassis peer mc-ring l3-ring

Description

This command configures a Layer 3 multi-chassis ring.

The **no** form of this command reverts to the default.

Platforms

All

25.29 l4-load-balancing

l4-load-balancing

Syntax

[**no**] **l4-load-balancing**

Context

[Tree] (config>system>load-balancing l4-load-balancing)

Full Context

configure system load-balancing l4-load-balancing

Description

This command configures system-wide Layer 4 load balancing. The configuration at the system level can enable or disable load balancing based on Layer 4 fields. If enabled, the Layer 4 source and destination port fields will be included in hashing calculation for TCP/UDP packets.

The hashing algorithm addresses finer spraying granularity where many hosts are connected to the network.

To address more efficient traffic distribution between network links (forming a LAG group), a hashing algorithm extension takes into account L4 information (that is, src/dst L4-protocol port).

The hashing index can be calculated according to the following algorithm:

Example:

```
– If [(TCP or UDP traffic) & enabled]
    – hash (TCP/UDP ports, IP addresses)
– else if (IP traffic)
    – hash (IP addresses)
– else
    – hash (MAC addresses)
```


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```
    – endif
```

This algorithm will be used in all cases where IP information in per-packet hashing is included (refer to "Traffic Load Balancing Options" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Interface Configuration Guide*). However, the Layer 4 information (TCP/UDP ports) will not be used for fragmented packets.

Default

no l4-load-balancing

Platforms

All

25.30 l4-src-port

l4-src-port

Syntax

l4-src-port *port* [*mask*]

no l4-src-port

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry l4-src-port)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry l4-src-port)

Full Context

configure system security management-access-filter ip-filter entry l4-src-port

configure system security management-access-filter ipv6-filter entry l4-src-port

Description

This command configures a source TCP or UDP port number or port range for a management access filter match criterion.

The **no** form of this command reverts to the default values.

Default

no l4-src-port

Parameters

port

Specifies the source TCP or UDP port number as a match criterion.

Values 1 to 65535

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Default 6 (exact match)

mask

Specifies the mask used to select a range of source port numbers. Table 56: Format Styles to Configure Mask lists the format styles to configure the 16-bit mask.

Table 56: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDDDD	63488
Hexadecimal	0xHHHH	0xF800
Binary	0bBBBBBBBBBBBBBBB	0b1111100000000000

To select a range from 1024 to 2047, specify 1024 and 0xFC00 for the port and mask, respectively.

Values 1 to 65535 (decimal)

Default 65535 (exact match)

Platforms

All

25.31 label

label

Syntax

label [**detail**]

no label

Context

[Tree] (debug>router>ldp>peer>packet label)

Full Context

debug router ldp peer packet label

Description

This command enables debugging for LDP Label packets.

The **no** form of the command disables the debugging output.

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Parameters

detail

Displays detailed information.

Platforms

All

label

Syntax

label *label*

no label

Context

[Tree] (config>test-oam>build-packet>header>mpls label)

[Tree] (debug>oam>build-packet>packet>field-override>header>mpls label)

Full Context

configure test-oam build-packet header mpls label

debug oam build-packet packet field-override header mpls label

Description

This command defines the MPLS value to be used in the MPLS header.

The **no** form of this command removes the label value.

Default

label 0

Parameters

label

Specifies the MPLS label to be used in the MPLS header.

Values 0 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

label

Syntax

[**no**] **label** *label*

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Context

[Tree] (debug>router>rib-api label)

Full Context

debug router rib-api label

Description

This command enables debugging for the specified RIB-API label.

Parameters

label

Specifies the label of the specified RIB-API entry.

Values 32 to 1048575

Platforms

All

25.32 label-allocation

label-allocation

Syntax

label-allocation

Context

[Tree] (config>router>bgp label-allocation)

Full Context

configure router bgp label-allocation

Description

This commands enables the context to configure the allocation of MPLS labels to specific BGP routes.

Platforms

All

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25.33 label-block

label-block

Syntax

label-block *name*

no label-block

Context

[Tree] (conf>router>segment-routing>srv6>loc>static-function label-block)

Full Context

configure router segment-routing segment-routing-v6 locator static-function label-block

Description

This command configures a reserved label block name to be used in the termination of services on the SRv6 FPE.

Static values of the service SID function are mapped to label values drawn from this reserved label block. A static function value of 1 maps to the first label in this label block and so on.

Dynamic values of service SID function are mapped to label values drawn from the dynamic label range.

An End or End.X function does not map to a label value.

The **no** form of this command removes the label block name from the configuration.

Default

no label-block

Parameters

name

Specifies a reserved label block name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

label-block

Syntax

label-block *name*

no label-block

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Context

[Tree] (config>router>segment-routing>srv6>locator label-block)

Full Context

configure router segment-routing segment-routing-v6 locator label-block

Description

This command configures a reserved label block name for the termination of services on the SRv6 FPE.

When an operator configures this block, the router maps both static and dynamic values of the service SID functions to label values drawn from the reserved label block. This reserved block and the block defined under **static-function** are mutually exclusive. The configuration of this block does not constrain the configuration of a particular function length.

An End or End.X function does not map to a label value.

The **no** form of this command removes the label block name from the configuration.

Default

no label-block

Parameters

name

Specifies a reserved label block name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

label-block

Syntax

label-block *name*

no label-block

Context

[Tree] (conf>router>sr>srv6>ms>block label-block)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block label-block

Description

This command associates a pre-configured reserved label block with the micro-SID block.

The **no** form of this command disassociates the reserved label block.

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Default

no label-block

Parameters

name

Specifies a reserved label block name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

25.34 label-ipv4

label-ipv4

Syntax

label-ipv4 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** {**same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no label-ipv4

Context

[Tree] (config>service>vprn>bgp>multi-path label-ipv4)

Full Context

configure service vprn bgp multi-path label-ipv4

Description

This command sets ECMP multipath parameters that apply only to the label unicast IPv4 address family.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The distribution of traffic over the multiple paths may or may not be equal. The distribution is based on weights derived from the Link Bandwidth Extended Community.

For more information about the criteria a non-best route must meet to qualify as a multipath, see "BGP route installation in the route table” in the *7450 ESS 7750 SR 7950 XRS VSR Unicast Routing Protocols User Guide*.

The **no** form of this command removes label-IPv4-specific overrides.

Default

no label-ipv4

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Parameters

max-paths

Specifies the maximum number of multipaths per prefix or NLRI. Setting this value to 1 disables multipath. This limit only applies if neither the *ebgp-max-paths* limit nor the *ibgp-max-paths* limit apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route. If the **ebgp** option is configured, this value overrides the *max-paths* limit. If the best path is an EBGP learned route and this value is set to 1, multipath is disabled.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route. If the **ibgp** option is configured, this value overrides the *max-paths* limit. If the best path is an IBGP learned route and this value is set to 1, multipath is disabled.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path-as

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

label-ipv4

Syntax

label-ipv4 send *send-limit*

label-ipv4 send *send-limit* **receive** [**none**]

no label-ipv4

Context

[Tree] (config>router>bgp>group>add-paths label-ipv4)

[Tree] (config>router>bgp>group>neighbor>add-paths label-ipv4)

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[Tree] (config>router>bgp>add-paths label-ipv4)

Full Context

configure router bgp group add-paths label-ipv4

configure router bgp group neighbor add-paths label-ipv4

configure router bgp add-paths label-ipv4

Description

This command configures the add-paths capability for labeled-unicast IPv4 routes. By default, add-paths is not enabled for labeled-unicast IPv4 routes.

The maximum number of labeled-unicast paths per IPv4 prefix to send is the configured *send-limit*, which is a mandatory parameter. The capability to receive multiple labeled-unicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command, receive capability is enabled by default.

The **no** form of this command disables add-paths support for labeled-unicast IPv4 routes, causing sessions established using add-paths for labeled-unicast IPv4 to go down and come back up without the add-paths capability.

Default

no label-ipv4

Parameters

send-limit

Specifies the maximum number of paths per labeled-unicast IPv4 prefix that are allowed to be advertised to add-paths peers. (The actual number of advertised routes may be less.) If the value is none, the router does not negotiate the send capability with respect to label-IPv4 AFI/SAFI. If the value is **multipaths**, then BGP advertises all the used BGP multipaths for each IPv4 NLRI if the peer has signaled support to receive multiple add paths.

Values 1 to 16, none, multipaths

receive

Specifies the router negotiates to receive multiple labeled-unicast routes per IPv4 prefix.

none

Specifies that the router does not negotiate to receive multiple labeled-unicast routes per IPv4 prefix.

Platforms

All

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label-ipv4

Syntax

label-ipv4 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** {**same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no label-ipv4

Context

[Tree] (config>router>bgp>multi-path label-ipv4)

Full Context

configure router bgp multi-path label-ipv4

Description

This command sets ECMP multipath parameters that apply only to the label IPv4 unicast address family. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

The **no** form of this command removes label-IPv4-specific overrides.

Default

no label-ipv4

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

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restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

25.35 label-ipv6

label-ipv6

Syntax

label-ipv6 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** {**same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no label-ipv6

Context

[Tree] (config>service>vprn>bgp>multi-path label-ipv6)

Full Context

configure service vprn bgp multi-path label-ipv6

Description

This command sets ECMP multipath parameters that apply only to the label unicast IPv6 address family.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The distribution of traffic over the multiple paths may or may not be equal. The distribution is based on weights derived from the Link Bandwidth Extended Community.

For more information about the criteria a non-best route must meet to qualify as a multipath, see "BGP route installation in the route table" in the *7450 ESS 7750 SR 7950 XRS VSR Unicast Routing Protocols User Guide*.

The **no** form of this command removes label-IPv6-specific overrides.

Default

no label-ipv6

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Parameters

max-paths

Specifies the maximum number of multipaths per prefix or NLRI. Setting this value to 1 disables multipath. This limit only applies if neither the *ebgp-max-paths* limit nor the *ibgp-max-paths* limit apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route. If the **ebgp** option is configured, this value overrides the *max-paths* limit. If the best path is an EBGP learned route and this value is set to 1, multipath is disabled.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route. If the **ibgp** option is configured, this value overrides the *max-paths* limit. If the best path is an IBGP learned route and this value is set to 1, multipath is disabled.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path-as

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

label-ipv6

Syntax

label-ipv6 send *send-limit*

label-ipv6 send *send-limit* **receive** [**none**]

no label-ipv6

Context

[Tree] (config>router>bgp>add-paths label-ipv6)

[Tree] (config>router>bgp>group>add-paths label-ipv6)

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[Tree] (config>router>bgp>group>neighbor>add-paths label-ipv6)

Full Context

configure router bgp add-paths label-ipv6

configure router bgp group add-paths label-ipv6

configure router bgp group neighbor add-paths label-ipv6

Description

This command configures the add-paths capability for labeled-unicast IPv6 routes. By default, add-paths is not enabled for labeled-unicast IPv6 routes.

The maximum number of labeled-unicast paths per IPv6 prefix to send is the configured *send-limit*, which is a mandatory parameter. The capability to receive multiple labeled-unicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command, receive capability is enabled by default.

The **no** form of this command disables add-paths support for labeled-unicast IPv6 routes, causing sessions established using add-paths for labeled-unicast IPv6 to go down and come back up without the add-paths capability.

Default

no label-ipv6

Parameters

send-limit

Specifies the maximum number of paths per labeled-unicast IPv6 prefix that are allowed to be advertised to add-paths peers. (The actual number of advertised routes may be less.) If the value is none, the router does not negotiate the send capability with respect to label-IPv6 AFI/SAFI. If the value is **multipaths**, then BGP advertises all the used BGP multipaths for each IPv6 NLRI if the peer has signaled support to receive multiple add paths.

Values 1 to 16, none, multipaths

receive

Specifies that the router negotiates to receive multiple labeled-unicast routes per IPv6 prefix.

none

Specifies that the router does not negotiate to receive multiple labeled-unicast routes per IPv6 prefix.

Platforms

All

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label-ipv6

Syntax

label-ipv6 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** {**same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no label-ipv6

Context

[Tree] (config>router>bgp>multi-path label-ipv6)

Full Context

configure router bgp multi-path label-ipv6

Description

This command sets ECMP multipath parameters that apply only to the label unicast IPv6 address family. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

The **no** form of this command removes label-IPv6-specific overrides.

Default

no label-ipv6

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

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restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

label-ipv6

Syntax

label-ipv6

Context

[Tree] (config>router>bgp>label-allocation label-ipv6)

Full Context

configure router bgp label-allocation label-ipv6

Description

Commands in this context configure advertised label IPv6 programming rules.

Platforms

All

label-ipv6

Syntax

label-ipv6

Context

[Tree] (config>service>vprn>bgp>rib-management label-ipv6)

Full Context

configure service vprn bgp rib-management label-ipv6

Description

Commands in this context configure labeled IPv6 RIB.

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Platforms

All

25.36 label-ipv6-explicit-null

label-ipv6-explicit-null

Syntax

[**no**] **label-ipv6-explicit-null**

Context

[Tree] (config>router>bgp>next-hop-res>lbl-routes>use-bgp-routes label-ipv6-explicit-null)

Full Context

configure router bgp next-hop-resolution labeled-routes use-bgp-routes label-ipv6-explicit-null

Description

This command allows a labelled IPv6 route with the explicit-null label to be resolved by other labelled IPv6 routes with the explicit-null label, and also by unlabeled IPv4 routes and unlabeled IPv6 routes that are resolved by static routes, interface routes, or tunnels. Up to four levels of recursive resolution are supported when the top route is a labelled IPv6 route with an explicit-null label.

Regardless of setting, a labelled IPv6 route with a regular label (other than explicit-null) is never resolved by other labelled IPv6 routes.

The **no** form of this command disables the label-ipv6-explicit-null functionality. When disabled, a labeled IPv6 route cannot be resolved by other labeled IPv6 routes.

Default

no label-ipv6-explicit-null

Platforms

All

25.37 label-map

label-map

Syntax

[**no**] **label-map** *in-label*

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Context

[Tree] (config>router>mpls>interface label-map)

Full Context

configure router mpls interface label-map

Description

This command is used on transit routers when a static LSP is defined. The static LSP on the ingress router is initiated using the **config router mpls static-lsp** *lsp-name* command. An *in-label* can be associated with either a **pop** or a **swap** action, but not both. If both actions are specified, the last action specified takes effect.

The **no** form of this command deletes the static LSP configuration associated with the *in-label*.

Parameters

in-label

Specifies the incoming MPLS label on which to match.

Values 32 to 1023

Platforms

All

25.38 label-mode

label-mode

Syntax

label-mode {**vrf** | **next-hop**}

no label-mode

Context

[Tree] (config>service>vprn label-mode)

Full Context

configure service vprn label-mode

Description

This command controls the method by which service labels are allocated to routes exported by the VPRN as BGP-VPN routes. The **vrf** option selects service label per VRF mode while the **next-hop** option selects service label per next-hop mode.

The **no** form of this command sets the mode to the default mode of service label per VRF.

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Default

no label-mode

Parameters

vrf

Selects service label per VRF mode.

next-hop

Selects service label per next-hop mode.

Platforms

All

25.39 label-preference

label-preference

Syntax

label-preference *value*

no label-preference

Context

[Tree] (config>service>vprn>bgp>group>neighbor label-preference)

[Tree] (config>service>vprn>bgp label-preference)

[Tree] (config>service>vprn>bgp>group label-preference)

Full Context

configure service vprn bgp group neighbor label-preference

configure service vprn bgp label-preference

configure service vprn bgp group label-preference

Description

This command configures the route preference for routes learned from labeled-unicast peers.

This command can be configured at three levels:

- Global level — applies to all peers
- Group level — applies to all peers in the peer-group
- Neighbor level — applies only to the specified peer

The most specific value is used.

The lower the preference, the higher the chance of the route being the active route.

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The **no** form of this command used at the global level reverts to the default *value* of 170.

The **no** form of this command used at the group level reverts to the *value* defined at the global level.

The **no** form of this command used at the neighbor level reverts to the *value* defined at the group level.

Default

no label-preference

Parameters

value

Specifies the route preference value.

Values 1 to 255

Platforms

All

label-preference

Syntax

label-preference *value*

no label-preference

Context

[Tree] (config>router>bgp>group>neighbor label-preference)

[Tree] (config>router>bgp label-preference)

[Tree] (config>router>bgp>group label-preference)

Full Context

configure router bgp group neighbor label-preference

configure router bgp label-preference

configure router bgp group label-preference

Description

This command configures the route preference for routes learned from labeled-unicast peers.

This command can be configured at three levels:

- Global level — applies to all peers
- Group level — applies to all peers in the peer-group
- Neighbor level — applies only to the specified peer

The most specific value is used.

The lower the preference, the higher the chance of the route being the active route.

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The **no** form of this command used at the global level reverts to the default *value* of 170.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no label-preference

Parameters

value

Specifies the route preference value.

Values 1 to 255

Platforms

All

25.40 label-route-local

label-route-local

Syntax

label-route-local [{**none** | **all**}]

Context

[Tree] (config>router>ttl-propagate label-route-local)

Full Context

configure router ttl-propagate label-route-local

Description

This command configures the TTL propagation for locally generated packets which are forwarded over a BGP label route in the Global Routing Table (GRT) context.

For IPv4 and IPv6 packets forwarded using an RFC 8277 label route in the global routing instance, including 6PE, the **all** value of the command enables TTL propagation from the IP header into all labels in the transport label stack. The none value reverts to the default mode which disables TTL propagation from the IP header to the labels in the transport label stack. This command does not have a no version.

The TTL of the IP packet is always propagated into the RFC 8277 label itself, and this command only controls the propagation into the transport labels, for example, labels of the RSVP or LDP LSP to which the BGP label route resolves and which are pushed on top of the BGP label.

If the BGP peer advertised the implicit-null label value for the BGP label route, the TTL propagation will not follow the configuration described, but will follow the configuration to which the BGP label route resolves:

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RSVP LSP shortcut:

- configure router mpls shortcut-local-ttl-propagate

LDP LSP shortcut:

- configure router ldp shortcut-local-ttl-propagate

This feature does not impact packets forwarded over BGP shortcuts. The ingress LER operates in uniform mode by default and can be changed into pipe mode using the configuration of TTL propagation for RSVP or LDP LSP shortcut listed.

Default

label-route-local none

Parameters

none

Specifies that the TTL of the IP packet is not propagated into the transport label stack.

all

Specifies that the TTL of the IP packet is propagated into all labels of the transport label stack.

Platforms

All

25.41 label-route-transit

label-route-transit

Syntax

label-route-transit [{**none** | **all**}]

Context

[Tree] (config>router>ttl-propagate label-route-transit)

Full Context

configure router ttl-propagate label-route-transit

Description

This command configures the TTL propagation for transit packets which are forwarded over a BGP label route in the Global Routing Table (GRT) context.

For IPv4 and IPv6 packets forwarded using a RFC 8277 label route in the global routing instance, including 6PE, the **all** value of the command enables TTL propagation from the IP header into all labels in the transport label stack. The none value reverts to the default mode which disables TTL propagation from the IP header to the labels in the transport label stack. This command does not have a no version.

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The TTL of the IP packet is always propagated into the RFC 8277 label itself, and this command only controls the propagation into the transport labels, for example, labels of the RSVP or LDP LSP to which the BGP label route resolves and which are pushed on top of the BGP label.

If the BGP peer advertised the implicit-null label value for the BGP label route, the TTL propagation will not follow the configuration described, but will follow the configuration to which the BGP label route resolves.

RSVP LSP shortcut:

- configure router mpls shortcut-transit-ttl-propagate

LDP LSP shortcut:

- configure router ldp shortcut-transit-ttl-propagate

This feature does not impact packets forwarded over BGP shortcuts. The ingress LER operates in uniform mode by default and can be changed into pipe mode using the configuration of TTL propagation for the listed RSVP or LDP LSP shortcut.

Default

label-route-transit none

Parameters

none

Specifies that the TTL of the IP packet is not propagated into the transport label stack.

all

Specifies that the TTL of the IP packet is propagated into all labels of the transport label stack.

Platforms

All

25.42 label-stack-reduction

label-stack-reduction

Syntax

[**no**] **label-stack-reduction**

Context

[Tree] (config>router>mpls>lsp label-stack-reduction)

[Tree] (config>router>mpls>lsp-template label-stack-reduction)

Full Context

configure router mpls lsp label-stack-reduction

configure router mpls lsp-template label-stack-reduction

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Description

This command enables the label stack size reduction for a SR-TE LSP or SR-TE LSP template.

At a high level, the label stack reduction algorithm attempts to replace a segment of a computed SR-TE LSP path with the farthest node SID on that path that results in using ECMP paths with links which still comply to the TE constraints of the LSP path.

The **no** form of this command returns the command to its default value.

Default

no label-stack-reduction

Platforms

All

25.43 label-stack-statistics-count

label-stack-statistics-count

Syntax

label-stack-statistics-count *label-stack-statistics-count*

no label-stack-statistics-count

Context

[Tree] (config>system>ip>mpls label-stack-statistics-count)

Full Context

configure system ip mpls label-stack-statistics-count

Description

This command enables the system to collect traffic statistics on the specified number of labels of the MPLS label stack.

The **no** form of this command disables the collecting of traffic statistics.

Default

label-stack-statistics-count 1

Parameters

label-stack-statistics-count

Specifies the number of labels on which the system can collect statistics.

Values 1, 2

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.44 label-withdrawal-delay

label-withdrawal-delay

Syntax

label-withdrawal-delay *seconds*

no label-withdrawal-delay

Context

[Tree] (config>router>ldp label-withdrawal-delay)

Full Context

configure router ldp label-withdrawal-delay

Description

This command specifies configures the time interval (in s), LDP will delay for the withdrawal of FEC-label binding it distributed to its neighbors when FEC is de-activated. When the timer expires, LDP then sends a label withdrawal for the FEC to all its neighbors. This is applicable only to LDP IPv4 prefix FECs and is not applicable to pseudowires (service FECs).

When there is an upper layer (user of LDP) which depends on LDP control plane for failover detection then label withdrawal delay and tunnel-down-damp-time options must be set to 0.

An example is PW redundancy where the primary PW doesn't have its own fast failover detection mechanism and the node depends on LDP tunnel down event to activate the standby PW.

Default

no label-withdrawal-delay

Parameters

seconds

Specifies the time that LDP delays the withdrawal of FEC-label binding it distributed to its neighbors when FEC is de-activated.

Values 3 to 120

Platforms

All

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25.45 labeled-routes

labeled-routes

Syntax

labeled-routes

Context

[Tree] (config>router>bgp>next-hop-res labeled-routes)

Full Context

configure router bgp next-hop-resolution labeled-routes

Description

Commands in this context configure labeled route options for next-hop resolution.

Platforms

All

25.46 lac-fragmentation

lac-fragmentation

Syntax

lac-fragmentation

Context

[Tree] (config>service>vprn>l2tp lac-fragmentation)

[Tree] (config>router>l2tp lac-fragmentation)

Full Context

configure service vprn l2tp lac-fragmentation

configure router l2tp lac-fragmentation

Description

Commands in this context configure L2TP LAC fragmentation.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

lac-fragmentation

Syntax

lac-fragmentation {**inherit** | **deny** | **permit**}

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>l2tp lac-fragmentation)

Full Context

configure subscriber-mgmt local-user-db ppp host l2tp lac-fragmentation

Description

This command configures the router or virtual L2TP LAC fragmentation override.

Default

default-action inherit

Parameters

inherit

Keyword that specifies the system inherits the **default-action** value specified in the routing instance.

deny

Keyword that specifies to not perform packet fragmentation for L2TP sessions.

permit

Keyword that specifies to perform packet fragmentation for L2TP sessions.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

lac-fragmentation

Syntax

[**no**] **lac-fragmentation**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include lac-fragmentation)

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Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute lac-fragmentation

Description

This command specifies that the router includes the L2TP LAC fragmentation attribute.

The **no** form of this command does not include the L2TP LAC fragmentation attribute.

Default

no lac-fragmentation

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.47 lac-overall

lac-overall

Syntax

lac-overall *max-nr-of-hosts*

no lac-overall

Context

[Tree] (config>subscr-mgmt>sub-profile>host-limits lac-overall)

[Tree] (config>subscr-mgmt>sla-profile>host-limits lac-overall)

Full Context

configure subscriber-mgmt sub-profile host-limits lac-overall

configure subscriber-mgmt sla-profile host-limits lac-overall

Description

This command configures the maximum number of L2TP LAC hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of L2TP LAC hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of L2TP LAC hosts.

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Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.48 lacp

lacp

Syntax

lacp [**mode**] [**administrative-key** *admin-key*] [**system-id** *system-id*] [**system-priority** *priority*]

no lacp

Context

[Tree] (config>lag lacp)

Full Context

configure lag lacp

Description

This command enables the LACP protocol. Per the IEEE 802.1ax standard, the Link Aggregation Control Protocol (LACP) provides a standardized means for exchanging information between Partner Systems on a link to allow their Link Aggregation Control instances to reach agreement on the identity of the Link Aggregation Group to which the link belongs, move the link to that Link Aggregation Group, and enable its transmission and reception functions in an orderly manner.

If any of the parameters are omitted, the existing configuration is preserved. The default parameter values are used if a parameter is never explicitly configured.

Default

no lacp

Parameters

mode

Specifies the mode in which LACP will operate.

Values **passive** — Starts transmitting LACP packets only after receiving packets.

active — Initiates the transmission of LACP packets.

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admin-key

Specifies an administrative key value to identify the channel group on each port configured to use LACP. A random key is assigned by default if a value is not specified when using classic CLI only.

Values 1 to 65535

system-id

Specifies the 48-bit system ID in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff, where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Values 1 to 65535

Default 32768

priority

Specifies the system priority.

Values 0 to 65535

Default 32768

Platforms

All

25.49 lacp-fallback

lacp-fallback

Syntax

lacp-fallback mode {**static**} [**timeout** *timeout*]

no lacp-fallback

Context

[Tree] (config>lag lacp-fallback)

Full Context

configure lag lacp-fallback

Description

This command configures the LACP fallback mode. LACP fallback allows one or more designated links of an LACP-controlled LAG to go into forwarding mode if LACP is not yet operational after a configured timeout period. Links capable of forwarding traffic assume the Ethernet and IP characteristics configured for the LAG.

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Note: In the saved configuration file, the **lacp-xmit-interval** command must precede the **lacp-fallback** command. As well, to change the **lacp-xmit-interval** from **fast** to **slow**, the **lacp-fallback** command must first be changed to a **timeout** value of 90.

The **no** form of this command disables LACP fallback.

Default

no lacp-fallback

Parameters

mode

Keyword to specify the LACP fallback mode.

Values **static** — Keyword to specify that if LACP is not operational after the timeout period, a single designated LAG member goes into forwarding mode.

timeout

Specifies the timeout period in seconds. The LACP link becomes active if no LACP PDUs are received within this timeout period.

Note: Timeout range depends on the configuration of the **configure lag lacp-xmit-limit** command.

Values fast: 4 to 3600

slow: 90 to 3600

Default fast: 4

Platforms

All

25.50 lacp-mux-control

lacp-mux-control

Syntax

lacp-mux-control {**coupled** | **independent**}

no lacp-mux-control

Context

[Tree] (config>lag lacp-mux-control)

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Full Context

configure lag lacp-mux-control

Description

This command configures the type of multiplexing machine control to be used in a LAG with LACP in active/passive modes.

The **no** form of this command disables multiplexing machine control.

Default

lacp-mux-control coupled

Parameters

coupled

Specifies that TX and RX activate together.

independent

Specifies that RX activates independent of TX.

Platforms

All

25.51 lacp-system-priority

lacp-system-priority

Syntax

lacp-system-priority *lacp-system-priority*

no lacp-system-priority

Context

[Tree] (config>system lacp-system-priority)

Full Context

configure system lacp-system-priority

Description

This command configures the Link Aggregation Control Protocol (LACP) system priority on aggregated Ethernet interfaces. LACP allows the operator to aggregate multiple physical interfaces to form one logical interface.

Default

lacp-system-priority 32768

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Parameters

lacp-system-priority

Specifies the LACP system priority.

Values 1 to 65535

Platforms

All

25.52 lacp-tunnel

lacp-tunnel

Syntax

[**no**] **lacp-tunnel**

Context

[Tree] (config>port>ethernet lacp-tunnel)

Full Context

configure port ethernet lacp-tunnel

Description

This command enables LACP packet tunneling for the Ethernet port. When tunneling is enabled, the port does not process any LACP packets but tunnels them instead. The port cannot be added as a member to a LAG group.

In this context, the **lacp-tunnel** command is supported for Epipe and VPLS services only.

The **no** form of this command disables LACP packet tunneling for the Ethernet port.

Default

no lacp-tunnel

Platforms

All

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25.53 lacp-xmit-interval

lacp-xmit-interval

Syntax

lacp-xmit-interval {**slow** | **fast**}

no lacp-xmit-interval

Context

[Tree] (config>lag lacp-xmit-interval)

Full Context

configure lag lacp-xmit-interval

Description

This command specifies the interval signaled to the peer and tells the peer at which rate it should transmit.

Default

lacp-xmit-interval fast

Parameters

slow

Transmits packets every 30 seconds.

fast

Transmits packets every second.

Platforms

All

25.54 lacp-xmit-stdby

lacp-xmit-stdby

Syntax

[**no**] **lacp-xmit-stdby**

Context

[Tree] (config>lag lacp-xmit-stdby)

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Full Context

configure lag lacp-xmit-stdby

Description

This command enables LACP message transmission on standby links.

The **no** form of this command disables LACP message transmission. This command should be disabled for compatibility when using active/standby groups. This forces a timeout of the standby links by the peer. Use the **no** form if the peer does not implement the correct behavior regarding the lacp sync bit.

Default

lacp-xmit-stdby

Platforms

All

25.55 lag

lag

Syntax

lag *lag-id* **lacp-key** *admin-key* **system-id** *system-id* [**remote-lag** *remote-lag-id*] **system-priority** *system-priority* **source-bmac-lsb use-lacp-key**

lag *lag-id* **lacp-key** *admin-key* **system-id** *system-id* [**remote-lag** *remote-lag-id*] **system-priority** *system-priority* **source-bmac-lsb** *MAC-Lsb*

lag *lag-id* **lacp-key** *admin-key* **system-id** *system-id* [**remote-lag** *remote-lag-id*] **system-priority** *system-priority*

lag *lag-id* [**remote-lag** *remote-lag-id*]

no lag *lag-id*

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-lag lag)

Full Context

configure redundancy multi-chassis peer mc-lag lag

Description

This command defines a LAG which is forming a redundant-pair for MC-LAG with a LAG configured on the given peer. The same LAG group can be defined only in the scope of 1 peer. In order MC-LAG to become operational, all parameters (**lacp-key**, **system-id**, **system-priority**) must be configured the same on both nodes of the same redundant pair.

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The partner system (the system connected to all links forming MC-LAG) will consider all ports using the same **lacp-key**, **system-id**, **system-priority** as the part of the same LAG. In order to achieve this in MC operation, both redundant-pair nodes have to be configured with the same values. In case of the mismatch, MC-LAG is kept in oper-down status.

Note that the correct CLI command to enable MC LAG for a LAG in **standby-signaling power-off mode** is **lag** *lag-id* [**remote-lag** *remote-lag-id*]. In the CLI help output, the first three forms are used to enable MC LAG for a LAG in LACP mode. MC LAG is disabled (regardless of the mode) for a given LAG with **no lag** *lag-id.*

Parameters

lag-id

The LAG identifier, expressed as an integer. Specifying the *lag-id* allows the mismatch between lag-id on redundant-pair. If no **lag-id** is specified it is assumed that neighbor system uses the same *lag-id* as a part of the specific MC-LAG. If no matching MC-LAG group can be found between neighbor systems, the individual LAGs operates as usual (no MC-LAG operation is established).

Values 1 to 800

admin-key

Specifies a 16 bit key that needs to be configured in the same manner on both sides of the MC-LAG in order for the MC-LAG to come up.

Values 1 to 65535

system-id

Specifies a 6 byte value expressed in the same notation as MAC address.

Values xx:xx:xx:xx:xx:xx - xx [00 to FF]

remote-lag-id

Specifies the LAG ID on the remote system.

Values 1 to 800

system-priority

Specifies the system priority to be used in the context of the MC-LAG. The partner system will consider all ports using the same **lacp-key**, **system-id**, and **system-priority** as part of the same LAG.

Values 1 to 65535

MAC-Lsb

Configures the last 16 bit of the MAC address to be used for all traffic ingressing the MC-LAG link(s) or if use-lacp-key option is used, it will only copy the value of lacp-key (redundancy multi-chassis mc-lag lag lacp-key admin-key). The command will fail if the *value* is the same with any of the following configured attributes:

- Source-bmac-lsb assigned to other MC-LAG ports.
- lsb 16 bits value for the source-bmac configured at chassis or BVPLS level

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The first 32 bits will be copied from the source B-MAC of the BVPLS associated with the IVPLS for a specific IVPLS SAP mapped to the MC-LAG. The BVPLS source B-MAC can be provisioned for each BVPLS or can be inherited from the chassis PBB configuration.

Values 1 to 65535 or xx-xx or xx:xx

Platforms

All

lag

Syntax

lag *lag-id* [**name** *lag-name*]

no lag *lag-id*

Context

[Tree] (config lag)

Full Context

configure lag

Description

Commands in this context configure Link Aggregation Group (LAG) attributes.

A LAG is used to group multiple ports into one logical link. The aggregation of multiple physical links allows for load sharing and offers seamless redundancy. If one link fails, traffic is redistributed over the remaining links.

Note:
For all ports in a LAG group, autonegotiation must be set to "limited" or "off".

There are three possible settings for autonegotiation, as follows:

- "on" or enabled with full port capabilities advertised
- "off" or disabled where there is no autonegotiation advertisements
- "limited" where a single speed/duplex is advertised.

When autonegotiation is enabled on a port, the link attempts to automatically negotiate the link speed and duplex parameters; the configured duplex and speed parameters are ignored.

When autonegotiation is disabled on a port, the port does not attempt to autonegotiate and will only operate at the **speed** and **duplex** settings configured for the port.

Note:
Disabling autonegotiation on gigabit ports is not allowed. This is in accordance with the IEEE 802.3 specification for gigabit Ethernet, which requires gigabyte to be enabled for far end fault indication.

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If the **config**>**port**>**ethernet autonegotiate limited** keyword option is specified, the port will autonegotiate but only advertise the **speed** and **duplex** settings configured for the port. Use the **limited** mode on multi-speed gigabit ports to force gigabit operation while keeping autonegotiation is enabled for compliance with IEEE 801.3.

The system requires autonegotiation to be disabled or limited for ports in a LAG to guarantee a specific port speed.

The **no** form of this command deletes the LAG from the configuration. A LAG can only be deleted while the LAG is administratively shut down. Any dependencies, such as IP-Interface configurations, must be removed from the configuration before the **no lag** command is issued.

Parameters

lag-id

Specifies the LAG identifier, expressed as an integer.

The LAG ID ranging from 1 to 64 supports up to 64 LAG members and LAG ID above 64 supports 32 LAG members.

Values 1 to 800

lag-name

Specifies an optional LAG name, up to 27 characters.

In model-driven interfaces, the LAG name is used for configuration references and **show** commands. A service provider or administrator can use the defined LAG name to identify and manage LAGs within the SR OS platforms.

In the classic CLI interface, the user must assign a LAG ID to create the LAG. The LAG name is optional and, if specified, must always start with "lag-”. If a name is not specified, SR OS automatically assigns a string version of the LAG ID as "lag-<lag-id>”.

Values lag-<23 chars max>

Platforms

All

lag

Syntax

lag [**lag-id** *lag-id* [**port** *port-id*]] [**all**]

lag [**lag-id** *lag-id* [**port** *port-id*]] [**sm**] [**pkt**] [**cfg**] [**red**] [**iom-upd**] [**port-state**] [**timers**] [**sel-logic**] [**mc**] [**mc-pkt**]

no lag [**lag-id** *lag-id*]

Context

[Tree] (debug lag)

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Full Context

debug lag

Description

This command enables debugging for LAG.

Parameters

lag-id

Specifies the link aggregation group ID.

Values 1 to 800

port-id

Specifies the physical port ID.

Values *slot*/*mda*/*port*

all

Specifies to display all LAG information.

sm

Specifies to display trace LACP state machine.

pkt

Specifies to display trace LACP packets.

cfg

Specifies to display trace LAG configuration.

red

Specifies to display trace LAG high availability.

iom-upd

Specifies to display trace LAG IOM updates.

port-state

Specifies to display trace LAG port state transitions.

timers

Specifies to display trace LAG timers.

sel-logic

Specifies to display trace LACP selection logic.

mc

Specifies to display multi-chassis parameters.

mc-packet

Specifies to display the MC-LAG control packets with valid authentication were received on this system.

Platforms

All

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lag

Syntax

lag *lag-id*

no lag

Context

[Tree] (config>service>system>bgp-evpn>eth-seg lag)

Full Context

configure service system bgp-evpn ethernet-segment lag

Description

This command configures a LAG ID associated with the Ethernet-Segment. When the Ethernet-Segment is configured as **all-active,** then only a lag or PW port can be associated with the Ethernet-Segment. When the Ethernet-Segment is configured as **single-active**, then a lag, port or sdp can be associated to the Ethernet-Segment. In either case, only one of the four objects can be configured in the Ethernet-Segment. A specified lag can be part of only one Ethernet-Segment.

Default

no lag

Parameters

lag-id

Specifies the lag-id associated with the Ethernet-Segment.

Values 1 to 800

Platforms

All

lag

Syntax

lag *lag-id*[**:***encap-val*]

no lag

Context

[Tree] (config>service>vprn>nw-if lag)

Full Context

configure service vprn network-interface lag

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Description

This command binds the interface to a Link Aggregation Group (LAG)

The **no** form of this command removes the LAG id from the configuration.

Parameters

lag-id[:encap-val]

Specifies the LAG ID.

Values		
	lag-id	1 to 800
	encap-val	0 (for null)
		0 to 4094 (for dot1q)

Platforms

All

25.56 lag-emulation

lag-emulation

Syntax

lag-emulation

Context

[Tree] (config>eth-tunnel lag-emulation)

Full Context

configure eth-tunnel lag-emulation

Description

Commands in this context configure eth-tunnel load sharing parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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25.57 lag-ip-measurement

lag-ip-measurement

Syntax

lag-ip-measurement

Context

[Tree] (config>test-oam lag-ip-measurement)

Full Context

configure test-oam lag-ip-measurement

Description

Commands in this context configure LAG measurement templates for Base router interfaces to gather delay and loss statistics for LAG member ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lag-ip-measurement

Syntax

lag-ip-measurement

Context

[Tree] (config>router>if>if-attr>delay>dyn lag-ip-measurement)

Full Context

configure router interface if-attribute delay dynamic lag-ip-measurement

Description

Commands in this context configure LAG measurement templates for Base router interfaces to gather delay and loss statistics for LAG member ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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lag-ip-measurement

Syntax

[**no**] **lag-ip-measurement**

Context

[Tree] (config>router>twamp-light>reflector lag-ip-measurement)

Full Context

configure router twamp-light reflector lag-ip-measurement

Description

This command configures the TWAMP Light Session-Reflector to process the micro-session ID used to test LAG member links on the reflector when present, as defined in RFC 9533.

The **no** form of this command does not process the RFC 9533 sender micro-session ID or reflector micro-session ID required for TWAMP Light on each LAG member port for an IP interface.

Default

no lag-ip-measurement

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.58 lag-ip-measurement-template

lag-ip-measurement-template

Syntax

lag-ip-measurement-template *template-name* [**create**]

no lag-ip-measurement-template *template-name*

Context

[Tree] (config>test-oam>lag-meas lag-ip-measurement-template)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template

Description

This command configures a template used to gather delay and loss statistics on LAG member ports.

The **no** form of this command removes the template from the configuration.

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Default

no lag-ip-measurement-template

Parameters

template-name

Specifies the LAG IP measurement template name, up to 64 characters.

create

Keyword used to create the LAG IP measurement template.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lag-ip-measurement-template

Syntax

lag-ip-measurement-template *template-name*

no lag-ip-measurement-template

Context

[Tree] (config>router>if>if-attr>delay>dyn>lag-meas lag-ip-measurement-template)

Full Context

configure router interface if-attribute delay dynamic lag-ip-measurement lag-ip-measurement-template

Description

This command configures the LAG IP measurement template for the interface.

The **no** form of this command removes the template from the configuration.

Default

no lag-ip-measurement-template

Parameters

template-name

Specifies the LAG IP measurement template name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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25.59 lag-link-map-profile

lag-link-map-profile

Syntax

lag-link-map-profile *link-map-profile-id*

no lag-link-map-profile

Context

[Tree] (config>subscr-mgmt>msap-policy lag-link-map-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap lag-link-map-profile)

Full Context

configure subscriber-mgmt msap-policy lag-link-map-profile

configure service vprn subscriber-interface group-interface sap lag-link-map-profile

Description

This command assigns a pre-configured lag link map profile to a SAP or network interface configured on a LAG or a PW port that exists on a LAG. Once assigned or de-assigned, the SAP or network interface egress traffic is re-hashed over LAG as required by the new configuration.

The **no** form of this command reverts the SAP/network interface to use per-flow, service or link hash as configured for the service/LAG.

Parameters

link-map-profile-id

Defines a unique LAG link map profile on which the LAG the SAP/network interface exist.

Default 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

lag-link-map-profile

Syntax

lag-link-map-profile *link-map-profile-id*

no lag-link-map-profile

Context

[Tree] (config>service>ipipe>sap lag-link-map-profile)

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[Tree] (config>service>epipe>sap lag-link-map-profile)

Full Context

configure service ipipe sap lag-link-map-profile

configure service epipe sap lag-link-map-profile

Description

This command assigns a pre-configured lag link map profile to a SAP/network interface configured on a LAG or a PW port that exists on a LAG. Once assigned/de-assigned, the SAP's/network interface's egress traffic will be re-hashed over LAG as required by the new configuration.

The **no** form of this command reverts the SAP/network interface to use per-flow, service or link hash as configured for the service/LAG.

Default

no lag-link-map-profile

Parameters

link-map-profile-id

An integer from 1 to 64 that defines a unique lag link map profile on the LAG the SAP/network interface exists on.

Platforms

All

lag-link-map-profile

Syntax

lag-link-map-profile *link-map-profile-id*

no lag-link-map-profile

Context

[Tree] (config>service>vpls>sap lag-link-map-profile)

Full Context

configure service vpls sap lag-link-map-profile

Description

This command assigns a pre-configured lag link map profile to a SAP/network interface configured on a LAG or a PW port that exists on a LAG. Once assigned/unassigned, the SAP/network interface egress traffic will be re-hashed over LAG as required by the new configuration.

The **no** form of this command reverts the SAP/network interface to use per-flow, service or link hash as configured for the service/LAG.

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Default

no lag-link-map-profile

Parameters

link-map-profile-id

An integer from 1 to 64 that defines a unique lag link map profile on which the LAG the SAP/network interface exist.

Platforms

All

lag-link-map-profile

Syntax

lag-link-map-profile *lag-link-map-profile-id*

no lag-link-map-profile

Context

[Tree] (config>service>ies>if>sap lag-link-map-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap lag-link-map-profile)

Full Context

configure service ies interface sap lag-link-map-profile

configure service ies subscriber-interface group-interface sap lag-link-map-profile

Description

This command assigns a pre-configured lag link map profile to a SAP/network interface configured on a LAG or a PW port that exists on a LAG. Once assigned/de-assigned, the SAP/network interface egress traffic will be re-hashed over LAG as required by the new configuration.

The **no** form of this command reverts the SAP/network interface to use per-flow, service or link hash as configured for the service/LAG.

Default

no lag-link-map-profile

Parameters

lag-link-map-profile-id

An integer from 1 to 64 that defines a unique lag link map profile on which the LAG the SAP/network interface exist.

Platforms

All

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- configure service ies interface sap lag-link-map-profile

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap lag-link-map-profile

lag-link-map-profile

Syntax

lag-link-map-profile *link-map-profile-id*

no lag-link-map-profile

Context

[Tree] (config>service>vprn>if>sap lag-link-map-profile)

Full Context

configure service vprn interface sap lag-link-map-profile

Description

This command assigns a pre-configured LAG link map profile to a SAP or network interface configured on a LAG or a PW port that exists on a LAG. Once assigned, the SAP or network interface egress traffic will be re-hashed over LAG as required by the new configuration.

The **no** form of this command reverts the SAP or network interface to use per-flow, service or link hash as configured for the service or LAG.

Default

no lag-link-map-profile

Parameters

link-map-profile-id

An integer from 1 to 64 that defines a unique LAG link map profile on which the LAG the SAP or network interface exist.

Platforms

All

lag-link-map-profile

Syntax

lag-link-map-profile *link-map-profile-id*

no lag-link-map-profile

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Context

[Tree] (config>router>if lag-link-map-profile)

Full Context

configure router interface lag-link-map-profile

Description

This command assigns a preconfigured lag link map profile to a SAP/network interface configured on a LAG or a PW port that exists on a LAG. Once assigned/unassigned, the SAP/network interface egress traffic will be re-hashed over LAG as required by the new configuration.

The **no** form of this command reverts the SAP/network interface to use per-flow, service or link hash as configured for the service/LAG.

Default

no lag-link-map-profile

Parameters

link-map-profile-id

An integer from 1 to 32 that defines a unique lag link map profile on which the LAG the SAP/network interface exist.

Platforms

All

25.60 lag-micro-sessions

lag-micro-sessions

Syntax

[**no**] **lag-micro-sessions**

Context

[Tree] (config>router>if>if-attr>delay>dyn>link-meas lag-micro-sessions)

Full Context

configure router interface if-attribute delay dynamic link-measurement lag-micro-sessions

Description

This command configures the router to use individual test sessions per LAG member port to collect link measurement information on the IP interface.

The **no** form of this command configures the router to use a single test session in which one LAG member port represents all links in the LAG.

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Default

no lag-micro-sessions

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.61 lag-per-link-hash

lag-per-link-hash

Syntax

lag-per-link-hash class {*class*} **weight** *weight*

no lag-per-link-hash

Context

[Tree] (config>subscr-mgmt>sub-profile>egress lag-per-link-hash)

Full Context

configure subscriber-mgmt sub-profile egress lag-per-link-hash

Description

This command configures weight and class to be used on LAG egress when the LAG uses weighted per-link-hash by subscribers with the profile assigned. Subscribers using profile with lag-per-link-hash default configuration, inherit weight and class from the SAP configuration (1 and 1 respectively if none configured under SAP).

The **no** form of this command restores default configuration.

Parameters

class

Specifies the class to be used to select a LAG link.

Values 1, 2, 3

Default 1

weight

Specifies the weight to be associated with this SAP when selecting a LAG link.

Values 1 to 1024

Default 1

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

lag-per-link-hash

Syntax

lag-per-link-hash class {**1** | **2** | **3**} **weight** [*weight*]

no lag-per-link-hash

Context

[Tree] (config>service>epipe>sap lag-per-link-hash)

[Tree] (config>service>vpls>sap lag-per-link-hash)

[Tree] (config>service>ipipe>sap lag-per-link-hash)

Full Context

configure service epipe sap lag-per-link-hash

configure service vpls sap lag-per-link-hash

configure service ipipe sap lag-per-link-hash

Description

This command configures weight and class to this SAP to be used on LAG egress when the LAG uses weighted per-link-hash.

The **no** form of this command restores default configuration.

Default

no lag-per-link-hash (equivalent to weight 1 class 1)

Platforms

All

lag-per-link-hash

Syntax

lag-per-link-hash class {**1** | **2** | **3**} **weight** *weight*

no lag-per-link-hash

Context

[Tree] (config>service>ies>if>sap lag-per-link-hash)

[Tree] (config>service>ies>sub-if>grp-if>sap lag-per-link-hash)

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Full Context

configure service ies interface sap lag-per-link-hash

configure service ies subscriber-interface group-interface sap lag-per-link-hash

Description

This command configures weight and class to this SAP to be used on LAG egress when the LAG uses weighted per-link-hash.

The **no** form of this command restores default configuration.

Default

no lag-per-link-hash (equivalent to weight 1 class 1)

Parameters

class

Specifies the class.

Values 1, 2, 3

weight

Specifies the weight.

Values 1 to 1024

Platforms

All

- configure service ies interface sap lag-per-link-hash

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap lag-per-link-hash

lag-per-link-hash

Syntax

lag-per-link-hash class {**1** | **2** | **3**} **weight** [**1 to 1024**]

no per-link-hash

Context

[Tree] (config>service>vprn>if>sap lag-per-link-hash)

[Tree] (config>service>vprn>nw-if lag-per-link-hash)

Full Context

configure service vprn interface sap lag-per-link-hash

configure service vprn network-interface lag-per-link-hash

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Description

This command configures weight and class to this SAP to be used on LAG egress when the LAG uses weighted per-link-hash.

The **no** form of this command restores the default configuration.

Default

no lag-per-link-hash (equivalent to weight 1 class 1)

Platforms

All

lag-per-link-hash

Syntax

lag-per-link-hash class *class* **weight** [*weight*]

no lag-per-link-hash

Context

[Tree] (config>router>if lag-per-link-hash)

Full Context

configure router interface lag-per-link-hash

Description

This command configures weight and class to this interface to be used on LAG egress when the LAG uses weighted per-link-hash.

The **no** form of this command restores the default configuration (weight 1 class 1).

Default

no lag-per-link-hash

Parameters

class

Specifies the class.

Values 1, 2, 3

weight

Specifies the weight.

Values 1 to 1024

Platforms

All

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25.62 lag-port-down

lag-port-down

Syntax

lag-port-down *lag-id* **number-down** *number-lag-port-down* **level** *level-id*

no lag-port-down *lag-id* **number-down** *number-lag-port-down*

Context

[Tree] (config>router>mcac>policy>bundle>mc-constraints lag-port-down)

Full Context

configure router mcac policy bundle mc-constraints lag-port-down

Description

This command configures the bandwidth available both at the interface and bundle level when a specific number of ports in a LAG group fail.

The **no** form of this command removes the values from the configuration.

Parameters

lag-id

Specifies the LAG ID. When the number of ports available in the LAG link is reduced by the number of ports configured in this context then the *level-id* specified here must be applied.

number-lag-port-down

If the number of ports available in the LAG is reduced by the number of ports configured in this command here then bandwidth allowed for bundle and/or interface will be as per the levels configured in this context.

Values 1 to 64 (for 64-link LAG) 1 to 32 (for other LAGs)

level-id

Specifies the amount of bandwidth available within a given bundle for MC traffic for a specified level.

Values 1 to 8

Platforms

All

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lag-port-down

Syntax

[**no**] **lag-port-down** *lag-id*

Context

[Tree] (config>vrrp>policy>priority-event lag-port-down)

Full Context

configure vrrp policy priority-event lag-port-down

Description

This command creates the context to configure Link Aggregation Group (LAG) priority control events that monitor the operational state of the links in the LAG.

The **lag-port-down** command configures a priority control event. The event monitors the operational state of each port in the specified LAG. When one or more of the ports enter the operational down state, the event is considered to be set. When all the ports enter the operational up state, the event is considered to be clear. As ports enter the operational up state, any previous set threshold that represents more down ports is considered cleared, while the event is considered to be set.

Multiple unique **lag-port-down** event nodes can be configured within the **priority-event** node up to the maximum of 32 events.

The **lag-port-down** command can reference an arbitrary LAG. The *lag-id* does have to already exist within the system. The operational state of the **lag-port-down** event will indicate:

- Set – non-existent
- Set – one port down
- Set – two ports down
- Set – three ports down
- Set – four ports down
- Set – five ports down
- Set – six ports down
- Set – seven ports down
- Set – eight ports down
- Cleared – all ports up

When the *lag-id* is created, or a port in *lag-id* becomes operationally up or down, the event operational state must be updated appropriately.

When one or more of the LAG composite ports enters the operationally down state or the *lag-id* is deleted or does not exist, the event is considered to be set. When an event transitions from clear to set, the set is processed immediately and must be reflected in the associated virtual router instances in-use priority value. As the event transitions from clear to set, a hold-set timer is loaded with the value configured by the events **hold-set** command. This timer prevents the event from clearing until it expires, damping the effect

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of event flapping. If the event clears and becomes set again before the hold-set timer expires, the timer is reset to the **hold-set** value, extending the time before another clear can take effect.

The **lag-port-down** event is considered to have a tiered event set state. While the priority impact per number of ports down is totally configurable, as more ports go down, the effect on the associated virtual router instances in-use priority is expected to increase (lowering the priority). When each configured threshold is crossed, any higher thresholds are considered further event sets and are processed immediately with the hold-set timer reset to the configured value of the **hold-set** command. As the thresholds are crossed in the opposite direction (fewer ports down then previously), the priority effect of the event is not processed until the hold-set timer expires. If the number of ports down threshold again increases before the hold-set timer expires, the timer is only reset to the **hold-set** value if the number of ports down is equal to or greater than the threshold that set the timer.

The event contains **number-down** nodes that define the priority delta or explicit value to be used based on the number of LAG composite ports that are in the operationally down state. These nodes represent the event set thresholds. Not all port down thresholds must be configured. As the number of down ports increase, the **number-down** *ports-down* node that expresses a value equal to or less than the number of down ports describes the delta or explicit priority value to be applied.

The **no** form of the command deletes the specific LAG monitoring event. The event can be removed at anytime. When the event is removed, the in-use priority of all associated virtual router instances must be reevaluated. The events **hold-set** timer has no effect on the removal procedure.

Default

no lag-port-down — No LAG priority control events are created.

Parameters

lag-id

The LAG ID that the specific event is to monitor expressed as a decimal integer. The *lag-id* can only be monitored by a single event in this policy. The LAG may be monitored by multiple VRRP priority control policies. A port within the LAG and the LAG ID itself are considered to be separate entities. A composite port may be monitored with the **port-down** event while the *lag-id* the port is in is monitored by a **lag-port-down** event in the same policy.

Values 1 to 800 (apply to the 7750 SR and 7950 XRS)
1 to 200 (apply to the 7450 ESS)

Platforms

All

25.63 lag-usage-optimization

lag-usage-optimization

Syntax

[**no**] **lag-usage-optimization**

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Context

[Tree] (config>router>pim lag-usage-optimization)

Full Context

configure router pim lag-usage-optimization

Description

This command enables the router's usage of the LAG so traffic for a given multicast stream destined to an IP interface using the LAG is sent only to the forwarding complex that owns the LAG link on which it will actually be forwarded.

Changing the value causes the PIM protocol to be restarted.

If this optimization is disabled, the traffic is sent to all forwarding complexes that own at least one link in the LAG.

The **no** form of this command causes the traffic to be sent to all the forwarding complexes that own at least one link in the LAG.

Note:
Changes made for multicast hashing cause Layer 4 multicast traffic to not be hashed. This is independent of if **lag-usage-optimization** is enabled or disabled.

Using this command and the **mc-ecmp-hashing-enabled** command on mixed port speed LAGs is not recommended, because some groups may be forwarded incorrectly.

Default

no lag-usage-optimization

Platforms

All

25.64 lanext

lanext

Syntax

[**no**] **lanext**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw lanext)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw lanext)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext

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configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext

Description

Commands in this context configure HLE parameters.

The **no** form of this command disables the vRGW parameters enabled in this context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

lanext

Syntax

[**no**] **lanext**

Context

[Tree] (config>router>vrgw lanext)

Full Context

configure router vrgw lanext

Description

Commands in this context configure HLE parameters.

The **no** form of this command disables the context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

lanext

Syntax

[**no**] **lanext**

Context

[Tree] (config>subscr-mgmt>vrgw lanext)

Full Context

configure subscriber-mgmt vrgw lanext

Description

Commands in this context configure subscriber management vRGW home HLE parameters.

The **no** form of this command disables the context.

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.65 lanext-bridge-id

lanext-bridge-id

Syntax

[**no**] **lanext-bridge-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include lanext-bridge-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute lanext-bridge-id

Description

This command enables the system to include the HLE service's bridge ID (Alc-Bridge-Id) in RADIUS accounting packets.

The **no** form of this command excludes the HLE service's bridge ID (Alc-Bridge-Id) from RADIUS accounting packets.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.66 lanext-device-type

lanext-device-type

Syntax

[**no**] **lanext-device-type**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include lanext-device-type)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute lanext-device-type

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Description

This command enables the system to include the HLE host's device type (Alc-HLE-Device-Type) in RADIUS accounting packets.

The **no** form of this command excludes the HLE host's device type (Alc-HLE-Device-Type) from RADIUS accounting packets.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.67 lanext-route-distinguisher

lanext-route-distinguisher

Syntax

[**no**] **lanext-route-distinguisher**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include lanext-route-distinguisher)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute lanext-route-distinguisher

Description

This command enables the system to include the HLE service's EVPN route distinguisher (Alc-RD) in RADIUS accounting packets.

The **no** form of this command excludes the HLE service's EVPN route distinguisher (Alc-RD) from RADIUS accounting packets.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.68 lanext-route-target

lanext-route-target

Syntax

[**no**] **lanext-route-target**

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Context

[Tree] (config>subscr-mgmt>acct-plcy>include lanext-route-target)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute lanext-route-target

Description

This command enables the system to include the HLE service's EVPN route target (Alc-RT) in RADIUS accounting packets.

The **no** form of this command excludes the HLE service's EVPN route target (Alc-RT) from RADIUS accounting packets.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.69 lanext-vni

lanext-vni

Syntax

[**no**] **lanext-vni**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include lanext-vni)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute lanext-vni

Description

This command enables the system to include the HLE service's EVPN VXLAN VNI (Alc-Vxlan-VNI) in RADIUS accounting packets.

The **no** form of this command excludes the HLE service's EVPN VXLAN VNI (Alc-Vxlan-VNI) from RADIUS accounting packets.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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25.70 last-member-query-interval

last-member-query-interval

Syntax

last-member-query-interval *tenths-of-seconds*

no last-member-query-interval

Context

[Tree] (config>service>vpls>sap>mld-snooping last-member-query-interval)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping last-member-query-interval)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping last-member-query-interval)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping last-member-query-interval)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping last-member-query-interval)

[Tree] (config>service>vpls>sap>igmp-snooping last-member-query-interval)

Full Context

configure service vpls sap mld-snooping last-member-query-interval

configure service vpls mesh-sdp igmp-snooping last-member-query-interval

configure service vpls spoke-sdp igmp-snooping last-member-query-interval

configure service vpls mesh-sdp mld-snooping last-member-query-interval

configure service vpls spoke-sdp mld-snooping last-member-query-interval

configure service vpls sap igmp-snooping last-member-query-interval

Description

This command configures the maximum response time used in group-specific queries sent in response to 'leave' messages, and is also the amount of time between two consecutive group-specific queries. This value may be tuned to modify the leave latency of the network. A reduced value results in reduced time to detect the loss of the last member of a group.

The configured **last-member-query-interval** is ignored when fast leave is enabled on the SAP or SDP.

The **no** form of this command reverts to the default value.

Default

last-member-query-interval 10

Parameters

tenths-of-seconds

Specifies the frequency, in tenths of a second, at which query messages are sent.

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Values 1 to 50

Platforms

All

last-member-query-interval

Syntax

last-member-query-interval *tenths-of-seconds*

no last-member-query-interval

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp last-member-query-interval)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping last-member-query-interval

Description

This command configures the maximum response time used in group-specific queries sent in response to leave messages, and is also the amount of time between two consecutive group-specific queries. This value may be tuned to modify the leave latency of the network. A reduced value results in reduced time to detect the loss of the last member of a group.

The configured interval is ignored when fast-leave is enabled on the SAP or SDP.

The **no** form of this command reverts to the default.

Default

last-member-query-interval 10

Parameters

seconds

Specifies the frequency, in tenths of seconds, at which query messages are sent.

Values 1 to 50

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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last-member-query-interval

Syntax

last-member-query-interval *interval*

no last-member-query-interval

Context

[Tree] (config>service>pw-template>igmp-snooping last-member-query-interval)

Full Context

configure service pw-template igmp-snooping last-member-query-interval

Description

This command configures the maximum response time used in group-specific queries sent in response to 'leave' messages, and is also the amount of time between 2 consecutive group-specific queries. This value may be tuned to modify the leave latency of the network. A reduced value results in reduced time to detect the loss of the last member of a group.

The configured last-member-query-interval is ignored when fast-leave is enabled on the SAP or SDP.

Default

last-member-query-interval 10

Parameters

interval

Specifies the frequency, in tenths of seconds, at which query messages are sent.

Values 1 to 50

Platforms

All

25.71 last-reported-delay-hold

last-reported-delay-hold

Syntax

last-reported-delay-hold *seconds*

no last-reported-delay-hold

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Context

[Tree] (config>test-oam>link-meas>template last-reported-delay-hold)

Full Context

configure test-oam link-measurement measurement-template last-reported-delay-hold

Description

This command configures the timer that specifies the wait time before the last reported delay measurement is flushed after a link measurement test enters the operationally down state. The aging timer delays the flushing of the last reported delay metric to the routing engine.

This timer starts a countdown to zero when an administrative function causes the operational state of the test on that specific interface to transition from up to down. If the timer expires before the operational state transitions to up, the previously reported value is flushed. The Delay Measurement Last Reported indicates "Cleared". The timestamp indicates the time of the clear event. The Triggered By indicates "Expired". If the administrative state recovers to operationally up before the expiration of the timer, the previous reported value is not flushed.

The aging timer does not apply to failure conditions that do not affect the administrative state of the interface, for example interface failure or routing changes.

The **no** form of this command reverts to the default value.

Default

last-reported-delay-hold 86400

Parameters

seconds

Specifies the delay measurement retention time, in seconds, after the interface on which it was collected is administratively disabled. If the configured value is reached, the last reported measurement is cleared.

A configured value of 0 indicates that the previous reported value is cleared without additional wait time.

Values 0 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.72 latency-budget

latency-budget

Syntax

latency-budget *microseconds*

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no latency-budget

Context

[Tree] (config>service>vprn>if>sap>egress latency-budget)

[Tree] (config>service>vpls>sap>egress latency-budget)

[Tree] (config>service>ies>if>sap>egress latency-budget)

[Tree] (config>service>epipe>sap>egress latency-budget)

Full Context

configure service vprn interface sap egress latency-budget

configure service vpls sap egress latency-budget

configure service ies interface sap egress latency-budget

configure service epipe sap egress latency-budget

Description

This command configures the latency (delay) budget for the SAP, in microseconds.

The **no** form of this command removes the latency budget.

Default

no latency-budget

Parameters

microseconds

Specifies the latency budget for the SAP, in microseconds.

Values 1 to 100000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.73 latency-event

latency-event

Syntax

latency-event rising-threshold *threshold* [**falling-threshold** *threshold*] [*direction*]

no latency-event

Context

[Tree] (config>saa>test latency-event)

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Full Context

configure saa test latency-event

Description

Specifies that at the termination of an SAA test probe, the calculated latency event value is evaluated against the configured rising and falling latency event thresholds. SAA threshold events are generated as required.

Once the threshold (rising/falling) is crossed, it is disabled from generating additional events until the opposite threshold is crossed. If a **falling-threshold** is not supplied, the **rising- threshold** is re-enabled when it falls below the threshold after the initial crossing that generated the event.

The configuration of latency event thresholds is optional.

The **no** form of this command disables the latency event.

Parameters

rising-threshold *threshold*

Specifies a rising threshold latency value, in milliseconds. When the test run is completed, the calculated latency value is compared to the configured latency rising threshold. If the test run latency value is greater than the configured rising threshold value then an SAA threshold event is generated. The SAA threshold event is tmnxOamSaaThreshold, logger application OAM, event #2101.

Values 0 to 2147483

Default 0

falling-threshold *threshold*

Specifies a falling threshold latency value, in milliseconds. When the test run is completed, the calculated latency value is compared to the configured latency falling threshold. If the test run latency value is greater than the configured falling threshold value then an SAA threshold event is generated. The SAA threshold event is tmnxOamSaaThreshold, logger application OAM, event #2101.

Values 0 to 2147483

Default 0

direction

Specifies the direction for OAM ping responses received for an OAM ping test run.

Values **inbound** — Monitor the value of jitter calculated for the inbound, one-way, OAM ping responses received for an OAM ping test run.

outbound — Monitor the value of jitter calculated for the outbound, one-way, OAM ping requests sent for an OAM ping test run.

roundtrip — Monitor the value of jitter calculated for the round trip, two-way, OAM ping requests and replies for an OAM ping test run.

Default roundtrip

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Platforms
All

25.74 layer-3

layer-3

Syntax
layer-3

Context
[Tree] (config>subscr-mgmt>shcv-policy layer-3)

Full Context
configure subscriber-mgmt shcv-policy layer-3

Description
Commands in this context configure SHCV behavior parameters for IES and VPRN services.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.75 layer-3-encap

layer-3-encap

Syntax
layer-3-encap [{**ip-udp-shim** | **ip-gre** | **ip-udp-shim-sampled**}] [**create**]
no layer-3-encap

Context
[Tree] (config>mirror>mirror-dest>encap layer-3-encap)

Full Context
configure mirror mirror-dest encap layer-3-encap

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Description

This command specifies the format of the routable encapsulation to add to each copied packet. Layer 3 encapsulation takes precedence over Ethernet encapsulation configuration in an LI source. No changes are allowed to the Layer 3 encapsulation once a gateway is configured.

The **no** form of this command removes the routable encapsulation.

Default

no layer-3-encap

Parameters

ip-udp-shim

Specifies that the type of Layer 3 encapsulation is an IPv4 header, UDP header, and LI shim header added to the mirrored packets.

ip-gre

Specifies that the type of Layer 3 encapsulation is an IPv4 header and GRE header added to the mirrored packets. This encapsulation type is only supported with *mirror-type ip-only*.

ip-udp-shim-sampled

Specifies that the type of Layer 3 encapsulation is an IPv4 header, UDP header, and a mirror shim header added to the mirrored packets providing direction, mirror type, filter action, interface type, and interface value.

create

Creates a Layer 3 encapsulation.

Platforms

All

layer-3-encap

Syntax

layer-3-encap [**ip-udp-shim** | **ip-gre**]

no layer-3-encap

Context

[Tree] (config>li>mirror-dest-template layer-3-encap)

Full Context

configure li mirror-dest-template layer-3-encap

Description

This command specifies the format of the routable encapsulation to add to each copied packet. Layer 3 encapsulation takes precedence over Ethernet encapsulation configuration in an LI source. No changes are allowed to the Layer 3 encapsulation after a gateway is configured.

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The **no** form of this command disables Layer 3 encapsulation.

Parameters

ip-udp-shim

Specifies that the type of Layer 3 encapsulation is an IPv4 header, UDP header, and LI-Shim.

ip-gre

Specifies that the type of Layer 3 encapsulation is an IPv4 GRE.

Platforms

All

25.76 layer-3-neighbor-synchronization

layer-3-neighbor-synchronization

Syntax

layer-3-neighbor-synchronization

no layer-3-neighbor-synchronization

Context

[Tree] (config>service>system>bgp-evpn>ethernet-segment layer-3-neighbor-synchronization)

Full Context

configure service system bgp-evpn ethernet-segment layer-3-neighbor-synchronization

Description

This command configures the Ethernet segment used to synchronize ARP and ND entries across all PEs attached to the same CE that use a single LAG.

The **no** form of this command disables Layer 3 ARP and ND synchronization across PEs.

Default

no layer-3-neighbor-synchronization

Platforms

All

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25.77 lbl-eth-or-ip-l4-teid

lbl-eth-or-ip-l4-teid

Syntax

lbl-eth-or-ip-l4-teid

no lbl-eth-or-ip-l4-teid

Context

[Tree] (config>service>epipe>load-balancing lbl-eth-or-ip-l4-teid)

[Tree] (config>service>vpls>load-balancing lbl-eth-or-ip-l4-teid)

Full Context

configure service epipe load-balancing lbl-eth-or-ip-l4-teid

configure service vpls load-balancing lbl-eth-or-ip-l4-teid

Description

This command enables hashing of MPLS Ethernet and MPLS IP packets received on the Epipe and VPLS service SAP using the MPLS labels, the inner IP addresses, the port numbers, and the GTP TEID field, if read by the system. This capability is supported on FP4- and FP5-based line cards.

The **no** form of this command disables hashing.

Default

no lbl-eth-or-ip-l4-teid

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.78 lbm-svc-act-responder

lbm-svc-act-responder

Syntax

[**no**] **lbm-svc-act-responder**

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep lbm-svc-act-responder)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep lbm-svc-act-responder)

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Full Context

configure service epipe sap eth-cfm mep lbm-svc-act-responder

configure service epipe spoke-sdp eth-cfm mep lbm-svc-act-responder

Description

This command enables the MEP to process service activation streams encapsulated in ETH-CFM LBM frames that are directed to the MEP. The MEP will be allocated additional resources to rapidly respond to a high-speed stream of LBM messages.

A MEP created with this option will not validate any TLVs, will not validate the ETH-LBM MAC Address, and will not increment or compute any loopback statistics. Statistical computation and reporting is the responsibility of the test head-end. The ETH-CFM level of the high speed ETH-LBM stream must match the level of a MEP configured with this command. The high-speed stream must not target an ETH-CFM level that is not explicitly configured with this option. MEPs act as boundaries for lower levels, below the configured MEP level values. Those boundary levels do not inherit this function.

When the service activation test is complete, the MEP may be returned to standard processing by removing this command. If there is available bandwidth, the MEP will respond to other ETH-CFM PDUs, such as ETH-DMM marker packets, using standard processing.

The interaction between this command and the **tools perform service id** *service-id* **loopback eth** command must be carefully considered. It is recommended that either the **lbm-svc-act-responder** or the **tools perform service id** *service-id* **loopback eth** command be used at any given time within a service. If both commands must be configured, and the target reflection point is the MAC Swap Loopback function, the inbound stream of data must not include ETH-CFM traffic that is equal to or lower than the domain level of any configured MEP which would otherwise extract and process the ETH-CFM message. If the reflection target is a MEP configured with the **lbm-svc-act-responder** option, the mode (ingress or egress) of the SAP or SDP specified with this tools command and the MEP **direction** (up or down) must match when the functions are enabled on the same reflection point, and the domain level of the inbound ETH-LBM must be the same as that of the MEP configured with the **lbm-svc-act-responder** option. At no time should the two functions be conflicting with each other along the path of the stream. This conflict would lead to unpredictable and possibly destabilizing situations.

The **no** form of this command reverts to MEP LBM standard processing.

Default

no lbm-svc-act-responder

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lbm-svc-act-responder

Syntax

[**no**] **lbm-svc-act-responder**

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep lbm-svc-act-responder)

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[Tree] (config>service>vpls>sap>eth-cfm>mep lbm-svc-act-responder)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep lbm-svc-act-responder)

Full Context

configure service vpls mesh-sdp eth-cfm mep lbm-svc-act-responder

configure service vpls sap eth-cfm mep lbm-svc-act-responder

configure service vpls spoke-sdp eth-cfm mep lbm-svc-act-responder

Description

This command enables the MEP to process service activation streams encapsulated in ETH-CFM LBM frames that are directed to the MEP. The MEP will be allocated additional resources to rapidly respond to a high-speed stream of LBM messages. A MEP created with this option will not validate any TLVs, will not validate the ETH-LBM MAC Address, and will not increment or compute any loopback statistics. Statistical computation and reporting is the responsibility of the test head-end. The ETH-CFM level of the high speed ETH-LBM stream must match the level of a MEP configured with this command. It must not target any lower ETH-CFM level the MEP will terminate. When the service activation test is complete, the MEP may be returned to standard processing by removing this command. If there is available bandwidth, the MEP will respond to other ETH-CFM PDUs, such as ETH-DMM marker packets, using standard processing.

The interaction between this command and the **tools perform service id** *service-id* **loopback eth** command must be carefully considered. It is recommended that either the **lbm-svc-act-responder** or the **tools perform service id** *service-id* **loopback eth** command be used at any given time within a service. If both commands must be configured, and the target reflection point is the MAC Swap Loopback function, the inbound stream of data must not include ETH-CFM traffic that is equal to or lower than the domain level of any configured MEP which would otherwise extract and process the ETH-CFM message. If the reflection target is a MEP configured with the **lbm-svc-act-responder** option, the mode (ingress or egress) of the SAP or SDP specified with this tools command and the MEP **direction** (up or down) must match when the functions are enabled on the same reflection point, and the domain level of the inbound ETH-LBM must be the same as that of the MEP configured with the **lbm-svc-act-responder** option. At no time should the two functions be conflicting with each other along the path of the stream. This conflict would lead to unpredictable and possibly destabilizing situations.

The **no** form of this command reverts to MEP LBM standard processing.

Default

no lbm-svc-act-responder

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lbm-svc-act-responder

Syntax

[**no**] **lbm-svc-act-responder**

Context

[Tree] (config>router>if>eth-cfm>mep lbm-svc-act-responder)

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Full Context

configure router interface eth-cfm mep lbm-svc-act-responder

Description

This command enables the MEP to process service activation streams encapsulated in ETH-CFM LBM frames that are directed to the MEP. The MEP will be allocated additional resources to rapidly respond to a high-speed stream of LBM messages. A MEP created with this option will not validate any TLVs, will not validate the ETH-LBM MAC Address, and will not increment or compute any loopback statistics. Statistical computation and reporting is the responsibility of the test head-end. The ETH-CFM level of the high speed ETH-LBM stream must match the level of a MEP configured with this command. It must not target any lower ETH-CFM level the MEP will terminate. When the service activation test is complete, the MEP may be returned to standard processing by removing this command. If there is available bandwidth, the MEP will respond to other ETH-CFM PDUs, such as ETH-DMM marker packets, using standard processing.

The interaction between this command and the **tools perform service id** *service-id* **loopback eth** command must be carefully considered. It is recommended that either the **lbm-svc-act-responder** or the **tools perform service id** *service-id* **loopback eth** command be used at any given time within a service. If both commands must be configured, and the target reflection point is the MAC Swap Loopback function, the inbound stream of data must not include ETH-CFM traffic that is equal to or lower than the domain level of any configured MEP which would otherwise extract and process the ETH-CFM message. If the reflection target is a MEP configured with the **lbm-svc-act-responder** option, the mode (ingress or egress) of the SAP or SDP specified with this tools command and the MEP **direction** (up or down) must match when the functions are enabled on the same reflection point, and the domain level of the inbound ETH-LBM must be the same as that of the MEP configured with the **lbm-svc-act-responder** option. At no time should the two functions be conflicting with each other along the path of the stream. This conflict would lead to unpredictable and possibly destabilizing situations.

The **no** form of this command reverts to MEP LBM standard processing.

Default

no lbm-svc-act-responder

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

25.79 lcp-force-ack-accm

lcp-force-ack-accm

Syntax

lcp-force-ack-accm {**always** | **never**}

no lcp-force-ack-accm

Context

[Tree] (config>router>l2tp>group>ppp lcp-force-ack-accm)

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[Tree] (config>service>vprn>l2tp>group>ppp lcp-force-ack-accm)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp lcp-force-ack-accm)

[Tree] (config>router>l2tp>group>tunnel>ppp lcp-force-ack-accm)

Full Context

configure router l2tp group ppp lcp-force-ack-accm

configure service vprn l2tp group ppp lcp-force-ack-accm

configure service vprn l2tp group tunnel ppp lcp-force-ack-accm

configure router l2tp group tunnel ppp lcp-force-ack-accm

Description

This command enables the LCP Asynchronous Control Character Map (ACCM) configuration option. When enabled, the LCP ACCM configuration option is acknowledged during LCP negotiation between the LNS and the PPP client. The option is then ignored and no ACCM mapping is done.

By default, an L2TP tunnel inherits the configuration from the L2TP group CLI context.

The **no** form of this command disables the LCP ACCM configuration option.

Parameters

always

Specifies to acknowledge the LCP ACCM configuration option, but not to perform ACCM mapping. This option overrides the group level configuration.

never

Specifies to reject the LCP ACCM configuration option. This option overrides the group level configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.80 lcp-ignore-identifier

lcp-ignore-identifier

Syntax

[**no**] **lcp-ignore-identifier**

Context

[Tree] (config>subscr-mgmt>ppp-policy lcp-ignore-identifier)

Full Context

configure subscriber-mgmt ppp-policy lcp-ignore-identifier

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Description

This command instructs BNG to ignore identifier values in Link Control Protocol (LCP) Echo Reply packets and keep the PPP session up.

The **no** form of this command instructs BNG not to ignore the identifier values, in which case, incorrect messages are discarded and the PPP session terminates because of echo timeout.

Default

lcp-ignore-identifier

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.81 lcp-ignore-magic-numbers

lcp-ignore-magic-numbers

Syntax

lcp-ignore-magic-numbers {**always** | **never**}

no lcp-ignore-magic-numbers

Context

[Tree] (config>router>l2tp>group>tunnel>ppp lcp-ignore-magic-numbers)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp lcp-ignore-magic-numbers)

[Tree] (config>service>vprn>l2tp>group>ppp lcp-ignore-magic-numbers)

[Tree] (config>router>l2tp>group>ppp lcp-ignore-magic-numbers)

Full Context

configure router l2tp group tunnel ppp lcp-ignore-magic-numbers

configure service vprn l2tp group tunnel ppp lcp-ignore-magic-numbers

configure service vprn l2tp group ppp lcp-ignore-magic-numbers

configure router l2tp group ppp lcp-ignore-magic-numbers

Description

This command configures checking the magic number field in LCP Echo-Request and LCP Echo-Reply messages.

The **no** form of this command reverts to the default value.

Default

no lcp-ignore-magic-numbers

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

lcp-ignore-magic-numbers

Syntax

[**no**] **lcp-ignore-magic-numbers**

Context

[Tree] (config>subscr-mgmt>ppp-policy lcp-ignore-magic-numbers)

Full Context

configure subscriber-mgmt ppp-policy lcp-ignore-magic-numbers

Description

This command enables the PPP session to stay established when an LCP peer magic number mismatch is detected.

By default, the PPP session is terminated when an LCP peer magic number mismatch is detected.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.82 ldap

ldap

Syntax

[**no**] **ldap**

Context

[Tree] (config>system>security ldap)

Full Context

configure system security ldap

Description

This command configures LDAP authentication parameters for the system.

The **no** form of this command de-configures the LDAP client from the SR OS.

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Platforms

All

25.83 ldap-server

ldap-server

Syntax

ldap-server *server-name*

no ldap-server

Context

[Tree] (config>system>security>ldap>server ldap-server)

Full Context

configure system security ldap server ldap-server

Description

This command enables the LDAP server name or description.

The **no** form of this command disables the LDAP server name.

Parameters

server-name

Specifies the name of the server, up to 32 characters.

Platforms

All

25.84 ldp

ldp

Syntax

[**no**] **ldp**

Context

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter ldp)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter ldp)

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[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter ldp)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter ldp)

Full Context

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter ldp

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter ldp

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter ldp

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter ldp

Description

This command enables LDP for the auto-bind tunnel resolution filter.

This command instructs BGP to search for an LDP LSP with a FEC prefix corresponding to the address of the BGP next hop.

The **no** form of this command removes the configuration.

Default

no ldp

Platforms

All

ldp

Syntax

[**no**] **ldp**

Context

[Tree] (config>router ldp)

Full Context

configure router ldp

Description

Commands in this context configure an LDP parameters.

To suspend the LDP protocol, use the **shutdown** command. Configuration parameters are not affected.

The **no** form of the command deletes the LDP protocol instance, removing all associated configuration parameters. The LDP instance must first be disabled with the **shutdown** command before being deleted.

Platforms

All

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ldp

Syntax

[**no**] **ldp**

Context

[Tree] (debug>router ldp)

Full Context

debug router ldp

Description

Use this command to configure LDP debugging.

Platforms

All

ldp

Syntax

[**no**] **ldp**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter ldp)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter ldp

Description

This command enables the use of LDP-sourced tunnel entries in the TTM to resolve the associated static route next-hop.

The **no** form of this command disables the use of LDP-sourced tunnel entries to resolve static route next hops.

Default

no ldp

Platforms

All

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ldp

Syntax

[**no**] **ldp**

Context

[Tree] (config>service>sdp ldp)

Full Context

configure service sdp ldp

Description

This command enables LDP-signaled LSPs on MPLS-encapsulated SDPs.

In MPLS SDP configurations *either* one or more LSP names can be specified *or* LDP can be enabled. The SDP **ldp** and **lsp** commands are mutually exclusive except if the mixed-lsp-mode option is also enabled. If an LSP is specified on an MPLS SDP, then LDP cannot be enabled on the SDP. To enable LDP on the SDP when an LSP is already specified, the LSP must be removed from the configuration using the **no lsp** *lsp-name* command or the mixed-lsp-mode option is also enabled.

Alternatively, if LDP is already enabled on an MPLS SDP, then an LSP cannot be specified on the SDP. To specify an LSP on the SDP, the LDP must be disabled. The LSP must have already been created in the **config>router>mpls** context with a valid far-end IP address. The above rules are relaxed when the **mixed-lsp** option is enabled on the SDP.

Default

no ldp (disabled)

Platforms

All

ldp

Syntax

[**no**] **ldp**

Context

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter ldp)

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter ldp)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter ldp

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter ldp

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Description

This command enables LDP tunneling for next-hop resolution and specifies the LDP tunnels in the tunnel table corresponding to /32 IPv4 FECs and /128 IPv6 FECs.

The **no** form of this command disables LDP tunneling for next-hop resolution.

Platforms

All

ldp

Syntax

ldp

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter ldp)

Full Context

configure service vprn auto-bind-tunnel resolution-filter ldp

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

25.85 ldp-over-rsvp

ldp-over-rsvp

Syntax

ldp-over-rsvp [**include** | **exclude**]

Context

[Tree] (config>router>mpls>lsp-template ldp-over-rsvp)

[Tree] (config>router>mpls>lsp ldp-over-rsvp)

Full Context

configure router mpls lsp-template ldp-over-rsvp

configure router mpls lsp ldp-over-rsvp

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Description

This command configures an LSP so that it can be used by the IGP to calculate its SPF tree.

When the **ldp-over-rsvp** option is also enabled in ISIS or OSPF, the IGP provides LDP with all ECMP IP next-hops and tunnel endpoints that it considers to be the lowest cost path to its destination.

IGP provides only the endpoints which are the closest to the destination in terms of IGP cost for each IP next-hop of a prefix. If this results in more endpoints than the ECMP value configured on the router, it will further prune the endpoints based on the lowest router-id and for the same router-id, it will select lowest interface-index first.

LDP then looks up the tunnel table to select the actual tunnels to the endpoint provided by IGP and further limits the endpoint selection to the ones which are the closest to destination across all the IP next-hops provided by IGP for a prefix. For each remaining endpoint, LDP selects a tunnel in a round-robin fashion until the router ECMP value is reached. For each endpoint, only tunnels with the same lowest metric are candidates. If more than one tunnel qualifies, the selection begins with the lowest tunnel-id.

Default

ldp-over-rsvp include

Platforms

All

ldp-over-rsvp

Syntax

[**no**] **ldp-over-rsvp**

Context

[Tree] (config>router>isis ldp-over-rsvp)

Full Context

configure router isis ldp-over-rsvp

Description

This command allows LDP over RSVP processing in IS-IS.

The **no** form of this command disables LDP over RSVP processing.

Default

no ldp-over-rsvp

Platforms

All

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ldp-over-rsvp

Syntax

[**no**] **ldp-over-rsvp**

Context

[Tree] (config>router>ospf ldp-over-rsvp)

Full Context

configure router ospf ldp-over-rsvp

Description

This command allows LDP-over-RSVP processing in this OSPF instance.

Default

no ldp-over-rsvp

Platforms

All

25.86 ldp-shortcut

ldp-shortcut

Syntax

[**no**] **ldp-shortcut**

Context

[Tree] (config>router ldp-shortcut)

Full Context

configure router ldp-shortcut

Description

This command enables the resolution of IGP routes using LDP LSP across all network interfaces participating in the IS-IS and OSPF routing protocol in the system.

When LDP shortcut is enabled, LDP populates the routing table with next-hop entries corresponding to all prefixes for which it activated an LDP FEC. For a given prefix, two route entries are populated in the system routing table. One corresponds to the LDP shortcut next-hop and has an owner of LDP. The other one is the regular IP next-hop. The LDP shortcut next-hop always has preference over the regular IP next-

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hop for forwarding user packets and specified control packets over a given outgoing interface to the route next-hop.

All user and specified control packets for which the longest prefix match in RTM yields the FEC prefix will be forwarded over the LDP LSP.

When an IPv4 packet is received on an ingress network interface, a subscriber IES interface, or a regular IES interface, the lookup of the packet by the ingress forwarding engine will result in the packet being sent labeled with the label stack corresponding to the NHLFE of the LDP LSP when the preferred RTM entry corresponds to an LDP shortcut.

If the preferred RTM entry corresponds to an IP next-hop, the IPv4 packet is forwarded without a label.

When ECMP is enabled and multiple equal-cost next-hops exit for the IGP route, the ingress forwarding engine will spray the packets for this route based on hashing routine currently supported for IPv4 packets. When the preferred RTM entry corresponds to an LDP shortcut route, spraying will be performed across the multiple next-hops for the LDP FEC. The FEC next-hops can either be direct link LDP neighbors or T-LDP neighbors reachable over RSVP LSPs in the case of LDP-over-RSVP but not both.

When the preferred RTM entry corresponds to a regular IP route, spraying will be performed across regular IP next-hops for the prefix.

The **no** form of this command disables the resolution of IGP routes using LDP shortcuts.

Default

no ldp-shortcut

Platforms

All

25.87 ldp-sync

ldp-sync

Syntax

[**no**] **ldp-sync**

Context

[Tree] (config>service>vprn>static-route-entry>indirect ldp-sync)

Full Context

configure service vprn static-route-entry indirect ldp-sync

Description

This command extends the LDP synchronization feature to a static route. When an interface comes back up, it is possible that a preferred static route using the interface as next-hop for a given prefix is enabled before the LDP adjacency to the peer LSR comes up on this interface. In this case, traffic on an SDP that

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uses the static route for the far-end address would be black-holed until the LDP session comes up and the FECs exchanged.

This option when enabled delays the activation of the static route until the LDP session comes up over the interface and the ldp-sync-timer configured on that interface has expired

Default

no ldp-sync

Platforms

All

ldp-sync

Syntax

[**no**] **ldp-sync**

Context

[Tree] (config>router>static-route-entry>next-hop ldp-sync)

Full Context

configure router static-route-entry next-hop ldp-sync

Description

This command extends the LDP synchronization feature to a static route. When an interface comes back up, it is possible that a preferred static route using the interface as next-hop for a given prefix is enabled before the LDP adjacency to the peer LSR comes up on this interface. In this case, traffic on an SDP that uses the static route for the far-end address would be black-holed until the LDP session comes up and the FECs exchanged.

This option when enabled delays the activation of the static route until the LDP session comes up over the interface and the ldp-sync-timer configured on that interface has expired

Default

no ldp-sync

Platforms

All

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25.88 ldp-sync-timer

ldp-sync-timer

Syntax

ldp-sync-timer *seconds* [**end-of-lib**]

no ldp-sync-timer

Context

[Tree] (config>router>if ldp-sync-timer)

Full Context

configure router interface ldp-sync-timer

Description

This command enables synchronization of an IGP and LDP. When a link is restored after a failure, the IGP sets the link cost to infinity and advertises it. The actual value advertised in OSPF is 0xFFFF (65535). The actual value advertised in IS-IS regular metric is 0x3F (63) and in IS-IS wide-metric is 0xFFFFFE (16777214). This feature is not supported on RIP interfaces.

If an interface belongs to both IS-IS and OSPF, a physical failure will cause both IGPs to advertise an infinite metric and to follow the IGP-LDP synchronization procedures. If only one IGP bounces on this interface or on the system, then only the affected IGP advertises the infinite metric and follows the IGP-LDP synchronization procedures.

Next, an LDP Hello adjacency is brought up with the neighbor. The LDP synchronization timer is started by the IGP when the LDP session to the neighbor is up over the interface. This is to allow time for the label-FEC bindings to be exchanged.

When the LDP synchronization timer expires, the link cost is restored and is readvertised. The IGP will announce a new best next hop and LDP will use it if the label binding for the neighbor's FEC is available.

If the user changes the cost of an interface, the new value is advertised at the next flooding of link attributes by the IGP. However, if the LDP synchronization timer is still running, the new cost value will only be advertised after the timer expires. The new cost value will also be advertised after the user executes any of the following commands:

- **tools>perform>router>isis>ldp-sync-exit**
- **tools>perform>router>ospf>ldp-sync-exit**
- **config>router>if>no ldp-sync-timer**
- **config>router>ospf>disable-ldp-sync**
- **router>isis>disable-ldp-sync**

If the user changes the value of the LDP synchronization timer parameter, the new value will take effect at the next synchronization event. If the timer is still running, it will continue to use the previous value.

If parallel links exist to the same neighbor, then the bindings and services should remain up as long as there is one interface that is up. However, the user-configured LDP synchronization timer still applies

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on the interface that failed and was restored. In this case, the router will only consider this interface for forwarding after the IGP re-advertises its actual cost value.

The LDP Sync Timer State is not always synchronized across to the standby CPM. Therefore, after an activity switch, the timer state might not be same as it was on the previously active CPM.

If the **end-of-lib** option is configured, then the system will start the LDP synchronization timer as usual. If the LDP End of LIB Typed Wildcard FEC messages are received for every FEC type negotiated for a given session to an LDP peer for that IGP interface, the **ldp-sync-timer** is terminated early and the IGP link cost is restored. If the **ldp-sync-timer** expires before the LDP End of LIB messages are received for every negotiated FEC type, then the system will restore the IGP link cost. The **end-of-lib** option is disabled by default.

The **no** form of this command disables IGP-LDP synchronization and deletes the configuration.

Default

no ldp-sync-timer

Parameters

seconds

Specifies the time interval for the IGP-LDP synchronization timer.

Values 1 to 1800

end-of-lib

Specifies that the system should terminate the **ldp-sync-timer** early if the LDP End of LIB Typed Wildcard FEC messages are received for every FEC type negotiated for a given session to an LDP peer for that IGP interface.

Platforms

All

25.89 ldp-treetrace

ldp-treetrace

Syntax

ldp-treetrace {**prefix** *ip-prefix*/*mask*} [**downstream-map-tlv** {**dsmap** | **ddmap**}] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**max-path** *max-paths*] [**max-ttl** *ttl-value*] [**retry-count** *retry-count*] [**timeout** *timeout*]

Context

[Tree] (oam ldp-treetrace)

Full Context

oam ldp-treetrace

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Description

This command allows the user to perform a single run of the LDP ECMP OAM tree trace to discover all ECMP paths of an LDP FEC.

Parameters

ip-prefix/mask

Specifies the address prefix and subnet mask of the target BGP IPv4 label route.

Values ip-prefix: a.b.c.dmask, the value must be 32

downstream-map-tlv {dsmap | ddmap}

Specifies which format of the downstream mapping TLV to use in the LSP trace packet. The DSMAP TLV is the original format in RFC 4379 (obsoleted by RFC 8029). The DDMAP is the new enhanced format specified in RFC 6424 and RFC 8029.

Default Inherited from global configuration of downstream mapping TLV in option **mpls-echo-request-downstream-map** {**dsmap** | **ddmap**}.

fc-name

Specifies the FC and profile parameters are used to indicate the forwarding class and profile of the MPLS echo request packet.

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified FC and profile parameter values. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface.

When the MPLS echo request packet is received on the responding node, The FC and profile parameter values are dictated by the LSP-EXP mappings of the incoming interface.

When an MPLS echo reply packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the FC and profile parameter values determined by the classification of the echo request packet, which is being replied to, at the incoming interface. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface. The ToS byte is not modified. Table 57: ldp-treetrace Request Packet and Behavior summarizes this behavior.

Table 57: ldp-treetrace Request Packet and Behavior

CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • pkt queued as {fc1, profile1} • ToS field=tos1 not remarked

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	• EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet {tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • pkt queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request packet.

Values in, out

Default out

max-paths

Specifies the maximum number of paths for a ldp-treetrace test, expressed as a decimal integer.

Values 1 to 255

Default 128

ttl-value

Specifies the maximum TTL value in the MPLS label for the LSP trace test, expressed as a decimal integer.

Values 1 to 255

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Default 30

retry-count

Specifies the maximum number of consecutive MPLS echo requests, expressed as a decimal integer that do not receive a reply before the trace operation fails for a given TTL.

Values 1 to 255

Default 5

timeout

Specifies the time, in seconds, used to override the default time out value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response is not received. Any response received after the request times out is silently discarded.

Values 1 to 60

Default 3

Platforms

All

Output

The following output is an example of treetrace prefix information.

Output Example

```
*A:Dut-A# oam ldp-treetrace prefix 10.20.1.6/32

ldp-treetrace for Prefix 10.20.1.6/32:

         127.0.0.1, ttl =   3 dst =      127.1.0.255 rc = EgressRtr status = Done
    Hops:         127.0.0.1         127.0.0.1

         127.0.0.1, ttl =   3 dst =      127.2.0.255 rc = EgressRtr status = Done
    Hops:         127.0.0.1         127.0.0.1

ldp-treetrace discovery state: Done
ldp-treetrace discovery status: ' OK '
Total number of discovered paths: 2
Total number of failed traces: 0
```

ldp-treetrace

Syntax

[**no**] **ldp-treetrace**

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Context

[Tree] (config>test-oam ldp-treetrace)

Full Context

configure test-oam ldp-treetrace

Description

This command creates the context to configure the LDP ECMP OAM tree trace which consists of an LDP ECMP path discovery and an LDP ECMP path probing features.

The **no** form of this command deletes the configuration for the LDP ECMP OAM tree discovery and path probing under this context.

Platforms

All

Output

The following is an example LDP treetrace information.

Output Example Over a Numbered IP Interface

```
*A:Dut-B# oam ldp-treetrace prefix 10.20.1.5/32

ldp-treetrace for Prefix 10.20.1.5/32:

       10.10.131.2, ttl =   2 dst =      127.1.0.253 rc = EgressRtr status = Done
    Hops:          11.1.0.2

       10.10.132.2, ttl =   2 dst =      127.1.0.255 rc = EgressRtr status = Done
    Hops:          11.1.0.2

       10.10.131.2, ttl =   2 dst =      127.2.0.255 rc = EgressRtr status = Done
    Hops:          11.2.0.2

       10.10.132.2, ttl =   2 dst =      127.2.0.253 rc = EgressRtr status = Done
    Hops:          11.2.0.2

ldp-treetrace discovery state: Done
ldp-treetrace discovery status: ' OK '
Total number of discovered paths: 4
Total number of failed traces: 0
```

Output Example Over an Unnumbered IP Interface

```
*A:Dut-A# oam ldp-treetrace prefix 10.20.1.6/32 downstream-map-tlv dsmap

ldp-treetrace for Prefix 10.20.1.6/32:

         127.0.0.1, ttl =   3 dst =      127.1.0.255 rc = EgressRtr status = Done
    Hops:         127.0.0.1         127.0.0.1

         127.0.0.1, ttl =   3 dst =      127.2.0.255 rc = EgressRtr status = Done
    Hops:         127.0.0.1         127.0.0.1

ldp-treetrace discovery state: Done
ldp-treetrace discovery status: ' OK '
Total number of discovered paths: 2
```


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```
Total number of failed traces: 0
```

ldp-treetrace

Syntax

[**no**] **ldp-treetrace**

Context

[Tree] (debug>oam ldp-treetrace)

Full Context

debug oam ldp-treetrace

Description

This command enables debugging for OAM LDP treetrace.

The **no** form of this command disables the debugging.

Platforms

All

25.90 ldra

ldra

Syntax

ldra

no ldra

Context

[Tree] (config>service>vpls>sap>dhcp6 ldra)

Full Context

configure service vpls sap dhcp6 ldra

Description

This command enables LDRA.

The **no** form of this command disables LDRA.

Default

no ldra

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Platforms

All

25.91 leak

leak

Syntax

leak [*ip-address*]

no leak

Context

[Tree] (debug>router>isis leak)

Full Context

debug router isis leak

Description

This command enables debugging for IS-IS leaks.

The **no** form of the command disables debugging.

Parameters

ip-address

When specified, only the specified address is debugged for IS-IS leaks.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

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leak

Syntax

leak [*ip-address*]

no leak

Context

[Tree] (debug>router>ospf leak)

[Tree] (debug>router>ospf3 leak)

Full Context

debug router ospf leak

debug router ospf3 leak

Description

This command enables debugging for OSPF leaks.

Parameters

ip-address

Specifies the IPv4 or IPv6 address to debug OSPF leaks.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

25.92 leak-destination

leak-destination

Syntax

leak-destination

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Context

[Tree] (config>router>static-route-entry leak-destination)

Full Context

configure router static-route-entry leak-destination

Description

Commands in this context configure a list of VPRNs that receive a leaked copy of the static route.

Platforms

All

25.93 leak-export

leak-export

Syntax

leak-export *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]]

no leak-export

Context

[Tree] (config>router leak-export)

Full Context

configure router leak-export

Description

This command associates up to four policies to control the leaking of GRT routes into the associated VPRN.

If a route is evaluated and the action is accepted, that route is subject leaking into an associated VPRN instance, assuming the route is fully resolved and active.

This process creates the pool of routes that can be leaked. Within each VPRN, a corresponding **import-grt** policy must be configured to import select routes into that specific VPRN instance.

The **no** form of this command removes all route leaking policy associations and effectively disables the leaking of GRT routes into associated VPRNs.

Parameters

plcy-or-long-expr

Specifies the route policy name, up to 64 characters or a policy logical expression, up to 255 characters.

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Values *plcy-or-long-expr*: *policy-name* | *long-expr*

policy-name: up to 64 characters

long-expr: up to 255 characters

plcy-or-expr

Specifies the route policy name, up to 64 characters or a policy logical expression, up to 64 characters long. A maximum of four policy names or policy logical expressions can be specified in a single statement.

Values *plcy-or-expr*: *policy-name* | expr

policy-name: up to 64 characters

expr: up to 64 characters

Platforms

All

25.94 leak-export-limit

leak-export-limit

Syntax

[**no**] **leak-export-limit** [*value*]

Context

[Tree] (config>router leak-export-limit)

Full Context

configure router leak-export-limit

Description

This command sets a maximum limit on the number of GRT routes that can be leaked into VPRN instances.

The **no** form of this command resets the **leak-export-limit** to its default value of 5.

Default

leak-export-limit 5

Parameters

value

Specifies the maximum number of eligible GRT routes that can be leaked into VPRN instances.

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Values 1 to 10000

Platforms

All

25.95 leak-import

leak-import

Syntax

leak-import *plcy-or-long-expr* [*plcy-or-expr*]

no leak-import

Context

[Tree] (config>service>vprn>bgp>rib-management>label-ipv4 leak-import)

[Tree] (config>service>vprn>bgp>rib-management>label-ipv6 leak-import)

[Tree] (config>service>vprn>bgp>rib-management>ipv4 leak-import)

[Tree] (config>service>vprn>bgp>rib-management>ipv6 leak-import)

Full Context

configure service vprn bgp rib-management label-ipv4 leak-import

configure service vprn bgp rib-management label-ipv6 leak-import

configure service vprn bgp rib-management ipv4 leak-import

configure service vprn bgp rib-management ipv6 leak-import

Description

This command configures route policies that control the importation of leak-eligible routes from the BGP RIB of another routing instance into the unlabeled-IPv4, unlabeled-IPv6, labeled-IPv4, or labeled-IPv6 RIB of the VPRN instance. To leak a route from one routing instance to another, the origin and destination RIB types must be the same; for example, it is not possible to leak a route from an unlabeled-IPv4 RIB of a VPRN into the labeled-IPv4 RIB of the base router.

The **leak-import** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine the final action to accept or reject the route.

Only one of the 15 objects referenced by the **leak-import** command can be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters while the remaining 14 objects have a maximum length of 64 characters each.

When a **leak-import** policy is not specified, no BGP routes from other routing instances are leaked into the VPRN BGP RIB.

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The **no** form of this command removes the policy association.

Default

no leak-import

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Allowed values are any string of characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

plcy-or-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Allowed values are any string of characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

leak-import

Syntax

leak-import *plcy-or-long-expr* [*plcy-or-expr*]

no leak-import

Context

[Tree] (config>router>bgp>rib-management>ipv6 leak-import)

[Tree] (config>router>bgp>rib-management>label-ipv4 leak-import)

[Tree] (config>router>bgp>rib-management>ipv4 leak-import)

Full Context

configure router bgp rib-management ipv6 leak-import

configure router bgp rib-management label-ipv4 leak-import

configure router bgp rib-management ipv4 leak-import

Description

This command configures the router to specify route policies that control the importation of leak-eligible routes from the BGP RIB of another routing instance into the unlabeled-IPv4, unlabeled-IPv6, or labeled-IPv4 RIB of the base router. To leak a route from one routing instance to another, the origin and destination RIB types must be the same; for example, it is not possible to leak a route from an unlabeled-IPv4 RIB of a VPRN into the labeled-IPv4 RIB of the base router.

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The **leak-import** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine final action to accept or reject the route.

Only one of the 15 objects referenced by the **leak-import** command can be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters while the remaining 14 objects have a maximum length of 64 characters each.

When a **leak-import** policy is not specified, no BGP routes from other routing instances are leaked into the base router BGP RIB.

The **no** form of this command removes the policy association.

Default

no leak-import

Parameters

plcy-or-long-expr

Specifies up to 14 route policy names (up to 64 characters long) or a policy logical expression (up to 255 characters long). Allowed values are any string of characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

plcy-or-expr

The route policy name (up to 64 characters long) or a policy logical expression (up to 64 characters long). Allowed values are any string of characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

25.96 learn-ap-mac

learn-ap-mac

Syntax

learn-ap-mac [**delay-auth**]

no learn-ap-mac

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw learn-ap-mac)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw learn-ap-mac)

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Full Context

configure service ies subscriber-interface group-interface wlan-gw learn-ap-mac

configure service vprn subscriber-interface group-interface wlan-gw learn-ap-mac

Description

This command enables the sending of ARP or ND packets on the WLAN-GW GRE tunnel for certain events. The target IP address in the ARP/ND packet is the endpoint IP address of the AP. The ARP/ND response from the AP should contain the AP MAC, which subsequently can be reported in a called-station-id message. When enabled, a message will be sent for following events:

- CPM: Mobility to an AP for which the AP-MAC is not yet known
- CPM: RS-triggered authentication on an AP for which the AP-MAC is not yet known
- ISA: Any mobility event
- ISA: Any authentication where the AP-MAC is not yet known (for example, from a RADIUS proxy cache or a DHCP circuit-id). If the optional keyword **delay-auth** is configured, then the authentication will be delayed until the ARP/ND is answered or timed out, after which the AP-MAC can be included in the authentication.

This configuration is ignored for L2-AP and L2TPv3 access.

Parameters

delay-auth

Specifies that authentication will be delayed until the ARP/ND is answered or timed out, after which the AP-MAC can be included in the authentication.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.97 learn-dynamic

learn-dynamic

Syntax

[**no**] **learn-dynamic**

Context

[Tree] (config>service>vprn>if>vpls>evpn>nd learn-dynamic)

[Tree] (config>service>ies>if>vpls>evpn>arp learn-dynamic)

[Tree] (config>service>ies>if>vpls>evpn>nd learn-dynamic)

[Tree] (config>service>vprn>if>vpls>evpn>arp learn-dynamic)

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Full Context

configure service vprn interface vpls evpn nd learn-dynamic

configure service ies interface vpls evpn arp learn-dynamic

configure service ies interface vpls evpn nd learn-dynamic

configure service vprn interface vpls evpn arp learn-dynamic

Description

This command controls whether the ARP or ND frames received on EVPN binds are used to learn dynamic ARP and ND entries in the ARP/ND table.

The **no** form of the command reverts to the default.

Default

learn-dynamic

Platforms

All

25.98 learn-l2tp-cookie

learn-l2tp-cookie

Syntax

learn-l2tp-cookie {**if-match** | **never** | **always**} [**cookie** *hex string*]

no learn-l2tp-cookie

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw learn-l2tp-cookie)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw learn-l2tp-cookie)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw learn-l2tp-cookie

configure service ies subscriber-interface group-interface wlan-gw learn-l2tp-cookie

Description

This command specifies when this system will learn the cookie from L2TP tunnels terminating on this interface. Learning the cookie means that the value of the octets 3-8 of the cookie is interpreted as an access point's MAC address, and used as such, for example in the Called-Station-Id attribute of RADIUS Interim-Update messages.

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Parameters

if-match

Specifies that the cookie is interpreted only if the value of the first two octets of the cookie is equal to the value of the object tmnxWlanGwSoftGreIfL2tpCookie.

cookie *hex string*

Specifies the value used to compare the first two bytes of the cookie. This parameter is only valid if **if-match** is configured.

Values 0x0000 to 0xFFFF...(4 hex nibbles)

never

Specifies that the cookie value will always be ignored.

always

Always learn the AP-MAC from the cookie, regardless of the value of the first two bytes.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.99 lease-hold-time

lease-hold-time

Syntax

lease-hold-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no lease-hold-time

Context

[Tree] (config>service>vprn>dhcp6>server lease-hold-time)

[Tree] (config>router>dhcp6>server lease-hold-time)

[Tree] (config>router>dhcp>server lease-hold-time)

[Tree] (config>service>vprn>dhcp>server lease-hold-time)

Full Context

configure service vprn dhcp6 local-dhcp-server lease-hold-time

configure router dhcp6 local-dhcp-server lease-hold-time

configure router dhcp local-dhcp-server lease-hold-time

configure service vprn dhcp local-dhcp-server lease-hold-time

Description

This command configures the time to remember this lease and is applicable for unsolicited release conditions such as lease timeout if the **lease-hold-time-for** command is set to the default value **no**

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solicited-release and is additionally applicable for normal solicited releases from DHCP clients if the **lease-hold-time-for** command is set to **solicited-release**.

The **no** form of this command reverts to the default.

Default

lease-hold-time sec 0

Parameters

lease-hold-time

Specifies the amount of time to remember the lease.

Values	*days*	0 to 7305
	hours	0 to 23
	minutes	0 to 59
	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.100 lease-hold-time-for

lease-hold-time-for

Syntax

[**no**] **lease-hold-time-for**

Context

[Tree] (config>service>vprn>dhcp>server lease-hold-time-for)

[Tree] (config>router>dhcp6>server lease-hold-time-for)

[Tree] (config>service>vprn>dhcp6>server lease-hold-time-for)

[Tree] (config>router>dhcp>server lease-hold-time-for)

Full Context

configure service vprn dhcp local-dhcp-server lease-hold-time-for

configure router dhcp6 local-dhcp-server lease-hold-time-for

configure service vprn dhcp6 local-dhcp-server lease-hold-time-for

configure router dhcp local-dhcp-server lease-hold-time-for

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Description

Commands in this context configure **lease-hold-time-for** parameters which define additional types of lease or triggers that cause system to hold up leases.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.101 lease-populate

lease-populate

Syntax

lease-populate [*nbr-of-leases*]

lease-populate [*nbr-of-leases*] **l2-header** [**mac** *ieee-address*]

no lease-populate

Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp lease-populate)

[Tree] (config>service>vprn>sub-if>dhcp lease-populate)

[Tree] (config>service>vpls>sap>dhcp lease-populate)

[Tree] (config>service>ies>if>dhcp lease-populate)

[Tree] (config>service>vprn>if>dhcp lease-populate)

[Tree] (config>service>ies>sub-if>grp-if>dhcp lease-populate)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp lease-populate)

Full Context

configure service vprn subscriber-interface group-interface dhcp lease-populate

configure service vprn subscriber-interface dhcp lease-populate

configure service vpls sap dhcp lease-populate

configure service ies interface dhcp lease-populate

configure service vprn interface dhcp lease-populate

configure service ies subscriber-interface group-interface dhcp lease-populate

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp lease-populate

Description

Commands in this context configure IPoE host parameters.

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For VPLS, DHCP snooping must be explicitly enabled (using the **snoop** command) at all points where DHCP messages requiring snooping enter the VPLS instance (both from the DHCP server and from the subscribers). Lease state information is extracted from snooped DHCP ACK messages to populate lease state table entries for the SAP.

The optional *nbr-of-leases* parameter defines the number lease state table entries allowed.

- for this SAP in case of a VPLS service
- for this interface in case of an IES or VPRN interface
- for each SAP in case of an IES or VPRN group-interface
- for this interface in case of an IES or VPRN retail subscriber-interface

If the *nbr-of-leases* parameter is omitted, only a single entry is allowed. Once the maximum number of entries has been reached, subsequent lease state entries are not allowed and subsequent DHCP ACK messages are discarded.

The retained lease state information representing dynamic hosts may be used to:

- Populate a SAP based anti-spoof filter table to provide dynamic anti-spoof filtering. If the system is unable to populate the dynamic host information in the anti-spoof filter table on the SAP, the DHCP ACK message must be discarded without adding new lease state entry or updating an existing lease state entry.
- Populate the system's ARP cache based on the arp-populate configuration. Applicable to IES and VPRN interfaces or group-interfaces.
- Populate managed entries into a VPLS forwarding database. VPLS forwarding database population is an implicit feature that automatically places the dynamic host's MAC address into the VPLS FDB. When a dynamic host's MAC address is placed in the lease state table, it will automatically be populated into the VPLS forwarding database associated with the SAP on which the host is learned. The dynamic host MAC address will override any static MAC entries using the same MAC and prevent dynamic learning of the MAC on another interface. Existing static MAC entries with the same MAC address as the dynamic host are marked as inactive but not deleted. If all entries in the lease state table associated with the MAC address are removed, the static MAC may be populated. New static MAC definitions for the VPLS instance may be created while a dynamic host exists associated with the static MAC address.
- Generate dynamic ARP replies if **arp-reply-agent** is enabled. Applicable to VPLS service SAPs

The **no** form of this command reverts to the default.

Parameters

nbr-of-leases

Specifies the number of DHCPv4 leases allowed.

l2-header

Indicates a mode of operation where anti-spoof entry associated with the given DHCP state is created based on the *src-mac* address from the Layer 2 header of the DHCP request message. The Layer 2 header flag is not set by default. This parameter is only applicable for group interfaces.

mac

Specifies that the provisioned *ieee-address* is used in the anti-spoofing entries for this SAP. The parameter may be changed mid-session. Existing sessions will not be re-programmed unless a **tools>perform>subscriber-mgmt>remap-lease-state** command is issued for the lease. This parameter is only applicable for group interfaces.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp lease-populate
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp lease-populate
- configure service vprn subscriber-interface group-interface dhcp lease-populate
- configure service vprn subscriber-interface dhcp lease-populate

All

- configure service ies interface dhcp lease-populate
- configure service vprn interface dhcp lease-populate
- configure service vpls sap dhcp lease-populate

lease-populate

Syntax

lease-populate [*nbr-of-leases*]

lease-populate [*nbr-of-leases*] **route-populate** [**pd**] **na** [**ta**]

lease-populate [*nbr-of-leases*] **route-populate pd** [**na**] [**ta**] [**exclude**]

lease-populate [*nbr-of-leases*] **route-populate** [**pd**] [**na**] **ta**

no lease-populate

Context

[Tree] (config>service>ies>if>ipv6>dhcp6-relay lease-populate)

Full Context

configure service ies interface ipv6 dhcp6-relay lease-populate

Description

This command specifies the maximum number of DHCPv6 lease states allocated by the DHCPv6 relay function, allowed on this interface.

Optionally, by specifying **route-populate** parameter, system could:

- Create routes based on the IA_PD/IA_NA/IA_TA prefix option in relay-reply message.
- Create black hole routes based on OPTION_PD_EXCLUDE in IA_PD in relay-reply message.

These routes could be redistributed into IGP/BGP by using route-policy, following protocol types that could be used in "from protocol”:

- dhcpv6-pd
- dhcpv6-na
- dhcpv6-ta
- dhcpv6-pd-excl

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Parameters

nbr-of-leases

Defines the number lease state table entries allowed for this interface. If this parameter is omitted, only a single entry is allowed. Once the maximum number of entries has been reached, subsequent lease state entries are not allowed and subsequent DHCPv6 REPLY messages are discarded.

Values 1 to 8000

route-populate

Specifies the route populate parameter.

Values pd/na/ta — Create route based on specified option.

exclude — Create blackhole route based on OPTION_PD_EXCLUDE.

Platforms

All

25.102 lease-query

lease-query

Syntax

lease-query [**max-retry** *Max nbr of retries*]

no lease-query

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client lease-query)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client lease-query)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client lease-query

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client lease-query

Description

This command enables lease-query. If this is specified the dhcp6-client will retrieve any existing addresses when becoming active. The lease-query is performed for all of the configured servers

The **no** form of this command disables lease-query.

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Parameters

Max nbr of retries

Specifies the maximum number of retries before the lease query assumes no existing subnets were allocated.

Values 0 to 10

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

25.103 lease-rebind-time

lease-rebind-time

Syntax

lease-rebind-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no lease-rebind-time

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options lease-rebind-time)

[Tree] (config>router>dhcp>server>pool>options lease-rebind-time)

[Tree] (config>service>vprn>dhcp>server>pool>options lease-rebind-time)

Full Context

configure subscriber-mgmt local-user-db ipoe host options lease-rebind-time

configure router dhcp local-dhcp-server pool options lease-rebind-time

configure service vprn dhcp local-dhcp-server pool options lease-rebind-time

Description

This command configures the time the client transitions to a rebinding state for a DHCP client.

The **no** form of this command removes the time from the configuration.

Parameters

lease-rebind-time

Specifies the lease rebind time.

Values

days:	0 to 3650
hours:	0 to 23
minutes:	0 to 59

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	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.104 lease-renew-time

lease-renew-time

Syntax

lease-renew-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no lease-renew-time

Context

[Tree] (config>router>dhcp>server>pool>options lease-renew-time)

[Tree] (config>service>vprn>dhcp>server>pool>options lease-renew-time)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options lease-renew-time)

Full Context

configure router dhcp local-dhcp-server pool options lease-renew-time

configure service vprn dhcp local-dhcp-server pool options lease-renew-time

configure subscriber-mgmt local-user-db ipoe host options lease-renew-time

Description

This command configures the time the client transitions to a renew state for a DHCP client.

The **no** form of this command removes the time from the configuration.

Parameters

lease-renew-time

Specifies the lease renew time.

Values	days:	0 to 3650
	hours:	0 to 23
	minutes:	0 to 59
	seconds	0 to 59

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.105 lease-time

lease-time

Syntax

lease-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no lease-time

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options lease-time)

[Tree] (config>service>vprn>dhcp>server>pool>options lease-time)

[Tree] (config>router>dhcp>server>pool>options lease-time)

Full Context

configure subscriber-mgmt local-user-db ipoe host options lease-time

configure service vprn dhcp local-dhcp-server pool options lease-time

configure router dhcp local-dhcp-server pool options lease-time

Description

This command configures the amount of time that the DHCP server grants to the DHCP client permission to use a specific IP address.

The **no** form of this command removes the lease time parameters from the configuration.

Parameters

days

Specifies the number of days that the given IP address is valid.

Values 0 to 3650

hours

Specifies the number of hours that the given IP address is valid.

Values 0 to 23

minutes

Specifies the number of minutes that the given IP address is valid.

Values 0 to 59

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seconds

Specifies the number of seconds that the given IP address is valid.

Values 0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

lease-time

Syntax

lease-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*] [**override**]

no lease-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>proxy-server lease-time)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>proxy-server lease-time)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>proxy lease-time)

[Tree] (config>service>ies>if>dhcp>proxy-server lease-time)

[Tree] (config>service>vpls>sap>dhcp>proxy-server lease-time)

[Tree] (config>service>vprn>if>dhcp>proxy lease-time)

Full Context

configure service vprn subscriber-interface group-interface dhcp proxy-server lease-time

configure service ies subscriber-interface group-interface dhcp proxy-server lease-time

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp proxy-server lease-time

configure service ies interface dhcp proxy-server lease-time

configure service vpls sap dhcp proxy-server lease-time

configure service vprn interface dhcp proxy-server lease-time

Description

This command defines the length of lease-time that is provided to DHCP clients. By default, the local-proxy-server always makes use of the lease time information provide by either a RADIUS or DHCP server.

The **no** form of this command disables the use of the lease-time command. The local-proxy-server will use the lease-time offered by either a RADIUS or DHCP server.

Default

lease-time days 7

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Parameters

override

Specifies that the local-proxy-server will use the configured lease-time information to provide DHCP clients

days

Specifies the number of days that the given IP address is valid.

Values 0 to 3650

hours

Specifies the number of hours that the given IP address is valid.

Values 0 to 23

minutes

Specifies the number of minutes that the given IP address is valid.

Values 0 to 59

seconds

Specifies the number of seconds that the given IP address is valid.

Values 0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp proxy-server lease-time
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp proxy-server lease-time
- configure service vprn subscriber-interface group-interface dhcp proxy-server lease-time

All

- configure service vpls sap dhcp proxy-server lease-time
- configure service vprn interface dhcp proxy-server lease-time
- configure service ies interface dhcp proxy-server lease-time

lease-time

Syntax

lease-time [*lease-time*]

no lease-time

Context

[Tree] (config>service>vprn>sub-if>grp-if>wpp lease-time)

[Tree] (config>service>ies>sub-if>grp-if>wpp lease-time)

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Full Context

configure service vprn subscriber-interface group-interface wpp lease-time

configure service ies subscriber-interface group-interface wpp lease-time

Description

This command configures the amount of time that the DHCP server grants to the DHCP client permission to use a particular IP address.

The **no** form of this command removes the lease time parameters from the configuration.

Parameters

lease-time

Specifies the lease time.

Values	**days** *days*	0 to 3650
	hrs *hours*	0 to 23
	min *minutes*	0 to 59
	sec *seconds*	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

lease-time

Syntax

lease-time *seconds*

lease-time [**days** <*days*>] [**hrs** <*hrs*>] [**min** <*min*>] [**sec** <*sec*>]

no lease-time

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile>dhcp-pool lease-time)

Full Context

configure subscriber-mgmt vrgw brg brg-profile dhcp-pool lease-time

Description

This command configures the lease time, in seconds, to be used when allocating addresses from the pool. This time value should always be longer than the renew/rebind time.

The **no** form of this command reverts to the default.

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Default

lease-time hrs 6

Parameters

seconds

Specifies the lease time in seconds.

Values 300 to 315446399

days

Specifies the lease time in days.

Values 1 to 3650

hrs

Specifies the lease time in hours.

Values 1 to 23

min

Specifies the lease time in minutes.

Values 1 to 59

sec

Specifies the lease time in seconds.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.106 least-fill

least-fill

Syntax

[**no**] **least-fill**

Context

[Tree] (config>router>mpls>lsp-template least-fill)

[Tree] (config>router>mpls>lsp least-fill)

Full Context

configure router mpls lsp-template least-fill

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configure router mpls lsp least-fill

Description

This command enables the use of the least-fill path selection method for the computation of the path of this LSP.

When MPLS requests the computation of a path for this LSP, CSPF will find all equal cost shortest paths which satisfy the constraints of this path. Then, CSPF identifies the single link in each of these paths which has the least available bandwidth as a percentage of its maximum reservable bandwidth. It then selects the path which has the largest value of this percentage least available bandwidth figure. CSPF identifies the least available bandwidth link in each equal cost path after it has accounted for the bandwidth of the new requested path of this LSP.

CSPF applies the least-fill path selection method to all requests for a path, primary and secondary, of an LSP for which this option is enabled. The bandwidth of the path can be any value, including zero.

CSPF applies the least-fill criterion separately to each preemption priority in the base TE. A higher setup priority path can preemptively lower holding priority paths.

CSPF also applies the least-fill criterion separately to each Diff-Serv TE class if Diff-Serv TE is enabled on this node. A higher setup priority path can preemptively lower holding priority paths within a Class Type.

MPLS will re-signal and move the LSP to the new path in the following cases:

- Initial LSP path signaling.
- Re-try of an LSP path after failure.
- Make-before-break (MBB) due to pending soft preemption of the LSP path.
- MBB due to LSP path configuration change, that is, a user change to bandwidth parameter of primary or secondary path, or a user enabling of fast-reroute option for the LSP.
- MBB of secondary path due to an update to primary path SRLG.
- MBB due to FRR Global Revertive procedures on the primary path.
- Manual re-signaling of an LSP path or of all LSP paths by the user.

During a manual re-signaling of an LSP path, MPLS will always re-signal the path regardless of whether the new path is exactly the same or different than the current path and regardless of whether the metric of the new path is different or not from that of the current path.

During a timer-based re-signaling of an LSP path which has the least-fill option enabled, MPLS will only re-signal the path if the metric of the new path is different than the one of the current path.

The **no** form of this command deletes a specific node entry in this database.

Default

no least-fill. The path of an LSP is randomly chosen among a set of equal cost paths.

Platforms

All

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25.107 least-fill-min-thd

least-fill-min-thd

Syntax

least-fill-min-thd *percent*

no least-fill-min-thd

Context

[Tree] (config>router>mpls least-fill-min-thd)

Full Context

configure router mpls least-fill-min-thd

Description

This parameter is used in the least-fill path selection process. When comparing the percentage of least available link bandwidth across the sorted paths, whenever two percentages differ by less than the value configured as the least-fill-min-thresh, CSPF will consider them equal and will apply a random number generator to select the path among these paths

The **no** form of this command resets this parameter to its default value.

Default

least-fill-min-thd 5

Parameters

percentage

Specifies the least fill minimum threshold value as a percentage.

Values 1 to 100%

Platforms

All

25.108 least-fill-reoptim-thd

least-fill-reoptim-thd

Syntax

least-fill-reoptim-thd *percent*

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no least-fill-reoptim-thd

Context

[Tree] (config>router>mpls least-fill-reoptim-thd)

Full Context

configure router mpls least-fill-reoptim-thd

Description

This parameter is used in the least-fill path selection method. During a timer-based re-signaling of an LSP path which has the least-fill option enabled, CSPF will first update the least-available bandwidth figure for the current path of this LSP. It then applies the least-fill path selection method to select a new path for this LSP. If the new computed path has the same cost as the current path, it will compare the least-available bandwidth figures of the two paths and if the difference exceeds the user configured optimization threshold, MPLS will generate a trap to indicate that a better least-fill path is available for this LSP. This trap can be used by an external SNMP based device to trigger a manual re-signaling of the LSP path since the timer-based re-signaling will not re-signal the path in this case. MPLS will generate a path update trap at the first MBB event which results in the re-signaling of the LSP path. This should clear the eligibility status of the path at the SNMP device.

The **no** form of this command resets this parameter to its default value.

Default

least-fill-reoptim-thd 10

Parameters

percentage

Specifies the least fill reoptimization threshold value as a percentage.

Values 1 to 100%

Platforms

All

25.109 leave-all-sm

leave-all-sm

Syntax

[**no**] **leave-all-sm**

Context

[Tree] (debug>service>id>mrp leave-all-sm)

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Full Context

debug service id mrp leave-all-sm

Description

This command enables debugging of the leave all state machine.

The **no** form of this command disables debugging of the leave all state machine.

Platforms

All

25.110 leave-all-time

leave-all-time

Syntax

leave-all-time *value*

no leave-all-time

Context

[Tree] (config>service>vpls>mesh-sdp>mrp leave-all-time)

[Tree] (config>service>vpls>sap>mrp leave-all-time)

[Tree] (config>service>vpls>spoke-sdp>mrp leave-all-time)

Full Context

configure service vpls mesh-sdp mrp leave-all-time

configure service vpls sap mrp leave-all-time

configure service vpls spoke-sdp mrp leave-all-time

Description

This command controls the frequency with which the LeaveAll state machine generates LeaveAll PDUs. The timer is required on a per-Port, per-MRP Participant basis. The Leave All Period Timer is set to a random value, T, in the range LeaveAllTime<T<1.5*leave-all-time when it is started. Refer to IEEE 802.1ak-2007 section 10.7.4.3.

Default

leave-all-time 100

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Parameters

value

The frequency with which the LeaveAll state machine generates LeaveAll PDUs, in tenths of a second.

Values 60 to 300

Platforms

All

25.111 leave-time

leave-time

Syntax

leave-time *value*

no leave-time

Context

[Tree] (config>service>vpls>mesh-sdp>mrp leave-time)

[Tree] (config>service>vpls>spoke-sdp>mrp leave-time)

[Tree] (config>service>vpls>sap>mrp leave-time)

Full Context

configure service vpls mesh-sdp mrp leave-time

configure service vpls spoke-sdp mrp leave-time

configure service vpls sap mrp leave-time

Description

This command controls the period of time that the Registrar state machine will wait in the leave state before transitioning to the MT (Empty) state when it is removed. An instance of the timer is required for each state machine that is in the leave state. The leave period timer is set to the value specified for **leave-time** when it is started.

A registration is normally in an "in" state where there is an MFIB entry and traffic is being forwarded. When a "leave all" is performed (periodically around every 10-15 seconds per SAP/SDP binding - see leave-all-time-below), a node sends a message to its peer indicating a leave all is occurring and puts all of its registrations in leave state.

The peer refreshes its registrations based on the leave all PDU it receives and sends a PDU back to the originating node with the state of all its declarations.

Refer to IEEE 802.1ak-2007 section 10.7.4.2.

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Default

leave-time 30

Parameters

value

The period of time that the Registrar state machine waits in the leave state before transitioning to the MT state, in tenths of a second.

Values 30 to 60

Platforms

All

25.112 legacy

legacy

Syntax

[**no**] **legacy**

Context

[Tree] (config>router>isis>te>application-link-attributes legacy)

Full Context

configure router isis traffic-engineering-options application-link-attributes legacy

Description

This command enables legacy mode of advertising TE attributes.

The **no** form of this command disables legacy mode, but enables the per-application TE attribute advertisement for RSVP-TE.

Default

legacy

Platforms

All

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25.113 legacy-dns-nbns

legacy-dns-nbns

Syntax

[**no**] **legacy-dns-nbns**

Context

[Tree] (config>subscr-mgmt>sys-bhv legacy-dns-nbns)

Full Context

configure subscriber-mgmt system-behavior legacy-dns-nbns

Description

This command enables legacy DNS NBNS behavior, which restricts the supported default extended authentication origins for DNS and NBNS name servers. The main differences include:

- only support DHCP server as origin for DHCP relay: IPoE DHCPv4/DHCPv6 and PPPoE DHCPv6
- Local Address Assignment (LAA) is highest priority origin: IPoE and PPPoE SLAAC DNSv6 and PPPoE DNSv4
- no default DNS for IPoE DHCPv4 proxy

The **no** form of this command reverts to the recommended default extended DNS and NBNS name server origin priorities.

Default

no legacy-dns-nbns

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

25.114 legacy-ipv4-lsr-interop

legacy-ipv4-lsr-interop

Syntax

[**no**] **legacy-ipv4-lsr-interop**

Context

[Tree] (config>router>ldp legacy-ipv4-lsr-interop)

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Full Context

configure router ldp legacy-ipv4-lsr-interop

Description

This command provides for a global LDP knob to allow interoperability with legacy IPv4 LSR implementations which do not comply with the processing of Hello TLVs with the U-bit set. Specifically, this feature disables the following Hello TLVs:

- The Nokia proprietary Interface Info TLV (0x3E05) in the Hello message sent to the peer. This also results in the non-generation of the Nokia proprietary Hello Adjacency Status TLV (0x3E06) since the Interface Info TLV is not sent.

  This is performed in SR OS releases 12 and higher.
- The RFC 7552 standard dual-stack capability TLV (0x701) and the Nokia proprietary Adjacency capability TLV (0x3E07) in SR OS releases 13 and higher.

Platforms

All

25.115 legacy-mode

legacy-mode

Syntax

[**no**] **legacy-mode**

Context

[Tree] (config>service>vprn>bgp>error-handling legacy-mode)

[Tree] (config>router>bgp>error-handling legacy-mode)

Full Context

configure service vprn bgp error-handling legacy-mode

configure router bgp error-handling legacy-mode

Description

This command configures the BGP instance to handle BGP update error messages based on the configured **update-fault-tolerance** commands.

Note: If the **update-fault-tolerance** commands are not explicitly configured, BGP error handling follows the legacy procedures described in RFC 4271, which can result in disruptive session resets.

The **no** form of this command configures the BGP instance to ignore the configured **update-fault-tolerance** commands and apply the new error-handling procedures described in RFC 7606 on all sessions.

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Default

no legacy-mode

Platforms

All

25.116 length

length

Syntax

length {**133** | **266** | **399** | **533** | **655**}

Context

[Tree] (config>port>tdm length)

Full Context

configure port tdm length

Description

This command applies only to a DS-1 port configured with a 'short' buildout. The **length** command configures the length of the line (in feet). For line lengths longer than 655 feet, configure the DS-1 port buildout as 'long'.

For 'long' buildout the following values are valid:

NotApplicable — Not applicable

For 'short' buildout the following values are valid:

- 0 to 133 For line length from 0 to 133 feet
- 134 to 266 For line length from 134 to 266 feet
- 267 to 399 For line length from 267 to 399 feet
- 400 to 533 For line length from 400 to 533 feet
- 534 to 655 For line length from 534 to 655 feet

The default for 'long' buildout is 'NotApplicable' while the default for 'short' buildout is '0 to 133'.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

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length

Syntax

length *lines*

Context

[Tree] (environment>terminal length)

Full Context

environment terminal length

Description

This command sets the number of lines on a screen.

Parameters

lines

Specifies the number of lines for the terminal screen length, expressed as a decimal integer.

Values 1 to 512

Default 24 — terminal dimensions are set to 24 lines long by 80 characters wide

Platforms

All

length

Syntax

length *lines*

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>console length)

Full Context

configure system management-interface cli md-cli environment console length

Description

This command configures the set number of lines displayed on the console.

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Default

length 24

Parameters

lines

Specifies the number of lines displayed in the console window.

Values 24 to 512

Platforms

All

25.117 length-field

length-field

Syntax

[**no**] **length-field**

Context

[Tree] (config>test-oam>icmp>ipv6 length-field)

Full Context

configure test-oam icmp ipv6 length-field

Description

This command enables the setting of the length field when building an RFC 4884, *Extended ICMP to Support Multi-Part Messages*, *ICMPv6 Destination Unreachable* message or *ICMPv6 Time Exceeded* message.

The **no** form of this command disables the length field modification.

Default

no length-field

Platforms

All

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25.118 ler-use-dscp

ler-use-dscp

Syntax

[**no**] **ler-use-dscp**

Context

[Tree] (config>qos>network>ingress ler-use-dscp)

Full Context

configure qos network ingress ler-use-dscp

Description

This command is used to enable tunnel QoS mapping on all ingress network IP interfaces that the network-qos-policy-id is associated with. The command may be defined at any time after the network QoS policy has been created. Any network IP interfaces currently associated with the policy will immediately start to use the internal IP ToS field of any tunnel terminated IP routed packet received on the interface, ignoring any QoS markings in the tunnel portion of the packet.

This attribute provides the ability to ignore the network ingress QoS mapping of a terminated tunnel containing an IP packet that is to be routed to a base router or VPRN destination. This is advantageous when the mapping for the tunnel QoS marking does not accurately or completely reflect the required QoS handling for the IP routed packet. When the mechanism is enabled on an ingress network IP interface, the IP interface will ignore the tunnel's QoS mapping and derive the internal forwarding class and profile based on the precedence or DiffServ Code Point (DSCP) values within the routed IP header ToS field compared to the Network QoS policy defined on the IP interface.

The default state is not to enforce tunnel termination IP routed QoS override within the network QoS policy.

The **no** form of this command removes tunnel termination IP routed QoS override from the network QoS policy and all ingress network IP interfaces associated with the policy.

Default

no ler-use-dscp

Platforms

All

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25.119 less-specific

less-specific

Syntax

less-specific [**allow-default**]

no less-specific

Context

[Tree] (config>vrrp>policy>priority-event>route-unknown less-specific)

Full Context

configure vrrp policy priority-event route-unknown less-specific

Description

This command allows a CIDR shortest match hit on a route prefix that contains the IP route prefix associated with the route unknown priority event.

The **less-specific** command modifies the search parameters for the IP route prefix specified in the **route-unknown** priority event. Specifying **less-specific** allows a CIDR shortest match hit on a route prefix that contains the IP route prefix.

The **less-specific** command eases the RTM lookup criteria when searching for the *prefix/mask-length*. When the **route-unknown** priority event sends the prefix to the RTM (as if it was a destination lookup), the result route table prefix (if a result is found) is checked to see if it is an exact match or a less specific match. The **less-specific** command enables a less specific route table prefix to match the configured prefix. When **less-specific** is not specified, a less specific route table prefix fails to match the configured prefix. The **allow-default** optional parameter extends the **less-specific** match to include the default route (0.0.0.0).

The **no** form of the command prevents RTM lookup results that are less specific than the route prefix from matching.

Default

no less-specific — The route unknown priority events requires an exact prefix/mask match.

Parameters

allow-default

When the **allow-default** parameter is specified with the **less-specific** command, an RTM return of 0.0.0.0 matches the IP prefix. If **less-specific** is entered without the **allow-default** parameter, a return of 0.0.0.0 will not match the IP prefix. To disable **allow-default**, but continue to allow **less-specific** match operation, only enter the **less-specific** command (without the **allow-default** parameter).

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Platforms

All

25.120 level

level

Syntax

level *level-id* **bw** *bandwidth*

no level *level-id*

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac>mc-constraints level)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac mc-constraints level

Description

This command configures levels and their associated bandwidth for multicast CAC policy on an interface.

The **no** form of this command reverts to the default.

Parameters

level-id

Specifies has an entry for each multicast CAC policy constraint level configured on a system.

Values 1 to 8

bandwidth

Specifies the bandwidth in kilobits per second (kb/s) for the level.

Values 1 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

level

Syntax

level *priority-level* **rate** *pir-rate* [**cir** *cir-rate*]

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level *priority-level* **percent-rate** *pir-percent* [**percent-cir** *cir-percent*]

no level *priority-level*

Context

[Tree] (config>port>ethernet>egr-scheduler-override level)

[Tree] (config>port>tdm>ds3>egr-scheduler-override level)

[Tree] (config>port>sonet-sdh>path>egr-scheduler-override level)

[Tree] (config>port>tdm>e3>egr-scheduler-override level)

Full Context

configure port ethernet egress-scheduler-override level

configure port tdm ds3 egress-scheduler-override level

configure port sonet-sdh path egress-scheduler-override level

configure port tdm e3 egress-scheduler-override level

Description

This command overrides the maximum and CIR rate parameters for a specific priority level on the port or channel's port scheduler instance. When the **level** command is executed for a priority level, the corresponding priority level command in the port-scheduler-policy associated with the port is ignored.

The override level command supports the keyword **max** for the **rate** and **cir** parameter. When executing the level override command, at least the **rate** or **cir** keywords and associated parameters must be specified for the command to succeed.

The **no** form of this command removes the local port priority level rate overrides. Once removed, the port priority level will use the port scheduler policies level command for that priority level.

Parameters

priority-level

Identifies which of the eight port priority levels are being overridden.

Values 1 to 8

pir-rate

Overrides the port scheduler policy's maximum level rate and requires either the **max** keyword or a rate defined in kilobits per second to follow.

Values For Ethernet: 1 to 6400000000, **max**

For SONET-SDH and TDM: 1 to 3200000000, **max**

cir-rate

Overrides the port scheduler policy's within-cir level rate and requires either the max keyword or a rate defined in kilobits per second to follow.

Values For Ethernet: 1 to 6400000000, **max**

For SONET-SDH and TDM: 1 to 3200000000, **max**

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pir-percent

Specifies the PIR as a percentage.

Values 0.01 to 100.00

cir-percent

Specifies the CIR as a percentage.

Values 0.00 to 100.00

max

removes any existing rate limit imposed by the port scheduler policy for the priority level allowing it to use as much total bandwidth as possible.

Platforms

All

- configure port ethernet egress-scheduler-override level

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 egress-scheduler-override level
- configure port tdm e3 egress-scheduler-override level

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh path egress-scheduler-override level

level

Syntax

level [1]

Context

[Tree] (config>service>vpls>spb level)

[Tree] (config>service>vpls>spoke-sdp>spb level)

[Tree] (config>service>vpls>sap>spb level)

Full Context

configure service vpls spb level

configure service vpls spoke-sdp spb level

configure service vpls sap spb level

Description

Commands in this context configure SPB level information.

Platforms

All

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level

Syntax

level *level-id* **bw** *bandwidth*

no level *level-id*

Context

[Tree] (config>service>vpls>sap>igmp-snooping>mcac>mc-constraints level)

[Tree] (config>service>vpls>sap>mld-snooping>mcac>mc-constraints level)

Full Context

configure service vpls sap igmp-snooping mcac mc-constraints level

configure service vpls sap mld-snooping mcac mc-constraints level

Description

This command configures levels and their associated bandwidth for multicast CAC policy on this interface.

Parameters

level-id

Specifies has an entry for each multicast CAC policy constraint level configured on this system

Values 1 to 8

bandwidth

Specifies the bandwidth in kilobits per second (kb/s) for the level.

Values 1 to 2147483647

Platforms

All

level

Syntax

level *level-id* **bw** *bandwidth*

no level *level-id*

Context

[Tree] (config>service>vprn>pim>if>mcac>mc-constraints level)

[Tree] (config>service>vprn>mld>if>mcac>mc-constraints level)

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[Tree] (config>service>vprn>igmp>if>mcac>mc-constraints level)

Full Context

configure service vprn pim interface mcac mc-constraints level

configure service vprn mld interface mcac mc-constraints level

configure service vprn igmp interface mcac mc-constraints level

Description

This command configures interface levels and associated bandwidth for multicast CAC policy.

The **no** form of this command removes the values from the configuration.

Parameters

level-id

Specifies an entry for the multicast CAC policy constraint level configured on this system.

Values 1 to 8

bandwidth

Specifies the bandwidth in kb/s for the level.

Values 1 to 2147483647

Platforms

All

level

Syntax

level *level-number*

Context

[Tree] (config>service>vprn>isis level)

[Tree] (config>service>vprn>isis>link-group level)

[Tree] (config>service>vprn>isis>if level)

Full Context

configure service vprn isis level

configure service vprn isis link-group level

configure service vprn isis interface level

Description

This command creates the context to configure IS-IS Level 1 or Level 2 area attributes.

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A router can be configured as a Level 1, Level 2, or Level 1/2 system. A Level 1 adjacency can be established if there is at least one area address shared by this router and a neighbor. A Level 2 adjacency cannot be established over this interface.

Level 1/2 adjacency is created if the neighbor is also configured as Level 1/2 router and has at least one area address in common. A Level 2 adjacency is established if there are no common area IDs.

A Level 2 adjacency is established if another router is configured as Level 2 or a Level 1/2 router with interfaces configured as Level 1/2 or Level 2. Level 1 adjacencies are not established over this interface.

To reset global and/or interface level parameters to the default, the following commands must be entered independently:

- **level>no hello-authentication-key**
- **level>no hello-authentication-type**
- **level>no hello-interval**
- **level>no hello-multiplier**
- **level>no metric**
- **level>no passive**
- **level>no priority**

Default

level 1 or level 2

Parameters

level-number

The IS-IS level number.

Values 1, 2

Platforms

All

level

Syntax

level *syslog-level*

Context

[Tree] (config>service>vprn>log>syslog level)

Full Context

configure service vprn log syslog level

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Description

This command configures the syslog message severity level threshold. All messages with severity level equal to or higher than the threshold are sent to the syslog target host.

Only a single threshold level can be specified. If multiple levels are entered, the last **level** entered will overwrite the previously entered commands.

Default

level info

Parameters

syslog-level

The threshold severity level name.

Values emergency, alert, critical, error, warning, notice, info, debug

Router severity level	Numerical Severity (highest to lowest)	Configured Severity	Definition
	0	emergency	system is unusable
3	1	alert	action must be taken immediately
4	2	critical	critical condition
5	3	error	error condition
6	4	warning	warning condition
	5	notice	normal but significant condition
1 cleared 2 indeterminate	6	info	informational messages
	7	debug	debug-level messages

Platforms

All

level

Syntax

level *level* **bw** *bandwidth*

no level *level*

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Context

[Tree] (config>router>pim>interface>mcac>mc-constraints level)

[Tree] (config>router>mcac>policy>bundle>mc-constraints level)

[Tree] (config>router>igmp>interface>mcac>mc-constraints level)

[Tree] (config>router>mld>interface>mcac>mc-constraints level)

Full Context

configure router pim interface mcac mc-constraints level

configure router mcac policy bundle mc-constraints level

configure router igmp interface mcac mc-constraints level

configure router mld interface mcac mc-constraints level

Description

This command configures the amount of bandwidth available within a given bundle for MC traffic for a specified level. The amount of allowable BW for the specified level is expressed in kb/s and this can be defined for up to eight different levels.

If no bandwidth is defined for a given level then no limit is applied.

The **no** form of this command removes the level from the configuration.

Parameters

level

Specifies the bandwidth for a given level. Level 1 has the highest priority. Level 8 has the lowest priority.

Values 1 to 8

bw *bandwidth*

Specifies the bandwidth, in kb/s, for the level.

Values 1 to 2147483647 kb/s

Default 1

Platforms

All

level

Syntax

level *priority-level* **rate** *pir-rate* [**cir** *cir-rate*] **group** *name* [**weight** *weight*] [**monitor-threshold** *percent*]

level *priority-level* **percent-rate** *pir-percent* [**percent-cir** *cir-percent*] **group** *name* [**weight** *weight*] [**monitor-threshold** *percent*]

level *priority-level* **rate** *pir-rate* [**cir** *cir-rate*] [**monitor-threshold** *percent*]

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level *priority-level* **percent-rate** *pir-percent* [**percent-cir** *cir-percent*] [**monitor-threshold** *percent*]

no level *priority-level*

Context

[Tree] (config>qos>port-scheduler-policy level)

Full Context

configure qos port-scheduler-policy level

Description

This command configures an explicit within-CIR bandwidth limit and a total bandwidth limit for each port scheduler's priority level. To understand how to set the level rate and CIR parameters, a basic understanding of the port-level scheduler bandwidth allocation mechanism is required. The port scheduler takes all available bandwidth for the port or channel (after the max-rate and any port egress-rate limits have been accounted for) and offers it to each of the eight priority levels twice.

The first pass is called the within-CIR pass and consists of providing the available port bandwidth to each of the 8 priority levels, starting with level 8 and moving down to level 1. Each level takes the offered load and distributes it to all child members that have a port-parent cir-level equal to the current priority level. (Any child with a cir-weight equal to 0 is skipped in this pass.) Each child may consume bandwidth up to the child's frame-based within-CIR offered load. The remaining available port bandwidth is then offered to the next lower priority level until level 1 is reached.

The second pass is called the above-CIR pass and consists of providing the remaining available port bandwidth to each of the eight priority levels a second time. Again, each level takes the offered load and distributes it to all child members that have a port-parent level equal to the current priority level. Each child may consume bandwidth up to the remainder of the child's frame-based offered load (some of the offered load may have been serviced during the within-CIR pass). The remaining available port bandwidth is then offered to the next priority level until level 1 is again reached.

If the port scheduling policy is using the default orphan behavior (orphan-override has not been configured on the policy), the system then takes any remaining port bandwidth and allocates it to the orphan queues and scheduler on priority level 1. In a non-override orphan state, all orphans are attached to priority level 1 using a weight of 0. The zero weight value causes the system to allocate bandwidth equally to all orphans based on each orphan queue or scheduler's ability to use the bandwidth. If the policy has an orphan-override configured, the orphans are handled based on the override commands parameters in a similar fashion to properly parented queues and schedulers.

The port scheduler priority level command rate keyword is used to optionally limit the total amount of bandwidth that is allocated to a priority level (total for the within-CIR and above-CIR passes). The cir keyword optionally limits the first pass bandwidth allocated to the priority level during the within-CIR pass.

When executing the level command, at least one of the optional keywords, **rate** or **cir,** must be specified. If neither keyword is included, the command will fail.

If a previous explicit value for rate or cir exists when the level command is executed, and either rate or cir is omitted, the previous value for the parameter is overwritten by the default value and the previous value is lost.

The configured priority level rate limits may be overridden at the egress port or channel using the egress-scheduler-override level priority-level command. When a scheduler instance has an override defined for a priority level, both the rate and cir values are overridden even when one of them is not explicitly expressed in the override command. For instance, if the cir kilobits per second portion of the override is not

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expressed, the scheduler instance defaults to not having a CIR rate limit for the priority level even when the port scheduler policy has an explicit CIR limit defined.

The **no** form of this command returns the level to its default value.

Default

no level priority-level

Parameters

priority-level

Specifies to which priority level the level command pertains. Each of the eight levels is represented by an integer value of 1 to 8, with 8 being the highest priority level.

Values 1 to 8 (8 is the highest priority)

pir-rate

Specifies the total bandwidth limits allocated to priority-level, in kilobits per second.

Values 1 to 6400000000, **max**

pir-percent

Specifies the percent bandwidth limits allocated to priority-level.

Values 0.01 to 100.00

cir-rate

The cir specified limits the total bandwidth allocated in the within-CIR distribution pass to priority-level. When cir is not specified, all the available port or channel bandwidth may be allocated to the specified priority level during the within-CIR pass.

Values 0 to 6400000000, **max**

The value given for kilobits per second is expressed in kilobits per second on a base 10 scale as is usual for line rate calculations. If a value of 1 is given, the result is 1000 bits per second (as opposed to a base 2 interpretation that would be 1024 bits per second).

cir-percent

Specifies the percent bandwidth limits allocated to priority-level.

Values 0.00 to 100.00

group *name*

specifies the existing group that the weighted scheduler group this level maps to, up to 32 characters.

weight

Specifies the weight of the level within this weighted scheduler group.

Values 1 to 100

Default 1

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monitor-threshold *percent*

Specifies the percent of the configured rate. If the offered rate exceeds the configured threshold, a counter monitoring the threshold will be increased.

Values 0 to 100

Platforms

All

level

Syntax

level *syslog-level*

no level

Context

[Tree] (config>log>syslog level)

Full Context

configure log syslog level

Description

This command configures the syslog message severity level threshold. All messages with severity level equal to or higher than the threshold are sent to the syslog target host.

Only a single threshold level can be specified. If multiple levels are entered, the last **level** entered will overwrite the previously entered commands.

The **no** form of this command reverts to the default value.

Default

level info

Parameters

value

Specifies the threshold severity level name.

Values emergency, alert, critical, error, warning, notice, info, debug

Table 58: Level Parameter Value Descriptions

Router severity level	Numerical Severity (highest to lowest)	Configured Severity	Definition
	0	emergency	system is unusable

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Router severity level	Numerical Severity (highest to lowest)	Configured Severity	Definition
3	1	alert	action must be taken immediately
4	2	critical	critical condition
5	3	error	error condition
6	4	warning	warning condition
	5	notice	normal but significant condition
1 cleared 2 indeterminate	6	info	informational messages
	7	debug	debug-level messages

Platforms

All

level

Syntax

level {**1** | **2**}

Context

[Tree] (config>router>isis level)

[Tree] (config>router>isis>interface level)

Full Context

configure router isis level

configure router isis interface level

Description

This command creates the context to configure IS-IS Level 1 or Level 2 area attributes.

A router can be configured as a Level 1, Level 2, or Level 1/2 system. A Level 1 adjacency can be established if there is at least one area address shared by this router and a neighbor. A Level 2 adjacency cannot be established over this interface.

Level 1/2 adjacency is created if the neighbor is also configured as Level 1/2 router and has at least one area address in common. A Level 2 adjacency is established if there are no common area IDs.

A Level 2 adjacency is established if another router is configured as Level 2 or a Level 1/2 router with interfaces configured as Level 1/2 or Level 2. Level 1 adjacencies are not established over this interface.

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To reset global and/or interface level parameters to the default, the following commands must be entered independently:

```
– level>no hello-authentication-key
    – level>no hello-authentication-type
    – level>no hello-interval
    – level>no hello-multiplier
    – level>no metric
    – level>no passive
    – level>no priority
```

Default

level 1 or level 2

Parameters

1

Specifies the IS-IS operational characteristics of the interface at level 1.

2

Specifies the IS-IS operational characteristics of the interface at level 2.

Platforms

All

level

Syntax

level *level-number*

Context

[Tree] (config>router>isis>srv6>locator level)

Full Context

configure router isis segment-routing-v6 locator level

Description

Commands in this context configure the ISIS level attributes of the SRv6 locator.

Parameters

level-number

Specifies the IS-IS level number.

Values 1, 2

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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level

Syntax

level *level-number*

Context

[Tree] (config>router>isis>srv6>msloc level)

Full Context

configure router isis segment-routing-v6 micro-segment-locator level

Description

Commands in this context configure the IS-IS level attributes of the SRv6 micro-segment locator.

Parameters

level-number

Specifies the IS-IS level number.

Values 1, 2

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

level

Syntax

level {**1** | **2**}

no level

Context

[Tree] (config>router>policy-options>policy-statement>entry>to level)

[Tree] (config>router>policy-options>policy-statement>entry>from level)

Full Context

configure router policy-options policy-statement entry to level

configure router policy-options policy-statement entry from level

Description

This command specifies the ISIS route level as a match criterion for the entry.

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Default

no level

Parameters

1 | 2

Matches the IS-IS route learned from level 1 or level 2.

Platforms

All

25.121 level-capability

level-capability

Syntax

level-capability {**level-1** | **level-2** | **level-1/2**}

no level-capability

Context

[Tree] (config>service>vprn>isis level-capability)

[Tree] (config>service>vprn>isis>if level-capability)

Full Context

configure service vprn isis level-capability

configure service vprn isis interface level-capability

Description

This command configures the routing level for an instance of the IS-IS routing process.

An IS-IS router and an IS-IS interface can operate at Level 1, Level 2 or both Level 1 *and* 2.

Table 59: Potential Adjacency Capabilities displays configuration combinations and the potential adjacencies that can be formed.

Table 59: Potential Adjacency Capabilities

Global Level	Interface Level	Potential Adjacency
L 1/2	L 1/2	Level 1 and/or Level 2
L 1/2	L 1	Level 1 only
L 1/2	L 2	Level 2 only

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Global Level	Interface Level	Potential Adjacency
L 2	L 1/2	Level 2 only
L 2	L 2	Level 2 only
L 2	L 1	none
L 1	L 1/2	Level 1 only
L 1	L 2	none
L 1	L 1	Level 1 only

The **no** form of this command removes the level capability from the configuration.

Default

level-capability level-1/2

Parameters

level-1

Specifies the router/interface can operate at Level 1 only.

level-2

Specifies the router/interface can operate at Level 2 only.

level-1/2

Specifies the router/interface can operate at both Level 1 and Level 2.

Platforms

All

level-capability

Syntax

level-capability {**level-1** | **level-2** | **level-1/2**}

no level-capability

Context

[Tree] (config>router>isis level-capability)

[Tree] (config>router>isis>interface level-capability)

Full Context

configure router isis level-capability

configure router isis interface level-capability

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Description

This command configures the routing level for an instance of the IS-IS routing process.

An IS-IS router and an IS-IS interface can operate at Level 1, Level 2 or both Level 1 and 2.

Table 60: Potential Adjacency displays configuration combinations and the potential adjacencies that can be formed.

Table 60: Potential Adjacency

Global Level	Interface Level	Potential Adjacency
L 1/2	L 1/2	Level 1 and/or Level 2
L 1/2	L 1	Level 1 only
L 1/2	L 2	Level 2 only
L 2	L 1/2	Level 2 only
L 2	L 2	Level 2 only
L 2	L 1	—
L 1	L 1/2	Level 1 only
L 1	L 2	—
L 1	L 1	Level 1 only

The **no** form of this command removes the level capability from the configuration.

Default

level-capability level-1/2

Parameters

level-1

Specifies the router/interface can operate at Level 1only.

level-2

Specifies the router/interface can operate at Level 2 only.

level-1/2

Specifies the router/interface can operate at both Level 1 and Level 2.

Platforms

All

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level-capability

Syntax

level-capability {**level-1** | **level-2** | **level-1/2**}

no level-capability

Context

[Tree] (config>router>isis>srv6>locator level-capability)

Full Context

configure router isis segment-routing-v6 locator level-capability

Description

This command configures the ISIS routing level scope of a SRv6 locator. An SRv6 locator can be advertised at level 1 only, level 2 only, or both level 1 and level 2.

The **no** form of this command reverts to the default value.

Default

level-capability level-1/2

Parameters

level-1

Specifies the SRv6 locator is advertised at level 1 only.

level-2

Specifies the SRv6 locator is advertised at level 2 only.

level-1/2

Specifies the SRv6 locator is advertised at both level 1 and level 2.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

level-capability

Syntax

level-capability {**level-1** | **level-2** | **level-1/2**}

no level-capability

Context

[Tree] (config>router>isis>srv6>msloc level-capability)

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Full Context

configure router isis segment-routing-v6 micro-segment-locator level-capability

Description

This command configures the ISIS routing level scope of a SRv6 locator. An SRv6 micro-segment locator can be advertised at level 1 only, level 2 only, or both level 1 and level 2.

The **no** form of this command reverts to the default value.

Default

level-capability level-1/2

Parameters

level-1

Specifies the SRv6 micro-segment locator is advertised at level 1 only.

level-2

Specifies the SRv6 micro-segment locator is advertised at level 2 only.

level-1/2

Specifies the SRv6 micro-segment locator is advertised at both level 1 and level 2.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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26 I Commands – Part II

26.1 lfa-policy-map

lfa-policy-map

Syntax

lfa-policy-map route-nh-template *template-name*

no lfa-policy-map

Context

[Tree] (config>service>vprn>isis>if lfa-policy-map)

Full Context

configure service vprn isis interface lfa-policy-map

Description

This command applies a route next-hop policy template to the IS-IS interface for the VPRN instance.

When a route next-hop policy template is applied to an interface in IS-IS, it is applied in both level 1 and level 2. When a route next-hop policy template is applied to an interface in OSPF, it is applied in all areas. However, the command in an OSPF interface context can only be executed under the area in which the specified interface is primary and then applied in that area and in all other areas where the interface is secondary. If the user attempts to apply it to an area where the interface is secondary, the command fails.

If the user excluded the interface from LFA using the command **loopfree-alternate-exclude**, the LFA policy, if applied to the interface, has no effect.

Finally, if the user applied a route next-hop policy template to a loopback interface or to the system interface, the command will not be rejected, but it will result in no action being taken.

The **no** form deletes the mapping of a route next-hop policy template to an OSPF or IS-IS interface.

Parameters

template-name

Specifies the name of the template, up to 32 characters.

Platforms

All

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lfa-policy-map

Syntax

lfa-policy-map route-nh-template *template-name*

no lfa-policy-map

Context

[Tree] (config>router>ospf3>area>if lfa-policy-map)

[Tree] (config>service>vprn>ospf3>area>if lfa-policy-map)

[Tree] (config>router>isis>if lfa-policy-map)

[Tree] (config>service>vprn>ospf>area>if lfa-policy-map)

[Tree] (config>router>ospf>area>if lfa-policy-map)

Full Context

configure router ospf3 area interface lfa-policy-map

configure service vprn ospf3 area interface lfa-policy-map

configure router isis interface lfa-policy-map

configure service vprn ospf area interface lfa-policy-map

configure router ospf area interface lfa-policy-map

Description

This command applies a route next-hop policy template to an OSPF or IS-IS interface.

When a route next-hop policy template is applied to an interface in IS-IS, it is applied in both level 1 and level 2. When a route next-hop policy template is applied to an interface in OSPF, it is applied in all areas. However, the command in an OSPF interface context can only be executed under the area in which the specified interface is primary and then applied in that area and in all other areas where the interface is secondary. If the user attempts to apply it to an area where the interface is secondary, the command fails.

If the user excluded the interface from LFA using the command **loopfree-alternate-exclude**, the LFA policy, if applied to the interface, has no effect.

Finally, if the user applied a route next-hop policy template to a loopback interface or to the system interface, the command will not be rejected, but it results in no action being taken.

The **no** form deletes the mapping of a route next-hop policy template to an OSPF or IS-IS interface.

Default

no lfa-policy-map

Parameters

template-name

Specifies the name of the template, up to 32 characters.

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Platforms

All

26.2 li

```
li
```

Syntax

li

Context

[Tree] (config li)

Full Context

configure li

Description

Commands in this context configure lawful intercept (LI) parameters.

Platforms

All

```
li
```

Syntax

[**no**] **li**

Context

[Tree] (config>system>security>profile li)

Full Context

configure system security profile li

Description

This command enables the Lawful Intercept (LI) profile identifier.

The **no** form of this command disables the LI profile identifier.

Platforms

All

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26.3 li-filter

li-filter

Syntax

li-filter

Context

[Tree] (config>li li-filter)

Full Context

configure li li-filter

Description

Commands in this context configure the li-filter branch to create LI filter lists and entries.

Platforms

All

26.4 li-filter-associations

li-filter-associations

Syntax

li-filter-associations

Context

[Tree] (config>li li-filter-associations)

Full Context

configure li li-filter-associations

Description

Commands in this context configure the LI filter associations entries that are inserted into normal filters.

Platforms

All

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26.5 li-filter-block-reservation

li-filter-block-reservation

Syntax

li-filter-block-reservation

Context

[Tree] (config>li li-filter-block-reservation)

Full Context

configure li li-filter-block-reservation

Description

This command enable the LI filter block reservation branch to configure lawful intercept filter reservations.

Platforms

All

26.6 li-filter-lock-state

li-filter-lock-state

Syntax

li-filter-lock-state {**locked** | **unlocked-for-li-users** | **unlocked-for-all-users**}

no li-filter-lock-state

Context

[Tree] (config>li li-filter-lock-state)

Full Context

configure li li-filter-lock-state

Description

This command configures the lock state of the filters used by LI. With the configurable filter lock for LI feature an LI user can control the behavior of filters when they are used for LI.

Prior to Release 12.0.R1, when a filter entry was used as a Lawful Intercept (LI) mirror source criteria, all subsequent attempts to modify the filter were then blocked to avoid having the LI session impacted by a non-LI user.

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The **no** form of this command reverts to the default.

Default

li-filter-lock-state locked

Parameters

locked

When an li-source criteria is configured that references any entry of filter Y, then filter Y can no longer be changed (until there are no longer any li-source references to entries of filter Y).

unlocked-for-li-users

Filters can continue to be edited by LI users only even when an li-source references an entry in that filter.

unlocked-for-all-users

Filters can continue to be edited by all users even when an li-source references an entry in that filter.

Platforms

All

26.7 li-group

li-group

Syntax

li-group *isa-group-id*

no li-group

Context

[Tree] (config>li>x-interfaces>x3 li-group)

Full Context

configure li x-interfaces x3 li-group

Description

This command configures the ISA group used for the X3 interface.

The **no** form of this command reverts to the default.

Parameters

isa-group-id

Specifies the ISA group ID.

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Values 1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.8 li-ip-filter

li-ip-filter

Syntax

li-ip-filter *li-filter-name* [**create**]

no li-ip-filter *li-filter-name*

Context

[Tree] (config>li>li-filter li-ip-filter)

Full Context

configure li li-filter li-ip-filter

Description

This command creates a Lawful Interception (LI) IPv4 filter list, or enters the CLI context for a LI IPv4 filter list. LI IPv4 filters are used as a manner to create confidential IPv4 filter based li-source entries. The LI IPv4 filter entries are inserted/merged into normal IPv4 filters as configured with the **li-filter-associations** and **li-filter-block-reservation** commands, but the LI IPv4 filter entries are not visible to users without LI permissions.

The **no** form of this command removes the LI IPv4 filter name from the configuration.

Parameters

li-filter-name

Specifies the name of the IPv4 address filter. Filter names cannot start with an underscore character (for example, "_my-filter”) and cannot use the name "default”.

Platforms

All

li-ip-filter

Syntax

[**no**] **li-ip-filter** *li-filter-name*

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Context

[Tree] (config>li>li-filter-assoc li-ip-filter)

Full Context

configure li li-filter-associations li-ip-filter

Description

Specifies the **li-ip-filter** that will have its entries inserted into a list of normal IP filters.

The **no** form of this command removes the LI filter name from the configuration.

Parameters

li-filter-name

Specifies an existing li-ip-filter, up to 32 characters.

Platforms

All

li-ip-filter

Syntax

li-ip-filter *li-filter-name* **entry** *li-entry-id* [*li-entry-id*] [**intercept-id** *intercept-id* [*intercept-id*]] [**session-id** *session-id* [*session-id*]]

no li-ip-filter *li-filter-name* [**entry** *li-entry-id* [*li-entry-id*]]

Context

[Tree] (config>li>li-source li-ip-filter)

Full Context

configure li li-source li-ip-filter

Description

This command enables lawful interception (LI) of packets that match specific entries in an existing LI IP filter that has been associated with a normal IP filter. The specification of an li-ip-filter entry as an li-source means that packets matching the li-ip-filter entry will be intercepted on all interfaces/saps/and so on where the associated normal ip-filter(s) are applied.

Parameters

li-filter-name

Specifies the name of the **li-ip-filter**, up to 32 characters.

li-entry-id

Specifies the entry ID in the **li-ip-filter** that is to be used as an li-source criteria.

Values 1 to 65535

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intercept-id

Specifies the intercept-id that is inserted into the packet header for all mirrored packets of the associated li-source entry. This intercept ID can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, an *intercept-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *intercept-id* configured for an **li-source** entry, then the default value will be inserted. When the mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no intercept ID is inserted and none can be specified against the **li-source** entries.

session-id

Specifies the session-id that is inserted into the packet header for all mirrored packets of the associated li-source entry. This *session-id* can be used (for example by a downstream LI Gateway) to identify the particular LI session to which the packet belongs. The session-id is only valid and used for mirror services that are configured with ip-udp-shim routable encap (**config>mirror>mirror-dest>encap>ip-udp-shim**). For all types of li-source entries (filter, nat, sap, or subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, a session-id field (as part of the routable encap) is always present in the mirrored packets. If there is no *session-id* configured for an li-source entry, then the default value will be inserted. When a mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no session-id is inserted and none can be specified against the li-source entries.

Platforms

All

26.9 li-ipv6-filter

li-ipv6-filter

Syntax

li-ipv6-filter *li-filter-name* [**create**]

no li-ipv6-filter *li-filter-name*

Context

[Tree] (config>li>li-filter li-ipv6-filter)

Full Context

configure li li-filter li-ipv6-filter

Description

This command creates a Lawful Interception (LI) IPv6 filter list, or enters the CLI context for a LI IPv6 filter list. LI IPv6 filters are used as a manner to create confidential IPv6 filter based li-source entries. The LI IPv6 filter entries are inserted or merged into normal IPv6 filters as configured with the **li-filter-**

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associations and **li-filter-block-reservation** commands, but the LI IPv6 filter entries are not visible to users without LI permissions.

The **no** form of this command removes the LI IPv6 filter name from the configuration.

Parameters

li-filter-name

Specifies the name of the IPv6 address filter. Filter names cannot start with an underscore character (for example, "_my-filter”) and cannot use the name "default”.

create

creates a LI IPv6 filter.

Platforms

All

li-ipv6-filter

Syntax

[**no**] **li-ipv6-filter** *li-filter-name*

Context

[Tree] (config>li>li-filter-assoc li-ipv6-filter)

Full Context

configure li li-filter-associations li-ipv6-filter

Description

This command specifies the **li-ipv6-filter** that will have its entries inserted into a list of normal IPv6 filters.

The **no** form of this command removes the filter name from the configuration.

Parameters

li-filter-name

Specifies an existing li-ipv6-filter up to 32 characters.

Platforms

All

li-ipv6-filter

Syntax

li-ipv6-filter *li-filter-name* **entry** *li-entry-id* [*li-entry-id*] [**intercept-id** *intercept-id* [*intercept-id*]] [**session-id** *session-id* [*session-id*]]

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no li-ipv6-filter *li-filter-name* [**entry** *li-entry-id* [*li-entry-id*]]

Context

[Tree] (config>li>li-source li-ipv6-filter)

Full Context

configure li li-source li-ipv6-filter

Description

This command enables lawful interception (LI) of packets that match specific entries in an existing LI IPv6 filter that has been associated with a normal IPv6 filter. The specification of an li-ipv6-filter entry as an li-source means that packets matching the **li-ipv6-filter** entry will be intercepted on all interfaces/saps/and so on, where the associated normal ip-filter(s) are applied.

Parameters

li-filter-name

Specifies the name of the **li-ipv6-filter** up to 32 characters.

li-entry-id

Specifies the entry ID in the **li-ipv6-filter** that is to be used as an LI source criteria.

Values 1 to 65535

intercept-id

Specifies the intercept ID that is inserted into the packet header for all mirrored packets of the associated li-source entry. This *intercept-id* can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. For all types of li-source entries (filter, nat, sap, or subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, an intercept-id field (as part of the routable encapsulation) is always present in the mirrored packets. If there is no *intercept-id* configured for an **li-source** entry, then the default value will be inserted. When the mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no intercept ID is inserted and none can be specified against the LI source entries.

session-id

Specifies the session ID that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This *session-id* can be used (for example, by a downstream LI gateway) to identify the particular LI session to which the packet belongs. The *session-id* is only valid and used for mirror services that are configured with **ip-udp-shim** routable encap (**config>mirror>mirror-dest>encap>ip-udp-shim**). For all types of li-source entries (filter, nat, sap, subscriber), when the mirror service is configured with ip-udp-shim routable encap, a session-id field (as part of the routable encap) is always present in the mirrored packets. If there is no session ID configured for an **li-source** entry, then the default value is inserted. When a mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no session ID is inserted and none can be specified against the li-source entries.

Platforms

All

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26.10 li-local-save

li-local-save

Syntax

[**no**] **li-local-save**

Context

[Tree] (bof li-local-save)

Full Context

bof li-local-save

Description

This command specifies whether or not lawful intercept (LI) configuration is allowed to be saved to a local file. Modifying this command will not take effect until the system is rebooted.

Default

li-local-save

Platforms

All

26.11 li-mac-filter

li-mac-filter

Syntax

li-mac-filter *li-filter-name* [**create**]

no li-mac-filter *li-filter-name*

Context

[Tree] (config>li>li-filter li-mac-filter)

Full Context

configure li li-filter li-mac-filter

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Description

This command creates a Lawful Interception (LI) MAC filter list, or enters the CLI context for a LI MAC filter list. LI MAC filters are used as a manner to create confidential MAC filter based li-source entries. The LI MAC filter entries are inserted/merged into normal MAC filters as configured via the li-filter-associations and li-filter-block-reservation commands, but the LI MAC filter entries are not visible to users without LI permissions.

The **no** form of this command removes the MAC LI filter name from the configuration.

Parameters

li-filter-name

Specifies the name of the MAC filter. Filter names cannot start with an underscore character (for example, "_my-filter”) and cannot use the name "default”.

Platforms

All

li-mac-filter

Syntax

[**no**] **li-mac-filter** *li-filter-name*

Context

[Tree] (config>li>li-filter-assoc li-mac-filter)

Full Context

configure li li-filter-associations li-mac-filter

Description

Specifies the li-mac-filter that will have its entries inserted into a list of normal mac filters.

Parameters

li-filter-name

Specifies the name of the LI MAC filter, up to 32 characters. Filter names cannot start with an underscore character (for example, "_my-filter”) and cannot use the name "default”.

Platforms

All

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li-mac-filter

Syntax

li-mac-filter *li-filter-name* **entry** *li-entry-id* [*li-entry-id*] [**intercept-id** *intercept-id* [*intercept-id*]] [**session-id** *session-id* [*session-id*]]

no li-mac-filter *li-filter-name* [**entry** *li-entry-id* [*li-entry-id*]]

Context

[Tree] (config>li>li-source li-mac-filter)

Full Context

configure li li-source li-mac-filter

Description

This command enables lawful interception (LI) of packets that match specific entries in an existing LI MAC filter that has been associated with a normal MAC filter. The specification of an **li-mac-filter** entry as an li-source means that packets matching the **li-mac-filter** entry will be intercepted on all interfaces, saps and so on where the associated normal mac-filter(s) are applied.

Parameters

li-filter-name

Specifies the name of the **li-mac-filter**, up to 32 characters.

li-entry-id

Specifies the entry id in the **li-mac-filter** that is to be used as an li-source criteria.

Values 1 to 65535

intercept-id

Specifies the intercept ID that is inserted into the packet header for all mirrored packets of the associated li-source entry. This intercept ID can be used (for example, by a downstream LI gateway) to identify the particular LI session to which the packet belongs. For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, an *intercept-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *intercept-id* configured for an **li-source** entry, then the default value will be inserted. When the mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no *intercept-id* is inserted and none can be specified against the **li-source** entries.

session-id

Specifies the *session-id* that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This *session-id* can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. The *session-id* is only valid and used for mirror services that are configured with **ip-udp-shim** routable encap (**config>mirror>mirror-dest>encap>ip-udp-shim**). For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, a *session-id* field (as part of the routable encap) is always present

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in the mirrored packets. If there is no *session-id* configured for an **li-source** entry, then the default value will be inserted. When a mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no *session-id* is inserted and none can be specified against the **li-source** entries.

Platforms

All

26.12 li-reserved-block

li-reserved-block

Syntax

li-reserved-block *block-name* [**create**]

no li-reserved-block *block-name*

Context

[Tree] (config>li>li-filter-block-reservation li-reserved-block)

Full Context

configure li li-filter-block-reservation li-reserved-block

Description

This command creates or edits an LI reserved block. An LI reserved block allows an operator to define where entries from an LI filter should be inserted into a normal filter. The block reserves a configurable number of entries in the normal filter that can only be used for entries inserted from associated LI filters. The LI filter entries that get inserted into the reserved block in each normal filter are not visible to non-LI operators. The block also defines to which normal filters the reservation is applied.

The **no** form of this command removes the block name from the configuration.

Parameters

block-name

Specifies the name of the MAC filter. Block names cannot start with an underscore character (for example, "_my-filter”) and cannot use the name "default”.

Platforms

All

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26.13 li-separate

li-separate

Syntax

[**no**] **li-separate**

Context

[Tree] (bof li-separate)

Full Context

bof li-separate

Description

This command specifies whether or not a non-LI user has access to lawful intercept (LI) information. When this command is enabled, a user who does not have LI access will not be allowed to access CLI or SNMP objects in the li context. Modifying this command will not take effect until the system is rebooted.

When the **no li-separate** command is set (the default mode), those who are allowed access to the **config>system>security>profile** context and user command nodes are allowed to modify the configuration of the LI parameters. In this mode, a user that has a profile allowing access to the **config>li** and/or **show>li** command contexts can enter and use the commands under those nodes.

When the **li-separate** command is configured, only users that have the LI access capabilities set in the **config>system>security>user>access li** context are allowed to access the **config>li** and/or **show>li** command contexts. A user who does not have LI access is not allowed to enter the **config>li** and **show>li** contexts even though they have a profile that allows access to these nodes. When in the **li-separate** mode, only users with **config>system>security>user>access li** set in their user account have the ability modify the setting LI parameters in either their own or other profiles and user configurations.

Default

no li-separate

Platforms

All

26.14 li-source

li-source

Syntax

[**no**] **li-source** *mirror-service-id* [**name** *mirror-service-name*]

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Context

[Tree] (config>li li-source)

Full Context

configure li li-source

Description

This command configures a lawful intercept (LI) mirror source.

Parameters

mirror-service-id

Specifies the service ID in the service domain. This ID is unique to this service and cannot be used by any other service, regardless of service type. The same service ID must be configured on every router that this particular service is defined on.

Values *service-id*:1 to 2147483647

svc-name: up to 64 characters

Platforms

All

26.15 lic

lic

Syntax

lic *lic-name* [**create**]

no lic *lic-name*

Context

[Tree] (config>li>x-interfaces>lics lic)

Full Context

configure li x-interfaces lics lic

Description

This command configures the parameters to communicate with a specific LIC.

The **no** form of this command removes the LIC name.

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Parameters

lic-name

Specifies the LIC name to be used as a reference, up to 32 characters.

create

Mandatory keyword to create this entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.16 lic-identifier

lic-identifier

Syntax

lic-identifier *identifier*

no lic-identifier

Context

[Tree] (config>li>x-interfaces>lics>lic lic-identifier)

Full Context

configure li x-interfaces lics lic lic-identifier

Description

This command configures the string that identifies this LIC.

The **no** form of this command reverts to the default.

Parameters

identifier

Specifies the LIC identifying string, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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26.17 license

license

Syntax

license

Context

[Tree] (admin>system license)

Full Context

admin system license

Description

Enters a context for administrative commands related to licensing.

Platforms

All

26.18 license-file

license-file

Syntax

license-file *file-url*

no license-file

Context

[Tree] (bof license-file)

Full Context

bof license-file

Description

This command configures the license location and file name.

The **no** form of this command removes the file URL from the configuration.

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Parameters

file-url

Specifies the *file-url*.

Values

file-url	{*local-url* | *remote-url*} (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]
remote-url	[{ftp://| tftp://} *login:pswd@remote-locn*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

26.19 lics

lics

Syntax

lics

Context

[Tree] (config>li>x-interfaces lics)

Full Context

configure li x-interfaces lics

Description

Commands in this context configure the Network Element to communicate with LI Centers (LICs).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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26.20 lifetime

lifetime

Syntax

lifetime minimum *minimum* **maximum** *maximum*

no lifetime

Context

[Tree] (config>service>nat>pcp-server-policy lifetime)

Full Context

configure service nat pcp-server-policy lifetime

Description

This command configures the lifetime of explicit mappings made by the PCP servers.

Default

lifetime minimum 120 maximum 86400

Parameters

minimum

Specifies the minimum lifetime of explicit mappings made by the PCP servers using this PCP policy, in seconds.

Values 60 to 86399

maximum

Specifies the maximum lifetime of explicit mappings made by the PCP servers using this PCP policy, in seconds.

Values 61 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

lifetime

Syntax

lifetime {*seconds* | **forever**}

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Context

[Tree] (config>system>script-control>script-policy lifetime)

Full Context

configure system script-control script-policy lifetime

Description

This command is used to configure the maximum amount of time that a script may run.

Default

lifetime 3600

Parameters

seconds

Specifies the maximum amount of time that a script may run, in seconds.

Values 0 to 21474836

Default 3600 (1 hour)

forever

Specifies to allow a script to run indefinitely.

Platforms

All

26.21 limit

limit

Syntax

limit {**all-packet-matches** | **first-session-match**}

Context

[Tree] (debug>app-assure>group>traffic-capture>record limit)

Full Context

debug application-assurance group traffic-capture record limit

Description

This command records limit conditions.

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Parameters

all-packet-matches

Records all the packets matching the condition.

first-session-match

Records only the first session matching the condition.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.22 limit-init-exchange

limit-init-exchange

Syntax

limit-init-exchange [**reduced-max-exchange-timeout** *seconds*]

no limit-init-exchange

Context

[Tree] (config>ipsec>ike-policy limit-init-exchange)

Full Context

configure ipsec ike-policy limit-init-exchange

Description

This command limits the number of ongoing IKEv2 initial exchanges per tunnel to 1. When the system receives a new IKEv2 IKE_SA_INIT request when there is an ongoing IKEv2 initial exchange from same peer, then system reduces the timeout value of the existing exchange to the specified **reduced-max-exchange-timeout**. If the **reduced-max-exchange-timeout** is **disabled**, then the system does not reduce the timeout value.

The **no** form of this command reverts to the default value.

Default

limit-init-exchange reduced-max-exchange-timeout 2

Parameters

seconds

Specifies the maximum timeout for the in-progress initial IKE exchange.

Values 2 to 60, disabled

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.23 limit-mac-move

limit-mac-move

Syntax

limit-mac-move [**blockable** | **non-blockable**]

no limit-mac-move

Context

[Tree] (config>service>vpls>spoke-sdp limit-mac-move)

[Tree] (config>service>vpls>sap limit-mac-move)

Full Context

configure service vpls spoke-sdp limit-mac-move

configure service vpls sap limit-mac-move

Description

This command indicates whether or not the mac-move agent, when enabled using **config>service>vpls>mac-move** or **config>service>epipe>mac-move**, limits the MAC re-learn (move) rate on this SAP.

Default

limit-mac-move blockable

Parameters

blockable

Specifies that the agent monitors the MAC re-learn rate on the SAP, and it blocks it when the re-learn rate is exceeded.

non-blockable

Specifies that this SAP is not blocked, and another blockable SAP is blocked instead.

Platforms

All

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limit-mac-move

Syntax

limit-mac-move [**blockable** | **non-blockable**]

no limit-mac-move

Context

[Tree] (config>service>pw-template limit-mac-move)

Full Context

configure service pw-template limit-mac-move

Description

This command indicates whether or not the mac-move agent will limit the MAC re-learn (move) rate.

Default

limit-mac-move blockable

Parameters

blockable

The agent will monitor the MAC re-learn rate, and it will block it when the re-learn rate is exceeded.

non-blockable

When specified, a SAP will not be blocked, and another blockable SAP will be blocked instead.

Platforms

All

26.24 limit-pir-zero-drain

limit-pir-zero-drain

Syntax

[**no**] **limit-pir-zero-drain**

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution limit-pir-zero-drain)

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Full Context

configure qos adv-config-policy child-control bandwidth-distribution limit-pir-zero-drain

Description

This command is used to configure the system to use the minimum configurable PIR instead of an H-QoS derived zero operational PIR. The default behavior is to allow the operational PIR of the queue to remain the last configured value while setting the queue MBS to zero (preventing queuing of newly arriving packets). Retaining the previous PIR value may cause a momentary burst above an aggregate rate associated with the queue as it drains. Using the **limit-pir-zero-drain** command causes the queue to drain at the lowest rate possible (typically 1 kb/s) that limits overrun situations.

The **no** form of this command reverts to default behavior.

Platforms

All

26.25 limit-unused-bandwidth

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress limit-unused-bandwidth)

[Tree] (config>port>ethernet>network>egr>qgrp>agg-rate limit-unused-bandwidth)

[Tree] (config>port>ethernet>access>egr>qgrp>agg-rate limit-unused-bandwidth)

[Tree] (config>port>ethernet>access>egress>vport limit-unused-bandwidth)

Full Context

configure service vprn subscriber-interface group-interface sap egress limit-unused-bandwidth

configure port ethernet network egress queue-group agg-rate limit-unused-bandwidth

configure port ethernet access egress queue-group agg-rate limit-unused-bandwidth

configure port ethernet access egress vport limit-unused-bandwidth

Description

This command specifies to limit the unused bandwidth and allow a tighter control in allocation of bandwidth by HQoS. When enabled, HQoS algorithm distributes any unused aggregate bandwidth between queues operating below their fair share rates. This allows a simplified aggregate rate protection while allocating bandwidth by HQoS.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap egress limit-unused-bandwidth

All

- configure port ethernet access egress queue-group agg-rate limit-unused-bandwidth
- configure port ethernet access egress vport limit-unused-bandwidth
- configure port ethernet network egress queue-group agg-rate limit-unused-bandwidth

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress>agg-rate limit-unused-bandwidth)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress>agg-rate limit-unused-bandwidth)

[Tree] (config>service>ies>if>sap>egress>agg-rate limit-unused-bandwidth)

Full Context

configure service vprn subscriber-interface group-interface sap egress agg-rate limit-unused-bandwidth

configure service ies subscriber-interface group-interface sap egress agg-rate limit-unused-bandwidth

configure service ies interface sap egress agg-rate limit-unused-bandwidth

Description

This command enables aggregate rate overrun protection.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress agg-rate limit-unused-bandwidth
- configure service vprn subscriber-interface group-interface sap egress agg-rate limit-unused-bandwidth

All

- configure service ies interface sap egress agg-rate limit-unused-bandwidth

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

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Context

[Tree] (config>service>cpipe>sap>egress>agg-rate limit-unused-bandwidth)

[Tree] (config>service>epipe>sap>egress>agg-rate limit-unused-bandwidth)

[Tree] (config>service>ipipe>sap>egress>agg-rate limit-unused-bandwidth)

Full Context

configure service cpipe sap egress agg-rate limit-unused-bandwidth

configure service epipe sap egress agg-rate limit-unused-bandwidth

configure service ipipe sap egress agg-rate limit-unused-bandwidth

Description

This command is used to enable (or disable) aggregate rate overrun protection on the agg-rate context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress agg-rate limit-unused-bandwidth

All

- configure service ipipe sap egress agg-rate limit-unused-bandwidth
- configure service epipe sap egress agg-rate limit-unused-bandwidth

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

Context

[Tree] (config>service>vpls>sap>egress>agg-rate limit-unused-bandwidth)

[Tree] (config>service>template>vpls-sap-template>egress>agg-rate limit-unused-bandwidth)

[Tree] (config>service>vpls>sap>egress>encap-defined-qos>encap-group>agg-rate limit-unused-bandwidth)

Full Context

configure service vpls sap egress agg-rate limit-unused-bandwidth

configure service template vpls-sap-template egress agg-rate limit-unused-bandwidth

configure service vpls sap egress encap-defined-qos encap-group agg-rate limit-unused-bandwidth

Description

This command is used to enable aggregate rate overrun protection on the agg-rate context.

The **no** form of this command disables the overrun protection.

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Platforms

All

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

Context

[Tree] (config>service>vprn>if>sap>egress>agg-rate limit-unused-bandwidth)

Full Context

configure service vprn interface sap egress agg-rate limit-unused-bandwidth

Description

This command is used to enable (or disable) aggregate rate overrun protection on the agg-rate context.

Platforms

All

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

Context

[Tree] (config>qos>scheduler-policy>tier>scheduler limit-unused-bandwidth)

Full Context

configure qos scheduler-policy tier scheduler limit-unused-bandwidth

Description

This command is used to enable (or disable) aggregate rate overrun protection on the agg-rate context.

Platforms

All

limit-unused-bandwidth

Syntax

[**no**] **limit-unused-bandwidth**

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Context

[Tree] (config>service>cust>multi-service-site>egress>agg-rate limit-unused-bandwidth)

Full Context

configure service customer multi-service-site egress agg-rate limit-unused-bandwidth

Description

This command is used to enable aggregate rate overrun protection.

The **no** form of the command disables aggregate rate overrun protection.

Default

no limit-unused-bandwidth

Platforms

All

26.26 line-length

line-length

Syntax

line-length {**110** | **220** | **330** | **440** | **550** | **660**}

Context

[Tree] (config>system>sync-if-timing>bits>output line-length)

Full Context

configure system sync-if-timing bits output line-length

Description

This command configures the **line-length** parameter of the BITS output, This is the distance in feet between the network element and the office clock (BITS/SSU). There are two possible BITS-out interfaces, one for each CPM. They are configured together, but they are displayed separately in the show command. This command is only applicable when the interface-type is DS1.

Default

line-length 110

Parameters

110

Specifies that the distance is from 0 to 110 feet.

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220

Specifies that the distance is from 110 to 220 feet.

330

Specifies that the distance is from 220 to 330 feet.

440

Specifies that the distance is from 330 to 440 feet.

550

Specifies that the distance is from 440 to 550 feet.

660

Specifies that the distance is from 550 to 660 feet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.27 link

link

Syntax

link *port-id* {**primary** | **secondary**}

no link *port-id*

Context

[Tree] (config>lag>link-map-profile link)

Full Context

configure lag link-map-profile link

Description

This command designates one of the configured ports of the LAG to be used on egress as either a primary or secondary link (based on the option selected) by all SAPs and network interfaces that use this LAG link map profile.

Links are part of a profile When a link is added or deleted, all SAPs and network interfaces that use this link-map-profile may be re-hashed if required.

The **no** form of this command deletes the link from this LAG link mapping profile. A port must be deleted from all LAG link profiles if it is to be deleted from the LAG.

Parameters

port-id

Specifies a physical port ID that is an existing member of this LAG.

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port-id	*slot*/*mda*/*port*[.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

primary

Designates one of the configured ports of the LAG to be used on egress as a primary link by SAPs/network interfaces that use this LAG link map profile.

secondary

Designates one of the configured ports of the LAG to be used on egress as a secondary link by SAPs/network interfaces that use this LAG link map profile.

Platforms

All

link

Syntax

[**no**] **link**

Context

[Tree] (config>test-oam>link-meas>template>ret-path link)

Full Context

configure test-oam link-measurement measurement-template twamp-light return-path link

Description

This command configures the router to include a return path sub-TLV link. The sub-TLV link instructs a Session-Reflector configured for type **stamp** to use the receiving logical IP interface for the transmission of the response packet from the reflector to the Session-Sender. The destination of the reflected packet must be installed in the forwarding table and reachable through the IP interface, or the packet is dropped by the Session-Reflector. When there are parallel non-equal-cost return paths between the Session-Reflector and the Session-Sender, the response packet can only be returned on the lowest-cost path.

Note: This command only applies when the Session-Sender type is **stamp**. It has no effect when the Session-Sender type is **twamp-light**.

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The **no** form of this command configures the router to exclude the return path sub-TLV link.

Default

no link

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.28 link-addr

link-addr

Syntax

link-addr *ipv6-address*

no link-addr

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>ia-na link-addr)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>dhcpv4-nat link-addr)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>slaac link-addr)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>slaac link-addr)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>ia-na link-addr)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>dhcpv4-nat link-addr)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na link-addr

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat link-addr

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client slaac link-addr

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client slaac link-addr

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na link-addr

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat link-addr

Description

This command specifies the ipv6-address that should be included in the link-address field of the relay header. This can be used for pool selection by the DHCPv6 server.

The **no** form of this command falls back to the default.

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Parameters

ipv6-address

Specifies the IPv6 address up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.29 link-address

link-address

Syntax

link-address *ipv6-address*

no link-address

Context

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>relay link-address)

[Tree] (config>service>ies>if>ipv6>dhcp6-relay link-address)

[Tree] (config>service>vprn>if>ipv6>dhcp6-relay link-address)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay link-address)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay link-address)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay link-address)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host link-address)

Full Context

configure service ies subscriber-interface ipv6 dhcp6 relay link-address

configure service ies interface ipv6 dhcp6-relay link-address

configure service vprn interface ipv6 dhcp6-relay link-address

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay link-address

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay link-address

configure service vprn subscriber-interface ipv6 dhcp6 relay link-address

configure subscriber-mgmt local-user-db ipoe host link-address

Description

This command configures the link address used for prefix selection at the DHCP server.

The link-address is a field in DHCP6 Relay-Forward message that is used in DHCP6 server to select the IPv6 address (IA-NA) or IPv6 prefix (IA-PD) from a pool with configured prefix range covering the link-address. The selection scope is the pool or a prefix range within the pool.

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The **no** form of this command reverts to the default.

Default

no link-address

Parameters

ipv6-address

Specifies the link-address.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay link-address
- configure service vprn subscriber-interface ipv6 dhcp6 relay link-address
- configure service ies subscriber-interface ipv6 dhcp6 relay link-address
- configure service ies subscriber-interface group-interface ipv6 dhcp6 relay link-address
- configure subscriber-mgmt local-user-db ipoe host link-address

All

- configure service vprn interface ipv6 dhcp6-relay link-address
- configure service ies interface ipv6 dhcp6-relay link-address

link-address

Syntax

link-address *ipv6-address*

no link-address

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp6 link-address)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp6 link-address)

Full Context

configure service vprn interface sap ipsec-gw dhcp6 link-address

configure service ies interface sap ipsec-gw dhcp6 link-address

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Description

This command specifies the link address of the relayed DHCPv6 packets sent by the system.

Default

no link-address

Parameters

ipv6-address

Specifies a global unicast IPv6 address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.30 link-bandwidth

link-bandwidth

Syntax

link-bandwidth

Context

[Tree] (config>service>vprn>bgp>group>neighbor link-bandwidth)

[Tree] (config>service>vprn>bgp>group link-bandwidth)

Full Context

configure service vprn bgp group neighbor link-bandwidth

configure service vprn bgp group link-bandwidth

Description

This command enables the configuration context for handling the link-bandwidth extended community attached to specific BGP routes.

When all used multipaths of an IP prefix correspond to BGP routes with a link-bandwidth extended community, the datapath is programmed to do weighted ECMP across the BGP next-hops in proportion to the bandwidth values.

Platforms

All

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link-bandwidth

Syntax

link-bandwidth

Context

[Tree] (config>router>bgp>group>neighbor link-bandwidth)

[Tree] (config>router>bgp>group link-bandwidth)

Full Context

configure router bgp group neighbor link-bandwidth

configure router bgp group link-bandwidth

Description

This command enables the configuration context for handling the link-bandwidth extended community attached to specific BGP routes.

When all used multipaths of an IP prefix correspond to BGP routes with a link-bandwidth extended community, the datapath is programmed to do weighted ECMP across the BGP next-hops in proportion to the bandwidth values.

Platforms

All

26.31 link-fault

link-fault

Syntax

link-fault local-port-action {**log-only** | **out-of-service**}

Context

[Tree] (config>port>ethernet>efm-oam>peer-rdi-rx link-fault)

Full Context

configure port ethernet efm-oam peer-rdi-rx link-fault

Description

This command defines how to react to the reception of a link fault flag set in the informational PDU from a peer.

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Default

link-fault local-port-action out-of-service

Parameters

local-port-action

Defines whether or not the local port will be affected when a link fault is received from a peer.

log-only

Keyword that prevents the port from being affected when the local peer receives a link fault. The dying gasp will be logged but the port will remain operational.

out-of-service

Keyword that causes the port to enter a non-operation down state with a port state of link up. The error will be logged upon reception of link fault event. The port will not be available to service data but will continue to carry Link OAM traffic to ensure the link is monitored.

Platforms

All

26.32 link-group

link-group

Syntax

[**no**] **link-group** *link-group-name*

Context

[Tree] (config>service>vprn>isis link-group)

Full Context

configure service vprn isis link-group

Description

This command configures a link-group for the router or VPRN instance.

The **no** form of this command removes the specified link-group.

Parameters

link-group-name

Name of the link-group to be added or removed from the router or VPRN service.

Platforms

All

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link-group

Syntax

link-group *link-group-name*

no link-group

Context

[Tree] (config>router>isis link-group)

Full Context

configure router isis link-group

Description

This command specifies the IS-IS link group associated with this particular level of the interface.

Default

no link-group

Parameters

link-group-name

Specifies an IS-IS link group name, up to 32 characters in length, on the system.

Platforms

All

26.33 link-local-address

link-local-address

Syntax

link-local-address *ipv6-address* [**dad-disable**]

no link-local-address

Context

[Tree] (config>router>if>ipv6 link-local-address)

[Tree] (config>service>ies>sub-if>ipv6 link-local-address)

[Tree] (config>service>ies>if>ipv6 link-local-address)

[Tree] (config>service>vprn>if>ipv6 link-local-address)

[Tree] (config>service>vprn>sub-if>ipv6 link-local-address)

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Full Context

configure router interface ipv6 link-local-address

configure service ies subscriber-interface ipv6 link-local-address

configure service ies interface ipv6 link-local-address

configure service vprn interface ipv6 link-local-address

configure service vprn subscriber-interface ipv6 link-local-address

Description

This command configures the IPv6 Link Local address that is used as a virtual SRRP IPv6 address by the Master SRRP node. This address is sent in the Router Advertisements initiated by the Master SRRP node. Clients use this address as IPv6 default-gateway. Both SRRP nodes, Master and Backup, must be configured with the same Link Local address.

Only one link-local-address is allowed per interface.

Caution:
Removing a manually configured link local address may impact routing protocols or static routes that have a dependency on that address. It is not recommended to remove a link local address when there are active IPv6 subscriber hosts on an IES or VPRN interface.

The **no** form of this command reverts to the default.

Parameters

ipv6-address

Specifies the IPv6 address in the form:

Values

ipv6-address:	x:x:x:x:x:x:x:x
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D

dad-disable

Disables Duplicate Address Detection (DAD) and sets the address to preferred, even if there is a duplicated address.

Platforms

All

- configure service ies interface ipv6 link-local-address
- configure router interface ipv6 link-local-address
- configure service vprn interface ipv6 link-local-address

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface ipv6 link-local-address
- configure service vprn subscriber-interface ipv6 link-local-address

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26.34 link-local-modifier

link-local-modifier

Syntax

link-local-modifier *modifier*

no link-local-modifier

Context

[Tree] (config>service>ies>if>ipv6>secure-nd link-local-modifier)

Full Context

configure service ies interface ipv6 secure-nd link-local-modifier

Description

This command configures the Cryptographically Generated Address (CGA) modifier for link-local addresses.

Parameters

modifier

Specifies the modifier in 32 hexadecimal nibbles.

Values 0x0 to 0xFFFFFFFF

Platforms

All

link-local-modifier

Syntax

link-local-modifier *modifier*

no link-local-modifier

Context

[Tree] (config>service>vprn>if>send link-local-modifier)

Full Context

configure service vprn interface ipv6 secure-nd link-local-modifier

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Description

This command configures the Cryptographically Generated Address (CGA) modifier for link-local addresses.

Parameters

modifier

Specifies the modifier in 32 hexadecimal nibbles.

Values 0x0–0xFFFFFFFF

Platforms

All

link-local-modifier

Syntax

link-local-modifier *modifier*

no link-local-modifier

Context

[Tree] (config>router>if>ipv6>secure-nd link-local-modifier)

Full Context

configure router interface ipv6 secure-nd link-local-modifier

Description

This command configures the Cryptographically Generated Address (CGA) modifier for link-local addresses.

Parameters

modifier

Specifies the modifier in 32 hexadecimal nibbles.

Values 0x0 to 0xFFFFFFFF

Platforms

All

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26.35 link-map-profile

link-map-profile

Syntax

link-map-profile *link-map-profile-id* [**create**]

no link-map-profile *link-map-profile-id*

Context

[Tree] (config>lag link-map-profile)

Full Context

configure lag link-map-profile

Description

This command creates the link map profile that can control which LAG ports are to be used on egress or enables the configuration context for previously created link map profile. link map profiles are not created by default.

The **no** form of this command, deletes the specified link map profile.

Parameters

link-map-profile-id

An integer from 1 to 64 that defines a unique LAG link map profile on this LAG.

Platforms

All

26.36 link-measurement

link-measurement

Syntax

link-measurement

Context

[Tree] (config>test-oam link-measurement)

Full Context

configure test-oam link-measurement

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Description

Commands in this context configure various link measurement template attributes that are inherited on associated IP interfaces for delay reporting to the routing engine.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

link-measurement

Syntax

link-measurement

Context

[Tree] (config>router>if>if-attr>delay>dyn link-measurement)

Full Context

configure router interface if-attribute delay dynamic link-measurement

Description

Commands in this context configure the link measurement templates for Base router interfaces to gather delay and loss statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.37 link-measurement-template

link-measurement-template

Syntax

link-measurement-template [*64 chars max*]

no link-measurement-template

Context

[Tree] (config>router>if>if-attr>delay>dyn>link-meas link-measurement-template)

Full Context

configure router interface if-attribute delay dynamic link-measurement link-measurement-template

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Description

This command configures the link measurement template name used on the interface. The template associated with the interface can be changed without disabling the test protocol used to carry the test packet. Changing or removing the template associated with the IP interface stops the test and removes all test results for the IP interface.

The **no** form of this command removes the template.

Default

no link-measurement-template

Parameters

64 chars max

Specifies the measurement template name, up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.38 link-monitoring

link-monitoring

Syntax

[**no**] **link-monitoring**

Context

[Tree] (config>port>ethernet>efm-oam>discovery>advertise-capabilities link-monitoring)

Full Context

configure port ethernet efm-oam discovery advertise-capabilities link-monitoring

Description

When the link monitoring function is in a no shutdown state, the Link Monitoring capability (EV) is advertised to the peer through the EFM OAM protocol. This may not be desired if the remote peer does not support the Link Monitoring functionality.

The **no** version of this command suppresses the advertisement of capabilities.

Default

link-monitoring

Platforms

All

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link-monitoring

Syntax

link-monitoring

Context

[Tree] (config>port>ethernet>efm-oam link-monitoring)

Full Context

configure port ethernet efm-oam link-monitoring

Description

This context contains link monitoring specific options defining the various local thresholds, port interaction and peer notification methods. In order to activate Link monitoring function, this context must be configured with the no shutdown option. Shutting down link monitoring will clear all historical link monitoring counters. If the port was removed from service and placed in a non-operational down state and a port state of link up because a signal failure threshold was crossed and link monitoring is shutdown, the port will be returned to service assuming no underlying conditions prevent this return to service.

When the link monitoring function is in a **no shutdown** state, the Link Monitoring capability (EV) is advertised to the peer through the EFM OAM protocol. This may not be desired if the remote peer does not support the Link Monitoring functionality.

Platforms

All

26.39 link-specific-rate

link-specific-rate

Syntax

link-specific-rate *packet-rate-limit*

no link-specific-rate

Context

[Tree] (config>sys>security>cpu-protection link-specific-rate)

Full Context

configure system security cpu-protection link-specific-rate

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Description

This command configures a link-specific rate for CPU protection. This limit is applied to all ports within the system. The CPU will receive no more than the configured packet rate for all link level protocols such as LACP from any one port. The measurement is cleared each second and is based on the ingress port.

Default

link-specific-rate 15000

Parameters

packet-rate-limit

Specifies a packet arrival rate limit, in packets per second, for link level protocols.

Values 1 to 65535, **max** (no limit)

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

26.40 link-state-export-enable

link-state-export-enable

Syntax

[**no**] **link-state-export-enable**

Context

[Tree] (config>router>bgp link-state-export-enable)

Full Context

configure router bgp link-state-export-enable

Description

This command enables the export of link-state information from the BGP-LS address family into the local Traffic Engineering Database (TED).

The **no** form of this command disables the export of link state information into the TED.

Default

no link-state-export-enable

Platforms

All

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26.41 link-state-import-enable

link-state-import-enable

Syntax

[**no**] **link-state-import-enable**

Context

[Tree] (config>router>bgp link-state-import-enable)

Full Context

configure router bgp link-state-import-enable

Description

This command enables the import of link-state information into the BGP-LS address family for advertisement to other BGP neighbors.

The **no** form of this command disables the import of link state information into the BGP-LS address family.

Default

no link-state-import-enable

Platforms

All

26.42 link-type

link-type

Syntax

link-type {**pt-pt** | **shared**}

no link-type [**pt-pt** | **shared**]

Context

[Tree] (config>service>vpls>spoke-sdp>stp link-type)

[Tree] (config>service>vpls>sap>stp link-type)

[Tree] (config>service>template>vpls-sap-template>stp link-type)

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Full Context

configure service vpls spoke-sdp stp link-type

configure service vpls sap stp link-type

configure service template vpls-sap-template stp link-type

Description

This command instructs STP on the maximum number of bridges behind this SAP or spoke-SDP. If there is only a single bridge, transitioning to forwarding state will be based on handshaking (fast transitions). If more than two bridges are connected via a shared media, their SAP or spoke-SDPs should all be configured as shared, and timer-based transitions are used.

The **no** form of this command returns the link type to the default value.

Default

link-type pt-pt

Platforms

All

link-type

Syntax

link-type {**pt-pt** | **shared**}

no link-type

Context

[Tree] (config>service>pw-template>stp link-type)

Full Context

configure service pw-template stp link-type

Description

This command instructs STP on the maximum number of bridges behind this SAP or spoke SDP. If there is only a single bridge, transitioning to forwarding state will be based on handshaking (fast transitions). If more than two bridges are connected via a shared media, their SAP or spoke SDPs should all be configured as shared, and timer-based transitions are used.

The **no** form of this command returns the link type to the default value.

Default

link-type pt-pt

Platforms

All

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26.43 linktrace

linktrace

Syntax

linktrace {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**ttl** *ttl-value*]

Context

[Tree] (oam>eth-cfm linktrace)

Full Context

oam eth-cfm linktrace

Description

This command initiates a linktrace test.

Parameters

mac-address

Specifies a unicast MAC address destination.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID of the peer within the association. The domain and association information are derived from the source MEP for the session. The Layer 2 IEEE MAC address is resolved from previously learned remote MAC addressing, derived from the reception and processing of the ETH-CC PDU. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

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ttl-value

Specifies the TTL for a returned linktrace.

Values 0 to 255

Default 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.44 listen

listen

Syntax

listen

Context

[Tree] (config>system>netconf listen)

Full Context

configure system netconf listen

Description

Commands in this context configure NETCONF listening parameters.

Platforms

All

26.45 listening-port

listening-port

Syntax

listening-port *port*

no listening-port

Context

[Tree] (config>system>grpc listening-port)

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Full Context

configure system grpc listening-port

Description

This command configures the listening port for the gRPC server.

The **no** form of this command reverts to the default.

Default

listening-port 57400

Parameters

port

Specifies the port number.

Values 1024 to 49151, 57400

Default 57400

Platforms

All

listening-port

Syntax

listening-port *port*

no listening-port

Context

[Tree] (config>system>security>ssh listening-port)

Full Context

configure system security ssh listening-port

Description

This command configures the default SSH port for SSH connections arriving in VPRN or base routing.

The **no** form of this command configures the default SSH port to 22.

Default

no listening-port

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Parameters

port

Specifies the port number.

Values 1024 to 49151

Platforms

All

listening-port

Syntax

listening-port *port*

no listening-port

Context

[Tree] (config>system>security>telnet listening-port)

Full Context

configure system security telnet listening-port

Description

This command configures the default Telnet port for Telnet connections arriving in VPRN or base routing.

The **no** form of this command configures the default Telnet port to 23.

Default

no listening-port

Parameters

port

Specifies the port number.

Values 1024 to 49151

Platforms

All

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26.46 live-output

live-output

Syntax

live-output {*ip-address* | *fqdn*} [**port** *port*] [**router** {*router-instance* | **service-name** *service-name*}]

no live-output

Context

[Tree] (config>call-trace>trace-profile live-output)

Full Context

configure call-trace trace-profile live-output

Description

This command specifies a live output destination for this trace. When configured, captures will not be stored locally but sent (over UDP) to the server in the specified routing context. The destination can be specified as either an IP address or a DNS FQDN. The **live-output** and **debug-output** commands are mutually exclusive.

The **no** form of this command disables live output streaming.

Parameters

ip-address

Specifies the IPv4 or IPv6 address of the server to stream to.

fqdn

Specifies the FQDN that represents the server in DNS, up to 255 characters.

port

Specifies the UDP port on which the server is listening.

Values 1 to 65535

Default 29770

router-instance

Specifies the router instance in which the live output is forwarded.

service-name

Specifies the name of the Layer 3 service in which the live output is forwarded.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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26.47 lldp

lldp

Syntax

lldp

Context

[Tree] (config>port>ethernet lldp)

Full Context

configure port ethernet lldp

Description

Commands in this context configure Link Layer Discovery Protocol (LLDP) parameters on the specified port.

Platforms

All

lldp

Syntax

lldp

Context

[Tree] (config>system lldp)

Full Context

configure system lldp

Description

Commands in this context configure system-wide Link Layer Discovery Protocol parameters.

Platforms

All

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26.48 lldp-member-template

lldp-member-template

Syntax

lldp-member-template

Context

[Tree] (config>lag lldp-member-template)

Full Context

configure lag lldp-member-template

Description

Commands in this context configure the LLDP parameters for member ports.

Platforms

All

26.49 llf

llf

Syntax

[**no**] **llf**

Context

[Tree] (config>service>epipe>sap>ethernet llf)

Full Context

configure service epipe sap ethernet llf

Description

This command enables Link Loss Forwarding (LLF) on an Ethernet port. This feature provides an end-to-end OAM fault notification for Ethernet VLL service. It brings down the Ethernet port (Ethernet LLF) or sends a SONET/SDH Path AIS (ATM LLF) toward the attached CE when there is a local fault on the Pseudowire or service, or a remote fault on the SAP or pseudowire, signaled with label withdrawal or T-LDP status bits. It ceases when the fault disappears.

The Ethernet port must be configured for null encapsulation.

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This feature is also supported in Epipes with BGP-EVPN enabled. In this case, upon removal of the EVPN destination, the port is brought oper-down with flag LinkLossFwd, however the AD per-EVI route for the SAP is still advertised (the SAP is kept oper-up).

The **no** form of this command disables LLF on an Ethernet port.

Default

no llf

Platforms

All

26.50 lmm

lmm

Syntax

lmm [**test-id** *test-id*] [**create**]

no lmm

Context

[Tree] (config>oam-pm>session>ethernet lmm)

Full Context

configure oam-pm session ethernet lmm

Description

This command configures the LMM test ID to be assigned to the Tx and Rx counter-based loss test and creates the individual test. LMM does not carry this test ID in the PDU; the value is of local significance.

The **no** form of this command removes the LMM test function from the PM Session.

Parameters

test-id

Specifies the value to be placed in the 4-byte test ID field of an ETH-DMM PDU.

Values 0 to 2147483647 | **auto**

auto - automatically assigns a *test-id*

create

Creates the test.

Platforms

All

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26.51 lns-group

lns-group

Syntax

lns-group *lns-group-id*

no lns-group

Context

[Tree] (config>service>vprn>l2tp>group lns-group)

[Tree] (config>router>l2tp>group lns-group)

[Tree] (config>service>vprn>l2tp>group>tunnel lns-group)

[Tree] (config>router>l2tp>group>tunnel lns-group)

Full Context

configure service vprn l2tp group lns-group

configure router l2tp group lns-group

configure service vprn l2tp group tunnel lns-group

configure router l2tp group tunnel lns-group

Description

This command configures the ISA LNS group for the L2TP group.

The **no** form of this command removes the LNS group ID from the configuration.

Default

no lns-group

Parameters

lns-group-id

Specifies the LNS group ID.

Values 1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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lns-group

Syntax

lns-group *lns-group-id* [**create**]

no lns-group *lns-group-id*

Context

[Tree] (config>isa lns-group)

Full Context

configure isa lns-group

Description

This command configures an LNS group.

The **no** form of the command removes the LNS group ID from the configuration.

Parameters

lns-group-id

Specifies the LNS group identifier.

Values 1 to 4

create

Mandatory keyword used when creating tunnel group in the ISA context. The create keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.52 load

load

Syntax

load *file-url* [**overwrite** | **insert** | **append**]

Context

[Tree] (candidate load)

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Full Context

candidate load

Description

This command loads a previously saved candidate configuration into the current candidate. The edit point will be set to the end of the loaded configuration lines. The candidate configuration cannot be modified while a load is in progress.

Default

If the candidate is empty then a load without any of the optional parameters (such as overwrite, and so on) will load the file-url into the candidate. If the candidate is not empty then one of the options, such as overwrite, insert, and so on, must be specified.

Parameters

file-url

Specifies the directory and filename to load.

overwrite

Discards the contents of the current candidate and replace it with the contents of the file.

insert

Inserts the contents of the file at the current edit point.

append

Inserts the contents of the file at the end of the current candidate.

Platforms

All

26.53 load-balance

load-balance

Syntax

load-balance {**normal** | **avoid-subs**}

Context

[Tree] (admin>isa>aa-grp>isa load-balance)

Full Context

admin isa application-assurance-group isa load-balance

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Description

This command configures the load balance behaviour for assigning subscribers to an ISA or ESA-VM in an AA group.

Default

load-balance normal

Parameters

normal

Keyword to load balance subscribers to the ISA or ESA-VM.

avoid-subs

Keyword to prevent load balancing of new subscribers. This keyword can be configured in conjunction with the **tools perform application-assurance group load-balance** command to move existing subscribers away from the ISA or ESA-VM.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.54 load-balance-key

load-balance-key

Syntax

load-balance-key [**vendor** *vendor-id* [*vendor-id*]] **attribute-type** *attribute-type* [*attribute-type*]

load-balance-key source-ip-udp

no load-balance-key

Context

[Tree] (config>service>vprn>radius-proxy>server load-balance-key)

[Tree] (config>router>radius-proxy>server load-balance-key)

Full Context

configure service vprn radius-proxy server load-balance-key

configure router radius-proxy server load-balance-key

Description

This command specifies the key used in calculating a hash to select an external RADIUS server from the pool of configured servers.

The key can be the source IP and source UDP port tuple, or the specified RADIUS attribute in RADIUS packets.

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The **no** form of this command removes the parameters from the configuration.

Parameters

vendor-id

Specifies the vendor-id of vendor-specific attribute.

Values 0 to 16777215

attribute-type

Specifies that the key is constructed with the attributes in the RADIUS message.

Values 1 to 255

source-ip-udp

Specifies that the key consists of the source IP address and source UDP port of the RADIUS message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

26.55 load-balance-method

load-balance-method

Syntax

load-balance-method {**per-session** | **per-tunnel**}

no load-balance-method

Context

[Tree] (config>service>vprn>l2tp>group>tunnel load-balance-method)

[Tree] (config>service>vprn>l2tp>group load-balance-method)

[Tree] (config>router>l2tp>group>tunnel load-balance-method)

[Tree] (config>router>l2tp>group load-balance-method)

Full Context

configure service vprn l2tp group tunnel load-balance-method

configure service vprn l2tp group load-balance-method

configure router l2tp group tunnel load-balance-method

configure router l2tp group load-balance-method

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Description

This command is applicable only to LNS. By default traffic load balancing between the BB-ISAs is based on sessions. Each session is individually assigned to an BB-ISA during session establishment phase.

By introducing MLPPPoX, all sessions of a bundle must be terminated on the same LNS BB-ISA. This is necessary for two reasons:

- QoS in the carrier IOM has a uniform view of the subscriber
- a single BB-ISA is responsible for MLPPPoX encapsulation/fragmentation for a given bundle.

Therefore, if fragmentation is enabled, load-balancing per tunnel must be configured. In the per tunnel load-balancing mode, all sessions within the same tunnel are terminated on the same LNS BB-ISA.

In the case that we have MLPPPoX sessions with a single member link, both load-balancing methods are valid.

The **no** form of this command reverts to the default.

Default

load-balance-method per-session

Parameters

per-session

Specifies that the traffic load balancing between the LNS BB-ISAs is based on individual PPPoE sessions.

per-tunnel

Specifies that the traffic load balancing between the LNS BB-ISAs is based on tunnels.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

26.56 load-balancing

load-balancing

Syntax

load-balancing

Context

[Tree] (config>service>epipe load-balancing)

Full Context

configure service epipe load-balancing

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Description

This command enables the load-balancing context to configure interface per-flow load balancing options that will apply to traffic entering this interface and egressing over a LAG/ECMP on system-egress. This is a per interface setting. For load-balancing options that can also be enabled on the system level, the options enabled on the interface level overwrite system level configurations.

Default

not applicable

Platforms

All

load-balancing

Syntax

load-balancing

Context

[Tree] (config>service>template>vpls-template load-balancing)

[Tree] (config>service>vpls load-balancing)

Full Context

configure service template vpls-template load-balancing

configure service vpls load-balancing

Description

This command enables the load-balancing context to configure interface per-flow load balancing options that will apply to traffic entering this interface and egressing over a LAG/ECMP on system-egress. This is a per interface setting. For load-balancing options that can also be enabled on the system level, the options enabled on the interface level overwrite system level configurations.

Platforms

All

load-balancing

Syntax

load-balancing

Context

[Tree] (config>service>ies>if load-balancing)

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Full Context

configure service ies interface load-balancing

Description

This command enables the load-balancing context to configure interface per-flow load balancing options that will apply to traffic entering this interface and egressing over a LAG/ECMP on system-egress. This is a per interface setting. For load balancing options that can also be enabled on the system level, the options enabled on the interface level overwrite system level configurations.

Platforms

All

load-balancing

Syntax

load-balancing

Context

[Tree] (config>service>vprn>nw-if load-balancing)

Full Context

configure service vprn network-interface load-balancing

Description

This command enables the load-balancing context to configure interface per-flow load balancing options that will apply to traffic entering this interface and egressing over a LAG/ECMP on system-egress. This is a per interface setting. For load-balancing options that can also be enabled on the system level, the options enabled on the interface level overwrite system level configurations.

Platforms

All

load-balancing

Syntax

load-balancing

Context

[Tree] (config>router>if load-balancing)

Full Context

configure router interface load-balancing

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Description

This command enables the load-balancing context to configure interface per-flow load balancing options that will apply to traffic entering this interface and egressing over a LAG/ECMP on system-egress. This is a per interface setting. For load-balancing options that can also be enabled on the system level, the options enabled on the interface level overwrite system level configurations.

Platforms

All

load-balancing

Syntax

load-balancing

Context

[Tree] (config>system load-balancing)

Full Context

configure system load-balancing

Description

This command enables the load-balancing context to configure the interface per-flow load balancing options that will apply to traffic entering this interface and egressing over a LAG/ECMP on system-egress. This is a per interface setting. For load-balancing options that can also be enabled on the system level, the options enabled on the interface level overwrite system level configurations.

Platforms

All

26.57 load-balancing-algorithm

load-balancing-algorithm

Syntax

load-balancing-algorithm *option*

no load-balancing-algorithm

Context

[Tree] (config>port>sonet-sdh>path load-balancing-algorithm)

[Tree] (config>port>ethernet load-balancing-algorithm)

[Tree] (config>port>tdm>ds3 load-balancing-algorithm)

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[Tree] (config>port>tdm>e3 load-balancing-algorithm)

Full Context

configure port sonet-sdh path load-balancing-algorithm

configure port ethernet load-balancing-algorithm

configure port tdm ds3 load-balancing-algorithm

configure port tdm e3 load-balancing-algorithm

Description

This command specifies the load balancing algorithm to be used on this port.

In the default mode, **no load-balancing-algorithm**, the port inherits the global settings. The value is not applicable for ports that do not pass any traffic.

The configuration of load-balancing-algorithm at logical port level has three possible values:

- **include-l4** — Enables inherits system-wide settings including Layer 4 source and destination port value in hashing algorithm.
- **exclude-l4** — Layer 4 source and destination port value will not be included in hashing.
- **no load-balancing-algorithm** — Inherits system-wide settings.

The hashing algorithm addresses finer spraying granularity where many hosts are connected to the network. To address more efficient traffic distribution between network links (forming a LAG group), a hashing algorithm extension takes into account Layer 4 information (src/dst L4-protocol port). The hashing index can be calculated according to the following algorithm:

If [(TCP or UDP traffic) & enabled]

hash (<TCP/UDP ports>, <IP addresses>)

else if (IP traffic)

hash (<IP addresses>)

else

hash (<MAC addresses>)

endif

This algorithm will be used in all cases where IP information in per-packet hashing is included (refer to "Traffic Load Balancing Options” in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Interface Configuration Guide*). However the Layer 4 information (TCP/UDP ports) will not be used in the following cases:

- fragmented packets

Default

no load-balancing-algorithm

Parameters

option

Specifies the load balancing algorithm to be used on this port.

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Values **include-l4** — Specifies that the source and destination ports are used in the hashing algorithm.**exclude-l4** — Specifies that the source and destination ports are not used in the hashing algorithm.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh path load-balancing-algorithm

All

- configure port ethernet load-balancing-algorithm

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 load-balancing-algorithm
- configure port tdm e3 load-balancing-algorithm

26.58 load-balancing-weight

load-balancing-weight

Syntax

load-balancing-weight *value*

no load-balancing-weight [*value*]

Context

[Tree] (config>service>vprn>static-route-entry>next-hop load-balancing-weight)

Full Context

configure service vprn static-route-entry next-hop load-balancing-weight

Description

This command configures a weighted ECMP load-balancing weight for a static route next-hop.

If all of the ECMP next-hops of a static route have a configured load-balancing-weight then packets matching the route are sprayed according to the relative weights. In other words, the next-hop interface with the largest load-balancing weight should receive the most forwarded traffic if weighted ECMP is applicable.

The **no** form of this command disables weighted ECMP for the interface and effectively disables weighted ECMP for the entire static route.

Parameters

value

Specifies the cost metric value.

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Values 0 to 4294967295

Platforms

All

load-balancing-weight

Syntax

load-balancing-weight [*weight*]

no load-balancing-weight

Context

[Tree] (config>service>vprn>ospf3>area>if load-balancing-weight)

[Tree] (config>service>vprn>ospf>area>if load-balancing-weight)

Full Context

configure service vprn ospf3 area interface load-balancing-weight

configure service vprn ospf area interface load-balancing-weight

Description

This command configures the weighted ECMP load-balancing weight for an IS-IS, OSPF, and OSPF3 interface. If the interface becomes an ECMP next hop for an IPv4 or IPv6 route, and all the other ECMP next hops are interfaces with configured (non-zero) load-balancing weights, then the traffic distribution over the ECMP interfaces is proportional to the weights. This means that the interface with the largest load-balancing weight receives the most forwarded traffic if weighted ECMP is applicable.

The **no** form of this command disables weighted ECMP for the interface which effectively disables weighted ECMP for any IP prefix that has this interface as a next hop.

Default

no load-balancing-weight

Parameters

weight

Specifies the load balancing weight.

Values 1 to 4294967295

Platforms

All

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load-balancing-weight

Syntax

load-balancing-weight *weight*

no load-balancing-weight

Context

[Tree] (config>service>vprn>isis>if load-balancing-weight)

Full Context

configure service vprn isis interface load-balancing-weight

Description

This command configures the weighted ECMP load-balancing weight for an IS-IS interface of the VPRN. If the interface becomes an ECMP next-hop for IPv4 or IPv6 route and all the other ECMP next-hops are interfaces with configured (non-zero) load-balancing weights, then the traffic distribution over the ECMP interfaces is proportional to the weights. In other words, the interface with the largest **load-balancing-weight** should receive the most forwarded traffic if weighted ECMP is applicable.

The **no** form of this command disables weighted ECMP for the interface and, therefore, effectively disables weighted ECMP for any IP prefix that has this interface as a next-hop.

Default

no load-balancing-weight

Parameters

weight

Specifies the load balancing weight.

Values 0 to 4294967295

Platforms

All

load-balancing-weight

Syntax

load-balancing-weight *weight*

no load-balancing-weight

Context

[Tree] (config>router>ldp>if-params>if load-balancing-weight)

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Full Context

configure router ldp interface-parameters interface load-balancing-weight

Description

This command configures the load balancing weight for the LDP interface. The load balancing weight, normalized to 64, is used for weighted ECMP of LDP labeled packets over direct network IP interfaces.

If the interface becomes an ECMP next hop for an LDP FEC, and all the other ECMP next hops are interfaces with configured (non-zero) load-balancing weights, then the traffic distribution over the ECMP interfaces is proportional to the normalized weight with a granularity of 64.

If one or more of the LDP interfaces in the ECMP set does not have a configured load-balancing weight, then the system falls back to ECMP.

The **no** form of this command removes the load balancing weight for the LDP interface.

Parameters

weight

Specifies the load balancing weight value.

Values 0 to 4294967295

Platforms

All

load-balancing-weight

Syntax

load-balancing-weight *weight*

no load-balancing-weight

Context

[Tree] (config>router>mpls>lsp load-balancing-weight)

Full Context

configure router mpls lsp load-balancing-weight

Description

This command assigns a weight to an MPLS LSP for use in the weighted load-balancing, or weighted ECMP, over MPLS feature.

Parameters

weight

Specifies a 32-bit integer representing the weight of the LSP.

Values 0 to 4294967295

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Platforms

All

load-balancing-weight

Syntax

load-balancing-weight *weight*

no load-balancing-weight

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp load-balancing-weight)

Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group load-balancing-weight

Description

This command configures the load balancing weight of an NHG entry in a forwarding policy.

A weight for each NHG of a policy must be assigned to the weighted ECMP forwarding to operate over the set of NHGs of the policy.

The **no** form of this command removes the load balancing weight from an NHG entry in a forwarding policy.

Parameters

weight

Specifies the load balancing weight value.

Values 1 to 4294967295

Platforms

All

load-balancing-weight

Syntax

load-balancing-weight *value*

no load-balancing-weight [*value*]

Context

[Tree] (config>router>static-route-entry>next-hop load-balancing-weight)

Full Context

configure router static-route-entry next-hop load-balancing-weight

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Description

This command configures a weighted ECMP load-balancing weight for a static route next-hop.

If all of the ECMP next-hops of a static route have a configured load-balancing-weight then packets matching the route are sprayed according to the relative weights. In other words, the next-hop interface with the largest load-balancing weight should receive the most forwarded traffic if weighted ECMP is applicable.

The **no** form of this command disables weighted ECMP for the interface and effectively disables weighted ECMP for the entire static route.

Parameters

value

Specifies the load balancing weight value.

Values 0 to 4294967295

Platforms

All

load-balancing-weight

Syntax

load-balancing-weight [*value*]

no l**oad-balancing-weight**

Context

[Tree] (config>router>isis>interface load-balancing-weight)

Full Context

configure router isis interface load-balancing-weight

Description

This command configures the weighted ECMP load-balancing weight for an IS-IS interface. If the interface becomes an ECMP next hop for an IPv4 or IPv6 route, and all the other ECMP next hops are interfaces with configured (non-zero) load-balancing weights, then the traffic distribution over the ECMP interfaces is proportional to the weights. In other words, the interface with the largest load-balancing weight should receive the most forwarded traffic if weighted ECMP is applicable.

The **no** form of this command disables weighted ECMP for the interface and therefore effectively disables weighted ECMP for any IP prefix that has this interface as a next hop.

Default

no load-balancing-weight

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Parameters

value

0 to 4294967295

Platforms

All

load-balancing-weight

Syntax

load-balancing-weight [*weight*]

no load-balancing-weight

Context

[Tree] (config>router>ospf3>area>if load-balancing-weight)

[Tree] (config>router>ospf>area>if load-balancing-weight)

Full Context

configure router ospf3 area interface load-balancing-weight

configure router ospf area interface load-balancing-weight

Description

This command configures the weighted ECMP load-balancing weight for an OSPF or OSPF3 interface. If the interface becomes an ECMP next hop for an IPv4 or IPv6 route, and all the other ECMP next hops are interfaces with configured (non-zero) load-balancing weights, then the traffic distribution over the ECMP interfaces is proportional to the weights. This means that the interface with the largest load-balancing weight receives the most forwarded traffic if weighted ECMP is applicable.

The **no** form of this command disables weighted ECMP for the interface which effectively disables weighted ECMP for any IP prefix that has this interface as a next hop.

Default

no load-balancing-weight

Parameters

weight

Specifies the load balancing weight.

Values 1 to 4294967295

Platforms

All

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26.59 local

local

Syntax

[**no**] **local**

Context

[Tree] (config>subscr-mgmt>sla-profile>control local)

Full Context

configure subscriber-mgmt sla-profile control local

Description

This command enables a session that is set up with local control plane handling to use this SLA profile. This command cannot be disabled.

Default

local

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local

Syntax

[**no**] **local**

Context

[Tree] (config>subscr-mgmt>sub-profile>control local)

Full Context

configure subscriber-mgmt sub-profile control local

Description

This command enables a session that is set up with local control plane handling to use this subscriber profile. This command cannot be disabled.

Default

local

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local

Syntax

local [**inherit** | **all** | **vc-only** | **none**]

Context

[Tree] (config>service>vprn>ttl-propagate local)

Full Context

configure service vprn ttl-propagate local

Description

This command overrides the global configuration of the TTL propagation for locally generated packets which are forwarded over a MPLS LSPs in a given VPRN service context.

The global configuration is performed under config>router>ttl-propagate>vprn-local.

The default behavior for a given VPRN instance is to inherit the global configuration for the same command. The user can explicitly set the default behavior by configuring the inherit value

Default

local inherit

Parameters

inherit

Specifies the TTL propagation behavior is inherited from the global configuration under **config**>**router**>**ttl-propagate**>**vprn-local**.

none

Specifies the TTL of the IP packet is not propagated into the VC label or labels in the transport label stack.

vc-only

Specifies the TTL of the IP packet is propagated into the VC label and not into the labels in the transport label stack.

all

Specifies the TTL of the IP packet is propagated into the VC label and all labels in the transport label stack.

Platforms

All

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local

Syntax

local

Context

[Tree] (config>ipsec>ts-list local)

Full Context

configure ipsec ts-list local

Description

Commands in this context configure local TS-list parameters. The TS-list is the traffic selector of the local system, such as TSr, when the system acts as an IKEv2 responder.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.60 local-address

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>service>vprn>l2tp>group local-address)

[Tree] (config>router>l2tp>group>tunnel local-address)

[Tree] (config>service>vprn>l2tp local-address)

[Tree] (config>router>l2tp local-address)

[Tree] (config>router>l2tp>group local-address)

[Tree] (config>service>vprn>l2tp>group>tunnel local-address)

Full Context

configure service vprn l2tp group local-address

configure router l2tp group tunnel local-address

configure service vprn l2tp local-address

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configure router l2tp local-address

configure router l2tp group local-address

configure service vprn l2tp group tunnel local-address

Description

This command configures the local address.

The **no** form of this command removes the local IP address from the configuration.

Default

no local-address

Parameters

ip-address

Specifies the IP address used during L2TP authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy local-address)

Full Context

configure subscriber-mgmt bgp-peering-policy local-address

Description

This command configures the local IP address used by the group or neighbor when communicating with BGP peers.

Outgoing connections use the **local-address** as the source of the TCP connection when initiating connections with a peer.

When a local address is not specified, the 7750 SR OS uses the system IP address when communicating with IBGP peers and uses the interface address for directly connected EBGP peers. This command is used at the neighbor level to revert to the value defined under the group level.

The **no** form of this command removes the configured local-address for BGP.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

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Parameters

ip-address

Specifies the IPv4 or IPv6 address of the local address.

For IPv4, the local address is expressed in dotted decimal notation. Allowed values are a valid routable IP address on the router, either an interface or system IP address.

For IPv6, the local address is expressed in semi-colon hexadecimal notation. Allowed values is an interface or a system IP address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>service>vprn>gsmp>group>neighbor local-address)

[Tree] (config>service>vpls>gsmp>group>neighbor local-address)

Full Context

configure service vprn gsmp group neighbor local-address

configure service vpls gsmp group neighbor local-address

Description

This command configures the source ip-address used in the connection towards the neighbor. The local address is optional. If specified the node will accept connections only for that address in the service running ANCP. The address may be created after the reference but connections will not be accepted until it is created. If the local address is not used, the system accepts connections on any interface within the routing context.

The **no** form of this command reverts to the default.

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Parameters

ip-address

Specifies the source IP address to be used in the connection toward the neighbor.

Values *ip-address*: a.b.c.d. (unicast address only)

Platforms

All

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query local-address)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query local-address

Description

This command enables matching on tunnels that are terminated by the specified IP address on the WLAN-GW.

The **no** form of this command disables matching on the local IP address.

Default

no local-address

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

local-address

Syntax

local-address *ip-address*

no local-address

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Context

[Tree] (config>service>vprn>bgp>group local-address)

[Tree] (config>service>vprn>bgp>group>neighbor local-address)

Full Context

configure service vprn bgp group local-address

configure service vprn bgp group neighbor local-address

Description

Configures the local IP address used by the group or neighbor when communicating with BGP peers.

Outgoing connections use the **local-address** as the source of the TCP connection when initiating connections with a peer.

When a local address is not specified, the OS uses the system IP address when communicating with IBGP peers and uses the interface address for directly connected EBGP peers. This command is used at the neighbor level to revert to the value defined under the group level.

The **no** form of this command removes the configured local-address for BGP.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Parameters

no local-address

The router ID is used when communicating with IBGP peers and the interface address is used for directly connected EBGP peers.

ip-address

The local address expressed in dotted decimal notation. Allowed values are a valid routable IP address on the router, either an interface or system IP address.

Platforms

All

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>service>vprn>msdp>group>peer local-address)

[Tree] (config>service>vprn>msdp>peer local-address)

[Tree] (config>service>vprn>msdp local-address)

[Tree] (config>service>vprn>msdp>group local-address)

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Full Context

configure service vprn msdp group peer local-address

configure service vprn msdp peer local-address

configure service vprn msdp local-address

configure service vprn msdp group local-address

Description

This command configures the local end of a Multicast Source Discovery Protocol (MSDP) session. For MSDP to function, at least one peer must be configured. When configuring a peer, you must include this **local-address** command to configure the local end of the MSDP session. This address must be present on the node and is used to validate incoming connections to the peer and to establish connections to the remote peer.

If the user enters this command, then the address provided is validated and will be used as the local address for MSDP peers from that point. If a subsequent **local-address** command is entered, it will replace the existing configuration and existing sessions will be terminated.

Similarly, when the **no** form of this command is entered, the existing local address will be removed from the configuration and the existing sessions will be terminated.

Whenever a session is terminated, all information pertaining to and learned from that peer will be removed.

Whenever a new peering session is created or a peering session is lost, an event message should be generated.

The **no** form of this command removes the local address from the configuration.

Default

no local-address

Parameters

ip-address

Specifies an existing address on the node.

Platforms

All

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>router>pcep>pce local-address)

[Tree] (config>router>pcep>pcc local-address)

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Full Context

configure router pcep pce local-address

configure router pcep pcc local-address

Description

This command configures the local IPv4 address of the PCEP speaker.

The PCEP protocol operates over TCP using destination TCP port 4189. The PCE client (PCC) always initiates the connection. After the user configures the PCEP local IPv4 address and the peer IPv4 address on the PCC, the latter initiates a TCP connection to the PCE. If both a local IPv4 and a local IPv6 address are configured, the connection uses the local address that is the same family as the peer address. When the connection is established, the PCC and PCE exchange OPEN messages, which initializes the PCEP session and exchanges the session parameters to be negotiated.

By default, the PCC attempts to reach the remote PCE address out of band using the management port. If it cannot, it attempts to reach the remote PCE address in band. The user can change the configuration of the peer to attempt connecting in band only or out of band only. When the session comes up out of band, the management IP address is used as the local address. The local IPv4 address configured by the user is only used for in-band sessions and is otherwise ignored.

The **no** form of the command removes the configured local address of the PCEP speaker.

Parameters

ip-address

Specifies the IP address of the PCEP speaker to be used for in-band sessions.

Platforms

VSR-NRC

- configure router pcep pce local-address

All

- configure router pcep pcc local-address

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>router>msdp>group local-address)

[Tree] (config>router>msdp>group>peer local-address)

[Tree] (config>router>msdp local-address)

[Tree] (config>router>msdp>peer local-address)

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Full Context

configure router msdp group local-address

configure router msdp group peer local-address

configure router msdp local-address

configure router msdp peer local-address

Description

This command configures the local end address of an MSDP session. For MSDP to function, at least one peer must be configured, and the peer must have a local address configured. This address must be present on the node and is used to validate incoming connections to the peer and to establish connections to the remote peer.

The specified IP address is validated and used as the local address for MSDP peers from that point. If a subsequent address is configured, it replaces the existing configuration and terminate any existing sessions.

When a session is terminated, all information pertaining to and learned from that peer is removed.

When a new peering session is created or a peering session is lost, an event message is generated.

The **no** form of this command removes the local address from the configuration. Removing the local address terminates any existing sessions.

Default

no local-address

Parameters

ip-address

Specifies an existing address on the node.

Platforms

All

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>router>origin-validation>rpki-session local-address)

Full Context

configure router origin-validation rpki-session local-address

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Description

This command configures the local address to use for setting up the TCP connection used by an RPKI-Router session. The default local-address is the outgoing interface IPv4 or IPv6 address. The local-address cannot be changed without first shutting down the session.

Default

no local-address

Parameters

ip-address

Specifies an IPv4 address or an IPv6 address.

Platforms

All

local-address

Syntax

local-address [*ip-int-name* | *ip-address* | *ipv6-address*]

no local-address

Context

[Tree] (config>router>bgp>group>neighbor local-address)

[Tree] (config>router>bgp>group local-address)

Full Context

configure router bgp group neighbor local-address

configure router bgp group local-address

Description

This command configures the local IP address used by the group or neighbor when communicating with BGP peers.

Outgoing connections use the **local-address** as the source of the TCP connection when initiating connections with a peer.

When a local address is not specified, the router uses the system IP address when communicating with IBGP peers and uses the interface address for directly connected EBGP peers. This command is used at the neighbor level to revert to the value defined under the group level.

When set to a router interface, the **local-address** inherits the primary IPv4 or IPv6 address of the router interface depending on whether BGP is configured for IPv4 or IPv6. If the corresponding IPv4 or IPv6 address is not configured on the router interface, the BGP sessions that have this interface set as the **local-address** are kept down until an interface address is configured on the router interface.

The **no** form of this command removes the configured local-address for BGP.

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The **no** form of this command used at the group level returns the configuration to the value defined at the global level.

The **no** form of this command used at the neighbor level returns the configuration to the value defined at the group level.

Default

no local-address

Parameters

ip-address

Specifies the local address expressed in dotted decimal notation. Allowed value is a valid routable IP address on the router, either an interface or system IP address.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address

Specifies the local address expressed in dotted decimal notation. Allowed value is a valid routable IPv6 address on the router, either an interface or system IPv6 address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ip-int-name

Specifies the IP interface name whose address the local address will inherit. The interface can be any network interface configured on the system.

Platforms

All

local-address

Syntax

local-address *ip-address* | *ipv6-address*

no local-address

Context

[Tree] (config>bmp>station>connection local-address)

Full Context

configure bmp station connection local-address

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Description

This command configures the local IP address used by the local router when communicating with the BMP monitoring station. This configuration is optional.

Outgoing connections use the local-address as the source of the TCP connection when initiating connections with a monitoring station.

The BMP session may flap when this parameter is changed. Shut down the BMP session before changing the values.

The **no** form of this command removes the configured local-address for the BMP session. The default is to use the system IP address.

Default

local-address ip-address (system IP address)

Parameters

ip-address

Specifies the local address expressed in dotted decimal notation. Allowed value is a valid routable IP address on the router, either an interface or system IP address.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address

Specifies the local address expressed in dotted decimal notation. Allowed value is a valid routable IPv6 address on the router, either an interface or system IPv6 address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

local-address

Syntax

local-address *ip-address*

no local-address

Context

[Tree] (config>anysec>mpls>sec-term-pols>policy local-address)

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Full Context

configure anysec mpls security-termination-policies policy local-address

Description

This command configures the local IPv4 or IPv6 address for the system IP or loopback node SID. This is used to program the FP5 label stack to match the incoming ANYsec tunnel and decryption of the tunnel.

The **no** form of this command removes the IP address that is associated with ANYsec decryption.

Parameters

ip-address

Specifies the IPv4 or IPv6 address of the local address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

26.61 local-address-assignment

local-address-assignment

Syntax

local-address-assignment

Context

[Tree] (config>service>ies>sub-if>grp-if local-address-assignment)

[Tree] (config>service>vprn>sub-if local-address-assignment)

[Tree] (config>service>ies>sub-if local-address-assignment)

[Tree] (config>service>vprn>sub-if>grp-if local-address-assignment)

Full Context

configure service ies subscriber-interface group-interface local-address-assignment

configure service vprn subscriber-interface local-address-assignment

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configure service ies subscriber-interface local-address-assignment

configure service vprn subscriber-interface group-interface local-address-assignment

Description

Commands in this context configure local address assignment parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-address-assignment

Syntax

local-address-assignment [**terminate-only**]

no local-address-assignment

Context

[Tree] (debug>service>id>ppp>event local-address-assignment)

Full Context

debug service id ppp event local-address-assignment

Description

This command enables debugging for **local-address-assignment** events.

The **no** form of this command disables debugging.

Parameters

terminate-only

Enables debugging for local address assignment.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-address-assignment

Syntax

[**no**] **local-address-assignment**

Context

[Tree] (config>service>ies>if>sap>ipsec-gw local-address-assignment)

[Tree] (config>service>vprn>if>sap>ipsec-gw local-address-assignment)

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Full Context

configure service ies interface sap ipsec-gw local-address-assignment

configure service vprn interface sap ipsec-gw local-address-assignment

Description

Commands in this context configure local address assignments for the IPsec gateway.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

local-address-assignment

Syntax

local-address-assignment

Context

[Tree] (config>ipsec>client-db>client local-address-assignment)

Full Context

configure ipsec client-db client local-address-assignment

Description

Commands in this context configure the local address assignment information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.62 local-address-ipv6

local-address-ipv6

Syntax

local-address-ipv6 *ipv6-address*

no local-address-ipv6

Context

[Tree] (config>router>pcep>pcc local-address-ipv6)

[Tree] (config>router>pcep>pce local-address-ipv6)

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Full Context

configure router pcep pcc local-address-ipv6

configure router pcep pce local-address-ipv6

Description

This command configures the local IPv6 address of the PCEP speaker.

The PCEP protocol operates over TCP using destination TCP port 4189. The PCE client (PCC) always initiates the connection. After the user configures the PCEP local IPv6 address and the peer IPv6 address on the PCC, the latter initiates a TCP connection to the PCE. If both a local IPv4 and a local IPv6 address are configured, the connection uses the local address that is the same family as the peer address. When the connection is established, the PCC and PCE exchange OPEN messages, which initializes the PCEP session and exchanges the session parameters to be negotiated.

By default, the PCC attempts to reach the remote PCE address out of band using the management port. If it cannot, it attempts to reach the remote PCE address in-band. The user can change the configuration of the peer to attempt connecting in band only or out of band only. When the session comes up out of band, the management IP address is used as the local address. The local IPv6 address configured by the user is only used for in-band sessions and is otherwise ignored.

The **no** form of the command removes the configured local address of the PCEP speaker.

Parameters

ipv6-address

Specifies the IP address of the PCEP speaker to be used for in-band sessions.

Platforms

All

- configure router pcep pcc local-address-ipv6

VSR-NRC

- configure router pcep pce local-address-ipv6

26.63 local-age

local-age

Syntax

local-age *aging-timer*

no local-age [*aging-timer*]

Context

[Tree] (config>service>template>vpls-template local-age)

[Tree] (config>service>vpls local-age)

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Full Context

configure service template vpls-template local-age

configure service vpls local-age

Description

Specifies the aging time for locally learned MAC addresses in the forwarding database (FDB) for the Virtual Private LAN Service (VPLS) instance. In a VPLS service, MAC addresses are associated with a Service Access Point (SAP) or with a service destination point (SDP). MACs associated with a SAP are classified as local MACs, and MACs associated with an SDP are remote MACs.

Like in a Layer 2 switch, learned MACs can be aged out if no packets are sourced from the MAC address for a period of time (the aging time). In each VPLS service instance, there are independent aging timers for local learned MAC and remote learned MAC entries in the FDB. The **local-age** timer specifies the aging time for local learned MAC addresses.

The **no** form of this command returns the local aging timer to the default value.

Default

local age 300 — Local MACs aged after 300 seconds.

Parameters

aging-timer

Specifies the aging time for local MACs expressed in seconds

Values 60 to 86400

Platforms

All

26.64 local-as

local-as

Syntax

local-as *as-number* [**private**]

no local-as

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy local-as)

Full Context

configure subscriber-mgmt bgp-peering-policy local-as

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Description

This command configures a BGP virtual autonomous system (AS) number.

In addition to the AS number configured for BGP in the config>router>autonomous-system context, a virtual (local) AS number is configured. The virtual AS number is added to the as-path message before the router's AS number makes the virtual AS the second AS in the as-path.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). Thus, by specifying this at each neighbor level, it is possible to have a separate as-number per EBGP session.

When a command is entered multiple times for the same AS, the last command entered is used in the configuration. The **private** attribute can be added or removed dynamically by reissuing the command.

Changing the local AS at the global level in an active BGP instance causes the BGP instance to restart with the new local AS number. Changing the local AS at the global level in an active BGP instance causes BGP to re-establish the peer relationships with all peers in the group with the new local AS number. Changing the local AS at the neighbor level in an active BGP instance causes BGP to re-establish the peer relationship with the new local AS number.

This is an optional command and can be used in the following circumstance:

Provider router P is moved from AS1 to AS2. The customer router that is connected to P, however, is configured to belong to AS1. To avoid reconfiguring the customer router, the **local-as** value on router P can be set to AS1. Thus, router P adds AS1 to the as-path message for routes it advertises to the customer router.

The **no** form of this command used at the global level will remove any virtual AS number configured.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Parameters

as-number

Specifies the virtual autonomous system number, expressed as a decimal integer.

Values 1 to 4294967295

private

Specifies that the local-as number is hidden in paths learned from the peering.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-as

Syntax

local-as *as-number* [**private**] [**no-prepend-global-as**]

no local-as

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Context

[Tree] (config>service>vprn>bgp local-as)

[Tree] (config>service>vprn>bgp>group>neighbor local-as)

[Tree] (config>service>vprn>bgp>group local-as)

Full Context

configure service vprn bgp local-as

configure service vprn bgp group neighbor local-as

configure service vprn bgp group local-as

Description

This command configures a BGP virtual autonomous system (AS) number.

In addition to the global AS number configured for BGP in the config>router>autonomous-system context, a virtual (local) AS number can be configured to support various AS number migration scenarios. The local AS number is added to the to the beginning the as-path attribute ahead of the router's AS number.

This configuration parameter can be set at three levels: global level (applies to all EBGP peers), group level (applies to all EBGP peers in peer-group) or neighbor level (only applies to EBGP specified peer). Thus, by specifying this at each neighbor level, it is possible to have a separate local-as per EBGP session. The local-as command is not supported for IBGP sessions. When the optional **private** keyword is specified in the command the local-as number is not added to inbound routes from the EBGP peer that has **local-as** in effect.

When a command is entered multiple times for the same AS, the last command entered is used in the configuration. The **private** attribute can be added or removed dynamically by reissuing the command.

Changing the local AS at the global level in an active BGP instance causes the BGP instance to restart with the new local AS number. Changing the local AS at the global level in an active BGP instance causes BGP to re-establish the peer relationships with all peers in the group with the new local AS number. Changing the local AS at the neighbor level in an active BGP instance causes BGP to re-establish the peer relationship with the new local AS number.

This is an optional command and can be used in the following circumstance:

Provider router P is moved from AS1 to AS2. The customer router that is connected to P, however, is configured to belong to AS1. To avoid reconfiguring the customer router, the **local-as** value on router P can be set to AS1. Thus, router P adds AS1 to the as-path message for routes it advertises to the customer router.

The **no** form of this command used at the global level removes any virtual AS number configured.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no local-as

Parameters

as-number

The virtual autonomous system number, expressed as a decimal integer.

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Values 1 to 65535

private

Specifies the local-as is hidden in paths learned from the peering.

no-prepend-global-as

Specifies that the global-as is hidden in paths announced to the EBGP peer.

Platforms

All

local-as

Syntax

local-as *as-number* [**private**] [no-prepend-global-as]

no local-as

Context

[Tree] (config>router>bgp local-as)

[Tree] (config>router>bgp>group>neighbor local-as)

[Tree] (config>router>bgp>group local-as)

Full Context

configure router bgp local-as

configure router bgp group neighbor local-as

configure router bgp group local-as

Description

This command configures a BGP local autonomous system (AS) number. In addition to the global AS number configured for BGP using the autonomous-system command, a local AS number can be configured to support various AS number migration scenarios.

When the **local-as** command is applied to a BGP neighbor and the local-as is different from the peer-as, the session comes up as EBGP and by default the global-AS number and then (in that order) the local-as number are prepended to the AS_PATH attribute in outbound routes sent to the peer. In received routes from the EBGP peer, the local AS is prepended to the AS path by default, but this can be disabled with the **private** option.

When the **local-as** command is applied to a BGP neighbor and the local-as is the same as the peer-as, the session comes up as IBGP, and by default, the global-AS number is prepended to the AS_PATH attribute in outbound routes sent to the peer.

This configuration parameter can be set at three levels: global level (applies to all BGP peers), group level (applies to all BGP peers in group) or neighbor level (only applies to one specific BGP neighbor). By specifying this at the neighbor level, it is possible to have a separate **local-as** for each BGP session.

When the optional **no-prepend-global-as** command is configured, the global-as number is not added in outbound routes sent to an IBGP or EBGP peer.

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When a command is entered multiple times for the same AS, the last command entered is used in the configuration. The private option can be added or removed dynamically by reissuing the command. Changing the local AS at the global level in an active BGP instance causes the BGP instance to restart with the new local AS number. Changing the local AS at the global level in an active BGP instance causes BGP to re-establish the peer relationships with all peers in the group with the new local AS number. Changing the local AS at the neighbor level in an active BGP instance causes BGP to re-establish the peer relationship with the new local AS number.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no local-as

Parameters

as-number

Specifies the virtual autonomous system number expressed as a decimal integer.

Values 1 to 4294967295

private

Specifies the local-as is hidden in paths learned from the peering.

no-prepend-global-as

Specifies that the global-as is hidden in paths announced to the BGP peer.

Platforms

All

26.65 local-attachment-circuit

local-attachment-circuit

Syntax

local-attachment-circuit *ac-name* [**endpoint** *endpoint-name*] [**bgp** *bgp-instance*] [**create**]

no local-attachment-circuit *ac-name*

Context

[Tree] (config>service>epipe>bgp-evpn local-attachment-circuit)

Full Context

configure service epipe bgp-evpn local-attachment-circuit

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Description

This command configures a local attachment circuit (AC) in which the local Ethernet tag can be configured.

The **no** form of this command disables the context.

Default

no local-attachment-circuit

Parameters

ac-name

Specifies the name of the local attachment circuit, up to 32 characters.

endpoint-name

Specifies the name of the endpoint, up to 32 characters.

bgp-instance

Specifies the BGP instance ID.

Values 1 to 2

Default 1

create

Keyword used to create the local AC.

Platforms

All

26.66 local-auth-db

local-auth-db

Syntax

local-auth-db *name*

no local-auth-db

Context

[Tree] (config>service>dynsvc>policy>auth local-auth-db)

Full Context

configure service dynamic-services dynamic-services-policy authentication local-auth-db

Description

This command configures the local authentication database to be used for local authentication of data-triggered dynamic services.

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Local authentication and RADIUS authentication are mutually exclusive.

The **no** form of this command removes the local authentication database from the configuration and disables local authentication.

Parameters

name

local authentication database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-auth-db

Syntax

local-auth-db *name* [**create**]

no local-auth-db *name*

Context

[Tree] (config>service>dynsvc local-auth-db)

Full Context

configure service dynamic-services local-auth-db

Description

This command creates a local authentication database that can be used for local authentication of data-triggered dynamic services.

The **no** form of this command removes the local authentication database from the configuration.

Parameters

name

Specifies a local authentication database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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26.67 local-dhcp-server

local-dhcp-server

Syntax

local-dhcp-server *server-name* [**create**]

no local-dhcp-server *server-name*

Context

[Tree] (config>router>dhcp local-dhcp-server)

[Tree] (config>service>vprn>dhcp local-dhcp-server)

Full Context

configure router dhcp local-dhcp-server

configure service vprn dhcp local-dhcp-server

Description

This command instantiates a local DHCP server. A local DHCP server can serve multiple interfaces but is limited to the routing context it was which it was created.

The **no** form of this command reverts to the default.

Parameters

server-name

Specifies the name of local DHCP server, up to 32 characters.

create

Keyword used to create the local DHCP server. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-dhcp-server

Syntax

local-dhcp-server *server-name* [**create**] [**auto-provisioned**]

no local-dhcp-server *server-name*

Context

[Tree] (config>router>dhcp6 local-dhcp-server)

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Full Context

configure router dhcp6 local-dhcp-server

Description

This command instantiates a DHCP6 server. A local DHCP6 server can serve multiple interfaces but is limited to the routing context it was which it was created.

The **no** form of this command reverts to the default.

Parameters

server-name

Specifies the name of local DHCP6 server, up to 32 characters.

create

Keyword used to create the local DHCP or DHCP6 server. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

auto-provisioned

Specifies the auto provisioning mode. This parameter only applies to DHCP6 creation to configure DHCP6 default values.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-dhcp-server

Syntax

[**no**] **local-dhcp-server** *server-name* [**lease-address** *ip-prefix*[*prefix-length*]]

[**no**] **local-dhcp-server** *server-name* [**mac** *ieee-address*]

[**no**] **local-dhcp-server** *server-name* [**link-local-address** *ipv6z-address*]

Context

[Tree] (debug>router local-dhcp-server)

Full Context

debug router local-dhcp-server

Description

This command enables, disables or configures debugging for a local DHCP server.

Parameters

server-name

Specifies an existing local DHCP server name.

ip-prefix[/prefix-length]

Specifies the IP prefix and prefix length of the subnet.

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Values ip-prefix — a.b.c.d (host bits must be 0)
length — 0 to 32

ieee-address
Specifies that the provisioned MAC address for the local DHCP server.

ipv6z-address
Specifies the IPv6z address.

ipv6-address:	x:x:x:x:x:x:x:x [-interface]
	x:x:x:x:x:x:d.d.d.d [-interface]
	x: [0 to FFFF]H
	d: [0 to 255]D
interface	up to 32 characters, mandatory for link local addresses

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-dhcp-server

Syntax
[**no**] **local-dhcp-server**

Context
[Tree] (config>redundancy>multi-chassis>peer>sync local-dhcp-server)

Full Context
configure redundancy multi-chassis peer sync local-dhcp-server

Description
This command synchronizes DHCP server information.

Default
no local-dhcp-server

Platforms
All

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local-dhcp-server

Syntax

local-dhcp-server *local-server-name*

no local-dhcp-server

Context

[Tree] (config>service>vprn>if>ipv6 local-dhcp-server)

[Tree] (config>service>ies>if local-dhcp-server)

Full Context

configure service vprn interface ipv6 local-dhcp-server

configure service ies interface local-dhcp-server

Description

This command assigns a DHCP server to the interface.

Parameters

local-server-name

Specifies an existing local server name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-dhcp-server

Syntax

local-dhcp-server *local-server-name*

no local-dhcp-server

Context

[Tree] (config>router>if local-dhcp-server)

[Tree] (config>router>if>ipv6 local-dhcp-server)

Full Context

configure router interface local-dhcp-server

configure router interface ipv6 local-dhcp-server

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Description

This command instantiates a local DHCP server. A local DHCP server can serve multiple interfaces but is limited to the routing context in which it was created.

The **no** form of this command reverts to the default value.

Default

no local-dhcp-server

Parameters

local-server-name

Specifies the name of local DHCP server, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

26.68 local-end

local-end

Syntax

local-end {*ip-address* | *ipv6-address*}

no local-end

Context

[Tree] (config>service>sdp local-end)

Full Context

configure service sdp local-end

Description

This command configures the local-end address of the following SDP encapsulation types:

- IPv6 address of the termination point of a SDP of encapsulation **l2tpv3** (L2TP v3 tunnel).
- IPv4/IPv6 source address of a SDP of encapsulation **eth-gre-bridged** (L2oGRE SDP).
- IPv4/IPv6 source address of a SDP of encapsulation **gre** (GRE SDP).

A change to the value of the **local-end** parameter requires that the SDP be shut down.

When used as the source address of a SDP of encapsulation **gre** (GRE SDP), the primary IPv4 address of any local network IP interface, loopback or otherwise, may be used.

The address of the following interfaces are not supported:

- unnumbered network IP interface

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- IES interface
- VPRN interface
- CSC VPRN interface

The **local-end** parameter value adheres to the following rules:

- A maximum of 15 distinct address values can be configured for all GRE SDPs under the **configure service sdp local-end**context, and all L2oGRE SDPs under the **configure service system gre-eth-bridged tunnel-termination** context.
- The same source address cannot be used in both contexts since an address configured for a L2oGRE SDP matches an internally created interface that is not available to other applications.
- The **local-end** address of a GRE SDP, when different from system, need not match the primary address of an interface that has the MPLS-over-GRE termination subnet configured, unless a GRE SDP or tunnel from the far-end router terminates on this address.

The **no** form of this command removes the address from the local-end configuration.

Parameters

ip-address* | *ipv6-address

Specifies a IPv4 or IPv6 address for local-end of an SDP in dotted decimal notation.

Values

ip-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D

Platforms

All

26.69 local-fcc-port

local-fcc-port

Syntax

local-fcc-port *port*

no local-fcc-port

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video local-fcc-port)

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[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video local-fcc-port)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video local-fcc-port)

Full Context

configure mcast-management multicast-info-policy bundle video local-fcc-port

configure mcast-management multicast-info-policy bundle channel video local-fcc-port

configure mcast-management multicast-info-policy bundle channel source-override video local-fcc-port

Description

This command configures the local port on which Fast Channel Change (FCC) requests are received. The value of this object can only be set for the default bundle and will be used by all bundles and channels.

The **local-fcc-port** *port* value is the only configuration parameter in the bundle "default" context.

The **no** form of the command removes the port from the video configuration.

Parameters

port

Specifies a local port for FCC requests.

Values 1024 to 5999, 6251 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

26.70 local-filtering

local-filtering

Syntax

local-filtering

Context

[Tree] (config>app-assure>group>url-filter local-filtering)

Full Context

configure application-assurance group url-filter local-filtering

Description

This command configures a URL filter policy for local filtering in order to filter traffic based on a list of URLs located on a file stored in the router compact flash.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.71 local-forward

local-forward

Syntax

local-forward *local-forward-id* [**create**]

no local-forward *local-forward-id*

Context

[Tree] (config>system>satellite local-forward)

Full Context

configure system satellite local-forward

Description

This command creates a local-forward instance.

A local-forward instance creates a traffic bypass within the Ethernet satellite, which allows traffic to be forwarded between satellite client ports.

The **no** form of this command deletes the specified local-forward instance.

Parameters

local-forward-id

Specifies the ID number for the local-forward instance.

Values 1 to 10240

create

Creates a new local-forward instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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26.72 local-gateway-address

local-gateway-address

Syntax

local-gateway-address [*ip-address* | *ipv6-address*]

no local-gateway-address

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel local-gateway-address)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel local-gateway-address)

Full Context

configure router interface ipsec ipsec-tunnel local-gateway-address

configure service ies interface ipsec ipsec-tunnel local-gateway-address

Description

This command configures local gateway address of the IPsec gateway.

Parameters

ip-address

Specifies a unicast IPv4 address, up to 64 characters.

ipv6-address

Specifies a unicast global unicast IPv6 address, up to 64 characters.

Platforms

VSR

local-gateway-address

Syntax

local-gateway-address *ip-address*

no local-gateway-address

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw local-gateway-address)

[Tree] (config>service>ies>if>sap>ipsec-gw local-gateway-address)

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Full Context

configure service vprn interface sap ipsec-gw local-gateway-address

configure service ies interface sap ipsec-gw local-gateway-address

Description

This command configures local gateway address of the IPsec gateway.

Parameters

ip-address

Specifies a unicast IPv4 address or a global unicast IPv6 address. This address must be within the subnet of the public interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

local-gateway-address

Syntax

local-gateway-address *ip-address* **peer** *ip-address* **delivery-service** *service-id*

no local-gateway-address

Context

[Tree] (config>service>vprn>if>sap>ipsec-tunnel local-gateway-address)

Full Context

configure service vprn interface sap ipsec-tunnel local-gateway-address

Description

This command specifies the local gateway address used for the tunnel and the address of the remote security gateway at the other end of the tunnel remote peer IP address to use.

Default

no local-gateway-address

Parameters

ip-address

IP address of the local end of the tunnel.

delivery-service *service-id*

The ID of the IES or VPRN (front-door) delivery service of this tunnel. Use this service-id to find the VPRN used for delivery.

Values *service-id*: 1 to 2147483648

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svc-name: Specifies an existing service name up to 64 characters in length.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.73 local-id

local-id

Syntax

local-id *type* [**value** *value*]

no local-id

Context

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn local-id)

[Tree] (config>service>vprn>if>sap>ipsec-gw local-id)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn local-id)

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn local-id)

[Tree] (config>ipsec>trans-mode-prof>dyn local-id)

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn local-id)

[Tree] (config>service>ies>if>sap>ipsec-gw local-id)

Full Context

configure service ies interface ipsec ipsec-tunnel dynamic-keying local-id

configure service vprn interface sap ipsec-gw local-id

configure service vprn interface ipsec ipsec-tunnel dynamic-keying local-id

configure router interface ipsec ipsec-tunnel dynamic-keying local-id

configure ipsec ipsec-transport-mode-profile dynamic-keying local-id

configure service vprn interface sap ipsec-tunnel dynamic-keying local-id

configure service ies interface sap ipsec-gw local-id

Description

This command specifies the local ID used for IDi or IDr for IKEv2 negotiation.

The default behavior depends on the local-auth-method as follows:

- Psk: local tunnel IP address
- Cert-auth: subject of the local certificate

The **no** form of this command removes the parameters from the configuration.

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Default

no local-id

Parameters

type

Specifies the type of local ID payload, which could be IPv4 or IPv6 address or FQDN domain name or distinguish the name of the subject in the X.509 certificate.

Values ipv4 — Specifies to use IPv4 as the local ID type; the default value is the local tunnel end-point address.

ipv6 — Specifies to use IPv6 as the local ID type; the default value is the local tunnel end-point address.

fq1dn — Specifies to use FQDN as the local ID type. The value must be configured.

value

Specifies the data type as an enumerated integer that describes the local identifier type used for IDi or IDr for IKEv2, up to 255 characters.

Platforms

VSR

- configure router interface ipsec ipsec-tunnel dynamic-keying local-id
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying local-id
- configure service ies interface ipsec ipsec-tunnel dynamic-keying local-id

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel dynamic-keying local-id
- configure ipsec ipsec-transport-mode-profile dynamic-keying local-id
- configure service vprn interface sap ipsec-gw local-id
- configure service ies interface sap ipsec-gw local-id

26.74 local-ip

local-ip

Syntax

local-ip {*ip-prefix/prefix-length* | *ip-prefix netmask* | **any**}

Context

[Tree] (config>router>ipsec>sec-plcy>entry local-ip)

[Tree] (config>service>vprn>ipsec>sec-plcy>entry local-ip)

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Full Context

configure router ipsec security-policy entry local-ip

configure service vprn ipsec security-policy entry local-ip

Description

This command configures the local (from the VPN) IP prefix/mask for the policy parameter entry.

Only one entry is necessary to describe a potential flow. The **local-ip** and **remote-ip** commands can be defined only once. The system evaluates:

- the local IP as the source IP when traffic is examined in the direction of the flows from private to public and as the destination IP when traffic flows from public to private
- the remote IP as the source IP when traffic flows public to private and as the destination IP when traffic flows from private to public

Parameters

ip-prefix

The destination address of the aggregate route in dotted decimal notation

Values a.b.c.d (host bits must be 0)

prefix-length 1 to 32

netmask

The subnet mask in dotted decimal notation

any

keyword to specify that it can be any address

Platforms

VSR

- configure router ipsec security-policy entry local-ip

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec security-policy entry local-ip

26.75 local-ip-address

local-ip-address

Syntax

local-ip-address *ip-address*

no local-ip-address

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Context

[Tree] (config>lag>bfd>family local-ip-address)

Full Context

configure lag bfd family local-ip-address

Description

This command is used to specify the IPv4 or IPv6 address of the BFD source.

The **no** form of this command removes this address from the configuration.

Default

no local-ip-address

Parameters

ip-address

Specifies the IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x:-[0 to FFFF]H
	d: [0 to 255]D

Platforms

All

26.76 local-ip-range-start

local-ip-range-start

Syntax

local-ip-range-start *ip-address*

no local-ip-range-start

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy local-ip-range-start)

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Full Context

configure isa nat-group inter-chassis-redundancy local-ip-range-start

Description

This command configures the first IP address that is assigned to a first member ISA in the **nat-group**. The remaining member ISAs in the **nat-group** are automatically assigned the consecutive IP addresses, starting from the first IP address. These IP addresses are used to communicate between the ISAs on redundant nodes for the purpose of flow synchronization. Traffic from the first local IP address (member ISA), is sent to the first IP address from the remote IP range.

Note: These IP addresses are added to the routing table under the protocol "NAT" within the routing context where they are configured. The user can then export the IP addresses into the network using routing policies to ensure reachability. These IP addresses effectively become routes with no relation to any local interface on the router.

The **no** form of this command reverts to the default.

Default

no local-ip-range-start

Parameters

ip-address

Specifies the first IP address from the range assigned to the first member ISA in the form of a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

26.77 local-lsr-id

local-lsr-id

Syntax

local-lsr-id {**system** | **interface**} [**32bit-format**]

local-lsr-id *interface-name* [**32bit-format**]

no local-lsr-id

Context

[Tree] (config>router>ldp>if-params>if>ipv6 local-lsr-id)

[Tree] (config>router>ldp>if-params>if>ipv4 local-lsr-id)

Full Context

configure router ldp interface-parameters interface ipv6 local-lsr-id

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configure router ldp interface-parameters interface ipv4 local-lsr-id

Description

This command enables the use of the address of the local LDP interface, or any other network interface configured on the system, as the LSR-ID to establish link LDP Hello adjacency and LDP session with directly connected LDP peers. The network interface can be a loopback or not.

Link LDP sessions to all peers discovered over a given LDP interface share the same local LSR-ID. However, LDP sessions on different LDP interfaces can use different network interface addresses as their local LSR-ID.

By default, the LDP session to a peer uses the system interface address as the LSR-ID unless explicitly configured using this command. The system interface must always be configured on the router, or the LDP protocol will not come up on the node. There is no requirement to include the system interface in any routing protocol.

At initial configuration, the LDP session to a peer will remain down while the network interface used as LSR-ID is down. LDP will not try to bring it up using the system interface.

If the network IP interface used as LSR-ID goes down, the LDP sessions to all discovered peers using this LSR-ID go down.

When an interface other than the system is used as the LSR-ID, the transport connection (TCP) for the link LDP session will also use the address of that interface as the transport address. If the system or interface value is configured in the **config**>**router**>**ldp**>**if-params**>**if**>**ipv4** or **config**>**router**>**ldp**>**if-params**>**if**>**ipv6**> **transport-address** context, it will be overridden with the address of the LSR-ID interface.

When the **local-lsr-id** command is enabled with the **32bit-format** option, an SR OS LSR will be able to establish an LDP IPv6 Hello adjacency and an LDP IPv6 session with an RFC 7552 compliant peer LSR. The LSR uses a 32-bit LSR-ID set to the value of the IPv4 address of the specified local LSR-ID interface and a 128-bit transport address set to the value of the IPv6 address of the specified local LSR-ID interface.

Note:
The system interface cannot be used as a local LSR-ID with the **32bit-format** option enabled because the system interface is the default LSR-ID and transport address for all LDP sessions to peers on this LSR. This configuration is blocked in the CLI.

If the user enables the **32bit-format** option in the IPv6 context of a running LDP interface, the already established LDP IPv6 Hello adjacency and LDP IPv6 session will be brought down and re-established with the new 32-bit LSR-ID value.

If the user changes the LSR-ID value between **system**, **interface**, and *interface-name*, or enables the **32bit-format** option while the LDP session is up, LDP will immediately tear down all sessions using this LSR-ID and will attempt to re-establish them using the new LSR-ID.

The **no** form of this command returns to the default behavior, in which case the system interface address is used as the LSR-ID.

Default

no local-lsr-id

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Parameters

system

Specifies the use of the address of the system interface as the value of the LSR-ID of this LDP LSR.

interface

Specifies the use of the address of the local LDP interface as the value of the LSR-ID of this LDP LSR.

interface-name interface-name

Specifies the name, up to 32 character, of the network IP interface (which address is used as the LSR-ID of this LDP LSP). An interface name cannot be in the form of an IP address. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

32bit-format

Specifies the use of the IPv4 address of the local LSR-ID interface as the LSR-ID of this LDP LSR.

Platforms

All

local-lsr-id

Syntax

local-lsr-id *interface-name* [**32bit-format**]

no local-lsr-id

Context

[Tree] (config>router>ldp>targ-session>peer-template local-lsr-id)

[Tree] (config>router>ldp>targ-session>peer local-lsr-id)

Full Context

configure router ldp targeted-session peer-template local-lsr-id

configure router ldp targeted-session peer local-lsr-id

Description

This command enables the use of the address of any network interface configured on the system, as the LSR-ID to establish a targeted LDP Hello adjacency and a targeted LDP session with an LDP peer. The network interface can be a loopback or not.

By default, the targeted LDP session to a peer uses the system interface address as the LSR-ID and as the transport address, unless explicitly configured using this command. The system interface must always be configured on the router, or the LDP protocol will not come up on the node. There is no requirement to include the system interface in any routing protocol.

When the **local-lsr-id** command is enabled with the **32bit-format** option, an SR OS LSR will be able to establish a targeted LDP IPv6 Hello adjacency and a targeted LDP IPv6 session with an RFC 7552

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compliant peer LSR. The LSR uses a 32-bit LSR-ID set to the value of the IPv4 address of the specified local LSR-ID interface and a 128-bit transport address set to the value of the IPv6 address of the specified local LSR-ID interface.

Note:
The system interface cannot be used as a local LSR-ID with the 3**2bit-format** option enabled because the system interface is the default LSR-ID and transport address for all targeted LDP sessions to peers on this LSR. This configuration is blocked in the CLI.

If the user enables the **32bit-format** option in the IPv6 context of a running targeted LDP peer, the already established targeted LDP IPv6 Hello adjacency and targeted LDP IPv6 session will be brought down and re-established with the new 32-bit LSR-ID value.

If the user changes the local LSR-ID value or enables/disables the **32bit-format** option, while the targeted LDP session is up, LDP will immediately tear down the targeted session using this LSR-ID and will attempt to re-establish it using the new LSR-ID.

The **no** form of this command returns to the default behavior, in which case the system interface address is used as the LSR-ID.

Default

no local-lsr-id

Parameters

interface-name

Specifies the name, up to 32 characters, of the network IP interface (which address is used as the LSR-ID of this LDP LSP). An interface name cannot be in the form of an IP address. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

32bit-format

Specifies the use of the IPv4 address of the local LSR-ID interface as the LSR-ID of this LDP LSR.

Platforms

All

26.78 local-max-checkpoints

local-max-checkpoints

Syntax

local-max-checkpoints [*number-of-files*]

no local-max-checkpoints

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Context

[Tree] (config>system>rollback local-max-checkpoints)

Full Context

configure system rollback local-max-checkpoints

Description

This command configures the maximum number of rollback checkpoint files when the rollback-location is on local compact flash.

Default

no local-max-checkpoints

Parameters

number of files

Specifies the maximum rollback files on a compact flash.

Values 1 to 50

Platforms

All

26.79 local-monitoring-policer

local-monitoring-policer

Syntax

[**no**] **local-monitoring-policer** *policer-name* [**create**]

Context

[Tree] (config>sys>security>dist-cpu-protection>policy local-monitoring-policer)

Full Context

configure system security dist-cpu-protection policy local-monitoring-policer

Description

This command configures a monitoring policer that is used to monitor the aggregate rate of several protocols arriving on an object (for example, SAP). When the **local-monitoring-policer** is determined to be in a nonconforming state (at the end of a minimum monitoring time of 60 seconds) then the system will attempt to allocate dynamic policers for the particular object for any protocols associated with the local monitor (for example, using the **protocol** *name* **enforcement dynamic** *policer-name* CLI command).

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If the system cannot allocate all the dynamic policers within 150 seconds, it will stop attempting to allocate dynamic policers, raise a LocMonExcdAllDynAlloc log event, and go back to using the local monitor. The local monitor may then detect exceeded packets again and make another attempt at allocating dynamic policers.

Once this *policer-name* is referenced by a protocol then this policer will be instantiated for each "object" that is created and references this DDoS policy. If there is no policer free then the object will be blocked from being created.

Parameters

policy-name

Specifies name of the policy, up to 32 characters.

Platforms

All

26.80 local-name

local-name

Syntax

local-name *host-name*

no local-name

Context

[Tree] (config>router>l2tp>group>tunnel local-name)

[Tree] (config>service>vprn>l2tp local-name)

[Tree] (config>service>vprn>l2tp>group local-name)

[Tree] (config>service>vprn>l2tp>group>tunnel local-name)

[Tree] (config>router>l2tp local-name)

[Tree] (config>router>l2tp>group local-name)

Full Context

configure router l2tp group tunnel local-name

configure service vprn l2tp local-name

configure service vprn l2tp group local-name

configure service vprn l2tp group tunnel local-name

configure router l2tp local-name

configure router l2tp group local-name

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Description

This command creates the local host name used by this system for the tunnels in this L2TP group during the authentication phase of tunnel establishment. It can be used to distinguish tunnels.

The **no** form of this command removes the host name from the configuration.

Default

no local-name

Parameters

host-name

Specifies the host name, up to 64 characters in length, that the router will use to identify itself during L2TP authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

26.81 local-port-action

local-port-action

Syntax

local-port-action {**log-only** | **out-of-service**}

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>local-sf-action local-port-action)

Full Context

configure port ethernet efm-oam link-monitoring local-sf-action local-port-action

Description

This command configures the parameters that define if and how the local port will be affected when the local signal failure threshold (**sf-threshold**) has been reached within the configured window.

Interactions: The signal failure threshold will trigger these actions.

Default

local-port-action out-of-service

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Parameters

log-only

Keyword that prevents the port from being affected when the configured signal failure threshold is reach within the window. The event will be logged but the port will remain operational.

out-of-service

Keyword that causes the port to enter a non-operation down state with a port state of link up. The error will be logged when the configured signal failure threshold (**sf-threshold**) is reached within the window. The port will not be available to service data but will continue to carry Link OAM traffic to ensure the link is monitored.

Platforms

All

26.82 local-preference

local-preference

Syntax

local-preference *local-preference*

no local-preference

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy local-preference)

Full Context

configure subscriber-mgmt bgp-peering-policy local-preference

Description

This command enables setting the BGP local-preference attribute in incoming routes if not specified and configures the default value for the attribute. This value is used if the BGP route arrives from a BGP peer without the **local-preference** integer set.

The specified value can be overridden by any value set via a route policy.

The **no** form of this command at the global level specifies that incoming routes with local-preference set are not overridden and routes arriving without local-preference set are interpreted as if the route had local-preference value of 100.

Parameters

local-preference

The local preference value to be used as the override value, expressed as a decimal integer.

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Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

local-preference

Syntax

local-preference *local-preference*

no local-preference

Context

[Tree] (config>service>vprn>bgp local-preference)

[Tree] (config>service>vprn>bgp>group>neighbor local-preference)

[Tree] (config>service>vprn>bgp>group local-preference)

Full Context

configure service vprn bgp local-preference

configure service vprn bgp group neighbor local-preference

configure service vprn bgp group local-preference

Description

This command enables setting the BGP local-preference attribute in incoming routes if not specified and configures the default value for the attribute. This value is used if the BGP route arrives from a BGP peer without the **local-preference** integer set.

The specified value can be overridden by any value set via a route policy. This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command at the global level specifies that incoming routes with local-preference set are not overridden and routes arriving without local-preference set are interpreted as if the route had local-preference value of 100.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no local-preference - Does not override the local-preference value set in arriving routes and analyze routes without local preference with value of 100.

Parameters

local-preference

The local preference value to be used as the override value, expressed as a decimal integer.

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Values 0 to 4294967295

Platforms

All

local-preference

Syntax

local-preference *local-preference*

no local-preference

Context

[Tree] (config>router>bgp>group>neighbor local-preference)

[Tree] (config>router>bgp>group local-preference)

[Tree] (config>router>bgp local-preference)

Full Context

configure router bgp group neighbor local-preference

configure router bgp group local-preference

configure router bgp local-preference

Description

This command enables setting the BGP local-preference attribute in incoming routes if not specified and configures the default value for the attribute.

This value is used if the BGP route arrives from a BGP peer without the **local-preference** integer set.

The specified value can be overridden by any value set via a route policy. This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to the specified peer). The most specific value is used.

The **no** form of this command at the global level specifies that incoming routes with local-preference set are not overridden and routes arriving without local-preference set are interpreted as if the route had local-preference value of 100.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no local-preference

Parameters

local-preference

Specifies the local preference value to be used as the override value expressed as a decimal integer.

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Values 0 to 4294967295

Platforms

All

local-preference

Syntax

local-preference *preference* [**equal** | **or-higher** | **or-lower**]

no local-preference

Context

[Tree] (config>router>policy-options>policy-statement>entry>from local-preference)

Full Context

configure router policy-options policy-statement entry from local-preference

Description

This command matches BGP routes based on local preference (the value in the LOCAL_PREF attribute).

If no comparison qualifiers are present (**equal**, **or-higher**, **or-lower**), then **equal** is the implied default.

A non-BGP route does not match a policy entry if it contains the **local-preference** command.

Default

no local-preference

Parameters

preference

Specifies the local preference value.

Values 0 to 4294967295, or a parameter name delimited by starting and ending at-sign (@) characters

equal

Specifies that matched routes should have the same local preference as the value specified.

or-higher

Specifies that matched routes should have the same or a greater local preference as the value specified.

or-lower

Specifies that matched routes should have the same or a lower local preference as the value specified.

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Platforms

All

local-preference

Syntax

local-preference *preference*

no local-preference

Context

[Tree] (config>router>policy-options>policy-statement>default-action local-preference)

[Tree] (config>router>policy-options>policy-statement>entry local-preference)

Full Context

configure router policy-options policy-statement default-action local-preference

configure router policy-options policy-statement entry local-preference

Description

This command assigns a BGP local preference to routes matching a route policy statement entry.

If no local preference is specified, the BGP configured local preference is used.

The **no** form of this command disables assigning a local preference in the route policy entry.

Default

no local-preference

Parameters

preference

Specifies the local preference expressed as a decimal integer.

Values 0 to 4294967295 name — Specifies the local preference parameter variable name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

Platforms

All

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26.83 local-prefix

local-prefix

Syntax

local-prefix *local-prefix* [**create**]

no local-prefix *local-prefix*

Context

[Tree] (config>service>pw-routing local-prefix)

Full Context

configure service pw-routing local-prefix

Description

This command configures one or more node prefix values to be used for MS-PW routing. At least one prefix must be configured on each node that is an S-PE or a T-PE.

The **no** form of this command removes a previously configured prefix, and will cause the corresponding route to be withdrawn if it has been advertised in BGP.

Default

no local-prefix

Parameters

local-prefix

Specifies a 32 bit prefix for the AII. One or more prefix values, up to a maximum of 16, may be assigned to the 7450 ESS, 7750 SR, or 7950 XRS node. The global ID can contain the 2-octet or 4-octet value of the provider's Autonomous System Number (ASN). The presence of a global ID based on the provider's ASN ensures that the AII for spoke-SDPs configured on the node will be globally unique.

Values <global-id>:<ip-addr>| <raw-prefix>

ip-addr	a.b.c.d
raw-prefix	1 to 4294967295
global-id	1 to 4294967295

Platforms

All

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26.84 local-priority

local-priority

Syntax

local-priority *local-priority*

Context

[Tree] (config>service>vprn>ptp>peer local-priority)

Full Context

configure service vprn ptp peer local-priority

Description

This command configures the local priority used to choose between PTP TimeTransmitters in the best TimeTransmitter clock algorithm (BTCA).

The value 1 is the highest priority and 255 is the lowest priority.

If the PTP profile is **ieee1588-2008**, the priority of a peer cannot be configured.

If the PTP profile is **g8265dot1-2010**, this parameter configures the priority used to choose between TimeTransmitter clocks with the same quality. Refer to the G.8265.1 standard for more information

If the PTP profile is **g8275dot1-2014** or **g8275dot2-2016**, this parameter sets the value of the **localPriority** associated with the Announce messages received from the external clocks (**ptp**>**peer** or **ptp**>**port**), or the local clock (PTP). Refer to the ITU-T G.8275.1/G.8275.2 standard for detailed information

Default

local-priority 128

Parameters

local-priority

Specifies the value of the local priority.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

local-priority

Syntax

local-priority *priority*

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Context

[Tree] (config>system>ptp local-priority)

[Tree] (config>system>ptp>peer local-priority)

[Tree] (config>system>ptp>port local-priority)

Full Context

configure system ptp local-priority

configure system ptp peer local-priority

configure system ptp port local-priority

Description

This command configures the local priority used to choose between PTP TimeTransmitters in the best TimeTransmitter clock algorithm (BTCA).

The value 1 is the highest priority and 255 is the lowest priority.

If the PTP profile is **ieee1588-2008**, the priority of a peer cannot be configured.

If the PTP profile is **g8265dot1-2010**, this parameter configures the priority used to choose between TimeTransmitter clocks with the same quality. Refer to the G.8265.1 standard for more information

If the PTP profile is **g8275dot1-2014** or **g8275dot2-2016**, this parameter sets the value of the **localPriority** associated with the Announce messages received from the external clocks (**ptp**>**peer** or **ptp**>**port**), or the local clock (PTP). Refer to the ITU-T G.8275.1/G.8275.2 standard for detailed information

Default

local-priority 128

Parameters

priority

Specifies the value of the local priority.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.85 local-proxy-arp

local-proxy-arp

Syntax

[**no**] **local-proxy-arp**

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Context

[Tree] (config>service>ies>sub-if>grp-if local-proxy-arp)

[Tree] (config>service>ies>if local-proxy-arp)

[Tree] (config>service>vprn>if local-proxy-arp)

[Tree] (config>service>vprn>sub-if>grp-if local-proxy-arp)

Full Context

configure service ies subscriber-interface group-interface local-proxy-arp

configure service ies interface local-proxy-arp

configure service vprn interface local-proxy-arp

configure service vprn subscriber-interface group-interface local-proxy-arp

Description

This command enables local proxy ARP. When local proxy ARP is enabled on an IP interface, the system responds to all ARP requests for IP addresses belonging to the subnet with its own MAC address, and thus becomes the forwarding point for all traffic between hosts in that subnet.

When **local-proxy-arp** is enabled, ICMP redirects on the ports associated with the service are automatically blocked.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface local-proxy-arp
- configure service ies subscriber-interface group-interface local-proxy-arp

All

- configure service ies interface local-proxy-arp
- configure service vprn interface local-proxy-arp

local-proxy-arp

Syntax

[**no**] **local-proxy-arp**

Context

[Tree] (config>router>if local-proxy-arp)

Full Context

configure router interface local-proxy-arp

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Description

This command enables local proxy ARP on the interface.

Default

no local-proxy-arp

Platforms

All

26.86 local-proxy-nd

local-proxy-nd

Syntax

[**no**] **local-proxy-nd**

Context

[Tree] (config>service>ies>if>ipv6 local-proxy-nd)

[Tree] (config>service>vprn>if>ipv6 local-proxy-nd)

Full Context

configure service ies interface ipv6 local-proxy-nd

configure service vprn interface ipv6 local-proxy-nd

Description

This command enables local proxy neighbor discovery on the interface.

When this command is enabled, the interface replies to neighbor solicitation requests when both the hosts are on the same subnet. In this case, ICMP redirects are disabled. When this command is disabled, the interface does not reply to neighbor solicitation requests if both the hosts are on the same subnet.

The **no** form of this command reverts to the default.

Platforms

All

local-proxy-nd

Syntax

[**no**] **local-proxy-nd**

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Context

[Tree] (config>router>if>ipv6 local-proxy-nd)

Full Context

configure router interface ipv6 local-proxy-nd

Description

This command enables local proxy neighbor discovery on the interface.

The **no** form of this command disables local proxy neighbor discovery.

Platforms

All

26.87 local-routes-domain-id

local-routes-domain-id

Syntax

local-routes-domain-id [*global-field*:*local-field*]

no local-routes-domain-id

Context

[Tree] (config>service>vprn local-routes-domain-id)

Full Context

configure service vprn local-routes-domain-id

Description

This command specifies the domain ID that is used in the D-PATH attribute for local routes before those routes are exported to a BGP neighbor using BGP-IPVPN, EVPN-IFF, EVPN-IFL or PE-CE BGP. A local route is a non-BGP route installed in the VPRN route table and learned using static route or an IGP.

The domain IDs are used in the D-PATH attribute, in accordance with *draft-ietf-bess-evpn-ipvpn-interworking*. The D-PATH attribute is modified by gateway routers, where a gateway is defined as a PE where a VPRN is instantiated, and that VPRN advertises or receives routes from multiple BGP owners (for example, EVPN-IFL and BGP-IPVPN).

The D-PATH attribute is used on gateways to detect loops (for received routes where the D-PATH contains a local domain ID) and to make BGP best path selection decisions based on the D-PATH length (shorter D-PATH is preferred).

The **no** form of this command removes the domain ID for local routes.

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Default

no local-routes-domain-id

Parameters

global-field:local-field

Specifies the domain ID for local routes.

Values *4byte-GlobalAdminValue:2byte-LocalAdminValue*

4byte-GlobalAdminValue:	0 to 4294967295
2byte-LocalAdminValue	0 to 65535

Platforms

All

26.88 local-rt-port

local-rt-port

Syntax

local-rt-port *port*

no local-rt-port

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video local-rt-port)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video local-rt-port)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video local-rt-port)

Full Context

configure mcast-management multicast-info-policy bundle video local-rt-port

configure mcast-management multicast-info-policy bundle channel source-override video local-rt-port

configure mcast-management multicast-info-policy bundle channel video local-rt-port

Description

This command configures the local port on which retransmission (RET) requests are received. The value of this object can only be set for the default bundle and will be used by all channels.

The **local-rt-port** *port* value is the only configuration parameter in the bundle "default" context.

The **no** form of the command removes the port from the video configuration.

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Parameters

port

Specifies a local port for RT requests.

Values 1024 to 5999, 6251 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

26.89 local-rt-server

local-rt-server

Syntax

[**no**] **local-rt-server**

Context

[Tree] (config>isa>video-group local-rt-server)

Full Context

configure isa video-group local-rt-server

Description

This command enables the local RET server for the group. A local RET server cannot be enabled if an FCC server or ad insertion is enabled.

The **no** form of the command disables the server.

Default

no local-rt-server

Platforms

7450 ESS, 7750 SR, 7750 SR-s

local-rt-server

Syntax

[**no**] **local-rt-server**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>pip local-rt-server)

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[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>hd local-rt-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>sd local-rt-server)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface pip local-rt-server

configure mcast-management multicast-info-policy video-policy video-interface hd local-rt-server

configure mcast-management multicast-info-policy video-policy video-interface sd local-rt-server

Description

This command enables the local retransmission server function for requests directed to the IP address.

The **no** form of the command disables the retransmission server.

Default

no local-rt-server

Platforms

7450 ESS, 7750 SR, 7750 SR-s

local-rt-server

Syntax

local-rt-server [**disable**]

no local-rt-server

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video local-rt-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video local-rt-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video local-rt-server)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video local-rt-server

configure mcast-management multicast-info-policy bundle video local-rt-server

configure mcast-management multicast-info-policy bundle channel video local-rt-server

Description

This command enables the local retransmission server capability on the ISA video group.

RET server parameters can be configured in a multicast information policy or a service, but the parameters will have no effect if the RET server is disabled or if the video group is administratively disabled (shutdown).

The **no** form of the command returns the parameter to the default value where the RET server is disabled on the video group.

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Default

no local-rt-server

Parameters

disable

Specifies to disable the RET server.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

26.90 local-sf-action

local-sf-action

Syntax

local-sf-action

Context

[Tree] (config>port>ethernet>efm-oam>link-monitoring local-sf-action)

Full Context

configure port ethernet efm-oam link-monitoring local-sf-action

Description

This command defines how crossing the local signal failure threshold (sf-threshold) will be handled. This includes local actions and if and how to notify the peer that the threshold has been crossed.

Platforms

All

26.91 local-source-address

local-source-address

Syntax

local-source-address {*ip-int-name* | *ip-address*}

no local-source-address

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Context

[Tree] (config>system>telemetry>persistent>subscription local-source-address)

Full Context

configure system telemetry persistent-subscriptions subscription local-source-address

Description

This command is used to assign a source IP address in the respective persistent subscription context for use when packets are sent out.

The **no** form of this command removes this address from the configuration.

Parameters

ip-int-name

Specifies the source IP address name, up to 64 characters.

ip-address

Specifies the source IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x:-[0 to FFFF]H
	d: [0 to 255]D

Platforms

All

local-source-address

Syntax

local-source-address {*ip-int-name* | *ip-address*}

no local-source-address

Context

[Tree] (config>system>grpc-tunnel>destination-group>destination local-source-address)

Full Context

configure system grpc-tunnel destination-group destination local-source-address

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Description

This command configures a local source IP address in the destination group context for use when packets are sent out.

The **no** form of this command removes this address from the configuration.

Default

no local-source-address

Parameters

ip-int-name

Specifies the source IP address name, up to 64 characters.

ip-address

Specifies the source IPv4 address (in dotted decimal notation) or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x:-[0 to FFFF]H
	d: [0 to 255]D

Platforms

All

26.92 local-sr-protection

local-sr-protection

Syntax

local-sr-protection *local-sr-protection*

no local-sr-protection

Context

[Tree] (config>router>mpls>lsp local-sr-protection)

[Tree] (config>router>mpls>lsp-template local-sr-protection)

Full Context

configure router mpls lsp local-sr-protection

configure router mpls lsp-template local-sr-protection

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Description

This command configures the SR LFA protection needed for the adjacencies used in the path computation of an SR-TE LSP by the local CSPF.

The default value of the command is **preferred**. The local CSPF will prefer a protected adjacency over an unprotected adjacency whenever both exist for a TE link. However, the entire computed path can combine both types of adjacencies.

When the user enables the **mandatory** value, CSPF uses it as an additional path constraint and selects protected adjacencies exclusively in computing the path of the SR-TE LSP. CSPF will return no path if all candidate paths that otherwise satisfy all other LSP path constraints do not have an unprotected SID for each of their TE links.

Similarly, if the user enables the value **none**, CSPF uses it as an additional path constraint and selects unprotected adjacencies exclusively in computing the path of the SR-TE LSP. CSPF will return no path if all candidate paths that otherwise satisfy all other LSP path constraints do not have a protected SID for each of their TE links.

The **no** form of this command returns the command to its default value.

Default

no local-sr-protection

Parameters

local-sr-protection

Specifies the local-sr-protection for LSPs.

Values none — Selects unprotected adjacencies only in the SR-TE LSP path computation.

preferred — Prefers protected adjacencies in the SR-TE LSP path computation.

mandatory — Selects protected adjacencies only in the SR-TE LSP path computation.

Platforms

All

26.93 local-state

local-state

Syntax

local-state {**admin-down** | **up**}

no local-state

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Context

[Tree] (config>bfd>seamless-bfd>reflector local-state)

Full Context

configure bfd seamless-bfd reflector local-state

Description

This command specifies the setting of the local state field in reflected seamless BFD control packets.

The **no** form of this command means that the field is not explicitly set by the reflector.

Default

local-state up

Parameters

admin-down

Specifies that the local state of the reflected seamless BFD control packets is administratively down.

up

Specifies that the local state of the reflected seamless BFD control packets is up.

Platforms

All

26.94 local-switching-service-state

local-switching-service-state

Syntax

local-switching-service-state {**pbb-tunnel** | **sap**}

Context

[Tree] (config>service>epipe>pbb local-switching-service-state)

Full Context

configure service epipe pbb local-switching-service-state

Description

In a PBB Epipe with two SAPs and a PBB tunnel, this command controls whether the operational status of the PBB-Epipe service depends on the status of the PBB tunnel only.

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Default

local-switching-service-state sap

Parameters

pbb-tunnel

Specifies that the operational state of the PBB-Epipe service is up if the PBB tunnel is operationally up, irrespective of the operational state of the two SAPs.

sap

Specifies that the operational state of the PBB-Epipe service is up, if two of the three endpoints (PBB tunnel and two SAPs) are up. This option implies that at least one of the SAPs must be up for the PBB-Epipe service to be operationally up.

Platforms

All

26.95 local-user-db

local-user-db

Syntax

local-user-db *local-user-db-name* [**create**]

no local-user-db *local-user-db-name*

Context

[Tree] (config>subscr-mgmt local-user-db)

Full Context

configure subscriber-mgmt local-user-db

Description

Commands in this context configure a local user database.

The **no** form of this command reverts to the default.

Parameters

local-user-db-name

Specifies the name of a local user database, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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26.96 local-v6-ip

local-v6-ip

Syntax

local-v6-ip *ipv6-prefix/prefix-length*

local-v6-ip any

no local-v6-ip

Context

[Tree] (config>router>ipsec>sec-plcy>entry local-v6-ip)

[Tree] (config>service>vprn>ipsec>sec-plcy>entry local-v6-ip)

Full Context

configure router ipsec security-policy entry local-v6-ip

configure service vprn ipsec security-policy entry local-v6-ip

Description

This command specifies the local v6 prefix for the security-policy entry.

Parameters

ipv6-prefix/prefix-length

Specifies the local v6 prefix and length

Values	ipv6-address/prefix: ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D
		host bits must be 0
		:: not allowed
		prefix-length [1 to 128]

any

keyword to specify that it can be any address.

Platforms

VSR

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- configure router ipsec security-policy entry local-v6-ip

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec security-policy entry local-v6-ip

26.97 location

location

Syntax

location *cflash-id*

no location

Context

[Tree] (config>system>persistence>subscriber-mgmt location)

[Tree] (config>system>persistence>nat-fwd location)

[Tree] (config>system>persistence>dhcp-server location)

[Tree] (config>system>persistence>ancp location)

[Tree] (config>system>persistence>python location)

Full Context

configure system persistence subscriber-mgmt location

configure system persistence nat-port-forwarding location

configure system persistence dhcp-server location

configure system persistence ancp location

configure system persistence python-policy-cache location

Description

This command instructs the system where to write the persistency files for the corresponding application. Each application creates two files on the flash card, one with suffix .i<version>, referencing an index file, and the other with suffix .0<version>, where <version> is a 2-digit number reflecting the file version. These versions are not related to the SR OS release running on the node. The <version> can remain the same over two major releases, for example, when no format change is made to the persistency file. On boot, the system scans the file systems looking for the corresponding persistency files, and the load begins.

For example, in the subscriber management context, the location specifies the flash device on a CPM card where the data for handling subscriber management persistency is stored.

The **no** form of this command returns the system to the default. If there is a change in file location while persistence is running, a new file will be written on the new flash, and then the old file will be removed.

Default

no location

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Parameters

cflash-id

Specifies the compact flash device name.

Values cf1:, cf2:, cf3:

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure system persistence dhcp-server location
- configure system persistence subscriber-mgmt location

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure system persistence nat-port-forwarding location

All

- configure system persistence python-policy-cache location
- configure system persistence ancp location

location

Syntax

location {**cf1** | **cf2**}

Context

[Tree] (config>call-trace location)

Full Context

configure call-trace location

Description

This command specifies the compact flash (CF) configuration to store call trace files.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

location

Syntax

location *cflash-id*

no location

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Context

[Tree] (config>system>persistence>application-assurance location)

Full Context

configure system persistence application-assurance location

Description

This command instructs the system where to write the file. The name of the file is: appassure.db. On boot the system scans the file systems looking for appassure.db, if it finds it, it starts to load it.

The **no** form of this command returns the system to the default. If there is a change in file location while persistence is running, a new file will be written on the new flash, and then the old file will be removed.

Default

no location

Parameters

cflash-id

Specifies the compact flash type.

Values cf1:, cf2:, cf3:

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

location

Syntax

location *remote-url*

no location

Context

[Tree] (config>service>nat>deterministic-script location)

Full Context

configure service nat deterministic-script location

Description

This command configures the remote location where the Python script will be exported. The Python script is then used off-line to perform reverse query. If this command is configured, the Python script generation is triggered by any modification of the deterministic NAT configuration. The new script reflects the change in mappings caused by configuration change. However, the script must be manually exported to the outside location with the **admin nat save-deterministic-nat** command. The script cannot be stored locally on the system.

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The script allows two forms of queries:

- Forward – input is NAT inside parameters, output is NAT outside parameters.
- Backward – input is NAT outside parameters, output is NAT inside parameters.

Forward Query:

```
user@external-server:/home/ftp/pub/det-nat-script$ ./det-nat.py -f -s 10 -a 10.0.5.10
```

output:

```
subscriber has public ip address 198.51.100.1 from service 0 and is using ports [1324 - 1353]
```

Reverse Query:

```
user@external-server:/home/ftp/pub/det-nat-script$./det-nat.py -b -s 0 -a 198.51.100.1 -p 3020
```

output:

```
subscriber has private ip address 10.0.5.66 from service 10
```

Default

no location

Parameters

remote-url

A remote location where the script is stored:

[{ftp:// | tftp://}<login>:<pswd>@ <remote-locn>/][<file-path>]

Maximum length is 180 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

location

Syntax

location *location*

no location

Context

[Tree] (config>system location)

Full Context

configure system location

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Description

This command creates a text string that identifies the system location for the device.

Only one location can be configured. If multiple locations are configured, the last one entered overwrites the previous entry.

The **no** form of the command reverts to the default value.

Parameters

location

Specifies the location as a character string. The string may be up to 80 characters. Any printable, seven-bit ASCII characters can be used within the string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

location

Syntax

location *file-url*

no location

Context

[Tree] (config>system>script-control>script location)

Full Context

configure system script-control script location

Description

This command is used to identify the location of a script to be scheduled.

The **no** form of the command removes the location.

Default

no location

Parameters

file-url

Specifies the location to search for scripts.

Values *local-url* | *remote-url*

local-url — [*cflash-id/*] [*file-path*] 200 chars max, including *cflash-id* directory length 99 characters max each

remote url — [{ftp:// | tftp://}*login*:*password*@*remote-location/*][*file-path*] 255 characters max directory length 99 characters max each

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remote-location — [*hostname* | *ipv4-address* | *ipv6-address*]

ipv4-address — *a.b.c.d*

ipv6-address — x:x:x:x:x:x:x:x[-*interface*]

x:x:x:x:x:x:d.d.d.d[-*interface*]

x — [0 to FFFF]H

d — [0 to 255]D

interface — 32 characters max, for link local addresses

cflash-id — cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

location

Syntax

location *cflash-id* [*backup-cflash-id*]

no location

Context

[Tree] (config>log>file-id location)

Full Context

configure log file-id location

Description

This command specifies the primary and optional backup location where the log or billing file will be created.

The **location** command is optional. If the location command not explicitly configured, log files will be created on cf1: and accounting files will be created on cf2: without overflow onto other devices. Generally, cf3: is reserved for system files (configurations, images, and so on).

When multiple location commands are entered in a single file ID context, the last command overwrites the previous command.

When the location of a file ID that is associated with an active log ID is changed, the log events are not immediately written to the new location. The new location does not take effect until the log is rolled over either because the rollover period has expired or a **clear log log-id** command is entered to manually rollover the log file.

When creating files, the primary location is used as long as there is available space. If no space is available, an attempt is made to delete unnecessary files that are past their retention date.

If sufficient space is not available an attempt is made to remove the oldest to newest closed log or accounting files. After each file is deleted, the system attempts to create the new file.

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A medium severity trap is issued to indicate that a compact flash is either not available or that no space is available on the specified flash and that the backup location is being used.

A high priority alarm condition is raised if none of the configured compact flash devices for this file ID are present or if there is insufficient space available. If space does become available, then the alarm condition will be cleared.

Log files are created on cf1: and accounting files are created on cf2.

Use the **no** form of this command to revert to default settings.

Default

no location

Parameters

cflash-id

Specify the primary location.

Values cflash-id: cf1:, cf2:, cf3:

backup-cflash-id

Specify the secondary location.

Values cflash-id: cf1:, cf2:, cf3:

Platforms

All

location

Syntax

location *location-id* [**primary-ip-address** *ipv4-address*] [**secondary-ip-address** *ipv4-address*] [**tertiary-ip-address** *ipv4-address*]

Context

[Tree] (config>router>bgp>optimal-route-reflection location)

Full Context

configure router bgp optimal-route-reflection location

Description

This command configures the location ID for the for the route reflector. A BGP neighbor can be associated with a location if it is a route-reflector client.

Parameters

location-id

Specifies an optimal-route-reflection location.

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Values 1 to 255

ipv4-address

Specifies the primary, secondary, or tertiary IP address.

Values primary ipv4-address, secondary ipv4-address, tertiary ipv4-address

Platforms

All

26.98 locator

locator

Syntax

locator *name* **function end-b6-encaps-red** [**function-value** *function-value*]

no locator

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>srv6>binding-sid locator)

Full Context

configure router segment-routing sr-policies static-policy segment-routing-v6 binding-sid locator

Description

This command configures binding SID locator parameters for a local SRv6 policy. This command and the **ip-address** command in the **conf>router>segment-routing>sr-policies>policy>srv6>binding-sid** context for a remote SRv6 policy are mutually exclusive.

The **no** form of the command removes the configuration.

Parameters

name

Specifies the name of the locator, up to 64 characters. A corresponding locator name must exist in the **config>router>segment-routing>srv6** context.

end-b6-encaps-red

Keyword to configure End.B6.Encaps.Red as the End.B6 function that must be implemented by the datapath.

function-value

Specifies the optional function value. If a function value is configured, the router checks whether this function value is available for the named locator. If no function value is configured, the router dynamically allocates a value.

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Values 1 to 1048575

Default no function value

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

locator

Syntax

[**no**] **locator** *locator-name*

Context

[Tree] (config>router>segment-routing>srv6 locator)

Full Context

configure router segment-routing segment-routing-v6 locator

Description

This command configures the name of an SRv6 locator to be used by the routing protocols and services. This also creates the context to configure the locator block, locator node, function and argument lengths.

A limit of 16 locators per system is enforced.

The **no** form of this command removes the specified locator name.

Parameters

locator-name

Specifies a locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

locator

Syntax

[**no**] **locator** *locator-name*

Context

[Tree] (config>router>segment-routing>srv6>inst locator)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator

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Description

This command refers to a locator name defined under the **config**>**router**>**segment-routing**>**srv6** context. This command assigns a locator to BGP for use with base router routes.

The **no** form of this command removes the reference to a locator name locator.

Parameters

locator-name

Specifies a locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

locator

Syntax

[**no**] **locator** *locator-name*

Context

[Tree] (config>router>isis>srv6 locator)

Full Context

configure router isis segment-routing-v6 locator

Description

This command refers to a locator name defined under the **config**>**router**>**segment-routing**>**srv6** context.

This command assigns a locator to each algorithm in an IS-IS instance. The same locator of a specific algorithm number can be shared with other IGP instances and BGP instances in IP-VPN or EVPN.

The locator block, locator node, function and argument lengths are defined under the **config**>**router**>**segment-routing**>**srv6** context.

The **no** form of this command removes the reference to a locator name.

Parameters

locator-name

Specifies a locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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locator

Syntax

[**no**] **locator** *locator-name*

Context

[Tree] (config>service>vpls>srv6 locator)

[Tree] (config>service>vprn>srv6 locator)

[Tree] (config>service>epipe>srv6 locator)

Full Context

configure service vpls segment-routing-v6 locator

configure service vprn segment-routing-v6 locator

configure service epipe segment-routing-v6 locator

Description

This command refers to a locator name defined under the **config**>**router**>**segment-routing**>**srv6** context.

This command assigns a locator to the SRv6 instance in the service. The same locator can be referenced in multiple BGP instances used by IPVPN or EVPN.

The locator block, locator node, function and argument lengths are defined under the **config**>**router**>**segment-routing**>**srv6** context.

The **no** form of this command removes the reference to a locator name.

Parameters

locator-name

Specifies a locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

locator

Syntax

locator *name* **function** {**end-replicate**} [*function-value*]

no locator

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>srv6>incoming-sid locator)

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Full Context

configure router p2mp-sr-tree replication-segment segment-routing-v6 incoming-sid locator

Description

This command configures the incoming replication SID locator for the P2MP SR tree replication segment entry. The incoming locator must already exist in the **router>segment-routing>segment-routing-v6** context.

The **no** form of this command removes the locator.

Default

no locator

Parameters

name

Specifies the locator name, up to 64 characters.

end-replicate

Specifies that the router uses the incoming replication SID to find the replication state. The replication SID is popped, and based on the replication state either a new replication segment starts and a new replication SID is pushed on the packet, or the payload is sent to the host based on the multicast routing table.

function-value

Specifies the function value of the incoming replication SID.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

26.99 lock

lock

Syntax

[**no**] **lock**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization lock)

Full Context

configure system security profile netconf base-op-authorization lock

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Description

This command authorizes a user associated with the profile to send a NETCONF <lock> RPC. This lock RPC allows a NETCONF client to lock a configuration datastore.

The **no** form of the command denies the user from requesting a lock.

Default

no lock

Platforms

All

26.100 lock-override

lock-override

Syntax

[**no**] **lock-override**

Context

[Tree] (config>system>script-control>script-policy lock-override)

Full Context

configure system script-control script-policy lock-override

Description

This command allows a triggered EHS/CRON script to execute while there is a datastore lock, started by an MD interface, in place.

A triggered EHS/CRON script queues until an **ongoing commit** (or **confirmed-commit**) is done. When an EHS/CRON script is triggered while the **lock-override** CLI knob is on, SR OS behaves as follows.

When an exclusive session is in place:

- Keep if it is an MD-CLI session. Disconnect if it is a NETCONF session
- Lose the exclusive lock
- Lose any uncommitted configuration changes

When a global session is in place:

- Keep the MD-CLI or NETCONF session
- Keep the uncommitted configuration changes
- An update may be required after committing the EHS/CRON script configuration changes

The **no** form of this command does not allow the script to execute while there is a datastore lock in place.

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Default

lock-override

Platforms

All

26.101 lockout

lockout

Syntax

lockout failed-attempts *count* **duration** *duration-minutes* **block** *block-minutes* [**max-port-per-ip** *number-of-ports*]

no lockout

Context

[Tree] (config>ipsec>ike-policy lockout)

Full Context

configure ipsec ike-policy lockout

Description

This command enables the lockout mechanism for the IPsec tunnel. The system will lock out an IPsec client for the configured time interval if the number of failed authentications exceeds the configured value within the specified duration. This command only applies when the system acts as a tunnel responder.

A client is defined as the tunnel IP address plus the port.

Optionally, the **max-port-per-ip** parameter can be configured as the maximum number of ports allowed behind the same IP address. If this threshold is exceeded, then all ports behind the IP address are blocked.

The **no** form of this command disables the lockout mechanism.

Default

no lockout

Parameters

count

Specifies the maximum number of failed authentications allowed during the *duration-minutes* interval.

Values 1 to 64

Default 3

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duration-minutes

Specifies the interval of time, in minutes, during which the configured failed authentication count must be exceeded in order to trigger a lockout.

Values 1 to 60

Default 5

block-minutes

Specifies the number of minutes that the client is blocked if the configured failed authentication count is exceeded.

Values 1 to 1440, infinite

Default 10

number-of-ports

Specifies the maximum number of ports allowed behind the same IP address.

Values 1 to 32000

Default 16

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

lockout

Syntax

clear lockout {**user** *user-name* | **all**}

Context

[Tree] (admin>clear lockout)

Full Context

admin clear lockout

Description

This command is used to clear any lockouts for a specific user, or for all users.

Parameters

user-name

Clears the locked username.

all

Clears all locked usernames.

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Platforms

All

26.102 lockout-reset-time

lockout-reset-time

Syntax

lockout-reset-time *seconds*

no lockout-reset-time

Context

[Tree] (config>subscr-mgmt>host-lockout-plcy lockout-reset-time)

Full Context

configure subscriber-mgmt host-lockout-policy lockout-reset-time

Description

This command configures the time that needs to elapse from the point a client enters lockout to when the client's lockout time can be reset to the configured minimum value. The range is 1 second.

The **no** form of this command reverts to the default value.

Default

lockout-reset-time 60

Parameters

seconds

Specifies the lockout reset time, in seconds.

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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26.103 lockout-time

lockout-time

Syntax

lockout-time [**min** *seconds*] [**max** *seconds*]

no lockout-time

Context

[Tree] (config>subscr-mgmt>host-lockout-plcy lockout-time)

Full Context

configure subscriber-mgmt host-lockout-policy lockout-time

Description

This command configures the time for which a client stays in the lockout state during which authentication and ESM host creation is suppressed.

The **no** form of this command reverts to the default value.

Default

lockout-time min 10 max 3600

Parameters

min *seconds*

Specifies the minimum lockout-time for this host lockout policy.

Values 1 to 86400

Default 10 seconds

max *seconds*

Specifies the maximum lockout-time for this host lockout policy.

Values 1 to 86400

Default 3600 seconds

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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26.104 log

log

Syntax

log

Context

[Tree] (config log)

Full Context

configure log

Description

Commands in this context are used to configure both event logs and accounting logs. Event logs control the generation, dissemination and recording of system events for monitoring status and troubleshooting faults within the system. Event logging configuration includes syslog, snmp notifications (traps), NETCONF notifications and other types of event log outputs. Accounting logs collect comprehensive accounting statistics and write them to XML files on the compact flash in order to support a variety of billing models.

Platforms

All

log

Syntax

[**no**] **log**

Context

[Tree] (config>service>vprn>static-route-entry>next-hop>cpe-check log)

[Tree] (config>service>vprn>static-route-entry>indirect>cpe-check log)

Full Context

configure service vprn static-route-entry next-hop cpe-check log

configure service vprn static-route-entry indirect cpe-check log

Description

This optional parameter enables the ability to log transitions between active and in-active based on the CPE connectivity check. Events will be sent to the system log, syslog and SNMP traps.

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Default

no log

Platforms

All

log

Syntax

[**no**] **log**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check log)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check log)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check log

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check log

Description

This command configures the ability to log transitions between active and inactive based on the CPE connectivity check.

Default

no log

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

log

Syntax

log

Context

[Tree] (config>service>vprn log)

Full Context

configure service vprn log

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Description

Commands in this context configure event logging within a specific VPRN.

By default, the log events in a VPRN log are a subset of the complete set of possible log events in SR OS. See the **config**>**log**>**services-all-events** command for more details.

Platforms

All

log

Syntax

log

Context

[Tree] (config>li log)

Full Context

configure li log

Description

Commands in this context configure an event log for LI.

Platforms

All

log

Syntax

log *log-id*

no log

Context

[Tree] (config>filter>ip-filter>entry log)

[Tree] (config>filter>ipv6-filter>entry log)

[Tree] (config>filter>mac-filter>entry log)

Full Context

configure filter ip-filter entry log

configure filter ipv6-filter entry log

configure filter mac-filter entry log

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Description

This command associates a filter log to the current filter policy entry and therefore enables logging for that filter entry.

The filter log must exist before a filter entry can be enabled to use the filter log.

The **no** form of the command disables logging for the filter entry.

Default

no log

Parameters

log-id

Specifies the filter log ID expressed as a decimal integer.

Values 101 to 199

Platforms

All

log

Syntax

log *log-id* [**create**]

no log *log-id*

Context

[Tree] (config>filter log)

Full Context

configure filter log

Description

This command, creates a configuration context for the specified filter log if it does not exist, and enables the context to configure the specified filter log.

The **no** form of the command deletes the filter log. The log cannot be deleted if there are filter entries configured to write to the log. All filter entry logging associations need to be removed before the log can be deleted.

Default

log 101

Parameters

log-id

Specifies the filter log ID expressed as a decimal integer.

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Values 101 to 199

create

This keyword is required to create the configuration context. After it is created, the context can be enabled with or without the **create** keyword.

Platforms

All

log

Syntax

[**no**] **log**

Context

[Tree] (config>router>static-route-entry>indirect>cpe-check log)

[Tree] (config>router>static-route-entry>next-hop>cpe-check log)

Full Context

configure router static-route-entry indirect cpe-check log

configure router static-route-entry next-hop cpe-check log

Description

This optional parameter enables the ability to log transitions between active and in-active based on the CPE connectivity check. Events will be sent to the system log, syslog and SNMP traps.

Default

no log

Platforms

All

log

Syntax

[**no**] log

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry log)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry log)

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry log)

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Full Context

configure system security management-access-filter ip-filter entry log

configure system security management-access-filter ipv6-filter entry log

configure system security management-access-filter mac-filter entry log

Description

This command enables match logging. When enabled, matches on this entry will cause the Security event mafEntryMatch to be raised.

Default

no log

Platforms

All

log

Syntax

log *log-id*

Context

[Tree] (config>sys>security>cpm-filter>mac-filter>entry log)

[Tree] (config>sys>security>cpm-filter>ip-filter>entry log)

[Tree] (config>sys>security>cpm-filter>ipv6-filter>entry log)

Full Context

configure system security cpm-filter mac-filter entry log

configure system security cpm-filter ip-filter entry log

configure system security cpm-filter ipv6-filter entry log

Description

This command specifies the log in which packets matching this entry should be entered. The value zero indicates that logging is disabled.

The **no** form of this command deletes the log ID.

Parameters

log-id

Specifies the log ID where packets matching this entry should be entered.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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log

Syntax

log

Context

[Tree] (config>isa>wlan-gw-group>nat log)

[Tree] (config>isa>nat-group log)

Full Context

configure isa wlan-gw-group nat log

configure isa nat-group log

Description

Commands in this context configure periodic updates for NAT logs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure isa wlan-gw-group nat log

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure isa nat-group log

26.105 log-anno-interval

log-anno-interval

Syntax

log-anno-interval *log-interval*

no log-anno-interval

Context

[Tree] (config>system>ptp log-anno-interval)

Full Context

configure system ptp log-anno-interval

Description

This command configures the announce message interval used for both unicast and multicast messages.

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For unicast messages, it defines the announce message interval that is requested during unicast negotiation to any peer. This controls the announce message rate sent from remote peers to the local node. It does not affect the announce message rate that may be sent from the local node to remote peers. Remote peers may request an announce message rate anywhere within the acceptable grant range.

For multicast messages, used on PTP Ethernet ports, this configures the message interval used for Announce messages transmitted by the local node.

This value also defines the interval between executions of the BTCA within the node.

The announce-interval cannot be changed unless the PTP is shut down.

Note:
In order to minimize BTCA driven reconfigurations, the IEEE recommends that the announce-interval should be consistent across the entire 1588 network.

The **no** form of this command reverts the configuration to the default value. The default value varies depending on the configuration of the **profile** command.

Default

log-anno-interval 1 (1 packet every 2 seconds) for **ieee1588-2008**

log-anno-interval 1 (1 packet every 2 seconds) for **g8265dot1-2010**

log-anno-interval -3 (8 packets per second) for **g8275dot1-2014**

log-anno-interval 1 (1 packet every 2 seconds) for **g8275dot2-2016**

Parameters

log-interval

Specifies the announce packet interval, in log form.

Values -3 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

log-anno-interval

Syntax

log-anno-interval *log-interval*

no log-anno-interval

Context

[Tree] (config>system>ptp>alternate-profile log-anno-interval)

Full Context

configure system ptp alternate-profile log-anno-interval

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Description

This command configures the announce message interval used for multicast messages within the alternate profile.

For multicast messages used on PTP Ethernet ports, this command configures the message interval used for announce messages transmitted by the local node

This value has no impact on the interval used for the BTCA, which is controlled by the value defined for the primary profile.

This value can only be changed when the alternate profile is shut down.

The **no** form of this command reverts to the default value.

Default

log-anno-interval -3 (eight packets per second)

Parameters

log-interval

Specifies the announce packet interval, in log form.

Values -3 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.106 log-delay-interval

log-delay-interval

Syntax

log-delay-interval *log-interval*

no log-delay-interval

Context

[Tree] (config>system>ptp>port log-delay-interval)

Full Context

configure system ptp port log-delay-interval

Description

This command configures the minimum interval used for multicast Delay_Req messages. This parameter is applied on a per-port basis. For ports in a timeReceiver state, it shall be the interval used, unless the parent port indicates a longer interval. For a port in timeTransmitter state, it shall be the interval advertised

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to external timeReceiver ports as the minimum acceptable interval for Delay_Req messages from those timeReceiver ports.

It is a requirement of the 1588 standard that a port in timeReceiver state shall check the logMessageInterval field of received multicast Delay_Resp messages. If the value of the logMessageInterval field of those messages is greater than the value programmed locally for the generation of Delay_Req messages, then the timeReceiver must change to use the greater value (i.e. longer interval) for the generation of Delay_Req messages. This requirement is supported in the router.

The parameter is only applicable to ports and not to peers.

The **no** form of this command reverts the configuration to the default value. The default value varies depending on the configuration of the **profile** command.

Default

log-delay-interval -6 (64 packets per second) for **ieee1588-2008**

log-delay-interval -6 (64 packets per second) for **g8265dot1-2010**

log-delay-interval -4 (16 packets per second) for **g8275dot1-2014**

log-delay-interval -6 (64 packets per second) for **g8275dot2-2016**

Parameters

log-interval

Specifies the Delay_Req message interval, in log form.

Values -6 to 0

Default -6

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

26.107 log-events

log-events

Syntax

log-events [**verbose**]

no log-events

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>local-monitoring-policer log-events)

Full Context

configure system security dist-cpu-protection policy local-monitoring-policer log-events

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Description

This command controls the creation of log events related to **local-monitoring-policer** status and activity.

Default

log-events

Parameters

verbose

Sends the same events as just "log-events" plus DcpLocMonExcd, DcpLocMonExcdAllDynAlloc, and DcpLocMonExcdAllDynFreed. The optional "verbose" includes some events that are more likely used during debug/tuning/investigations

Platforms

All

log-events

Syntax

[**no**] **log-events** [**verbose**]

no log-events

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>protocol>dyn-para log-events)

Full Context

configure system security dist-cpu-protection policy protocol dynamic-parameters log-events

Description

This command controls the creation of log events related to dynamic enforcement policer status and activity.

Default

log-events

Parameters

verbose

This parameter sends the same events as just "log-events" plus Hold Down Start, Hold Down End, DcpDynamicEnforceAlloc and DcpDynamicEnforceFreed events. This includes the allocation/de-allocation events (typically used for debug/tuning only – could be very noisy even when there is nothing much of concern).

Platforms

All

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log-events

Syntax

log-events [**verbose**]

no log-events

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>static-policer log-events)

Full Context

configure system security dist-cpu-protection policy static-policer log-events

Description

This command controls the creation of log events related to static-policer status and activity.

Default

log-events

Parameters

verbose

Sends the same events as just "log-events" plus Hold Down Start and Down End events. The optional "verbose" includes some events that are more likely used during debug/tuning/investigations.

Platforms

All

26.108 log-files-total-size

log-files-total-size

Syntax

log-files-total-size *megabytes*

no log-files-total-size

Context

[Tree] (config>log>storage log-files-total-size)

Full Context

configure log file-storage-control log-files-total-size

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Description

This command configures the limit for the total space that all log files can occupy on each storage device on the active CPM.

When this threshold is reached, log events are no longer written to the files in the `\log` directory until SR OS removes older log files and the occupancy is below the limit.

When unconfigured, there is no specific limit for the total size of all log files.

Only log files in the `\log` directory with system generated names (including no file extension) are applicable toward the total size limit.

If a user manually adds or deletes log files from the `\log` directory, the size of the files is not taken into account for up to 1 hour.

The configured total size limit is not validated against the actual size of the installed storage devices. If the configured limit is larger than the installed CF device, the limit is never reached.

Default

no log-files-total-size

Parameters

megabytes

Specifies the total size limit for log files, in MB.

Values 50 to 4,194,304 MB (4 TBytes, 2^{22} MB)

Default 0

Platforms

All

26.109 log-filter

log-filter

Syntax

log-filter *filter-id*

no log-filter

Context

[Tree] (config>log>event-trigger>event>trigger-entry log-filter)

Full Context

configure log event-trigger event trigger-entry log-filter

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Description

This command configures the log filter to be used for this trigger entry. The log filter defines the matching criteria that must be met in order for the log event to trigger the handler execution. The log filter is applied to the log event and, if the filtering decision results in a forward action, then the handler is triggered.

It is typically unnecessary to configure match criteria for the application or number in the log filter used for EHS since the particular filter is only applied for a specific log event application and number, as configured under the **config**>**log**>**event-trigger** context.

The **no** form of this command removes the log filter configuration.

Parameters

filter-id

Specifies the identifier of the filter.

Values 1 to 1500

Platforms

All

26.110 log-id

log-id

Syntax

log-id *log-id* [**name** *log-name*]

no log-id *log-id*

Context

[Tree] (config>service>vprn>log log-id)

Full Context

configure service vprn log log-id

Description

This command creates a context to configure destinations for event streams.

The **log-id** context is used to direct events, alarms or traps, and debug information to respective destinations.

A maximum of 30 logs can be configured.

Before an event can be associated with this log-id, the **from** command identifying the source of the event must be configured.

Only one destination can be specified for a *log-id*. The destination of an event stream can be an in-memory buffer, console, session, snmp-trap-group, Syslog, or file.

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Use the **event-control** command to suppress the generation of events, alarms, and traps for all log destinations.

An event filter policy can be applied in the log-id context to limit which events, alarms, and traps are sent to the specified log-id.

By default, the log events in a VPRN log are a subset of the complete set of possible log events in SR OS. See the **config**>**log**>**services-all-events** command for more details.

The **no** form of this command deletes the log destination ID from the configuration.

Default

No log destinations are defined.

Parameters

log-id

Specifies the log ID number, expressed as a decimal integer.

Values 1 to 100

name log-name

Configures an optional log name, up to 64 characters, that can be used to refer to the log destination after it is created.

Platforms

All

log-id

Syntax

log-id *log-id* [**name** *li-log-name*]

no log-id *log-id*

Context

[Tree] (config>li>log log-id)

Full Context

configure li log log-id

Description

This command configures an LI event log destination. The *log-id* is used to direct events, alarms or traps, and debug information for specific destinations.

Parameters

log-id

Specifies the log ID, expressed as a decimal number.

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Values 1 to 100

name li-log-name

Configures an optional log name, up to 64 characters, that can be used to refer to the log destination after it is created.

Platforms

All

log-id

Syntax

log-id *log-id* [**name** *log-name*]

no log-id *log-id*

Context

[Tree] (config>log log-id)

Full Context

configure log log-id

Description

This command creates a context to configure destinations for event streams.

The **log-id** context is used to direct events, alarms or traps, and debug information for specific destinations.

A maximum of 30 logs can be configured.

Before an event can be associated with this log ID, the **from** command identifying the source of the event must be configured.

Only one destination can be specified for a *log-id*. The destination of an event stream can be an in-memory buffer, console, session, snmp-trap-group, syslog, or file.

Use the **event-control** command to suppress the generation of events, alarms, and traps for all log destinations.

An event filter policy can be applied in the log-id context to limit which events, alarms, and traps are sent to the specified log-id.

Log-IDs 99 and 100 are created by the agent. Log-ID 99 captures all log messages. Log-ID 100 captures log messages with a severity level of major and above.

Note:
Log-ID 99 provides valuable information for the admin-tech file. Removing or changing the log configuration may hinder debugging capabilities. It is strongly recommended not to alter the configuration for Log-ID 99.

The **no** form of this command deletes the log destination ID from the configuration.

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Parameters

log-id

Specifies the log ID, expressed as a decimal integer.

Values 1 to 101

name log-name

Configures an optional log name, up to 64 characters, that can be used to refer to the log destination after it is created.

Platforms

All

26.111 log-prefix

log-prefix

Syntax

log-prefix *log-prefix-string*

no log-prefix

Context

[Tree] (config>service>vprn>log>syslog log-prefix)

Full Context

configure service vprn log syslog log-prefix

Description

This command adds the string prepended to every syslog message sent to the syslog host.

RFC 3164, *The BSD syslog Protocol,* allows an alphanumeric string (tag) to be prepended to the content of every log message sent to the syslog host. This alphanumeric string can, for example, be used to identify the node that generates the log entry. The software appends a colon (:) and a space to the string and it is inserted in the syslog message after the date stamp and before the syslog message content.

Only one string can be entered. If multiple strings are entered, the last string overwrites the previous string. The alphanumeric string can contain lowercase (a-z), uppercase (A-Z) and numeric (0-9) characters.

The **no** form of this command removes the log prefix string.

Default

log-prefix "TMNX".

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Parameters

log-prefix-string

Specifies the alphanumeric string of up to 32 characters. Spaces and colons (:) cannot be used in the string.

Platforms

All

log-prefix

Syntax

log-prefix *prefix-text*

Context

[Tree] (config>service>nat>syslog>syslog-export-policy log-prefix)

Full Context

configure service nat syslog syslog-export-policy log-prefix

Description

This command configures the syslog log prefix. For more information, refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide*. The **config>log>syslog>level** hierarchy also applies to this context.

Default

log-prefix "TMNX”

Parameters

prefix-text

Specifies an alphanumeric string, up to 32 characters. Spaces and colons (:) cannot be used in the string.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

log-prefix

Syntax

log-prefix *log-prefix-string*

no log-prefix

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Context

[Tree] (config>log>syslog log-prefix)

Full Context

configure log syslog log-prefix

Description

This command adds the string prepended to every syslog message sent to the syslog host.

RFC 3164, allows an alphanumeric string (tag) to be prepended to the content of every log message sent to the syslog host. This alphanumeric string can, for example, be used to identify the node that generates the log entry. The software appends a colon (:) and a space to the string and it is inserted in the syslog message after the date stamp and before the syslog message content.

Only one string can be entered. If multiple strings are entered, the last string overwrites the previous string. The alphanumeric string can contain lowercase (a-z), uppercase (A-Z) and numeric (0 to 9) characters.

The **no** form of this command removes the log prefix string.

Default

no log-prefix

Parameters

log-prefix-string

Specifies an alphanumeric string up to 32 characters in length. Spaces and colons (:) cannot be used in the string.

Platforms

All

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27 I Commands – Part III

27.1 log-sync-interval

log-sync-interval

Syntax

log-sync-interval *log-interval*

no log-sync-interval

Context

[Tree] (config>service>vprn>ptp>peer log-sync-interval)

Full Context

configure service vprn ptp peer log-sync-interval

Description

This command configures the message interval used for unicast event messages. It defines the message interval for both Sync and Delay_Resp messages that are requested during unicast negotiation to the specific peer. This controls the Sync and Delay_Resp message rate sent from remote peers to the local node. It does not affect the Sync or Delay_Resp packet rate that may be sent from the local node to remote peers. Remote peers may request a Sync or Delay_Resp packet rate anywhere within the acceptable grant range.

The **log-sync-interval** cannot be changed unless the peer is shutdown.

This command only applies to the 7450 ESS and 7750 SR.

The **no** form of this command reverts the value to the profile default.

Default

log-sync-interval -6 (64 packets per second) for **ieee1588-2008**

log-sync-interval -6 (64 packets per second) for **g8265dot1-2010**

log-sync-interval -4 (16 packets per second) for **g8275dot1-2014**

log-sync-interval -6 (64 packets per second) for **g8275dot2-2016**

Parameters

log-interval

Specifies the sync message interval, in log form.

Values -6 to 0

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

log-sync-interval

Syntax

log-sync-interval *log-interval*

no log-sync-interval

Context

[Tree] (config>system>ptp>peer log-sync-interval)

Full Context

configure system ptp peer log-sync-interval

Description

This command configures the message interval used for unicast event messages. It defines the message interval for both Sync and Delay_Resp messages that are requested during unicast negotiation to the specific peer. This controls the Sync and Delay_Resp message rate sent from remote peers to the local node. It does not affect the Sync or Delay_Resp packet rate that may be sent from the local node to remote peers. Remote peers may request a Sync or Delay_Resp packet rate anywhere within the acceptable grant range.

The **log-sync-interval** cannot be changed unless the peer is shutdown.

The **no** form of this command reverts the value to the profile default.

Default

log-sync-interval -6 (64 packets per second) for **ieee1588-2008**

log-sync-interval -6 (64 packets per second) for **g8265dot1-2010**

log-sync-interval -4 (16 packets per second) for **g8275dot1-2014**

log-sync-interval -6 (64 packets per second) for **g8275dot2-2016**

Parameters

log-interval

Specifies the sync message interval, in log form.

Values -6 to 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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log-sync-interval

Syntax

log-sync-interval *log-interval*

no log-sync-interval

Context

[Tree] (config>system>ptp>port log-sync-interval)

Full Context

configure system ptp port log-sync-interval

Description

This command configures the message interval used for transmission of multicast Sync messages.

For multicast messages used on PTP Ethernet ports, this configures the message interval used for Sync messages transmitted by the local node when the port is in Master state.

The **no** form of this command reverts the value to the profile default.

Default

log-sync-interval -6 (64 packets per second) for **ieee1588-2008**

log-sync-interval -6 (64 packets per second) for **g8265dot1-2010**

log-sync-interval -4 (16 packets per second) for **g8275dot1-2014**

log-sync-interval -6 (64 packets per second) for **g8275dot2-2016**

Parameters

log-interval

Specifies the message interval, in log form.

Values -6 to 0 (This corresponds to a maximum rate of 64 packets per second, and a minimum rate of 1 packet per second.)

Default -6

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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27.2 logger-event-bundling

logger-event-bundling

Syntax

[**no**] **logger-event-bundling**

Context

[Tree] (config>router>mpls logger-event-bundling)

Full Context

configure router mpls logger-event-bundling

Description

This feature merges two of the most commonly generated MPLS traps, vRtrMplsXCCreate and vRtrMplsXCDelete, which can be generated at both LER and LSR into a new specific trap vRtrMplsSessionsModified. In addition, this feature perform bundling of traps of multiple RSVP sessions, that is LSPs, into this new specific trap.

The intent is to provide a tool for the user to minimize trap generation in an MPLS network. Note that the MPLS trap throttling will not be applied to this new trap.

The **no** version of this command disables the merging and bundling of the above MPLS traps.

Platforms

All

27.3 logical-access-id

logical-access-id

Syntax

[**no**] **logical-access-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp logical-access-id)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp logical-access-id

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Description

This command includes the logical-access-id.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

27.4 login-banner

login-banner

Syntax

[**no**] **login-banner**

Context

[Tree] (config>system>login-control login-banner)

Full Context

configure system login-control login-banner

Description

This command enables or disables the display of a login banner. The login banner contains the SR OS copyright and build date information for a console login attempt.

The **no** form of this command causes only the configured pre-login-message and a generic login prompt to display.

Platforms

All

27.5 login-control

login-control

Syntax

login-control

Context

[Tree] (config>system login-control)

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Full Context

configure system login-control

Description

This command creates the context to configure the session control for console, Telnet, SSH, and FTP sessions.

Platforms

All

27.6 login-exec

login-exec

Syntax

login-exec *url-prefix*: *source-url*

no login-exec

Context

[Tree] (config>system>security>user-template>console login-exec)

[Tree] (config>system>security>user>console login-exec)

Full Context

configure system security user-template console login-exec

configure system security user console login-exec

Description

This command configures a user's login exec file which executes whenever the user successfully logs in to a console session.

Only one exec file can be configured. If multiple **login-exec** commands are entered for the same user, each subsequent entry overwrites the previous entry.

The **no** form of this command disables the login exec file for the user.

Default

no login-exec

Parameters

url-prefix: source-url

Specifies either a local or remote URL, up to 200 characters, that identifies the exec file that is executed after the user successfully logs in.

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Platforms

All

27.7 login-scripts

login-scripts

Syntax

login-scripts

Context

[Tree] (config>system>login-control login-scripts)

Full Context

configure system login-control login-scripts

Description

Commands in this context configure CLI scripts that execute when a user (authenticated via any method including local user database, TACACS+, or RADIUS) first logs into a CLI session.

Platforms

All

27.8 logout

logout

Syntax

logout

Context

[Tree] (logout)

Full Context

logout

Description

This command logs out of the router session.

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When the **logout** command is issued from the console, the login prompt is displayed, and any log IDs directed to the console are discarded. When the console session resumes (regardless of the user), the log output to the console resumes.

When a Telnet session is terminated from a **logout** command, all log IDs directed to the session are removed. When a user logs back in, the log IDs must be re-created.

Platforms

All

27.9 long-duration-flow-count

long-duration-flow-count

Syntax

[**no**] **long-duration-flow-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-cntr long-duration-flow-count)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters long-duration-flow-count

Description

This command includes the long duration flow count. This command only applies to the 7750 SR.

The **no** form of this command excludes the long duration flow count in the AA subscriber's custom record.

Default

no long-duration-flow-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

27.10 long-lived

long-lived

Syntax

[**no**] **long-lived**

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Context

[Tree] (config>service>vprn>bgp>graceful-restart long-lived)

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart long-lived)

[Tree] (config>service>vprn>bgp>group>graceful-restart long-lived)

Full Context

configure service vprn bgp graceful-restart long-lived

configure service vprn bgp group neighbor graceful-restart long-lived

configure service vprn bgp group graceful-restart long-lived

Description

Commands in this context configure BGP Long-Lived Graceful-Restart (LLGR) procedures.

LLGR, known informally as BGP persistence, is an extension of BGP graceful restart that allows a session to stay down for a longer period of time. During this time, learned routes are marked and re-advertised as stale but they can continue to be used as routes of last resort.

The LLGR handling of a session failure can be invoked immediately or it can be delayed until the end of the traditional GR restart window.

Default

no long-lived

Platforms

All

long-lived

Syntax

[**no**] **long-lived**

Context

[Tree] (config>router>bgp>group>graceful-restart long-lived)

[Tree] (config>router>bgp>group>neighbor>graceful-restart long-lived)

[Tree] (config>router>bgp>graceful-restart long-lived)

Full Context

configure router bgp group graceful-restart long-lived

configure router bgp group neighbor graceful-restart long-lived

configure router bgp graceful-restart long-lived

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Description

Commands in this context enter commands related to BGP Long-Lived Graceful-Restart (LLGR) procedures.

LLGR, known informally as BGP persistence, is an extension of BGP GR that allows a session to stay down for a longer period of time. During this time, learned routes are marked and re-advertised as stale but they can continue to be used as routes of last resort.

The LLGR handling of a session failure can be invoked immediately or it can be delayed until the end of the traditional GR restart window.

Default

no long-lived

Platforms

All

27.11 loop-detect

loop-detect

Syntax

loop-detect {**drop-peer** | **discard-route** | **ignore-loop** | **off**}

no loop-detect

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy loop-detect)

Full Context

configure subscriber-mgmt bgp-peering-policy loop-detect

Description

This command configures how the BGP peer session handles loop detection in the AS path.

Note:
Dynamic configuration changes of **loop-detect** are not recognized.

The **no** form of this command used at the global level reverts to default, which is **loop-detect ignore-loop**.

Parameters

drop-peer

Sends a notification to the remote peer and drops the session.

discard-route

Discards routes received with loops in the AS path.

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ignore-loop

Ignores routes with loops in the AS path but maintains peering.

off

Disables loop detection.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

loop-detect

Syntax

loop-detect {**drop-peer** | **discard-route** | **ignore-loop** | **off**}

no loop-detect

Context

[Tree] (config>service>vprn>bgp>group>neighbor loop-detect)

[Tree] (config>service>vprn>bgp>group loop-detect)

[Tree] (config>service>vprn>bgp loop-detect)

Full Context

configure service vprn bgp group neighbor loop-detect

configure service vprn bgp group loop-detect

configure service vprn bgp loop-detect

Description

This command configures how the BGP peer session handles loop detection in the AS path.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

Dynamic configuration changes of **loop-detect** are not recognized.

The **no** form of this command used at the global level reverts to default, which is **loop-detect ignore-loop**.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

loop-detect ignore-loop

Parameters

drop-peer

Sends a notification to the remote peer and drops the session.

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discard-route

Discards routes received with loops in the AS path.

ignore-loop

ignores routes with loops in the AS path but maintains peering.

off

Disables loop detection.

Platforms

All

loop-detect

Syntax

loop-detect {**drop-peer** | **discard-route** | **ignore-loop** | **off**}

no loop-detect

Context

[Tree] (config>router>bgp>group>neighbor loop-detect)

[Tree] (config>router>bgp>group loop-detect)

[Tree] (config>router>bgp loop-detect)

Full Context

configure router bgp group neighbor loop-detect

configure router bgp group loop-detect

configure router bgp loop-detect

Description

This command configures how the BGP peer session handles loop detection in the AS path.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

Note:
Dynamic configuration changes of **loop-detect** are not recognized.

The **no** form of this command used at the global level reverts to default, which is **loop-detect ignore-loop**.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

loop-detect ignore-loop

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Parameters

drop-peer

Sends a notification to the remote peer and drops the session.

discard-route

Discards routes received from a peer with the same AS number as the router itself. This option prevents routes looped back to the router from being added to the routing information base and consuming memory. When this option is changed, the change will not be active for an established peer until the connection is re-established for the peer.

ignore-loop

Ignores routes with loops in the AS path but maintains peering.

off

Disables loop detection.

Platforms

All

27.12 loop-detect-threshold

loop-detect-threshold

Syntax

loop-detect-threshold *loop-detect-threshold*

no loop-detect-threshold

Context

[Tree] (config>service>vprn>bgp loop-detect-threshold)

[Tree] (config>service>vprn>bgp>group loop-detect-threshold)

[Tree] (config>service>vprn>bgp>group>neighbor loop-detect-threshold)

Full Context

configure service vprn bgp loop-detect-threshold

configure service vprn bgp group loop-detect-threshold

configure service vprn bgp group neighbor loop-detect-threshold

Description

This command provides additional control over the behavior enabled by the **loop-detect** command. If this command specifies a threshold value of *n,* then a route received by the local BGP speaker with an AS path that contains up to *n* occurrences of the local speaker's AS number is considered valid and not treated as an AS path loop. An AS loop is considered to occur only when the received AS path has more than *n* occurrences of the local speaker's AS number.

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The **no** form of this command removes the configuration and sets the value to 0. One or more occurrence of the local speaker's AS number in the received AS path triggers the **loop-detect** behavior.

Default

no loop-detect-threshold

Parameters

loop-detect-threshold

The maximum number of occurrences of the local speaker's AS number in the received AS path before the AS path is considered to be a loop.

Values 0 to 15

Default 0

Platforms

All

loop-detect-threshold

Syntax

loop-detect-threshold *loop-detect-threshold*

no loop-detect-threshold

Context

[Tree] (config>router>bgp>group loop-detect-threshold)

[Tree] (config>router>bgp loop-detect-threshold)

[Tree] (config>router>bgp>group>neighbor loop-detect-threshold)

Full Context

configure router bgp group loop-detect-threshold

configure router bgp loop-detect-threshold

configure router bgp group neighbor loop-detect-threshold

Description

This command provides additional control over the behavior enabled by the **loop-detect** command. If this command specifies a threshold value of *n*, then a route received by the local BGP speaker with an AS path that contains up to *n* occurrences of the local speaker's AS number is considered valid and not treated as an AS path loop. An AS loop is considered to occur only when the received AS path has more than *n* occurrences of the local speaker's AS number.

The **no** form of this command removes the configuration and sets the value to 0. One or more occurrence of the local speaker's AS number in the received AS path triggers the **loop-detect** behavior.

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Default

no loop-detect-threshold

Parameters

loop-detect-threshold

The maximum number of occurrences of the local speaker's AS number in the received AS path before the AS path is considered to be a loop.

Values 0 to 15

Default 0

Platforms

All

27.13 loopback

loopback

Syntax

[**no**] **loopback**

Context

[Tree] (config>service>vprn>if loopback)

[Tree] (config>service>ies>if loopback)

Full Context

configure service vprn interface loopback

configure service ies interface loopback

Description

This command specifies that the associated interface is a loopback interface that has no associated physical interface. As a result, the associated IES/VPRN interface cannot be bound to a SAP.

Note:
Configure an IES interface as a loopback interface by issuing the **loopback** command instead of the **sap** *sap-id* command. The loopback flag cannot be set on an interface where a SAP is already defined and a SAP cannot be defined on a loopback interface.

The **no** form of this command reverts to the default.

Platforms

All

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loopback

Syntax

[**no**] **loopback**

Context

[Tree] (config>service>vprn>nw-if loopback)

Full Context

configure service vprn network-interface loopback

Description

This command specifies that the associated interface is a loopback interface that has no associated physical interface. As a result, the associated interface cannot be bound to a SAP.

When using mtrace/mstat in a Layer 3 VPN context then the configuration for the VPRN should have a loopback address configured which has the same address as the core instance's system address (BGP next-hop).

Default

no loopback

Platforms

All

loopback

Syntax

loopback {**line** | **internal** | **remote**}

no loopback

Context

[Tree] (config>port>tdm>ds3 loopback)

Full Context

configure port tdm ds3 loopback

Description

This command puts the specified port or channel into a loopback mode.

The corresponding port or channel must be in a shutdown state in order for the loopback mode to be enabled. The upper level port or channel or parallel channels should not be affected by the loopback mode.

Note that this command is not saved in the router configuration between boots.

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The **no** form of this command disables the specified type of loopback.

Default

no loopback

Parameters

line

Places the associated port or channel into a line loopback mode. A line loopback loops frames received on the corresponding port or channels back to the remote router.

internal

Places the associated port or channel into an internal loopback mode. A internal loopback loops the frames from the local router back at the framer.

remote

Sends a signal to the remote device to provide a line loopback.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

loopback

Syntax

loopback {**line** | **internal**}

no loopback

Context

[Tree] (config>port>tdm>e3 loopback)

Full Context

configure port tdm e3 loopback

Description

This command puts the specified port or channel into a loopback mode.

The corresponding port or channel must be in a shutdown state in order for the loopback mode to be enabled. The upper level port or channel or parallel channels should not be affected by the loopback mode

Note that this command is not saved in the router configuration between boots.

The **no** form of this command disables the specified type of loopback.

Default

no loopback

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Parameters

line

Places the associated port or channel into a line loopback mode. A line loopback loops frames received on the corresponding port or channels back to the remote router.

internal

Places the associated port or channel into an internal loopback mode. An internal loopback loops the frames from the local router back at the framer.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

loopback

Syntax

loopback {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**send-count** *send-count*] [**size** *data-size*] [**priority** *priority*] [**lbm-padding** *padding-size*] [**timeout** *timeout-time*] [**interval** *interval-time*]

Context

[Tree] (oam>eth-cfm loopback)

Full Context

oam eth-cfm loopback

Description

This command initiates a loopback test.

Parameters

mac-address

Specifies a unicast MAC address or multicast MAC address. The last nibble of the multicast address must match the level of the local MEP, or the command fails and the test is not instantiated.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx or multicast

remote-mepid *mep-id*

Specifies the remote MEP ID of the peer within the association. The domain and association information are derived from the source MEP for the session. The Layer 2 IEEE MAC address is resolved from previously learned remote MAC addressing, derived from the reception and processing of the ETH-CC PDU. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

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Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

send-count

Specifies the number of messages to send, expressed as a decimal integer. Loopback messages are sent back-to-back, with no delay between the transmissions.

Values 1 to 1024

Default 1

data-size

Specifies the size of the variable data pattern only of the data TLV. This value does not include the 1 Byte Type, 2 Byte Length. The total size of the data TLV is the configured value plus the three additional bytes to accommodate the type and length fields. If 0 is specified, no data TLV is added to the packet. This parameter and **lbm-padding** are mutually exclusive.

Values 0 to 1500

Default 0

priority

Specifies a three-bit value to be used in the VLAN tag, if present, in the transmitted frame.

Values 0 to 7

Default The CCM and LTM priority of the MEP

padding-size

Specifies the complete size of the data TLV, which includes the 1 Byte Type, 2 Byte Length, and the variable data pad. If 0 is specified, no data TLV is added to the packet. MSDU is not processed when **lbm-padding** is in use. This parameter and **size** are mutually exclusive.

Values 0, 3 to 9778

Default 0

timeout-time

Specifies the time, in seconds, used to override the default *timeout-time* value and is the amount of time that the router waits for a message reply after sending the message request. After the expiration of message time out, the requesting router assumes that the

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message response is not received. Any response received after the request times out is silently discarded.

Values 1 to 10

Default 5

interval-time

Specifies the time, in deciseconds (100 ms), to configure the spacing between probes within the test run. A value of 0 means probes are sent with no enforced delay. This value is only applicable to tests where the **send-count** is 5 or less.

Values 0 to 600

Default 0 or 10 depending on the **send-count**

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

loopback

Syntax

[**no**] **loopback**

Context

[Tree] (config>router>if loopback)

Full Context

configure router interface loopback

Description

This command configures the interface as a loopback interface. The **vas-if-type** and **loopback** commands are mutually exclusive.

Default

Not enabled

Platforms

All

loopback

Syntax

loopback *loopback-id* [**create**]

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no loopback *loopback-id*

Context

[Tree] (config>card>xiom>mda>xcon>mac loopback)

[Tree] (config>card>mda>xconnect>mac loopback)

Full Context

configure card xiom mda xconnect mac loopback

configure card mda xconnect mac loopback

Description

This command configures a MAC loopback on a MAC chip. The system and services can start using the loopback only when a port is associated with it (for example, port 1/1/m1/1, where m1 represents the MAC ID).

The **no** form of this command removes the loopback ID from the configuration.

Parameters

loopback-id

Specifies the loopback ID for the MDA cross-connect.

Values 1, 2

create

Keyword used to create a new loopback. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda xconnect mac loopback

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure card mda xconnect mac loopback

27.14 loopfree-alternate-exclude

loopfree-alternate-exclude

Syntax

[**no**] **loopfree-alternate-exclude**

Context

[Tree] (config>service>vprn>isis>interface loopfree-alternate-exclude)

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[Tree] (config>router>isis>level loopfree-alternate-exclude)

[Tree] (config>router>isis>interface loopfree-alternate-exclude)

[Tree] (config>service>vprn>isis>level loopfree-alternate-exclude)

Full Context

configure service vprn isis interface loopfree-alternate-exclude

configure router isis level loopfree-alternate-exclude

configure router isis interface loopfree-alternate-exclude

configure service vprn isis level loopfree-alternate-exclude

Description

This command instructs IGP to not include a specific interface or all interfaces participating in a specific IS-IS level or OSPF area in the SPF LFA computation. This provides a way of reducing the LFA SPF calculation where it is not needed.

When an interface is excluded from the LFA SPF in IS-IS, it is excluded in both level 1 and level 2. When it is excluded from the LFA SPF in OSPF, it is excluded in all areas. However, the above OSPF command can only be executed under the area in which the specified interface is primary and once enabled, the interface is excluded in that area and in all other areas where the interface is secondary. If the user attempts to apply it to an area where the interface is secondary, the command will fail.

The **no** form of this command re-instates the default value for this command.

Default

no loopfree-alternate-exclude

Platforms

All

loopfree-alternate-exclude

Syntax

[**no**] **loopfree-alternate-exclude**

Context

[Tree] (config>service>vprn>ospf3>area>if loopfree-alternate-exclude)

[Tree] (config>service>vprn>ospf3>area loopfree-alternate-exclude)

[Tree] (config>service>vprn>ospf>area>if loopfree-alternate-exclude)

[Tree] (config>service>vprn>ospf>area loopfree-alternate-exclude)

Full Context

configure service vprn ospf3 area interface loopfree-alternate-exclude

configure service vprn ospf3 area loopfree-alternate-exclude

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configure service vprn ospf area interface loopfree-alternate-exclude

configure service vprn ospf area loopfree-alternate-exclude

Description

This command instructs IGP to not include a specific interface or all interfaces participating in a specific IS-IS level or OSPF area in the SPF LFA computation. This provides a way of reducing the LFA SPF calculation where it is not needed.

When an interface is excluded from the LFA SPF in IS-IS, it is excluded in both level 1 and level 2. When it is excluded from the LFA SPF in OSPF, it is excluded in all areas. However, the above OSPF command can only be executed under the area in which the specified interface is primary and once enabled, the interface is excluded in that area and in all other areas where the interface is secondary. If the user attempts to apply it to an area where the interface is secondary, the command fails.

The **no** form of this command re-instates the default value for this command.

Default

no loopfree-alternate-exclude

Platforms

All

loopfree-alternate-exclude

Syntax

loopfree-alternate-exclude prefix-policy *prefix-policy* [*prefix-policy*)]

no loopfree-alternate-exclude

Context

[Tree] (config>router>ospf3 loopfree-alternate-exclude)

[Tree] (config>router>ospf loopfree-alternate-exclude)

Full Context

configure router ospf3 loopfree-alternate-exclude

configure router ospf loopfree-alternate-exclude

Description

This command excludes from the LFA SPF calculation those prefixes that match a prefix entry or a tag entry in a prefix policy. If a prefix is excluded from LFA, it is not included in LFA calculations regardless of its priority. The prefix tag will, however, be used in the main SPF.

The implementation also allows the user to exclude a specific interface in IS-IS or OSPF, a or all interfaces in an OSPF area or IS-IS level from the LFA SPF.

Note:
Prefix tags are defined for the IS-IS protocol but not for the OSPF protocol.

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The default action of the **loopfree-alternate-exclude** command, when not explicitly specified by the user in the prefix policy, is "reject". Therefore, regardless of whether the user explicitly added the statement "default-action reject" to the prefix policy, a prefix that does not match any entry in the policy will be accepted into LFA SPF.

The **no** form of this command deletes the exclude prefix policy.

Default

no loopfree-alternate-exclude

Parameters

prefix-policy

Specifies up to five policy prefix names. The specified policy name must already be defined. Prefix policies are created with the command **config>router>policy-options>prefix-list**; for information on prefix lists, refer to "Route Policies" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Unicast Routing Protocols Guide*.

Platforms

All

loopfree-alternate-exclude

Syntax

[**no**] **loopfree-alternate-exclude**

Context

[Tree] (config>router>ospf3>area loopfree-alternate-exclude)

[Tree] (config>router>ospf>area>interface loopfree-alternate-exclude)

[Tree] (config>router>ospf>area loopfree-alternate-exclude)

[Tree] (config>router>ospf3>area>interface loopfree-alternate-exclude)

Full Context

configure router ospf3 area loopfree-alternate-exclude

configure router ospf area interface loopfree-alternate-exclude

configure router ospf area loopfree-alternate-exclude

configure router ospf3 area interface loopfree-alternate-exclude

Description

This command instructs IGP to not include a specific interface or all interfaces participating in a specific IS-IS level or OSPF area in the SPF LFA computation. This provides a way of reducing the LFA SPF calculation where it is not needed.

When an interface is excluded from the LFA SPF in IS-IS, it is excluded in both level 1 and level 2. When it is excluded from the LFA SPF in OSPF, it is excluded in all areas. However, the above OSPF command can only be executed under the area in which the specified interface is primary and once enabled, the

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interface is excluded in that area and in all other areas where the interface is secondary. If the user attempts to apply it to an area where the interface is secondary, the command will fail.

The **no** form of this command re-instates the default value for this command.

Default

no loopfree-alternate-exclude

Platforms

All

27.15 loopfree-alternates

loopfree-alternates

Syntax

[**no**] **loopfree-alternates**

Context

[Tree] (config>service>vprn>isis loopfree-alternates)

Full Context

configure service vprn isis loopfree-alternates

Description

This command enables Loop-Free Alternate (LFA) computation by SPF under the IS-IS routing protocol level or under the OSPF routing protocol instance level.

When this command is enabled, it instructs the IGP SPF to attempt to pre-compute both a primary next-hop and an LFA next-hop for every learned prefix. When found, the LFA next-hop is populated into the routing table along with the primary next-hop for the prefix.

The **no** form of this command disables the LFA computation by IGP SPF.

Default

no loopfree-alternates

Platforms

All

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loopfree-alternates

Syntax

[**no**] **loopfree-alternates**

Context

[Tree] (config>service>vprn>ospf3 loopfree-alternates)

[Tree] (config>service>vprn>ospf loopfree-alternates)

Full Context

configure service vprn ospf3 loopfree-alternates

configure service vprn ospf loopfree-alternates

Description

This command enables Loop-Free Alternate (LFA) computation by SPF under the IS-IS routing protocol level, or under the OSPF routing protocol instance level.

When this command is enabled, it instructs the IGP SPF to attempt to pre-compute both a primary next-hop and an LFA next-hop for every learned prefix. IS-IS computes the primary SPF first and then computes the LFA SPF. The LFA backup next-hop is only available after the LFA SPF is completed. When found, the LFA next-hop is populated into the routing table along with the primary next-hop for the prefix.

The **no** form of this command disables the LFA computation by IGP SPF.

Default

no loopfree-alternates

Platforms

All

loopfree-alternates

Syntax

[**no**] **loopfree-alternates**

Context

[Tree] (config>router>ospf>flex-algos>flex-algo loopfree-alternates)

[Tree] (config>router>isis>flex-algos>flex-algo loopfree-alternates)

Full Context

configure router ospf flexible-algorithms flex-algo loopfree-alternates

configure router isis flexible-algorithms flex-algo loopfree-alternates

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Description

This command enables the advertisement of flexible-algorithm aware loop free alternates (LFAs).

The flexible algorithm LFA configuration (for example, LFA, remote-LFA or TI-LFA) inherits the LFA configuration for base SPF algorithm 0.

LFAs are administratively disabled for flexible algorithms in which IS-IS is participating. LFAs must be explicitly enabled using the **loopfree-alternates** command.

The **no** form of this command disables LFAs for the specific flexible algorithm in which the router is participating.

Default

no loopfree-alternates

Platforms

All

loopfree-alternates

Syntax

[**no**] **loopfree-alternates**

Context

[Tree] (config>router>isis loopfree-alternates)

Full Context

configure router isis loopfree-alternates

Description

This command enables Loop-Free Alternate (LFA) computation by SPF for the IS-IS routing protocol.

When this command is enabled, it instructs the IGP SPF to attempt to pre-compute both a primary nexthop and an LFA next-hop for every learned prefix. When found, the LFA next-hop is populated into the routing table along with the primary next-hop for the prefix.

The user enables the remote LFA next-hop calculation by the IGP LFA SPF by appending the remote-lfa option. When this option is enabled in an IGP instance, SPF performs the remote LFA additional computation following the regular LFA next-hop calculation when the latter resulted in no protection for one or more prefixes which are resolved to a given interface.

Remote LFA extends the protection coverage of LFA-FRR to any topology by automatically computing and establishing/tearing-down shortcut tunnels, also referred to as repair tunnels, to a remote LFA node which puts the packets back into the shortest without looping them back to the node which forwarded them over the repair tunnel. The remote LFA node is referred to as PQ node. A repair tunnel can in theory be an RSVP LSP, a LDP-in-LDP tunnel, or a SR tunnel. In this feature, it is restricted to use SR repair tunnel to the remote LFA node.

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The remote LFA algorithm is a per-link LFA SPF calculation and not a per-prefix like the regular LFA one. So, it provides protection for all destination prefixes which share the protected link by using the neighbor on the other side of the protected link as a proxy for all these destinations.

The Topology-Independent LFA (TI-LFA) further improves the protection coverage of a network topology by computing and automatically instantiating a repair tunnel to a Q node which is not in shortest path from the computing node. The repair tunnel uses shortest path to the P node and a source routed path from the P node to the Q node.

In addition, the TI-LFA algorithm selects the backup path which matches the post-convergence path. This helps the capacity planning in the network since traffic will always flow on the same path when transitioning to the FRR next-hop and then onto the new primary next-hop.

At a high level, the TI-LFA protection algorithm is searching for a candidate P-Q set separated with a number of hops such that the label stack size does not exceed the value of **ti-lfa max-sr-frr-labels**, on each of the post-convergence paths to each destination node or prefix D.

When the **ti-lfa** option is enabled in IS-IS, it provides TI-LFA node-protect or link-protect backup path in IS-IS MT=0 for an SR-ISIS IPV4/IPv6 tunnel (node SID and adjacency SID), for an IPv4 SR-TE LSP, and for LDP IPv4 FEC when the LDP **fast-reroute backup-sr-tunnel** option is enabled.

The **max-sr-frr-labels** parameter is used to limit the search for the TI-LFA backup next-hop:

1. 0 — The IGP LFA SPF restricts the search to TI-LFA backup next-hop which does not require a repair tunnel, meaning that P node and Q node are the same and match a neighbor. This is also the case when both P and Q node match the advertising router for a prefix.
2. 1 to 3 — The IGP LFA SPF will widen the search to include a repair tunnel to a P node which itself is connected to the Q nodes with a 0-to-2 hops for a total of maximum of three labels: one node SID to P node and two adjacency SIDs from P node to the Q node. If the P node is a neighbor of the computing node, its node SID is compressed and meaning that up to three adjacency SIDs can separate the P and Q nodes.
3. 2 (default) — Corresponds to a repair tunnel to a non-adjacent P which is adjacent to the Q node. If the P node is a neighbor of the computing node, then the node SID of the P node is compressed and the default value of two labels corresponds to two adjacency SIDs between the P and Q nodes.

When the **node-protect** command is enabled, the router will prefer a node-protect over a link-protect repair tunnel for a given prefix if both are found in the Remote LFA or TI-LFA SPF computations. The SPF computations may only find a link-protect repair tunnel for prefixes owned by the protected node. This node-protect backup protects against the failure of a downstream node in the path of the prefix of a node SID except for the node owner of the node SID.

The parameter **max-pq-nodes** in Remote LFA controls the maximum number of PQ nodes found in the LFA SPFs for which the node protection check is performed. The node-protect condition means the router must run the original Remote LFA algorithm plus one extra forward SPF on behalf of each PQ node found, potentially after applying the **max-pq-cost** parameter, to check if the path from the PQ node to the destination does not traverse the protected node. Setting this parameter to a lower value means the LFA SPFs will use less computation time and resources but may result in not finding a node-protect repair tunnel.

The **no** form of this command disables the LFA computation by IGP SPF.

Default

no loopfree-alternates

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Platforms

All

loopfree-alternates

Syntax

[**no**] **loopfree-alternates**

Context

[Tree] (config>router>ospf loopfree-alternates)

[Tree] (config>router>ospf3 loopfree-alternates)

Full Context

configure router ospf loopfree-alternates

configure router ospf3 loopfree-alternates

Description

This command enables Loop-Free Alternate (LFA) computation by SPF under the OSPF or OSPFv3 routing protocol instance.

When this command is enabled, it instructs the IGP SPF to attempt to precalculate both a primary next hop and an LFA next hop for every learned prefix. When found, the LFA next hop is populated into the routing table along with the primary next hop for the prefix.

The user enables the remote LFA next hop calculation by the IGP LFA SPF by appending the **remote-lfa** option. When this option is enabled in an IGP instance, SPF performs the remote LFA additional computation following the regular LFA next hop calculation when the latter resulted in no protection for one or more prefixes which are resolved to a particular interface.

Remote LFA extends the protection coverage of LFA-FRR to any topology by automatically computing and establishing or tearing down shortcut tunnels, also referred to as repair tunnels, to a remote LFA node that puts the packets back into the shortest path without looping them back to the node that forwarded them over the repair tunnel. The remote LFA node is referred to as a PQ node. A repair tunnel can, in theory, be an RSVP-TE LSP, an LDP-in-LDP tunnel, or a segment routing (SR) tunnel. In this command, **remote-lfa** is restricted to using an SR repair tunnel to the remote LFA node.

The remote LFA algorithm is a per-link LFA SPF calculation and not a per-prefix calculation like the regular LFA algorithm. The remote LFA algorithm provides protection for all destination prefixes that share the protected link by using the neighbor on the other side of the protected link as a proxy for all the destinations.

The Topology-Independent LFA (TI-LFA) further improves the protection coverage of a network topology by computing and automatically instantiating a repair tunnel to a Q node which is not in shortest path from the computing node. The repair tunnel uses shortest path to the P node and a source routed path from the P node to the Q node.

In addition, the TI-LFA algorithm selects the backup path which matches the post-convergence path. This helps the capacity planning in the network since traffic will always flow on the same path when transitioning to the FRR next hop and then onto the new primary next hop.

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At a high level, the TI-LFA protection algorithm is searching for a candidate P-Q set separated with a number of hops such that the label stack size does not exceed the value of **ti-lfa max-sr-frr-labels**, on each of the post-convergence paths to each destination node or prefix D.

When the **ti-lfa** option is enabled in OSPF, it provides TI-LFA node-protect or link-protect backup path for a SR-OSPF IPV4 tunnel (node SID and adjacency SID), and for a IPv4 SR-TE LSP.

The **max-sr-frr-labels** parameter is used to limit the search for the TI-LFA backup next hop:

1. 0 — The IGP LFA SPF restricts the search to TI-LFA backup next hop which does not require a repair tunnel, meaning that P node and Q node are the same and match a neighbor. This is also the case when both P and Q node match the advertising router for a prefix.
2. 1 to 3 — The IGP LFA SPF will widen the search to include a repair tunnel to a P node which itself is connected to the Q nodes with a 0-to-2 hops for a total of maximum of three labels: one node SID to P node and two adjacency SIDs from P node to the Q node. If the P node is a neighbor of the computing node, its node SID is compressed and meaning that up to three adjacency SIDs can separate the P and Q nodes.
3. 2 (default) — Corresponds to a repair tunnel to a non-adjacent P which is adjacent to the Q node. If the P node is a neighbor of the computing node, then the node SID of the P node is compressed and the default value of two labels corresponds to two adjacency SIDs between the P and Q nodes.

The TI-LFA repair tunnel can have a maximum of three labels pushed in addition to the label of the destination node or prefix. The user can set a lower maximum value for the additional FRR labels by configuring the CLI option **max-sr-frr-labels** *labels*. The default value is 2.

When the **node-protect** command is enabled, the router will prefer a node-protect over a link-protect repair tunnel for a given prefix if both are found in the Remote LFA or TI-LFA SPF computations. The SPF computations may only find a link-protect repair tunnel for prefixes owned by the protected node. This node-protect backup protects against the failure of a downstream node in the path of the prefix of a node SID except for the node owner of the node SID.

The parameter **max-pq-nodes** in Remote LFA controls the maximum number of PQ nodes found in the LFA SPFs for which the node protection check is performed. The node-protect condition means the router must run the original Remote LFA algorithm plus one extra forward SPF on behalf of each PQ node found, potentially after applying the **max-pq-cost** parameter, to check if the path from the PQ node to the destination does not traverse the protected node. Setting this parameter to a lower value means the LFA SPFs will use less computation time and resources but may result in not finding a node-protect repair tunnel.

The **no** form of this command disables the LFA computation by the IGP SPF.

Default

no loopfree-alternates

Platforms

All

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27.16 loss

loss

Syntax

loss

Context

[Tree] (config>oam-pm>session>ip>twamp-light loss)

Full Context

configure oam-pm session ip twamp-light loss

Description

Commands in this context configure loss parameters for the TWAMP-Light test.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

27.17 loss-event

loss-event

Syntax

loss-event rising-threshold *threshold* [**falling-threshold** *threshold*] [*direction*]

no loss-event

Context

[Tree] (config>saa>test loss-event)

Full Context

configure saa test loss-event

Description

Specifies that at the termination of an SAA test run, the calculated loss event value is evaluated against the configured rising and falling loss event thresholds. SAA threshold events are generated as required.

The configuration of loss event thresholds is optional.

The **no** form of this command disables the loss-event test run.

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Parameters

rising-threshold *threshold*

Specifies a rising threshold loss event value, in packets. When the test run is completed, the calculated loss event value is compared to the configured loss event rising threshold. If the test run loss event value is greater than the configured rising threshold value then an SAA threshold event is generated. The SAA threshold event is tmnxOamSaaThreshold, logger application OAM, event #2101.

Values 0 to 2147483647

Default 0

falling-threshold *threshold*

Specifies a falling threshold loss event value, in packets. When the test run is completed, the calculated loss event value is compared to the configured loss event falling threshold. If the test run loss event value is greater than the configured falling threshold value then an SAA threshold event is generated. The SAA threshold event is tmnxOamSaaThreshold, logger application OAM, event #2101.

Values 0 to 2147483647

Default 0

direction

Specifies the direction for OAM ping responses received for an OAM ping test run.

Values **inbound** — Monitor the value of jitter calculated for the inbound, one-way, OAM ping responses received for an OAM ping test run.

outbound — Monitor the value of jitter calculated for the outbound, one-way, OAM ping requests sent for an OAM ping test run.

roundtrip — Monitor the value of jitter calculated for the round trip, two-way, OAM ping requests and replies for an OAM ping test run.

Default roundtrip

Platforms

All

27.18 loss-events

loss-events

Syntax

[**no**] **loss-events**

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Context

[Tree] (config>oam-pm>session>meas-intvl>event-mon loss-events)

Full Context

configure oam-pm session meas-interval event-mon loss-events

Description

This enables the monitoring of all configured loss events. Adding this functionality starts the monitoring of the configured loss events at the start of the next measurement interval. If the function is removed using the **no** command, all monitoring of configured loss events, logging, and recording of new events for that session are suspended. Any existing events at the time of the shutdown are maintained until the active measurement window in which the removal was performed has completed. The state of this monitoring function can be changed without having to shut down all the tests in the session.

The **no** form of this command disables the monitoring of all configured loss events.

Platforms

All

loss-events

Syntax

loss-events

Context

[Tree] (config>oam-pm>session>ethernet>lmm loss-events)

[Tree] (config>oam-pm>session>ip>twamp-light loss-events)

[Tree] (config>oam-pm>session>ethernet>slm loss-events)

Full Context

configure oam-pm session ethernet lmm loss-events

configure oam-pm session ip twamp-light loss-events

configure oam-pm session ethernet slm loss-events

Description

Commands in this context configure the loss events and thresholds to be tracked.

Platforms

All

- configure oam-pm session ethernet slm loss-events
- configure oam-pm session ethernet lmm loss-events

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure oam-pm session ip twamp-light loss-events

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27.19 loss-threshold

loss-threshold

Syntax

loss-threshold *percent*

no loss-threshold

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl loss-threshold)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template loss-threshold

Description

This command configures a frame loss ratio (FLR) value that is compared to the measured FLR at the end of the test to determine the test result. If the measured value is greater than the configured value, the test fails; otherwise, it passes. Thresholds must be explicitly configured to use them for the comparison.

The FLR is computed as a ratio of the difference of the number of received frames to the number of injected or sent frames divided by the number of sent frames.

The **no** form of this command disables the comparison of the parameter with the measured value so that the threshold value is ignored for declaring the test result.

Default

no loss-threshold

Parameters

percent

Specifies the loss percentage threshold value for comparison with the measured value.

Values 0.0000 to 100.0000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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27.20 loss-threshold-policing

loss-threshold-policing

Syntax

loss-threshold-policing *percent*

no loss-threshold-policing

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl loss-threshold-policing)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template loss-threshold-policing

Description

This command configures a frame loss ratio (FLR) value for a policing test. The value is compared to the measured FLR at the end of the test to determine the test result. If the measured value is greater than the configured value, the test fails; otherwise, it passes. Thresholds must be explicitly configured before they can be used for comparison.

The FLR is computed as a ratio of the difference of the number of received frames to the number of injected or sent frames divided by the number of sent frames.

The **no** form of this command disables the comparison of the parameter with the measured value, and the threshold value is ignored in the test result declaration.

Default

no loss-threshold-policing

Parameters

percent

Specifies the loss percentage threshold value for comparison with the measured value.

Values 0.0000 to 100.0000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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27.21 low

low

Syntax

low

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2>prim-path>queue>drop-tail low)

[Tree] (config>mcast-mgmt>bw-plcy>t2>sec-path>queue>drop-tail low)

Full Context

configure mcast-management bandwidth-policy t2-paths primary-path queue-parameters drop-tail low

configure mcast-management bandwidth-policy t2-paths secondary-path queue-parameters drop-tail low

Description

Commands in this context configure the queue low drop-tail parameters. The low drop-tail defines the queue depth beyond which out-of-profile packets are not accepted into the queue and are discarded.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

low

Syntax

low

Context

[Tree] (config>service>vpls>sap>ingress>queue-override>queue>drop-tail low)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue>drop-tail low)

[Tree] (config>service>vpls>sap>egress>queue-override>queue>drop-tail low)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue>drop-tail low)

Full Context

configure service vpls sap ingress queue-override queue drop-tail low

configure service ies interface sap ingress queue-override queue drop-tail low

configure service vpls sap egress queue-override queue drop-tail low

configure service ies interface sap egress queue-override queue drop-tail low

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Description

Commands in this context configure the queue **low drop-tail** parameters. The low drop tail defines the queue depth beyond which out-of-profile packets are not accepted into the queue and are discarded.

Platforms

All

low

Syntax

low

Context

[Tree] (config>port>eth>access>ing>qgrp>qover>q>drop-tail low)

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q>drop-tail low)

[Tree] (config>port>eth>access>egr>qgrp>qover>q>drop-tail low)

Full Context

configure port ethernet access ingress queue-group queue-overrides queue drop-tail low

configure port ethernet network egress queue-group queue-overrides queue drop-tail low

configure port ethernet access egress queue-group queue-overrides queue drop-tail low

Description

Commands in this context configure the queue low drop tail parameters. The low drop tail defines the queue depth beyond which out-of-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

low

Syntax

low

Context

[Tree] (config>service>ipipe>sap>egress>queue-override>queue>drop-tail low)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue>drop-tail low)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue>drop-tail low)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue>drop-tail low)

[Tree] (config>service>epipe>sap>egress>queue-override>queue>drop-tail low)

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[Tree] (config>service>cpipe>sap>ingress>queue-override>queue>drop-tail low)

Full Context

configure service ipipe sap egress queue-override queue drop-tail low

configure service epipe sap ingress queue-override queue drop-tail low

configure service cpipe sap egress queue-override queue drop-tail low

configure service ipipe sap ingress queue-override queue drop-tail low

configure service epipe sap egress queue-override queue drop-tail low

configure service cpipe sap ingress queue-override queue drop-tail low

Description

Commands in this context configure the queue low drop-tail parameters. The low drop tail defines the queue depth beyond which out-of-profile packets are not accepted into the queue and will be discarded.

Platforms

All

- configure service epipe sap ingress queue-override queue drop-tail low
- configure service ipipe sap ingress queue-override queue drop-tail low
- configure service epipe sap egress queue-override queue drop-tail low
- configure service ipipe sap egress queue-override queue drop-tail low

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue drop-tail low
- configure service cpipe sap ingress queue-override queue drop-tail low

low

Syntax

low

Context

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue>drop-tail low)

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue>drop-tail low)

Full Context

configure service vprn interface sap ingress queue-override queue drop-tail low

configure service vprn interface sap egress queue-override queue drop-tail low

Description

Commands in this context configure the queue low drop tail parameters. The low drop tail defines the queue depth beyond which out-of-profile packets are not accepted into the queue and will be discarded.

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Platforms

All

low

Syntax

low

Context

[Tree] (config>qos>sap-ingress>queue>drop-tail low)

[Tree] (config>qos>sap-egress>queue>drop-tail low)

Full Context

configure qos sap-ingress queue drop-tail low

configure qos sap-egress queue drop-tail low

Description

Commands in this context configure the queue low drop-tail parameters. The low drop tail defines the queue depth beyond which out-of-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

low

Syntax

low

Context

[Tree] (config>qos>network-queue>queue>drop-tail low)

Full Context

configure qos network-queue queue drop-tail low

Description

Commands in this context configure the queue low drop tail parameters. The low drop tail defines the queue depth beyond which out-of-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

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low

Syntax

low

Context

[Tree] (config>qos>qgrps>ing>qgrp>queue>drop-tail low)

[Tree] (config>qos>qgrps>egr>qgrp>queue>drop-tail low)

Full Context

configure qos queue-group-templates ingress queue-group queue drop-tail low

configure qos queue-group-templates egress queue-group queue drop-tail low

Description

Commands in this context configure the queue low drop-tail parameters. The low drop tail defines the queue depth beyond which out-of-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

low

Syntax

low

Context

[Tree] (config>qos>shared-queue>queue>drop-tail low)

Full Context

configure qos shared-queue queue drop-tail low

Description

Commands in this context configure the queue low drop-tail parameters. The low drop-tail defines the queue depth beyond which out-of-profile packets will not be accepted into the queue and will be discarded.

Platforms

All

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27.22 low-burst-max-class

low-burst-max-class

Syntax

low-burst-max-class *class*

no low-burst-max-class

Context

[Tree] (config>port>ethernet>egress>hs-sec-shaper>agg low-burst-max-class)

Full Context

configure port ethernet egress hs-secondary-shaper aggregate low-burst-max-class

Description

This command specifies which scheduling classes map to the low burst-limit threshold of an egress HS secondary shaper. Egress SAPs can be configured to use an HS secondary shaper that manages their maximum burst limit over a specified aggregate shaping rate. Each HS secondary shaper supports two thresholds, a low burst limit threshold and a high burst limit threshold.

By default, all scheduling classes are mapped to the low burst limit threshold. It is important to note that when mapping scheduling classes to the high burst limit threshold an adequate value for the **card>fp>egress>hs-fixed-high-thresh-delta** must be specified. This is due to the fact that the queues associated with the lower classes may burst over the lower threshold in normal operation due to the scheduler forwarding whole packets. The **hs-fixed-high-thresh-delta** value should be set to at least two times the maximum frame size to prevent lower threshold class forwarding from also affecting the higher threshold classes when forwarding larger packet sizes. An insufficient high threshold delta defeats the intended purpose of mapping classes to the higher threshold.

The system utilizes the lowest value attainable for each low threshold aggregate burst limit without causing shaper underrun conditions. The high burst limit threshold is determined by adding the **hs-fixed-high-thresh-delta** value configured in the **config>card>fp>egress** context to the aggregate's low burst limit threshold value.

The low-burst-max-class value can be changed at any time for an HS secondary shaper.

The **no** form of this command restores the HS secondary shaper's aggregate low burst limit threshold maximum scheduling class mapping to the default value. This causes all sets of queues associated with the hs-secondary-shaper secondary-shaper-name to have all scheduling classes mapped to the low burst limit threshold.

Default

low-burst-max-class 6

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Parameters

class

Specifies the low burst maximum class. This parameter is required when executing the **low-burst-max-class** command. The parameter reflects the highest scheduling class that will be associated with the low burst limit threshold associated with the HS secondary aggregate shaper. Scheduling classes higher than scheduling class ID will be associated with the high burst limit threshold.

Values 1 to 6

Platforms

7750 SR-7/12/12e

low-burst-max-class

Syntax

low-burst-max-class *class*

no low-burst-max-class

Context

[Tree] (config>qos>hs-attachment-policy low-burst-max-class)

Full Context

configure qos hs-attachment-policy low-burst-max-class

Description

This command specifies which scheduling classes map to the low burst-limit threshold of the queue-level aggregate shaper. Each egress SAP or subscriber SLA profile instance (SPI), per port set of network interface queues and egress queue group template instance has an aggregate shaper that manages the maximum burst limit over a specified shaping rate. Each aggregate shaper supports two thresholds. As the scheduling rate for the set of queues increases, eventually the aggregate rate exceeds the rate limit and the aggregate burst limit starts to be consumed. If this continues, the low burst limit threshold is exceeded and the queues mapped to the scheduling classes associated with low threshold are removed from the scheduler. If the remaining aggregate rate (from the higher scheduling classes) continues to exceed the shaping rate, then the burst limit continues to be consumed and eventually the high burst limit threshold is exceeded. This causes the queues for all scheduling classes to be removed from the scheduler.

The second (high) threshold exists to allow the higher priority classes to continue to forward, thereby mitigating the effects of low priority bursts beyond the aggregate shaping rate. Typically, the higher scheduling class queues are either individually rate-limited so their aggregate allowed throughput is less than the aggregate rate or the expected aggregate unshaped traffic from the individual higher scheduling classes does not exceed the aggregate shaping rate. Determining the value of **low-burst-max-class** class involves anticipating the proper dividing line between the low and high scheduling classes by evaluating the forwarding behavior and SLA enforcement of each class.

By default, all scheduling classes are mapped to the low burst limit threshold. When mapping scheduling classes to the high burst limit threshold, an adequate value for the **card>fp>egress>hs-fixed-high-**

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thresh-delta must be specified. This is due to the fact that the queues associated with the lower classes may burst over the lower threshold in normal operation due to the scheduler forwarding whole packets. Set the **hs-fixed-highthresh- delta** value to at least two times the maximum frame size to prevent lower threshold class forwarding from also affecting the higher threshold classes when forwarding larger packet sizes. An insufficient high threshold delta defeats the intended purpose of mapping classes to the higher threshold.

The system utilizes the lowest value attainable for each low threshold aggregate burst limit without causing shaper underrun conditions. The high burst limit threshold is determined by adding the **hs-fixed-high-thresh-delta** value configured in the **config>card>fp>egress** CLI context to the aggregate's low burst limit threshold value.

The **low-burst-max-class** value can be changed at any time in the HS attachment policy. Modifying the setting causes all queue aggregate shapers to reconfigure the scheduling class mappings to the low and high burst limit thresholds to reflect the new value for scheduling class ID.

Scheduling Classes — As described in the **queue** and **wrr-group** attachment commands, each queue is either directly or indirectly (through a WRR group) mapped to a scheduling class. Each scheduling class has an inherent priority at the port scheduler. The inherent descending priority is as follows:

- Scheduling Class 6 (Highest)
- Scheduling Class 5
- Scheduling Class 4
- Scheduling Class 3
- Scheduling Class 2
- Scheduling Class 1 (lowest)

Placing scheduling classes into the port level WRR group causes those classes to compete for scheduling opportunities based on their associated weights instead of inherent priority. If higher weights are given to higher scheduling class IDs, then the relative proportional scheduling priority may continue to exhibit the priority level indicated by the class ID.

Setting Low and High Burst Limit Threshold Association — Table 61: Low and High Burst Limit Threshold Association demonstrates the effect of the **low-burst-max-class** command parameters on scheduling class mappings to the low and high burst limit thresholds.

Table 61: Low and High Burst Limit Threshold Association

low-burst-max-class *sched-class*	**Scheduling Classes on Low Threshold**	**Scheduling Classes on High Threshold**
1	1	2, 3, 4, 5, and 6
2	1 and 2	3, 4, 5, and 6
3	1, 2, and 3	4, 5, and 6
4	1, 2, 3, and 4	5 and 6
5	1, 2, 3, 4, and 5	6
6	1, 2, 3, 4, 5, and 6	—

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The **no** form of the command restores the queue aggregate low burst limit threshold maximum scheduling class mapping to the default value. This causes all sets of queues associated with the specified **hs-attachment-policy** *policy-name* to have all scheduling classes mapped to the low burst limit threshold.

Default

low-burst-max-class 6

Parameters

class

Specifies the low burst maximum class. This parameter is required when executing the **low-burst max-class** command. The parameter reflects the highest scheduling class that is associated with the low burst limit threshold associated with the queue aggregate shaper. Scheduling classes higher than the scheduling class ID are associated with the high burst limit threshold.

Values 1 to 6

Platforms

7750 SR-7/12/12e

27.23 low-octets-discarded-count

low-octets-discarded-count

Syntax

[**no**] **low-octets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters low-octets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters low-octets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters low-octets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters low-octets-discarded-count

Description

This command includes the low octets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv6 octets discarded count instead.

The **no** form of this command excludes the low octets discarded count.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

low-octets-discarded-count

Syntax

[**no**] **low-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters low-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters low-octets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters low-octets-discarded-count

configure log accounting-policy custom-record queue i-counters low-octets-discarded-count

Description

This command includes the low octets discarded count.

The **no** form of this command excludes the low octets discarded count.

Default

no low-octets-discarded-count

Platforms

All

27.24 low-octets-offered-count

low-octets-offered-count

Syntax

[**no**] **low-octets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-count low-octets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-count low-octets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters low-octets-offered-count

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configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters low-octets-offered-count

Description

This command includes the low octets discarded count.

The **no** form of this command excludes the low octets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

low-octets-offered-count

Syntax

[**no**] **low-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>queue>i-counters low-octets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters low-octets-offered-count)

Full Context

configure log accounting-policy custom-record queue i-counters low-octets-offered-count

configure log accounting-policy custom-record ref-queue i-counters low-octets-offered-count

Description

This command includes the low octets discarded count.

The **no** form of this command excludes the low octets discarded count.

Default

no low-octets-offered-count

Platforms

All

27.25 low-packets-discarded-count

low-packets-discarded-count

Syntax

[**no**] **low-packets-discarded-count**

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Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters low-packets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters low-packets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters low-packets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters low-packets-discarded-count

Description

This command includes the low packets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv6 packets discarded count instead.

The **no** form of this command excludes the low packets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

low-packets-discarded-count

Syntax

[**no**] **low-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>i-counters low-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters low-packets-discarded-count)

Full Context

configure log accounting-policy custom-record queue i-counters low-packets-discarded-count

configure log accounting-policy custom-record ref-queue i-counters low-packets-discarded-count

Description

This command includes the low packets discarded count.

The **no** form of this command excludes the low packets discarded count.

Default

no low-packets-discarded-count

Platforms

All

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27.26 low-packets-offered-count

low-packets-offered-count

Syntax

[**no**] **low-packets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-count low-packets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-count low-packets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters low-packets-offered-count

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters low-packets-offered-count

Description

This command includes the low packets discarded count.

The **no** form of this command excludes the low packets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

low-packets-offered-count

Syntax

[**no**] **low-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters low-packets-offered-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters low-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters low-packets-offered-count

configure log accounting-policy custom-record queue i-counters low-packets-offered-count

Description

This command includes the low packets discarded count.

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The **no** form of this command excludes the low packets discarded count.

Default

no low-packets-offered-count

Platforms

All

27.27 low-power-fabric

low-power-fabric

Syntax

low-power-fabric

Context

[Tree] (config>system>pwr-mgmt>pwr-save low-power-fabric)

Full Context

configure system power-management power-save low-power-fabric

Description

Commands in this context configure the low-power switch fabric mode.

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

27.28 low-priority-defect

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}

Context

[Tree] (config>eth-ring>path>eth-cfm>mep low-priority-defect)

[Tree] (config>eth-tunnel>path>eth-cfm>mep low-priority-defect)

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Full Context

configure eth-ring path eth-cfm mep low-priority-defect

configure eth-tunnel path eth-cfm mep low-priority-defect

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

low-priority-defect remErrXcon

Parameters

low-priority-defect

Specifies the lowest priority defect using the following:

Values

allDef	DefRDICCM, DefMACstatus, DefRemoteCCM, DefErrorCCM, and DefXconCCM
macRemErrXcon	Only DefMACstatus, DefRemoteCCM, Def ErrorCCM, and DefXconCCM
remErrXcon	Only DefRemoteCCM, DefErrorCCM, and Def XconCCM
errXcon	Only DefErrorCCM and DefXconCCM
xcon	Only DefXconCCM; or
noXcon	No defects DefXcon or lower are to be reported

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon**}

Context

[Tree] (config>lag>eth-cfm>mep>ais low-priority-defect)

Full Context

configure lag eth-cfm mep ais-enable low-priority-defect

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

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Default

low-priority-defect remErrXcon

Parameters

allDef | macRemErrXcon

Specifies the lowest priority defect.

Values

allDef	DefRDICCM, DefMACstatus, DefRemoteCCM, DefErrorCCM
macRemErrXcon	Only DefMACstatus, DefRemoteCCM, Def ErrorCCM, and DefXconCCM
remErrXcon	Only DefRemoteCCM, DefErrorCCM, and Def XconCCM
errXcon	Only DefErrorCCM and DefXconCCM
xcon	Only DefXconCCM; or
noXcon	No defects DefXcon or lower are to be reported

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}

Context

[Tree] (config>lag>eth-cfm>mep low-priority-defect)

[Tree] (config>port>ethernet>eth-cfm>mep low-priority-defect)

Full Context

configure lag eth-cfm mep low-priority-defect

configure port ethernet eth-cfm mep low-priority-defect

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm. This setting is also used to determine the fault state of the MEP which, when enabled to do so, causes a network reaction.

Default

low-priority-defect macRemErrXcon

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Parameters

allDef | macRemErrXcon | remErrXcon | errXcon | xcon | noXcon

Specifies the lowest priority defect.

Values allDef DefRDICCM, DefMACstatus, DefRemoteCCM, DefErrorCCM, and DefXconCCM macRemErrXcon Only DefMACstatus, DefRemoteCCM, DefErrorCCM, and DefXconCCM remErrXcon Only DefRemoteCCM, DefErrorCCM, and DefXconCCM errXcon Only DefErrorCCM and DefXconCCM xcon Only DefXconCCM; or noXcon No defects DefXcon or lower are to be reported

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon**}

Context

[Tree] (cfg>service>vpls>mesh-sdp>eth-cfm>mep>ais low-priority-defect)

[Tree] (config>service>epipe>sap>eth-cfm>mep>ais low-priority-defect)

[Tree] (config>port>ethernet>eth-cfm>mep>ais low-priority-defect)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>ais low-priority-defect)

Full Context

configure service vpls mesh-sdp eth-cfm mep ais-enable low-priority-defect

configure service epipe sap eth-cfm mep ais-enable low-priority-defect

configure port ethernet eth-cfm mep ais-enable low-priority-defect

configure service epipe spoke-sdp eth-cfm mep ais-enable low-priority-defect

Description

This command configures the system to include all CCM Defect conditions or exclude the Remote Defect Indication CCM (DefRDICCM) as a trigger for generating AIS. AIS generation can only occur when the **client-meg-level** command has been included. Changing this parameter causes an evaluation of the MEP for AIS triggers based on the new criteria.

Default

low-priority-defect allDef

Parameters

allDef

Keyword used to include any CCM defect condition to trigger AIS generation.

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macRemErrXcon

Keyword used to exclude RDI CCM Defect condition to trigger AIS generation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep low-priority-defect)

[Tree] (config>service>ipipe>sap>eth-cfm>mep low-priority-defect)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep low-priority-defect)

Full Context

configure service epipe sap eth-cfm mep low-priority-defect

configure service ipipe sap eth-cfm mep low-priority-defect

configure service epipe spoke-sdp eth-cfm mep low-priority-defect

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

low-priority-defect macRemErrXcon

Parameters

low-priority-defect

The low priority defect values are defined as follows:

Values

allDef	DefRDICCM, DefMACstatus, DefRemoteCCM, Def ErrorCCM, and DefXconCCM
macRemErrXcon	Only DefMACstatus, DefRemoteCCM, DefErrorCCM, and DefXconCCM
remErrXcon	Only DefRemoteCCM, DefErrorCCM, and DefXconCCM
errXcon	Only DefErrorCCM and DefXconCCM
xcon	Only DefXconCCM
noXcon	No defects DefXcon or lower are to be reported

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon**}

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>ais-enable low-priority-defect)

Full Context

configure service vpls spoke-sdp eth-cfm mep ais-enable low-priority-defect

Description

This command allows the operator to include all CCM Defect conditions or exclude the Remote Defect Indication CCM (DefRDICCM) as a trigger for generating AIS. AIS generation can only occur when the client-meg-level configuration option has been included. Changing this parameter will evaluate the MEP for AIS triggers based on the new criteria.

Parameters

allDef

Keyword that includes any CCM defect condition to trigger AIS generation.

macRemErrXcon

Keyword that excludes RDI CCM Defect condition to trigger AIS generation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep low-priority-defect)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep low-priority-defect)

Full Context

configure service vpls mesh-sdp eth-cfm mep low-priority-defect

configure service vpls spoke-sdp eth-cfm mep low-priority-defect

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Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

low-priority-defect macRemErrXcon

Parameters

low-priority-defect

The low priority defect values are defined below.

Values

allDef	DefRDICCM, DefMACstatus, DefRemoteCCM, DefErrorCCM, and DefXconCCM
macRemErrXcon	Only DefMACstatus, DefRemoteCCM, Def ErrorCCM, and DefXconCCM
remErrXcon	Only DefRemoteCCM, DefErrorCCM, and Def XconCCM
errXcon	Only DefErrorCCM and DefXconCCM
xcon	Only DefXconCCM; or
noXcon	No defects DefXcon or lower are to be reported

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep low-priority-defect)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep low-priority-defect)

[Tree] (config>service>ies>if>sap>eth-cfm>mep low-priority-defect)

Full Context

configure service ies subscriber-interface group-interface sap eth-cfm mep low-priority-defect

configure service ies interface spoke-sdp eth-cfm mep low-priority-defect

configure service ies interface sap eth-cfm mep low-priority-defect

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Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

low-priority-defect macRemErrXcon

Parameters

low-priority-defect

The following values are used to specify the lowest priority defect that is allowed to generate a fault alarm.

Values	allDef	DefRDICCM, DefMACstatus, DefRemoteCCM, ef ErrorCCM, and DefXconCCM
	macRemErrXcon	only DefMACstatus, DefRemoteCCM, Def ErrorCCM, and DefXconCCM
	remErrXcon	only DefRemoteCCM, DefErrorCCM, and Def XconCCM
	errXcon	only DefErrorCCM and DefXconCCM
	xcon	only DefXconCCM; or
	noXcon	no defects DefXcon or lower are to be reported

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep low-priority-defect

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep low-priority-defect
- configure service ies interface sap eth-cfm mep low-priority-defect

low-priority-defect

Syntax

low-priority-defect {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep low-priority-defect)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm low-priority-defect)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep low-priority-defect)

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Full Context

configure service vprn interface spoke-sdp eth-cfm mep low-priority-defect

configure service vprn subscriber-interface group-interface sap eth-cfm low-priority-defect

configure service vprn interface sap eth-cfm mep low-priority-defect

Description

This command specifies the lowest priority defect that is allowed to generate a fault alarm.

Default

low-priority-defect macRemErrXcon

Parameters

parameters

Specifies the lowest priority defect.

Values		
	allDef	DefRDICCM, DefMACstatus, DefRemoteCCM, DefErrorCCM, and DefXconCCM
	macRemErrXcon	Only DefMACstatus, DefRemoteCCM, Def ErrorCCM, and DefXconCCM
	remErrXcon	Only DefRemoteCCM, DefErrorCCM, and Def XconCCM
	errXcon	Only DefErrorCCM and DefXconCCM
	xcon	Only DefXconCCM; or
	noXcon	No defects DefXcon or lower are to be reported

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep low-priority-defect
- configure service vprn interface sap eth-cfm mep low-priority-defect

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm low-priority-defect

low-priority-defect

Syntax

low-priority-defect *low-priority-defect*

Context

[Tree] (config>router>if>eth-cfm>mep low-priority-defect)

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Full Context

configure router interface eth-cfm mep low-priority-defect

Description

This command specifies the lowest priority defect that generates a fault alarm. This setting is also used to determine the fault state of the MEP which, when enabled to do so, causes a network reaction.

Default

low-priority-defect macRemErrXcon

Parameters

low-priority-defect

Specifies the lowest priority defect.

Values allDef, macRemErrXcon, remErrXcon, errXcon, xcon, noXcon

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

27.29 low-slope

low-slope

Syntax

[**no**] **low-slope**

Context

[Tree] (config>qos>slope-policy low-slope)

Full Context

configure qos slope-policy low-slope

Description

The **low-slope** context contains the commands and parameters for defining the low Random Early Detection (RED) slope graph. Each buffer pool supports a low RED slope for managing access to the shared portion of the buffer pool for low out-of-profile packets.

The **low-slope** parameters can be changed at any time and the affected buffer pool low RED slopes must be adjusted appropriately.

The **no** form of this command restores the low slope configuration commands to the default values. If the leaf commands within **low-slope** are set to the default parameters, the **low-slope** node will not appear in save config and show config output unless the detail parameter is present.

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Platforms

All

27.30 low-wmark

low-wmark

Syntax

low-wmark *percent*

Context

[Tree] (config>app-assure>group>dns-ip-cache>ip-cache low-wmark)

Full Context

configure application-assurance group dns-ip-cache ip-cache low-wmark

Description

This command configures the low watermark value for the dns-ip-cache. If the dns-ip-cache has previously crossed the high-watermark value, the system will clear the trap in case the number of IP addresses stored in the cache crosses below the low watermark value.

Default

low-wmark 80

Parameters

percent

Specifies the low watermark value, in percent.

Values 0 to 100

Default 80

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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27.31 lower-bound

lower-bound

Syntax

lower-bound *microseconds*

no lower-bound

Context

[Tree] (config>oam-pm>bin-group>bin-type>bin lower-bound)

Full Context

configure oam-pm bin-group bin-type bin lower-bound

Description

This command allows the operator to specify the individual floors thresholds for the bins. The operator does not have to specific a lower threshold for every bin that was previously defined by the bin-count for the specific type. By default, each bin is the bin-number times 5000 microseconds. Lower thresholds in the previous adjacent bin must be lower than the threshold of the next higher bin threshold. A separate line per bin is required to configure an operator-specific threshold. An error prevents the bin from entering the active state if this is not maintained, at the time the **no shutdown** is issued. Bin 0 is the result of the difference between 0 and the configured lower-threshold of bin 1. The highest bin in the bin-count captures every result above the threshold. Any negative delay metric result is treated as zero and placed in bin 0.

The **no** form of this command removes the user configured threshold value and applies the default for the bin.

Parameters

microseconds

Specifies the threshold that defines the floor of the bin. The bin range is the difference between its configured threshold and the threshold of the next higher bin in microsecond threshold value.

Values 1 to 4294967295

Default bin-number * 5000

Platforms

All

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27.32 lsa-accumulate

lsa-accumulate

Syntax

lsa-accumulate *lsa-accumulate*

no lsa-accumulate

Context

[Tree] (config>router>ospf3>timers lsa-accumulate)

[Tree] (config>router>ospf>timers lsa-accumulate)

Full Context

configure router ospf3 timers lsa-accumulate

configure router ospf timers lsa-accumulate

Description

This command sets the internal OSPF delay to allow for the accumulation of multiple LSA so OSPF messages can be sent as efficiently as possible. The **lsa-accumulate** timer applies to all LSAs except Type 1 and Type 2 LSAs, which are sent immediately. LSAs are accumulated and then sent when:

- its size reaches the MTU size of the interface
- a new LSA is received on the interface
- the **lsa-accumulate** timer expires

Shorting this delay can speed up the advertisement of LSAs to OSPF neighbors but may increase the number of OSPF messages sent.

The **no** form of this command reverts to the default value.

Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

lsa-accumulate 1000

Parameters

lsa-accumulate

Specifies the LSA accumulation delay in milliseconds.

Values 0 to 1000

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Platforms

All

27.33 lsa-arrival

lsa-arrival

Syntax

lsa-arrival *lsa-arrival-time*

no lsa-arrival

Context

[Tree] (config>service>vprn>ospf>timers lsa-arrival)

[Tree] (config>service>vprn>ospf3>timers lsa-arrival)

Full Context

configure service vprn ospf timers lsa-arrival

configure service vprn ospf3 timers lsa-arrival

Description

This parameter defines the minimum delay that must pass between receipt of the same Link State Advertisements (LSAs) arriving from neighbors.

It is recommended that the neighbor's configured **lsa-generate** *lsa-second-wait* interval is equal to or greater than the **lsa-arrival** timer configured here.

Use the **no** form of this command to return to the default.

Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is ≥ 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

lsa-arrival 1000

Parameters

lsa-arrival-time

Specifies the timer in milliseconds.

Values 0 to 600000

Platforms

All

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lsa-arrival

Syntax

lsa-arrival *lsa-arrival-time*

no lsa-arrival

Context

[Tree] (config>router>ospf>timers lsa-arrival)

[Tree] (config>router>ospf3>timers lsa-arrival)

Full Context

configure router ospf timers lsa-arrival

configure router ospf3 timers lsa-arrival

Description

This parameter defines the minimum delay that must pass between receipt of the same Link State Advertisements (LSAs) arriving from neighbors.

It is recommended that the neighbors configured **lsa-generate** *lsa-second-wait* interval is equal or greater than the **lsa-arrival** timer configured here.

The **no** form of this command reverts to the default.

Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

lsa-arrival 1000

Parameters

lsa-arrival-time

Specifies the timer, in milliseconds.

Values 0 to 600000

Platforms

All

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27.34 lsa-filter-out

lsa-filter-out

Syntax

lsa-filter-out [**all** | **except-own-rtrlsa** | **except-own-rtrlsa-and-defaults**]

no lsa-filter-out

Context

[Tree] (config>service>vprn>ospf3>area>if lsa-filter-out)

[Tree] (config>router>ospf3>area>if lsa-filter-out)

[Tree] (config>router>ospf>area>if lsa-filter-out)

[Tree] (config>service>vprn>ospf>area>if lsa-filter-out)

Full Context

configure service vprn ospf3 area interface lsa-filter-out

configure router ospf3 area interface lsa-filter-out

configure router ospf area interface lsa-filter-out

configure service vprn ospf area interface lsa-filter-out

Description

This command enables filtering of outgoing OSPF LSAs on the selected OSPFv2 or OSPFv3 interface. Three filtering options are provided:

- Do not flood any LSAs out the interface. This option is suitable if the neighbor is simply-connected and has a statically configured default route with the address of this interface as next-hop.
- Flood the router's own router-LSA out the interface and suppress all other flooded LSAs. This option is suitable if the neighbor is simply-connected and has a statically configured default route with a loopback or system interface address (contained in the router-LSA) as next-hop.
- Flood the router's own router-LSA and all self-generated type-3, type-5 and type-7 LSAs advertising a default route (0/0) out the interface; suppress all other flooded LSAs. This option is suitable if the neighbor is simply-connected and does not have a statically configured default route.

The **no** form of this command disables OSPF LSA filtering (normal operation).

Default

no lsa-filter-out

Platforms

All

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27.35 lsa-generate

lsa-generate

Syntax

lsa-generate *max-lsa-wait* [lsa-initial-wait *lsa-initial-wait* [*lsa-second-wait lsa-second-wait*]]

no lsa-generate-interval

Context

[Tree] (config>service>vprn>ospf>timers lsa-generate)

[Tree] (config>service>vprn>ospf3>timers lsa-generate)

Full Context

configure service vprn ospf timers lsa-generate

configure service vprn ospf3 timers lsa-generate

Description

This parameter customizes the throttling of OSPF LSA-generation. Timers that determine when to generate the first, second, and subsequent LSAs can be controlled with this command. Subsequent LSAs are generated at increasing intervals of the *lsa-second-wait* timer until a maximum value is reached.

Configuring the **lsa-arrival** interval to equal or less than the *lsa-second-wait* interval configured in the **lsa-generate** command is recommended.

The **no** form of this command reverts to the default.

Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is ≥ 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Parameters

max-lsa-wait

Specifies the maximum interval, in milliseconds, between two consecutive occurrences of an LSA being generated.

Values 10 to 600000

Default 5000

lsa-initial-wait

Specifies the first waiting period between link-state advertisements (LSA) originate(s), in milliseconds. When the LSA exceeds the **lsa-initial-wait** timer value and the topology changes, there is no wait period and the LSA is immediately generated.

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When an LSA is generated, the initial wait period commences. If, within the specified **lsa-initial-wait** period and another topology change occurs, then the **lsa-initial-wait** timer applies.

Values 10 to 600000

Default 5000

lsa-second-wait

Specifies the hold time in milliseconds between the first and second LSA generation. The next topology change is subject to this second wait period. With each subsequent topology change, the wait time doubles (this is 2x the previous wait time). This assumes that each failure occurs within the relevant wait period.

Values 10 to 600000

Default 5000

Platforms

All

lsa-generate

Syntax

lsa-generate *max-lsa-wait* [**lsa-initial-wait** *lsa-initial-wait* [**lsa-second-wait** *lsa-second-wait*]]

no lsa-generate

Context

[Tree] (config>router>ospf>timers lsa-generate)

[Tree] (config>router>ospf3>timers lsa-generate)

Full Context

configure router ospf timers lsa-generate

configure router ospf3 timers lsa-generate

Description

This parameter customizes the throttling of OSPF LSA-generation. Timers that determine when to generate the first, second, and subsequent LSAs can be controlled with this command. Subsequent LSAs are generated at increasing intervals of the *lsa-second-wait* timer until a maximum value is reached.

Configuring the **lsa-arrival** interval to equal or less than the *lsa-second-wait* interval configured in the **lsa-generate** command is recommended.

The **no** form of this command reverts to the default.

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Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

lsa-generate 5000

Parameters

max-lsa-wait

Specifies the maximum interval in milliseconds between two consecutive occurrences of an LSA being generated.

Values 10 to 600000

Default 5000

lsa-initial-wait

Specifies the first waiting period between link-state advertisements (LSA) originate(s), in milliseconds. When the LSA exceeds the **lsa-initial-wait** timer value and the topology changes, there is no wait period and the LSA is immediately generated.

When an LSA is generated, the initial wait period commences. If, within the specified **lsa-initial-wait** period and another topology change occurs, then the **lsa-initial-wait** timer applies.

Values 10 to 600000

Default 5000

lsa-second-wait

Specifies the hold time in milliseconds between the first and second LSA generation. The next topology change is subject to this second wait period. With each subsequent topology change, the wait time doubles (this is 2x the previous wait time). This assumes that each failure occurs within the relevant wait period.

Values 10 to 600000

Default 5000

Platforms

All

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27.36 lsdb

lsdb

Syntax

[**no**] **lsdb** [*level-number*] [*system-id* | *lsp-id*]

Context

[Tree] (debug>router>isis lsdb)

Full Context

debug router isis lsdb

Description

This command enables debugging for Link State DataBase (LSDB).

The **no** form of the command disables debugging.

Parameters

system-id

When specified, only the specified system-id is debugged. Host name up to 38 characters.

lsp-id

When specified, only the specified lsp-id is debugged. Hostname up to 38 characters.

level-number

Specifies the interface level (1, 2, or 1 and 2).

Platforms

All

lsdb

Syntax

lsdb [*type*] [*ls-id*] [*adv-rtr-id*] [**area** *area-id*]

no lsdb

Context

[Tree] (debug>router>ospf3 lsdb)

[Tree] (debug>router>ospf lsdb)

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Full Context

debug router ospf3 lsdb

debug router ospf lsdb

Description

This command enables debugging for an OSPF link-state database (LSDB).

Parameters

type

Specifies the OSPF link-state database (LSDB) type.

Values in the **ospf** context — router, network, summary, asbr, extern, nssa, area-opaque, as-opaque, link-opaque

in the **ospf3** context — router, network, inter-area-pfx, inter-area-rtr, external, nssa, intra-area-pfx, rtr-info-link, rtr-info-area, rtr-info-as

ls-id

Specifies an LSA type specific field containing either a router ID or an IP address. It identifies the piece of the routing domain being described by the advertisement.

adv-rtr-id

Specifies the router identifier of the router advertising the LSA.

area area-id

Specifies a 32-bit integer uniquely identifying an area.

Values ip-address — a.b.c.d

area — 0 to 4294967295

Platforms

All

27.37 lsn

lsn

Syntax

[**no**] **lsn**

Context

[Tree] (config>isa>wlan-gw-group>nat lsn)

Full Context

configure isa wlan-gw-group nat lsn

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Description

This command enables Large Scale NAT (LSN).

The **no** form of this command disables LSN.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

lsn

Syntax

lsn router *router-instance* [**b4** *ipv6-address*] [**aftr** *ipv6-address*] **ip** *ip-address* **protocol** {**tcp** | **udp**} [**port** *port*] [**outside-ip** *ipv4-address*] [**outside-port** *port*] [**nat-policy** *nat-policy-name*] [*force*]

no lsn router *router-instance* [**b4** *ipv6-address*] **ip** *ip-address* **protocol** {**tcp** | **udp**} **port** *port* [**nat-policy** *nat-policy-name*]

Context

[Tree] (config>service>nat>fwd lsn)

Full Context

configure service nat port-forwarding lsn

Description

This command creates NAT static port forwards for LSN44, Ds-Lite and NAT64. Static port forwards (SPF) are static mappings created so that certain applications on the inside (private side) can be reached from host that are on the outside of the NAT. SPF statically map the subscriber (inside IP address in LSN44, CPE IPv6 address/prefix in DS-Lite and IPv6 prefix in NAT64), inside port and protocol to an outside IPv4 address, port and the same protocol.

If only the inside router, the inside IPv4/v6 address/prefix and the protocol are configured as parameters in the SPF request, the remaining fields in the mapping (outside port and outside IPv4 address) will be selected automatically by the node and reported in CLI once the command execution is completed.

Specifying the outside IPv4 address in the SPF request, mandates that all other, otherwise optional, parameters be also specified in the request (inside port and outside port). This creates a fully specified SPF request. Fully specified SPF request can be used in multi-chassis NAT redundancy deployments where the SPF is manually replicated between the SR OS nodes. In single chassis NAT deployments, fully specified SPF request is guaranteed to work only in the system with a single MS-ISA in it. Otherwise (multiple MS-ISAs in the system) a conflict may arise where two distinct inside IP addresses that may reside on separate MS-ISAs are requested to be mapped to the same outside IPv4 address. This will not be possible since the outside IPv4 address cannot be split across the MS-ISAs (each IP address, inside or outside, is tied to a single MS-ISA).

In non-fully specified SPF requests (missing the inside port and/or outside port and the outside IPv4 address within the SPF request), the outside IPv4 address selection will depend on the configuration of the outside port in the SPF request:

- If the outside port is not specified or is specified from the configured **port-forwarding-range** [1024..port-forwarding-range], then the outside IPv4 address will be the same as the outside IPv4

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address in an existing dynamic mapping for the same subscriber. If the subscriber does not exist (no dynamic mappings exist at the time of SPF creation request), then the subscriber will be automatically created and an outside IPv4 address will be assigned. In case that the outside ports are not available from the outside IPv4 address of the corresponding dynamic mapping, then the SPF request will fail. In other words, the dynamic and static mappings (created in this manner) for the same subscriber must use the same outside IPv4 address.

- If the outside port from the well-known port range [0 to 1023] is requested, then the outside IPv4 address does not have to match the outside IPv4 address of an existing dynamic mapping for the same subscriber, but can instead be any outside IPv4 address.

If multiple NAT policies per inside routing context are used, then the NAT policy must be specified in the SPF creation request. This is needed so the SPF be created in the correct pool.

SPFs are disabled by default and they must be explicitly enabled by the **port-limits forwarding** command within the NAT policy.

Configured SPFs, unlike SPFs created with the **tools** commands, are preserved across reboots without having to configure persistency (**config>system>persistence>nat-port-forwarding**) since they are part of the configuration. When the pool is shutdown the SPFs are deactivated. When the pool is enabled (no shutdown), the SPFs (as created by the **tools** command or by configuration) are activated.

To avoid possible persistency related conflicts, SPFs can only be created using one method on a given node: either as configuration (the CLI **configure** branch) or using the **tools** command. For example: if a first SPF entry is created via CLI **tools** commands, the node prevents SPF creation via configuration (the CLI **configure** branch) and vice versa.

The **no** form of the command deletes NAT static port forwards for LSN44, Ds-Lite and NAT64.

Parameters

router *router-instance*

This mandatory parameter specifies the inside routing instance; router name or service-id.

Values router-name, service-id

b4 *ipv6-address*

This optional parameter specifies the IPv6 address of the B4 element in DS-Lite.

Values <ipv6-address> : ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D

aftr *ipv6-address*

This optional parameter specifies IPv6 address of the AFTR element in DS-Lite.

Values <ip-address> : ipv4-address - a.b.c.d
ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D

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protocol {tcp | udp}

This mandatory parameter specifies the protocol to use, either TCP or UDP.

port *port*

This optional parameter specifies a source port.

Values 1 to 65535

outside-ip *ipv4-address*

This mandatory parameter specifies the outside IPv4 address. If the outside IPv4 address is specified, then all other optional parameters become mandatory.

outside-port *port*

This optional parameter specifies the outside port.

nat-policy *policy-name*

If multiple NAT policies are used inside the routing context, then the NAT policy should be specified in the SPF request so the SPF is created in the correct NAT pool. Otherwise, the default NAT policy from the inside routing context will be used.

force

Force allocation of static port forwards.

This command is only applicable to a LSN44 pool with flexible port allocations. Such pools allow interleaving of static port forwards with other dynamically allocated ports triggered by traffic flow.

If the requested outside port in the static port forward command is already occupied by a dynamically allocated port, using the force keyword preempts the dynamically allocated port and reassigns it as a port forwarding port.

During preemption, all the flows associated with the dynamically allocated port are terminated.

When the requested port forward is occupied by another static port and not a dynamic port, the command fails even if the force keyword is configured.

When a static port forwarding command requests an arbitrary outside port that is not specified in the command, the force keyword has an effect if the entire port space is already occupied. In this case, one of the dynamic ports is preempted.

Values Keyword

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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27.38 lsp

lsp

Syntax

[**no**] **lsp** *lsp-name*

Context

[Tree] (config>router>ldp>targ-session>peer>tunneling lsp)

Full Context

configure router ldp targeted-session peer tunneling lsp

Description

This command configures a specific LSP destined to this peer and to be used for tunneling of LDP FEC over RSVP. A maximum of 4 RSVP LSPs can be explicitly used for tunneling LDP FECs to the T-LDP peer.

It is not necessary to specify any RSVP LSP in this context unless there is a need to restrict the tunneling to selected LSPs. All RSVP LSPs with a to address matching that of the T-LDP peer are eligible by default. The user can also exclude specific LSP names by using the ldp-over-rsvp exclude command in the **config>router>mpls>lsp** context.

Platforms

All

lsp

Syntax

[**no**] **lsp** *lsp-name*

Context

[Tree] (config>router>ldp>targ-session>peer>mcast-tunneling lsp)

Full Context

configure router ldp targeted-session peer mcast-tunneling lsp

Description

This command configures a specific LSP destined to this peer and to be used for tunneling of multicast LDP FEC over RSVP.

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Parameters

lsp-name

Specifies the LSP name, up to 64 characters in length.

Platforms

All

lsp

Syntax

[**no**] **lsp** *lsp-name* **sender** *sender-address*

Context

[Tree] (config>router>mpls>ingress-statistics lsp)

Full Context

configure router mpls ingress-statistics lsp

Description

This command configures statistics in the ingress data path of a terminating RSVP LSP at an egress LER. The LSP name must correspond to the name configured by the operator at the ingress LER. It must not contain the special character ":" which is used as a field separator by the ingress LER for encoding the LSP and path names into the RSVP session name field in the session_attribute object. The operator must execute the **no shutdown** for this command to effectively enable statistics.

The same set of counters is updated for packets received over any path of this LSP and over the lifetime of the LSP. In steady-state, the counters are updated for packets received over the active path of the LSP. The active path can be the primary path, one of the secondary paths, the FRR detour path, or the FRR bypass path when the tail-end node is also the MP.

When a hierarchy of LSPs is in use, statistics collection on the outermost label corresponding to the tunneling LSP and on the inner labels, corresponding to the tunneled LSPs are mutually exclusive. A consequence of this is that when the operator enables statistics collection on an RSVP LSP which is also used for tunneling LDP FECs with the LDP over RSVP feature, then statistics will be collected on the RSVP LSP only. There will be no statistics collected for an LDP FEC tunneled over this RSVP LSP and also egressing on the same node regardless if the operator enabled statistics collection on this FEC. When, the operator disables statistics collection on the RSVP LSP, then statistics collection, if enabled, will be performed on a tunneled LDP FEC.

The operator can enable statistics collection on a manual bypass terminating on the egress LER. However all LSPs which primary path is protected by the manual bypass will not collect statistics when they activate forwarding over the manual bypass. When, the operator disables statistics collection on the manual bypass LSP, then statistics collection on the protected LSP, if enabled, will continue when the bypass LSP is activated.

The **no** form of this command disables statistics for this RSVP LSP in the ingress data path and removes the accounting policy association from the LSP.

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Parameters

sender-address *ip-address*

Specifies a string of 15 characters representing the IP address of the ingress LER for the LSP.

lsp-name

Specifies the LSP name, up to 64 characters in length, as configured at the ingress LER.

Platforms

All

lsp

Syntax

[**no**] **lsp** *lsp-name* [**bypass-only** | **p2mp-lsp** | **mpls-tp** *src-tunnel-num* | **sr-te**]

Context

[Tree] (config>router>mpls lsp)

Full Context

configure router mpls lsp

Description

This command creates an LSP that is either signaled dynamically by the router, or a statically provisioned MPLS-TP LSP.

When the LSP is created, the egress router must be specified using the **to** command and at least one **primary** or **secondary** path must be specified for signaled LSPs, or at least one working path for MPLS-TP LSPs. All other statements under the LSP hierarchy are optional.

LSPs are created in the administratively down (**shutdown**) state.

The **no** form of this command deletes the LSP. All configuration information associated with this LSP is lost. The LSP must be administratively shutdown before it can be deleted. The LSP must also be unbound from all SDPs before it can be deleted.

Parameters

lsp-name

Specifies the name that identifies the LSP. The LSP name can be up to 64 characters long and must be unique.

bypass-only

Defines an LSP as a manual bypass LSP exclusively. When a path message for a new LSP requests bypass protection, the PLR first checks if a manual bypass tunnel satisfying the path constraints exists. If one if found, the router selects it. If no manual bypass tunnel is found, the router dynamically signals a bypass LSP in the default behavior. The CLI for this feature includes a knob that provides the user with the option to disable dynamic bypass creation on a per node basis.

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p2mp-lsp

Defines an LSP as a point-to-multipoint LSP. The following parameters can be used with a P2MP LSP: adaptive, adspec, cspf, exclude, fast-reroute, from, hop-limit, include, metric, retry-limit, retry-timer, resignal-timer. The following parameters cannot be used with a P2MP LSP: primary, secondary, to, dest-global-id, dest-tunnel-number, working-tp-path, protect-tp-path.

This option is not supported on the 7450 ESS.

mpls-tp *src-tunnel-num*

Defines an LSP as an MPLS-TP LSP. The *src-tunnel-num* is a mandatory create time parameter for mpls-tp LSPs, and has to be assigned by the user based on the configured range of tunnel IDs. The following parameters can only be used with an MPLS-TP LSP: to, dest-global-id, dest-tunnel-number, working-tp-path, protect-tp-path. Other parameters defined for the above LSP types cannot be used.

sr-te

Defines an LSP of type Segment Routing Traffic Engineering (SR-TE) LSP. The user can associate an empty path or a path with strict or loose explicit hops with the primary path of the SR-TE LSP. A hop which corresponds to an adjacency SID must be identified with its far-end host IP address (next-hop) on the subnet. If the local end host IP address is provided, this hop is ignored since this router can have multiple adjacencies (next-hops) on the same subnet. A hop which corresponds to a node SID is identified by the prefix address. The user is only allowed to configure a primary path for the SR-TE LSP.

Platforms

All

lsp

Syntax

[**no**] **lsp**

Context

[Tree] (config>oam-pm>session>mpls lsp)

Full Context

configure oam-pm session mpls lsp

Description

Commands in this context define the type of label switched path and the identification of the LSP for which packets traverse. Only a single LSP can be configured per session. Once an LSP has been configured, other LSP types under this context is blocked.

The **no** form of this command deletes the configured LSP under the context, when there are no active tests are executing under this session.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp

Syntax

lsp *lsp-name*

no lsp

Context

[Tree] (config>oam-pm>session>mpls>lsp>mpls-tp lsp)

[Tree] (config>oam-pm>session>mpls>lsp>rsvp lsp)

Full Context

configure oam-pm session mpls lsp mpls-tp-static lsp

configure oam-pm session mpls lsp rsvp lsp

Description

This command specifies the MPLS LSP to be tested.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp

Syntax

[**no**] **lsp** *lsp-name*

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter>rsvp-te lsp)

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter>sr-te lsp)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter rsvp-te lsp

configure router static-route-entry indirect tunnel-next-hop resolution-filter sr-te lsp

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Description

This command restricts the search for a resolving LSP to a specific set of named LSPs. Only those LSPs named in the associated name list will be searched for a match to resolve the associated static route.

Parameters

lsp-name

Specifies the name of the LSP to be searched for a valid resolving tunnel for the static route's next-hop.

Platforms

All

lsp

Syntax

[**no**] **lsp** *lsp-name*

Context

[Tree] (config>service>sdp lsp)

Full Context

configure service sdp lsp

Description

This command creates associations between one or more label switched paths (LSPs) and an Multi-Protocol Label Switching (MPLS) service destination point (SDP). This command is implemented *only* on MPLS-type encapsulated SDPs.

In MPLS SDP configurations *either* one or more LSP names can be specified *or* LDP can be enabled. The SDP **ldp** and **lsp** commands are mutually exclusive except if the mixed-lsp-mode option is also enabled. If an LSP is specified on an MPLS SDP, then LDP cannot be enabled on the SDP. To enable LDP on the SDP when an LSP is already specified, the LSP must be removed from the configuration using the **no lsp lsp-name** command.

Alternatively, if LDP is already enabled on an MPLS SDP, then an LSP cannot be specified on the SDP. To specify an LSP on the SDP, the LDP must be disabled or the mixed-lsp-mode option is also enabled. The LSP must have already been created in the **config>router>mpls** context. with a valid far-end IP address. RSVP must be enabled.

If no LSP is associated with an MPLS SDP, the SDP cannot enter the operationally up state. The SDP can be administratively enabled (**no shutdown)** with no LSP associations. The *lsp-name* may be shutdown, causing the association with the SDP to be operationally down (the LSP will not be used by the SDP).

Up to 16 LSP names can be entered on a single command line.

The **no** form of this command deletes one or more LSP associations from an SDP. If the *lsp-name* does not exist as an association or as a configured LSP, no error is returned. An *lsp-name* must be removed from all SDP associations before the *lsp-name* can be deleted from the system. The SDP must be administratively disabled (**shutdown)** before the last *lsp-name* association with the SDP is deleted.

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Parameters

lsp-name

Specifies the name of the LSP to associate with the SDP. An LSP name is case sensitive and is limited to 32 ASCII 7-bit printable characters with no spaces. If an exact match of *lsp-name* does not already exist as a defined LSP, an error message is generated. If the *lsp-name* does exist and the LSP **to** IP address matches the SDP **far-end** IP address, the association is created.

Platforms

All

lsp

Syntax

lsp *lsp-name*

[**no**] **lsp**

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>rsvp-te lsp)

Full Context

configure oam-pm session ip tunnel mpls rsvp-te lsp

Description

This command configures the name of the RSVP-TE LSP to transport the test packets.

The **no** form of this command removes the *lsp-name* from the configuration.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp

Syntax

lsp *lsp-name*

no lsp

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-te lsp)

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Full Context

configure oam-pm session ip tunnel mpls sr-te lsp

Description

This command configures specification of SR-TE specific tunnel information that is used to transport the test packets. Entering this context removes all other tunnel type options configured under the **configure oam-pm session ip tunnel mpls** context. Only a single **mpls** type can be configured for an OAM-PM session.

The **no** form of this command removes the SR-TE LSP name from the configuration.

Default

no lsp

Parameters

lsp-name

Specifies the SR-TE LSP name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

27.39 lsp-bfd

lsp-bfd

Syntax

lsp-bfd *prefix-list-name*

no lsp-bfd *prefix-list-name*

Context

[Tree] (config>router>ldp lsp-bfd)

Full Context

configure router ldp lsp-bfd

Description

Commands in this context configure LSP BFD for a set of LDP LSPs with FECs matching those defined in the specified prefix list.

Up to 16 LSP BFD instances can be configured for LDP.

If a prefix corresponding to an LDP FEC appears in more than one prefix list, then the system will apply the LSP BFD configuration to the LSP only once. A prefix list may contain a longest match corresponding to one or more LDP FECs, in which case the BFD configuration is applied to all of those LDP LSPs.

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The **no** form of the command removes LSP BFD. Specifying a prefix list name will remove LSP BFD for all LDP FECs that match the specified prefix list, except those LDP FECs that also match another LSP BFD prefix list.

Default

no lsp-bfd

Parameters

prefix-list-name

Specifies the name of the prefix list configured using the **configure router policy-options prefix-list** *name* command, up to 32 characters maximum. The prefix list name can be specified by the **lsp-bfd** command prior to the prefix list being defined in the **config**>**router**>**policy-options** context.

Platforms

All

lsp-bfd

Syntax

lsp-bfd

Context

[Tree] (config>router lsp-bfd)

Full Context

configure router lsp-bfd

Description

This command creates a context for the configuration of LSP BFD parameters.

Platforms

All

27.40 lsp-bsid-block

lsp-bsid-block

Syntax

lsp-bsid-block *name*

no lsp-bsid-block

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Context

[Tree] (config>router>mpls lsp-bsid-block)

Full Context

configure router mpls lsp-bsid-block

Description

This command configures a reference to a pre-existing reserved label block for statically configured binding SIDs.

The **no** form of this command removes the use of the label block as a pool of binding SIDs.

Parameters

name

Specifies an existing reserved label block name, up to 64 characters.

Platforms

All

27.41 lsp-container

lsp-container

Syntax

[**no**] **lsp-container** *container-name*

Context

[Tree] (config>router>mpls lsp-container)

Full Context

configure router mpls lsp-container

Description

Commands in this context create and configure the LSP container.

The **no** form of this command removes the LSP container.

Parameters

lsp-container-name

Specifies the LSP container name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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27.42 lsp-exp

lsp-exp

Syntax

lsp-exp *lsp-exp-value* [**fc** *fc-name*] [**priority** {**low** | **high**}]

no lsp-exp *lsp-exp-value*

Context

[Tree] (config>qos>sap-ingress lsp-exp)

Full Context

configure qos sap-ingress lsp-exp

Description

This command explicitly sets the forwarding class or subclass enqueuing priority when a packet is marked with a MPLS EXP bits specified. Adding a lsp-exp rule on the policy forces packets that match the MPLS LSP EXP specified to override the forwarding class and enqueuing priority based on the parameters included in the lsp-exp rule. When the forwarding class is not specified in the rule, a matching packet preserves (or inherits) the existing forwarding class derived from earlier matches in the classification hierarchy. When the enqueuing priority is not specified in the rule, a matching packet preserves (or inherits) the existing enqueuing priority derived from earlier matches in the classification hierarchy.

The *lsp-exp-value* is derived from the MPLS LSP EXP bits of the top label.

Multiple commands can be entered to define the association of some or all eight LSP EX bit values to the forwarding class.

The **no** form of this command removes the explicit lsp-exp classification rule from the SAP ingress policy. Removing the rule on the policy immediately removes the rule on all ingress SAPs using the policy.

This command applies to Ethernet Layer 2 SAPs only.

Parameters

lsp-exp-value

This value is a required parameter that specifies the unique MPLS LSP EXP value that will match the lsp-exp rule. If the command is executed multiple times with the same *lsp-exp-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of eight lsp-exp rules are allowed on a single policy.

Values 0 to 7

fc *fc-name*

The value given for the *fc-name* parameter must be one of the predefined forwarding classes in the system. Specifying the *fc-name* is optional. When a packet matches the

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rule, the forwarding class is only overridden when the *fc-name* parameter is defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

The *subclass-name* parameter is optional and used with the *fc-name* parameter to define a pre-existing subclass. The *fc-name* and *subclass-name* parameters must be separated by a period (dot). If *subclass-name* does not exist in the context of *fc -name*, an error will occur.

Values *class*[.*subclass*]

class: be, l2, af, l1, h2, ef, h1, nc

subclass: 29 characters max

priority

The **priority** parameter is used to override the default enqueuing priority for all packets received on an ingress SAP using this policy that match this rule. Specifying the priority is optional. When a packet matches the rule, the enqueuing priority is only overridden when the **priority** parameter is defined on the rule. If the packet matches and priority is not explicitly defined in the rule, the enqueuing priority is inherited based on previous rule matches.

high

The **high** parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **high** for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

low

The **low** parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **low** for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Default no override

Platforms

All

lsp-exp

Syntax

lsp-exp *lsp-exp-value* **fc** *fc-name* **profile** {**in** | **out**}

no lsp-exp

Context

[Tree] (config>qos>network>ingress lsp-exp)

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Full Context

configure qos network ingress lsp-exp

Description

This command creates a mapping between the LSP EXP bits of the network ingress traffic and the forwarding class.

Ingress traffic that matches the specified LSP EXP bits will be assigned to the corresponding forwarding class. Multiple commands can be entered to define the association of some or all eight LSP EXP bit values to the forwarding class. For undefined values, packets are assigned to the forwarding class specified under the **default-action** command.

The **no** form of this command removes the association of the LSP EXP bit value to the forwarding class. The **default-action** then applies to that LSP EXP bit pattern.

Default

no lsp-exp

Parameters

lsp-exp-value

Specify the LSP EXP values to be associated with the forwarding class.

Values 0 to 8 (Decimal representation of three EXP bit field)

fc *fc-name*

Enter this required parameter to specify the fc-name that the EXP bit pattern will be associated with.

Values be, l2, af, l1, h2, ef, h1, nc

profile {in | out}

Enter this required parameter to indicate whether the LSP EXP value is the in-profile or out-of-profile value.

Values in, out

Platforms

All

27.43 lsp-exp-in-profile

lsp-exp-in-profile

Syntax

lsp-exp-in-profile *lsp-exp-value*

no lsp-exp-in-profile

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Context

[Tree] (config>qos>network>egress>fc lsp-exp-in-profile)

Full Context

configure qos network egress fc lsp-exp-in-profile

Description

This command specifies the in-profile LSP EXP value for the forwarding class. The EXP value will be used for all LSP labeled packets requiring marking that require marking at egress on this forwarding class queue, and that are in-profile. The inplus-profile traffic is marked with the same value as in-profile traffic.

When multiple EXP values are associated with the forwarding class at network egress, the last name entered will overwrite the previous value.

The **no** form of this command resets the configuration to the factory default in-profile EXP setting.

Default

Policy-id 1:	Factory setting
Policy-id 2 to 65535:	Policy-id setting

Parameters

lsp-exp-value

Specifies the 3-bit LSP EXP bit value, expressed as a decimal integer.

Values 0 to 7

Platforms

All

27.44 lsp-exp-out-profile

lsp-exp-out-profile

Syntax

lsp-exp-out-profile *lsp-exp-value*

no lsp-exp-out-profile

Context

[Tree] (config>qos>network>egress>fc lsp-exp-out-profile)

Full Context

configure qos network egress fc lsp-exp-out-profile

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Description

This command specifies the out-of-profile LSP EXP value for the forwarding class. The EXP value will be used for all LSP labeled packets that require marking at egress on this forwarding class queue, and that are out-of-profile. The exceed-profile traffic is marked with the same value as out-of-profile traffic.

When multiple EXP values are associated with the forwarding class at network egress, the last name entered will overwrite the previous value.

The **no** form of this command resets the configuration to the factory default out-of-profile EXP setting.

Default

Policy-id 1:	Factory setting
Policy-id 2 to 65535:	Policy-id setting

Parameters

mpls-exp-value

Specifies the 3-bit MPLS EXP bit value, expressed as a decimal integer.

Values 0 to 7

Platforms

All

27.45 lsp-history

lsp-history

Syntax

[no] lsp-history

Context

[Tree] (config>router>mpls lsp-history)

Full Context

configure router mpls lsp-history

Description

This command allocates memory, which may be used to store up to the last 100 significant events for each RSVP-TE and SR-TE LSP.

The **no** form of this command deallocates memory for storing LSP history events and deletes any event history .

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Default

no lsp-history

Platforms

All

27.46 lsp-init-retry-timeout

lsp-init-retry-timeout

Syntax

lsp-init-retry-timeout *seconds*

no lsp-init-retry-timeout

Context

[Tree] (config>router>mpls lsp-init-retry-timeout)

Full Context

configure router mpls lsp-init-retry-timeout

Description

This command configures the initial LSP path retry-timer.

The new LSP path initial retry-timer is used instead of the retry-timer to abort the retry cycle when no RESV is received. The retry-timer exclusively governs the time between two retry cycles and to handle retrying of an LSP path in a failure case with PATH errors or RESVTear.

The intent is that the user can now control how many refreshes of the pending PATH state can be performed before starting a new retry-cycle with a new LSP ID. This is all done without affecting the ability to react faster to failures of the LSP path, which will continue to be governed by the retry-timer.

The **no** form of this command returns the timer to the default value.

Default

lsp-init-retry-timeout 30

Parameters

seconds

Specifies the value (in s), used as the fast retry timer for a secondary path.

Values 10 to 600

Default 30

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Platforms

All

27.47 lsp-lifetime

lsp-lifetime

Syntax

lsp-lifetime *seconds*

no lsp-lifetime

Context

[Tree] (config>service>vpls>spb lsp-lifetime)

Full Context

configure service vpls spb lsp-lifetime

Description

This command sets the time, in seconds, SPB wants the LSPs it originates to be considered valid by other routers in the domain. This is a control B-VPLS command.

Each LSP received is maintained in an LSP database until the lsp-lifetime expires unless the originating router refreshes the LSP. By default, each router refreshes its LSPs every 20 minutes (1200 seconds) so other routers will not age out the LSP.

The LSP refresh timer is derived from this formula: lsp-lifetime/2.

LSPs originated by SPB should be valid for 1200 seconds (20 minutes).

The **no** form of this command reverts to the default value.

Default

lsp-lifetime 1200

Parameters

seconds

The time, in seconds, that SPB wants the LSPs it originates to be considered valid by other routers in the domain.

Values 350 to 65535

Platforms

All

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lsp-lifetime

Syntax

lsp-lifetime *seconds*

no lsp-lifetime

Context

[Tree] (config>service>vprn>isis lsp-lifetime)

Full Context

configure service vprn isis lsp-lifetime

Description

This command sets the time, in seconds, the router wants the LSPs it originates to be considered valid by other routers in the domain.

Each LSP received is maintained in an LSP database until the **lsp-lifetime** expires unless the originating router refreshes the LSP. By default, each router refreshes its LSPs every 20 minutes (1200 seconds) so other routers will not age out the LSP.

The LSP refresh timer is derived from this formula: lsp-lifetime/2

LSPs originated by the router should be valid for 1200 seconds (20 minutes).

The **no** form of this command reverts to the default value.

Default

lsp-lifetime 1200

Parameters

seconds

Specifies the time, in seconds, that the router wants the LSPs it originates to be considered valid by other routers in the domain.

Values 350 to 65535

Platforms

All

lsp-lifetime

Syntax

lsp-lifetime *seconds*

no lsp-lifetime

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Context

[Tree] (config>router>isis lsp-lifetime)

Full Context

configure router isis lsp-lifetime

Description

This command sets the time, in seconds, the router wants the LSPs it originates to be considered valid by other routers in the domain.

Each LSP received is maintained in an LSP database until the **lsp-lifetime** expires unless the originating router refreshes the LSP. By default, each router refreshes its LSPs every 20 minutes (1200 seconds) so other routers will not age out the LSP.

The LSP refresh timer is derived from this formula: lsp-lifetime/2

The **no** form of this command reverts to the default value.

Default

lsp-lifetime 1200

Parameters

seconds

Specifies the time, in seconds, that the router wants the LSPs it originates to be considered valid by other routers in the domain.

Values 350 to 65535

Platforms

All

27.48 lsp-minimum-remaining-lifetime

lsp-minimum-remaining-lifetime

Syntax

lsp-minimum-remaining-lifetime *seconds*

no lsp-minimum-remaining-lifetime

Context

[Tree] (config>service>vprn>isis lsp-minimum-remaining-lifetime)

Full Context

configure service vprn isis lsp-minimum-remaining-lifetime

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Description

This command configures the minimum value to which the remaining lifetime of the LSP is set. The value is a counter that decrements, in seconds, starting from the value in the received LSP (if not self-originated) or from **lsp-lifetime** *seconds* (if self-originated). When the remaining lifetime becomes zero, the contents of the LSP is purged. The remaining lifetime of an LSP is not changed when there is no **lsp-minimum-remaining-lifetime** value configured.

The configured value must be greater than or equal to the **lsp-lifetime** value.

The **no** form of this command removes the *seconds* value from the configuration.

Default

no lsp-minimum-remaining-lifetime

Parameters

seconds

Specifies the decrementing counter, in seconds. The configured value must be greater than or equal to the locally configured value of lsp-lifetime (MaxAge).

Values 350 to 65535

Platforms

All

lsp-minimum-remaining-lifetime

Syntax

lsp-minimum-remaining-lifetime *seconds*

no lsp-minimum-remaining-lifetime

Context

[Tree] (config>router>isis lsp-minimum-remaining-lifetime)

Full Context

configure router isis lsp-minimum-remaining-lifetime

Description

This command configures the minimum value to which the remaining lifetime of the LSP is set. The value is a counter that decrements, in seconds, starting from the value in the received LSP (if not self-originated) or from **lsp-lifetime** *seconds* (if self-originated). When the remaining lifetime becomes zero, the contents of the LSP is purged. The remaining lifetime of an LSP is not changed when there is no **lsp-minimum-remaining-lifetime** value configured.

The configured value must be greater than or equal to the **lsp-lifetime** value.

The **no** form of this command removes the *seconds* value from the configuration.

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Parameters

seconds

Specifies the decrementing counter, in seconds. The configured value must be greater than or equal to the locally configured value of lsp-lifetime (MaxAge).

Values 350 to 65535

Platforms

All

27.49 lsp-mtu-size

lsp-mtu-size

Syntax

lsp-mtu-size *size*

no lsp-mtu-size

Context

[Tree] (config>service>vprn>isis lsp-mtu-size)

[Tree] (config>service>vprn>isis>level lsp-mtu-size)

Full Context

configure service vprn isis lsp-mtu-size

configure service vprn isis level lsp-mtu-size

Description

This command configures the LSP MTU size. If the *size* value is changed from the default using CLI or SNMP, then ISIS must be restarted for the change to take effect. This can be done by performing a **shutdown** command and then a **no shutdown** command in the **config>router>isis** context.

Note:
Using the **exec** command to execute a configuration file to change the LSP MTU size from its default value will automatically restart IS-IS for the change to take effect.

The **no** form of this command reverts to the default value.

Default

lsp-mtu-size 1492

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Parameters

size

Specifies the LSP MTU size.

Values 490 to 9778

Platforms

All

lsp-mtu-size

Syntax

lsp-mtu-size *size*

no lsp-mtu-size

Context

[Tree] (config>router>isis lsp-mtu-size)

[Tree] (config>router>isis>level lsp-mtu-size)

Full Context

configure router isis lsp-mtu-size

configure router isis level lsp-mtu-size

Description

This command configures the LSP MTU size. If the *size* value is changed from the default using CLI or SNMP, then IS-IS must be restarted in order for the change to take effect. This can be done by performing a **shutdown** command and then a **no shutdown** command in the **config>router>isis** context.

Note:
Using the **exec** command to execute a configuration file to change the LSP MTU-size from its default value automatically restarts IS-IS for the change to take effect.

The **no** form of this command reverts to the default value.

Default

lsp-mtu-size 1492

Parameters

size

Specifies the LSP MTU size.

Values 490 to 9778

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Platforms

All

27.50 lsp-num

lsp-num

Syntax

lsp-num *lsp-num*

no lsp-num

Context

[Tree] (config>router>mpls>lsp>protect-tp-path lsp-num)

[Tree] (config>router>mpls>lsp>working-tp-path lsp-num)

Full Context

configure router mpls lsp protect-tp-path lsp-num

configure router mpls lsp working-tp-path lsp-num

Description

This command configures the MPLS-TP LSP Number for the working TP path or the Protect TP Path.

Default

lsp-num 1 (for a working path), lsp-num 2 (for a protect path)

Parameters

lsp-num

Specifies the LSP number.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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27.51 lsp-pacing-interval

lsp-pacing-interval

Syntax

lsp-pacing-interval *milli-seconds*

no lsp-pacing-interval

Context

[Tree] (config>service>vpls>spoke-sdp>spb lsp-pacing-interval)

[Tree] (config>service>vpls>sap>spb lsp-pacing-interval)

Full Context

configure service vpls spoke-sdp spb lsp-pacing-interval

configure service vpls sap spb lsp-pacing-interval

Description

This command configures the interval during which LSPs are sent from the interface.

To avoid overwhelming neighbors that have less CPU processing power with LSPs, the pacing interval can be configured to limit how many LSPs are sent during an interval. LSPs may be sent in bursts during the interval up to the configured limit. If a value of 0 is configured, no LSPs are sent from the interface.

If configured to the default LSP pacing interval of 100, LSPs are sent in 100 millisecond intervals.

The **no** form of this command reverts to the default value.

Note:
The IS-IS timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

lsp-pacing-interval 100

Parameters

milli-seconds

The interval in milliseconds during which IS-IS LSPs are sent from the interface, expressed as a decimal integer.

0 to 65535

Platforms

All

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lsp-pacing-interval

Syntax

lsp-pacing-interval *milliseconds*

no lsp-pacing-interval

Context

[Tree] (config>service>vprn>isis>if lsp-pacing-interval)

Full Context

configure service vprn isis interface lsp-pacing-interval

Description

This command configures the interval at which LSPs are sent from the interface.

To avoid overwhelming neighbors that have less CPU processing power with LSPs, the pacing interval can be configured to limit how many LSPs are sent at the interval. LSPs are sent in bursts at the interval up to the configured limit. If a value of 0 is configured, no LSPs are sent from the interface.

If configured to the default LSP pacing interval of 100, LSPs are sent in 100 millisecond intervals.

The **no** form of this command reverts to the default value.

Note:
The IS-IS LSP pacing interval is 100 milliseconds for values < 100 milliseconds, and 1 second for values ≥ 100 milliseconds. For example, a pacing interval of 2 milliseconds means that a maximum of 50 LSPs are sent in a burst at 100 millisecond intervals. The default pacing interval of 100 milliseconds means that a maximum of 10 LSPs are sent in a burst at 1 second intervals.

Default

lsp-pacing-interval 100

Parameters

milliseconds

Specifies the pacing interval in milliseconds at which IS-IS LSPs are sent from the interface at each interval expressed as a decimal integer.

Values 0 to 65535

Platforms

All

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lsp-pacing-interval

Syntax

lsp-pacing-interval *milliseconds*

no lsp-pacing-interval

Context

[Tree] (config>router>isis>interface lsp-pacing-interval)

Full Context

configure router isis interface lsp-pacing-interval

Description

This command configures the interval at which LSPs are sent from the interface.

To avoid overwhelming neighbors that have less CPU processing power with LSPs, the pacing interval can be configured to limit how many LSPs are sent at the interval. LSPs are sent in bursts at the interval up to the configured limit. If a value of 0 is configured, no LSPs are sent from the interface. The interval applies to all LSPs: LSPs generated by the router, and LSPs received from other routers.

If configured to the default LSP pacing interval of 100, LSPs are sent in 100 millisecond intervals.

The **no** form of this command reverts to the default value.

Note:
The IS-IS LSP pacing interval is 100 milliseconds for values < 100 milliseconds, and 1 second for values ≥ 100 milliseconds. For example, a pacing interval of 2 milliseconds means that a maximum of 50 LSPs are sent in a burst at 100 millisecond intervals. The default pacing interval of 100 milliseconds means that a maximum of 10 LSPs are sent in a burst at 1 second intervals.

Default

lsp-pacing-interval 100

Parameters

milli-seconds

Specifies the interval in milliseconds during which IS-IS LSPs are sent from the interface expressed as a decimal integer.

Values 0 to 65535

Platforms

All

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27.52 lsp-ping

lsp-ping

Syntax

lsp-ping *lsp-name* [**path** *path-name*]

lsp-ping bgp-label prefix *ip-prefix/prefix-length* [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-ping ldp prefix *ip-prefix/prefix-length* [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-ping prefix *ip-prefix/prefix-length* [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-ping rsvp-te *lsp-name* [**path** *path-name*]

lsp-trace sr-isis prefix *ip-prefix/prefix-length* [**igp-instance** *igp-instance*] [**detail**] [**downstream-map-tlv** *downstream-map-tlv*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**flex-algo** *flex-algo-num*] [**interval** *interval*] [**max-fail** *no-response-count*] [**min-ttl** *min-label-ttl*] [**max-ttl** *max-label-ttl*] [**path-destination** *ip-address* [**interface** *if-name* | **next-hop** *ip-address*]] [**probe-count** *probes-per-hop*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*]

lsp-trace sr-ospf prefix *ip-prefix/prefix-length* [**igp-instance** *igp-instance*] [**detail**] [**downstream-map-tlv** *downstream-map-tlv*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**flex-algo** *flex-algo-num*] [**interval** *interval*] [**max-fail** *no-response-count*] [**min-ttl** *min-label-ttl*] [**max-ttl** *max-label-ttl*] [**path-destination** *ip-address* [**interface** *if-name* | **next-hop** *ip-address*]] [**probe-count** *probes-per-hop*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*]

lsp-ping sr-ospf3 prefix *ip-prefix/prefix-length* [**igp-instance** *igp-instance*] [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-ping sr-policy color *color-id* **endpoint** *ip-address* [**segment-list** *segment-list-id*] [**detail**] [**path-destination** *ip-address* [{ **interface** *if-name* | **next-hop** *ip-address*}]]

lsp-ping sr-te *lsp-name* [**path** *path-name*] [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-ping static *lsp-name* [**assoc-channel** {**ipv4** | **non-ip** | **none**}] [**dest-global-id** *global-id* **dest-node-id** *node-id*] [**force**] [**path-type** {**active** | **working** | **protect**}]

NOTE: Options common to all **lsp-ping** cases: [**detail**] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**flex-algo** *flex-algo-num*] [**interval** *interval*] [**send-count** *send-count*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*] [**ttl** *label-ttl*]

Context

[Tree] (config>saa>test>type lsp-ping)

[Tree] (oam lsp-ping)

Full Context

configure saa test type lsp-ping

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oam lsp-ping

Description

This command performs in-band LSP connectivity tests.

This command performs an LSP ping using the protocol and data structures defined in the RFC 8029, *Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures*.

The LSP ping operation is modeled after the IP ping utility which uses ICMP echo request and reply packets to determine IP connectivity.

In an LSP ping, the originating device creates an MPLS echo request packet for the LSP and path to be tested. The MPLS echo request packet is sent through the data plane and awaits an MPLS echo reply packet from the device terminating the LSP. The status of the LSP is displayed when the MPLS echo reply packet is received.

This command, when used with the **static** option, performs in-band on-demand LSP connectivity verification tests for static MPLS-TP LSPs. For other LSP types, the **static** option should be excluded and these are described elsewhere in this user guide.

The **lsp-ping static** command performs an LSP ping using the protocol and data structures defined in the RFC 8029, *Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures*, as extended by RFC 6426, *MPLS On-Demand Connectivity Verification and Route Tracing*.

In MPLS-TP, the echo request and echo reply messages are always sent in-band over the LSP, either in a G-ACh channel or encapsulated as an IP packet below the LSP label.

The timestamp format to be sent, and to be expected when received in a PDU, is as configured by the **config>test-oam>mpls-time-stamp-format** command. If RFC 4379 (obsoleted by RFC 8029) is selected, then the timestamp is in seconds and microseconds since 1900, otherwise it is in seconds and microseconds since 1970.

Default

The active LSP path

Values: Any path name associated with the LSP

Parameters

lsp-name

Specifies the name of the target RSVP-TE LSP, up to 64 characters.

rsvp-te lsp-name

Specifies the name of the target RSVP-TE LSP, up to 64 characters.

Note:
The **rsvp-te** explicit target FEC type is not supported under the SAA context.

path-name

Specifies the LSP path name, up to 32 characters, to which to send the LSP ping request.

Values Any path name associated with the LSP.

Default The active LSP path.

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bgp-label prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target BGP IPv4 /32 label route or the target BGP IPv6 /128 label route.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

path-destination *ip-address*

Specifies the IP address of the path destination from the range 127/8. When the LDP FEC prefix is IPv6, the user must enter a 127/8 IPv4 mapped IPv6 address, that is, in the range ::ffff:127/104.

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

flex-algo *flex-algo-num*

Specifies the Segment Routing Flexible Algorithm for the test.

Values 128 to 255

interface if-name

Specifies the name of an IP interface, up to 32 characters, to send the MPLS echo request message to. The name must already exist in the **config>router>interface** context.

next-hop *ip-address*

Specifies the next-hop address to send the MPLS echo request message to.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

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prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target LDP FEC.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

ldp prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target LDP FEC.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

sr-isis prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target node SID of the SR-IS-IS tunnel.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

igp-instance

Specifies the IGP instance of the node SID prefix.

Values isis-inst: 0 to 127

ospf3-inst: 0 to 31, 64 to 95

ospf-inst: 0 to 31

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sr-ospf prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target node SID of the SR-OSPF tunnel.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix - a.b.c.d

ipv6-prefix - x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

sr-ospf3 prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target node SID of the SR-OSPF3 tunnel. Note that only IPv6 prefixes in OSPFv3 instance ID 0-31 are supported.

Values

ipv6-prefix - x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

sr-policy color *color-id* endpoint *ip-address* segment-list *segment-list-id*

Specifies the name of the target IPv4 or IPv6 SR policy.

Note:
The **sr-policy** target FEC type is supported under the OAM context and under **type-multi-line node** in the SAA context.

color *color-id* — Specifies the color ID.

Values 0 to 4294967295

endpoint *ip-address* — Specifies the endpoint address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

segment-list *segment-list-id* — Specifies the segment list ID.

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Values 1 to 32

detail

Displays detailed information.

sr-te *lsp-name*

Specifies the name of the target SR-TE LSP, up to 64 characters.

static

Specifies the target FEC stack sub-type "Static LSP”.

assoc-channel {ipv4 | non-ip | none}

Specifies the launched echo request’s usage of the Associated Channel (ACH) mechanism, when testing an MPLS-TP LSP.

Values **ipv4** — Use an Associated Channel with IP encapsulation, as described in RFC 6426, Section 3.2.

non-ip — Do not use an Associated Channel, as described in RFC 6426, Section 3.1.

none — Use the Associated Channel mechanism described in RFC 6426, Section 3.3.

Default non-ip

global-id

Specifies the MPLS-TP global ID for the far end node of the LSP under test. If this is not entered, then the dest-global-id is taken from the LSP context.

Values 0 to 4294967295

Default 0

node-id

Specifies the MPLS-TP global ID for the far end node of the LSP under test. If this is not entered, then the dest-global-id is taken from the LSP context.

Values a.b.c.d, 1 to 4294967295

Default 0

force

Allows LSP ping to test a path that is operationally down, including cases where MPLS-TP BFD CC/V is enabled and has taken a path down. This parameter is only allowed in the OAM context; it is not allowed for a test configured as a part of an SAA.

Default disabled

path-type {active | working | protect}

The LSP path to test.

Values **active** — The currently active path. If MPLS-TP linear protection is configured on the LSP, then this is the path that is selected by the

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MPLS-TP PSC protocol for sending user plane traffic. If MPLS-TP linear protection is not configured, then this is the working path.

working — The working path of the MPLS-TP LSP.

protect — The protect path of the MPLS-TP LSP.

Default active

fc-name

Specifies the FC and profile parameters that are used to indicate the forwarding class and profile of the MPLS echo request packet.

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified fc and profile parameter values. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface.

When the MPLS echo request packet is received on the responding node, The FC and profile parameter values are dictated by the LSP-EXP mappings of the incoming interface.

When an MPLS echo reply packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the FC and profile parameter values determined by the classification of the echo request packet, which is being replied to, at the incoming interface. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface. The ToS byte is not modified. Table 62: lsp-ping Request Packet and Behavior summarizes this behavior.

Table 62: lsp-ping Request Packet and Behavior

CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • packet queued as {fc1, profile1} • ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet:

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	• packet{tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • packet queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

The LSP-EXP mappings on the receive network interface controls the mapping of the message reply at the originating router**.**

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request packet.

Default out

flex-algo *flex-algo-num*

Specifies the Segment Routing Flexible Algorithm for the test. This option is only supported for **oam lsp-ping sr-isis** and **oam lsp-ping sr-ospf**. This option is not supported for SAA. If this option is not set, then the system looks up the prefix without flex-algo awareness.

Values 128 to 255

Default **none**

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

Values 1 to 10

Default 1

send-count

Specifies the number of messages to send, expressed as a decimal integer. The **send-count** parameter is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request

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is sent. The message **interval** value must be expired before the next message request is sent.

Values 1 to 100

Default 1

octets

Specifies the MPLS echo request packet size in octets, expressed as a decimal integer. The request payload is padded with zeros to the specified size.

Values 1 to 9786

Default 1

src-ip-address *ip-address*

Specifies the source IP address. This option is used when an OAM packet must be generated from a different address than the node's system interface address. An example is when the OAM packet is sent over an LDP LSP and the LDP LSR-ID of the corresponding LDP session to the next-hop is set to an address other than the system interface address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

timeout

Specifies number, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of the time out, the test is marked complete and no more packets are processed for any of those request probes.

Values 1 to 10

Default 5

label-ttl

Specifies the TTL value for the MPLS label, expressed as a decimal integer.

Values 1 to 255

Default 255

Platforms

All

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Output

Output Example

The following output is an example of LDP IPv4 and IPv6 prefix FECs.

```
A:Dut-C# oam lsp-ping prefix 4.4.4.4/32 detail
LSP-PING 4.4.4.4/32: 80 bytes MPLS payload
Seq=1, send from intf dut1_to_dut3, reply from 4.4.4.4
       udp-data-len=32 ttl=255 rtt=5.23ms rc=3 (EgressRtr)

---- LSP 4.4.4.4/32 PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 5.23ms, avg = 5.23ms, max = 5.23ms, stddev = 0.000ms

===============================================================================
LDP LSR ID: 1.1.1.1
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================


LDP Prefix Bindings
===============================================================================
Prefix              IngLbl       EgrLbl     EgrIntf/         EgrNextHop
   Peer                                     LspId
-------------------------------------------------------------------------------
4.4.4.4/32          131069N      131067     1/1/1            1.3.1.2
   3.3.3.3
4.4.4.4/32          131069U      131064       --               --
   6.6.6.6
-------------------------------------------------------------------------------
No. of Prefix Bindings: 2
===============================================================================
A:Dut-C#

*A:Dut-A# oam lsp-ping prefix fc00::a14:106/128

LSP-PING fc00::a14:106/128: 116 bytes MPLS payload

Seq=1, send from intf A_to_B, reply from fc00::a14:106

udp-data-len=32 ttl=255 rtt=7.16ms rc=3 (EgressRtr)



---- LSP fc00::a14:106/128 PING Statistics ----

1 packets sent, 1 packets received, 0.00% packet loss

round-trip min = 7.16ms, avg = 7.16ms, max = 7.16ms, stddev = 0.000ms

*A:Dut-A#
```

lsp-ping over SR-ISIS

```
*A:Dut-A# oam lsp-ping sr-isis prefix 10.20.1.6/32 igp-instance 0 detail
LSP-PING 10.20.1.6/32: 80 bytes MPLS payload
Seq=1, send from intf int_to_B, reply from 10.20.1.6
       udp-data-len=32 ttl=255 rtt=1220324ms rc=3 (EgressRtr)
---- LSP 10.20.1.6/32 PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
```


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```
round-trip min = 1220324ms, avg = 1220324ms, max = 1220324ms, stddev = 0.000ms
```

lsp-ping with SR-TE

```
*A:Dut-A# oam lsp-ping sr-te "srteABCEDF" detail
LSP-PING srteABCEDF: 96 bytes MPLS payload
Seq=1, send from intf int_to_B, reply from 10.20.1.6
       udp-data-len=32 ttl=255 rtt=1220325ms rc=3 (EgressRtr)
---- LSP srteABCEDF PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 1220325ms, avg = 1220325ms, max = 1220325ms, stddev = 0.000ms
```

```
*A:Dut-A# oam lsp-ping sr-te "srteABCE_loose" detail
LSP-PING srteABCE_loose: 80 bytes MPLS payload
Seq=1, send from intf int_to_B, reply from 10.20.1.5
       udp-data-len=32 ttl=255 rtt=1220324ms rc=3 (EgressRtr)
---- LSP srteABCE_loose PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 1220324ms, avg = 1220324ms, max = 1220324ms, stddev = 0.000ms
```

```
*A:Dut-F# oam lsp-ping sr-te "srteFECBA_eth" detail
LSP-PING srteFECBA_eth: 116 bytes MPLS payload
Seq=1, send from intf int_to_E, reply from fc00::a14:101
       udp-data-len=32 ttl=255 rtt=1220326ms rc=3 (EgressRtr)
---- LSP srteFECBA_eth PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 1220326ms, avg = 1220326ms, max = 1220326ms, stddev = 0.000ms
```

lsp-ping with SR-Policy

```
*A:Dut-A#
# ipv4 sr-policy lsp-ping
*A:Dut-A# oam lsp-ping sr-policy color 200 endpoint 10.20.1.6 LSP-PING color 200 endpoint
 10.20.1.6: 76 bytes MPLS payload Seq=1, send from intf int_to_C, reply from 10.20.1.6
       udp-data-len=32 ttl=255 rtt=1220325ms rc=3 (EgressRtr)
---- LSP color 200 endpoint 10.20.1.6 PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss round-trip min = 1220325ms, avg =
 1220325ms, max = 1220325ms, stddev = 0.000ms

# ipv6 sr-policy lsp-ping
*A:Dut-A# oam lsp-ping sr-policy color 200 endpoint fc00::a14:106 LSP-PING color 200 endpoint
 fc00::a14:106: 76 bytes MPLS payload Seq=1, send from intf int_to_C, reply from 10.20.1.6
       udp-data-len=32 ttl=255 rtt=1220324ms rc=3 (EgressRtr)
---- LSP color 200 endpoint fc00::a14:106 PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss round-trip min = 1220324ms, avg =
 1220324ms, max = 1220324ms, stddev = 0.000ms
```

lsp-ping with sr-ospf3

```
# sr-ospf3 lsp-ping
*A:Dut-A# oam lsp-ping sr-ospf3 prefix fc00::a14:106/128 LSP-PING fc00::a14:106/128: 116 bytes
 MPLS payload Seq=1, send from intf int_to_B, reply from fc00::a14:106
       udp-data-len=32 ttl=255 rtt=3.17ms rc=3 (EgressRtr)
---- LSP fc00::a14:106/128 PING Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss round-trip min = 3.17ms, avg = 3.17ms,
 max = 3.17ms, stddev = 0.000ms *A:Dut-A#
```


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lsp-ping

Syntax

lsp-ping

Context

[Tree] (config>saa>test>type-multi-line lsp-ping)

Full Context

configure saa test type-multi-line lsp-ping

Description

Commands in this context configure the lsp-ping OAM probe type.

Platforms

All

27.53 lsp-ping-interval

lsp-ping-interval

Syntax

lsp-ping-interval *seconds*

no lsp-ping-interval

Context

[Tree] (config>router>ldp>lsp-bfd lsp-ping-interval)

Full Context

configure router ldp lsp-bfd lsp-ping-interval

Description

This command configures the interval between periodic LSP ping messages for LSPs on which **bfd-enable** is configured. The LSP ping messages are used to bootstrap and maintain the LSP BFD session.

Configuring an interval of 0 seconds disables periodic LSP ping. An LSP ping message containing a bootstrap TLV will only be sent when the BFD session is first initialized.

In scaled environments, LSP BFD sessions should use longer intervals to reduce congestion and common resource loading. Unless required, the interval should not be set lower than 300 s.

The **no** form of this command restores the default interval.

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Default

lsp-ping-interval 60

Parameters

seconds

Specifies the interval between periodic LSP ping messages, in seconds.

Values 0, 60 to 300

Platforms

All

lsp-ping-interval

Syntax

lsp-ping-interval *seconds*

no lsp-ping-interval

Context

[Tree] (config>router>mpls>lsp>primary>bfd lsp-ping-interval)

[Tree] (config>router>mpls>lsp-template>bfd lsp-ping-interval)

[Tree] (config>router>mpls>lsp>secondary>bfd lsp-ping-interval)

[Tree] (config>router>mpls>lsp>bfd lsp-ping-interval)

Full Context

configure router mpls lsp primary bfd lsp-ping-interval

configure router mpls lsp-template bfd lsp-ping-interval

configure router mpls lsp secondary bfd lsp-ping-interval

configure router mpls lsp bfd lsp-ping-interval

Description

This command configures the interval for the periodic LSP ping for RSVP LSPs on which **bfd-enable** has been configured. This interval is used to bootstrap and maintain the LSP BFD session. A value of 0 disables periodic LSP Ping, such that an LSP Ping containing a bootstrap TLV is only sent when the BFD session is first initialized.

In scaled environments, LSP BFD sessions should use longer timers to reduce the chance of congestion and loading of common resources. Unless required, the **lsp-ping-interva**l should not be set lower than 300 seconds.

The **no** form of this command reverts to the default value.

Default

no lsp-ping-interval

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Parameters

seconds

Sets the periodic LSP Ping interval in seconds.

Values 0, 60 to 300

Default 60

Platforms

All

27.54 lsp-ping-trace

lsp-ping-trace

Syntax

lsp-ping-trace [{**tx** | **rx** | **both**}] [{**raw** | **detail**}]

no lsp-ping-trace

Context

[Tree] (debug>oam lsp-ping-trace)

Full Context

debug oam lsp-ping-trace

Description

This command enables debugging for lsp-ping.

Parameters

tx | rx | both

Specifies to enable LSP ping debugging for TX, RX, or both RX and TX for the for debug direction.

raw | detail

Displays output for the for debug mode.

Platforms

All

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27.55 lsp-refresh-interval

lsp-refresh-interval

Syntax

lsp-refresh-interval [*seconds*] [**half-lifetime** [**enable** | **disable**]

no lsp-refresh-interval

Context

[Tree] (config>service>vpls>spb lsp-refresh-interval)

Full Context

configure service vpls spb lsp-refresh-interval

Description

This command configures the LSP refresh timer interval. When configuring the LSP refresh interval, the value that is specified for **lsp-lifetime** must also be considered. The LSP refresh interval cannot be greater than 90% of the LSP lifetime.

The no form of this command reverts to the default (600 seconds), unless this value is greater than 90% of the LSP lifetime. For example, if the LSP lifetime is 400, then the **no lsp-refresh-interval** command will be rejected.

Default

lsp-refresh-interval 600 half-lifetime enable

Parameters

seconds

Specifies the refresh interval.

Values 150 to 65535

half-lifetime

Sets the refresh interval to always be half the **lsp-lifetime** value. When this parameter is set to **enable**, the configured refresh interval is ignored.

Values enable, disable

Platforms

All

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lsp-refresh-interval

Syntax

lsp-refresh-interval [*seconds*] [**half-lifetime** {**enable** | **disable**}]

no lsp-refresh-interval

Context

[Tree] (config>service>vprn>isis lsp-refresh-interval)

Full Context

configure service vprn isis lsp-refresh-interval

Description

This command configures the IS-IS LSP refresh timer interval for the VPRN instance. When configuring the LSP refresh interval, the value that is specified for **lsp-lifetime** must also be considered. The LSP refresh interval cannot be greater than 90% of the LSP lifetime.

The **no** form of this command reverts to the default (600 seconds), unless this value is greater than 90% of the LSP lifetime. For example, if the LSP lifetime is 400, then the no lsp-refresh-interval command will be rejected.

Default

lsp-refresh-interval 600 half-lifetime enable

Parameters

seconds

Specifies the refresh interval.

Values 150 to 65535

half-lifetime

Sets the refresh interval to always be half the **lsp-lifetime** value. When this parameter is set to **enable**, the configured refresh interval is ignored.

Values enable, disable

Platforms

All

lsp-refresh-interval

Syntax

lsp-refresh-interval [*seconds*] [**half-lifetime** {**enable** | **disable**}

no lsp-refresh-interval

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Context

[Tree] (config>router>isis lsp-refresh-interval)

Full Context

configure router isis lsp-refresh-interval

Description

This command configures the IS-IS LSP refresh timer interval. When configuring the LSP refresh interval, the value that is specified for **lsp-lifetime** must also be considered. The LSP refresh interval cannot be greater than 90% of the LSP lifetime.

The **no** form of this command reverts to the default (600 seconds), unless this value is greater than 90% of the LSP lifetime. For example, if the LSP lifetime is 400, then the no lsp-refresh-interval command will be rejected.

Default

lsp-refresh-interval 600 half-lifetime enable

Parameters

seconds

Specifies the refresh interval.

Values 150 to 65535

half-lifetime

Sets the refresh interval to always be half the **lsp-lifetime** value. When this parameter is set to **enable**, the configured refresh interval is ignored.

Values enable, disable

Platforms

All

27.56 lsp-self-ping

lsp-self-ping

Syntax

[**no**] **lsp-self-ping**

Context

[Tree] (config>router>mpls lsp-self-ping)

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Full Context

configure router mpls lsp-self-ping

Description

Commands in this context configure LSP self-ping parameters.

LSP Self-ping checks that the datapath of an RSVP LSP has been programmed by all LSRs along its path before switching the traffic to it. If enabled, LSP Self-ping packets are sent periodically at a configurable interval following the receipt of the RESV message for an RSVP LSP path following an MBB or other event where the active path changes while the previous active path stayed up. The router will not switch traffic to the new path until an LSP Self-ping reply is received from the far-end LER.

When configured under the MPLS context, LSP Self-ping is enabled for all RSVP LSPs, unless it is explicitly disabled for a given LSP.

The **no** form of this command disables the system check for LSP Self-ping.

Default

no lsp-self-ping

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp-self-ping

Syntax

lsp-self-ping {**enable** | **disable** | **inherit**}

no lsp-self-ping

Context

[Tree] (config>router>mpls>lsp lsp-self-ping)

[Tree] (config>router>mpls>lsp-template lsp-self-ping)

Full Context

configure router mpls lsp lsp-self-ping

configure router mpls lsp-template lsp-self-ping

Description

This command enables LSP Self-ping on a given RSVP-TE LSP or LSP template. If set to **disable**, then LSP Self-ping is disabled irrespective of the setting of **lsp-self-ping**>**rsvp-te** under the **mpls** context. By default, each LSP and LSP template inherits this value.

The **no** form of this command reverts to the default.

Default

lsp-self-ping inherit

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Parameters

enable

Enables LSP Self-ping on this RSVP LSP or RSVP LSPs (one-hop-p2p or mesh-p2p) using this LSP template.

disable

Disables LSP Self-ping on this RSVP LSP or RSVP LSPs using this LSP template.

inherit

Inherits the value configured under **config**>**router**>**mpls**>**lsp-self-ping**>**rsvp-te**.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure router mpls lsp lsp-self-ping

All

- configure router mpls lsp-template lsp-self-ping

27.57 lsp-setup

lsp-setup

Syntax

lsp-setup [**detail**]

no lsp-setup

Context

[Tree] (debug>router>mpls>event lsp-setup)

Full Context

debug router mpls event lsp-setup

Description

This command debugs LSP setup events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about LSP setup events.

Platforms

All

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27.58 lsp-template

lsp-template

Syntax

lsp-template *p2mp-lsp-template-name*

no lsp-template

Context

[Tree] (config>service>vpls>provider-tunnel>inclusive>rsvp lsp-template)

Full Context

configure service vpls provider-tunnel inclusive rsvp lsp-template

Description

This command specifies the template name of the RSVP P2MP LSP instance to be used by the leaf node or the root-and-leaf node that participates in BGP-AD VPLS. The P2MP LSP is referred to as the Inclusive Provider Multicast Service Interface (I-PMSI).

After the user performs a **no shutdown** under the context of the inclusive node and the delay timer expires, BUM packets will be forwarded over an automatically signaled instance of the RSVP P2MP LSP specified in the LSP template.

The **no** version of this command removes the P2MP LSP template from the I-PMSI configuration.

Parameters

p2mp-lsp-template-name

Specifies the name of the P2MP LSP template up to 32 characters in length.

Platforms

All

lsp-template

Syntax

lsp-template

no lsp-template

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>rsvp lsp-template)

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Full Context

configure service vprn mvpn provider-tunnel inclusive rsvp lsp-template

Description

This command specifies the use of automatically created P2MP LSP as the provider tunnel. The P2MP LSP will be signaled using the parameters specified in the template, such as bandwidth constraints, and so on.

Default

no lsp-template

Platforms

All

lsp-template

Syntax

lsp-template *name*

no lsp-template

Context

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi lsp-template)

Full Context

configure service vprn mvpn provider-tunnel selective multistream-spmsi lsp-template

Description

This command creates a RSVP-TE LSP template for S-PMSI. Multi-stream S-PMSIs can share a single template or can each use their own template.

Parameters

name

Specifies the LSP template name, up to 32 characters.

Platforms

All

lsp-template

Syntax

lsp-template *lsp-template*

no lsp-template

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Context

[Tree] (config>service>vprn>mvpn>pt>inclusive lsp-template)

[Tree] (config>service>vprn>mvpn>pt>selective>rsvp lsp-template)

Full Context

configure service vprn mvpn pt inclusive lsp-template

configure service vprn mvpn provider-tunnel selective rsvp lsp-template

Description

This command specifies the use of automatically created P2MP LSP as the inclusive or selective provider tunnel. The P2MP LSP will be signaled using the parameters specified in the template, such as bandwidth constraints, and so on.

Default

no lsp-template

Parameters

lsp-template

Specifies the LSP template name, up to 32 characters.

Platforms

All

lsp-template

Syntax

[no] lsp-template *template-name*

lsp-template *template-name* **member-p2p**

lsp-template *template-name* **mesh-p2p**

lsp-template *template-name* **on-demand-p2p-srte**

lsp-template *template-name* **one-hop-p2p**

lsp-template *template-name* **one-hop-p2p-srte**

lsp-template *template-name* **p2mp**

lsp-template *template-name* **pce-init-p2p-srte template-id default** | *template-id*

Context

[Tree] (config>router>mpls lsp-template)

Full Context

configure router mpls lsp-template

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Description

This command creates an LSP template that a client application references where dynamic LSP creation is required. The LSP template type is mandatory.

The **no** form of this command deletes the LSP template. An LSP template cannot be deleted if a client application is using it.

Parameters

template-name

Specifies the name of the LSP template, up to 32 characters. An LSP template name and LSP name must not be the same.

member-p2p

Keyword to configure the LSP type the template signals to member P2P.

mesh-p2p

Keyword to configure the LSP type the template signals to mesh P2P.

mesh-p2p-srte

Keyword to configure the LSP type the template signals to mesh P2P SR-TE.

one-hop-p2p

Keyword to configure the LSP type the template signals to one-hop P2P.

one-hop-p2p-srte

Keyword to configure the LSP type the template signals to one-hop P2P SR-TE.

p2mp

Keyword to configure the LSP type the template signals to P2MP.

The **p2mp** option is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

pce-init-p2p-srte

Keyword to configure the LSP type the template signals to PCE-initiated P2P SR-TE.

on-demand-p2p-srte

Keyword to configure the LSP type the template signals to on-demand P2P SR-TE.

default

Keyword to set the template to be the default LSP template for the PCE-initiated SR-TE LSPs.

template-id

Specifies the value that is signaled in the PCE to identify the LSP template.

Platforms

All

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lsp-template

Syntax

lsp-template *lsp-template*

no lsp-template

Context

[Tree] (config>router>gtm>provider-tunnel>inclusive>rsvp lsp-template)

[Tree] (config>router>gtm>provider-tunnel>selective>rsvp lsp-template)

Full Context

configure router gtm provider-tunnel inclusive rsvp lsp-template

configure router gtm provider-tunnel selective rsvp lsp-template

Description

This command specifies the use of automatically created P2MP LSP as the provider tunnel. The P2MP LSP will be signaled using the parameters specified in the template, such as bandwidth constraints.

The **no** form of this command removes the lsp-template name from this configuration.

Default

no lsp-template

Parameters

lsp-template

Specifies the name of the LSP template, up to 32 characters.

Platforms

All

lsp-template

Syntax

lsp-template *template-name*

no lsp-template

Context

[Tree] (config>oam-pm>session>mpls>lsp>rsvp-auto lsp-template)

Full Context

configure oam-pm session mpls lsp rsvp-auto lsp-template

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Description

This command specifies the LSP template used to identify the LSP for testing.

One of three mandatory configuration statements that are required to identify automatically created RSVP LSPs, created using **config>router>mpls>lsp-template**. The **config>router>mpls>auto-lsp>lsp-template** links three distinct functions.

The **lsp-template** *template-name* must match the name of **config>router>mpls>lsp-template** used to dynamically create the RSVP LSP. This is a lose reference and does not impede the manipulation of the **config>router>mpls>lsp-template**. The required identifiers are **from**, **lsp-template** and **to**, all under this node.

The **no** form of this command deletes the *template-name* reference from the configuration.

Parameters

template-name

Specifies the name of the LSP template, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp-template

Syntax

lsp-template *template-name*

no lsp-template

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>rsvp-te-auto lsp-template)

Full Context

configure oam-pm session ip tunnel mpls rsvp-te-auto lsp-template

Description

This command configures the name of the LSP template used to identify the unique LSP. Configure the following three commands to identify an RSVP-TE Auto LSP: **from**, **to**, and **lsp-template**. When all three of these values are configured, the specific RSVP LSP can be identified and the test packets can be carried across the tunnel

The **no** form of this command removes the LSP template name from the configuration.

Parameters

template-name

Specifies the LSP template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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27.59 lsp-trace

lsp-trace

Syntax

lsp-trace *lsp-name* [**path** *path-name*] [**detail**]

lsp-trace bgp-label prefix *ip-prefix/prefix-length* [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace ldp prefix *ip-prefix/length* [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace prefix *ip-prefix/length* [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace rsvp-te *lsp-name* [**path** *path-name*]

lsp-trace sr-isis prefix *ip-prefixIprefix-length* [**igp-instance** *igp-instance*] [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace sr-ospf prefix *ip-prefixIprefix-length* [**igp-instance** *igp-instance*] [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace sr-ospf3 prefix *ip-prefixIprefix-length* [**igp-instance** *igp-instance*] [**path-destination** *ip-address* [{**interface** *if-name*| **next-hop** *ip-address*}]]

lsp-trace sr-policy color *color-id* **endpoint** *ip-address* [**segment-list** *segment-list-id*] [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace sr-te *lsp-name* [**path** *path-name*] [**path-destination** *ip-address* [{**interface** *if-name* | **next-hop** *ip-address*}]]

lsp-trace static *lsp-name* [**assoc-channel** {**ipv4** | **non-ip** | **none**}] [**path-type** {**active** | **working** | **protect**}]

NOTE: Options common to all **lsp-trace** cases: [**detail**] [**downstream-map-tlv** *downstream-map-tlv*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**flex-algo** *flex-algo-num*] [**interval** *interval*] [**max-fail** *no-response-count*] [**max-ttl** *max-label-ttl*] [**min-ttl** *min-label-ttl*] [**probe-count** *probes-per-hop*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*]

Context

[Tree] (oam lsp-trace)

[Tree] (config>saa>test>type lsp-trace)

Full Context

oam lsp-trace

configure saa test type lsp-trace

Description

This command performs an LSP traceroute using the protocol and data structures defined in IETF RFC 8029.

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The LSP trace operation is modeled after the IP traceroute utility, which uses ICMP echo request and reply packets with increasing TTL values to determine the hop-by-hop route to a destination IP.

In an LSP trace, the originating device creates an MPLS echo request packet for the LSP to be tested with increasing values of the TTL in the outermost label. The MPLS echo request packet is sent through the data plane and awaits a TTL exceeded response or the MPLS echo reply packet from the device terminating the LSP. The devices that reply to the MPLS echo request packets with the TTL exceeded and the MPLS echo reply are displayed.

The downstream mapping TLV is used in **lsp-trace** to provide a mechanism for the sender and responder nodes to exchange and validate interface and label stack information for each downstream hop in the path of the LDP FEC an RSVP LSP, or a BGP IPv4 label route.

Two downstream mapping TLVs are supported. The original Downstream Mapping (DSMAP) TLV defined in RFC 4379 (obsoleted by RFC 8029) and the new Downstream Detailed Mapping (DDMAP) TLV defined in RFC 6424 AND RFC 8029. More details are provided in the DDMAP TLV sub-section below.

In addition, when the responder node has multiple equal cost next hops for an LDP FEC, a BGP label IPv4 prefix, an SR-ISIS node SID, an SR-OSPF node SID, or an SR-TE LSP, it replies in the Downstream Mapping TLV with the downstream information for each outgoing interface which is part of the ECMP next-hop set for the prefix. The downstream mapping TLV can further be used to exercise a specific path of the ECMP set using the **path-destination** option.

This command, when used with the **static** option, performs in-band on-demand LSP traceroute tests for static MPLS-TP LSPs. For other LSP types, the **static** option should be excluded and these are described elsewhere in this user guide.

The **lsp-trace static** command performs an LSP trace using the protocol and data structures defined in the RFC 8029, Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures, as extended by RFC 6426, MPLS On-Demand Connectivity Verification and Route Tracing.

In MPLS-TP, the echo request and echo reply messages are always sent in-band over the LSP, either in a G-ACh channel or encapsulated as an IP packet below the LSP label.

The timestamp format to be sent, and to be expected when received in a PDU, is as configured by the **configure test-oam mpls-time-stamp-format** command. If RFC 4379 (obsoleted by RFC 8029) is selected, the timestamp is in seconds and microseconds since 1900, otherwise it is in seconds and microseconds since 1970.

Parameters

lsp-name

Specifies the name of the target RSVP-TE LSP, up to 64 characters.

rsvp-te lsp-name

Specifies the name of the target RSVP-TE LSP, up to 64 characters.

Note:
The **rsvp-te** explicit target FEC type is not supported under the SAA context.

path-name

Specifies the LSP path name along which to send the LSP trace request.

Values Any path name associated with the LSP.

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Default The active LSP path.

bgp-label prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target BGP IPv4 /32 label route or the target IPv6 /128 label route.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

path-destination *ip-address*

Specifies the IP address of the path destination from the range 127/8. When the LDP FEC prefix is IPv6, the user must enter a 127/8 IPv4 mapped IPv6 address, that is, in the range ::ffff:127/104.

if-name

Specifies the name of an IP interface, up 32 characters, to send the MPLS echo request to. The name must already exist in the **config>router>interface** context.

next-hop *ip-address*

Specifies the next hop to send the MPLS echo request message to.

Values ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target LDP FEC.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix - a.b.c.d

ipv6-prefix - x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

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d - [0 to 255]D

ldp prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target LDP FEC.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

sr-isis prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target node SID of the SR-ISIS tunnel.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix a.b.c.d

ipv6-prefix x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

igp-instance

Specifies the IGP instance of the node SID prefix.

Values isis-inst: 0 to 127

ospf3-inst: 0 to 31, 64 to 95

ospf-inst: 0 to 31

sr-ospf prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target node SID of the SR-OSPF tunnel.

Values <ipv4-prefix>/32 | <ipv6-prefix>/128

ipv4-prefix - a.b.c.d

ipv6-prefix - x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

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d - [0 to 255]D

sr-ospf3 prefix *ip-prefix/prefix-length*

Specifies the address prefix and subnet mask of the target node SID of the SR-OSPF3 tunnel. Only IPv6 prefixes in OSPFv3 instance ID 0-31 are supported.

Values

ipv6-prefix - x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

sr-policy color *color-id* endpoint *ip-address* segment-list *segment-list-id*

Specifies the name of the target IPv4 or IPv6 SR policy.

Note:
The **sr-policy** target FEC type is supported under the OAM context and under **type-multi-line node** in the SAA context.

color *color-id* — Specifies the color ID.

Values 0 to 4294967295

endpoint *ip-address* — Specifies the endpoint address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

segment-list *segment-list-id* — Specifies the segment list ID.

Values 1 to 32

detail

Displays detailed information and allows the user to display hop 0 (that is, ingress) information. When this parameter is applied to static LSPs, the next hop 0 information is not displayed. This information is also not displayed if the **min-ttl** *min-label-ttl* value is greater than 1.

sr-te *lsp-name*

Specifies the name of the target SR-TE LSP, up to 64 characters.

static

Specifies the selection of the target FEC Stack sub-type "Static LSP”.

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assoc-channel {ipv4 | non-ip | none}

Specifies the launched echo request's usage of the Associated Channel (ACH) mechanism, when testing an MPLS-TP LSP.

Values **ipv4** — Use the Associated Channel mechanism with IP encapsulation, as described in RFC 6426, Section 3.2.

non-ip — Do not use an Associated Channel, as described in RFC 6426, Section 3.1.

none — Use the Associated Channel mechanism described in RFC 6426, Section 3.3.

path-type {active | working | protect}

Specifies the LSP path to test.

Values **active** — Specifies the currently active path. If MPLS-TP linear protection is configured on the LSP, then this is the path that is selected by the MPLS-TP PSC protocol for sending user plane traffic. If MPLS-TP linear protection is not configured, then this is the working path.

working — Specifies the working path of the MPLS-TP LSP.

protect — Specifies the protect path of the MPLS-TP LSP.

Default active

downstream-map-tlv

Specifies which format of the downstream mapping TLV to use in the LSP trace packet. The DSMAP TLV is the original format in RFC 4379 (obsoleted by RFC 8029). The DDMAP is the new enhanced format specified in RFC 6424 and RFC 8029. The user can also choose not to include the downstream mapping TLV by entering the value none. When lsp-trace is used on a MPLS-TP LSP (static option), it can only be executed if the control-channel is set to none. In addition, the DSMAP/DDMAP TLV is only included in the echo request message if the egress interface is either a numbered IP interface, or an unnumbered IP interface. The TLV is not included if the egress interface is of type **unnumbered-mpls-tp**.

Values ddmap: Sends a detailed downstream mapping TLV.

dsmap: Sends a downstream mapping TLV.

none: No mapping TLV is sent.

Default Inherited from global configuration of downstream mapping TLV in option **mpls-echo-request-downstream-map {dsmap | ddmap}**.

fc-name

Specifies the FC and profile parameters are used to indicate the forwarding class and profile of the MPLS echo request packet.

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified FC and profile parameter values. The marking of the packet EXP is dictated by the LSP-EXP mappings on the outgoing interface.

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When the MPLS echo request packet is received on the responding node, The FC and profile parameter values are dictated by the LSP-EXP mappings of the incoming interface.

When an MPLS echo reply packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the fc and profile parameter values determined by the classification of the echo request packet, which is being replied to, at the incoming interface. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface. The ToS byte is not modified. Table 63: lsp-trace Request Packet and Behavior summarizes this behavior.

Table 63: lsp-trace Request Packet and Behavior

CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • pkt queued as {fc1, profile1} • ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet {tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • pkt queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

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Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request packet.

Default out

interval

Specifies the number of seconds to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the **interval** is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default **1**

no-response-count

Specifies the maximum number of consecutive MPLS echo requests, expressed as a decimal integer that do not receive a reply before the trace operation fails for a given TTL.

Values 1 to 255

Default 5

max-label-ttl

Specifies the maximum TTL value in the MPLS label for the LDP treetrace test, expressed as a decimal integer.

Values 1 to 255

Default 30

min-label-ttl

Specifies the minimum TTL value in the MPLS label for the LSP trace test, expressed as a decimal integer.

Values 1 to 255

Default 1

probes-per-hop

Specifies the probes per hop.

Values 1 to 10

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Default 1

octets

Specifies the size in octets, expressed as a decimal integer, of the MPLS echo request packet, including the IP header but not the label stack. The request payload is padded with zeros to the specified size. Note that an OAM command is not failed if the user entered a size lower than the minimum required to build the packet for the echo request message. The payload is automatically padded to meet the minimum size.

Values 1 to 9786

Default 1

src-ip-address *ip-address*

Specifies the source IP address. This option is used when an OAM packet must be generated from a different address than the node's system interface address. An example is when the OAM packet is sent over an LDP LSP and the LDP LSR-ID of the corresponding LDP session to the next-hop is set to an address other than the system interface address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response is not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

Values 1 to 60

Default 3

Platforms

All

Output

Output Example

```
*A:Dut-A# oam lsp-trace prefix 10.20.1.6/32 downstream-map-tlv ddmap path-
destination 127.0.0.1 detail lsp-trace to 10.20.1.6/
```


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```
32: 0 hops min, 0 hops max, 152 byte packets
1  10.20.1.2  rtt=3.44ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=127.0.0.1 ifaddr=0 iftype=ipv4Unnumbered MRU=1500
           label[1]=131070 protocol=3(LDP)
2  10.20.1.4  rtt=4.65ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=127.0.0.1 ifaddr=0 iftype=ipv4Unnumbered MRU=1500
           label[1]=131071 protocol=3(LDP)
3  10.20.1.6  rtt=7.63ms rc=3(EgressRtr) rsc=1 *A:Dut-A#


*A:Dut-C# oam lsp-trace "p_1" detail
lsp-trace to p_1: 0 hops min, 0 hops max, 116 byte packets
1  10.20.1.2  rtt=3.46ms rc=8(DSRtrMatchLabel)
     DS 1: ipaddr 10.20.1.4 ifaddr 3 iftype 'ipv4Unnumbered' MRU=1500 label=131071
proto=4(RSVP-TE)
2  10.20.1.4  rtt=3.76ms rc=8(DSRtrMatchLabel)
     DS 1: ipaddr 10.20.1.6 ifaddr 3 iftype 'ipv4Unnumbered' MRU=1500 label=131071
proto=4(RSVP-TE)
3  10.20.1.6  rtt=5.68ms rc=3(EgressRtr)
*A:Dut-C#
```

lsp-trace over a numbered IP interface

```
A:Dut-C#
A:Dut-C# oam lsp-trace prefix 5.5.5.5/32 detail
lsp-trace to 5.5.5.5/32: 0 hops min, 0 hops max, 104 byte packets
1  6.6.6.6  rtt=2.45ms rc=8(DSRtrMatchLabel)
     DS 1: ipaddr=5.6.5.1 ifaddr=5.6.5.1 iftype=ipv4Numbered MRU=1564 label=131071
proto=3(LDP)
2  5.5.5.5  rtt=4.77ms rc=3(EgressRtr)
A:Dut-C#
```

lsp-trace over an unnumbered IP interface

```
*A:Dut-A# oam lsp-trace prefix 10.20.1.6/32 downstream-map-tlv ddmap path-
destination 127.0.0.1 detail lsp-trace to 10.20.1.6/
32: 0 hops min, 0 hops max, 152 byte packets
1  10.20.1.2  rtt=3.44ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=127.0.0.1 ifaddr=0 iftype=ipv4Unnumbered MRU=1500
           label[1]=131070 protocol=3(LDP)
2  10.20.1.4  rtt=4.65ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=127.0.0.1 ifaddr=0 iftype=ipv4Unnumbered MRU=1500
           label[1]=131071 protocol=3(LDP)
3  10.20.1.6  rtt=7.63ms rc=3(EgressRtr) rsc=1 *A:Dut-A#

*A:Dut-A# oam ldp-treetrace prefix 10.20.1.6/32

ldp-treetrace for Prefix 10.20.1.6/32:

         127.0.0.1, ttl =   3 dst =      127.1.0.255 rc = EgressRtr status = Done
    Hops:         127.0.0.1         127.0.0.1

         127.0.0.1, ttl =   3 dst =      127.2.0.255 rc = EgressRtr status = Done
    Hops:         127.0.0.1         127.0.0.1

ldp-treetrace discovery state: Done
ldp-treetrace discovery status: ' OK '
Total number of discovered paths: 2
Total number of failed traces: 0

lsp-trace of a LDP IPv6 prefix FEC
```


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```
*A:Dut-A# oam lsp-trace prefix fc00::a14:106/128 path-destination ::ffff:127.0.0.1

lsp-trace to fc00::a14:106/128: 0 hops min, 0 hops max, 224 byte packets

1  fc00::a14:102  rtt=1.61ms rc=8(DSRtrMatchLabel) rsc=1

2  fc00::a14:103  rtt=3.51ms rc=8(DSRtrMatchLabel) rsc=1

3  fc00::a14:104  rtt=4.65ms rc=8(DSRtrMatchLabel) rsc=1

4  fc00::a14:106  rtt=7.02ms rc=3(EgressRtr) rsc=1


*A:Dut-A# oam lsp-trace prefix fc00::a14:106/128 path-destination ::ffff:127.0.0.2

lsp-trace to fc00::a14:106/128: 0 hops min, 0 hops max, 224 byte packets

1  fc00::a14:102  rtt=1.90ms rc=8(DSRtrMatchLabel) rsc=1

2  fc00::a14:103  rtt=3.10ms rc=8(DSRtrMatchLabel) rsc=1

3  fc00::a14:105  rtt=4.61ms rc=8(DSRtrMatchLabel) rsc=1

4  fc00::a14:106  rtt=6.45ms rc=3(EgressRtr) rsc=1
```

lsp-trace over SR-ISIS

```
*A:Dut-A# oam lsp-trace sr-isis prefix 10.20.1.6/32 igp-instance 0 detail
lsp-trace to 10.20.1.6/32: 0 hops min, 0 hops max, 108 byte packets
1  10.20.1.2  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.4.4 ifaddr=10.10.4.4 iftype=ipv4Numbered MRU=1496
           label[1]=26406 protocol=6(ISIS)
2  10.20.1.4  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.9.6 ifaddr=10.10.9.6 iftype=ipv4Numbered MRU=1496
           label[1]=26606 protocol=6(ISIS)
3  10.20.1.6  rtt=1220324ms rc=3(EgressRtr) rsc=1
```

```
*A:Dut-E# oam lsp-trace prefix 10.20.1.2/32 detail downstream-map-tlv ddmap
lsp-trace to 10.20.1.2/32: 0 hops min, 0 hops max, 108 byte packets
1  10.20.1.3  rtt=3.25ms rc=15(LabelSwitchedWithFecChange) rsc=1
     DS 1: ipaddr=10.10.3.2 ifaddr=10.10.3.2 iftype=ipv4Numbered MRU=1496
           label[1]=26202 protocol=6(ISIS)
           fecchange[1]=POP  fectype=LDP IPv4 prefix=10.20.1.2 remotepeer=0.0.0.0 (Unknown)
           fecchange[2]=PUSH fectype=SR Ipv4 Prefix prefix=10.20.1.2 remotepeer=10.10.3.2
2  10.20.1.2  rtt=4.32ms rc=3(EgressRtr) rsc=1
*A:Dut-E#
```

```
*A:Dut-B# oam lsp-trace prefix 10.20.1.5/32 detail downstream-map-tlv ddmap sr-isis
lsp-trace to 10.20.1.5/32: 0 hops min, 0 hops max, 108 byte packets
1  10.20.1.3  rtt=2.72ms rc=15(LabelSwitchedWithFecChange) rsc=1
     DS 1: ipaddr=10.11.5.5 ifaddr=10.11.5.5 iftype=ipv4Numbered MRU=1496
           label[1]=262143 protocol=3(LDP)
           fecchange[1]=POP  fectype=SR Ipv4 Prefix prefix=10.20.1.5 remotepeer=0.0.0.0
 (Unknown)
           fecchange[2]=PUSH fectype=LDP IPv4 prefix=10.20.1.5 remotepeer=10.11.5.5
2  10.20.1.5  rtt=4.43ms rc=3(EgressRtr) rsc=1
```


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lsp-trace over SR policy

```
# ipv4 sr-policy lsp-trace
*A:Dut-A# oam lsp-trace sr-policy color 2 endpoint 10.20.1.6 downstream-map-tlv ddmap path-
destination 127.1.1.1 detail lsp-trace to color 2 endpoint 10.20.1.6: 0 hops min, 0 hops max,
 188 byte packets
1  10.20.1.2  rtt=1220323ms rc=3(EgressRtr) rsc=4
1  10.20.1.2  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=3
     DS 1: ipaddr=10.10.3.3 ifaddr=10.10.3.3 iftype=ipv4Numbered MRU=1496
           label[1]=28303 protocol=6(ISIS)
           label[2]=28305 protocol=0(Unknown)
           label[3]=28506 protocol=0(Unknown)
     DS 2: ipaddr=10.10.12.3 ifaddr=10.10.12.3 iftype=ipv4Numbered MRU=1496
           label[1]=28303 protocol=6(ISIS)
           label[2]=28305 protocol=0(Unknown)
           label[3]=28506 protocol=0(Unknown)
2  10.20.1.3  rtt=1220323ms rc=3(EgressRtr) rsc=3
2  10.20.1.3  rtt=1220324ms rc=8(DSRtrMatchLabel) rsc=2
     DS 1: ipaddr=10.10.5.5 ifaddr=10.10.5.5 iftype=ipv4Numbered MRU=1496
           label[1]=28505 protocol=6(ISIS)
           label[2]=28506 protocol=0(Unknown)
     DS 2: ipaddr=10.10.11.5 ifaddr=10.10.11.5 iftype=ipv4Numbered MRU=1496
           label[1]=28505 protocol=6(ISIS)
           label[2]=28506 protocol=0(Unknown)
3  10.20.1.5  rtt=1220325ms rc=3(EgressRtr) rsc=2
3  10.20.1.5  rtt=1220325ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.10.6 ifaddr=10.10.10.6 iftype=ipv4Numbered MRU=1496
           label[1]=28606 protocol=6(ISIS)
4  10.20.1.6  rtt=1220325ms rc=3(EgressRtr) rsc=1


# ipv6 sr-policy lsp-trace
*A:Dut-A# oam lsp-trace sr-policy color 500 endpoint fc00::a14:106 lsp-trace to color 500
 endpoint fc00::a14:106: 0 hops min, 0 hops max, 204 byte packets
1  fc00::a14:102  rtt=1220323ms rc=3(EgressRtr) rsc=4
1  fc00::a14:102  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=3
2  fc00::a14:103  rtt=1220323ms rc=3(EgressRtr) rsc=3 ^C *A:Dut-A# oam lsp-trace sr-policy
 color 500 endpoint fc00::a14:106 downstream-map-tlv ddmap path-destination ::ffff:127.1.1.1
 detail lsp-trace to color 500 endpoint fc00::a14:106: 0 hops min, 0 hops max, 260 byte packets
1  fc00::a14:102  rtt=1220323ms rc=3(EgressRtr) rsc=4
1  fc00::a14:102  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=3
     DS 1: ipaddr=fe80::c617:1ff:fe01:2 ifaddr=fe80::c617:1ff:fe01:2 iftype=ipv6Numbered MRU=
1496
           label[1]=28363 protocol=6(ISIS)
           label[2]=28365 protocol=0(Unknown)
           label[3]=28566 protocol=0(Unknown)
     DS 2: ipaddr=fe80::c415:ffff:fe00:141 ifaddr=fe80::c415:ffff:fe00:141 iftype=ipv6Numbered
 MRU=1496
           label[1]=28363 protocol=6(ISIS)
           label[2]=28365 protocol=0(Unknown)
           label[3]=28566 protocol=0(Unknown)
2  fc00::a14:103  rtt=1220323ms rc=3(EgressRtr) rsc=3
2  fc00::a14:103  rtt=1220324ms rc=8(DSRtrMatchLabel) rsc=2
     DS 1: ipaddr=fe80::c61e:1ff:fe01:1 ifaddr=fe80::c61e:1ff:fe01:1 iftype=ipv6Numbered MRU=
1496
           label[1]=28565 protocol=6(ISIS)
           label[2]=28566 protocol=0(Unknown)
     DS 2: ipaddr=fe80::c61e:1ff:fe01:5 ifaddr=fe80::c61e:1ff:fe01:5 iftype=ipv6Numbered MRU=
1496
           label[1]=28565 protocol=6(ISIS)
           label[2]=28566 protocol=0(Unknown)
3  fc00::a14:105  rtt=1220325ms rc=3(EgressRtr) rsc=2
3  fc00::a14:105  rtt=1220325ms rc=8(DSRtrMatchLabel) rsc=1
```


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```
     DS 1: ipaddr=fe80::c420:1ff:fe01:2 ifaddr=fe80::c420:1ff:fe01:2 iftype=ipv6Numbered MRU=
1496
           label[1]=28666 protocol=6(ISIS)
4  fc00::a14:106  rtt=1220326ms rc=3(EgressRtr) rsc=1 *A:Dut-A#
```

lsp-trace over SR-TE

```
*A:Dut-A# oam lsp-trace sr-te "srteABCEDF" downstream-map-tlv ddmap detail
lsp-trace to srteABCEDF: 0 hops min, 0 hops max, 252 byte packets
1  10.20.1.2  rtt=1220323ms rc=3(EgressRtr) rsc=5
1  10.20.1.2  rtt=1220322ms rc=8(DSRtrMatchLabel) rsc=4
     DS 1: ipaddr=10.10.33.3 ifaddr=10.10.33.3 iftype=ipv4Numbered MRU=1520
           label[1]=3 protocol=6(ISIS)
           label[2]=262135 protocol=6(ISIS)
           label[3]=262134 protocol=6(ISIS)
           label[4]=262137 protocol=6(ISIS)
2  10.20.1.3  rtt=1220323ms rc=3(EgressRtr) rsc=4
2  10.20.1.3  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=3
     DS 1: ipaddr=10.10.5.5 ifaddr=10.10.5.5 iftype=ipv4Numbered MRU=1496
           label[1]=3 protocol=6(ISIS)
           label[2]=262134 protocol=6(ISIS)
           label[3]=262137 protocol=6(ISIS)
3  10.20.1.5  rtt=1220325ms rc=3(EgressRtr) rsc=3
3  10.20.1.5  rtt=1220325ms rc=8(DSRtrMatchLabel) rsc=2
     DS 1: ipaddr=10.10.11.4 ifaddr=10.10.11.4 iftype=ipv4Numbered MRU=1496
           label[1]=3 protocol=6(ISIS)
           label[2]=262137 protocol=6(ISIS)
4  10.20.1.4  rtt=1220324ms rc=3(EgressRtr) rsc=2
4  10.20.1.4  rtt=1220325ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.9.6 ifaddr=10.10.9.6 iftype=ipv4Numbered MRU=1496
           label[1]=3 protocol=6(ISIS)
5  10.20.1.6  rtt=1220325ms rc=3(EgressRtr) rsc=1
```

```
*A:Dut-A# oam lsp-trace sr-te "srteABCE_loose" downstream-map-tlv ddmap detail
lsp-trace to srteABCE_loose: 0 hops min, 0 hops max, 140 byte packets
1  10.20.1.2  rtt=1220323ms rc=3(EgressRtr) rsc=3
1  10.20.1.2  rtt=1220322ms rc=8(DSRtrMatchLabel) rsc=2
     DS 1: ipaddr=10.10.3.3 ifaddr=10.10.3.3 iftype=ipv4Numbered MRU=1496
           label[1]=26303 protocol=6(ISIS)
           label[2]=26305 protocol=6(ISIS)
     DS 2: ipaddr=10.10.12.3 ifaddr=10.10.12.3 iftype=ipv4Numbered MRU=1496
           label[1]=26303 protocol=6(ISIS)
           label[2]=26305 protocol=6(ISIS)
     DS 3: ipaddr=10.10.33.3 ifaddr=10.10.33.3 iftype=ipv4Numbered MRU=1496
           label[1]=26303 protocol=6(ISIS)
           label[2]=26305 protocol=6(ISIS)
2  10.20.1.3  rtt=1220323ms rc=3(EgressRtr) rsc=2
2  10.20.1.3  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.5.5 ifaddr=10.10.5.5 iftype=ipv4Numbered MRU=1496
           label[1]=26505 protocol=6(ISIS)
     DS 2: ipaddr=10.10.11.5 ifaddr=10.10.11.5 iftype=ipv4Numbered MRU=1496
           label[1]=26505 protocol=6(ISIS)
3  10.20.1.5  rtt=1220324ms rc=3(EgressRtr) rsc=1
```

```
*A:Dut-F# oam lsp-trace sr-te "srteFECBA_eth" path-destination ::ffff:127.1.1.1 detail
lsp-trace to srteFECBA_eth: 0 hops min, 0 hops max, 336 byte packets
1  fc00::a14:105  rtt=1220323ms rc=3(EgressRtr) rsc=4
1  fc00::a14:105  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=3
     DS 1: ipaddr=fe80::c618:2ff:fe01:1 ifaddr=fe80::c618:2ff:fe01:1 iftype=ipv6Numbered MRU=
1496
           label[1]=28363 protocol=6(ISIS)
           label[2]=74032 protocol=6(ISIS)
```


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```
           label[3]=28261 protocol=6(ISIS)
     DS 2: ipaddr=fe80::c618:2ff:fe01:2 ifaddr=fe80::c618:2ff:fe01:2 iftype=ipv6Numbered MRU=
1496
           label[1]=28363 protocol=6(ISIS)
           label[2]=74032 protocol=6(ISIS)
           label[3]=28261 protocol=6(ISIS)
2  fc00::a14:103  rtt=1220324ms rc=3(EgressRtr) rsc=3
2  fc00::a14:103  rtt=1220324ms rc=8(DSRtrMatchLabel) rsc=2
     DS 1: ipaddr=fe80::c613:1ff:fe01:3 ifaddr=fe80::c613:1ff:fe01:3 iftype=ipv6Numbered MRU=
1496
           label[1]=3 protocol=6(ISIS)
           label[2]=28261 protocol=6(ISIS)
3  fc00::a14:102  rtt=1220325ms rc=3(EgressRtr) rsc=2
3  fc00::a14:102  rtt=1220325ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=fe80::c0ea:1ff:fe01:1 ifaddr=fe80::c0ea:1ff:fe01:1 iftype=ipv6Numbered MRU=
1496
           label[1]=28161 protocol=6(ISIS)
4  fc00::a14:101  rtt=1220325ms rc=3(EgressRtr) rsc=1
```

lsp-trace with sr-ospf3

```
# sr-ospf3 lsp-trace
*A:Dut-A# oam lsp-trace sr-ospf3 prefix fc00::a14:106/128 detail lsp-trace to fc00::a14:106/
128: 0 hops min, 0 hops max, 164 byte packets
1  fc00::a14:102  rtt=1.33ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=fe80::c61c:1ff:fe01:1 ifaddr=fe80::c61c:1ff:fe01:1 iftype=ipv6Numbered MRU=
1496
           label[1]=29466 protocol=5(OSPF)
2  fc00::a14:104  rtt=2.27ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=fe80::c420:1ff:fe01:1 ifaddr=fe80::c420:1ff:fe01:1 iftype=ipv6Numbered MRU=
1496
           label[1]=29666 protocol=5(OSPF)
3  fc00::a14:106  rtt=2.50ms rc=3(EgressRtr) rsc=1
```

First egress label with lsp-trace

```
lsp-trace to srteABCEDF_loose: 0 hops min, 0 hops max, 216 byte packets 0  10.20.1.1
     DS 1: ipaddr=10.101.1.2 ifaddr=10.101.1.2 iftype=ipv4Numbered MRU=1496
           label[1]=26202 protocol=6(ISIS)
           label[2]=26203 protocol=6(ISIS)
           label[3]=26305 protocol=6(ISIS)
           label[4]=26504 protocol=6(ISIS)
           label[5]=26406 protocol=6(ISIS)
1  10.20.1.2  rtt=1220323ms rc=3(EgressRtr) rsc=5
1  10.20.1.2  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=4
     DS 1: ipaddr=10.10.3.3 ifaddr=10.10.3.3 iftype=ipv4Numbered MRU=1496
           label[1]=26303 protocol=6(ISIS)
           label[2]=26305 protocol=6(ISIS)
           label[3]=26504 protocol=6(ISIS)
           label[4]=26406 protocol=6(ISIS)
     DS 2: ipaddr=10.10.12.3 ifaddr=10.10.12.3 iftype=ipv4Numbered MRU=1496
           label[1]=26303 protocol=6(ISIS)
           label[2]=26305 protocol=6(ISIS)
           label[3]=26504 protocol=6(ISIS)
           label[4]=26406 protocol=6(ISIS)
2  10.20.1.3  rtt=1220323ms rc=3(EgressRtr) rsc=4
2  10.20.1.3  rtt=1220323ms rc=8(DSRtrMatchLabel) rsc=3
     DS 1: ipaddr=10.10.5.5 ifaddr=10.10.5.5 iftype=ipv4Numbered MRU=1496
           label[1]=26505 protocol=6(ISIS)
           label[2]=26504 protocol=6(ISIS)
           label[3]=26406 protocol=6(ISIS)
     DS 2: ipaddr=10.10.11.5 ifaddr=10.10.11.5 iftype=ipv4Numbered MRU=1496
           label[1]=26505 protocol=6(ISIS)
```


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```
            label[2]=26504 protocol=6(ISIS)
            label[3]=26406 protocol=6(ISIS)
```

lsp-trace

Syntax

lsp-trace

Context

[Tree] (config>saa>test>type-multi-line lsp-trace)

Full Context

configure saa test type-multi-line lsp-trace

Description

This command creates the context to perform an LSP traceroute using the protocol and data structures defined in IETF RFC 4379 (obsoleted by RFC 8029).

Platforms

All

27.60 lsp-wait

lsp-wait

Syntax

lsp-wait *lsp-wait* [**lsp-initial-wait** *lsp-initial-wait*] [**lsp-second-wait** *lsp-second-wait*]

no lsp-wait

Context

[Tree] (config>service>vpls>spb>timers lsp-wait)

Full Context

configure service vpls spb timers lsp-wait

Description

This command is used to customize LSP generation throttling. Timers that determine when to generate the first, second and subsequent LSPs can be controlled with this command. Subsequent LSPs are generated at increasing intervals of the second **lsp-wait** timer until a maximum value is reached.

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Note:
The IS-IS timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Parameters

lsp-wait

Specifies the maximum interval in milliseconds between two consecutive occurrences of an LSP being generated.

Values 10 to 120000

Default 5000

lsp-initial-wait

Specifies the initial LSP generation delay, in milliseconds. Values less than 100 ms are internally rounded down to 0, so that there is no added initial LSP generation delay.

Values 10 to 100000

Default 10

lsp-second-wait

Specifies the hold time, in milliseconds, between the first and second LSP generation.

Values 10 to 100000

Default 1000

Platforms

All

lsp-wait

Syntax

lsp-wait *lsp-wait* **lsp-initial-wait** [*initial-wait*] [**lsp-second-wait** *second-wait*]

Context

[Tree] (config>service>vprn>isis>timers lsp-wait)

Full Context

configure service vprn isis timers lsp-wait

Description

This command configures the throttling of IS-IS LSP-generation. Timers that determine when to generate the first, second, and subsequent LSPs are controlled with this command. Subsequent LSPs are generated at increasing intervals of the second **lsp-wait** timer until a maximum value is reached.

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Note: The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity; for example, a configured value of 550 ms is internally rounded down to 500 ms.

The **no** form of this command reverts to the default value.

Default

lsp-wait 5000 lsp-initial-wait 10 lsp-second-wait 1000

Parameters

lsp-wait

Specifies the maximum interval, in milliseconds, between two consecutive occurrences of an LSP being generated.

Values 10 to 120000

initial-wait

Specifies the initial LSP generation delay, in milliseconds. Values less than 100 ms are internally rounded down to 0, so that there is no added initial LSP generation delay.

Values 10 to 100000

second-wait

Specifies the hold time, in milliseconds, between the first and second LSP generation.

Values 10 to 100000

Platforms

All

lsp-wait

Syntax

lsp-wait *lsp-wait* [**lsp-initial-wait** *initial-wait*] [**lsp-second-wait** *second-wait*]

Context

[Tree] (config>router>isis>timers lsp-wait)

Full Context

configure router isis timers lsp-wait

Description

This command configures the throttling of IS-IS LSP-generation. Timers that determine when to generate the first, second, and subsequent LSPs are controlled with this command. Subsequent LSPs are generated at increasing intervals of the second **lsp-wait** timer until a maximum value is reached.

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Note: The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity; for example, a configured value of 550 ms is internally rounded down to 500 ms.

The **no** form of this command reverts to the default value.

Default

lsp-wait 5000 lsp-initial-wait 10 lsp-second-wait 1000

Parameters

lsp-wait

Specifies the maximum interval, in milliseconds, between two consecutive occurrences of an LSP being generated.

Values 10 to 120000

initial-wait

Specifies the initial LSP generation delay, in milliseconds. Values less than 100 ms are internally rounded down to 0, so that there is no added initial LSP generation delay.

Values 10 to 100000

second-wait

Specifies the hold time, in milliseconds, between the first and second LSP generation.

Values 10 to 100000

Platforms

All

27.61 lsr-label-route

lsr-label-route

Syntax

lsr-label-route [{**none** | **all**}]

Context

[Tree] (config>router>ttl-propagate lsr-label-route)

Full Context

configure router ttl-propagate lsr-label-route

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Description

This command configures the TTL propagation for transit packets at a router acting as an LSR for a BGP label route.

When an LSR swaps the BGP label for a ipv4 prefix packet, therefore acting as a ABR, ASBR, or data-path Route-Reflector (RR) in the base routing instance, or swaps the BGP label for a vpn-ipv4 or vpn-ipv6 prefix packet, therefore acting as an inter-AS Option B VPRN ASBR or VPRN data path Route-Reflector (RR), the **all** value of this command enables TTL propagation of the decremented TTL of the swapped BGP label into all outgoing LDP or RSVP transport labels.

When an LSR swaps a label or stitches a label, it always writes the decremented TTL value into the outgoing swapped or stitched label. What this feature controls is whether this decremented TTL value is also propagated to the transport label stack pushed on top of the swapped or stitched label.

The none value reverts to the default mode which disables TTL propagation. This changes the existing default behavior which propagates the TTL to the transport label stack. When a customer upgrades, the new default becomes in effect. This command does not have a no version.

This feature also controls the TTL propagation at an LDP-BGP stitching LSR in the LDP to BGP stitching direction. It also controls the TTL propagation in Carrier Supporting Carrier (CsC) VPRN at both the CsC CE and CsC PE.

SR OS does not support ASBR or data path RR functionality for labeled IPv6 routes in the global routing instance (6PE). As such the CLI command of this feature has no impact on prefix packets forwarded in this context.

Default

lsr-label-route none

Parameters

none

Specifies that the TTL of the swapped label is not propagated into the transport label stack.

all

Specifies that the TTL of the swapped label is propagated into all labels of the transport label stack.

Platforms

All

27.62 lsr-load-balancing

lsr-load-balancing

Syntax

lsr-load-balancing *hashing-algorithm*

no lsr-load-balancing

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Context

[Tree] (config>service>vprn>nw-if>load-balancing lsr-load-balancing)

Full Context

configure service vprn network-interface load-balancing lsr-load-balancing

Description

This command specifies whether the IP header is used in the LAG and ECMP LSR hashing algorithm. This is the per interface setting.

Default

no lsr-load-balancing

Parameters

lbl-only

Only the label is used in the hashing algorithm.

lbl-ip

The IP header is included in the hashing algorithm.

ip-only

The IP header is used exclusively in the hashing algorithm.

eth-encap-ip

The hash algorithm parses down the label stack and once it hits the bottom, the stack assumes Ethernet II non-tagged/dot1q or qinq header follows. At the expected Ethertype offset location, algorithm checks whether the value present is IPv4/v6 (0x0800 or 0x86DD). If the check passes, the hash algorithm checks the first nibble at the expected IP header location for IPv4/IPv6 (0x0100/0x0110). If the secondary check passes, the hash is performed using IP SA/DA fields in the expected IP header; otherwise (if any of the checks failed) label-stack hash is performed.

Platforms

All

lsr-load-balancing

Syntax

lsr-load-balancing {**lbl-only** | **lbl-ip** | **ip-only** | **eth-encap-ip** | **lbl-ip-l4-teid**}

no lsr-load-balancing

Context

[Tree] (config>router>if>load-balancing lsr-load-balancing)

Full Context

configure router interface load-balancing lsr-load-balancing

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Description

This command specifies whether the IP header is used in the LAG and ECMP LSR hashing algorithm. This is the per interface setting.

Default

no lsr-load-balancing

Parameters

lbl-only

Specifies that only the label is used in the hashing algorithm

lbl-ip

Specifies that only the IP header is included in the hashing algorithm.

ip-only

Specifies that only the IP header is used exclusively in the hashing algorithm

eth-encap-ip

Specifies that the hash algorithm parses down the label stack and once it hits the bottom, the stack assumes Ethernet II non-tagged/dot1q or qinq header follows. At the expected Ethertype offset location, algorithm checks whether the value present is IPv4/v6 (0x0800 or0x86DD). If the check passes, the hash algorithm checks the first nibble at the expected IP header location for IPv4/IPv6 (0x0100/0x0110). If the secondary check passes, the hash is performed using IP SA/DA fields in the expected IP header; otherwise (any of the check failed) label-stack hash is performed.

lbl-ip-l4-teid

Specifies that this hashing algorithm hashes based on label, IP header, Layer 4 header and GTP header (TEID) in order. The algorithm uses all the supported headers that are found in the header fragment of incoming traffic.

Platforms

All

lsr-load-balancing

Syntax

lsr-load-balancing *hashing-algorithm*

no lsr-load-balancing

Context

[Tree] (config>system>load-balancing lsr-load-balancing)

Full Context

configure system load-balancing lsr-load-balancing

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Description

This command configures system-wide LSR load balancing. Hashing can be enabled on the label stack, IP header, or both. The hashing can be at an LSR for spraying labeled IP packets over multiple equal-cost paths, or over multiple links of a LAG group.

For IPv4 packets, the LSR hash routine operates on the label stack and the IP header. An LSR considers a packet to be IPv4 if the first nibble following the bottom of the label stack is 4. You can enable or disable hashing on the label stack and IPv4 and IPv6 headers at the system level or incoming network IP interface level.

Default

no lsr-load-balancing

Parameters

lbl-only

Specifies that only the label is used in the hashing algorithm.

lbl-ip

Specifies that the IP header is included in the hashing algorithm.

ip-only

Specifies that the IP header is used exclusively in the hashing algorithm.

eth-encap-ip

Specifies that the hash algorithm parses down the label stack and after it reaches the bottom, the stack assumes the Ethernet II non-tagged, dot1q, or QinQ header follows. At the expected Ethertype offset location, the algorithm checks whether the value present is IPv4/IPv6 (0x0800/0x86DD). If the check passes, the hash algorithm checks the first nibble at the expected IP header location for IPv4/IPv6 (0x0100/0x0110). If the secondary check passes, the algorithm performs the hash using the IP SA/DA fields in the expected IP header. If any of the checks fail, the label-stack hash is performed.

lbl-ip-l4-teid

Specifies that the hashing applies as follows for Layer 2 and Layer 3 encapsulated traffic:

- If an IPv4 or IPv6 header is found immediately after the MPLS label stack, the hashing includes label stack, source and destination IP addresses, TCP/UDP port numbers, and, if present, TEID values.
- If an IPv4 or IPv6 header is not found immediately after the MPLS label stack, the data plane searches for a valid Ethertype value for the IPv4 and IPv6 payload. If a valid Ethertype value is found and an IP header follows the Ethernet header, hashing includes the source and destination IP addresses, TCP/UDP port numbers, and, if present, TEID values.

Platforms

All

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27.63 lub-init-min-pir

lub-init-min-pir

Syntax

[**no**] **lub-init-min-pir**

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution lub-init-min-pir)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution lub-init-min-pir

Description

This command enables new queues associated with a LUB context to use a minimum PIR similar to the effect of the **limit-pir-zero-drain** command. When a queue is initially created in a LUB context, it defaults to a zero value PIR until H-QoS has an opportunity to configure an offered rate based operational PIR. Enabling this command forces a minimum rate operational PIR to be applied to the queue for use by enqueued packets prior to an H-QoS iteration.

The **no** form of this command reverts to default behavior.

Default

no lub-init-min-pir

Platforms

All

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28 m Commands – Part I

28.1 m-factor

m-factor

Syntax

m-factor *kbps*

no m-factor

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl m-factor)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template m-factor

Description

This command configures the margin by which the observed throughput is off from the configured throughput to determine whether a service test passes or fails.

The M-factor is used with **cir-threshold** and **pir-threshold** values for different test types to determine whether a test passes or fails.

- type **cir**

  If the measured throughput is less than the difference of the configured CIR threshold and the M-factor, the test fails.

- type **cir-pir**

  If the measured throughput is less than the difference of the configured PIR threshold and the M-factor, the test fails.

- type **policing**
  - If the measured throughput is less than the difference of the configured PIR threshold and the M-factor, the test fails.
  - If the measured throughput is greater than the sum of the configured PIR threshold and the M-factor, the test fails.

- type **performance**

  If the measured throughput is less than the difference of the configured PIR threshold and the M-factor, the test fails.

The **no** form of this command removes the M-factor.

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Default

no m-factor

Parameters

kbps

Specifies the value, in kb/s, to use for the M-factor.

Values 1 to 400,000,000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

28.2 ma-index-range

ma-index-range

Syntax

ma-index-range start *ma-index* **end** *ma-index*

no ma-index-range

Context

[Tree] (config>eth-cfm>md-auto-id ma-index-range)

Full Context

configure eth-cfm md-auto-id ma-index-range

Description

This command specifies the range of indexes used by SR OS to automatically assign an index to ETH-CFM associations that are created in model-driven interfaces without an index explicitly specified by the user or client.

An association created with an explicitly-specified index cannot use an index in this range. In classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD interfaces, the range can be changed, which causes any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **md-auto-id** command for further details.

Parameters

start *ma-index*

Specifies the lower value of the index range. The value must be less than or equal to the **end** value.

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Values 1 to 4294967295

end *ma-index*

Specifies the upper value of the index range. The value must be greater than or equal to the **start** value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.3 mac

mac

Syntax

mac *ieee-address*

no mac

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident mac)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident mac)

Full Context

configure subscriber-mgmt local-user-db ppp host host-identification mac

configure subscriber-mgmt local-user-db ipoe host host-identification mac

Description

This command specifies the MAC address to match for a host lookup.

Note:
This command is only used when **mac** is configured as one of the **match-list** parameters.

The **no** form of this command removes the MAC address from the configuration.

Parameters

ieee-address

Specifies the 48-bit MAC address in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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mac

Syntax

[**no**] **mac** *ieee-mac-address*

Context

[Tree] (config>service>vprn>nw-if mac)

[Tree] (config>service>vprn>sub-if>grp-if mac)

[Tree] (config>service>vprn>if>vrrp mac)

[Tree] (config>service>vprn>if mac)

[Tree] (config>service>vprn>if>ipv6>vrrp mac)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep mac)

Full Context

configure service vprn network-interface mac

configure service vprn subscriber-interface group-interface mac

configure service vprn interface vrrp mac

configure service vprn interface mac

configure service vprn interface ipv6 vrrp mac

configure service vprn interface sap eth-cfm mep mac

Description

This command assigns a specific MAC address to a VPRN IP interface.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

The physical MAC address associated with the Ethernet interface on which the SAP is configured.

Parameters

ieee-mac-address

Specifies the 48-bit MAC address for the static ARP in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

- configure service vprn network-interface mac
- configure service vprn interface ipv6 vrrp mac
- configure service vprn interface mac

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- configure service vprn interface vrrp mac

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface mac

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep mac

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (debug>service>id>ppp mac)

Full Context

debug service id ppp mac

Description

This command shows PPP packets for the specified MAC address.

Parameters

ieee-address

Sets debugging for the specified MAC address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (config>service>vpls>mac-protect mac)

Full Context

configure service vpls mac-protect mac

Description

This command specifies the 48-bit IEEE 802.3 MAC address.

The **no** form of the command reverts to the default.

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Parameters

ieee-address

Specifies the 48-bit MAC address in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

Platforms

All

mac

Syntax

mac *ieee-address*

no mac [*ieee-address*]

Context

[Tree] (config>service>ies>if mac)

[Tree] (config>service>ies>sub-if>grp-if mac)

Full Context

configure service ies interface mac

configure service ies subscriber-interface group-interface mac

Description

This command assigns a specific MAC address to an IES IP interface.

For Routed Central Office (CO), a group interface has no IP address explicitly configured but inherits an address from the parent subscriber interface when needed. For example, a MAC will respond to an ARP request when an ARP is requested for one of the IPs associated with the subscriber interface through the group interface.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

The physical MAC address associated with the Ethernet interface that the SAP is configured on (the default MAC address assigned to the interface, assigned by the system).

Parameters

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff, where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

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- configure service ies interface mac

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface mac

mac

Syntax

mac *ieee-address*

no mac

Context

[Tree] (config>service>vpls>mcr-default-gtw mac)

Full Context

configure service vpls mcr-default-gtw mac

Description

This command relates to a system configured for Dual Homing in L2-TPSDA. It defines the MAC address used when the system sends out a gratuitous ARP on an active SAP after a ring heals or fails in order to attract traffic from subscribers on the ring with connectivity to that SAP.

The **no** form of this command reverts to the default.

Default

no mac

Parameters

ieee-address

Specifies the address in xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format (cannot be all zeros).

Platforms

All

mac

Syntax

mac *ieee-address*

no mac

Context

[Tree] (config>port>tdm>e3 mac)

[Tree] (config>eth-tunnel mac)

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[Tree] (config>port>ethernet mac)

[Tree] (config>lag mac)

[Tree] (config>port>tdm>ds3 mac)

Full Context

configure port tdm e3 mac

configure eth-tunnel mac

configure port ethernet mac

configure lag mac

configure port tdm ds3 mac

Description

This command assigns a specific MAC address to an Ethernet port, Link Aggregation Group (LAG), Ethernet tunnel, or BCP-enabled port or sub-port.

Only one MAC address can be assigned to a port. When multiple **mac** commands are entered, the last command overwrites the previous command. When the command is issued while the port is operational, IP will issue an ARP, if appropriate, and BPDUs are sent with the new MAC address.

The **no** form of this command returns the MAC address to the default value.

By default, a MAC address is assigned by the system from the chassis MAC address pool. The use of an all-zeroes MAC address indicates that an operational MAC address should be assigned from the chassis MAC address pool.

Default

mac 00:00:00:00:00:00

Parameters

ieee-address

Specifies the 48-bit MAC address in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 mac
- configure port tdm e3 mac

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure eth-tunnel mac

All

- configure lag mac
- configure port ethernet mac

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mac

Syntax

mac *ieee-address*

no mac

Context

[Tree] (config>eth-tunnel>ethernet mac)

Full Context

configure eth-tunnel ethernet mac

Description

This command assigns a specific MAC address to an Ethernet port, Link Aggregation Group (LAG), Ethernet tunnel, or BCP-enabled port or sub-port.

Only one MAC address can be assigned to a port. When multiple **mac** commands are entered, the last command overwrites the previous command. When the command is issued while the port is operational, IP will issue an ARP, if appropriate, and BPDUs are sent with the new MAC address.

The **no** form of this command returns the MAC address to the default value.

Default

no mac

Parameters

ieee-address

Specifies the 48-bit MAC address in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses 6-byte unicast mac-address (xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx) of the MEP. Using the all zeros address is equivalent to the **no** form of this command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac

Syntax

[no] mac *ieee-address*

Context

[Tree] (config>service>proxy-arp-nd>mac-list mac)

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Full Context

configure service proxy-arp-nd mac-list mac

Description

This command configures the proxy ARP or ND MAC address information.

The **no** form of the command deletes the MAC address.

Parameters

ieee-address

Specifies the MAC address added to the list. The MAC list can be empty or contain up to 10 addresses.

Values xx:xx:xx:xx:xx:xx

xx-xx-xx-xx-xx-xx

Platforms

All

mac

Syntax

mac *ieee-address* [**create**] **black-holemac** *ieee-address* [**create**] **sap** *sap-id* **monitor** {**fwd-status**}

mac *ieee-address* [**create**] **spoke-sdp** *sdp-id:vc-id* **monitor** {**fwd-status**}

no mac ieee-address

Context

[Tree] (config>service>vpls>static-mac mac)

Full Context

configure service vpls static-mac mac

Description

This command assigns a conditional static MAC address entry to an SPBM B-VPLS SAP/spoke-SDP allowing external MACs for single and multi-homed operation.

For the 7450 ESS or 7750 SR, this command also assigns a conditional static MAC address entry to an EVPN VPLS SAP/spoke-SDP.

Static MACs are used for PBB Epipe and I-VPLS services that may terminate external to SPBM. If this is configured under a Control B-VPLS the interface referenced will not use IS-IS for this neighbor. This may also be configured under a User B-VPLS where the corresponding interface is not supported under the Control B-VPLS.

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Parameters

ieee-address

Specifies the static MAC address to an SPBM/sdp-binding interface.

Values 6-byte mac-address (xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx) Cannot be all zeros.

sap-id

Specifies the SAP identifier.

sdp-id

Specifies the SDP identifier.

Values 1 to 17407

vc-id

Specifies the virtual circuit identifier.

Values 1 to 4294967295

create

Mandatory keyword used to create a static MAC.

fwd-status

Specifies that this static mac is based on the forwarding status of the SAP or spoke-SDP for multi-homed operation.

black-hole

Specifies for TLS FDB entries defined on a local SAP the value 'sap', remote entries defined on an SDP have the value 'sdp'.

Platforms

All

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (config>service>ipipe>sap mac)

Full Context

configure service ipipe sap mac

Description

This command assigns a specific MAC address to an Ipipe SAP.

The **no** form of this command returns the MAC address of the SAP to the default value.

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Default

The physical MAC address associated with the Ethernet interface where the SAP is configured.

Parameters

ieee-address

Specifies the 48-bit MAC address in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

Platforms

All

mac

Syntax

mac *mac-filter-id*

no mac

Context

[Tree] (config>service>template>epipe-sap-template>ingress>filter mac)

[Tree] (config>service>template>epipe-sap-template>egress>filter mac)

Full Context

configure service template epipe-sap-template ingress filter mac

configure service template epipe-sap-template egress filter mac

Description

This command associates an existing MAC filter policy with the template.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**).

Parameters

mac-filter-id

Specifies the MAC filter policy. The specified filter ID must already exist within the created MAC filters. The filter policy must already exist within the created MAC filters.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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mac

Syntax

mac *name*

no mac

Context

[Tree] (config>service>template>epipe-sap-template>egress>filter-name mac)

[Tree] (config>service>template>epipe-sap-template>ingress>filter-name mac)

Full Context

configure service template epipe-sap-template egress filter-name mac

configure service template epipe-sap-template ingress filter-name mac

Description

This command associates an existing IP filter policy with the template.

Parameters

name

Specifies the MAC filter policy name, up to 64 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

mac

Syntax

mac *ieee-address* [**mask** *six-byte-mask*]

no mac *ieee-address*

Context

[Tree] (config>service>mac-list mac)

Full Context

configure service mac-list mac

Description

This command adds a protected MAC address entry.

The **no** form of this command removes the protected MAC address entry.

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Parameters

ieee-address

Specifies the address in xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format (cannot be all zeros), up to 30 characters.

six-byte-mask

Specifies the mask address in xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format (cannot be all zeros), up to 30 characters.

Platforms

All

mac

Syntax

mac *ieee-address*

no mac

Context

[Tree] (config>service>vpls>interface mac)

Full Context

configure service vpls interface mac

Description

This command assigns a specific MAC address to a VPLS IP interface.

For Routed Central Office (CO), a group interface has no IP address explicitly configured but inherits an address from the parent subscriber interface when needed. For example, a MAC will respond to an ARP request when an ARP is requested for one of the IPs associated with the subscriber interface through the group interface.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

mac

Parameters

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Default The system chassis MAC address.

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Platforms

All

mac

Syntax

mac *name*

no mac

Context

[Tree] (config>service>template>vpls-sap-template>egress>filter-name mac)

[Tree] (config>service>template>vpls-sap-template>ingress>filter-name mac)

Full Context

configure service template vpls-sap-template egress filter-name mac

configure service template vpls-sap-template ingress filter-name mac

Description

This command associates an existing IP filter policy with the template.

Parameters

name

Specifies the MAC filter policy name, up to 64 characters.

Platforms

All

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (debug>service>id>arp-host mac)

Full Context

debug service id arp-host mac

Description

This command displays ARP host events for a particular MAC address.

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Parameters

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx (cannot be all zeros)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (debug>service>id>igmp-snooping mac)

Full Context

debug service id igmp-snooping mac

Description

This command shows IGMP packets for the specified MAC address.

The **no** form of this command disables the MAC debugging.

Platforms

All

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (debug>service>id>mld mac)

Full Context

debug service id mld-snooping mac

Description

This command shows MLD packets for the specified MAC address.

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The **no** form of this command disables the MAC debugging.

Platforms

All

mac

Syntax

[**no**] **mac** *ieee-address*

Context

[Tree] (debug>service>id>host-connectivity-verify mac)

Full Context

debug service id host-connectivity-verify mac

Description

This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular MAC address.

Parameters

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx (cannot be all zeros)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mac

Syntax

mac *mac-address*

no mac

Context

[Tree] (config>service>ies>if>ipv6>vrrp mac)

Full Context

configure service ies interface ipv6 vrrp mac

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Description

This command assigns a specific MAC address to an IES IP interface.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

The physical MAC address associated with the Ethernet interface that the SAP is configured on (the default MAC address assigned to the interface, assigned by the system).

Parameters

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

mac

Syntax

mac *mac-address*

no mac

Context

[Tree] (config>service>ies>if>vrrp mac)

Full Context

configure service ies interface vrrp mac

Description

This command assigns a specific MAC address to an IES IP interface.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

The physical MAC address associated with the Ethernet interface that the SAP is configured on (the default MAC address assigned to the interface, assigned by the system).

Parameters

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff, where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

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Platforms

All

mac

Syntax

mac *ieee-address*

no mac

Context

[Tree] (config>router>if mac)

Full Context

configure router interface mac

Description

This command assigns a specific MAC address to an IP interface. Only one MAC address can be assigned to an IP interface. When multiple **mac** commands are entered, the last command overwrites the previous command.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

no mac

Parameters

ieee-address

Specifies the 48-bit MAC address for the IP interface in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff,* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

mac

Syntax

mac *mac-address*

no mac

Context

[Tree] (config>router>if>ipv6>vrrp mac)

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[Tree] (config>router>if>vrrp mac)

Full Context

configure router interface ipv6 vrrp mac

configure router interface vrrp mac

Description

This command sets an explicit MAC address used by the virtual router instance overriding the VRRP default derived from the VRID.

Changing the default MAC address is useful when an existing HSRP or other non-VRRP default MAC is in use by the IP hosts using the virtual router IP address. Many hosts do not monitor unessential ARPs and continue to use the cached non-VRRP MAC address after the virtual router becomes master of the host's gateway address.

The **mac** command sets the MAC address used in ARP responses when the virtual router instance is master. Routing of IP packets with *mac-address* as the destination MAC is also enabled. The **mac** setting must be the same for all virtual routers participating as a virtual router or indeterminate connectivity by the attached IP hosts will result. All VRRP advertisement messages are transmitted with *mac-address* as the source MAC.

The command can be configured in both non-owner and owner **vrrp** nodal contexts.

The **mac** command can be executed at any time and takes effect immediately. When the virtual router MAC on a master virtual router instance changes, a gratuitous ARP is immediately sent with a VRRP advertisement message. If the virtual router instance is disabled or operating as backup, the gratuitous ARP and VRRP advertisement message is not sent.

The **no** form of the command restores the default VRRP MAC address to the virtual router instance.

Default

no mac

Parameters

mac-address

The 48-bit MAC address for the virtual router instance in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC, and non-IEEE reserved MAC addresses.

Platforms

All

mac

Syntax

mac *index* **name** *mac-name*

no mac *index*

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Context

[Tree] (config>system>security>ssh>client-mac-list mac)

[Tree] (config>system>security>ssh>server-mac-list mac)

Full Context

configure system security ssh client-mac-list mac

configure system security ssh server-mac-list mac

Description

This command configures SSH MAC algorithms for SR OS as an SSH server or an SSH client.

The **no** form of this command removes the specified **mac** *index*.

Default

no mac *index*

Parameters

index

Specifies the index of the algorithm in the list.

Values 1 to 255

mac-name

Specifies the algorithm for calculating the message authentication code.

Values The following table lists the default client and server algorithms used for SSHv2.

Table 64: SSHv2 Default client and server algorithms

index	mac-name
200	hmac-sha2-512
210	hmac-sha2-256
215	hmac-sha1
220	hmac-sha1-96
225	hmac-md5
240	hmac-md5-96

Platforms

All

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mac

Syntax

mac *mac-id* [**create**]

no mac *mac-id*

Context

[Tree] (config>card>xiom>mda>xconnect mac)

[Tree] (config>card>mda>xconnect mac)

Full Context

configure card xiom mda xconnect mac

configure card mda xconnect mac

Description

This command creates a loopback in the MAC chip. It does not require the allocation of a faceplate. After the loopback is instantiated, a PXC can be configured on top of it.

For a list of MAC chip IDs per forwarding complex (datapath), use the **show datapath datapath-id** *datapath-id* command.

When considering loopback creation, the operation should consider the MAC chip's bandwidth capacity and the bandwidth utilization of all the faceplate ports connected to it. The selection of MAC chips for loopback creation should be taken into consideration.

The **no** form of this command removes the MAC ID from the configuration.

Parameters

mac-id

Specifies the MAC ID.

Values 1 to 12

create

Keyword used to create the MAC ID instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda xconnect mac

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure card mda xconnect mac

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28.4 mac-address

mac-address

Syntax

[**no**] **mac-address**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute mac-address)

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute mac-address)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute mac-address

configure subscriber-mgmt authentication-policy include-radius-attribute mac-address

Description

This command enables the generation of the client MAC address RADIUS attribute.

The **no** form of this command disables the generation of the client MAC address RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mac-address

Syntax

mac-address *ieee-address*

no mac-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query mac-address)

Full Context

configure subscriber-mgmt wlan-gw ue-query mac-address

Description

This command enables matching on UEs with the specified MAC address.

The **no** form of this command disables matching on the MAC address.

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Default

no mac-address

Parameters

ieee-address

Specifies the ethernet MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

mac-address

Syntax

mac-address *mac-address*

no mac-address

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep mac-address)

[Tree] (config>eth-ring>path>eth-cfm>mep mac-address)

Full Context

configure eth-tunnel path eth-cfm mep mac-address

configure eth-ring path eth-cfm mep mac-address

Description

This command specifies the MAC address of the MEP.

The **no** form of this command reverts the MAC address of the MEP back to that of the port (if the MEP is on a SAP) or the bridge (if the MEP is on a spoke SDP).

Parameters

mac-address

Specifies the MAC address of the MEP.

Values 6-byte unicast mac-address (xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx) of the MEP. Using the all zeros address is equivalent to the **no** form of this command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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mac-address

Syntax

mac-address *mac-address*

no mac-address

Context

[Tree] (config>lag>eth-cfm>mep mac-address)

[Tree] (config>port>ethernet>eth-cfm>mep mac-address)

[Tree] (config>router>if>eth-cfm>mep mac-address)

Full Context

configure lag eth-cfm mep mac-address

configure port ethernet eth-cfm mep mac-address

configure router interface eth-cfm mep mac-address

Description

This command specifies the MAC address of the MEP.

The **no** form of this command reverts to the MAC address of the MEP back to the default, that of the port, since this is SAP based.

Default

no mac-address

Parameters

mac-address

Specifies the MAC address of the MEP.

Values 6-byte unicast mac-address (xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx) of the MEP. Using the all zeros address is equivalent to the no form of this command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac-address

Syntax

mac-address *mac-address*

no mac-address

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Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep mac-address)

Full Context

configure service epipe spoke-sdp eth-cfm mep mac-address

Description

This command specifies the MAC address of the MEP.

The **no** form of this command reverts the MAC address of the MEP back to that of the port (if the MEP is on a SAP) or the bridge (if the MEP is on a spoke).

Parameters

mac-address

Specifies the MAC address of the MEP.

Values 6-byte mac-address in the form of xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx of the MEP. Must be unicast. Using the all zeros address is equivalent to the no form of this command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac-address

Syntax

mac-address *mac-address*

no mac-address

Context

[Tree] (config>service>vpls>eth-cfm>mep mac-address)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep mac-address)

[Tree] (config>service>vpls>sap>eth-cfm>mep mac-address)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep mac-address)

Full Context

configure service vpls eth-cfm mep mac-address

configure service vpls mesh-sdp eth-cfm mep mac-address

configure service vpls sap eth-cfm mep mac-address

configure service vpls spoke-sdp eth-cfm mep mac-address

Description

This command specifies the MAC address of the MEP.

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The **no** form of this command reverts the MAC address of the MEP back to that of the port (if the MEP is on a SAP) or the bridge (if the MEP is on a spoke).

Parameters

mac-address

Specifies the MAC address of the MEP

Values 6-byte mac-address in the form of xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx of the MEP. Must be unicast. Using the all zeros address is equivalent to the no form of this command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac-address

Syntax

mac-address *mac-address*

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm mac-address)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep mac-address)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep mac-address)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm mac-address

configure service vprn interface sap eth-cfm mep mac-address

configure service vprn interface spoke-sdp eth-cfm mep mac-address

Description

This command assigns a specific MAC address to an IP interface.

The **no** form of this command returns the MAC address of the IP interface to the default value.

Default

The physical MAC address associated with the Ethernet interface that the SAP is configured on.

Parameters

mac-address

Specifies the 48-bit MAC address for the static ARP in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mac-address

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep mac-address
- configure service vprn interface sap eth-cfm mep mac-address

mac-address

Syntax

[**no**] **mac-address**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes mac-address)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes mac-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes mac-address

configure aaa isa-radius-policy auth-include-attributes mac-address

Description

This command enables the generation of the client MAC address RADIUS attribute.

Default

no mac-address

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mac-address

Syntax

mac-address *mac-address*

no mac-address

Context

[Tree] (config>system>satellite>eth-sat mac-address)

Full Context

configure system satellite eth-sat mac-address

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Description

This command configures the MAC address for the associated satellite chassis. This MAC address is used to validate the identity of an satellite that attempts to associate with the local host.

The **no** form of the command deletes the MAC address for the associated satellite.

Parameters

mac-address

Specifies the MAC address of the associated satellite chassis; do not use a broadcast or multicast MAC. Enter the MAC address in either of the following formats: xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac-address

Syntax

mac-address *ieee-address*

no mac-address *ieee-address*

Context

[Tree] (config>port>ethernet>dot1x>per-host-authentication>allowed-source-macs mac-address)

Full Context

configure port ethernet dot1x per-host-authentication allowed-source-macs mac-address

Description

This command configures the host MAC address on the allowed MAC list.

The **no** form of the command deletes the MAC address from the list.

Default

no mac

Parameters

ieee-address

Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx

Platforms

All

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28.5 mac-advertisement

mac-advertisement

Syntax

[**no**] **mac-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn mac-advertisement)

Full Context

configure service vpls bgp-evpn mac-advertisement

Description

This command enables the advertisement in BGP of the learned macs on SAPs and SDP bindings. When the mac-advertisement is disabled, the local macs will be withdrawn in BGP.

Default

mac-advertisement

Platforms

All

28.6 mac-criteria

mac-criteria

Syntax

[**no**] **mac-criteria**

Context

[Tree] (config>qos>sap-ingress mac-criteria)

Full Context

configure qos sap-ingress mac-criteria

Description

This command is used to enter the node to create or edit policy entries that specify MAC criteria.

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The **mac-criteria** based SAP ingress policies are used to select the appropriate ingress queue and corresponding forwarding class for matched traffic.

Router implementation will exit on the first match found and execute the actions in accordance with the accompanying action command. For this reason, entries must be sequenced correctly from most to least explicit.

The **no** form of this command deletes all the entries specified under this node. When mac-criteria entries are removed from a SAP ingress policy, the mac-criteria is removed from all services where that policy is applied.

Platforms

All

28.7 mac-da-hashing

mac-da-hashing

Syntax

[**no**] **mac-da-hashing**

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only mac-da-hashing)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters mac-da-hashing

Description

This command specifies whether subscriber traffic egressing a LAG SAP has its egress LAG link selected by a function of the MAC destination address instead of the subscriber ID.

This command is only meaningful if subscriber management is enabled and can be configured for a VPLS service.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mac-da-hashing

Syntax

mac-da-hashing

no mac-da-hashing

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Context

[Tree] (config>service>vpls>sap>sub-sla-mgmt mac-da-hashing)

Full Context

configure service vpls sap sub-sla-mgmt mac-da-hashing

Description

This command specifies whether subscriber traffic egressing a LAG SAP has its egress LAG link selected by a function of the MAC destination address instead of the subscriber ID.

The **no** form of this command reverts to the default setting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.8 mac-duplication

mac-duplication

Syntax

mac-duplication

Context

[Tree] (config>service>vpls>bgp-evpn mac-duplication)

Full Context

configure service vpls bgp-evpn mac-duplication

Description

Commands in this context configure the BGP EVPN MAC duplication parameters.

Platforms

All

28.9 mac-filter

mac-filter

Syntax

mac-filter *mac-filter-id* **entry** *entry-id* [*entry-id*]

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no mac-filter *mac-filter-id* [**entry** *entry-id*]

Context

[Tree] (config>mirror>mirror-source mac-filter)

Full Context

configure mirror mirror-source mac-filter

Description

This command enables mirroring of packets that match specific entries in an existing MAC filter.

The **mac-filter** command directs packets which match the defined list of entry IDs to be mirrored to the mirror destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The MAC filter must already exist in order for the command to execute. Filters are configured in the **config**>**filter** context. If the MAC filter does not exist, an error will occur. If the filter exists but has not been associated with a SAP or IP interface, an error is not be generated but mirroring will not be enabled (there are no packets to mirror). Once the filter is defined to a SAP or MAC interface, mirroring is enabled.

If the MAC filter is defined as ingress, only ingress packets are mirrored. Ingress mirrored packets are mirrored to the mirror destination prior to any ingress packet modifications.

If the MAC filter is defined as egress, only egress packets are mirrored. Egress mirrored packets are mirrored to the mirror destination after all egress packet modifications.

An *entry-id* within a MAC filter can only be mirrored to a single mirror destination. If the same *entry-id* is defined multiple times, an error occurs and only the first **mirror-source** definition is in effect.

By default, no packets matching any MAC filters are mirrored. Mirroring of MAC filter entries must be explicitly defined.

The **no** form of this command, without the **entry** keyword, removes mirroring on all *entry-id*'s within the *mac-filter-id*.

When the **no** command is executed with the **entry** keyword and one or more *entry-id*'s, mirroring of that list of *entry-id*'s is terminated within the *mac-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being mirrored, no error will occur for that *entry-id* and the command will execute normally.

Parameters

mac-filter-id

Specifies the MAC filter ID whose entries are mirrored. If the *mac-filter-id* does not exist, an error will occur and the command will not execute. Mirroring of packets will commence once the *mac-filter-id* is defined on a SAP.

entry-id

Specifies the MAC filter entries to use as match criteria for packet mirroring. The **entry** keyword begins a list of *entry-id*'s for mirroring. Multiple *entry-id* entries may be specified with a single command. Each *entry-id* must be separated by a space. Up to 8 entry IDs may be specified in a single command.

Each *entry-id* must exist within the *mac-filter-id*. If the *entry-id* is renumbered within the MAC filter definition, the old *entry-id* is removed from the list and the new *entry-id* will need to be manually added to the list if mirroring is still desired.

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If no *entry-id* entries are specified in the command, mirroring will not occur for that MAC filter ID. The command will have no effect.

Platforms

All

mac-filter

Syntax

[**no**] **mac-filter** *mac-filter-id*

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block mac-filter)

Full Context

configure li li-filter-block-reservation li-reserved-block mac-filter

Description

This command configures to which normal MAC filters the entry reservation is applied.

This command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**).

Parameters

mac-filter-id

Specifies the filter identification identifies the normal MAC filters.

Values {*filter-id* | *filter-name*}

filter-id:	1 to 65535
filter-name:	up to 64 characters (*filter-name* is an alias for input only. The *filter-name* gets replaced with an id automatically by SR OS in the configuration).

Platforms

All

mac-filter

Syntax

[**no**] **mac-filter** *mac-filter-id*

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Context

[Tree] (config>li>li-filter-assoc>li-mac-fltr mac-filter)

Full Context

configure li li-filter-associations li-mac-filter mac-filter

Description

Specifies the MAC filter(s) into which the entries from the specified **li-mac-filter** are to be inserted. The **li-mac-filter** and **mac-filter** must already exist before the association is made. If the normal MAC filter is deleted then the association is also removed (and not re-created if the MAC filter comes into existence in the future).

The **no** form of this command removes the MAC filter ID from the configuration.

Parameters

mac-filter-id

Specifies a filter identification to identify the MAC filter.

Values 1 to 65536, *name*: up to 64 characters

Platforms

All

mac-filter

Syntax

mac-filter *mac-filter-id* **entry** *entry-id* [*entry-id*] [**intercept-id** *intercept-id* [*intercept-id*]] [**session-id** [*session-id*] [[*session-id*]]]

no mac-filter *mac-filter-id*

Context

[Tree] (config>li>li-source mac-filter)

Full Context

configure li li-source mac-filter

Description

This command enables lawful interception (LI) of packets that match specific entries in an existing MAC filter. Multiple entries can be created using unique *entry-id* numbers within the filter. The router implementation exits the filter on the first match found and executes the actions in accordance with the accompanying action command. For this reason, entries must be sequenced correctly from most to least explicit.

An entry may not have any match criteria defined (in which case, everything matches) but must have at least the keyword **action** for it to be considered complete. Entries without the **action** keyword will be considered incomplete and hence will be rendered inactive.

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An *entry-id* within an MAC filter can only be intercepted to a single destination. If the same *entry-id* is defined multiple times, an error occurs and only the first definition is in effect.

The **no** form of this command removes the specified entry from the IP or MAC filter. Entries removed from the IP or MAC filter are immediately removed from all services or network ports where that filter is applied.

Parameters

mac-filter-id

Specifies the MAC filter ID. If the *mac-filter-id* does not exist, an error will occur and the command will not execute.

entry-id

The MAC filter entries to use as match criteria.

intercept-id

Specifies the intercept-id that is inserted into the packet header for all mirrored packets of the associated li-source entry. This *intercept-id* can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. For all types of **li-source** entries (filter, nat, sap, subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, an *intercept-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *intercept-id* configured for an **li-source** entry, then the default value will be inserted. When the mirror service is configured with **ip-gre** routable encap, no *intercept-id* is inserted and none should be specified against the **li-source** entries.

Values 1 to 4294967295 (32b) — For nat li-source entries that are using a mirror service that is not configured with routable encapsulation

Values 1 to 1,073,741,824 (30b) — For all types of li-source entries that are using a mirror service with routable **ip-udp-shim** encapsulation and no direction-bit.

Values 1 to 536,870,912 (29b) — For all types of li-source entries that are using a mirror service with routable **ip-udp-shim** encapsulation and with the direction-bit enabled.

session-id

Specifies the *session-id* that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This *session-id* can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. The *session-id* is only valid and used for mirror services that are configured with **ip-udp-shim** routable encap (**config>mirror>mirror-dest>encap>ip-udp-shim**). For all types of **li-source** entries (filter, nat, sap, or subscriber), when the mirror service is configured with **ip-udp-shim** routable encap, a *session-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *session-id* configured for an **li-source** entry, then the default value will be inserted. When a mirror service is configured with **ip-gre** routable encap, no *session-id* is inserted and none should be specified against the **li-source** entries.

Values 1 to 4,294,967,295 (32b)

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Platforms

All

mac-filter

Syntax

mac-filter *mac-filter-id* **entry** *entry-id* [*entry-id*]

no mac-filter *mac-filter-id* [**entry** *entry-id*]

Context

[Tree] (debug>mirror-source mac-filter)

Full Context

debug mirror-source mac-filter

Description

This command enables mirroring of packets that match specific entries in an existing MAC filter.

The **mac-filter** command directs packets which match the defined list of entry IDs to be mirrored to the mirror destination referenced by the *mirror-dest-service-id* of the **mirror-source**.

The MAC filter must already exist in order for the command to execute. Filters are configured in the config>filter context. If the MAC filter does not exist, an error will occur. If the filter exists but has not been associated with a SAP or IP interface, an error is not be generated but mirroring will not be enabled (there are no packets to mirror). Once the filter is defined to a SAP or MAC interface, mirroring is enabled.

If the MAC filter is defined as ingress, only ingress packets are mirrored. Ingress mirrored packets are mirrored to the mirror destination prior to any ingress packet modifications.

If the MAC filter is defined as egress, only egress packets are mirrored. Egress mirrored packets are mirrored to the mirror destination after all egress packet modifications.

An *entry-id* within a MAC filter can only be mirrored to a single mirror destination. If the same *entry-id* is defined multiple times, an error occurs and only the first **mirror-source** definition is in effect.

By default, no packets matching any MAC filters are mirrored. Mirroring of MAC filter entries must be explicitly defined.

The **no** form of this command, without the **entry** keyword, removes mirroring on all *entry-id*'s within the *mac-filter-id*.

When the **no** command is executed with the **entry** keyword and one or more *entry-id*'s, mirroring of that list of *entry-id*'s is terminated within the *mac-filter-id*. If an *entry-id* is listed that does not exist, an error will occur and the command will not execute. If an *entry-id* is listed that is not currently being mirrored, no error will occur for that *entry-id* and the command will execute normally.

Parameters

mac-filter-id

Specifies the MAC filter ID whose entries are mirrored. If the *mac-filter-id* does not exist, an error will occur and the command will not execute. Mirroring of packets will commence once the *mac-filter-id* is defined on a SAP.

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entry-id

Specifies the MAC filter entries to use as match criteria for packet mirroring. The **entry** keyword begins a list of *entry-id*'s for mirroring. Multiple *entry-id* entries may be specified with a single command. Each *entry-id* must be separated by a space. Up to 8 entry IDs may be specified in a single command.

Each *entry-id* must exist within the *mac-filter-id*. If the *entry-id* is renumbered within the MAC filter definition, the old *entry-id* is removed from the list and the new *entry-id* will need to be manually added to the list if mirroring is still desired.

If no *entry-id* entries are specified in the command, mirroring will not occur for that MAC filter ID. The command will have no effect.

Platforms

All

mac-filter

Syntax

mac-filter *filter-id* [**create**] [**name** *name*]

mac-filter {*filter-id* | *filter-name*}

no mac-filter {*filter-id* | *filter-name*}

Context

[Tree] (config>filter mac-filter)

Full Context

configure filter mac-filter

Description

This command creates a configuration context for the specified MAC filter policy.

The **no** form of the command deletes the MAC filter policy. A filter policy cannot be deleted until it is removed from all objects where it is applied.

Parameters

filter-id

Specifies the MAC filter policy ID expressed as a decimal integer.

Values 1 to 65535

create

Keyword required to create the configuration context. After it is created, the context can be enabled with or without the **create** keyword.

name

Sets an optional filter name, up to 64 characters in length, to a given filter. This filter name can then be used in configuration references, display, and show commands throughout the

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system. A defined filter name can help the service provider or administrator to identify and manage filters within the SR OS platforms.

To create a filter, you must assign a filter ID, however, after it is created, either the filter ID or filter name can be used to identify and reference a filter.

If a name is not specified at creation time, then SR OS assigns a string version of the *filter-id* as the name.

Filter names may not begin with an integer (0 to 9).

Values *name*: 64 characters maximum

filter-name

Specifies a string of up to 64 characters uniquely identifying this MAC filter policy.

Platforms

All

mac-filter

Syntax

[**no**] **mac-filter**

Context

[Tree] (config>system>security>mgmt-access-filter mac-filter)

Full Context

configure system security management-access-filter mac-filter

Description

This command configures a management access MAC-filter.

Platforms

All

mac-filter

Syntax

[**no**] **mac-filter**

Context

[Tree] (config>system>security>cpm-filter mac-filter)

Full Context

configure system security cpm-filter mac-filter

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Description

Commands in this context configure CPM MAC-filter parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac-filter

Syntax

ip-filter *src-filter-id* [**src-entry** *src-entry-id*] **to** *dst-filter-id* [**dst-entry** *dst-entry-id*] [**overwrite**]

Context

[Tree] (config>filter>copy mac-filter)

Full Context

configure filter copy mac-filter

Description

This command copies an existing filter entry for a specific filter ID to another filter ID. The **copy** command is a configuration level maintenance tool used to create new entries using an existing filter policy. If **overwrite** is not specified, an error will occur if the destination filter entry exists.

Parameters

src-filter-id

Specifies the source filter policy from which the copy command will attempt to copy. The filter policy must exist within the context of the preceding keyword (**mac-filter**).

dst-filter-id

Specifies the destination filter policy to which the copy command will attempt to copy. If the **overwrite** keyword is not specified, the filter entry ID cannot already exist in the destination filter policy. If the **overwrite** keyword is present, the destination entry ID may or may not exist.

overwrite

Specifies that the destination filter entry may exist. If it does, everything in the existing destination filter entry will be completely overwritten with the contents of the source filter entry. If the destination filter entry exists, either **overwrite** must be specified or an error message will be returned. If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make” manner and therefore should be handled with care.

Platforms

All

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28.10 mac-filter-name

mac-filter-name

Syntax

[**no**] **mac-filter-name** *filter-name*

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block mac-filter-name)

Full Context

configure li li-filter-block-reservation li-reserved-block mac-filter-name

Description

This command configures a MAC filter in which the reservation is done through name.

The **no** form of this command removes the MAC filter name.

Parameters

filter-name

Specifies the MAC filter name, up to 64 characters.

Platforms

All

mac-filter-name

Syntax

[**no**] **mac-filter-name** *filter-name*

Context

[Tree] (config>li>li-filter-assoc>li-mac-fltr mac-filter-name)

Full Context

configure li li-filter-associations li-mac-filter mac-filter-name

Description

This command associates a MAC filter with a specified LI MAC filter through its name.

The **no** form of this command removes the MAC filter name.

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Parameters

filter-name

Specifies the MAC filter name, up to 64 characters.

Platforms

All

28.11 mac-format

mac-format

Syntax

mac-format *format*

no mac-format

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>match-radprox-cache mac-format)

Full Context

configure subscriber-mgmt local-user-db ipoe host match-radius-proxy-cache mac-format

Description

This command specifies the format of MAC address used for matching incoming DHCP DISCOVER against the RADIUS proxy cache.

The **no** form of this command reverts to the default.

Default

mac-format "aa:"

Parameters

format

Specifies the format string that specifies the format of MAC address.

Values mac-format: (only when match is equal to mac)

like ab: for 00:0c:f1:99:85:b8

or XY- for 00-0C-F1-99-85-B8

or mmmm. for 0002.03aa.abff

or xx for 000cf19985b8

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mac-format

Syntax

mac-format *mac-format*

no mac-format

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx mac-format)

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq mac-format)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy mac-format)

Full Context

configure subscriber-mgmt diameter-application-policy gx mac-format

configure subscriber-mgmt diameter-application-policy nasreq mac-format

configure subscriber-mgmt diameter-application-policy gy mac-format

Description

This command configures the format of the MAC address when reported in Gx, Gy, or NASREQ application message AVPs such as Calling-Station-Id or User-Name.

The **no** form of this command resets the command to the default setting.

Default

mac-format ab

Parameters

mac-format

Specifies the MAC address format.

Values like ab: for 00:0c:f1:99:85:b8
or XY- for 00-0C-F1-99-85-B8
or mmmm. for 0002.03aa.abff
or xx for 000cf19985b8

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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mac-format

Syntax

mac-format *mac-format*

no mac-format

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>track-mobility mac-format)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>track-mobility mac-format)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range track-mobility mac-format

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range track-mobility mac-format

Description

This command configures how the MAC address is represented by the RADIUS proxy server.

Default

no mac-format "aa:"

Parameters

mac-format

Specifies how the MAC address is represented by the RADIUS proxy server.

Values		
	mac-format	like ab: for 00:0c:f1:99:85:b8
		or XY- for 00-0C-F1-99-85-B8
		or mmmm. for 0002.03aa.abff
		or xx for 000cf19985b8

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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28.12 mac-learning-options

mac-learning-options

Syntax

[**no**] mac-learning-options

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host-mgmt mac-learning-options)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host-mgmt mac-learning-options)

Full Context

configure service vprn subscriber-interface group-interface sap static-host-mgmt mac-learning-options

configure service ies subscriber-interface group-interface sap static-host-mgmt mac-learning-options

Description

This command configures additional methods by which the BNG learns the subscriber host MAC.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.13 mac-linking

mac-linking

Syntax

mac-linking *ip-address*

no mac-linking

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host mac-linking)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host mac-linking)

Full Context

configure service ies subscriber-interface group-interface sap static-host mac-linking

configure service vprn subscriber-interface group-interface sap static-host mac-linking

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Description

This command associates this IPv6 host to the specified IPv4 host through the learned MAC address. A learned MAC from the IPv6 host is associated with the IPv4 host and vice versa.

The **no** form of this command removes the IP address from the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.14 mac-list

mac-list

Syntax

mac-list *name* [**create**]

no mac-list *name*

Context

[Tree] (config>service>proxy-arp-nd mac-list)

Full Context

configure service proxy-arp-nd mac-list

Description

This command creates a list of MAC addresses that can be pointed at from the service for a specified IP. The list may contain up to 10 MAC addresses; an empty list is also allowed.

The MAC list allows on-the-fly changes, but a change in the list deletes the proxy entries for all the IPs using that list.

The **no** form of the command deletes the entire MAC-list. Deleting a MAC list is only possible if it is not referenced in the configuration.

Parameters

name

Specifies the name of the MAC address list, which can be up to 32 characters.

create

Mandatory keyword to create a MAC list.

Platforms

All

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mac-list

Syntax

mac-list *name*

no mac-list

Context

[Tree] (config>service>vpls>proxy-nd>dynamic mac-list)

[Tree] (config>service>vpls>proxy-arp>dynamic mac-list)

Full Context

configure service vpls proxy-nd dynamic mac-list

configure service vpls proxy-arp dynamic mac-list

Description

This command associates a previously created MAC list to a dynamic IP. The MAC list is created using the **configure service proxy-arp-nd mac-list** command.

The **no** form of the command deletes the association of the MAC list and the dynamic IP.

Parameters

name

Specifies the name of the MAC list previously created using the **configure service proxy-arp-nd mac-list** command.

Platforms

All

mac-list

Syntax

mac-list *name* [**create**]

no mac-list *name*

Context

[Tree] (config>service mac-list)

Full Context

configure service mac-list

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Description

This command configures a MAC list name. The MAC list is composed of a list of MAC addresses and masks, which along with Auto-Learn Mac Protect (ALMP) can be used to exclude certain MACs from being protected in a given object. This is typically used on SAPs and spoke SDPs configured with ALMP where certain MACs must be able to move to other objects (for example, VRRP virtual MACs).

The **no** form of this command removes the MAC list name.

Parameters

name

Specifies the MAC list name, up to 32 characters.

create

Keyword used to create the MAC list.

Platforms

All

28.15 mac-move

mac-move

Syntax

[**no**] **mac-move**

Context

[Tree] (config>service>vpls mac-move)

[Tree] (config>service>template>vpls-template mac-move)

Full Context

configure service vpls mac-move

configure service template vpls-template mac-move

Description

Commands in this context configure MAC move attributes. A sustained high re-learn rate can be a sign of a loop somewhere in the VPLS topology. Typically, STP detects loops in the topology, but for those networks that do not run STP, the mac-move feature is an alternative way to protect your network against loops.

When enabled in a VPLS, **mac-move** monitors the re-learn rate of each MAC. If the rate exceeds the configured maximum allowed limit, it disables the SAP where the source MAC was last seen. The SAP can be disabled permanently (until a **shutdown**/**no shutdown** command is executed) or for a length of time that grows linearly with the number of times the specified SAP was disabled. You have the option of marking a SAP as non-blockable in the **config>service>vpls>sap>limit-mac-move** or **config>service>vpls>spoke-sdp>limit-mac-move** contexts. This means that when the re-learn rate has exceeded the limit, another (blockable) SAP will be disabled instead.

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The **mac-move** command enables the feature at the service level for SAPs and spoke-SDPs, as only those objects can be blocked by this feature. Mesh SDPs are never blocked, but their re-learn rates (sap-to-mesh/spoke-to-mesh or vice versa) are still measured.

The operation of this feature is the same on the SAP and spoke-SDP. For example, if a MAC address moves from SAP to SAP, from SAP to spoke-SDP, or between spoke-SDPs, one will be blocked to prevent thrashing. If the MAC address moves between a SAP and mesh SDP or spoke-SDP and mesh SDP combinations, the respective SAP or spoke-SDP will be blocked.

mac-move will disable a VPLS port when the number of relearns detected has reached the number of relearns needed to reach the move-frequency in the 5-second interval. For example, when the move-frequency is configured to 1 (relearn per second) mac-move will disable one of the VPLS ports when 5 relearns were detected during the 5-second interval because then the average move-frequency of 1 relearn per second has been reached. This can already occur in the first second if the real relearn rate is 5 relearns per second or higher.

The **no** form of this command disables MAC move.

Platforms

All

28.16 mac-move-level

mac-move-level

Syntax

mac-move-level {**primary** | **secondary**| **tertiary**}

Context

[Tree] (config>service>template>vpls-sap-template mac-move-level)

Full Context

configure service template vpls-sap-template mac-move-level

Description

When a SAP is instantiated using vpls-sap-template, if the MAC move feature is enabled at VPLS level, the command mac-move-level indicates whether the sap should be populated as primary-port, secondary-port, or tertiary-port in the instantiated VPLS.

If configured to the default, SAP is populated as a tertiary-port.

Default

no mac-move-level

Platforms

All

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28.17 mac-name

mac-name

Syntax

mac-name *name ieee-address*

no mac-name *name*

Context

[Tree] (config>service>pbb mac-name)

Full Context

configure service pbb mac-name

Description

This command configures the MAC name for the MAC address. It associates an ASCII name with an IEEE MAC to improve the PBB Epipe configuration. It can also change the dest-BMAC in one place instead of 1000s of Epipe.

Parameters

name

Specifies the MAC name up to 32 characters in length.

ieee-address

Specifies the MAC address assigned to the MAC name. The value should be input in either a xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format.

Platforms

All

28.18 mac-notification

mac-notification

Syntax

mac-notification

Context

[Tree] (config>service mac-notification)

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Full Context

configure service mac-notification

Description

This command controls the settings for the MAC notification message.

The MAC notification message must be generated under the following events:

1. When enabled in the BVPLS using **no shutdown**, a MAC notification will be sent for every active MC-LAG link. The following 3 cases assume no shutdown in the BVPLS.
2. Whenever a related MC-LAG link becomes active (the related MC-LAG link has at least 1 SAP associated with the BVPLS) if the MC-LAG peering is initialized and the PE peers are synchronized.
3. First SAP on an active MC-LAG is associated (via IVPLS/Epipe) with the BVPLS.
4. The link between IVPLS/Epipe and BVPLS is configured and there are I-SAPs configured on an active MC-LAG link.

The MAC notification is not sent for the following events:

1. Change of source-bmac or source-bmac-lsb
2. On changes of use-sap-bmac parameter
3. If MC-LAG peering is not (initialized and in sync).

Platforms

All

mac-notification

Syntax

mac-notification

Context

[Tree] (config>service>vpls mac-notification)

Full Context

configure service vpls mac-notification

Description

This command controls the settings for the MAC notification message.

The MAC notification message must be generated under the following events:

1. When enabled in the BVPLS using **no shutdown**, a MAC notification will be sent for every active MC-LAG link. The following three cases assume no shutdown in the BVPLS.
2. Whenever a related MC-LAG link becomes active (the related MC-LAG link has at least 1 SAP associated with the BVPLS) if the MC-LAG peering is initialized and the PE peers are synchronized.
3. First SAP on an active MC-LAG is associated (via IVPLS/Epipe) with the BVPLS

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4. The link between IVPLS/Epipe and BVPLS is configured and there are I-SAPs configured on an active MC-LAG link.

The MAC notification is not sent for the following events:

1. Change of source-bmac or source-bmac-lsb
2. On changes of use-sap-bmac parameter
3. If MC-LAG peering is not (initialized and in sync).

Platforms

All

28.19 mac-ping

mac-ping

Syntax

mac-ping service *service-id* **destination** *dst-ieee-address* [**source** *src-ieee-address*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**size** *octets*] [**ttl** *vc-label-ttl*] [**count** *send-count*] [**return-control**] [**interval** *interval*] [**timeout** *timeout*]

Context

[Tree] (oam mac-ping)

[Tree] (config>saa>test>type mac-ping)

Full Context

oam mac-ping

configure saa test type mac-ping

Description

This command determines the existence of an egress SAP binding of a given MAC within a VPLS service.

A **mac-ping** packet is sent via the data plane.

A **mac-ping** is forwarded along the flooding domain if no MAC address bindings exist. If MAC address bindings exist, then the packet is forwarded along those paths, provided they are active. A response is generated only when there is an egress SAP binding for that MAC address or if the MAC address is a "local" OAM MAC address associated with the device's control plan.

A **mac-ping** reply can be sent using the data plane or the control plane. The **return-control** option specifies the reply be sent using the control plane. If **return-control** is not specified, the request is sent using the data plane.

A **mac-ping** with data plane reply can only be initiated on nodes that can have an egress MAC address binding. A node without a FDB and without any SAPs cannot have an egress MAC address binding, so it is not a node where replies in the data plane are trapped and sent up to the control plane.

A control plane request is responded to via a control plane reply only.

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By default, MAC OAM requests are sent with the system or chassis MAC address as the source MAC. The **source** option allows overriding of the default source MAC for the request with a specific MAC address.

When a **source** *ieee-address* value is specified and the source MAC address is locally registered within a split horizon group (SHG), then this SHG membership is used as if the packet originated from this SHG. In all other cases, SHG 0 (zero) is used. If the **mac-trace** is originated from a non-zero SHG, such packets do not go out to the same SHG.

Parameters

service-id

Specifies the service ID of the service to diagnose or manage.

Values 1 to 2147483647

service-name: up to 64 characters

dst-ieee-address

Specifies the destination MAC address for the OAM MAC request.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

src-ieee-address

Specifies the source MAC address from which the OAM MAC request originates. By default, the system MAC address for the chassis is used.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

Default The system MAC address.

fc-name

Specifies that the **fc** parameter be used to test the forwarding class of the MPLS echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation.

Default out

octets

Specifies the MAC OAM request packet size in octets, expressed as a decimal integer. The request payload is padded to the specified size with a 6 byte PAD header and a byte payload of 0xAA as necessary. If the octet size specified is less than the minimum packet, the minimum sized packet necessary to send the request is used.

Values 1 to 9198

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vc-label-ttl

Specifies the TTL value in the VC label for the OAM MAC request, expressed as a decimal integer.

Values 1 to 255

Default 255

send-count

Specifies the number of messages to send, expressed as a decimal integer. The **count** parameter is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message *interval* value must be expired before the next message request is sent.

Values 1 to 100

Default 1

return-control

Specifies the MAC OAM reply to a data plane MAC OAM request be sent using the control plane instead of the data plane.

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the **interval** is set to 1 second where the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of message time out, the requesting router assumes that the message response is not received. Any response received after the request times out is silently discarded.

Values 1 to 10

Default 5

Platforms

All

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28.20 mac-pinning

mac-pinning

Syntax

[**no**] **mac-pinning**

Context

[Tree] (config>service>vpls>spoke-sdp mac-pinning)

[Tree] (config>service>vpls>sap mac-pinning)

[Tree] (config>service>vpls>mesh-sdp mac-pinning)

[Tree] (config>service>vpls>endpoint mac-pinning)

Full Context

configure service vpls spoke-sdp mac-pinning

configure service vpls sap mac-pinning

configure service vpls mesh-sdp mac-pinning

configure service vpls endpoint mac-pinning

Description

This command disables re-learning of MAC addresses on other SAPs within the VPLS. The MAC address will remain attached to a given SAP for duration of its age-timer.

The age of the MAC address entry in the FDB is set by the age timer. If **mac-aging** is disabled on a given VPLS service, any MAC address learned on a SAP or SDP with **mac-pinning** enabled will remain in the FDB on this SAP or SDP forever.

Every event that would otherwise result in re-learning is logged (MAC address; original-SAP; new-SAP).

When a SAP or spoke SDP is part of a Residential Split Horizon Group (RSHG), MAC pinning is activated at creation of the SAP. Otherwise MAC pinning is not enabled by default.

The **no** form of the command enables re-learning of MAC addresses.

Note:
MAC addresses learned during DHCP address assignment (DHCP snooping enabled) are not impacted by this command. MAC-pinning for such addresses is implicit.

Default

no mac-pinning

Platforms

All

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mac-pinning

Syntax

[**no**] **mac-pinning**

Context

[Tree] (config>service>pw-template mac-pinning)

Full Context

configure service pw-template mac-pinning

Description

Enabling this command will disable re-learning of MAC addresses on other SAPs within the service. The MAC address will remain attached to a given SAP for duration of its age-timer.

The age of the MAC address entry in the FDB is set by the age timer. If **mac-aging** is disabled on a given VPLS service, any MAC address learned on a SAP or SDP with **mac-pinning** enabled will remain in the FDB on this SAP or SDP forever. Every event that would otherwise result in re-learning will be logged (MAC address; original-SAP; new-SAP).

When a SAP or spoke SDP is part of a Residential Split Horizon Group (RSHG), MAC pinning is activated at creation of the SAP. Otherwise MAC pinning is not enabled by default.

Note:
For 7750 SR and 7450 ESS, MAC addresses learned during DHCP address assignment (DHCP snooping enabled) are not impacted by this command. MAC-pinning for such addresses is implicit.

Default

no mac-pinning

Platforms

All

28.21 mac-policy

mac-policy

Syntax

mac-policy *mac-policy-id* [**create**]

no mac-policy *mac-policy-id*

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Context

[Tree] (config>macsec mac-policy)

Full Context

configure macsec mac-policy

Description

This command configures MAC address policy groups.

The **no** form of this command removes the MAC address policy group configuration.

Parameters

mac-policy-id

Specifies the value of the MAC address policy.

Values 0 to 4294967295

create

Mandatory keyword used to create the configuration.

Platforms

All

28.22 mac-populate

mac-populate

Syntax

mac-populate {*service-id* | **service** *service-name*} **mac** *ieee-address* [**flood**] [**age** *seconds*] [**force**] [**target-sap** *sap-id*]

Context

[Tree] (oam mac-populate)

Full Context

oam mac-populate

Description

This command populates the FDB with an OAM-type MAC entry indicating the node is the egress node for the MAC address and optionally floods the OAM MAC association throughout the service. The **mac-populate** command installs an OAM MAC into the service FDB indicating the device is the egress node for a MAC address. The MAC address can be bound to a SAP (the **target-sap**) or can be associated with the control plane in that any data destined to the MAC address is forwarded to the control plane (CPM). As a

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result, if the service on the node has neither a FDB nor an egress SAP, then it is not allowed to initiate a **mac-populate**.

The MAC address that is populated in the FDBs in the provider network is given a type OAM, so that it can be treated distinctly from regular dynamically learned or statically configured MACs. Note that OAM MAC addresses are operational MAC addresses and are not saved in the device configuration. An exec file can be used to define OAM MACs after system initialization.

The **force** option in **mac-populate** forces the MAC in the table to be type OAM in the case it already exists as a dynamic, static or an OAM induced learned MAC with some other type binding.

An OAM-type MAC cannot be overwritten by dynamic learning and allows customer packets with the MAC to either ingress or egress the network while still using the OAM MAC entry.

The **flood** option causes each upstream node to learn the MAC (that is, populate the local FDB with an OAM MAC entry) and to flood the request along the data plane using the flooding domain. The flooded **mac-populate** request is sent via the data plane.

An **age** can be provided to age an OAM MAC using a specific interval. By default, OAM MAC addresses are not aged and can be removed with a **mac-purge** or with an FDB clear operation.

When split horizon group (SHG) is configured, the flooding domain depends on which SHG the packet originates from. The **target-sap** *sap-id* value dictates the originating SHG information.

Parameters

service-id

Specifies the service ID of the service to diagnose or manage.

Values 1 to 2147483647

service-name

Specifies the name of the service to diagnose or manage. 64 characters maximum.

ieee-address

Specifies the MAC address to be populated.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

flood

Sends the OAM MAC populate to all upstream nodes.

seconds

Specifies the age for the OAM MAC, in seconds, expressed as a decimal integer.

Values 1 to 65535

Default 3600

force

Converts the MAC to an OAM MAC.

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sap-id

Specifies the local target SAP bound to a service on which to associate the OAM MAC. By default, the OAM MAC is associated with the control place, that is, it is associated with the CPU on the router.

When the **target-sap** *sap-id* value is not specified the MAC is bound to the CPM or CFM. The originating SHG is 0 (zero). When the **target-sap** *sap-id* value is specified, the originating SHG is the SHG of the target-sap.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id*:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
	esat-*id*/*slot*/*port*	
	pxc-*id*.*sub-port*	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
ccag-id	**ccag**-*id*.*path-id*[*cc-type*]:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a | b
	cc-type	.sap-net | .net-sap
	cc-id	1 to 4094
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id*	

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	lag	keyword
	id	1 to 800
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 10239
qtag1	* | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094

Platforms

All

28.23 mac-prefix

mac-prefix

Syntax

mac-prefix *mac-prefix*

no mac-prefix

Context

[Tree] (config>subscr-mgmt>isa-svc-chain mac-prefix)

Full Context

configure subscriber-mgmt isa-service-chaining mac-prefix

Description

This command configures the unique MAC prefix per ISA and per outside service for all NAT group configured for service-chaining.

The **no** form of this command removes the MAC prefix from the configuration.

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Parameters

mac-prefix

Specifies the MAC prefix, up to eight characters, including separators.

Values format AA:BB:CC

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.24 mac-protect

mac-protect

Syntax

[**no**] **mac-protect**

Context

[Tree] (config>service>vpls mac-protect)

Full Context

configure service vpls mac-protect

Description

This command indicates if this MAC is protected on the MAC protect list. When enabled, the agent will protect the MAC from being learned or re-learned on a SAP, spoke SDP or mesh SDP that has restricted learning enabled. The MAC protect list is used in conjunction with **restrict-protected-src**, **restrict-unprotected-dst** and **auto-learn-mac-protect**.

The **no** form of the command reverts to the default.

Platforms

All

28.25 mac-purge

mac-purge

Syntax

mac-purge {*service-id* | **service** *service-name*} **target** *ieee-address* [**flood**] [**force**] [**register**]

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Context

[Tree] (oam mac-purge)

Full Context

oam mac-purge

Description

This command removes an OAM-type MAC entry from the FDB and optionally floods the OAM MAC removal throughout the service. A **mac-purge** can be sent via the forwarding path or via the control plane.

When sending the MAC purge using the data plane, the TTL in the VC label is set to 1.

A MAC address is purged only if it is marked as OAM. A mac-purge request is an HVPLS OAM packet, with the following fields. The Reply Flags is set to 0 (since no reply is expected), the Reply Mode and Reserved fields are set to 0. The Ethernet header has source set to the (system) MAC address, the destination set to the broadcast MAC address. There is a VPN TLV in the FEC Stack TLV to identify the service domain.

If the **register** option is provided, the R bit in the Address Delete flags is turned on.

The **flood** option causes each upstream node to be sent the OAM MAC delete request and to flood the request along the data plane using the flooding domain. The flooded **mac-purge** request is sent via the data plane.

The **register** option reserves the MAC for OAM testing where it is no longer an active MAC in the FDB for forwarding, but it is retained in the FDB as a registered OAM MAC. Registering an OAM MAC prevents relearns for the MAC based on customer packets. Relearning a registered MAC can only be done through a **mac-populate** request. The originating SHG is always 0 (zero).

Parameters

service-id

Specifies the service ID of the service to diagnose or manage.

Values 1 to 2147483647

service-name

Specifies the name, up to 64 characters, of the service to diagnose or manage.

ieee-address

Specifies the MAC address to be purged.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

flood

Sends the OAM MAC purge to all upstream nodes.

force

Purges the entry regardless of the entry’s originating node.

register

Reserves the MAC for OAM testing.

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Platforms

All

28.26 mac-refresh

mac-refresh

Syntax

mac-refresh *refresh interval*

no mac-refresh

Context

[Tree] (config>service>ipipe>sap mac-refresh)

Full Context

configure service ipipe sap mac-refresh

Description

This command specifies the interval between ARP requests sent on this Ipipe SAP. When the SAP is first enabled, an ARP request will be sent to the attached CE device and the received MAC address will be used in addressing unicast traffic to the CE. Although this MAC address will not expire while the Ipipe SAP is enabled and operational, it is verified by sending periodic ARP requests at the specified interval.

The **no** form of this command restores mac-refresh to the default value.

Default

mac-refresh 14400

Parameters

refresh interval

Specifies the interval, in seconds, between ARP requests sent on this Ipipe SAP.

Values 0 to 65535

Platforms

All

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28.27 mac-subnet-length

mac-subnet-length

Syntax

mac-subnet-length *subnet-length*

no mac-subnet-length

Context

[Tree] (config>service>vpls mac-subnet-length)

Full Context

configure service vpls mac-subnet-length

Description

This command specifies the number of bits to be considered when performing MAC learning (MAC source) and MAC switching (MAC destination). Specifically, this value identifies how many bits, starting from the beginning of the MAC address are used. For example, if the mask-value of 28 is used, MAC learning only performs a lookup for the first 28 bits of the source MAC address when comparing with existing FDB entries. Then, it installs the first 28 bits in the FDB while zeroing out the last 20 bits of the MAC address. When performing switching in the reverse direction, only the first 28 bits of the destination MAC address are used to perform a FDB lookup to determine the next hop.

The **no** form of this command switches back to full MAC lookup.

Default

mac-subnet-length 48

Parameters

subnet-length

Specifies the number of bits to be considered when performing MAC learning or MAC switching.

Values 24 to 48

Platforms

All

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28.28 mac-trace

mac-trace

Syntax

mac-trace service *service-id* **destination** *ieee-address* [**source** *ieee-address*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**size** *octets*] [**min-ttl** *vc-label-ttl*] [**max-ttl** *vc-label-ttl*] [**probe-count** *send-count*] [**return-control**] [**interval** *interval*] [**timeout** *timeout*]

Context

[Tree] (config>saa>test>type mac-trace)

[Tree] (oam mac-trace)

Full Context

configure saa test type mac-trace

oam mac-trace

Description

This command displays the hop-by-hop path for a destination MAC address within a VPLS.

The MAC traceroute operation is modeled after the IP traceroute utility which uses ICMP echo request and reply packets with increasing TTL values to determine the hop-by-hop route to a destination IP. The MAC traceroute command uses Nokia OAM packets with increasing TTL values to determine the hop-by-hop route to a destination MAC.

In a MAC traceroute, the originating device creates a MAC ping echo request packet for the MAC to be tested with increasing values of the TTL. The echo request packet is sent via the data plane and awaits a TTL exceeded response or the echo reply packet from the device with the destination MAC. The devices that reply to the echo request packets with the TTL exceeded and the echo reply are displayed.

When a **source** *ieee-address* value is specified and the source MAC address is locally registered within a split horizon group (SHG), then this SHG membership is used as if the packet originated from this SHG. In all other cases, SHG 0 (zero) is used. Note that if the **mac-ping** is originated from a non-zero SHG, such packets do not go out to the same SHG.

Parameters

service-id

Specifies the service ID of the service to diagnose or manage.

This variant of the command is only supported in the classic configuration-mode (**configure system management-interface configuration-mode classic**).

Values {*id* | *svc-name*}

service-id: 1 to 2147483647

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svc-name: up to 64 characters

destination *ieee-address*

Specifies the destination MAC address to be traced.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

source *ieee-address*

The source MAC address from which the OAM MAC request originates. By default, the system MAC address for the chassis is used.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

All zeros and multicast is not allowed.

Default The system MAC address

fc-name

Specifies the forwarding class to test the forwarding class of the ICMP echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the ICMP echo request encapsulation.

Default out

octets

Specifies the MAC OAM request packet size in octets, expressed as a decimal integer. The request payload is padded to the specified size with a 6 byte PAD header and a byte payload of 0xAA as necessary. If the octet size specified is less than the minimum packet, the minimum sized packet necessary to send the request is used.

Values 1 to 9198

min-ttl *vc-label-ttl*

Specifies the minimum TTL value in the VC label for the MAC trace test, expressed as a decimal integer.

Values 1 to 255

Default 1

max-ttl *vc-label-ttl*

Specifies the maximum TTL value in the VC label for the MAC trace test, expressed as a decimal integer.

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Values 1 to 255

Default 4

send-count

Specifies the number of MAC OAM requests sent for a TTL value, expressed as a decimal integer.

Values 1 to 100

Default 1

return-control

Specifies the MAC OAM reply to a data plane MAC OAM request be sent using the control plane instead of the data plane.

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the *interval* is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of message time out, the requesting router assumes that the message response is not received. Any response received after the request times out is silently discarded.

Values 1 to 60

Default 5

Platforms

All

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28.29 mac-translation

mac-translation

Syntax

[**no**] **mac-translation**

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext mac-translation)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext mac-translation)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext mac-translation

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext mac-translation

Description

This command enables MAC address translation for HLE services.

The **no** form of this command disables MAC address translation for HLE services.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.30 macsec

macsec

Syntax

macsec

Context

[Tree] (config macsec)

Full Context

configure macsec

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Description
Commands in this context configure MACsec, including the MACsec MKA profile.

Platforms
All

macsec

Syntax
[**no**] **macsec**

Context
[Tree] (config>port>ethernet>dot1x macsec)

Full Context
configure port ethernet dot1x macsec

Description
This command configures MACsec under this port.

Platforms
All

macsec

Syntax
macsec

Context
[Tree] (config>system>security>keychain macsec)

Full Context
configure system security keychain macsec

Description
Commands in this context configure the key entries for the MACsec keychain.

Platforms
All

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28.31 macsec-encrypt

macsec-encrypt

Syntax

[**no**] **macsec-encrypt**

Context

[Tree] (config>macsec>connectivity-association macsec-encrypt)

Full Context

configure macsec connectivity-association macsec-encrypt

Description

This command specifies that all PDUs are encrypted and authenticated (ICV payload).

The **no** form of this command specifies that all PDUs are transmitted with cleartext, but still authenticated and have the trailing ICV.

Default

macsec-encrypt

Platforms

All

28.32 main-ct-retry-limit

main-ct-retry-limit

Syntax

main-ct-retry-limit *number*

no main-ct-retry-limit

Context

[Tree] (config>router>mpls>lsp-template main-ct-retry-limit)

[Tree] (config>router>mpls>lsp main-ct-retry-limit)

Full Context

configure router mpls lsp-template main-ct-retry-limit

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configure router mpls lsp main-ct-retry-limit

Description

This command configures the maximum number of retries the LSP primary path should be retried with the LSP Diff-Serv main Class Type (CT).

When an unmapped LSP primary path goes into retry, it uses the main CT until the number of retries reaches the value of the new main-ct-retry-limit parameter. If the path did not come up, it must start using the backup CT at that point in time. By default, this parameter is set to infinite value. The new main-ct-retry-limit parameter has no effect on an LSP primary path which retries due to a failure event.

An unmapped LSP primary path is a path which has never received a Resv in response to the first Path message sent. This can occur when performing a "shut/no-shut" on the LSP or LSP primary path or when the node reboots. An unmapped LSP primary path goes into retry if the retry timer expired or the head-end node received a PathErr message before the retry timer expired.

If the user entered a value of the main-ct-retry-limit parameter that is greater than the value of the LSP retry-limit, the number of retries will still stop when the LSP primary path reaches the value of the LSP retry-limit. In other words, the meaning of the LSP retry-limit parameter is not changed and always represents the upper bound on the number of retries. The unmapped LSP primary path behavior applies to both CSPF and non-CSPF LSPs.

The **no** form of this command sets the parameter to the default value of zero (0) which means the LSP primary path will retry forever.

Default

no main-ct-retry-limit

Parameters

number

Specifies the number of times MPLS will attempt to re-establish the LSP primary path using the Diff-Serv main CT. Allowed values are integers in the range of zero (0) to 10,000, where zero indicates to retry infinitely.

Values 0 to 1000, integer

Platforms

All

28.33 maintenance-policy

maintenance-policy

Syntax

[**no**] **maintenance-policy** *maintenance-policy-name*

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Context

[Tree] (config>router>segment-routing maintenance-policy)

Full Context

configure router segment-routing maintenance-policy

Description

This command configures a named maintenance policy that can be applied to SR Policy candidate paths that are either statically configured or imported via BGP. A maintenance policy is used to configure seamless BFD and protection for an SR Policy candidate path.

A maintenance policy must be administratively disabled in order to change any of the parameters.

A maintenance policy cannot be enabled unless a **mode**, **bfd-enable**, and **bfd-template** are configured.

If a maintenance-template is administratively disabled, then all candidate paths to which it is applied are deprogrammed from the data path.

The **no** form of this command removes the specified maintenance policy.

Parameters

maintenance-policy-name

Specifies the name of the maintenance policy, up to 32 characters and cannot start with a space or underscore.

Platforms

All

maintenance-policy

Syntax

[**no**] **maintenance-policy** *maintenance-policy-name*

Context

[Tree] (conf>router>segment-routing>sr-policies>policy maintenance-policy)

Full Context

configure router segment-routing sr-policies static-policy maintenance-policy

Description

This command applies a named maintenance policy to the static SR policy path. The maintenance policy must exist under the **configure router segment-routing** context.

The **no** form of this command removes the specified maintenance policy.

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Parameters

maintenance-policy-name

Specifies the name of the maintenance policy, up to 32 characters and cannot start with a space or underscore.

Platforms

All

28.34 managed-configuration

managed-configuration

Syntax

[**no**] **managed-configuration**

Context

[Tree] (config>router>router-advert>if managed-configuration)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv managed-configuration)

[Tree] (config>service>vprn>router-advert>if managed-configuration)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 managed-configuration)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv managed-configuration)

[Tree] (config>subscr-mgmt>rtr-adv-plcy managed-configuration)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv managed-configuration)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv managed-configuration)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 managed-configuration)

Full Context

configure router router-advertisement interface managed-configuration

configure service ies subscriber-interface ipv6 router-advertisements managed-configuration

configure service vprn router-advertisement interface managed-configuration

configure service vprn subscriber-interface group-interface ipv6 managed-configuration

configure service ies subscriber-interface group-interface ipv6 router-advertisements managed-configuration

configure subscriber-mgmt router-advertisement-policy managed-configuration

configure service vprn subscriber-interface group-interface ipv6 router-advertisements managed-configuration

configure service vprn subscriber-interface ipv6 router-advertisements managed-configuration

configure service ies subscriber-interface group-interface ipv6 managed-configuration

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Description

This command sets or resets managed address configuration flag for this group-interface. This flag indicates that DHCPv6 is available for address configuration in addition to any address auto-configured using stateless address auto-configuration. See RFC 3315 for additional details.

The **no** form of this command reverts to the default.

Default

no managed-configuration

Platforms

All

- configure router router-advertisement interface managed-configuration
- configure service vprn router-advertisement interface managed-configuration

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface ipv6 router-advertisements managed-configuration
- configure service ies subscriber-interface group-interface ipv6 router-advertisements managed-configuration
- configure subscriber-mgmt router-advertisement-policy managed-configuration
- configure service vprn subscriber-interface group-interface ipv6 managed-configuration
- configure service ies subscriber-interface group-interface ipv6 managed-configuration
- configure service vprn subscriber-interface group-interface ipv6 router-advertisements managed-configuration
- configure service ies subscriber-interface ipv6 router-advertisements managed-configuration

28.35 managed-routes

managed-routes

Syntax

managed-routes

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host managed-routes)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host managed-routes)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes

configure service vprn subscriber-interface group-interface sap static-host managed-routes

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Description

Commands in this context configure managed route parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.36 managed-vlan-list

managed-vlan-list

Syntax

managed-vlan-list

Context

[Tree] (config>service>vpls>sap managed-vlan-list)

Full Context

configure service vpls sap managed-vlan-list

Description

Commands in this context configure VLAN ranges to be managed by a management VPLS. The list indicates, for each SAP, the ranges of associated VLANs that will be affected when the SAP changes state. This managed-vlan-list is not used when STP mode is MSTP in which case the vlan-range is taken from the **config>service>vpls>stp>msti** configuration.

This command is only valid when the VPLS in which it is entered was created as a management VPLS.

Platforms

All

28.37 management

management

Syntax

management [**create**]

no management

Context

[Tree] (config>service>vprn management)

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Full Context
configure service vprn management

Description
Commands in this context configure node management within the VPRN.

Parameters
create

Keyword used to create a management server entry.

Platforms
All

management

Syntax
management

Context
[Tree] (config>system>security management)

Full Context
configure system security management

Description
Commands in this context allow access to management servers.

Platforms
All

28.38 management-access-filter

management-access-filter

Syntax
[**no**] **management-access-filter**

Context
[Tree] (config>system>security management-access-filter)

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Full Context

configure system security management-access-filter

Description

This command creates the context to edit management access filters and to reset match criteria.

Management access filters control all traffic in and out of the CPM. They can be used to restrict management of the router by other nodes outside either specific (sub)networks or through designated ports.

Management filters, as opposed to other traffic filters, are enforced by system software.

The **no** form of this command removes management access filters from the configuration.

Platforms

All

28.39 management-interface

management-interface

Syntax

management-interface

Context

[Tree] (config>system management-interface)

Full Context

configure system management-interface

Description

Commands in this context configure the capabilities of router management interfaces such as CLI and NETCONF.

Platforms

All

management-interface

Syntax

management-interface

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Context

[Tree] (config>system>security management-interface)

Full Context

configure system security management-interface

Description

Commands in this context configure the selection of a management interface for hash configuration. The management interfaces are **classic-cli**, **md-cli**, **netconf**, or **grpc**.

Platforms

All

28.40 manual

manual

Syntax

manual

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-carving manual)

Full Context

configure service system bgp-evpn ethernet-segment service-carving manual

Description

Commands in this context manually configure the service-carving algorithm, that is, configure the EVIs or ISIDs for which the PE is DF.

Platforms

All

manual

Syntax

manual

Context

[Tree] (cfg>card>vir-sch-adj>wrk-perf manual)

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Full Context

configure card virtual-scheduler-adjustment workload-performance manual

Description

Commands in this context configure the parameters to manually control CPU workload distribution.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.41 manual-keying

manual-keying

Syntax

[**no**] **manual-keying**

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel manual-keying)

[Tree] (config>router>if>ipsec>ipsec-tunnel manual-keying)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel manual-keying)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel manual-keying)

Full Context

configure service vprn interface ipsec ipsec-tunnel manual-keying

configure router interface ipsec ipsec-tunnel manual-keying

configure service ies interface ipsec ipsec-tunnel manual-keying

configure service vprn interface sap ipsec-tunnel manual-keying

Description

This command configures Security Association (SA) for manual keying. When enabled, the command specifies whether this SA entry is created manually, by the user, or dynamically by the IPsec sub-system.

Platforms

VSR

- configure router interface ipsec ipsec-tunnel manual-keying
- configure service ies interface ipsec ipsec-tunnel manual-keying
- configure service vprn interface ipsec ipsec-tunnel manual-keying

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel manual-keying

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28.42 map

map

Syntax

map source-class *source-index***destination-class** *dest-index* [**create**]

no map

Context

[Tree] (config>router>flex-algo-class-forwarding map)

Full Context

configure router flex-algo-class-forwarding map

Description

Commands in this context create a mapping from a specific pair of source class and destination class numbers to a flexible algorithm ID.

The **no** form of this command reverts to the default.

Default

no map

Parameters

source-index

Specifies the source index integer value.

Values 1 to 255

dest-index

Specifies the destination index integer value.

Values 1 to 255

create

Keyword used to create a mapping from a specific pair of source class and destination class numbers to a flexible algorithm ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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map

Syntax

[**no**] **map**

Context

[Tree] (config>service>nat>pcp-server-policy>opcode map)

Full Context

configure service nat pcp-server-policy opcode map

Description

This command enables/disables support for the **map** opcode.

Default

no map

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.43 map-domain

map-domain

Syntax

map-domain *domain-name* [**create**]

no map-domain

Context

[Tree] (config>service>nat map-domain)

Full Context

configure service nat map-domain

Description

This command creates a MAP domain template, which is used to define MAP rules and parameters specific to the MAP domain. A MAP domain represents a set of CEs that share the same default gateway (BR's IPv6 prefix - DMR rule) and a set of basic MAP rules (BMRs). As a bordering node between the IPv6 and IPv4 realm, the BR performs stateless IPv4 and IPv6 translation based on MAP rules.

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A MAP domain can be instantiated within a routing context by referencing an existing MAP domain template in the context.

Parameters

domain-name

Specifies the name of the MAP domain, up to 32 characters. The MAP domain name has local significance.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

map-domain

Syntax

map-domain *domain-name*

no map-domain *domain-name*

Context

[Tree] (config>router>nat>map map-domain)

[Tree] (config>service>vprn>nat>map map-domain)

Full Context

configure router nat map map-domain

configure service vprn nat map map-domain

Description

This command instantiates a MAP-T domain within a routing context, assuming that the MAP-T domain template is administratively enabled (**no shutdown**). When the MAP-T is instantiated, the forwarding for the MAP-T domain is enabled and its routes can be exported in routing protocols.

Multiple MAP-T domains can be instantiated within a routing context.

Interactions:

The referenced MAP domain is defined under the **config**>**service**>**nat** context.

Parameters

domain-name

Specifies the name of the MAP domain template, up to 32 characters.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

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28.44 map-t

map-t

Syntax

[**no**] **map-t**

Context

[Tree] (config>fwd-path-ext>fpe map-t)

Full Context

configure fwd-path-ext fpe map-t

Description

This command associates the MAP-T application with the Forwarding Path Extension (FPE).

The **no** form of this command removes the association.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

28.45 map-t-group

map-t-group

Syntax

map-t-group *map-t-group-id* [**create**]

no map-t-group *map-t-group-id*

Context

[Tree] (config>isa map-t-group)

Full Context

configure isa map-t-group

Description

Commands in this context configure a MAP-T group. This group is a set of ESA-VMs responsible for handling downstream fragmentation and ICMPv4 and ICMPv6 processing.

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The **no** form of this command removes the configured MAP-T group.

Parameters

map-t-group-id

Specifies the MAP-T group ID.

Values 1 to 4

create

Keyword used to create the MAP-T group.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

map-t-group

Syntax

map-t-group *map-t-group-id*

no map-t-group *map-t-group-id*

Context

[Tree] (conf>service>nat>map-domain map-t-group)

Full Context

configure service nat map-domain map-t-group

Description

This command specifies the MAP-T group with domain association.

The **no** form of this command removes the association.

Parameters

map-t-group-id

Specifies the MAP-T group ID.

Values 1 to 4

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

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28.46 mapping-limit

mapping-limit

Syntax

mapping-limit *limit*

no mapping-limit

Context

[Tree] (config>service>upnp>upnp-policy mapping-limit)

Full Context

configure service upnp upnp-policy mapping-limit

Description

This command specifies the maximum number of UPnP mapping per subscriber.

The **no** form of the command reverts to the default.

Default

mapping-limit 256

Parameters

limit

Specifies the upper limit of the number of UPnP mappings per subscriber.

Values 1 to 256

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.47 mapping-rule

mapping-rule

Syntax

mapping-rule *map-rule-name* [**create**]

no mapping-rule *map-rule-name*

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Context

[Tree] (config>service>nat>map-domain mapping-rule)

Full Context

configure service nat map-domain mapping-rule

Description

This command provides a CLI context for configuring MAP rules.

Parameters

map-rule-name

Specifies the name of the MAP rule; the name has a local significance.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

28.48 mapping-server

mapping-server

Syntax

[**no**] **mapping-server**

Context

[Tree] (config>router>isis>segment-routing mapping-server)

Full Context

configure router isis segment-routing mapping-server

Description

Commands in this context configures the Segment Routing mapping server feature in an IS-IS instance.

SR mapping server enables the configuration and advertisement, via IS-IS, of the node SID index for IS-IS prefixes of routers which are in the LDP domain. This is performed in the router acting as a mapping server, which uses a prefix-SID sub-TLV within the SID/Label binding TLV in IS-IS.

The **no** form of this command deletes all node SID entries in the IS-IS instance.

Platforms

All

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mapping-server

Syntax

[**no**] **mapping-server**

Context

[Tree] (config>router>ospf>segm-rtng mapping-server)

Full Context

configure router ospf segment-routing mapping-server

Description

Commands in this context configure the Segment Routing mapping server feature in an OSPF instance.

The mapping server feature allows the configuration and advertisement in OSPF of the node SID index for OSPF prefixes of routers which are in the LDP domain. This is performed in the router acting as a mapping server and using a prefix-SID sub-TLV within the Extended Prefix Range TLV in OSPF.

The **no** form of this command deletes all node SID entries in the OSPF instance.

Platforms

All

28.49 maps-to

maps-to

Syntax

maps-to fc *fc-name* **profile** *profile*

Context

[Tree] (config>qos>post-policer-mapping>fc maps-to)

Full Context

configure qos post-policer-mapping fc maps-to

Description

This command remaps the forwarding class and profile state of an egress policed packet that is to be mapped to another forwarding class and profile, where the profile state is that of the resulting profile after the packet has been processed by the egress policer.

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The new forwarding class is used to select the egress queue on which the post-policer traffic is placed. The new profile is used to determine the congestion control handling in that queue, specifically the drop tail or slope that is applied to the traffic.

The **maps-to** command parameters can be overwritten by reissuing the command with a different FC or profile.

The traffic remarking is based on the marking configured for the forwarding class and profile of the traffic after being policed but before it is remapped.

Parameters

fc-name

Specifies one of the eight forwarding classes supported by the system.

Values be, l2, af, l1, h2, ef, h1, nc

profile

Specifies one of the egress packet profile states.

Values exceed, in, inplus, out

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

28.50 mark

mark

Syntax

mark *entity* **high** *percentage-high* **low** *percentage-low*

no mark *entity*

Context

[Tree] (config>isa>wlan-gw-group>watermarks mark)

Full Context

configure isa wlan-gw-group watermarks mark

Description

This command enables a watermark notification. If the watermark is set, it generates a notification when the corresponding resource consumption goes above the high percentage. No additional notifications are sent until resource consumption goes under the low watermark, upon which, a notification is sent indicating the high watermark is no longer hit.

The **no** form of this command disables the watermark notification.

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Parameters

entity

Specifies which watermark to set.

Values user-equipment | bridge-domain | radius-proxy-client

percentage-high

Specifies the high watermark in percentage of total resources available.

Values 1 to 100

percentage-low

Specifies the low watermark in percentage of total resources available.

Values 0 to 99

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.51 mask

mask

Syntax

mask type *ppp-match-type* {[**prefix-string** *prefix-string* | **prefix-length** *prefix-length*] [**suffix-string** *suffix-string* | **suffix-length** *suffix-length*]}

no mask type *ppp-match-type*

mask type *ipoe-match-type* {[**prefix-string** *prefix-string* | **prefix-length** *prefix-length*] [**suffix-string** *suffix-string* | **suffix-length** *suffix-length*]}

no mask type *ipoe-match-type*

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp mask)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe mask)

Full Context

configure subscriber-mgmt local-user-db ppp mask

configure subscriber-mgmt local-user-db ipoe mask

Description

This command configures a mask for the specified match type. The masking is applied on the parameter when performing an LUDB lookup to identify a host.

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The **no** form of this command removes the mask from the configuration.

Parameters

ppp-match-type

Specifies the parameter on which the mask should be applied for an LUDB lookup to identify a PPP host.

Values circuit-id, mac, remote-id, sap-id, service-name, username

ipoe-match-type

Specifies the parameter on which the mask should be applied for an LUDB lookup to identify an IPoE host.

The *prefix-string* and *suffix-string* command options are not supported when the *ipoe-match-type* value is set to **duid-en** or **duid-ll-llt**.

Values circuit-id, duid-en, duid-ll-llt, option60, remote-id, sap-id, string, system-id

prefix-string

Specifies a substring that is stripped of the start of the incoming parameter value before it is matched against the value configured in the LUDB host identification.

This string can only contain printable ASCII characters. The "*” character is a wildcard that matches any substring. If a "\" character is masked, use the escape key so it becomes "\\".

This command option is unsupported when the *ppp-match-type* equals mac.

Values up to 127 characters, **"***”

prefix-length

Specifies the number of characters to remove from the start of the incoming parameter value before it is matched against the value configured in the LUDB host identification.

When used with the **mac** or **duid-ll-llt** parameter, it specifies the number of bits to remove from the start of the MAC address. For example, if the MAC address is 0a:0b:0c:0d:0e:0f, to obtain the last bit for matching purposes (match an odd or even MAC address), the prefix length is 47. The result in this example would be a binary number of 1 (0xf = 1111).

Values 1 to 127

suffix-string

Specifies a substring that is stripped of the end of the incoming parameter value before it is matched against the value configured in the LUDB host identification.

This string can only contain printable ASCII characters. The "*” character is a wildcard that matches any substring. If a "\" character is masked, use the escape key so it becomes "\\".

This command option is unsupported when the *ppp-match-type* equals **mac**.

Values up to 127 characters

suffix-length

Specifies the number of characters to remove from the end of the incoming parameter value before it is matched against the value configured in the LUDB host identification.

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When used with the **mac** or **duid-ll-llt** command option, the number of bits to remove from the end of the MAC address is specified.

Values 1 to 127

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mask

Syntax

mask *mask-value* [**type** {**included** | **excluded**}]

no mask

Context

[Tree] (config>system>security>snmp>view mask)

Full Context

configure system security snmp view mask

Description

The mask value and the mask type, along with the *oid-value* configured in the **view** command, determines the access of each sub-identifier of an object identifier (MIB subtree) in the view.

Each bit in the mask corresponds to a sub-identifier position. For example, the most significant bit for the first sub-identifier, the next most significant bit for the second sub-identifier, and so on. If the bit position on the sub-identifier is available, it can be included or excluded.

For example, the MIB subtree that represents MIB-II is 1.3.6.1.2.1. The mask that catches all MIB-II would be 0xfc or 0b11111100.

Only a single mask may be configured per view and OID value combination. If more than one entry is configured, each subsequent entry overwrites the previous entry.

The **no** form of this command removes the mask from the configuration.

Parameters

mask-value

The mask value associated with the OID value determines whether the sub-identifiers are included or excluded from the view. (Default: all 1s)

The mask can be entered either:

- In hex. For example, 0xfc.
- In binary. For example, 0b11111100.

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Note:
If the number of bits in the bit mask is less than the number of sub-identifiers in the MIB subtree, then the mask is extended with ones until the mask length matches the number of sub-identifiers in the MIB subtree.

type

Specifies to include or exclude MIB subtree objects.

Values **included** - All MIB subtree objects that are identified with a 1 in the mask are available in the view.

excluded - All MIB subtree objects that are identified with a 1 in the mask are denied access in the view.

Default **included**

Platforms

All

28.52 mask-reply

mask-reply

Syntax

[**no**] **mask-reply**

Context

[Tree] (config>service>ies>if>icmp mask-reply)

[Tree] (config>service>vprn>if>icmp mask-reply)

[Tree] (config>service>ies>sub-if>grp-if mask-reply)

[Tree] (config>service>vprn>if mask-reply)

[Tree] (config>service>vprn>nw-if>icmp mask-reply)

Full Context

configure service ies interface icmp mask-reply

configure service vprn interface icmp mask-reply

configure service ies subscriber-interface group-interface mask-reply

configure service vprn interface mask-reply

configure service vprn network-interface icmp mask-reply

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Description

This command enables responses to Internet Control Message Protocol (ICMP) mask requests on the router interface.

If a local node sends an ICMP mask request to the router interface, the **mask-reply** command configures the router interface to reply to the request.

By default, the router instance replies to mask requests.

The **no** form of this command disables replies to ICMP mask requests on the router interface.

Default

mask-reply — Specifies to reply to ICMP mask requests.

Platforms

All

- configure service vprn interface icmp mask-reply
- configure service ies interface icmp mask-reply
- configure service vprn interface mask-reply
- configure service vprn network-interface icmp mask-reply

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface mask-reply

mask-reply

Syntax

[**no**] **mask-reply**

Context

[Tree] (config>subscr-mgmt>git>ipv4>icmp mask-reply)

Full Context

configure subscriber-mgmt group-interface-template ipv4 icmp mask-reply

Description

This command enables responses to ICMP mask requests on the router interface. If a local node sends an ICMP mask request to the router interface, the router interface replies to the request.

By default, the router instance replies to mask requests.

The **no** form of this command disables replies to ICMP mask requests on the router interface.

Default

mask-reply

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mask-reply

Syntax

[**no**] **mask-reply**

Context

[Tree] (config>router>if>icmp mask-reply)

Full Context

configure router interface icmp mask-reply

Description

This command enables responses to ICMP mask requests on the router interface.

If a local node sends an ICMP mask request to the router interface, the **mask-reply** command configures the router interface to reply to the request.

The **no** form of this command disables replies to ICMP mask requests on the router interface.

Default

mask-reply — Replies to ICMP mask requests.

Platforms

All

28.53 master-int-inherit

master-int-inherit

Syntax

[**no**] **master-int-inherit**

Context

[Tree] (config>service>ies>if>ipv6>vrrp master-int-inherit)

Full Context

configure service ies interface ipv6 vrrp master-int-inherit

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Description
This command allows the master instance to dictate the master down timer (non-owner context only).

Default
no master-int-inherit

Platforms
All

master-int-inherit

Syntax
[**no**] **master-int-inherit**

Context
[Tree] (config>service>ies>if>vrrp master-int-inherit)

Full Context
configure service ies interface vrrp master-int-inherit

Description
This command allows the master instance to dictate the master down timer (non-owner context only).

Default
no master-int-inherit

Platforms
All

master-int-inherit

Syntax
[**no**] **master-int-inherit**

Context
[Tree] (config>service>vprn>if>vrrp master-int-inherit)

[Tree] (config>service>vprn>if>ipv6>vrrp master-int-inherit)

Full Context
configure service vprn interface vrrp master-int-inherit

configure service vprn interface ipv6 vrrp master-int-inherit

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Description

This command allows the master instance to dictate the master down timer (non-owner context only).

Default

no master-int-inherit

Platforms

All

master-int-inherit

Syntax

[**no**] **master-int-inherit**

Context

[Tree] (config>router>if>ipv6>vrrp master-int-inherit)

[Tree] (config>router>if>vrrp master-int-inherit)

Full Context

configure router interface ipv6 vrrp master-int-inherit

configure router interface vrrp master-int-inherit

Description

This command enables the virtual router instance to inherit the master VRRP router's advertisement interval timer which is used by backup routers to calculate the master down timer.

The **master-int-inherit** command is only available in the non-owner nodal context and is used to allow the current virtual router instance master to dictate the master down timer for all backup virtual routers. The **master-int-inherit** command has no effect when the virtual router instance is operating as master.

If **master-int-inherit** is not enabled, the locally configured **message-interval** must match the master's VRRP advertisement message advertisement interval field value or the message is discarded.

The **no** form of the command restores the default operating condition which requires the locally configured **message-interval** to match the received VRRP advertisement message advertisement interval field value. The virtual router instance does not inherit the master VRRP router's advertisement interval timer and uses the locally configured message interval.

Default

no master-int-inherit

Platforms

All

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28.54 master-only

master-only

Syntax

master-only {**true** | **false**}

Context

[Tree] (config>system>ptp>port master-only)

Full Context

configure system ptp port master-only

Description

This command is used to restrict the local port to never enter the timeReceiver state. Use the command to ensure that the 7750 SR never draws synchronization from the attached external device.

This parameter is only effective when the **profile** is set to **g8275dot1-2014** or **g8275dot2-2016**.

Note:
The ITU-T G.8275.1 (07/2014) recommendation used the term notSlave for this functionality; however, the IEEE has added this capability into the next edition of the 1588 standard using the term masterOnly. These are equivalent.

Default

master-only true

Parameters

true

Enables the **master-only** parameter of the PTP port.

false

Disables the **master-only** parameter of the PTP port.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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28.55 master-selection-mode

master-selection-mode

Syntax

master-selection-mode *mode*

Context

[Tree] (config>app-assure>aarp master-selection-mode)

Full Context

configure application-assurance aarp master-selection-mode

Description

This command configures the AARP mode of operation with the peer instance. The modes affect the AARP state machine behavior according to the desired behavior. Minimize-switchover will change AARP state based on Master ISA failure, and be non-revertive in that when the priority ISA returns a switch does not occur, which is optimal for AA flow identification. Inter-chassis efficiency mode considers both priority (revertive) and the endpoint status of the AARP instance and will switch activity in case of EP failure in order to avoid sending all the traffic over the ICL. The priority-based-balance mode will be revertive after a priority master returns to service, but excludes EP status. The master-selection-mode configuration must match on both peer AARP instances, or the AARP operational status will stay down.

Default

master-selection-mode minimize-switchovers

Parameters

mode

Specifies the AARP master selection mode.

Values **minimize-switchovers** — Optimal AA flow detection continuity by minimizing AARP switchovers.

inter-chassis-efficiency — Minimizes inter-chassis traffic.

priority-based-balance — AA load balance between AARP peers based on configured priority.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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28.56 match

match

Syntax

match {**circuit-id** | **mac** | **remote-id**}

match option [*number*] [**option6** [*number*]

match option6 [*number*]

no match

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>match-radprox-cache match)

Full Context

configure subscriber-mgmt local-user-db ipoe host match-radius-proxy-cache match

Description

This command specifies in what DHCPv6 option to retrieve the value to be used as lookup key in the RADIUS proxy cache.

The **no** form of this command reverts to the default.

Default

match mac

Parameters

circuit-id

Specifies to use the circuit Id to match against.

mac

Specifies the MAC address to match against.

remote-id

Specifies the remote ID to match against.

option *number*

Specifies the option number that the DHCP server uses to send the identification strings to the client.

Values 1 to 254

option6 *number*

Specifies the DHCPv6 option to retrieve the value to be used as lookup key in the RADIUS proxy cache.

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Values 1 to 65535

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

match

Syntax
match

Context
[Tree] (config>app-assure>group>policy>chrg-fltr>entry match)

Full Context
configure application-assurance group policy charging-filter entry match

Description
Commands in this context configure the match criterion for a AA charging-filter entry.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

match

Syntax
match

Context
[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry match)

Full Context
configure subscriber-mgmt isa-service-chaining vas-filter entry match

Description
Commands in this context configure the match criterion for a VAS filter entry.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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match

Syntax

match [**next-header** *next-header*]

no match

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry match)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry match)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match

Description

This command configures the match criteria for this IP filter entry.

The **no** form of this command reverts to the default.

Parameters

next-header

protocol-number, *protocol-name*

protocol-number

Specifies the protocol number accepted in DBH for IPv6 filter entries.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name accepted in DBH for IPv6 filter entries.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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match

Syntax

match [**protocol** *protocol-id*]

no match

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry match)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry match)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match

Description

This command configures the match criteria for this IP filter entry.

The **no** form of this command reverts to the default.

Parameters

protocol-id

Specifies the protocol ID or protocol name accepted in DHB.

Values *protocol-number* — [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name — none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

match

Syntax

match protocol {**any** | **icmp** | **tcp** | **udp** | **gre**}

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no match

Context

[Tree] (config>subscr-mgmt>isa-filter>ipv6>entry match)

Full Context

configure subscriber-mgmt isa-filter ipv6 entry match

Description

This command creates a match context for this entry. The **protocol** value specifies which Layer-4 protocol the packet should match.

The **no** form of this command removes the match context of this entry.

Default

match protocol any

Parameters

protocol

Specifies that the only supported match context is **protocol**.

any

Specifies to match any protocol.

icmp

Specifies to match ICMP packets in a v4 filter.

tcp

Specifies to match TCP packets.

udp

Specifies to match UDP packets.

gre

Specifies to match GRE over IP packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

match

Syntax

[**no**] **match**

Context

[Tree] (config>service>mrp>mrp-policy>entry match)

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Full Context

configure service mrp mrp-policy entry match

Description

This command creates the context for entering/editing match criteria for the mrp-policy entry. When the match criteria have been satisfied the action associated with the match criteria is executed. In the current implementation just one match criteria (ISID based) is possible in the entry associated with the mrp-policy. Only one match statement can be entered per entry.

The **no** form of this command removes the match criteria for the entry-id.

Platforms

All

match

Syntax

match

Context

[Tree] (config>service>vprn>bgp>group>dynamic-neighbor match)

Full Context

configure service vprn bgp group dynamic-neighbor match

Description

This command configures match conditions for the dynamic neighbors.

Platforms

All

match

Syntax

[**no**] **match**

Context

[Tree] (config>service>vprn>log>filter>entry match)

Full Context

configure service vprn log filter entry match

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Description

This command creates context to enter/edit match criteria for a filter entry. When the match criteria is satisfied, the action associated with the entry is executed.

If more than one match parameter (within one match statement) is specified, then all the criteria must be satisfied (AND functional) before the action associated with the match is executed.

Use the **match** command to display a list of the valid applications.

Match context can consist of multiple match parameters (application, event-number, severity, subject), but multiple **match** statements cannot be entered per entry.

The **no** form of this command removes the match criteria for the *entry-id*.

Default

no match

Platforms

All

match

Syntax

match

Context

[Tree] (config>app-assure>group>policy>aqp>entry match)

Full Context

configure application-assurance group policy app-qos-policy entry match

Description

Commands in this context configure flow match rules for this AQP entry. A flow matches this AQP entry only if it matches all the match rules defined (logical and of all rules). If no match rule is specified, the entry will match all flows.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

match

Syntax

match

Context

[Tree] (config>app-assure>group>sess-fltr>entry match)

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Full Context
configure application-assurance group session-filter entry match

Description
Commands in this context configure session conditions for this entry.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

match

Syntax
match

Context
[Tree] (config>app-assure>group>transit-prefix-policy>entry match)

Full Context
configure application-assurance group transit-prefix-policy entry match

Description
Commands in this context configure transit prefix policy entry match criteria.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

match

Syntax
[**no**] **match**

Context
[Tree] (debug>app-assure>group>traffic-capture match)

Full Context
debug application-assurance group traffic-capture match

Description
This command configures debugging for traffic match criteria.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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match

Syntax

match protocol *ip-protocol*

no match

Context

[Tree] (config>service>nat>nat-classifier>entry match)

Full Context

configure service nat nat-classifier entry match

Description

This command configures an IP protocol to be used as a nat-classifier match criterion. When the match criteria have been satisfied the action associated with the match criteria is executed.

The **no** form of the command removes the match criteria for the entry-id.

Default

match protocol udp

Parameters

protocol *ip-protocol*

Specifies the text value representing the IP protocol to be used as a match criterion.

Values udp, tcp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

match

Syntax

match [**frame-type** *frame-type*]

no match

Context

[Tree] (config>li>li-filter>li-mac-filter>entry match)

Full Context

configure li li-filter li-mac-filter entry match

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Description

Commands in this context configure match criteria for the filter entry and specifies an Ethernet frame type for the entry.

If more than one match criteria (within one match statement) are configured then all criteria must be satisfied (and function) for a match to occur.

A match context may consist of multiple match criteria, but multiple match statements cannot be entered per entry.

The **no** form of this command removes the match criteria for the entry.

Parameters

frame-type

Filters can continue to be edited by all users even when an li-source references an entry in that filter.

Values 802dot3, 802dot2-llc, 802dot2-snap, ethernet_II

Default 802dot3

Platforms

All

match

Syntax

match [**protocol** *protocol-id*]

no match

Context

[Tree] (config>li>li-filter>li-ip-filter>entry match)

Full Context

configure li li-filter li-ip-filter entry match

Description

This command enables context to enter match criteria for LI IPv4 filter and optionally allows specifying protocol value to match on.

If more than one match criterion are configured then all criteria must be satisfied for a match to occur (logical "AND"). Multiple criteria must be configured within a single match context for a given entry.

The **no** form of this command removes the match criteria for the entry.

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Parameters

protocol-id

Configures the decimal value representing the IP protocol to be used as an IP filter match criterion. Well known protocol numbers include ICMP(1), TCP(6), UDP(17).

Values 0 to 255 (values can be expressed in decimal, hexadecimal, or binary - DHB)

Keywords for the 7750 SR:

none, crtp, crudp, egp, eigrp, encap, ether-ip, gre, icmp, idrp, igmp, igp, ip, ipv6, ipv6-frag, ipv6-icmp, ipv6-no-nxt, ipv6-opts, ipv6-route, isis, iso-ip, l2tp, ospf-igp, pim, pnni, ptp, rdp, rsvp, stp, tcp, udp, vrrp

Keywords for the 7450 ESS:

none, crtp, crudp, egp, eigrp, encap, ether-ip, gre, icmp, idrp, igmp, igp, ip, isis, iso-ip, l2tp, ospf-igp, pim, pnni, ptp, rdp, rsvp, stp, tcp, udp, vrrp

* — udp/tcp wildcard

Table 65: Protocol ID Descriptions

Protocol	Protocol ID	Description
icmp	1	Internet Control Message
igmp	2	Internet Group Management
ip	4	IP in IP (encapsulation)
tcp	6	Transmission Control
egp	8	Exterior Gateway Protocol
igp	9	Any private interior gateway (used by Cisco for IGRP)
udp	17	User Datagram
rdp	27	Reliable Data Protocol
ipv6	41	IPv6
ipv6-route	43	Routing Header for IPv6
ipv6-frag	44	Fragment Header for IPv6
idrp	45	Inter-Domain Routing Protocol
rsvp	46	Reservation Protocol
gre	47	General Routing Encapsulation
ipv6-icmp	58	ICMP for IPv6

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Protocol	Protocol ID	Description
ipv6-no-nxt	59	No Next Header for IPv6
ipv6-opts	60	Destination Options for IPv6
iso-ip	80	ISO Internet Protocol
eigrp	88	EIGRP
ospf-igp	89	OSPFIGP
ether-ip	97	Ethernet-within-IP Encapsulation
encap	98	Encapsulation Header
pnni	102	PNNI over IP
pim	103	Protocol Independent Multicast
vrrp	112	Virtual Router Redundancy Protocol
l2tp	115	Layer Two Tunneling Protocol
stp	118	Spanning Tree Protocol
ptp	123	Performance Transparency Protocol
isis	124	ISIS over IPv4
crtp	126	Combat Radio Transport Protocol
crudp	127	Combat Radio User Datagram

Platforms

All

match

Syntax

match [**next-header** *next-header*]

no match

Context

[Tree] (config>li>li-filter>li-ipv6-filter>entry match)

Full Context

configure li li-filter li-ipv6-filter entry match

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Description

Commands in this context enter match criteria for an LI IPv6 filter and optionally allows specification IPv6 next-header value to match on.

If more than one match criterion are configured, then all criteria must be satisfied for a match to occur (logical "AND"). Multiple criteria must be configured within a single match context for a given entry.

The **no** form removes the match criteria for the entry.

Parameters

next-header

protocol-number, *protocol-name*

Specifies the IPv6 next header to match. This parameter is analogous to the protocol parameter used in IP filter match criteria.

protocol-number

Specifies the protocol number value to be configured as a match criterion.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

All

match

Syntax

match [**protocol** *protocol-id*]

no match

Context

[Tree] (config>qos>sap-egress>ip-criteria>entry match)

[Tree] (config>qos>sap-ingress>ip-criteria>entry match)

Full Context

configure qos sap-egress ip-criteria entry match

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configure qos sap-ingress ip-criteria entry match

Description

This command creates a context to configure match criteria for SAP QoS policy match criteria. When the match criteria have been satisfied, the action associated with the match criteria is executed.

If more than one match criteria (within one match statement) are configured, all criteria must be satisfied (AND function) before the action associated with the match is executed.

A **match** context can consist of multiple match criteria, but multiple **match** statements cannot be entered per entry.

It is possible that a SAP policy includes the **dscp** map command, the **dot1p** map command, and an IP match criteria. When multiple matches occur for the traffic, the order of precedence is used to arrive at the final action. The order of precedence is as follows:

1. 802.1p bits
2. DSCP
3. IP quintuple or MAC headers

The **no** form of this command removes the match criteria for the *entry-id*.

Parameters

protocol *protocol-id*

Specifies an IP protocol to be used as a SAP QoS policy match criterion.

The protocol type such as TCP / UDP / OSPF is identified by its respective protocol number. Well-known protocol numbers include ICMP(1), TCP(6), UDP(17)

Table 66: IP Protocol Names lists the IP protocols and their respective IDs and descriptions.

Values The following values apply to the 7750 SR and 7950 XRS:

protocol-id: 0 to 255 protocol numbers accepted in decimal, hexadecimal, or binary

Keywords: none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* — udp/tcp wildcard

Values The following values apply to the 7450 ESS:

Keywords: none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* — udp/tcp wildcard

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Table 66: IP Protocol Names

Protocol	Protocol ID	Description
icmp	1	Internet Control Message
igmp	2	Internet Group Management
ip	4	IP in IP (encapsulation)
tcp	6	Transmission Control
egp	8	Exterior Gateway Protocol
igp	9	Any private interior gateway (used by Cisco for their IGRP)
udp	17	User Datagram
rdp	27	Reliable Data Protocol
ipv6	41	IPv6
ipv6-route	43	Routing Header for IPv6
ipv6-frag	44	Fragment Header for IPv6
idrp	45	Inter-Domain Routing Protocol
rsvp	46	Reservation Protocol
gre	47	General Routing Encapsulation
ipv6-icmp	58	ICMP for IPv6
ipv6-no-nxt	59	No Next Header for IPv6
ipv6-opts	60	Destination Options for IPv6
iso-ip	80	ISO Internet Protocol
eigrp	88	EIGRP
ospf-igp	89	OSPFIGP
ether-ip	97	Ethernet-within-IP Encapsulation
encap	98	Encapsulation Header
pnni	102	PNNI over IP
pim	103	Protocol Independent Multicast
vrrp	112	Virtual Router Redundancy Protocol

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Protocol	Protocol ID	Description
l2tp	115	Layer Two Tunneling Protocol
stp	118	Schedule Transfer Protocol
ptp	123	Performance Transparency Protocol
isis	124	ISIS over IPv4
crtp	126	Combat Radio Transport Protocol
crudp	127	Combat Radio User Datagram
sctp	132	Secure Control Transmission Protocol

Platforms

All

match

Syntax

match [**next-header** *next-header*]

no match

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry match)

[Tree] (config>qos>sap-egress>ipv6-criteria>entry match)

Full Context

configure qos sap-ingress ipv6-criteria entry match

configure qos sap-egress ipv6-criteria entry match

Description

This command creates a context to configure match criteria for ingress SAP QoS policy match IPv6 criteria. When the match criteria have been satisfied, the action associated with the match criteria is executed.

If more than one match criteria (within one match statement) are configured, all criteria must be satisfied (logical AND) before the action associated with the match is executed.

A **match** context can consist of multiple match criteria, but multiple **match** statements cannot be created per entry.

A SAP ingress policy may include the **dscp** map command, the **dot1p** map command, and an IPv6 match criteria. When multiple matches occur for the traffic, the following order of precedence is used to arrive at the final action.

1. 802.1p bits

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2. DSCP
3. IP quintuple or MAC headers

The **no** form of this command removes the match criteria for the *entry-id*.

Parameters

next-header

protocol-number, *protocol-name*

Specifies the IPv6 next header to match.

On the 7750 SR and 7950 XRS, the protocol type such as TCP, UDP, or OSPF is identified by its respective protocol number. Well-known protocol numbers include ICMP(1), TCP(6) and UDP(17).

protocol-number

Specifies the protocol number value to be configured as a match criterion.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

All

match

Syntax

match [**frame-type** {**802dot3** | **802dot2-llc** | **802dot2-snap** | **ethernet-II** | **atm**}]

no match

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry match)

Full Context

configure qos sap-ingress mac-criteria entry match

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Description

This command creates a context for entering/editing match MAC criteria for ingress SAP QoS policy match criteria. When the match criteria have been satisfied, the action associated with the match criteria is executed.

If more than one match criteria (within one match statement) are configured, all criteria must be satisfied (AND function) before the action associated with the match will be executed.

A **match** context can consist of multiple match criteria, but multiple **match** statements cannot be entered per entry.

The **no** form of this command removes the match criteria for the *entry-id*.

Parameters

frame-type

The **frame-type** keyword configures an Ethernet frame type or an ATM frame type to be used for the MAC filter match criteria.

Values 802dot3, 802dot2-llc, 802dot2-snap, ethernet_II, atm

Default 802dot3

802dot3

Specifies the frame type is Ethernet IEEE 802.3.

802dot2-llc

Specifies the frame type is Ethernet IEEE 802.2 LLC.

802dot2-snap

Specifies the frame type is Ethernet IEEE 802.2 SNAP.

ethernet-II

Specifies the frame type is Ethernet Type II.

atm

Specifies the frame type as ATM cell. The user is not allowed to configure entries with frame type of atm and a frame type of other supported values in the same QoS policy. This parameter applies only to the 7750 SR and 7950 XRS.

Platforms

All

match

Syntax

match [**protocol** *protocol-id*]

no match

Context

[Tree] (config>qos>network>egress>ip-criteria>entry match)

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[Tree] (config>qos>network>ingress>ip-criteria>entry match)

Full Context

configure qos network egress ip-criteria entry match

configure qos network ingress ip-criteria entry match

Description

This command creates a context to configure match criteria for a network QoS policy. When the match criteria have been satisfied, the action associated with it is executed.

If more than one match criteria (within one match statement) are configured, then all criteria must be satisfied before the associated action with the match is executed.

A match context can consist of multiple match criteria, but multiple match statements cannot be entered per entry.

A network QoS policy can include the DSCP map command, the dot1p map command (ingress only), the prec map command (egress only), and an IP match criteria. When multiple matches occur for the traffic, the order of precedence is used to arrive at the final action. The order of precedence is as follows:

- 802.1p bits (ingress only)
- DSCP
- prec (egress only)
- IP quintuple

The **no** form of this command removes the match criteria for the entry identifier.

Parameters

protocol *protocol-id*

Specifies an IP protocol to be used as an ingress or egress network QoS policy match criterion.

The protocol type is identified by its respective protocol number. Well-known protocol numbers include ICMP(1), TCP(6), and UDP(17).

Values *protocol-id*: 0 to 255 protocol numbers accepted in decimal, hexadecimal, or binary

keywords: none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* — udp/tcp wildcard

Table 67: Protocol ID Descriptions lists the protocols and their protocol IDs and descriptions.

Table 67: Protocol ID Descriptions

Protocol	Protocol ID	Description
icmp	1	Internet Control Message

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Protocol	Protocol ID	Description
igmp	2	Internet Group Management
ip	4	IP in IP (encapsulation)
tcp	6	Transmission Control
egp	8	Exterior Gateway Protocol
igp	9	Any private interior gateway (used by Cisco for their IGRP)
udp	17	User Datagram
rdp	27	Reliable Data Protocol
ipv6	41	IPv6
ipv6-route	43	Routing Header for IPv6
ipv6-frag	44	Fragment Header for IPv6
idrp	45	Inter-Domain Routing Protocol
rsvp	46	Reservation Protocol
gre	47	General Routing Encapsulation
ipv6-icmp	58	ICMP for IPv6
ipv6-no-nxt	59	No Next Header for IPv6
ipv6-opts	60	Destination Options for IPv6
iso-ip	80	ISO Internet Protocol
eigrp	88	EIGRP
ospf-igp	89	OSPFIGP
ether-ip	97	Ethernet-within-IP Encapsulation
encap	98	Encapsulation Header
pnni	102	PNNI over IP
pim	103	Protocol Independent Multicast
vrrp	112	Virtual Router Redundancy Protocol
l2tp	115	Layer Two Tunneling Protocol
stp	118	Schedule Transfer Protocol
ptp	123	Performance Transparency Protocol

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Protocol	Protocol ID	Description
isis	124	ISIS over IPv4
crtp	126	Combat Radio Transport Protocol
crudp	127	Combat Radio User Datagram
sctp	132	Secure Control Transmission Protocol

Platforms

All

match

Syntax

match [**next-header** *next-header*]

no match

Context

[Tree] (config>qos>network>ingress>ipv6-criteria>entry match)

[Tree] (config>qos>network>egress>ipv6-criteria>entry match)

Full Context

configure qos network ingress ipv6-criteria entry match

configure qos network egress ipv6-criteria entry match

Description

This command creates a context to configure match criteria for a network QoS policy match IPv6 criteria. When the match criteria have been satisfied, the action associated with the match criteria is executed.

If more than one match criteria (within one match statement) are configured, all criteria must be satisfied (logical AND) before the action associated with the match is executed.

A match context can consist of multiple match criteria, but multiple match statements cannot be created per entry.

A network policy can include the DSCP map command, the dot1p map command (ingress only), the prec map command (egress only), and an IPv6 match criteria. When multiple matches occur for the traffic, the following order of precedence is used to arrive at the final action.

- 802.1p bits (ingress only)
- DSCP
- prec (egress only)
- IP quintuple

The **no** form of this command removes the match criteria for the entry identifier.

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Parameters

next-header

protocol-number, *protocol-name*

Specifies the next header to match.

The protocol type is identified by its respective protocol number. Well-known protocol numbers include ICMP(1), TCP(6), and UDP(17).

protocol-number

Specifies the protocol number value to be configured as a match criterion.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

All

match

Syntax

match *field-value* **instance** *instance-id*

no match *field-value*

Context

[Tree] (config>qos>queue-group-redirect-list match)

Full Context

configure qos queue-group-redirect-list match

Description

This command configures the value of the field in the ingress or egress packet which, when matched, will cause the packet to be redirected to the specified queue group instance. The *field-value* is dependent on the setting of the **type** and therefore must be a valid VXLAN VNI.

A maximum of 16 match statements are supported in a queue group redirect list.

The **no** form of this command removes the match statement from the redirect list.

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Parameters

field-value

Specifies the value of the field in the ingress or egress packet which, when matched, will cause the packet to be redirected to the specified queue group instance. Because the only permitted **type** is **vxlan-vni**, the field must be a valid VXLAN VNI. The VNI can be specified in any of the available formats but is always shown in decimal.

Values 1 to 16777215 (Decimal)

0x1 to 0xFFFFFF (Hexadecimal)

0b1 to 0b111111111111111111111111 (Binary)

instance-id

Specifies the instance of the queue group template to which the VXLAN traffic is redirected. The traffic can be redirected to the default instance, which is the instance specified with the QoS policy under the SAP ingress or egress.

Values 1 to 65535

Platforms

All

match

Syntax

match [**protocol** *protocol-id*]

match protocol none

no match

Context

[Tree] (config>filter>ip-exception>entry match)

Full Context

configure filter ip-exception entry match

Description

Commands in this context enter match criteria for the filter entry. When the match criteria have been satisfied the action associated with the match criteria is executed.

A **match** context may consist of multiple match criteria, but multiple **match** statements cannot be entered per entry. More precisely, the command can be entered multiple times but this only results in modifying the *protocol-id*. and does not affect the underlying match criteria configuration.

The **no** form of the command removes all the match criteria from the filter entry and sets the *protocol-id* of the match command to **none** (keyword). As per above, **match protocol none** is however not equivalent to **no match**.

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Default

match protocol none

Parameters

protocol-id

Sets an IP protocol to be used as an IP filter match criterion. The protocol type, such as TCP or UDP, is identified by its respective protocol number.

Values protocol-number: [0..255]D

[0x0..0xFF]H

[0b0..0b11111111]B

protocol-name:0 to 255 in decimal format. Values can also be specified in hexadecimal format, in binary format, or using the following keywords:

IPv4 filter keywords: none (default), icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

IP exception filter keywords: none, icmp, igmp, ospf-igp, pim, rsvp, tcp, udp, vrrp

* — udp/tcp wildcard

Table 68: Protocol ID Descriptions

Protocol	Protocol ID	Description
icmp	1	Internet Control Message
igmp	2	Internet Group Management
ip	4	IP in IP (encapsulation)
tcp	6	Transmission Control
egp	8	Exterior Gateway Protocol
igp	9	Any private interior gateway (used by Cisco for IGRP)
udp	17	User Datagram
rdp	27	Reliable Data Protocol
ipv6	41	IPv6
ipv6-route	43	Routing Header for IPv6
ipv6-frag	44	Fragment Header for IPv6

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Protocol	Protocol ID	Description
idrp	45	Inter-Domain Routing Protocol
rsvp	46	Reservation Protocol
gre	47	General Routing Encapsulation
ipv6-icmp	58	ICMP for IPv6
ipv6-no-nxt	59	No Next Header for IPv6
ipv6-opts	60	Destination Options for IPv6
iso-ip	80	ISO Internet Protocol
eigrp	88	EIGRP
ospf-igp	89	OSPFIGP
ether-ip	97	Ethernet-within-IP Encapsulation
encap	98	Encapsulation Header
pnni	102	PNNI over IP
pim	103	Protocol Independent Multicast
vrrp	112	Virtual Router Redundancy Protocol
l2tp	115	Layer Two Tunneling Protocol
stp	118	Spanning Tree Protocol
ptp	123	Performance Transparency Protocol
isis	124	ISIS over IPv4
crtp	126	Combat Radio Transport Protocol
crudp	127	Combat Radio User Datagram
sctp	132	Stream Control Transmission Protocol

Platforms

VSR

match

Syntax

match [{**protocol** *protocol-id* | **protocol-list** *protocol-list-name*}]

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match protocol none

no match

Context

[Tree] (config>filter>ip-filter>entry match)

Full Context

configure filter ip-filter entry match

Description

Commands in this context enter match criteria for the filter entry. When the match criteria have been satisfied, the action associated with the match criteria is executed.

A match context may consist of multiple match criteria, but multiple match statements cannot be created per entry. More precisely, the **protocol** command can be entered multiple times but this only results in modifying the *protocol-id*. Matching on more than one protocol can be achieved using the protocol-list match criteria in an IP filter policy.

The **no** form of the command removes all the match criteria from the filter entry and sets the *protocol-id* of the match command to **none**. However, **match protocol none** is not equivalent to **no match**.

Default

match protocol none

Parameters

protocol-id

protocol-number | *protocol-name*

protocol-number

Specifies the protocol number value to be configured as a match criterion. The value can be expressed as a decimal integer, or in hexadecimal or binary format.

Values [0..255]D, [0x0..0xFF]H, [0b0..0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values IPv4 filter keywords: none (default), icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

***** — udp/tcp

Table 69: Protocol ID Descriptions

Protocol	Protocol ID	Description
icmp	1	Internet Control Message

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Protocol	Protocol ID	Description
igmp	2	Internet Group Management
ip	4	IP in IP (encapsulation)
tcp	6	Transmission Control
egp	8	Exterior Gateway Protocol
igp	9	Any private interior gateway (used by Cisco for IGRP)
udp	17	User Datagram
rdp	27	Reliable Data Protocol
ipv6	41	IPv6
ipv6-route	43	Routing Header for IPv6
ipv6-frag	44	Fragment Header for IPv6
idrp	45	Inter-Domain Routing Protocol
rsvp	46	Reservation Protocol
gre	47	General Routing Encapsulation
ipv6-icmp	58	ICMP for IPv6
ipv6-no-nxt	59	No Next Header for IPv6
ipv6-opts	60	Destination Options for IPv6
iso-ip	80	ISO Internet Protocol
eigrp	88	EIGRP
ospf-igp	89	OSPFIGP
ether-ip	97	Ethernet-within-IP Encapsulation
encap	98	Encapsulation Header
pnni	102	PNNI over IP
pim	103	Protocol Independent Multicast
vrrp	112	Virtual Router Redundancy Protocol
l2tp	115	Layer Two Tunneling Protocol
stp	118	Spanning Tree Protocol

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Protocol	Protocol ID	Description
ptp	123	Performance Transparency Protocol
isis	124	ISIS over IPv4
crtp	126	Combat Radio Transport Protocol
crudp	127	Combat Radio User Datagram
sctp	132	Stream Control Transmission Protocol

protocol-list-name

Specifies the name of the protocol list, up to 32 characters.

Platforms

All

match

Syntax

match [**next-header** *next-header*]

no match

Context

[Tree] (config>filter>ipv6-exception>entry match)

Full Context

configure filter ipv6-exception entry match

Description

Commands in this context enter match criteria for the IPv6 filter exception. When the match criteria have been satisfied, the action associated with the match criteria is executed.

The **no** form of the command removes all the match criteria from the IPv6 filter exception.

Parameters

next-header

protocol-number, *protocol-name*

Specifies the next header to match.

protocol-number

Specifies the protocol number value to be configured as a match criterion.

Values [0 to 255]D

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[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

VSR

match

Syntax

match [{**next-header** *protocol-id* | **next-header-list** *protocol-list-name*}]

match next-header none

no match

Context

[Tree] (config>filter>ipv6-filter>entry match)

Full Context

configure filter ipv6-filter entry match

Description

Commands in this context enter match criteria for the filter entry. When the match criteria have been satisfied, the action associated with the match criteria is executed.

A match context may consist of multiple match criteria, but multiple match statements cannot be created per entry. More precisely, the **next-header** command can be entered multiple times, but this only results in modifying the *protocol-id*. Matching on more than one protocol can be achieved using the **next-header-list** match criteria.

The **no** form of the command removes all the match criteria from the filter entry and sets the *protocol-id* of the match command to **none**. However, **match next-header none** is not equivalent to **no match**.

Default

match next-header none

Parameters

next-header

protocol-number, *protocol-name*

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Specifies the IPv6 next header to match. This parameter is analogous to the protocol parameter used in IPv4 filter match command.

protocol-number

Specifies the protocol number value to be configured as a match criterion.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

protocol-list-name

Specifies the name of the protocol list, up to 32 characters.

Platforms

All

match

Syntax

match [**frame-type** {**802dot3** | **802dot2-llc** | **802dot2-snap** | **ethernet_II**}]

no match

Context

[Tree] (config>filter>mac-filter>entry match)

Full Context

configure filter mac-filter entry match

Description

This command creates the context for entering/editing match criteria for the filter entry and specifies an Ethernet frame type for the entry.

A **match** context may consist of multiple match criteria, but multiple **match** statements cannot be entered per entry.

The **no** form of the command removes the match criteria for the *entry-id*.

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Parameters

frame-type

Keyword used to configure an Ethernet frame type to be used for the MAC filter match criteria.

Default **802dot3**

Values 802dot3, 802dot2-llc, 802dot2-snap, ethernet_II

802dot3

Specifies the frame type is Ethernet IEEE 802.3.

802dot2-llc

Specifies the frame type is Ethernet IEEE 802.2 LLC.

802dot2-snap

Specifies the frame type is Ethernet IEEE 802.2 SNAP.

ethernet_II

Specifies the frame type is Ethernet Type II.

Platforms

All

match

Syntax

[**no**] **match**

Context

[Tree] (config>log>filter>entry match)

Full Context

configure log filter entry match

Description

This command creates the context to enter and edit match criteria for a filter entry. When the match criteria is satisfied, the action associated with the entry is executed.

If more than one match parameter (within one match statement) is specified, then all the criteria must be satisfied (AND functional) before the action associated with the match is executed.

Use the **application** command to display a list of the valid applications.

Match context can consist of multiple match parameters (application, event-number, severity, subject), but multiple **match** statements cannot be entered per entry.

The **no** form of this command removes the match criteria for the *entry-id*.

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Platforms

All

match

Syntax

match [**frame-type** *frame-type*]

no match

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry match)

Full Context

configure system security management-access-filter mac-filter entry match

Description

This command configures math criteria for this MAC filter entry.

Parameters

frame-type

Specifies the type of MAC frame to use as match criteria.

Values 802dot3 | 802dot2-llc | 802dot2-snap | 802dot1ag | ethernet_II

Default 802dot3

Platforms

All

match

Syntax

match [**protocol** *protocol-id*]

no match

Context

[Tree] (cfg>sys>sec>cpm>ip-filter>entry match)

Full Context

configure system security cpm-filter ip-filter entry match

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Description

Commands in this context enter match criteria for the filter entry. When the match criteria have been satisfied the action associated with the match criteria is executed. If more than one match criteria (within one match statement) are configured then all criteria must be satisfied (AND function) before the action associated with the match is executed.

A **match** context may consist of multiple match criteria, but multiple **match** statements cannot be entered per entry.

The **no** form of this command removes the match criteria for the *entry-id*.

Parameters

protocol

Sets an IP protocol to be used as an IP filter match criterion. The protocol type such as TCP or UDP is identified by its respective protocol number.

protocol-id

Sets the decimal value representing the IP protocol to be used as an IP filter match criterion. Well known protocol numbers include ICMP(1), TCP(6), UDP(17). The **no** form the command removes the protocol from the match criteria.

Values 1 to 255 (values can be expressed in decimal, hexadecimal, or binary) keywords - none, crtp, crudp, egp, eigrp, encap, ether-ip, gre, icmp, idrp, igmp, igp, ip, ipv6, ipv6-frag, ipv6-icmp, ipv6-no-nxt, ipv6-opts, ipv6-route, isis, iso-ip, l2tp, ospf-igp, pnni, ptp, rdp, rsvp, stp, tcp, udp, vrrp, * — udp/tcp wildcard

Table 70: IP Protocol Names

Protocol	Protocol ID	Description
icmp	1	Internet Control Message
igmp	2	Internet Group Management
ip	4	IP in IP (encapsulation)
tcp	6	Transmission Control
egp	8	Exterior Gateway Protocol
igp	9	any private interior gateway (used by Cisco for their IGRP)
udp	17	User Datagram
rdp	27	Reliable Data Protocol
ipv6	41	IPv6
ipv6-route	43	Routing Header for IPv6
ipv6-frag	44	Fragment Header for IPv6

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Protocol	Protocol ID	Description
idrp	45	Inter-Domain Routing Protocol
rsvp	46	Reservation Protocol
gre	47	General Routing Encapsulation
ipv6-icmp	58	ICMP for IPv6
ipv6-no-nxt	59	No Next Header for IPv6
ipv6-opts	60	Destination Options for IPv6
iso-ip	80	ISO Internet Protocol
eigrp	88	EIGRP
ospf-igp	89	OSPFIGP
ether-ip	97	Ethernet-within-IP Encapsulation
encap	98	Encapsulation Header
pnni	102	PNNI over IP
pim	103	Protocol Independent Multicast
vrrp	112	Virtual Router Redundancy Protocol
l2tp	115	Layer Two Tunneling Protocol
stp	118	Spanning Tree Protocol
ptp	123	Performance Transparency Protocol
isis	124	ISIS over IPv4
crtp	126	Combat Radio Transport Protocol
crudp	127	Combat Radio User Datagram

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

match

Syntax

match [**next-header** *next-header*]

no match

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Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry match)

Full Context

configure system security cpm-filter ipv6-filter entry match

Description

This command specifies match criteria for the IP filter entry.

The **no** form of this command removes the match criteria for the *entry-id*.

Parameters

next-header

protocol-number, *protocol-name*

Specifies the next header to match.

The protocol type such as TCP, UDP or OSPF is identified by its respective protocol number. Well-known protocol numbers include ICMP(1), TCP(6) and UDP(17).

protocol-number

Specifies the protocol number value to be configured as a match criterion.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be configured as a match criterion.

Values none, icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp

* - udp/tcp wildcard

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

match

Syntax

match *command-string*

no match

Context

[Tree] (config>system>security>profile>entry match)

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Full Context

configure system security profile entry match

Description

This command configures a command or subtree commands in subordinate command levels are specified.

Evaluation stops when the first match is found, so subordinate levels cannot be modified with subsequent action commands. More specific action commands should be entered with a lower entry number or in a profile that is evaluated prior to this profile.

All commands below the hierarchy level of the matched command are denied.

The **no** form of this command removes a match condition.

Parameters

command-string

Specifies the CLI command or CLI tree level that is the scope of the profile entry.

Platforms

All

match

Syntax

match

Context

[Tree] (config>router>bgp>group>dynamic-neighbor match)

Full Context

configure router bgp group dynamic-neighbor match

Description

This command configures match conditions for the dynamic neighbors.

Platforms

All

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28.57 match-circuit-id

match-circuit-id

Syntax

[**no**] **match-circuit-id**

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp match-circuit-id)

[Tree] (config>service>vprn>sub-if>dhcp match-circuit-id)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp match-circuit-id)

Full Context

configure service ies subscriber-interface group-interface dhcp match-circuit-id

configure service vprn subscriber-interface dhcp match-circuit-id

configure service vprn subscriber-interface group-interface dhcp match-circuit-id

Description

This command enables Option 82 circuit ID on relayed DHCP packet matching. For routed CO, the group interface DHCP relay process is stateful. When packets are relayed to the server the virtual router ID, transaction ID, SAP ID, and client hardware MAC address of the relayed packet are tracked.

When a response is received from the server the virtual router ID, transaction ID, and client hardware MAC address must be matched to determine the SAP on which to send the packet out. In some cases, the virtual router ID, transaction ID, and client hardware MAC address are not guaranteed to be unique.

When the **match-circuit-id** command is enabled this as part of the key is used to guarantee correctness in our lookup. This is only needed when dealing with an IP aware DSLAM that proxies the client hardware MAC address.

The **no** form of this command disables Option 82 circuit ID on relayed DHCP packet matching.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.58 match-list

match-list

Syntax

match-list *ppp-match-type-1* [*ppp-match-type-2*]

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no match-list

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp match-list)

Full Context

configure subscriber-mgmt local-user-db ppp match-list

Description

This command specifies the type of matching done to identify a host. There are different match-types for PPPoE hosts of which a maximum of three can be specified.

The **no** form of this command reverts to the default.

Parameters

match-type-x

Specifies up to three matching types to identify a host.

Values For PPP: circuit-id, derived-id, mac, remote-id, sap-id, encap-tag-range, encap-tag-separate-range, service-name, username

Note:
The format of *remote-id* in IPv6 is different that the format of *remote-id* in IPv4; IPv6 *remote-id* contains *enterprise-id* filed that is also honored in matching.

circuit-id — Specifies to use the circuit ID to match against.

derived-id — Specifies the value extracted by Python script during processing of DHCP Discover/Solicit/Request/Renew/Rebind Messages (client to server bound messages). The value is stored in the DHCP Transaction Cache (DTC) in a variable named alc.dtc.derivedId. This value has a lifespan of a DHCP transaction (a single pair of messages exchanged between the client and the server, for example DHCP Discover and DHCP Offer).

encap-tag-separate-range — Specifies the match encapsulation inner and outer tag in two separate ranges.

encap-tag-range — Specifies to match tag ranges for inner and outer tags.

mac — Specifies to use the MAC address to match against.

remote-id — Specifies to use the remote ID to match against.

sap-id — Specifies the SAP ID on which DHCPv4 packet are received. The SAP ID is inserted as ALU VSO (82,9,4) by the DHCPv4 relay in router. This is enabled via configuration under the vendor-specific-option CLI hierarchy of the DHCPv4 relay. Since the **dhcp-relay** configuration is enabled under the group-interface CLI hierarchy, the group interface and the service ID must be known before the SAP ID can be used for LUDB match.

service-id — Specifies the service ID of the ingress SAP for DHCPv4 packets. The service ID is inserted as ALU VSO (82,9,3) by the DHCPv4 relay in router. This is enabled via configuration under the vendor-specific-option CLI hierarchy of the DHCPv4 relay.

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system-id — Specifies the system ID of the node name configured under the **system>name** CLI hierarchy. The system ID is inserted as ALU VSO (82,9,1) by the DHCPv4 relay in router. This is enabled via configuration under the vendor-specific-option CLI hierarchy of the DHCPv4 relay. Since the **dhcp-relay** configuration is enabled under the group interface CLI hierarchy, the group interface and the service-id must be known before the system ID can be used for LUDB match.

username — Specifies the user name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

match-list

Syntax

match-list *ipoe-match-type-1* [*ipoe-match-type-2*]

no match-list

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe match-list)

Full Context

configure subscriber-mgmt local-user-db ipoe match-list

Description

This command specifies the type of matching done to identify a host. There are different match-types for IPoE hosts of which a maximum of four can be specified.

The **no** form of this command removes all match criteria.

Parameters

match-type-x

Specifies up to four matching types to identify a host.

Values For IPoE: circuit-id, derived-id, dual-stack-remote-id, duid-en, duid-ll-llt, encap-tag-range, encap-tag-separate-range, ip, mac, option60, remote-id, sap-id, service-id, string, system-id

Note:
The format of **remote-id** in IPv6 is different than the format of **remote-id** in IPv4; IPv6 **remote-id** contains *enterprise-id* field that is also honored in matching.

circuit-id — Specifies to use the circuit ID to match against.

derived-id — Specifies the value extracted by Python script during processing of DHCP Discover/Solicit/Request/Renew/Rebind Messages (client to server bound messages). The value is stored in the DHCP Transaction Cache (DTC) in a variable

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named alc.dtc.derivedId. This value has a lifespan of a DHCP transaction (a single pair of messages exchanged between the client and the server, for example DHCP Discover and DHCP Offer).

dual-stack-remote-id — Specifies the enterprise-id in IPv6 remote-id is stripped off before LUDB matching is performed. Processing of IPv4 remote ID remains unchanged. This will allow a single host entry in LUDB for dual-stack host where host identification is performed based on the remote ID field.

duid-en — Specifies to match against the concatenation of the enterprise number and identifier fields of DHCPv6 option CLIENTID (1) with DUID type = 2 (assigned by vendor based on the enterprise number) in the DHCPv6 client message.

duid-ll-llt — Specifies to match against the link-layer address field of DHCPv6 option CLIENTID (1) with DUID type = 3 (based on link-layer address) or DUID type = 1 (based on link-layer address plus time) and hardware type = 1 (Ethernet) in the DHCPv6 client message. For DUID type = 1, the time field is ignored.

encap-tag-separate-range — Specifies the match encapsulation inner and outer tag in two separate ranges.

encap-tag-range — Specifies to match tag ranges for inner and outer tags.

ip — Specifies the source IPv4/IPv6 address of a data-trigger packet.

mac — Specifies to use the MAC address to match against.

option-60 — Specifies to use Option60 to match against.

remote-id — Specifies to use the remote ID to match against.

sap-id — Specifies the SAP ID on which DHCPv4 packet are received. The SAP ID is inserted as ALU VSO (82,9,4) by the DHCPv4 relay in router. This is enabled via configuration under the vendor-specific-option CLI hierarchy of the DHCPv4 relay. Since the **dhcp-relay** configuration is enabled under the group interface CLI hierarchy, the group interface and the service ID must be known before the SAP ID can be used for LUDB match.

service-id — Specifies the service ID of the ingress SAP for DHCPv4 packets. The service ID is inserted as ALU VSO (82,9,3) by the DHCPv4 relay in router. This is enabled via configuration under the vendor-specific-option CLI hierarchy of the DHCPv4 relay.

string — Specifies the custom string configured under the vendor-specific-option CLI hierarchy of the DHCPv4 relay. The string is inserted as ALU VSO (82,9,5) by the DHCPv4 relay in router. Since the **dhcp-relay** configuration is enabled under the group-interface CLI hierarchy, the group-interface and the service ID must be known before the string can be used for LUDB match.

system-id — Specifies the system ID of the node name configured under the **system>name** CLI hierarchy. The system ID is inserted as ALU VSO (82,9,1) by the DHCPv4 relay in router. This is enabled via configuration under the vendor-specific-option CLI hierarchy of the DHCPv4 relay. Since the **dhcp-relay** configuration is enabled under the group interface CLI hierarchy, the group interface and the service ID must be known before the system ID can be used for LUDB match.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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match-list

Syntax

match-list

Context

[Tree] (config>ipsec>client-db match-list)

Full Context

configure ipsec client-db match-list

Description

This command enables the match list context on a client database. The match list defines the match input used during IPsec's tunnel setup. If there are multiple inputs configured in the match list, then they all must have matches before the system considers a client entry is a match.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

match-list

Syntax

match-list

Context

[Tree] (config>qos match-list)

Full Context

configure qos match-list

Description

This command is used to enter the context to create or edit match lists used in QoS policies.

Platforms

All

match-list

Syntax

match-list

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Context

[Tree] (config>filter match-list)

Full Context

configure filter match-list

Description

This command enables the configuration context for match lists to be used in filter policies (IOM/FP and CPM).

Platforms

All

28.59 match-peer-id-to-cert

match-peer-id-to-cert

Syntax

[**no**] **match-peer-id-to-cert**

Context

[Tree] (config>ipsec>ike-policy match-peer-id-to-cert)

Full Context

configure ipsec ike-policy match-peer-id-to-cert

Description

This command enables checking the IKE peer's ID matches the peer's certificate when performing certificate authentication.

Default

no match-peer-id-to-cert

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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28.60 match-qinq-dot1p

match-qinq-dot1p

Syntax

match-qinq-dot1p {**top** | **bottom**}

no match-qinq-dot1p

Context

[Tree] (config>service>vpls>sap>ingress match-qinq-dot1p)

[Tree] (config>service>vprn>sub-if>grp-if>sap>ingress match-qinq-dot1p)

[Tree] (config>service>ies>if>sap>ingress match-qinq-dot1p)

[Tree] (config>service>ies>sub-if>grp-if>sap>ingress match-qinq-dot1p)

Full Context

configure service vpls sap ingress match-qinq-dot1p

configure service vprn subscriber-interface group-interface sap ingress match-qinq-dot1p

configure service ies interface sap ingress match-qinq-dot1p

configure service ies subscriber-interface group-interface sap ingress match-qinq-dot1p

Description

This command specifies which dot1Q tag position dot1P bits in a QinQ encapsulated packet should be used to evaluate dot1P QoS classification.

The **match-qinq-dot1p** command allows the top or bottom PBits to be used when evaluating the applied sap-ingress QoS policy's dot1P entries. The **top** and **bottom** keywords specify which position should be evaluated for QinQ encapsulated packets.

By default, the bottom-most service delineating dot1Q tag's dot1P bits are used. Table 71: Default QinQ and TopQ SAP Dot1P Evaluation defines the default behavior for dot1P evaluation when the **match-qinq-dot1p** command is not executed.

Table 71: Default QinQ and TopQ SAP Dot1P Evaluation

Port/SAP Type	Existing Packet Tags	PBits Used for Match
Null	None	None
Null	Dot1P (VLAN-ID 0)	Dot1P PBits
Null	Dot1Q	Dot1Q PBits
Null	TopQ BottomQ	TopQ PBits
Null	TopQ (No BottomQ)	TopQ PBits

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Port/SAP Type	Existing Packet Tags	PBits Used for Match
Dot1Q	None (Default SAP)	None
Dot1Q	Dot1P (Default SAP VLAN-ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ/TopQ	TopQ	TopQ PBits
QinQ/TopQ	TopQ BottomQ	TopQ PBits
QinQ/TopQ	TopQ BottomQ	BottomQ PBits

The **no** form of this command restores the default dot1p evaluation behavior for the SAP.

Default

no match-qinq-dot1p (no filtering based on p-bits)

(top or bottom must be specified to override the default QinQ dot1p behavior)

Parameters

top

The top parameter is mutually exclusive to the bottom parameter. When the **top** parameter is specified, the topmost PBits are used (if existing) to match any dot1p dot1p-value entries. Table 72: Top Position QinQ and TopQ SAP Dot1P Evaluation defines the dot1p evaluation behavior when the **top** parameter is specified.

Table 72: Top Position QinQ and TopQ SAP Dot1P Evaluation

Port/SAP Type	Existing Packet Tags	PBits Used for Match
Null	None	None
Null	Dot1P (VLAN-ID 0)	Dot1P PBits
Null	Dot1Q	Dot1Q PBits
Null	TopQ BottomQ	TopQ PBits
Null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	None (Default SAP)	None
Dot1Q	Dot1P (Default SAP VLAN-ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ/TopQ	TopQ	TopQ PBits
QinQ/TopQ	TopQ BottomQ	TopQ PBits
QinQ/QinQ	TopQ BottomQ	TopQ PBits

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bottom

The **bottom** parameter is mutually exclusive to the **top** parameter. When the bottom parameter is specified, the bottom most PBits are used (if existing) to match any dot1p dot1p-value entries. Table 73: Bottom Position QinQ and TopQ SAP Dot1P Evaluation defines the dot1p evaluation behavior when the bottom parameter is specified.

Table 73: Bottom Position QinQ and TopQ SAP Dot1P Evaluation

Port/SAP Type	Existing Packet Tags	PBits Used for Match
Null	None	None
Null	Dot1P (VLAN-ID 0)	Dot1P PBits
Null	Dot1Q	Dot1Q PBits
Null	TopQ BottomQ	BottomQ PBits
Null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	None (Default SAP)	None
Dot1Q	Dot1P (Default SAP VLAN-ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ/TopQ	TopQ	TopQ PBits
QinQ/TopQ	TopQ BottomQ	BottomQ PBits
QinQ/QinQ	TopQ BottomQ	BottomQ PBits

Platforms

All

- configure service ies interface sap ingress match-qinq-dot1p
- configure service vpls sap ingress match-qinq-dot1p

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap ingress match-qinq-dot1p
- configure service vprn subscriber-interface group-interface sap ingress match-qinq-dot1p

match-qinq-dot1p

Syntax

match-qinq-dot1p {**top** | **bottom**}

no match-qinq-dot1p de

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Context

[Tree] (config>service>epipe>sap>ingress match-qinq-dot1p)

[Tree] (config>service>ipipe>sap>ingress match-qinq-dot1p)

Full Context

configure service epipe sap ingress match-qinq-dot1p

configure service ipipe sap ingress match-qinq-dot1p

Description

This command specifies which Dot1Q tag position Dot1P bits in a QinQ encapsulated packet should be used to evaluate Dot1P QoS classification.

The **match-qinq-dot1p** command allows the top or bottom PBits to be used when evaluating the applied sap-ingress QoS policy's Dot1P entries. The **top** and **bottom** keywords specify which position should be evaluated for QinQ encapsulated packets.

The setting also applies to classification based on the DE indicator bit.

The **no** form of this command reverts the dot1p and de bits matching to the default tag.

By default, the bottom most service delineating Dot1Q tags Dot1P bits are used. Table 74: Default QinQ and TopQ SAP Dot1P Evaluation defines the default behavior for Dot1P evaluation. Top or bottom must be specified to override the default QinQ dot1p behavior.

Table 74: Default QinQ and TopQ SAP Dot1P Evaluation

Port/SAP Type	Existing Packet Tags	PBits Used for Match
Null	None	None
Null	Dot1P (VLAN ID 0)	Dot1P PBits
Null	Dot1Q	Dot1Q PBits
Null	TopQ BottomQ	TopQ PBits
Null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	None (Default SAP)	None
Dot1Q	Dot1P (Default SAP VLAN ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ / TopQ	TopQ	TopQ PBits
QinQ / TopQ	TopQ BottomQ	TopQ PBits
QinQ / QinQ	TopQ BottomQ	BottomQ PBits

Default

no match-qinq-dot1p (no filtering based on p-bits)

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Parameters

top

The top parameter is mutually exclusive to the bottom parameter. When the top parameter is specified, the top most PBits are used (if existing) to match any dot1p dot1p-value entries. Table 75: Top Position QinQ dpt1p Evaluation Behavior defines the dot1p evaluation behavior when the top parameter is specified.

Table 75: Top Position QinQ dpt1p Evaluation Behavior

Port/SAP Type	Existing Packet Tags	PBits Used for Match
Null	None	None
Null	Dot1P (VLAN ID 0)	Dot1P PBits
Null	Dot1Q	Dot1Q PBits
Null	TopQ BottomQ	TopQ PBits
Null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	None (Default SAP)	None
Dot1Q	Dot1P (Default SAP VLAN ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ / TopQ	TopQ	TopQ PBits
QinQ / TopQ	TopQ BottomQ	TopQ PBits
QinQ / QinQ	TopQ BottomQ	TopQ PBits

bottom

The bottom parameter and the top parameter are mutually exclusive. When the bottom parameter is specified, the bottom most PBits are used (if existing) to match any dot1p dot1p-value entries. Table 76: Bottom Position QinQ and TopQ SAP Dot1P Evaluation defines the dot1p evaluation behavior when the bottom parameter is specified.

Table 76: Bottom Position QinQ and TopQ SAP Dot1P Evaluation

Port/SAP Type	Existing Packet Tags	PBits Used for Match
Null	None	None
Null	Dot1P (VLAN ID 0)	Dot1P PBits
Null	Dot1Q	Dot1Q PBits
Null	TopQ BottomQ	TopQ PBits
Null	TopQ (No BottomQ)	TopQ PBits

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Port/SAP Type	Existing Packet Tags	PBits Used for Match
Dot1Q	None (Default SAP)	None
Dot1Q	Dot1P (Default SAP VLAN ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ / TopQ	TopQ	TopQ PBits
QinQ / TopQ	TopQ BottomQ	BottomQ PBits
QinQ / QinQ	TopQ BottomQ	BottomQ PBits

Table 77: Egress SAP Types

Egress SAP Type	Ingress Packet Preserved Dot1P State	Marked (or Remarked) PBits
Null	No preserved Dot1P bits	None
Null	Preserved Dot1P bits	Preserved tag PBits remarked using dot1p-value
Dot1Q	No preserved Dot1P bits	New PBits marked using dot1p-value
Dot1Q	Preserved Dot1P bits	Preserved tag PBits remarked using dot1p-value
TopQ	No preserved Dot1P bits	TopQ PBits marked using dot1p-value
TopQ	Preserved Dot1P bits (used as TopQ and BottomQ PBits)	TopQ PBits marked using dot1p-value, BottomQ PBits preserved
QinQ	No preserved Dot1P bits	TopQ PBits and BottomQ PBits marked using dot1p-value
QinQ	Preserved Dot1P bits (used as TopQ and BottomQ PBits)	TopQ PBits and BottomQ PBits marked using dot1p-value

The QinQ and TopQ SAP PBit/DEI bit marking follows the default behavior defined in the preceding table when **qinq-mark-top-only** is not specified.

The dot1p *dot1p-value* command must be configured without the qinq-mark-top-only parameter to remove the TopQ PBits only marking restriction.

A QinQ-encapsulated Ethernet port can have two different sap types:

For a TopQ SAP type, only the outer (top) tag is explicitly specified. For example, **sap 1/1/1:10.***

For QinQ SAP type, both inner (bottom) and outer (top) tags are explicitly specified. For example, **sap 1/1/1:10.100**.

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Platforms

All

match-qinq-dot1p

Syntax

match-qinq-dot1p {**top** | **bottom**}

no match-qinq-dot1p

Context

[Tree] (config>service>vprn>if>sap>ingress match-qinq-dot1p)

Full Context

configure service vprn interface sap ingress match-qinq-dot1p

Description

This command specifies which Dot1Q tag position Dot1P bits in a QinQ encapsulated packet should be used to evaluate Dot1P QoS classification.

The **match-qinq-dot1p** command allows the top or bottom PBits to be used when evaluating the applied sap-ingress QoS policy's Dot1P entries. The **top** and **bottom** keywords specify which position should be evaluated for QinQ encapsulated packets.

The **no** form of this command restores the default dot1p evaluation behavior for the SAP.

By default, the bottom most service delineating Dot1Q tags Dot1P bits are used. Table 78: Dot1P Default Behavior defines the default behavior for Dot1P evaluation when the **match-qinq-dot1p** command is not executed.

Table 78: Dot1P Default Behavior

Port / SAP Type	Existing Packet Tags	PBits Used for Match
null	none	none
null	Dot1P (VLAN-ID 0)	Dot1P PBits
null	—	Dot1Q PBits
null	TopQ BottomQ	TopQ PBits
null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	none (Default SAP)	none
Dot1Q	Dot1P (Default SAP VLAN-ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ / TopQ	TopQ	TopQ PBits

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Port / SAP Type	Existing Packet Tags	PBits Used for Match
QinQ / TopQ	TopQ BottomQ	TopQ PBits
QinQ / QinQ	TopQ BottomQ	BottomQ PBits

Default

no match-qinq-dot1p - No filtering based on p-bits.

top or **bottom** must be specified to override the default QinQ dot1p behavior.

Parameters

top

The top parameter is mutually exclusive to the bottom parameter. When the top parameter is specified, the top most PBits are used (if existing) to match any dot1p dot1p-value entries. Table 79: Dot1P Evaluation Behavior defines the dot1p evaluation behavior when the top parameter is specified.

Table 79: Dot1P Evaluation Behavior

Port / SAP Type	Existing Packet Tags	PBits Used for Match
null	none	none
null	Dot1P (VLAN-ID 0)	Dot1P PBits
null	Dot1Q	Dot1Q PBits
null	TopQ BottomQ	TopQ PBits
null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	none (Default SAP)	none
Dot1Q	Dot1P (Default SAP VLAN-ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ / TopQ	TopQ	TopQ PBits
QinQ / TopQ	TopQ BottomQ	TopQ PBits
QinQ / TopQ	TopQ BottomQ	TopQ PBits

bottom

The bottom parameter is mutually exclusive to the top parameter. When the bottom parameter is specified, the bottom most PBits are used (if existing) to match any **dot1p** *dot1p-value* entries. The following tables define the bottom position QinQ and TopQ SAP dot1p evaluation and the default dot1p explicit marking actions.

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Table 80: Bottom Position QinQ and TopQ SAP Dot1P Evaluation

Port / SAP Type	Existing Packet Tags	PBits Used for Match
null	none	none
null	Dot1P (VLAN-ID 0)	Dot1P PBits
null	Dot1Q	Dot1Q PBits
null	TopQ BottomQ	BottomQ PBits
null	TopQ (No BottomQ)	TopQ PBits
Dot1Q	none (default SAP)	none
Dot1Q	Dot1P (default SAP VLAN-ID 0)	Dot1P PBits
Dot1Q	Dot1Q	Dot1Q PBits
QinQ / TopQ	TopQ	TopQ PBits
QinQ / TopQ	TopQ BottomQ	BottomQ PBits
QinQ / QinQ	TopQ BottomQ	BottomQ PBits

Table 81: Default Dot1P Explicit Marking Actions

Egress SAP Type	Ingress Packet Preserved Dot1P State	Marked (or Remarked) PBits
null	no preserved Dot1P bits	none
null	preserved Dot1P bits	preserved tag PBits remarked using dot1p-value
Dot1Q	no preserved Dot1P bits	new PBits marked using dot1p-value
Dot1Q	preserved Dot1P bits	preserved tag PBits remarked using dot1p-value
TopQ	no preserved Dot1P bits	TopQ PBits marked using dot1p-value
TopQ	preserved Dot1P bits (used as TopQ and BottomQ PBits)	TopQ PBits marked using dot1p-value, BottomQ PBits preserved
QinQ	no preserved Dot1P bits	TopQ PBits and BottomQ PBits marked using dot1p-value

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Egress SAP Type	Ingress Packet Preserved Dot1P State	Marked (or Remarked) PBits
QinQ	preserved Dot1P bits (used as TopQ and BottomQ PBits)	TopQ PBits and BottomQ PBits marked using dot1p-value

The **dot1p** *dot1p-value* command must be configured without the **qinq-mark-top-only** parameter to remove the TopQ PBits only marking restriction.

Platforms

All

28.61 match-radius-proxy-cache

match-radius-proxy-cache

Syntax

match-radius-proxy-cache

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host match-radius-proxy-cache)

Full Context

configure subscriber-mgmt local-user-db ipoe host match-radius-proxy-cache

Description

Commands in this context configure RADIUS proxy cache match parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.62 max

max

Syntax

max *num-sessions*

no max

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Context

[Tree] (config>service>nat>nat-policy>session-limits max)

[Tree] (config>service>nat>firewall-policy>session-limits max)

[Tree] (config>service>nat>up-nat-policy>session-limits max)

Full Context

configure service nat nat-policy session-limits max

configure service nat firewall-policy session-limits max

configure service nat up-nat-policy session-limits max

Description

This command configures the session limit of this policy. The session limit is the maximum number of sessions allowed for a subscriber associated with this policy.

Default

max 65535

Parameters

num-sessions

Specifies the session limit.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy session-limits max
- configure service nat nat-policy session-limits max

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy session-limits max

28.63 max-admin-down-time

max-admin-down-time

Syntax

max-admin-down-time [[*down-interval*] | **infinite**]

no max-admin-down-time

Context

[Tree] (config>lag>bfd>family max-admin-down-time)

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Full Context

configure lag bfd family max-admin-down-time

Description

This command specifies the maximum amount of time the router will continue to forward traffic over a link after the micro-BFD sessions has transitioned to a Down state because it received an ADMIN-DOWN state from the far-end. This timer provide the administrator the configured amount of time to disable or de-provision the micro-BFD session on the local node before forwarding is halted over the associated link(s).

The **no** form of this command removes the time interval from the configuration.

Default

max-admin-down-time 0

Parameters

down-interval

Specifies the amount of time, in seconds.

Values -1 to 3600

infinite

Specifies no end time to forward traffic.

Platforms

All

28.64 max-advertisement

max-advertisement

Syntax

max-advertisement *seconds*

no max-advertisement

Context

[Tree] (config>service>vprn>router-advert>if max-advertisement)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv max-advertisement)

[Tree] (config>subscr-mgmt>rtr-adv-plcy max-advertisement)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv max-advertisement)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 max-advertisement)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv max-advertisement)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv max-advertisement)

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[Tree] (config>service>vprn>sub-if>grp-if>ipv6 max-advertisement)

Full Context

configure service vprn router-advert interface max-advertisement

configure service vprn subscriber-interface group-interface ipv6 router-advertisements max-advertisement

configure subscriber-mgmt router-advertisement-policy max-advertisement

configure service ies subscriber-interface group-interface ipv6 router-advertisements max-advertisement

configure service ies subscriber-interface group-interface ipv6 max-advertisement

configure service ies subscriber-interface ipv6 router-advertisements max-advertisement

configure service vprn subscriber-interface ipv6 router-advertisements max-advertisement

configure service vprn subscriber-interface group-interface ipv6 max-advertisement

Description

This command specifies the maximum time allowed between sending unsolicited router advertisements from this interface.

The **no** form of this command reverts to the default.

Default

max-advertisement 1800

Parameters

seconds

Specifies the maximum advertisement interval, in seconds.

Values 900 to 1800

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.65 max-advertisement-interval

max-advertisement-interval

Syntax

[**no**] **max-advertisement-interval** *seconds*

Context

[Tree] (config>service>vprn>router-advert>if max-advertisement-interval)

[Tree] (config>router>router-advert>if max-advertisement-interval)

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Full Context

configure service vprn router-advertisement interface max-advertisement-interval

configure router router-advertisement interface max-advertisement-interval

Description

This command configures the maximum interval between sending router advertisement messages.

Default

max-advertisement-interval 600

Parameters

seconds

Specifies the maximum interval in seconds between sending router advertisement messages.

Values 4 to 1800

Platforms

All

28.66 max-age

max-age

Syntax

max-age *max-age*

no max-age [*max-age*]

Context

[Tree] (config>service>template>vpls-template>stp max-age)

[Tree] (config>service>vpls>stp max-age)

Full Context

configure service template vpls-template stp max-age

configure service vpls stp max-age

Description

This command indicates how many hops a BPDU can traverse the network starting from the root bridge. The message age field in a BPDU transmitted by the root bridge is initialized to 0. Each other bridge will take the message_age value from BPDUs received on their root port and increment this value by 1. The

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message_age therefore reflects the distance from the root bridge. BPDUs with a message age exceeding max-age are ignored.

STP uses the max-age value configured in the root bridge. This value is propagated to the other bridges via the BPDUs.

The **no** form of this command returns the max age to the default value.

Default

max-age 20

Parameters

max-age

The max info age for the STP instance in seconds. Allowed values are integers in the range 6 to 40.

Platforms

All

28.67 max-attempts

max-attempts

Syntax

max-attempts *count*

max-attempts infinite

no max-attempts

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh>interim-c max-attempts)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling interim-credit max-attempts

Description

This command configures the maximum number of attempts made to establish a new Diameter Gy session with the Online Charging Server (OCS) when Extended Failure Handling (EFH) is active.

A new attempt is made when the volume or time interim credit of a rating group is consumed or when the validity time expires for a rating group.

When the maximum number of attempts is reached, the user session associated with the Diameter session is terminated (the corresponding subscriber hosts are deleted from the system).

The **no** form of this command resets the value to the default value.

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Default

max-attempts 10

Parameters

count

Specifies the maximum number attempts that is made to establish a Diameter Gy session with the OCS when EFH is active.

Values 1 to 4294967295

infinite

Specifies that an unlimited number of attempts is made to establish a Diameter Gy session with the OCS when EFH is active.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.68 max-auth-req

max-auth-req

Syntax

max-auth-req *max-auth-request*

Context

[Tree] (config>port>ethernet>dot1x max-auth-req)

Full Context

configure port ethernet dot1x max-auth-req

Description

This command configures the maximum number of times that the router will send an access request RADIUS message to the RADIUS server. If a reply is not received from the RADIUS server after the specified number attempts, the 802.1x authentication procedure is considered to have failed.

The **no** form of this command returns the value to the default.

Default

max-auth-req 2

Parameters

max-auth-request

The maximum number of RADIUS retries.

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Values 1 to 10

Platforms

All

28.69 max-avg

max-avg

Syntax

max-avg *percent*

no max-avg

Context

[Tree] (config>qos>slope-policy>highplus-slope max-avg)

[Tree] (config>qos>slope-policy>low-slope max-avg)

[Tree] (config>qos>slope-policy>exceed-slope max-avg)

[Tree] (config>qos>slope-policy>high-slope max-avg)

Full Context

configure qos slope-policy highplus-slope max-avg

configure qos slope-policy low-slope max-avg

configure qos slope-policy exceed-slope max-avg

configure qos slope-policy high-slope max-avg

Description

Sets the exceed, low, high, or highplus Random Early Detection (RED) slope position for the shared buffer average utilization value where the packet discard probability rises directly to one. The percent parameter is expressed as a percentage of the shared buffer size.

The **no** form of this command restores the max-avg value to the default setting. If the current **start-avg** setting is larger than the default, an error will occur and the max-avg setting will not be changed to the default.

Default

max-avg 100 - Highplus slope default is 100% buffer utilization before discard probability is 1.

max-avg 90 — High slope default is 90% buffer utilization before discard probability is 1.

max-avg 75 — Low slope default is 75% buffer utilization before discard probability is 1.

max-avg 55 — Exceed slope default is 55% buffer utilization before discard probability is 1.

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Parameters

percent

The percentage of the shared buffer space for the buffer pool at which point the drop probability becomes one. The value entered must be greater or equal to the current setting of **start-avg**. If the entered value is smaller than the current value of **start-avg**, an error will occur and no change will take place.

Values 0 to 100

Platforms

All

28.70 max-avg-rate

max-avg-rate

Syntax

max-avg-rate *maximum-average-rate*

no max-avg-rate

Context

[Tree] (config>router>mpls>lsp-cont>opt max-avg-rate)

Full Context

configure router mpls lsp-container optimization max-avg-rate

Description

This command configures the average rate above which the container increases the number of its member LSPs.

If the average traffic rate (over all the LSPs of the LSP container) goes above this value, the system increases the number of LSPs.

The **no** form of this command reverts to the default value.

Default

max-average-rate 6400000

Parameters

maximum-average-rate

Specifies the maximum average traffic rate per LSP in the LSP container.

Values 0 to 6400000

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.71 max-bandwidth

max-bandwidth

Syntax

max-bandwidth *rate-in-mbps*

no max-bandwidth

Context

[Tree] (config>router>mpls>lsp>auto-bandwidth max-bandwidth)

[Tree] (config>router>mpls>lsp-template>auto-bandwidth max-bandwidth)

Full Context

configure router mpls lsp auto-bandwidth max-bandwidth

configure router mpls lsp-template auto-bandwidth max-bandwidth

Description

This command configures the maximum bandwidth that auto-bandwidth allocation is allowed to request for an LSP.

This maximum bandwidth applies regardless of how the bandwidth adjustment is triggered.

The maximum bandwidth must be greater than the minimum bandwidth.

The **no** form of this command reverts to the default value.

Default

max-bandwidth 100000

Parameters

rate-in-mbps

Specifies the maximum reservable bandwidth, in Mb/s.

Values 0 to 6400000

Platforms

All

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28.72 max-bulk-duration

max-bulk-duration

Syntax

max-bulk-duration *milliseconds*

no max-bulk-duration

Context

[Tree] (config>system>snmp max-bulk-duration)

Full Context

configure system snmp max-bulk-duration

Description

This command sets the maximum duration to process an SNMP request before bulk responses are returned to avoid a timeout on the management system when a lot of information is returned in the response.

Default

no max-bulk-duration

Parameters

milliseconds

Specifies the maximum duration to process requests before bulk responses are returned.

Values 100 to 5000

Platforms

All

28.73 max-burst

max-burst

Syntax

max-burst *number*

no max-burst

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Context

[Tree] (config>router>rsvp>msg-pacing max-burst)

Full Context

configure router rsvp msg-pacing max-burst

Description

This command specifies the maximum number of RSVP messages that are sent in the specified period under normal operating conditions.

Default

max-burst 650

Parameters

number

Specifies the maximum number of RSVP messages to be sent in increments of 10.

Values 100 to 1000

Platforms

All

28.74 max-burst-size

max-burst-size

Syntax

max-burst-size *size* [**bytes** | **kilobytes**]

no max-burst-size

Context

[Tree] (config>router>policy-acct-template>policer max-burst-size)

Full Context

configure router policy-acct-template policer max-burst-size

Description

This command configures the MBS for the policer. When this threshold value is exceeded, packets are considered violating and are dropped.

When this value is not configured, the default value is dependent on the peak-rate setting. When peak-rate is set to max or is greater than or equal to the FP capacity (overriding an explicitly configured MBS value),

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the default value is 16 megabytes; otherwise the value is capped at 3988 kilobytes with a minimum of 256 bytes.

The **no** form of this command reverts to the default value.

Parameters

size

Specifies the maximum number of RSVP messages to be sent in increments of 10.

Values 0 to 16777216 | **default**

bytes

Specifies that the value is in bytes.

kilobytes

Specifies that the value is in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

28.75 max-bypass-associations

max-bypass-associations

Syntax

max-bypass-associations *integer*

no max-bypass-associations

Context

[Tree] (config>router>mpls max-bypass-associations)

Full Context

configure router mpls max-bypass-associations

Description

This command allows the user to set a maximum number of LSP primary path associations with each manual or dynamic bypass LSP that is created in the system.

By default, a Point of Local Repair (PLR) node will associate a maximum of 1000 primary LSP paths with a given bypass before using the next available manual bypass or signaling a new dynamic bypass.

Note that a new bypass LSP may need to be signaled if the constraint of a given primary LSP path is not met by an existing bypass LSP even if the max-bypass-associations for this bypass LSP has not been reached.

The **no** form of this command reinstates the default value of this parameter.

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Default

max-bypass-associations 1000

Parameters

integer

Configures the number of LSP primary path associations

Values 100 to 131072

Platforms

All

28.76 max-bypass-plr-associations

max-bypass-plr-associations

Syntax

max-bypass-plr-associations *plr-value*

no max-bypass-plr-associations

Context

[Tree] (config>router>mpls max-bypass-plr-associations)

Full Context

configure router mpls max-bypass-plr-associations

Description

This command enables the configuration of the maximum number of Points of Local Repair (PLRs) per RSVP-TE bypass LSP.

A PLR summarizes the constraints applied to the computation of the path of the bypass LSP. It consists of the avoid link/node constraint, and potentially other TE constraints such as exclude SRLG, that are needed to protect against the failure of the primary path of the RSVP-TE LSP that is associated with this bypass LSP.

Additional PLRs with the same avoid link/node constraint are associated with the same bypass to minimize the number of bypass LSPs created. This command controls the maximum number of such PLRs.

Because MPLS saves only the PLR constraints of the first LSP that triggered the dynamic bypass creation, subsequent LSPs for the same avoid link/node and with the non-strict bypass SRLG disjointness enabled may be associated with the same bypass. This is even in cases where there exists a bypass LSP path that strictly satisfies the SRLG constraint.

When the maximum PLRs per bypass is configured with a value of 1, MPLS triggers the signaling of a new dynamic bypass LSP for each new PLR and saves each PLR constraint separately with its own bypass.

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As a result, when MPLS re-optimizes a bypass LSP it guarantees that SRLG disjointness of that PLR are checked and enforced.

The **no** form of this command returns the command to its default value.

Default

max-bypass-plr-associations 16

Parameters

plr-value

Configures the number of LSP primary path associations

Values 1 to 16

Default 16

Platforms

All

28.77 max-channels-per-connection

max-channels-per-connection

Syntax

max-channels-per-connection *number-of-channels*

no max-channels-per-connection

Context

[Tree] (config>system>login-control>ssh max-channels-per-connection)

Full Context

configure system login-control ssh max-channels-per-connection

Description

This command configures the maximum number of channels supported on an SSH connection.

The **no** form of this command configures this value to 5, which is the default.

Default

max-channels-per-connection 5

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Parameters

number-of-channels

Specifies the number of channels.

Values 1 to 50

Platforms

All

28.78 max-cleared

max-cleared

Syntax

max-cleared *maximum*

Context

[Tree] (config>system>alarms max-cleared)

Full Context

configure system alarms max-cleared

Description

This command configures the maximum number of cleared alarms that the system will store and display.

Default

max-cleared 500

Parameters

maximum

Specifies the maximum number of cleared alarms, up to 500.

Platforms

All

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28.79 max-completed

max-completed

Syntax

max-completed *unsigned*

Context

[Tree] (config>system>script-control>script-policy max-completed)

Full Context

configure system script-control script-policy max-completed

Description

This command is used to configure the maximum number of script run history status entries to keep.

Default

max-completed 1

Parameters

unsigned

Specifies the maximum number of script run history status entries to keep.

Values 1 to 1500

Default 1

Platforms

All

28.80 max-conn-prefix

max-conn-prefix

Syntax

max-conn-prefix *count*

no max-conn-prefix

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Context

[Tree] (config>test-oam>twamp>server>prefix max-conn-prefix)

Full Context

configure test-oam twamp server prefix max-conn-prefix

Description

This command configures the maximum number of control connections by clients with an IP address in a specific prefix. A new control connection is rejected if accepting it would cause either the prefix limit defined by this command or the server limit (max-conn-server) to be exceeded.

The **no** form of this command returns the value to the default.

Default

max-conn-prefix 32

Parameters

count

Specifies the maximum number of control connections.

Values 0 to 64

Default 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.81 max-conn-server

max-conn-server

Syntax

max-conn-server *count*

no max-conn-server

Context

[Tree] (config>test-oam>twamp>server max-conn-server)

Full Context

configure test-oam twamp server max-conn-server

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Description

This command configures the maximum number of TWAMP control connections from all TWAMP clients. A new control connection is rejected if accepting it would cause either this limit or a prefix limit (max-conn-prefix) to be exceeded.

The **no** form of this command returns the value to the default.

Default

max-conn-server 32

Parameters

count

Specifies the maximum number of control connections.

Values 0 to 64

Default 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.82 max-data-size

max-data-size

Syntax

max-data-size *bytes*

Context

[Tree] (config>sflow>receiver max-data-size)

Full Context

configure sflow receiver max-data-size

Description

This configures the maximum data size for sFlow UDP datagrams sent to the collector.

To restore default configuration, execute max-data-size 1400.

Default

max-data-size 1400

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Parameters

bytes

Specifies the data size.

Values 200 to 1500

Platforms

7750 SR, 7750 SR-s, 7950 XRS

28.83 max-debounce-time

max-debounce-time

Syntax

max-debounce-time *max-debounce-time*

no max-debounce-time

Context

[Tree] (config>redundancy>mc>peer>mc>l3-ring>in-band-control-path max-debounce-time)

[Tree] (config>redundancy>mc>peer>mcr>ring>in-band-control-path max-debounce-time)

Full Context

configure redundancy multi-chassis peer multi-chassis l3-ring in-band-control-path max-debounce-time

configure redundancy multi-chassis peer mc-ring ring in-band-control-path max-debounce-time

Description

This command configures the inband control path maximum debounce time.

The **no** form of this command reverts to the default.

Default

max-debounce-time 10

Parameters

max-debounce-time

Specifies the maximum debounce time on the transition of the operational state of the inband control connection.

Values 5 to 200 seconds

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Platforms

All

28.84 max-decrement

max-decrement

Syntax

max-decrement {**percent** *percent-of-admin-pir* | **rate** *rate-in-kilobits-per-second*}

no max-decrement

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement max-decrement)

Full Context

configure qos adv-config-policy child-control offered-measurement max-decrement

Description

This command is used to limit how fast a child queue or policer can 'give up' bandwidth that it has been allotted from the virtual scheduler in a single iteration. If the child's new offered rate has decreased by more than the maximum decrement limit, the system ignores the new offered rate and instead uses the old offered rate less the maximum decrement limit.

A possible reason to define a maximum decrement limit is to allow a child queue or policer to hold on to a portion of bandwidth that has been distributed by the parent virtual scheduler in case the child's offered rate fluctuates in an erratic manor. The max-decrement limit has a dampening effect to changes in the offered rate.

A side effect of using a maximum decrement limit is that unused bandwidth allocated to the child queue or policer will not be given to another child as quickly. This may result in an underrun of the virtual scheduler's aggregate rate.

The max-decrement limit has no effect on any increase in a child's offered rate. If the rate increase is above the change sensitivity, the new offered rate is immediately used.

If the max-decrement command is used with a percent-based value, the decrement limit will be a function of the configured PIR value on the policer or queue. In this case, care should be taken that the child is either configured with an explicit PIR rate (other than max) or the child's administrative PIR is defined using the percent-rate command with the local parameter enabled if an explicit value is not desired. When a maximum PIR is in use on the child, the system attempts to interpret the maximum child forwarding rate. This rate could be very large if the child is associated with multiple ingress or egress ports.

Except for the overall cap on the offered input into the virtual scheduler, the child's administrative PIR has no effect on the calculated sensitivity if an explicit rate is specified.

If the child's administrative PIR is modified while a percent based max-decrement is in effect, the system automatically uses the new relative maximum decrement limit value the next time the child's offered rate is determined.

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When the max-decrement command is not specified or removed, the virtual scheduler does not limit a decreasing offered rate to a specific limit.

The **no** form of this command is used to remove any currently configured maximum decrement limit for all child policers and queues associated with the policy.

Parameters

percent-of-admin-pir

When the percent qualifier is used, this parameter specifies the percentage of the child's administrative PIR that should be used as the decrement limit to offered rate change. If a value of 100 or 100.00 is used, the system will interpret this equivalent to **no max-decrement**.

Values 1.00 to 100.00

rate-in-kilobits-per-second

When the rate qualifier is used, this parameter specifies an explicit rate, in kb/s, that should be used as the child's offered rate change sensitivity value. If a rate sensitivity of 0 is specified, the system interprets this equivalent to **no max-decrement**.

Values 0 to 100,000,000

Platforms

All

28.85 max-description-size

max-description-size

Syntax

max-description-size *size*

no max-description-size

Context

[Tree] (config>service>nat>pcp-server-policy max-description-size)

Full Context

configure service nat pcp-server-policy max-description-size

Description

This command specifies the maximum length of mapping descriptions made by the PCP servers using this PCP policy.

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Default

max-description-size 64

Parameters

size

Specifies the maximum length of mapping descriptions made by the PCP servers.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.86 max-drop-count

max-drop-count

Syntax

max-drop-count *count*

no max-drop-count

Context

[Tree] (config>service>sdp>keep-alive max-drop-count)

Full Context

configure service sdp keep-alive max-drop-count

Description

This command configures the number of consecutive SDP keepalive failed request attempts or remote replies that can be missed after which the SDP is operationally downed. If the **max-drop-count** consecutive keepalive request messages cannot be sent or no replies are received, the SDP-ID will be brought operationally down by the keepalive SDP monitoring.

The **no** form of this command reverts the **max-drop-count** *count* value to the default settings.

Default

max-drop-count 3

Parameters

count

Specifies the number of consecutive SDP keepalive requests that are failed to be sent or replies missed, expressed as a decimal integer.

Values 1 to 5

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Platforms

All

28.87 max-ecmp-routes

max-ecmp-routes

Syntax

max-ecmp-routes *max-routes*

no max-ecmp-routes

Context

[Tree] (config>router>ldp max-ecmp-routes)

Full Context

configure router ldp max-ecmp-routes

Description

This command sets the maximum number of ECMP routes that LDP may use to resolve the next hop for a FEC.

Note:
The system-wide maximum number of ECMP routes is limited by the **config>router>ecmp** command. This command, under the LDP context, simply allows LDP to use more than 32 routes, if they are available in RTM or TTM. When configured, the actual number of ECMP routes used by LDP is therefore min[**config>router>ecmp**, **config>router>ldp>max-ecmp-routes**].

The **no** form of this command reverts to the default value.

Default

max-ecmp-routes 32

Parameters

max-routes

Specifies the maximum number of routes.

Values 1 to 64

Platforms

All

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28.88 max-entries

max-entries

Syntax

max-entries *count*

no max-entries

Context

[Tree] (config>python>py-pol>cache max-entries)

Full Context

configure python python-policy cache max-entries

Description

This command configures the maximum number of Python cache entries that can be stored in the cache of this Python policy.

If the limit has been reached, a Python exception will be thrown when requested to store another data structure.

The **no** form of this command reverts to the default.

Default

max-entries 128000

Parameters

count

Specifies the maximum number of cache entries allowed.

Values 1 to 1000000

Platforms

All

max-entries

Syntax

max-entries *max-entries*

no shutdown

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Context

[Tree] (config>app-assure>group>evt-log max-entries)

Full Context

configure application-assurance group event-log max-entries

Description

This command configures the number of entries in the buffer.

Default

max-entries 500

Parameters

max-entries

Specifies the maximum number of entries for the event log.

Values 1 to 100000

Default 500

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

max-entries

Syntax

max-entries *max-entries*

no max-entries

Context

[Tree] (conf>router>segment-routing>srv6>loc>static-function max-entries)

Full Context

configure router segment-routing segment-routing-v6 locator static-function max-entries

Description

This command configures the maximum number of entries from the function field that must be reserved for static End, End.X, or a service SID function assignment.

The **no** form of this command reverts to the default value.

Default

max-entries 1

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Parameters

max-entries

Specifies the maximum number of entries for the SRv6 locator.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

max-entries

Syntax

max-entries *max-entries*

no max-entries

Context

[Tree] (conf>router>sr>srv6>ms>block>static-function max-entries)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block static-function max-entries

Description

This command configures the maximum number of entries from the function field that must be reserved for static uA or a micro-service SID function assignment. This value must be smaller than the number of local micro-SIDs, calculated as: 2^sid-length - 1024 * global-sid-entries.

The **no** form of this command reverts to the default value.

Default

max-entries 1

Parameters

max-entries

Specifies the maximum number of entries for the SRv6 micro-segment locator.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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28.89 max-entry-lifetime

max-entry-lifetime

Syntax

max-entry-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no max-entry-lifetime

Context

[Tree] (config>python>py-pol>cache max-entry-lifetime)

Full Context

configure python python-policy cache max-entry-lifetime

Description

This command configures the maximum allowed lifetime for each entry of the Python cache of this Python policy.

When adding data to the Python cache the lifetime of the given object must always be specified. If the specified lifetime is bigger than the configured value, then the value of the **max-entry-lifetime** will be used instead of the lifetime that was specified.

The **no** form of this command reverts to the default.

Default

max-entry-lifetime days 1

Parameters

days *days*

Specifies the maximum lifetime that can be set on a cache entry in days.

Values 0 to 7

Default 1

hrs *hours*

Specifies the maximum lifetime that can be set on a cache entry in hours.

Values 0 to 23

min *minutes*

Specifies the maximum lifetime that can be set on a cache entry in minutes.

Values 0 to 59

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sec *seconds*

Specifies the maximum lifetime that can be set on a cache entry in seconds.

Values 0 to 59

Platforms

All

28.90 max-fail

max-fail

Syntax

max-fail *no-response-count*

no max-fail

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy max-fail)

Full Context

configure saa test type-multi-line lsp-trace sr-policy max-fail

Description

This command configures the maximum number of consecutive MPLS echo requests that do not receive a reply before the trace operation fails for a TTL.

The **no** form of this command reverts to the default value.

Default

max-fail 5

Parameters

no-response-count

Specifies the maximum number of consecutive MPLS echo requests, expressed as a decimal integer, that do not receive a reply before the trace operation fails for a TTL.

Values 1 to 255

Default 5

Platforms

All

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28.91 max-files-number

max-files-number

Syntax

max-files-number *number*

Context

[Tree] (config>call-trace max-files-number)

Full Context

configure call-trace max-files-number

Description

This command configures the maximum number of files call trace can create.

Default

max-files-number 200

Parameters

number

Specifies the maximum number of all call trace log files stored on all compact flash cards together.

Values 1 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.92 max-fragment-delay

max-fragment-delay

Syntax

max-fragment-delay *milliseconds*

no max-fragment-delay

Context

[Tree] (config>service>vprn>l2tp>group>mlppp max-fragment-delay)

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[Tree] (config>router>l2tp>group>tunnel>mlppp max-fragment-delay)

[Tree] (config>router>l2tp>group>mlppp max-fragment-delay)

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp max-fragment-delay)

Full Context

configure service vprn l2tp group mlppp max-fragment-delay

configure router l2tp group tunnel mlppp max-fragment-delay

configure router l2tp group mlppp max-fragment-delay

configure service vprn l2tp group tunnel mlppp max-fragment-delay

Description

This command is applicable only to LNS. It determines the maximum fragment delay caused by the transmission that will be imposed on a link.

Fragmentation can be used to interleave high priority packet in-between low priority fragments on a MLPPPoX session with a single link or on a MLPPPoX session with multiple links to better load balance traffic over multiple member links.

Default

no max-fragment-delay

Parameters

milliseconds

Specifies the interval, in milliseconds.

Values 5 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

28.93 max-groups

max-groups

Syntax

max-groups *max-groups*

no max-groups

Context

[Tree] (config>service>vprn>igmp>if max-groups)

[Tree] (config>service>vprn>igmp>grp-if max-groups)

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Full Context

configure service vprn igmp interface max-groups

configure service vprn igmp group-interface max-groups

Description

This command configures the maximum number of groups for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of groups, the groups that are already accepted are not deleted. Only new groups will not be allowed.

The **no** form of this command removes the value.

Parameters

max-groups

Specifies the maximum number of groups for this interface.

Values 1 to 16000

Platforms

All

- configure service vprn igmp interface max-groups

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface max-groups

max-groups

Syntax

max-groups *value*

no max-groups

Context

[Tree] (config>service>vprn>mld>if max-groups)

Full Context

configure service vprn mld interface max-groups

Description

This command specifies the maximum number of groups for which MLD can have local receiver information based on received MLD reports on this interface. When this configuration is changed dynamically to a value lower than the currently accepted number of groups, the groups that are already accepted are not deleted. Only new groups will not be allowed.

Default

0 (no limit to the number of groups)

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Parameters

value

Specifies the maximum number of groups for this interface.

Values 1 to 16000

Platforms

All

max-groups

Syntax

max-groups *value*

no max-groups

Context

[Tree] (config>service>vprn>pim>if max-groups)

Full Context

configure service vprn pim interface max-groups

Description

This command configures the maximum number of groups for which PIM can have downstream state based on received PIM Joins on this interface. This does not include IGMP local receivers on the interface. When this configuration is changed dynamically to a value lower than the currently accepted number of groups, the groups that are already accepted are not deleted. Only new groups will not be allowed. When this object has a value of 0, there is no limit to the number of groups.

Parameters

value

Specifies the maximum number of groups for this interface.

Values 1 to 16000

Platforms

All

max-groups

Syntax

max-groups *value*

no max-groups

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Context

[Tree] (config>router>igmp>if max-groups)

[Tree] (config>router>igmp>group-interface max-groups)

Full Context

configure router igmp interface max-groups

configure router igmp group-interface max-groups

Description

This command specifies the maximum number of groups for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than the currently accepted number of groups, the groups that are already accepted are not deleted. Only new groups will not be allowed. This command is applicable for IPv4 and IPv6.

The **no** form of the command sets no limit to the number of groups.

Default

no max-groups

Parameters

value

Specifies the maximum number of groups for this interface.

Values 1 to 16000

Platforms

All

- configure router igmp interface max-groups

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface max-groups

max-groups

Syntax

max-groups [*1..16000*]

no max-groups

Context

[Tree] (config>router>mld>group-interface max-groups)

[Tree] (config>router>mld>if max-groups)

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Full Context

configure router mld group-interface max-groups

configure router mld interface max-groups

Description

This command specifies the maximum number of groups for which MLD can have local receiver information based on received MLD reports on this interface. When this configuration is changed dynamically to a value lower than the currently accepted number of groups, the groups that are already accepted are not deleted. New groups are not allowed.

The **no** form of this command reverts to the default value.

Default

max-groups 0 (no limit to the number of groups)

Parameters

1..16000

Specifies the maximum number of groups for this interface.

Values 1 to 16000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface max-groups

All

- configure router mld interface max-groups

max-groups

Syntax

max-groups [*value*]

no max-groups

Context

[Tree] (config>router>pim>interface max-groups)

Full Context

configure router pim interface max-groups

Description

This command specifies the maximum number of groups for which PIM can have local receiver information based on received PIM reports on this interface. When this configuration is changed dynamically to a value

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lower than the currently accepted number of groups, the groups that are already accepted are not deleted. Only new groups will not be allowed. This command is applicable for IPv4 and IPv6.

The **no** form of this command sets no limit to the number of groups.

Default

no max-groups

Parameters

value

Specifies the maximum number of groups for this interface.

Values 1 to 16000

Platforms

All

28.94 max-grp-sources

max-grp-sources

Syntax

max-grp-sources *max-group-sources*

no max-grp-sources

Context

[Tree] (config>service>vprn>igmp>grp-if max-grp-sources)

[Tree] (config>service>vprn>igmp>if max-grp-sources)

[Tree] (config>service>vprn>mld>interface max-grp-sources)

Full Context

configure service vprn igmp group-interface max-grp-sources

configure service vprn igmp interface max-grp-sources

configure service vprn mld interface max-grp-sources

Description

This command configures the maximum number of group sources for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources will not be allowed.

The **no** form of this command reverts to the default.

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Default

max-grp-sources 0

Parameters

max-grp-sources

Specifies the maximum number of group source.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface max-grp-sources

All

- configure service vprn mld interface max-grp-sources
- configure service vprn igmp interface max-grp-sources

max-grp-sources

Syntax

max-grp-sources *value*

no max-grp-sources

Context

[Tree] (config>router>igmp>group-interface max-grp-sources)

[Tree] (config>router>igmp>if max-grp-sources)

Full Context

configure router igmp group-interface max-grp-sources

configure router igmp interface max-grp-sources

Description

This command configures the maximum number of group sources for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources will not be allowed.

The **no** form of the command reverts to the default.

Default

no max-grp-sources

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Parameters

value

Specifies the maximum number of group sources.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface max-grp-sources

All

- configure router igmp interface max-grp-sources

max-grp-sources

Syntax

max-grp-sources [*grp-source]*

no max-grp-sources

Context

[Tree] (config>router>mld>if max-grp-sources)

[Tree] (config>router>mld>group-interface max-grp-sources)

Full Context

configure router mld interface max-grp-sources

configure router mld group-interface max-grp-sources

Description

This command configures the maximum number of group sources for which MLD can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources will not be allowed.

The **no** form of this command reverts to the default.

Default

max-grp-sources 0 (no limit to the number of sources)

Parameters

grp-source

Specifies the maximum number of group sources.

Values 1 to 32000

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Platforms

All

- configure router mld interface max-grp-sources

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface max-grp-sources

28.95 max-held-sessions

max-held-sessions

Syntax

max-held-sessions *max-held-sessions*

no max-held-sessions

Context

[Tree] (config>subscr-mgmt>gtp max-held-sessions)

Full Context

configure subscriber-mgmt gtp max-held-sessions

Description

This command configures the maximum number of GTP sessions to be held while their UE is disconnected.

The **no** form of this command reverts to the default.

Default

max-held-sessions 2000

Parameters

max-held-sessions

Specifies the maximum number of GTP sessions.

Values 0 to 500000

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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28.96 max-history-esp-key-records

max-history-esp-key-records

Syntax

max-history-esp-key-records *max-records*

no max-history-esp-key-records

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel max-history-esp-key-records)

[Tree] (config>service>vprn>if>sap>ipsec-gw max-history-esp-key-records)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel max-history-esp-key-records)

[Tree] (config>ipsec>trans-mode-prof max-history-esp-key-records)

[Tree] (config>router>if>ipsec>ipsec-tunnel max-history-esp-key-records)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel max-history-esp-key-records)

[Tree] (config>service>ies>if>sap>ipsec-gw max-history-esp-key-records)

Full Context

configure service vprn interface ipsec ipsec-tunnel max-history-esp-key-records

configure service vprn interface sap ipsec-gw max-history-esp-key-records

configure service vprn interface sap ipsec-tunnel max-history-esp-key-records

configure ipsec ipsec-transport-mode-profile max-history-esp-key-records

configure router interface ipsec ipsec-tunnel max-history-esp-key-records

configure service ies interface ipsec ipsec-tunnel max-history-esp-key-records

configure service ies interface sap ipsec-gw max-history-esp-key-records

Description

This command enables the system to keep records of CHILD-SA keys. There is a system wide limit of maximum number of IPsec tunnels that save keys. If the number of tunnel exceeds that limit, the system does not save keys for the new tunnels. Contact Nokia support for details of the limitation.

This command is ignored if the **config>ipsec>no show-ipsec-keys** command is configured.

The **no** form of this command prevents the system from keeping records.

Default

no max-history-esp-key-records

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Parameters

max-records

Specifies the maximum number of recent records.

Values 1 to 48

Platforms

VSR

- configure router interface ipsec ipsec-tunnel max-history-esp-key-records
- configure service ies interface ipsec ipsec-tunnel max-history-esp-key-records
- configure service vprn interface ipsec ipsec-tunnel max-history-esp-key-records

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec ipsec-transport-mode-profile max-history-esp-key-records
- configure service ies interface sap ipsec-gw max-history-esp-key-records
- configure service vprn interface sap ipsec-gw max-history-esp-key-records
- configure service vprn interface sap ipsec-tunnel max-history-esp-key-records

28.97 max-history-ike-key-records

max-history-ike-key-records

Syntax

max-history-ike-key-records *max-records*

no max-history-ike-key-records

Context

[Tree] (config>service>vprn>if>sap>ipsec-tunnel max-history-ike-key-records)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel max-history-ike-key-records)

[Tree] (config>ipsec>trans-mode-prof max-history-ike-key-records)

[Tree] (config>router>if>ipsec>ipsec-tunnel>manual-keying max-history-ike-key-records)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel max-history-ike-key-records)

[Tree] (config>service>vprn>if>sap>ipsec-gw max-history-ike-key-records)

[Tree] (config>service>ies>if>sap>ipsec-gw max-history-ike-key-records)

Full Context

configure service vprn interface sap ipsec-tunnel max-history-ike-key-records

configure service ies interface ipsec ipsec-tunnel max-history-ike-key-records

configure ipsec ipsec-transport-mode-profile max-history-ike-key-records

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configure router interface ipsec ipsec-tunnel manual-keying max-history-ike-key-records

configure service vprn interface ipsec ipsec-tunnel max-history-ike-key-records

configure service vprn interface sap ipsec-gw max-history-ike-key-records

configure service ies interface sap ipsec-gw max-history-ike-key-records

Description

This command enables the system to keep records of IKE-SA keys for the corresponding **ipsec-gw**, **ipsec-tunnel**, or **ipsec-transport-mode-profile**.

This command is ignored if the **config>ipsec>no show-ipsec-keys** command is enabled. There is a system-wide limit for the maximum number of IPsec tunnels that save keys. If the number of tunnels exceeds that limit, the system does not save keys for the new tunnels. Contact Nokia support for details of the limitation.

The **no** form of this command prevents the system from keeping records.

Default

no max-history-ike-key-records

Parameters

max-records

Specifies the maximum number of recent records.

Values 1 to 3

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel max-history-ike-key-records
- configure ipsec ipsec-transport-mode-profile max-history-ike-key-records
- configure service vprn interface sap ipsec-gw max-history-ike-key-records
- configure service ies interface sap ipsec-gw max-history-ike-key-records

VSR

- configure service vprn interface ipsec ipsec-tunnel max-history-ike-key-records
- configure router interface ipsec ipsec-tunnel manual-keying max-history-ike-key-records
- configure service ies interface ipsec ipsec-tunnel max-history-ike-key-records

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28.98 max-igmp-latency

max-igmp-latency

Syntax

max-igmp-latency *milli-seconds*

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if max-igmp-latency)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface max-igmp-latency

Description

After the subscriber requests a fast channel change using RTCP, the video ISA bursts the video content as unicast to the subscriber. When the unicasted content has caught up to the multicast, the video ISA sends a notification message using RTCP to the subscriber to switch over to multicast with an IGMP request. When the notification message from the video ISA is sent, the **max-igmp-latency** timer starts. The video ISA continues to send unicast video until the **max-igmp-latency** expires or until the subscriber, using RTCP, informs the video ISA of the exact sequence number to stop (whichever occurs first). The **max-igmp-latency** is the maximum delay that the multicast router takes to respond and deliver the multicast upon the subscriber IGMP request.

Parameters

milli-seconds

Specifies the maximum delay in milliseconds.

Values 10 to 1000

Default 100

Platforms

7450 ESS, 7750 SR, 7750 SR-s

28.99 max-lanext-bd

max-lanext-bd

Syntax

max-lanext-bd [*value*]

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no max-lanext-bd

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw max-lanext-bd)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw max-lanext-bd)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw max-lanext-bd

configure service ies subscriber-interface group-interface wlan-gw max-lanext-bd

Description

This command specifies the maximum number of HLE BDs for this group interface.

The **no** form of this command disables HLE for the group interface.

Parameters

value

Specifies the maximum number of Bridged Domains for this interface.

Values 1 to 131071

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.100 max-lease-time

max-lease-time

Syntax

max-lease-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no max-lease-time

Context

[Tree] (config>router>dhcp>server>pool max-lease-time)

Full Context

configure router dhcp local-dhcp-server pool max-lease-time

Description

This command configures the maximum lease time.

The **no** form of this command reverts to the default.

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Default

max-lease-time days 10

Parameters

max-lease-time

Specifies the maximum lease time.

Values		
	days	0 to 3650
	hours	0 to 23
	minutes	0 to 59
	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.101 max-lifetime

max-lifetime

Syntax

max-lifetime *hours*

no max-lifetime

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>ccrt-replay max-lifetime)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>ccrt-replay max-lifetime)

Full Context

configure subscriber-mgmt diameter-application-policy gx ccrt-replay max-lifetime

configure subscriber-mgmt diameter-application-policy gy ccrt-replay max-lifetime

Description

This command specifies the maximum period of time that CCR-T messages for Diameter Gx or Gy sessions that belong to the Diameter application policy are replayed.

The **no** form of this command resets the maximum lifetime to the default value setting.

Default

max-lifetime 24

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Parameters

hours

Specifies the maximum lifetime after which the CCR-T messages are no longer replayed.

Values 1 to 24

Default 24

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.102 max-links

max-links

Syntax

max-links *max-links*

no max-links

Context

[Tree] (config>router>l2tp>group>mlppp max-links)

[Tree] (config>router>l2tp>group>tunnel>mlppp max-links)

[Tree] (config>service>vprn>l2tp>group>mlppp max-links)

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp max-links)

Full Context

configure router l2tp group mlppp max-links

configure router l2tp group tunnel mlppp max-links

configure service vprn l2tp group mlppp max-links

configure service vprn l2tp group tunnel mlppp max-links

Description

This command is applicable only to LNS. It determines the maximum number of links that can be put in a bundle.

Any attempt of a session to join a bundle that is above the max-link limit will be rejected.

If interleaving is configured, it is recommended that max-links be set to 1 or a version of the command is used (no max-links). Both have the same effect.

The configuration under the tunnel hierarchy will override the configuration under the group hierarchy.

The **no** form of this command limits the number of links in the bundle to 1.

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Default

no max-links

Parameters

max-links

Specifies the maximum number of links in a bundle.

Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

28.103 max-list-length

max-list-length

Syntax

max-list-length unlimited

max-list-length *count*

no max-list-length

Context

[Tree] (config>router>l2tp>tunnel-sel max-list-length)

[Tree] (config>service>vprn>l2tp>tunnel-sel max-list-length)

Full Context

configure router l2tp tunnel-selection-blacklist max-list-length

configure service vprn l2tp tunnel-selection-blacklist max-list-length

Description

This command specifies the number of tunnels or peers that can be in the **tunnel-selection-blacklist**. If a tunnel or peer needs to be added to the denylist and the denylist is full, the system removes the item (tunnel or peer) from the denylist that was in this denylist for the longest time.

The **no** form of this command reverts to the default.

Default

max-list-length unlimited

Parameters

unlimited

Specifies there is no limit.

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count

Specifies how many items (tunnels or peers) can be in the denylist.

Values 1 to 65635

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.104 max-lockout-hosts

max-lockout-hosts

Syntax

max-lockout-hosts *hosts*

no max-lockout-hosts

Context

[Tree] (config>subscr-mgmt>host-lockout-plcy max-lockout-hosts)

Full Context

configure subscriber-mgmt host-lockout-policy max-lockout-hosts

Description

When a client enters lockout, authentication and ESM host creation is suppressed. A lightweight context maintains the lockout state and the timeouts for the client in lockout. This command allows the number of lockout contexts to be configured per SAP. If the number of existing contexts reaches the configured count, incoming hosts that fail authentication or creation are not subject to lockout, and are retried as normal.

The **no** form of this command reverts to the default value.

Default

max-lockout-hosts 100

Parameters

hosts

Specifies the maximum number of lockout host.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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28.105 max-mac

max-mac

Syntax

max-mac [*value*]

no max-mac

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>access max-mac)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>access max-mac)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access max-mac

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access max-mac

Description

This command specifies the maximum number of allowed MAC addresses on the access side of HLE.

The **no** form of this command reverts to the default.

Default

max-mac 20

Parameters

value

Specifies the maximum number of MAC entries in bridged domains.

Values 1 to 128

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

max-mac

Syntax

max-mac [*value*]

no max-mac

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>network max-mac)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>network max-mac)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext network max-mac

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext network max-mac

Description

This command specifies the maximum number of allowed VM MAC addresses on the access side of HLE.

The **no** form of this command reverts to the default.

Default

max-mac 20

Parameters

value

Specifies the maximum number of VM MAC entries in bridged domains.

Values 1 to 128

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.106 max-member-lsps

max-member-lsps

Syntax

max-member-lsps *number*

no max-member-lsps

Context

[Tree] (config>router>mpls>lsp-cont max-member-lsps)

Full Context

configure router mpls lsp-container max-member-lsps

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Description

This command configures the maximum number of member LSPs in the LSP container.

The **no** form of this command reverts to the default value.

Default

max-member-lsps 64

Parameters

number

Specifies the maximum number of member LSPs.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.107 max-msg-count

max-msg-count

Syntax

max-msg-count *count*

Context

[Tree] (config>system>telemetry>notification-bundling max-msg-count)

Full Context

configure system telemetry notification-bundling max-msg-count

Description

This command sets the maximum number of notifications that can be bundled in a single telemetry message.

The **no** form of this command returns the message count to the default value.

Default

max-msg-count 100

Parameters

count

Specifies the maximum of notifications that can be bundled in a single telemetry message.

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Values 2 to 1000

Platforms

All

28.108 max-msg-size

max-msg-size

Syntax

max-msg-size *number*

no max-msg-size

Context

[Tree] (config>system>grpc max-msg-size)

Full Context

configure system grpc max-msg-size

Description

This command configures the maximum rx message size that can be received.

The **no** form of this command reverts to the default.

Default

max-msg-size 512

Parameters

number

Specifies the message size, in MB.

Values 1 to 1024

Default 512

Platforms

All

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28.109 max-nbr-mac-addr

max-nbr-mac-addr

Syntax

max-nbr-mac-addr *table-size*

no max-nbr-mac-addr

Context

[Tree] (config>service>vpls>vxlan max-nbr-mac-addr)

[Tree] (config>service>template>vpls-sap-template max-nbr-mac-addr)

[Tree] (config>service>vpls>sap max-nbr-mac-addr)

[Tree] (config>service>vpls>spoke-sdp max-nbr-mac-addr)

Full Context

configure service vpls vxlan max-nbr-mac-addr

configure service template vpls-sap-template max-nbr-mac-addr

configure service vpls sap max-nbr-mac-addr

configure service vpls spoke-sdp max-nbr-mac-addr

Description

This command specifies the maximum number of FDB entries for both learned and static MAC addresses for this instance.

When the configured limit is reached, no new addresses are learned from the SAP or spoke SDP until at least one FDB entry is aged out or cleared.

When the configured limit is reached and the **discard-unknown-source** command is enabled for this instance, packets with unknown source MAC addresses are discarded. If **discard-unknown-source** is disabled, the packets are forwarded if their destination MAC addresses are known, or flooded if their destination MAC addresses are unknown.

However, if the **configure service vpls discard-unknown** command is enabled, packets with unknown destination MAC addresses are discarded, even if the limit of FDB entries on the specific VPLS instance is not reached.

The **no** form of this command restores the global MAC learning limitations for this instance.

Default

no max-nbr-mac-addr

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Parameters

table-size

Specifies the maximum number of learned and static entries allowed in the FDB of this service.

Values 1 to 511999 for the 7750 SR

1 to 131071 for the 7450 ESS

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls vxlan max-nbr-mac-addr

All

- configure service vpls spoke-sdp max-nbr-mac-addr
- configure service template vpls-sap-template max-nbr-mac-addr
- configure service vpls sap max-nbr-mac-addr

max-nbr-mac-addr

Syntax

max-nbr-mac-addr *table-size*

no max-nbr-mac-addr

Context

[Tree] (config>service>pw-template max-nbr-mac-addr)

Full Context

configure service pw-template max-nbr-mac-addr

Description

This command specifies the maximum number of FDB entries for both learned and static MAC addresses for this instance.

When the configured limit is reached, no new addresses are learned from the SAP or spoke SDP until at least one FDB entry is aged out or cleared.

When the configured limit is reached and the **discard-unknown-source** command is enabled for this instance, packets with unknown source MAC addresses are discarded. If **discard-unknown-source** is disabled, the packets are forwarded if their destination MAC addresses are known, or flooded if their destination MAC addresses are unknown.

However, if the **configure service vpls discard-unknown** command is enabled, packets with unknown destination MAC addresses are discarded, even if the limit of FDB entries on the specific VPLS instance is not reached.

The **no** form of this command restores the global MAC learning limitations for this instance.

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Default

no max-nbr-mac-addr

Parameters

table-size

Specifies the maximum number of learned and static entries allowed in the FDB of this service.

Values 1 to 511999

Platforms

All

max-nbr-mac-addr

Syntax

max-nbr-mac-addr *table-size*

no max-nbr-mac-addr

Context

[Tree] (config>service>vpls>endpoint max-nbr-mac-addr)

Full Context

configure service vpls endpoint max-nbr-mac-addr

Description

This command specifies the maximum number of FDB entries for both learned and static MAC addresses for this instance.

When the configured limit is reached, no new addresses are learned from the SAP or spoke SDP until at least one FDB entry is aged out or cleared. Packets with unknown source MAC addresses are still forwarded if their destination MAC addresses are known, or flooded if their destination MAC addresses are unknown.

The **no** form of this command restores the global MAC learning limitations for this instance.

Default

no max-nbr-mac-addr

Parameters

table-size

Specifies the maximum number of learned and static entries allowed in the FDB of this service.

Values 1 to 511999 for the 7750 SR

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1 to 131071 for the 7450 ESS

Platforms

All

28.110 max-nbr-of-leases

max-nbr-of-leases

Syntax

max-nbr-of-leases *max-nbr-of-leases*

no max-nbr-of-leases

Context

[Tree] (config>service>ies>if>ipv6>dhcp6-server max-nbr-of-leases)

Full Context

configure service ies interface ipv6 dhcp6-server max-nbr-of-leases

Description

This command configures the maximum number of lease states installed by the DHCPv6 server function allowed on this interface.

The **no** form of this command returns the value to the default.

Default

max-nbr-of-leases 8000

Parameters

max-nbr-of-leases

Specifies the maximum number of lease states installed by the DHCPv6 server function allowed on this interface.

Values 0 to 8000

Platforms

All

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28.111 max-num-groups

max-num-groups

Syntax

max-num-groups *count*

no max-num-groups

Context

[Tree] (config>service>vpls>mesh-sdp>mld-snooping max-num-groups)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping max-num-groups)

[Tree] (config>service>vpls>sap>mld-snooping max-num-groups)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping max-num-groups)

[Tree] (config>service>vpls>sap>igmp-snooping max-num-groups)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping max-num-groups)

Full Context

configure service vpls mesh-sdp mld-snooping max-num-groups

configure service vpls spoke-sdp igmp-snooping max-num-groups

configure service vpls sap mld-snooping max-num-groups

configure service vpls mesh-sdp igmp-snooping max-num-groups

configure service vpls sap igmp-snooping max-num-groups

configure service vpls spoke-sdp mld-snooping max-num-groups

Description

This command defines the maximum number of multicast groups that can be joined on this SAP or SDP. If the node receives an IGMP join message that would exceed the configured number of groups, the request is ignored.

The **no** form of this command reverts to the default value.

Default

no max-num-groups

Parameters

count

Specifies the maximum number of groups that can be joined on this SAP or SDP.

Values 1 to 1000

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Platforms

All

max-num-groups

Syntax

max-num-groups *max-num-groups*

no max-num-groups

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>igmp-trk max-num-groups)

Full Context

configure service ies subscriber-interface group-interface sap igmp-host-tracking max-num-groups

Description

This command configures the maximum number of multicast groups allowed to be tracked.

The **no** form of this command disables the check.

Default

no max-num-groups

Parameters

max-num-groups

Specifies the maximum number of multicast groups allowed to be tracked.

Values 1 to 196607

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-groups

Syntax

max-num-groups *max-num-groups*

no max-num-groups

Context

[Tree] (config>subscr-mgmt>igmp-policy max-num-groups)

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Full Context

configure subscriber-mgmt igmp-policy max-num-groups

Description

This command configures the maximum number of multicast groups.

The **no** form of this command reverts to the default value.

Parameters

max-num-groups

Specifies the maximum number of multicast groups.

Values 0 to 16000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-groups

Syntax

max-num-groups *max-num-groups*

no max-num-groups

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>igmp-trk max-num-groups)

Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking max-num-groups

Description

This command configures the maximum number of multicast groups allowed to be tracked.

The **no** form of this command removes the values from the configuration.

Parameters

max-num-groups

Specifies the maximum number of multicast groups allowed to be tracked.

Values 1 to 196607

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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max-num-groups

Syntax

max-num-groups *max-num-groups*

no max-num-groups

Context

[Tree] (config>subscr-mgmt>msap-policy>igmp-host-tracking max-num-groups)

Full Context

configure subscriber-mgmt msap-policy igmp-host-tracking max-num-groups

Description

This command configures the maximum number of multicast groups allowed to be tracked.

The **no** form of this command removes the values from the configuration.

Parameters

max-num-groups

Specifies the maximum number of multicast groups allowed to be tracked.

Values 1 to 196607

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-groups

Syntax

max-num-groups *max-num-groups*

no max-num-groups

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp max-num-groups)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping max-num-groups

Description

This command configures the maximum number of multicast groups that can be joined on an MSAP or SDP. If the router receives an IGMP join message that would exceed the configured number of groups, the request is ignored.

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Parameters

max-num-groups

Specifies the maximum number of groups that can be joined on an MSAP or SDP.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-groups

Syntax

max-num-groups *count*

no max-num-groups

Context

[Tree] (config>subscr-mgmt>mld-policy max-num-groups)

Full Context

configure subscriber-mgmt mld-policy max-num-groups

Description

This command defines the maximum number of multicast groups that can be joined. If the router receives a join message that would exceed the configured number of groups, the request is ignored.

The **no** form of this command reverts to the default.

Parameters

count

Specifies the maximum number of groups that can be joined.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-groups

Syntax

max-num-groups *max-num-groups*

no max-num-groups

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Context

[Tree] (config>service>vpls>sap>igmp-host-tracking max-num-groups)

Full Context

configure service vpls sap igmp-host-tracking max-num-groups

Description

This command configures the maximum number of multicast groups allowed to be tracked.

The **no** form of this command removes the values from the configuration.

Default

no max-num-groups

Parameters

max-num-groups

Specifies the maximum number of multicast groups allowed to be tracked.

Values 1 to 196607

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-groups

Syntax

max-num-groups *num-groups*

no max-num-groups

Context

[Tree] (config>service>vpls>sap>pim-snooping max-num-groups)

[Tree] (config>service>vpls>spoke-sdp>pim-snooping max-num-groups)

Full Context

configure service vpls sap pim-snooping max-num-groups

configure service vpls spoke-sdp pim-snooping max-num-groups

Description

This command configures the maximum groups for PIM snooping.

Parameters

num-groups

Specifies the maximum groups for PIM snooping.

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Values 1 to 16000

Platforms

All

max-num-groups

Syntax

max-num-groups *count*

no max-num-groups

Context

[Tree] (config>service>pw-template>igmp-snooping max-num-groups)

Full Context

configure service pw-template igmp-snooping max-num-groups

Description

This command defines the maximum number of multicast groups that can be joined. If the router receives an IGMP join message that would exceed the configured number of groups, the request is ignored.

Default

no max-num-groups

Parameters

count

Specifies the maximum number of groups that can be joined.

Values 1 to 1000

Platforms

All

28.112 max-num-grp-sources

max-num-grp-sources

Syntax

max-num-grp-sources [*max-num-grp-sources*]

no max-num-grp-sources

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Context

[Tree] (config>subscr-mgmt>igmp-policy max-num-grp-sources)

Full Context

configure subscriber-mgmt igmp-policy max-num-grp-sources

Description

This command configures the maximum number of group sources for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources will not be allowed. When this object has a value of 0, there is no limit to the number of group sources.

The **no** form of this command removes the value from the configuration.

Parameters

max-num-grp-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-grp-sources

Syntax

max-num-grp-sources [*max-num-grp-sources*]

no max-num-grp-sources

Context

[Tree] (config>subscr-mgmt>msap-policy>igmp-trk max-num-grp-sources)

Full Context

configure subscriber-mgmt msap-policy igmp-host-tracking max-num-grp-sources

Description

This command configures the maximum number of group sources for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources will not be allowed. When this object has a value of 0, there is no limit to the number of group sources.

The **no** form of this command removes the value from the configuration.

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Parameters

max-num-grp-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-grp-sources

Syntax

max-num-grp-sources [*max-num-grp-sources*]

no max-num-grp-sources

Context

[Tree] (config>subscr-mgmt>mld-policy max-num-grp-sources)

Full Context

configure subscriber-mgmt mld-policy max-num-grp-sources

Description

This command configures the maximum number of group sources for which MLD can have local receiver information based on received MLD reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources are not allowed. When this object has a value of 0, there is no limit to the number of group sources.

The **no** form of this command removes the value from the configuration.

Parameters

max-num-grp-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-grp-sources

Syntax

[**no**] **max-num-grp-sources** [*number*]

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Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>igmp-trk max-num-grp-sources)

Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking max-num-grp-sources

Description

This command configures the maximum number of group sources for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of group sources, the group sources that are already accepted are not deleted. Only new group sources are not allowed. When this object has a value of 0, there is no limit to the number of group sources.

The **no** form of this command removes the value from the configuration.

Parameters

number

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-grp-sources

Syntax

max-num-grp-sources [1 to 32000]

no max-num-grp-sources

Context

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping max-num-grp-sources)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping max-num-grp-sources)

[Tree] (config>service>vpls>sap>igmp-snooping max-num-grp-sources)

[Tree] (config>service>vpls>sap>igmp-host-tracking max-num-grp-sources)

Full Context

configure service vpls spoke-sdp igmp-snooping max-num-grp-sources

configure service vpls mesh-sdp igmp-snooping max-num-grp-sources

configure service vpls sap igmp-snooping max-num-grp-sources

configure service vpls sap igmp-host-tracking max-num-grp-sources

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Description

This command defines the maximum number of multicast SGs that can be joined on this SAP or SDP. If the node receives an IGMP join message that would exceed the configured number of SGs, the request is ignored.

The **no** form of this command disables the check.

Default

no max-num-grp-sources

Parameters

1 to 32000

Specifies the maximum number of multicast sources allowed to be tracked per group.

Platforms

All

- configure service vpls sap igmp-snooping max-num-grp-sources
- configure service vpls spoke-sdp igmp-snooping max-num-grp-sources
- configure service vpls mesh-sdp igmp-snooping max-num-grp-sources

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vpls sap igmp-host-tracking max-num-grp-sources

max-num-grp-sources

Syntax

max-num-grp-sources *max-num-sources*

no max-num-grp-sources

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>igmp-host-tracking max-num-grp-sources)

Full Context

configure service ies subscriber-interface group-interface sap igmp-host-tracking max-num-grp-sources

Description

This command configures the max number of multicast (S,G)s allowed to be tracked.

The **no** form of this command disables the check.

Default

no max-num-grp-sources

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Parameters

max-num-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 32000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.113 max-num-sources

max-num-sources

Syntax

max-num-sources *max-num-sources*

no max-num-sources

Context

[Tree] (config>subscr-mgmt>igmp-policy max-num-sources)

Full Context

configure subscriber-mgmt igmp-policy max-num-sources

Description

This command configures the maximum number of multicast sources.

The **no** form of this command disables the command.

Parameters

max-num-sources

Specifies the maximum number of multicast sources.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-sources

Syntax

max-num-sources *max-num-sources*

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no max-num-sources

Context

[Tree] (config>subscr-mgmt>msap-policy>igmp-host-tracking max-num-sources)

Full Context

configure subscriber-mgmt msap-policy igmp-host-tracking max-num-sources

Description

This command configures the maximum number of multicast sources allowed to be tracked per group.

The **no** form of this command removes the value from the configuration.

Parameters

max-num-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-sources

Syntax

max-num-sources *max-num-sources*

no max-num-sources

Context

[Tree] (config>subscr-mgmt>mld-policy max-num-sources)

Full Context

configure subscriber-mgmt mld-policy max-num-sources

Description

This command configures the maximum number of multicast sources allowed per group.

The **no** form of this command removes the value from the configuration.

Parameters

max-num-sources

Specifies the maximum number of multicast sources allowed per group.

Values 1 to 1000

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-sources

Syntax

max-num-sources *max-num-sources*

no max-num-sources

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>igmp-trk max-num-sources)

Full Context

configure service vprn subscriber-interface group-interface sap igmp-host-tracking max-num-sources

Description

This command configures the maximum number of multicast sources allowed to be tracked per group.

The **no** form of this command removes the value from the configuration.

Parameters

max-num-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-num-sources

Syntax

max-num-sources *max-num-sources*

no max-num-sources

Context

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping max-num-sources)

[Tree] (config>service>vpls>sap>igmp-host-tracking max-num-sources)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping max-num-sources)

[Tree] (config>service>vpls>sap>igmp-snooping max-num-sources)

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Full Context

configure service vpls mesh-sdp igmp-snooping max-num-sources

configure service vpls sap igmp-host-tracking max-num-sources

configure service vpls spoke-sdp igmp-snooping max-num-sources

configure service vpls sap igmp-snooping max-num-sources

Description

This command defines the maximum number of multicast sources that can be joined on this SAP or SDP. If the node receives an IGMP join message that would exceed the configured number of sources, the request is ignored.

The **no** form of this command removes the value from the configuration.

Parameters

max-num-sources

Specifies the maximum number of multicast sources allowed per group.

Values 1 to 1000

Platforms

All

- configure service vpls spoke-sdp igmp-snooping max-num-sources
- configure service vpls mesh-sdp igmp-snooping max-num-sources
- configure service vpls sap igmp-snooping max-num-sources

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vpls sap igmp-host-tracking max-num-sources

max-num-sources

Syntax

max-num-sources *max-num-sources*

no max-num-sources

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>igmp-host-tracking max-num-sources)

Full Context

configure service ies subscriber-interface group-interface sap igmp-host-tracking max-num-sources

Description

This command configures the maximum number of multicast sources allowed to be tracked per group.

The **no** form of this command removes the value from the configuration.

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Parameters

max-num-sources

Specifies the maximum number of multicast sources allowed to be tracked per group.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.114 max-num-ue

max-num-ue

Syntax

max-num-ue *maximum*

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query max-num-ue)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query max-num-ue

Description

This command enables matching only on tunnels that have, at most, the specified number of UEs connected.

Default

max-num-ue 4294967295

Parameters

maximum

Specifies the maximum number of UEs.

Values 0 to 4294967295

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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28.115 max-path

max-path

Syntax

max-path *max-paths*

no max-path

Context

[Tree] (config>test-oam>ldp-treetrace>path-discovery max-path)

Full Context

configure test-oam ldp-treetrace path-discovery max-path

Description

This command configures the maximum number of ECMP paths the path discovery attempts to discover for each run every **interval** minute.

The **no** form of this command resets the time out to its default value.

Default

no max-path

Parameters

max-paths

Specifies the tree discovery maximum path.

Values 1 to 128

Platforms

All

28.116 max-payload-length

max-payload-length

Syntax

max-payload-length direction *direction* [**create**]

no max-payload-length direction *direction*

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Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter max-payload-length)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter max-payload-length

Description

This command configures a TCA for the counter capturing drops due to the GTP filter maximum payload length. A maximum payload length drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a maximum payload length drop TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

max-payload-length

Syntax

max-payload-length *bytes*

no max-payload-length

Context

[Tree] (config>app-assure>group>gtp>gtp-filter max-payload-length)

Full Context

configure application-assurance group gtp gtp-filter max-payload-length

Description

This command specifies the maximum allowed GTP payload size.

The **no** form of this command removes this GTP message length filter.

Default

no max-payload-length

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Parameters

bytes

Specifies the packet length in bytes.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

28.117 max-peer

max-peer

Syntax

max-peer *max-peer*

no max-peer

Context

[Tree] (config>port>ethernet>dot1x>macsec>sub-port max-peer)

Full Context

configure port ethernet dot1x macsec sub-port max-peer

Description

This command configures the max peer allowed under this MACsec instance.

Note:
The peer establishment is a race condition and first come first serve. On any security zone, only 32 peers can be supported. See SA Exhaustion Behavior for more details.

The **no** form of this command returns the value to the default.

Default

no max-peer

Parameters

max-peer

The maximum number of peers supported on this port.

Values 0 to 32

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Platforms

All

28.118 max-percent-rate

max-percent-rate

Syntax

max-percent-rate *percentage* [**local-limit** | **reference-port-limit**]

no max-percent-rate

Context

[Tree] (config>qos>plcr-ctrl-plcy>root max-percent-rate)

Full Context

configure qos policer-control-policy root max-percent-rate

Description

This command configures the maximum percentage rate for the policer control policy.

The **no** form of this command removes the configuration.

Parameters

percentage

Specifies the percentage.

Values 0.01 to 100.00

local-limit

Keyword used to specify the local limit.

reference-port-limit

Keyword used to specify the reference port limit.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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28.119 max-prob

max-prob

Syntax

max-prob *percent*

no max-prob

Context

[Tree] (config>qos>slope-policy>high-slope max-prob)

[Tree] (config>qos>slope-policy>highplus-slope max-prob)

[Tree] (config>qos>slope-policy>low-slope max-prob)

[Tree] (config>qos>slope-policy>exceed-slope max-prob)

Full Context

configure qos slope-policy high-slope max-prob

configure qos slope-policy highplus-slope max-prob

configure qos slope-policy low-slope max-prob

configure qos slope-policy exceed-slope max-prob

Description

This command sets the exceed, low, high, or highplus Random Early Detection (RED) slope position for the maximum non-one packet discard probability value before the packet discard probability rises directly to one. The percent parameter is expressed as a percentage of packet discard probability where always discard is a probability of 1. A **max-prob** value of 80 represents 80% of 1, or a packet discard probability of 0.8.

The **no** form of this command restores the **max-prob** value to the default setting.

Default

max-prob 80

Parameters

percent

The maximum drop probability percentage corresponding to the **max-avg,** expressed as a decimal integer.

Values 0 to 100

Platforms

All

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28.120 max-rate

max-rate

Syntax

max-rate percent *percent-rate*

max-rate *pir-rate*

no max-rate

Context

[Tree] (config>qos>hw-agg-shap-sched-plcy max-rate)

Full Context

configure qos hw-agg-shaper-scheduler-policy max-rate

Description

This command configures the maximum frame-based rate of the hardware aggregate shaper scheduler policy expressed as a percentage of the port rate or as the PIR rate.

The **no** form of this command removes the rate from the configuration.

Parameters

percent-rate

Specifies the percentage rate.

Values 0.01 to 100.00

pir-rate

Specifies the PIR rate in kb/s.

Values 1 to 6400000000, max

Platforms

7750 SR-1, 7750 SR-s

max-rate

Syntax

max-rate {*rate* | **max**}

no max-rate

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Context

[Tree] (config>subscr-mgmt>sub-prof>ingress>policer-control-policy max-rate)

[Tree] (config>subscr-mgmt>sub-prof>egress>policer-control-policy max-rate)

Full Context

configure subscriber-mgmt sub-profile ingress policer-control-policy max-rate

configure subscriber-mgmt sub-profile egress policer-control-policy max-rate

Description

This command defines the parent policer's PIR leaky bucket's decrement rate. A parent policer is created for each time the policer-control-policy is applied to either a SAP or subscriber instance. Packets that are not discarded by the child policers associated with the SAP or subscriber instance are evaluated against the parent policer's PIR leaky bucket.

For each packet, the bucket is first decremented by the correct amount based on the decrement rate to derive the current bucket depth. The current depth is then compared to one of two discard thresholds associated with the packet. The first discard threshold (discard-unfair) is applied if the FIR (Fair Information Rate) leaky bucket in the packet's child policer is in the confirming state. The second discard threshold (discard-all) is applied if the child policer's FIR leaky bucket is in the exceed state. Only one of the two thresholds is applied per packet. If the current depth of the parent policer PIR bucket is less than the threshold value, the parent PIR bucket is in the conform state for that particular packet. If the depth is equal to or greater than the applied threshold, the bucket is in the violate state for the packet.

If the result is "conform," the bucket depth is increased by the size of the packet (plus or minus the per-packet-offset setting in the child policer) and the packet is not discarded by the parent policer. If the result is "violate," the bucket depth is not increased and the packet is discarded by the parent policer. When the parent policer discards a packet, any bucket depth increases (PIR, CIR and FIR) in the parent policer caused by the packet are canceled. This prevents packets that are discarded by the parent policer from consuming the child policers PIR, CIR and FIR bandwidth.

The **policer-control-policy root max-rate** setting may be overridden on each SAP or sub-profile where the policy is applied.

The **no** form of this command reverts to the default.

Default

max-rate max

Parameters

rate

Specifies the max rate in kilobits per second. Defining the *rate* value is mutually exclusive with the **max** parameter. The *rate* (in kilobits per second) value must be defined as an integer that represents the number of kilobytes that the parent policer is decremented per second. The actual decrement is performed per packet based on the time that has elapsed since the last packet associated with the parent policer.

Values 0 to 2000000000

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max

Specifies the maximum frame-based bandwidth limit of this policer. The **max** parameter is mutually exclusive with defining a *rate* (in kilobits per second) value. When max is specified, the parent policer does not enforce a maximum rate on the aggregate throughput of the child policers. This is the default setting when the **policer-control-policy** is first created and is the value that the parent policer returns to when a **no max-rate** command is executed. In order for the parent policer to be effective, a *rate* (in kilobits per second) value should be specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

max-rate

Syntax

max-rate {*rate* | **max**}

no max-rate

Context

[Tree] (config>card>fp>ingress>network>qgrp>policer-ctrl-over max-rate)

[Tree] (config>card>fp>ingress>acc>qgrp>policer-ctrl-over max-rate)

Full Context

configure card fp ingress network queue-group policer-control-override max-rate

configure card fp ingress access queue-group policer-control-override max-rate

Description

This command defines the parent policer’s PIR leaky bucket’s decrement rate. A parent policer is created for each time the policer-control-policy is applied to either a SAP or subscriber instance. Packets that are not discarded by the child policers associated with the SAP or subscriber instance are evaluated against the parent policer’s PIR leaky bucket.

For each packet, the bucket is first decremented by the correct amount based on the decrement rate to derive the current bucket depth. The current depth is then compared to one of two discard thresholds associated with the packet. The first discard threshold (discard-unfair) is applied if the FIR (Fair Information Rate) leaky bucket in the packet’s child policer is in the confirming state. The second discard threshold (discard-all) is applied if the child policer's FIR leaky bucket is in the exceed state. Only one of the two thresholds is applied per packet. If the current depth of the parent policer PIR bucket is less than the threshold value, the parent PIR bucket is in the conform state for that particular packet. If the depth is equal to or greater than the applied threshold, the bucket is in the violate state for the packet.

If the result is "conform,” the bucket depth is increased by the size of the packet (plus or minus the per-packet-offset setting in the child policer) and the packet is not discarded by the parent policer. If the result is "violate,” the bucket depth is not increased and the packet is discarded by the parent policer. When the parent policer discards a packet, any bucket depth increases (PIR, CIR and FIR) in the parent policer caused by the packet are canceled. This prevents packets that are discarded by the parent policer from consuming the child policers PIR, CIR and FIR bandwidth.

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The **policer-control-policy root max-rate** setting may be overridden on each SAP or sub-profile where the policy is applied.

The **no** form of this command returns the policer-control-policy's parent policer maximum rate to **max**.

Default

max-rate max

Parameters

rate

Specifies that a kilobits-per-second value is mutually exclusive with the **max** keyword. The kilobits-per-second value must be defined as an integer that represents the number of kilobytes that the parent policer will be decremented per second. The actual decrement is performed per packet based on the time that has elapsed since the last packet associated with the parent policer.

Values 0 to 2000000000

max

The **max** keyword is mutually exclusive with defining a kilobits-per-second value. When max is specified, the parent policer does not enforce a maximum rate on the aggregate throughput of the child policers. This is the default setting when the **policer-control-policy** is first created and is the value that the parent policer returns to when no max-rate is executed. In order for the parent policer to be effective, a kilobits-per-second value should be specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

max-rate

Syntax

max-rate *pir-rate*

max-rate percent *percent-rate*

no max-rate

Context

[Tree] (config>port>tdm>ds3>egr-scheduler-override max-rate)

[Tree] (config>port>tdm>e3>egr-scheduler-override max-rate)

[Tree] (config>port>sonet-sdh>path>egr-scheduler-override max-rate)

[Tree] (config>port>ethernet>egr-scheduler-override max-rate)

Full Context

configure port tdm ds3 egress-scheduler-override max-rate

configure port tdm e3 egress-scheduler-override max-rate

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configure port sonet-sdh path egress-scheduler-override max-rate

configure port ethernet egress-scheduler-override max-rate

Description

This command overrides the **max-rate** parameter found in the port-scheduler-policy associated with the port. When a max-rate is defined at the port or channel level, the port scheduler policies max-rate parameter is ignored.

The egress-scheduler-override **max-rate** command supports a parameter that allows the override command to restore the default of not having a rate limit on the port scheduler. This is helpful when the port scheduler policy has an explicit maximum rate defined and it is desirable to remove this limit at the port instance.

The **no** form of this command removes the maximum rate override from the egress port or channels port scheduler context. Once removed, the max-rate parameter from the port scheduler policy associated with the port or channel will be used by the local scheduler context.

Parameters

pir-rate

Specifies the explicit maximum frame based bandwidth limit, in kilobits per second. This value overrides the QoS scheduler policy rate.

Values **For Ethernet:** 1 to 6400000000, **max**

For SONET-SDH and TDM: 1 to 3200000000, **max**

percent-rate

Specifies the percent rate.

Values 0.01 to 100.00

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 egress-scheduler-override max-rate
- configure port tdm e3 egress-scheduler-override max-rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh path egress-scheduler-override max-rate

All

- configure port ethernet egress-scheduler-override max-rate

max-rate

Syntax

max-rate *rate*

no max-rate

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Context

[Tree] (config>port>ethernet>egress>hs-sched-ovr max-rate)

Full Context

configure port ethernet egress hs-scheduler-overrides max-rate

Description

This command overrides the max-rate configured in the HS scheduler policy applied to the port egress.

The **no** form of this command removes the **max-rate** override from the port egress configuration.

Parameters

rate

Specifies the explicit maximum frame based bandwidth limit, in megabits per second. This parameter is required when executing this command.

Values 1 to 100000, max

Platforms

7750 SR-7/12/12e

max-rate

Syntax

max-rate {*rate* | **max**}

Context

[Tree] (config>service>ipipe>sap>egress>policer-control-override max-rate)

[Tree] (config>service>cpipe>sap>ingress>policer-control-override max-rate)

[Tree] (config>service>epipe>sap>egress>policer-control-override max-rate)

[Tree] (config>service>ipipe>sap>ingress>policer-control-override max-rate)

[Tree] (config>service>cpipe>sap>egress>policer-control-override max-rate)

[Tree] (config>service>epipe>sap>ingress>policer-control-override max-rate)

Full Context

configure service ipipe sap egress policer-control-override max-rate

configure service cpipe sap ingress policer-control-override max-rate

configure service epipe sap egress policer-control-override max-rate

configure service ipipe sap ingress policer-control-override max-rate

configure service cpipe sap egress policer-control-override max-rate

configure service epipe sap ingress policer-control-override max-rate

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Description

This command, within the SAP ingress and egress contexts, overrides the root arbiter parent policer max-rate that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy max-rate parameter have no effect on the SAP's parent policer until the override is removed using the **no max-rate** command within the SAP.

The **no** form of this command returns the policer-control-policy's parent policer maximum rate to **max**.

Parameters

rate

Specifies the rate override in kilobits per second.

Values 1 to 6400000000

max

Specifies the maximum rate override.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-control-override max-rate
- configure service ipipe sap egress policer-control-override max-rate
- configure service epipe sap egress policer-control-override max-rate
- configure service epipe sap ingress policer-control-override max-rate

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress policer-control-override max-rate
- configure service cpipe sap egress policer-control-override max-rate

max-rate

Syntax

max-rate {*rate* | **max**}

Context

[Tree] (config>service>vpls>sap>ingress>policer-ctrl-over max-rate)

[Tree] (config>service>vpls>sap>egress>policer-ctrl-over max-rate)

Full Context

configure service vpls sap ingress policer-control-override max-rate

configure service vpls sap egress policer-control-override max-rate

Description

This command, within the SAP ingress and egress contexts, overrides the root arbiter parent policer max-rate that is defined within the policer-control-policy applied to the SAP.

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When the override is defined, modifications to the policer-control-policy max-rate parameter have no effect on the SAP's parent policer until the override is removed using the **no max-rate** command within the SAP.

The **no** form of this command removes an explicit rate value from the aggregate rate therefore returning it to its default value.

Parameters

***rate* | max**

Specifies the max rate override in kilobits per second or use the maximum

Values 1 to 6400000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

max-rate

Syntax

max-rate {*rate* | **max**}

Context

[Tree] (config>service>ies>if>sap>ingress>policer-ctrl-over max-rate)

[Tree] (config>service>ies>if>sap>egress>policer-ctrl-over max-rate)

Full Context

configure service ies interface sap ingress policer-control-override max-rate

configure service ies interface sap egress policer-control-override max-rate

Description

This command, within the SAP ingress and egress contexts, overrides the root arbiter parent policer max-rate that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy max-rate parameter have no effect on the SAP's parent policer until the override is removed using the **no max-rate** command within the SAP.

Parameters

***rate* | max**

Specifies the rate override in kilobits per second or use the maximum override value.

Values 1 to 6400000000, max

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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max-rate

Syntax

max-rate {*rate* | **max**}

Context

[Tree] (config>service>vprn>if>sap>ingress>policer-ctrl-over max-rate)

[Tree] (config>service>vprn>if>sap>egress>policer-ctrl-over max-rate)

Full Context

configure service vprn interface sap ingress policer-control-override max-rate

configure service vprn interface sap egress policer-control-override max-rate

Description

This command, within the SAP ingress and egress contexts, overrides the root arbiter parent policer max-rate that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy max-rate parameter have no effect on the SAP's parent policer until the override is removed using the **no max-rate** command within the SAP.

The **no** form of this command returns the policer-control-policy's parent policer maximum rate to **max**.

Parameters

***rate* | max**

Specifies the rate override in kilobits per second or use the maximum override value.

Values 1 to 6400000000, max

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

max-rate

Syntax

max-rate *rate*

no max-rate

Context

[Tree] (config>qos>plcr-ctrl-plcy>root max-rate)

Full Context

configure qos policer-control-policy root max-rate

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Description

The **max-rate** command defines the parent policer's PIR leaky bucket's decrement rate. A parent policer is created for each time the policer-control-policy is applied to either a SAP or subscriber instance for the 7450 ESS and 7750 SR, or multiservice site instance for the 7950 XRS. Packets that are not discarded by the child policers associated with the SAP or subscriber or multiservice site instances are evaluated against the parent policer's PIR leaky bucket.

For each packet, the bucket is first decremented by the correct amount based on the decrement rate to derive the current bucket depth. The current depth is then compared to one of two discard thresholds associated with the packet. The first discard threshold (discard-unfair) is applied if the FIR (Fair Information Rate) leaky bucket in the packet's child policer is in the confirming state. The second discard threshold (discard-all) is applied if the child policer's FIR leaky bucket is in the exceed state. Only one of the two thresholds is applied per packet. If the current depth of the parent policer PIR bucket is less than the threshold value, the parent PIR bucket is in the conform state for that particular packet. If the depth is equal to or greater than the applied threshold, the bucket is in the violate state for the packet.

If the result is "conform," the bucket depth is increased by the size of the packet (plus or minus the per-packet-offset setting in the child policer) and the packet is not discarded by the parent policer. If the result is "violate," the bucket depth is not increased and the packet is discarded by the parent policer. When the parent policer discards a packet, any bucket depth increases (PIR, CIR and FIR) in the parent policer caused by the packet are canceled. This prevents packets that are discarded by the parent policer from consuming the child policers PIR, CIR, and FIR bandwidth.

The **policer-control-policy root max-rate** setting may be overridden on each SAP or sub-profile where the policy is applied.

The **no** form of this command returns the policer-control-policy's parent policer maximum rate to **max**.

Parameters

rate

The kilobits-per-second value must be defined as an integer that represents the number of kilobytes that the parent policer will be decremented per second. The actual decrement is performed per packet, based on the time that has elapsed since the last packet associated with the parent policer.

Values 1 to 6400000000, **max**

max

When **max** is specified, the parent policer does not enforce a maximum rate on the aggregate throughput of the child policers. This is the default setting when the **policer-control-policy** is first created and is the value that the parent policer returns to when no max-rate is executed. In order for the parent policer to be effective, a kilobits-per-second value should be specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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max-rate

Syntax

max-rate *rate*

no max-rate

Context

[Tree] (config>qos>hs-scheduler-policy max-rate)

Full Context

configure qos hs-scheduler-policy max-rate

Description

This command defines an explicit maximum frame-based bandwidth limit for the HS scheduler policy scheduler context. If a maximum rate is defined that is smaller than the port rate, the port is rate-limited to the configured megabits per second value. This command can be executed at any time for any non-default existing HS scheduler policy.

The **no** form of the command removes an explicit rate value from the HS scheduler policy. After the explicit rate value is removed, all instances of the scheduler policy on HSQ egress ports are allowed to run at the available line rate unless the instance has a max rate override in place.

Parameters

rate

Specifies the explicit maximum frame-based bandwidth limit, in megabits per second. This parameter is required when executing this command.

Values 1 to 100000, max

Platforms

7750 SR-7/12/12e

max-rate

Syntax

max-rate *pir-rate*

max-rate percent *percent-rate*

no max-rate

Context

[Tree] (config>qos>port-scheduler-policy max-rate)

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Full Context

configure qos port-scheduler-policy max-rate

Description

This command defines an explicit maximum frame-based bandwidth limit for the port scheduler policies scheduler context. By default, when a scheduler policy is associated with a port or channel, the instance of the scheduler on the port automatically limits the bandwidth to the lesser of port or channel line rate and a possible egress-rate value (for Ethernet ports). If a max-rate is defined that is smaller than the port or channel rate, the expressed kilobits per second value is used instead. The max-rate command is another way to sub-rate the port or channel. This command can be used on channels only on the 7450 ESS and 7750 SR.

The **max-rate** command may be executed at any time for an existing port-scheduler-policy. When a new max-rate is given for a policy, the system evaluates all instances of the policy to see if the configured rate is smaller than the available port or channel bandwidth. If the rate is smaller and the maximum rate is not currently overridden on the scheduler instance, the scheduler instance is updated with the new maximum rate value.

The max-rate value defined in the policy may be overridden on each scheduler instance. If the maximum rate is explicitly defined as an override on a port or channel, the policies max-rate value has no effect.

The **no** form of this command removes an explicit rate value from the port scheduler policy. When removed, all instances of the scheduler policy on egress ports or channel are allowed to run at the available line rate unless the instance has a max-rate override in place.

Parameters

pir-rate

Specifies the PIR rate, in kilobits per second.

Values 1 to 6400000000, **max**

percent *percent-rate*

Specifies the percent rate.

Values 0.01 to 100.00

Platforms

All

28.121 max-retries-estab

max-retries-estab

Syntax

max-retries-estab *max-retries*

no max-retries-estab

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Context

[Tree] (config>router>l2tp>group max-retries-estab)

[Tree] (config>service>vprn>l2tp>group max-retries-estab)

[Tree] (config>service>vprn>l2tp>group>tunnel max-retries-estab)

[Tree] (config>router>l2tp max-retries-estab)

[Tree] (config>service>vprn>l2tp max-retries-estab)

[Tree] (config>router>l2tp>group>tunnel max-retries-estab)

Full Context

configure router l2tp group max-retries-estab

configure service vprn l2tp group max-retries-estab

configure service vprn l2tp group tunnel max-retries-estab

configure router l2tp max-retries-estab

configure service vprn l2tp max-retries-estab

configure router l2tp group tunnel max-retries-estab

Description

This command configures the number of retries allowed for this L2TP tunnel while it is established, before its control connection goes down.

The **no** form of this command removes the value from the configuration.

Default

no max-retries-estab

Parameters

max-retries

Specifies the maximum number of retries for an established tunnel.

Default no max-retries-estab

Values 2 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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28.122 max-retries-not-estab

max-retries-not-estab

Syntax

max-retries-not-estab *max-retries*

no max-retries-not-estab

Context

[Tree] (config>router>l2tp max-retries-not-estab)

[Tree] (config>router>l2tp>group max-retries-not-estab)

[Tree] (config>service>vprn>l2tp>group>tunnel max-retries-not-estab)

[Tree] (config>service>vprn>l2tp>group max-retries-not-estab)

[Tree] (config>service>vprn>l2tp max-retries-not-estab)

[Tree] (config>router>l2tp>group>tunnel max-retries-not-estab)

Full Context

configure router l2tp max-retries-not-estab

configure router l2tp group max-retries-not-estab

configure service vprn l2tp group tunnel max-retries-not-estab

configure service vprn l2tp group max-retries-not-estab

configure service vprn l2tp max-retries-not-estab

configure router l2tp group tunnel max-retries-not-estab

Description

This command configures the number of retries allowed for this L2TP tunnel while it is not established, before its control connection goes down.

The **no** form of this command removes the value from the configuration.

Default

no max-retries-not-estab

Parameters

max-retries

Specifies the maximum number of retries for non-established tunnels.

Default no max-retries-not-estab

Values 2 to 7

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

28.123 max-routes

max-routes

Syntax

max-routes *routes*

no max-routes

Context

[Tree] (config>aaa>route-downloader max-routes)

Full Context

configure aaa route-downloader max-routes

Description

This command determines the upper limits for total number of routes to be received and accepted by the system. The total number is inclusive of both IPv4 and IPv6 addresses and no differentiation is needed across protocols. It includes the sum of both. Once this limit is reached, the download process stops sending new access-requests until the next download-interval expires.

The **no** form of this command reverts to the default value.

Default

max-routes 200000

Parameters

routes

Specifies the maximum number of the routes imported.

Values 1 to 200000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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28.124 max-rx-defect-window

max-rx-defect-window

Syntax

max-rx-defect-window *seconds*

no max-rx-defect-window

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>lag>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>port>ethernet>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

Full Context

configure eth-tunnel path eth-cfm mep grace eth-ed max-rx-defect-window

configure lag eth-cfm mep grace eth-ed max-rx-defect-window

configure port ethernet eth-cfm mep grace eth-ed max-rx-defect-window

configure eth-ring path eth-cfm mep grace eth-ed max-rx-defect-window

Description

This command limits the duration of the received ETH-ED expected defect window to the lower value of either the received value from the peer or this parameter.

The **no** form of this command removes the limitation, and any valid defect window value received from a peer MEP in the ETH-ED PDU will be used.

Default

no max-rx-defect-window

Parameters

seconds

Specifies the duration, in seconds, of the maximum expected defect window.

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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max-rx-defect-window

Syntax

max-rx-defect-window *seconds*

no max-rx-defect-window

Context

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

Full Context

configure service ipipe sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service epipe sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service epipe spoke-sdp eth-cfm mep grace eth-ed max-rx-defect-window

Description

This command limits the duration of the received ETH-ED expected defect window to the lower value of either the received value from the peer or this parameter.

The **no** form of this command removes the limitation, and any valid defect window value received from a peer MEP in the ETH-ED PDU will be used.

Default

no max-rx-defect-window

Parameters

seconds

Specifies the duration, in seconds, of the maximum expected defect window.

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

max-rx-defect-window

Syntax

max-rx-defect-window *seconds*

no max-rx-defect-window

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Context

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>vpls>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

Full Context

configure service vpls sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service vpls eth-cfm mep grace eth-ed max-rx-defect-window

configure service vpls spoke-sdp eth-cfm mep grace eth-ed max-rx-defect-window

configure service vpls mesh-sdp eth-cfm mep grace eth-ed max-rx-defect-window

Description

This command limits the duration of the received ETH-ED expected defect window to the lower value of either the received value from the peer or this parameter.

The **no** form of this command removes the limitation, and any valid defect window value received from a peer MEP in the ETH-ED PDU will be used.

Default

no max-rx-defect-window

Parameters

seconds

Specifies the duration, in seconds, of the maximum expected defect window.

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

max-rx-defect-window

Syntax

max-rx-defect-window *seconds*

no max-rx-defect-window

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

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Full Context

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service ies interface sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service ies interface spoke-sdp eth-cfm mep grace eth-ed max-rx-defect-window

Description

This command limits the duration of the received ETH-ED expected defect window to the lower value of either the received value from the peer or this parameter.

The **no** form of this command removes the limitation, and any valid defect window value received from a peer MEP in the ETH-ED PDU will be used.

Default

no max-rx-defect-window

Parameters

seconds

Specifies the duration, in seconds, of the maximum expected defect window

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed max-rx-defect-window

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep grace eth-ed max-rx-defect-window
- configure service ies interface sap eth-cfm mep grace eth-ed max-rx-defect-window

max-rx-defect-window

Syntax

max-rx-defect-window *seconds*

no max-rx-defect-window

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

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Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service vprn interface sap eth-cfm mep grace eth-ed max-rx-defect-window

configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed max-rx-defect-window

Description

This command limits the duration of the received ETH-ED expected defect window to the lower value of either the received value from the peer or this parameter.

The **no** form of this command removes the limitation, and any valid defect window value received from a peer MEP in the ETH-ED PDU will be used.

Default

no max-rx-defect-window

Parameters

seconds

Specifies the duration, in seconds, of the maximum expected defect window

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed max-rx-defect-window

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep grace eth-ed max-rx-defect-window
- configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed max-rx-defect-window

max-rx-defect-window

Syntax

max-rx-defect-window *seconds*

no max-rx-defect-window

Context

[Tree] (config>router>if>eth-cfm>mep>grace>eth-ed max-rx-defect-window)

Full Context

configure router interface eth-cfm mep grace eth-ed max-rx-defect-window

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Description

This command limits the duration of the received ETH-ED expected defect window to the lower value of either the received value from the peer or this parameter.

The **no** form of this command removes the limitation, and any valid defect window value received from a peer MEP in the ETH-ED PDU will be used.

Default

no max-rx-defect-window

Parameters

seconds

Specifies the duration, in seconds, of the maximum expected defect window.

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29 m Commands – Part II

29.1 max-sess-prefix

max-sess-prefix

Syntax

max-sess-prefix *count*

no max-sess-prefix

Context

[Tree] (config>test-oam>twamp>server>prefix max-sess-prefix)

Full Context

configure test-oam twamp server prefix max-sess-prefix

Description

This command configures the maximum number of concurrent TWAMP-Test sessions by clients with an IP address in a specific prefix. A new test session (described by a Request-TW-Session message) is rejected if accepting it would cause either the limit defined by this command or the server limit (max-sess-server) to be exceeded.

The **no** form of this command returns the value to the default.

Default

max-sess-prefix 32

Parameters

count

Specifies the maximum number of concurrent test sessions.

Values 0 to 128

Default 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.2 max-sess-server

max-sess-server

Syntax

max-sess-server *count*

no max-sess-server

Context

[Tree] (config>test-oam>twamp>server max-sess-server)

Full Context

configure test-oam twamp server max-sess-server

Description

This command configures the maximum number of concurrent TWAMP-Test sessions across all allowed clients. A new test session (described by a Request-TW-Session message) is rejected if accepting it would cause either the limit defined by this command or a prefix limit (max-sess-prefix) to be exceeded.

The **no** form of this command returns the value to the default.

Default

max-sess-server 32

Parameters

count

Specifies the maximum number of concurrent test sessions.

Values 0 to 128

Default 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.3 max-sessions

max-sessions

Syntax

max-sessions *sessions*

no max-sessions

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if max-sessions)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface max-sessions

Description

This command configures the per-client maximum number of sessions.

The **no** form of the command reverts to the default value.

Default

max-sessions 256

Parameters

sessions

Specifies the per-client maximum number of sessions.

Values 1 to 65536

Default 256

Platforms

7450 ESS, 7750 SR, 7750 SR-s

max-sessions

Syntax

max-sessions *number*

Context

[Tree] (config>service>vprn>bgp>group>dynamic-neighbor>interface max-sessions)

[Tree] (config>router>bgp>group>dynamic-neighbor>interface max-sessions)

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Full Context

configure service vprn bgp group dynamic-neighbor interface max-sessions

configure router bgp group dynamic-neighbor interface max-sessions

Description

This command configures the maximum number of dynamic sessions that are allowed to be set up on the interface as a result of accepting sessions from link-local addresses or initiating sessions by receiving IPv6 router advertisements.

Default

max-sessions 1

Parameters

number

Specifies the maximum number of sessions.

Values 1 to 255

Platforms

All

29.4 max-sessions-per-cid

max-sessions-per-cid

Syntax

max-sessions-per-cid *sessions* [**allow-sessions-without-cid**]

no max-sessions-per-cid

Context

[Tree] (config>subscr-mgmt>ppp-policy max-sessions-per-cid)

Full Context

configure subscriber-mgmt ppp-policy max-sessions-per-cid

Description

This command configures the maximum number of PPPoE sessions with the same Agent Circuit ID that can be active on the same SAP or MSAP. The limit is enforced in the discovery phase, prior to PAP or CHAP authentication and is based on the Agent Circuit ID sub-option that is present in the vendor-specific PPPoE access loop identification tag added in PADI and PADR messages by a PPPoE intermediate agent.

When the optional **allow-sessions-without-cid** keyword is specified, PPPoE sessions without an Agent Circuit ID can be established. The configured sessions limit does not apply to these sessions.

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By default, there is no limit for the number of PPPoE sessions with the same Agent Circuit ID that are active on the same SAP or MSAP. Sessions without Agent Circuit ID can be established.

The **no** form of this command reverts to the default value.

Default

no max-sessions-per-cid

Parameters

sessions

Specifies the maximum number of sessions with the same circuit ID that can be active on the same SAP or MSAP.

Values 1 to 8190

allow-sessions-without-cid

Specifies to enable support for PPPoE sessions without a circuit ID while a **max-sessions-per-cid** limit is configured on a SAP or MSAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.5 max-sessions-per-mac

max-sessions-per-mac

Syntax

max-sessions-per-mac *maximum*

no max-sessions-per-mac

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>plcy-parms max-sessions-per-mac)

Full Context

configure subscriber-mgmt local-user-db ppp host ppp-policy-parameters max-sessions-per-mac

Description

This command configures the maximum number of PPPoE sessions created per MAC address. This number overrides the value defined within the PPPoE policy.

The **no** form of this command reverts to the default value.

Default

no max-sessions-per-mac

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Parameters

maximum

Specifies the maximum PPP sessions that can be opened for the given MAC address.

Values 1 to 8191

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

max-sessions-per-mac

Syntax

max-sessions-per-mac *sessions* [**allow-same-circuit-id-for-dhcp**]

no max-sessions-per-mac

Context

[Tree] (config>subscr-mgmt>ppp-policy max-sessions-per-mac)

Full Context

configure subscriber-mgmt ppp-policy max-sessions-per-mac

Description

This command sets the maximum PPP sessions that can be opened for a given MAC address.

To enable IPv4 address allocation using the internal DHCPv4 client for multiple PPPoE sessions on a single SAP and having the same MAC address and circuit-ID, the optional CLI parameter **allow-same-circuit-id-for-dhcp** should be added. The SR OS local DHCP server detects the additional vendor-specific options inserted by the internal DHCPv4 client and use an extended unique key for lease allocation.

The **no** form of this command reverts to the default value.

Parameters

sessions

Specifies the maximum PPP sessions that can be opened for the given MAC address.

Values 1 to 8191

allow-same-circuit-id-for-dhcp

Sets the support for IPv4 address allocation using the internal DHCPv4 client for multiple PPPoE sessions on a single SAP that have the same MAC address and circuit ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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29.6 max-setup-time

max-setup-time

Syntax

max-setup-time [[*up-interval*] | **infinite**]

no max-setup-time

Context

[Tree] (config>lag>bfd>family max-setup-time)

Full Context

configure lag bfd family max-setup-time

Description

This command specifies the maximum amount of time the router will forward traffic over a link that has transitioned from Standby to Active, before the micro-BFD session must be fully established (Up state).

The **no** form of this command returns the timer value to the default (0) which indicates that forwarding will not start until the BFD session is established.

Default

max-setup-time infinite

Parameters

up-interval

Specifies the amount of time, in milliseconds.

Values -1 to 60000

infinite

Specifies no end time to forward traffic.

Platforms

All

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29.7 max-sources

max-sources

Syntax

max-sources *max-sources*

no max-sources

Context

[Tree] (config>service>vprn>igmp>if max-sources)

[Tree] (config>service>vprn>igmp>grp-if max-sources)

[Tree] (config>service>vprn>mld>interface max-sources)

Full Context

configure service vprn igmp interface max-sources

configure service vprn igmp group-interface max-sources

configure service vprn mld interface max-sources

Description

This command specifies the maximum number of sources for which IGMP can have local receiver information based on received IGMP reports on this interface. When this configuration is changed dynamically to a value lower than currently accepted number of sources, the sources that are already accepted are not deleted. Only new sources will not be allowed.

Parameters

sources

Specifies the maximum number of sources for this interface.

Values 1 to 1000

Platforms

All

- configure service vprn mld interface max-sources
- configure service vprn igmp interface max-sources

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface max-sources

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max-sources

Syntax

max-sources *value*

no max-sources

Context

[Tree] (config>router>igmp>if max-sources)

[Tree] (config>router>igmp>group-interface max-sources)

Full Context

configure router igmp interface max-sources

configure router igmp group-interface max-sources

Description

This command configures the maximum number of group sources for this group-interface.

Parameters

value

Specifies the maximum number of group sources.

Values 1 to 1000

Platforms

All

- configure router igmp interface max-sources

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface max-sources

max-sources

Syntax

max-sources [*grp-source*]

no max-sources

Context

[Tree] (config>router>mld>if max-sources)

[Tree] (config>router>mld>group-interface max-sources)

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Full Context

configure router mld interface max-sources

configure router mld group-interface max-sources

Description

This command configures the maximum number of group sources for this interface.

The **no** form of this command reverts to the default.

Default

no max-sources

Parameters

grp-source

Specifies the maximum number of group sources for this interface.

Platforms

All

- configure router mld interface max-sources

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface max-sources

29.8 max-sr-labels

max-sr-labels

Syntax

max-sr-labels *label-stack-size* [**additional-frr-labels** *labels*]

no max-sr-labels

Context

[Tree] (config>router>mpls>lsp max-sr-labels)

[Tree] (config>router>mpls>lsp-template max-sr-labels)

Full Context

configure router mpls lsp max-sr-labels

configure router mpls lsp-template max-sr-labels

Description

This command configures the maximum number of labels which the ingress LER can push for a given SR-TE LSP.

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This command is used to allow room to insert additional transport, service, and other labels when packets are forwarded in a given context.

The **max-sr-labels** *label-stack-size* value should reflect the desired maximum label stack of the primary path of the SR-TE LSP.

The value in **additional-frr-labels** *labels* should reflect additional labels inserted by remote LFA for the backup next-hop of the SR-TE LSP.

The sum of both label values represents the worst case transport of SR label stack size for this SR-TE LSP and is populated by MPLS in the TTM such that services and shortcut applications can check it to decide if a service can be bound or a route can be resolved to this SR-TE LSP.

The maximum label stack supported by the router is always signaled by PCC in the PCEP Open object as part of the as SR-PCE-CAPABILITY TLV. It is referred to as the Maximum Stack Depth (MSD).

In addition, the per-LSP value for the max-sr-labels option, if configured, is signaled by PCC to PCE in the Segment-ID (SID) Depth value in a METRIC object for both a PCE computed LSP and a PCE controlled LSP. PCE will compute and provide the full explicit path with TE-links specified. If there is no path with the number of hops lower than the MSD value, or the Segment-ID (SID) Depth value if signaled, a reply with no path will be returned to PCC.

For a PCC controlled LSP, if the label stack returned by the TE-DB's hop-to-label translation exceeds the per LSP maximum SR label stack size, the LSP is brought down.

The **no** form of this command reverts to the default value.

Default

max-sr-labels 6 additional-frr-labels 1

Parameters

label-stack-size

Specifies the label stack size.

Values 1 to 11

additional-frr-labels ***labels***

Specifies the addition FRR labels.

Values 0 to 3

Platforms

All

29.9 max-srte-pce-init-lsps

max-srte-pce-init-lsps

Syntax

max-srte-pce-init-lsps *max-number*

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no max-srte-pce-init-lsps

Context

[Tree] (config>router>pcep>pcc max-srte-pce-init-lsps)

Full Context

configure router pcep pcc max-srte-pce-init-lsps

Description

This command configures the maximum number of PCE-initiated SR-TE LSPs that can be created by the router.

The **no** form of the command sets this value to the default.

Default

max-srte-pce-init-lsps 8191

Parameters

max-number

Specifies the maximum number of SR-TE PCE-initiated LSPs.

Values 0 to 8191

Platforms

All

29.10 max-stats

max-stats

Syntax

[**no**] **max-stats**

Context

[Tree] (config>router>mpls>lsp>egr-stats max-stats)

[Tree] (config>router>mpls>ingr-stats>p2p-template-lsp max-stats)

[Tree] (config>router>mpls>ingr-stats>p2mp-template-lsp max-stats)

[Tree] (config>router>mpls>lsp-template>egr-stats max-stats)

Full Context

configure router mpls lsp egr-stats max-stats

configure router mpls ingress-statistics p2p-template-lsp max-stats

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configure router mpls ingress-statistics p2mp-template-lsp max-stats

configure router mpls lsp-template egr-stats max-stats

Description

This command enables accounting and statistical data collection. When applying accounting policies the data, by default, is collected in the appropriate records and written to the designated billing file.

When the **no max-stats** command is issued the statistics are still accumulated by the forwarding engine. However, the CPU will not obtain the results and write them to the billing file. If a subsequent **max-stats** command is issued then the counters written to the billing file include all the traffic while the **no max-stats** command was in effect.

Default

max-stats

Platforms

All

29.11 max-suppress

max-suppress

Syntax

max-suppress *minutes*

no max-suppress

Context

[Tree] (config>router>policy-options>damping max-suppress)

Full Context

configure router policy-options damping max-suppress

Description

This command configures the maximum suppression parameter for the route damping profile.

This value indicates the maximum time, expressed in minutes, that a route can remain suppressed.

The **no** form of this command removes the maximum suppression parameter from the damping profile.

Default

no max-suppress

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Parameters

minutes

Specifies the maximum suppression time, in minutes, expressed as a decimal integer.

Values 1 to 720

Platforms

All

29.12 max-throughput-octet-count

max-throughput-octet-count

Syntax

[**no**] **max-throughput-octet-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr max-throughput-octet-count)

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr max-throughput-octet-count)

Full Context

configure log accounting-policy custom-record aa-specific from-aa-sub-counters max-throughput-octet-count

configure log accounting-policy custom-record aa-specific to-aa-sub-counters max-throughput-octet-count

Description

This command includes the maximum throughput as measured in the octet count.

The **no** form of this command excludes the maximum throughput octet count.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.13 max-throughput-packet-count

max-throughput-packet-count

Syntax

[**no**] **max-throughput-packet-count**

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Context

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr max-throughput-packet-count)

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr max-throughput-packet-count)

Full Context

configure log accounting-policy custom-record aa-specific from-aa-sub-counters max-throughput-packet-count

configure log accounting-policy custom-record aa-specific to-aa-sub-counters max-throughput-packet-count

Description

This command includes the maximum throughput as measured in the packet count.

The **no** form of this command excludes the maximum throughput packet count.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.14 max-throughput-stats

max-throughput-stats

Syntax

[**no**] **max-throughput-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-sub max-throughput-stats)

Full Context

configure application-assurance group statistics aa-sub max-throughput-stats

Description

This command enables the collection of max-throughput statistics.

The **no** form of this command disables the collection.

Default

no max-throughput-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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29.15 max-throughput-timestamp

max-throughput-timestamp

Syntax

[**no**] **max-throughput-timestamp**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr max-throughput-timestamp)

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr max-throughput-timestamp)

Full Context

configure log accounting-policy custom-record aa-specific to-aa-sub-counters max-throughput-timestamp

configure log accounting-policy custom-record aa-specific from-aa-sub-counters max-throughput-timestamp

Description

This command includes the timestamp of the maximum throughput. This command only applies to the 7750 SR.

The **no** form of this command excludes the timestamp.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.16 max-time

max-time

Syntax

max-time *minutes*

no max-time

Context

[Tree] (config>service>vprn>l2tp>tunnel-selection-blacklist max-time)

[Tree] (config>router>l2tp>tunnel-selection-blacklist max-time)

Full Context

configure service vprn l2tp tunnel-selection-blacklist max-time

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configure router l2tp tunnel-selection-blacklist max-time

Description

This command configures time for which an entity (peer or a tunnel) are kept in the denylist.

The **no** form of this command reverts to the default.

Default

max-time 5

Parameters

minutes

Specifies the maximum time a tunnel or peer may remain in the denylist.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.17 max-time-granularity

max-time-granularity

Syntax

[no] max-time-granularity *time*

Context

[Tree] (config>system>telemetry>notification-bundling max-time-granularity)

Full Context

configure system telemetry notification-bundling max-time-granularity

Description

This command sets the maximum time interval during which telemetry notifications are bundled. All bundled notifications will have the same timestamp, which is the timestamp of the bundle.

The **no** form of this command returns the time granularity to the default value.

Default

max-time-granularity 100

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Parameters

time

Specifies the maximum time interval during which telemetry notifications are bundled, in milliseconds.

Values 1 to 1000

Platforms

All

29.18 max-ttl

max-ttl

Syntax

max-ttl *ttl-value*

no max-ttl

Context

[Tree] (config>test-oam>ldp-treetrace>path-discovery max-ttl)

Full Context

configure test-oam ldp-treetrace path-discovery max-ttl

Description

This command configures the maximum number of hops the path discovery traces in the path of each FEC to be discovered.

The **no** form of this command resets the time out to its default value.

Default

no max-ttl

Parameters

ttl-value

Specifies the maximum label time-to-live value for an LSP trace request during the tree discovery.

Values 1 to 255

Platforms

All

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29.19 max-tx-delay

max-tx-delay

Syntax

max-tx-delay *deci-seconds*

no max-tx-delay

Context

[Tree] (config>mcast-mgmt>mcast-rprt-dest max-tx-delay)

Full Context

configure mcast-management mcast-reporting-dest max-tx-delay

Description

This command specifies the time interval before the packet starts transmitting towards the destination. When an IGMP event is encoded and ready to be transported, a buffer for the packet is allocated (if not already existent). The events are written into this buffer. Along with the initial buffer creation, a timer is started. The trigger for the transmission of the packet is either the TX buffer being filled up to 1400 B, or the timer expiry, whichever comes first.

The **no** form of this command reverts to the default.

Parameters

deci-seconds

Specifies the maximum delay after which any cached reports are flushed to the reporting destination.

Values 0 to 100

Platforms

All

max-tx-delay

Syntax

max-tx-delay *deciseconds*

no max-tx-delay

Context

[Tree] (config>service>nat>syslog>syslog-export-policy max-tx-delay)

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Full Context

configure service nat syslog syslog-export-policy max-tx-delay

Description

This command enables aggregation of flow log messages within a syslog frame. It introduces a delay during which logs are collected in each BB-ISA so they can be sent in a single syslog message to conserve system resources and network bandwidth.

When aggregation is enabled, generation of a syslog frame carrying multiple flow logs is triggered by one of the two events (whichever occurs first):

- Expiry of the max-tx-delay timer
- Exceeding MTU size

The **no** form of the command reverts to the default.

Default

max-tx-delay 3

Parameters

deciseconds

Specifies the maximum time a syslog message is delayed in the system's output buffer.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.20 max-ve-id

max-ve-id

Syntax

max-ve-id *value*

no max-ve-id

Context

[Tree] (config>service>vpls>bgp-vpls max-ve-id)

Full Context

configure service vpls bgp-vpls max-ve-id

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Description

This command configures the allowed range for the VE-id value: locally configured and received in a NLRI. Configuration of a VE-id higher than the value specified in this command is not allowed.

Also upon reception of a higher VE-id in an NLRI imported in this VPLS instance (RT is the configured import RT) the following action must be taken:

- a trap must be generated informing the operator of the mismatch.
- NLRI must be dropped
- no service labels are to be installed for this VE-id
- no new NLRI must be generated if a new offset is required for VE-id.

The **no** form of this command sets the max-ve-id to un-configured. The BGP VPLS status should be administratively down for "no max-ve-id" to be used.

The max-ve-id value can be changed without shutting down bgp-vpls if the newly provisioned value does not conflict with the already configured local VE-ID. If the value of the local-VE-ID is higher than the new max-ve-id value the command is rejected. The operator needs to decrease first the VE-ID before running the command.

The actions taken for other max-ve-id values are as follows:

- max-ve-id value higher than all VE-IDs (local and received) is allowed and there are no effects.
- max-ve-id higher than the local VE-ID but smaller than the remote VE-IDs:
  - Provisioning is allowed
  - A warning message will be generated stating that "Higher VE-ID values were received in the BGP VPLS context. Related pseudowires will be removed."
  - The pseudowires associated with the higher VE-IDs will be removed locally.
  - This is a situation that should be corrected by the operator as the pseudowire may be down just at the local PE, consuming unnecessarily core bandwidth. The higher VE-IDs should be removed or lowered.

If the max-ve-id has increased a BGP route refresh is sent to the VPLS community to get the routes which might have been rejected earlier due to max-ve-id check. A max-ve-id value needs to be provisioned for BGP VPLS to be in "no shutdown" state.

Default

no max-ve-id

Parameters

value

Specifies the allowed range of [1-value] for the VE-id. The configured value must be bigger than the existing VE-ids

Values 1 to 65535

Platforms

All

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29.21 max-wait-to-advertise

max-wait-to-advertise

Syntax

max-wait-to-advertise *seconds*

no max-wait-to-advertise

Context

[Tree] (config>service>vprn>bgp>convergence>family max-wait-to-advertise)

Full Context

configure service vprn bgp convergence family max-wait-to-advertise

Description

This command configures the maximum amount of time that BGP waits until it starts advertising IPv4-unicast or IPv6-unicast routes to its BGP peers. For IPv4-unicast routes, *seconds* is measured from the time when the first peer that supports the IPv4-unicast address family comes up. For IPv6-unicast routes *seconds* is measured from the time when the first peer that negotiates the IPv6-unicast address family comes up.

The time limit configured by this command should allow sufficient time for all important peers to re-establish their sessions with the restarting router and advertise their complete set of IPv4-unicast or IPv6-unicast routes (followed by the applicable End of RIB marker).

The **no** form of this command implements the default value, which is three times the value of the **min-wait-to-advertise** time limit.

Default

no max-wait-to-advertise

Parameters

seconds

Specifies the maximum amount of time, in seconds, that BGP waits until IPv4-unicast or IPv6-unicast routes are advertised to peers.

Values 0 to 3600

Platforms

All

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max-wait-to-advertise

Syntax

max-wait-to-advertise *seconds*

no max-wait-to-advertise

Context

[Tree] (config>router>bgp>convergence>family max-wait-to-advertise)

Full Context

configure router bgp convergence family max-wait-to-advertise

Description

This command configures the maximum amount of time that BGP waits until it starts advertising IPv4-unicast or IPv6-unicast routes to its BGP peers. For IPv4-unicast routes, the time limit value is measured from the time when the first peer that supports the IPv4-unicast address family comes up. For IPv6-unicast routes the time limit value is measured from the time when the first peer that negotiates the IPv6-unicast address family comes up.

The time limit configured by this command should allow sufficient time for all important peers to re-establish their sessions with the restarting router and advertise their complete set of IPv4-unicast or IPv6-unicast routes (followed by the applicable End of RIB marker).

The **no** form of this command implements the default value, which is three times the value of the **min-wait-to-advertise** time-limit.

Default

no max-wait-to-advertise

Parameters

seconds

Specifies the maximum amount of time, in seconds, that BGP waits until IPv4-unicast or IPv6-unicast routes are advertised to peers.

Values 0 to 3600

Platforms

All

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29.22 maximum-cert-chain-depth

maximum-cert-chain-depth

Syntax

maximum-cert-chain-depth *level*

no maximum-cert-chain-depth

Context

[Tree] (config>system>security>pki maximum-cert-chain-depth)

Full Context

configure system security pki maximum-cert-chain-depth

Description

This command defines the maximum depth of certificate chain verification. This number is applied system wide.

The **no** form of this command reverts to the default.

Default

maximum-cert-chain-depth 7

Parameters

level

Specifies the maximum depth level of certificate chain verification, range from 1 to 7. the certificate under verification is not counted in. for example, if this parameter is set to 1, then the certificate under verification must be directly signed by trust anchor CA.

Values 1 to 7

Platforms

All

29.23 maximum-client-lead-time

maximum-client-lead-time

Syntax

maximum-client-lead-time [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

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no maximum-client-lead-time

Context

[Tree] (config>router>dhcp6>server>failover maximum-client-lead-time)

[Tree] (config>router>dhcp>server>pool>failover maximum-client-lead-time)

[Tree] (config>router>dhcp6>server>pool>failover maximum-client-lead-time)

[Tree] (config>service>vprn>dhcp>server>pool>failover maximum-client-lead-time)

[Tree] (config>service>vprn>dhcp>server>failover maximum-client-lead-time)

[Tree] (config>service>vprn>dhcp6>server>pool>failover maximum-client-lead-time)

[Tree] (config>router>dhcp>server>failover maximum-client-lead-time)

[Tree] (config>service>vprn>dhcp6>server>failover maximum-client-lead-time)

Full Context

configure router dhcp6 local-dhcp-server failover maximum-client-lead-time

configure router dhcp server pool failover maximum-client-lead-time

configure router dhcp6 server pool failover maximum-client-lead-time

configure service vprn dhcp local-dhcp-server pool failover maximum-client-lead-time

configure service vprn dhcp local-dhcp-server failover maximum-client-lead-time

configure service vprn dhcp6 local-dhcp-server pool failover maximum-client-lead-time

configure router dhcp local-dhcp-server failover maximum-client-lead-time

configure service vprn dhcp6 local-dhcp-server failover maximum-client-lead-time

Description

The command configures the maximum time that a DHCP server can extend client's lease time beyond the lease time currently known by the DHCP partner node. In dual-homed environment, the initial lease time for all DHCP clients is by default restricted to MCLT. Consecutive DHCP renews can extend the lease time beyond the MCLT.

The maximum client lead time (MCLT) is a safeguard against IP address/prefix duplication in cases of a lease synchronization failure when local-remote failover model is deployed.

Once the intercommunication link failure between the redundant DHCP servers is detected, the DHCP IP address range configured as remote will not be allowed to start delegating new leases until the MCLT + partner-down-delay intervals expire. This is to ensure that the new lease that was delegated from the local IP address-range/prefix on one node but was never synchronized due to the intercommunication link failure, will expire before the same IP address/prefix is allocated from the remote IP address-range/prefix on the other node.

However, the already existing (and synchronized) lease times can be renewed from the remote IP address range at any time, regardless of the state of the intercommunication link (operational or failed).

Lease synchronization failure can be caused either by a node failure, or a failure of the link over which the DHCP leases are synchronized (intercommunication link). Synchronization failure detection can take up to 3 seconds.

During the failure, the DHCP lease time for the new clients is restricted to MCLT while for the existing clients the lease time will over time (by consecutive DHCP renews) be gradually reduced to the MCLT.

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The **no** form of this command reverts to the default.

Default

maximum-client-lead-time min 10

Parameters

maximum-client-lead-time

Specifies the maximum client lead time.

Values		
	hrs *hours*	1 to 23
	min *minutes*	1 to 59
	sec *seconds*	1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.24 maximum-data-transmission

maximum-data-transmission

Syntax

maximum-data-transmission *bytes*

no maximum-data-transmission

Context

[Tree] (config>qos>sap-egress>queue maximum-data-transmission)

Full Context

configure qos sap-egress queue maximum-data-transmission

Description

This command sets the maximum amount of data transmitted at a single scheduling opportunity. If the frame to be scheduled is longer than the configured amount of data, the entire frame is still transmitted. This command is applicable only to FP4 and FP5 chipsets.

The **no** form of this command reverts to the default.

Default

maximum-data-transmission 8192 for FP4

maximum-data-transmission 20480 for FP5

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Parameters

bytes

Specifies the maximum amount of data transmitted.

Values 512 to 32768

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

29.25 maximum-declined

maximum-declined

Syntax

maximum-declined *maximum-declined*

no maximum-declined

Context

[Tree] (config>router>dhcp>server>pool>subnet maximum-declined)

[Tree] (config>service>vprn>dhcp>server>pool>subnet maximum-declined)

Full Context

configure router dhcp local-dhcp-server pool subnet maximum-declined

configure service vprn dhcp local-dhcp-server pool subnet maximum-declined

Description

This command configures the maximum number of declined addresses allowed.

The **no** form of the reverts to the default.

Default

maximum-declined 64

Parameters

maximum-declined

Specifies the maximum number of declined addresses allowed.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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29.26 maximum-ipv6-routes

maximum-ipv6-routes

Syntax

maximum-ipv6-routes *number* [**log-only**] [**threshold** *percentage*]

no maximum-ipv6-routes

Context

[Tree] (config>service>vprn maximum-ipv6-routes)

Full Context

configure service vprn maximum-ipv6-routes

Description

This command specifies the maximum number of remote IPv6 routes that can be held within a VPN routing/ forwarding (VRF) context. The **local**, **host**, **static** and **aggregate** routes are not counted.

The VPRN service ID must be in a shutdown state in order to modify maximum-routes command parameters.

If the **log-only** parameter is not specified and the maximum-routes value is set below the existing number of routes in a VRF, then the offending RIP peer (if applicable) is brought down (but the VPRN instance remains up). BGP peering will remain up but the exceeding BGP routes will not be added to the VRF.

The maximum route threshold can dynamically change to increase the number of supported routes even when the maximum has already been reached. Protocols will resubmit their routes which were initially rejected.

The **no** form of this command disables any limit on the number of routes within a VRF context. The threshold will not be raised. Issue the **no** form of this command only when the VPRN instance is shutdown.

Default

0 or disabled

Parameters

number

Specifies an integer that specifies the maximum number of routes to be held in a VRF context.

Values 1 to 2147483647

log-only

Specifies that if the maximum limit is reached, only log the event. **log-only** does not disable the learning of new routes.

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threshold percentage

Specifies the percentage at which a warning log message and SNMP trap should be set. There are two warnings, the first is a mid-level warning at the threshold value set and the second is a high-level warning at level between the maximum number of routes and the mid-level rate ([mid+max] / 2).

Values 0 to 100

Platforms

All

29.27 maximum-number-upas

maximum-number-upas

Syntax

maximum-number-upas *maximum-number-upas*

no maximum-number-upas

Context

[Tree] (config>router>isis>upa maximum-number-upas)

Full Context

configure router isis prefix-unreachable maximum-number-upas

Description

This command configures a limit for the number of UPAs the router can advertise. If overrun, a system log is generated and additional UPAs are not advertised.

The **no** form of this command reverts to the default.

Default

32

Parameters

maximum-number-upas

Specifies the maximum number of UPAs that the router can advertise.

Values 1 to 8192

Platforms

All

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29.28 maximum-original-datagram

maximum-original-datagram

Syntax

[**no**] **maximum-original-datagram**

Context

[Tree] (config>test-oam>icmp>ipv6 maximum-original-datagram)

Full Context

configure test-oam icmp ipv6 maximum-original-datagram

Description

This command enables the original datagram field of the ICMPv6 error message to be a maximum of 1232 bytes.

The **no** form of this command may result in an original datagram field of the ICMPv6 error message smaller than 1232 bytes be built smaller.

Default

no maximum-original-datagram

Platforms

All

29.29 maximum-p2mp-spmsi

maximum-p2mp-spmsi

Syntax

maximum-p2mp-spmsi *range*

no maximum-p2mp-spmsi

Context

[Tree] (config>service>vprn>mvpn>pt>selective maximum-p2mp-spmsi)

[Tree] (config>service>vpls>provider-tunnel>selective maximum-p2mp-spmsi)

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Full Context

configure service vprn mvpn provider-tunnel selective maximum-p2mp-spmsi

configure service vpls provider-tunnel selective maximum-p2mp-spmsi

Description

This command specifies the maximum number of S-PMSI tunnels for the MVPN or EVPN service. When the limit is reached, no more RSVP P2MP S-PMSI or LDP P2MP S-PMSI are created and traffic over the data threshold stays on I-PMSI.

The **no** form of this command reverts to the default value.

Default

maximum-p2mp-spmsi 10

Parameters

range

Specifies the maximum number of RSVP P2MP or LDP P2MP S-PMSI tunnel for the MVPN or VPLS.

Values 1 to 4000

Default 10

Platforms

All

maximum-p2mp-spmsi

Syntax

maximum-p2mp-spmsi *range*

no maximum-p2mp-spmsi

Context

[Tree] (config>router>gtm>provider-tunnel>selective maximum-p2mp-spmsi)

Full Context

configure router gtm provider-tunnel selective maximum-p2mp-spmsi

Description

This command specifies the maximum number of RSVP P2MP or LDP P2MP S-PMSI tunnels for the GTM. When the limit is reached, no more RSVP P2MP S-PMSI or LDP P2MP S-P MSI tunnels are created and traffic over the data-threshold will stay on I-PMSI.

The **no** form of this command reverts to the default values.

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Default

maximum-p2mp-spmsi 10

Parameters

range

Specifies the maximum number of RSVP P2MP or LDP P2MP S-PMSI tunnels for the GTM.

Values 1 to 4000

Default 10

Platforms

All

29.30 maximum-paths

maximum-paths

Syntax

maximum-paths *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** {**same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no maximum-paths

Context

[Tree] (config>service>vprn>bgp>multi-path maximum-paths)

Full Context

configure service vprn bgp multi-path maximum-paths

Description

This command sets ECMP multi-path parameters that apply to all address families for that BGP multi-path. For some address families it is possible to override these settings on a per address family basis.

When multi-path is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

To qualify as a multi-path, a non-best route must meet the following criteria (some criteria are controlled by this command):

- The multi-path route must be the same type of route as the best path (same AFI/SAFI and, in some cases, same next-hop resolution method).

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- The multi-path route must be tied with the best path for all criteria of greater significance than next-hop cost, except for criteria that are configured to be ignored.
- If the best path selection reaches the next-hop cost comparison, the multi-path route must have the same next-hop cost as the best route unless the **unequal-cost** option is configured.
- The multi-path route must not have the same BGP next-hop as the best path or any other multi-path route.
- The multi-path route must not cause the ECMP limit of the routing instance to be exceeded (configured using the **ecmp** command with a value in the range 1 to 64).
- The multi-path route must not cause the applicable *max-paths* limit to be exceeded. If the best path is an EBGP learned route and the **ebgp** option is used, the *ebgp-max-paths* limit overrides the *max-paths* limit. If the best path is an IBGP-learned route and the **ibgp** option is used, the *ibgp-max-paths* limit overrides the *max-paths* limit. All path limits are configurable up to a maximum of 64. Multi-path is effectively disabled if a value is set to 1.
- The multi-path route must have the same neighbor AS in its AS path as the best path if the **restrict same-neighbor-as** option is configured. By default, any path with the same AS path length as the best path (regardless of neighbor AS) is eligible for multi-path.
- The route must have the same AS path as the best path if the **restrict exact-as-path** option is configured. By default, any path with the same AS path length as the best path (regardless of the actual AS numbers) is eligible for multi-path.

The **no** form of this command disables BGP multi-path.

Default

no maximum-paths

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

egp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

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restrict exact-as-path-as

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

maximum-paths

Syntax

maximum-paths *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** {**same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no maximum-paths

Context

[Tree] (config>router>bgp>multi-path maximum-paths)

Full Context

configure router bgp multi-path maximum-paths

Description

This command sets ECMP multipath parameters that apply to all address families for that BGP multipath. For some address families it is possible to override these settings on a per address family basis.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path. The actual distribution of traffic over the multiple paths may be equal or unequal (that is, based on weights derived from the Link Bandwidth Extended Community).

The **no** form of this command disables BGP multipath.

Default

no maximum-paths

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

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Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

All

29.31 maximum-recovery-time

maximum-recovery-time

Syntax

maximum-recovery-time *interval*

no maximum-recovery-time

Context

[Tree] (config>router>ldp>graceful-restart maximum-recovery-time)

Full Context

configure router ldp graceful-restart maximum-recovery-time

Description

This command configures the local maximum recovery time.

The **no** form of this command returns the default value.

Default

no maximum-recovery-time (which equals a value of 120 seconds)

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Parameters

interval

Specifies the length of time in seconds.

Values 15 to 1800

Platforms

All

29.32 maximum-routes

maximum-routes

Syntax

maximum-routes *number* [**log-only**] [**threshold** *percentage*]

no maximum-routes

Context

[Tree] (config>service>vprn maximum-routes)

Full Context

configure service vprn maximum-routes

Description

This command specifies the maximum number of remote routes that can be held within a VPN routing/forwarding (VRF) context. The **local**, **host**, **static** and **aggregate** routes are not counted.

The VPRN service ID must be in a shutdown state in order to modify maximum-routes command parameters.

If the **log-only** parameter is not specified and the maximum-routes value is set below the existing number of routes in a VRF, then the offending RIP peer (if applicable) is brought down (but the VPRN instance remains up). BGP peering will remain up but the exceeding BGP routes will not be added to the VRF.

The maximum route threshold can dynamically change to increase the number of supported routes even when the maximum has already been reached. Protocols will resubmit their routes which were initially rejected.

The **no** form of this command disables any limit on the number of routes within a VRF context. Issue the **no** form of this command only when the VPRN instance is shutdown.

Default

0 or disabled — The threshold will not be raised.

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Parameters

number

An integer that specifies the maximum number of routes to be held in a VRF context.

Values 1 to 2147483647

log-only

Specifies that if the maximum limit is reached, only log the event. **log-only** does not disable the learning of new routes.

threshold percentage

The percentage at which a warning log message and SNMP trap should be set. There are two warnings, the first is a mid-level warning at the threshold value set and the second is a high-level warning at level between the maximum number of routes and the mid-level rate ([mid+max] / 2).

Values 0 to 100

Platforms

All

29.33 maximum-sid-depth

maximum-sid-depth

Syntax

maximum-sid-depth

Context

[Tree] (config>router>isis>segm-rtng maximum-sid-depth)

Full Context

configure router isis segment-routing maximum-sid-depth

Description

Commands in this context configure a manual override of the Maximum Segment Depths (MSD) that is announced by the router.

Platforms

All

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maximum-sid-depth

Syntax

maximum-sid-depth

Context

[Tree] (config>router>ospf>segm-rtng maximum-sid-depth)

Full Context

configure router ospf segment-routing maximum-sid-depth

Description

Commands in this context configure a manual override of the Maximum Segment Depths (MSD) that is announced by the router.

Platforms

All

29.34 mbb

mbb

Syntax

mbb [**detail**]

no mbb

Context

[Tree] (debug>router>mpls>event mbb)

Full Context

debug router mpls event mbb

Description

This command debugs the state of the most recent invocation of the make-before-break (MBB) functionality.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about MBB events.

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Platforms

All

29.35 mbb-prefer-current-hops

mbb-prefer-current-hops

Syntax

[**no**] **mbb-prefer-current-hops**

Context

[Tree] (config>router>mpls mbb-prefer-current-hops)

Full Context

configure router mpls mbb-prefer-current-hops

Description

This command implements a new option in the CSPF path computation during a Make-Before-Break (MBB) procedure of an RSVP LSP.

When MPLS performs an MBB for the primary or secondary path of a P2P LSP, or the S2L path of a P2MP LSP, and the new **mbb-prefer-current-hops** option is enabled in MPLS context, CSPF will select a path, among equal-cost candidate paths, with the most overlapping links with the current path. Normally, CSPF selects the path randomly.

The procedures of the new MBB CSPF path selection apply to LSP without the least-fill option enabled. If the least-fill rule results in a different path, the LSP path will be moved though. Users can still favor stability over least-fill condition by applying a larger value to the parameter **least-fill-min-thd** under the MPLS context such that a path will only be moved when the difference of the least-available bandwidth becomes significant enough between the most used links in the equal cost paths. If that difference is not significant enough, CSPF will select the path with the most overlapping links instead of selecting a path randomly.

The procedures when the new **mbb-prefer-current-hops** option is enabled apply to all MBB types. Thus, it applies to the auto-bandwidth MBB, the configuration change MBB, the soft preemption MBB, the TE graceful shutdown MBB, the delayed retry MBB (for SRLG secondary LSP path), the path change MBB, the timer resignal MBB, and the manual resignal MBB.

During the FRR global revertive MBB, CSPF selects a random link among the ones available between the PLR node and the Merge Point node, including the failed link if it has restored in the meantime. These links cannot be checked for overlap with the current path.

The TE graceful shutdown MBB will still avoid the link or node that is in maintenance and the soft preemption MBB will still avoid the link that is overbooked.

For an inter-area LSP, this feature applies to the subset of the path from the ingress LER to the exit ABR.

The procedures of this feature are not applied to a zero bandwidth CSPP LSP, including an auto-bandwidth CSPF LSP while its operational bandwidth is zero, and to a non-CSPF LSP.

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Platforms

All

29.36 mbs

mbs

Syntax

mbs *mbs-value*

no mbs

Context

[Tree] (config>filter>policer mbs)

Full Context

configure filter policer mbs

Description

This command configures the maximum burst size (MBS) for the policer.

The **mbs** and **pir** command options and the **pps-pir** command option are mutually exclusive. That is, the **pps-pir** option cannot be configured when the **mbs** or **pir** options are configured.

The **no** form of this command removes the configuration.

Parameters

mbs-value

Specifies the MBS value in bytes.

Value 0 to 268435456

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

mbs

Syntax

mbs *percent-of-pool*

no mbs

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2>prim-path>queue mbs)

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[Tree] (config>mcast-mgmt>bw-plcy>t2>sec-path>queue mbs)

Full Context

configure mcast-management bandwidth-policy t2-paths primary-path queue-parameters mbs

configure mcast-management bandwidth-policy t2-paths secondary-path queue-parameters mbs

Description

This command configures the override for the default maximum buffer size (MBS) for each individual path's queue. The queue's MBS threshold defines the point at which all packets destined for the queue are discarded based on queue depth. The defined threshold also provides context for the queues drop-tail parameter.

The mbs *percent-of-pool* parameter is defined as a percentage of the total pool size. The system allows the sum of all MBS values to equal more than 100%, allowing for oversubscription of the pool.

For the primary-path and secondary-path queues, the **mbs** value is applied to a single queue for each path.

The **no** form of this command is used to restore the path queues default MBS value.

Parameters

percent-of-pool

Specifies the percent of buffers from the total buffer pool space for the number of buffers, expressed as a decimal integer. If 10 MB is the total buffers in the buffer pool, a value of 10 would limit the maximum queue size to 1 MB (10%) of buffer space for the forwarding class queue. If the total size is increased to 20 MB, the existing value of 10 automatically increases the maximum size of the queue to 2 MB.

Values 0 to 100

Default

Primary: 7

Secondary: 40

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

mbs

Syntax

mbs *size* [**bytes** | **kilobytes**]

no mbs

Context

[Tree] (config>qos>sap-egress>dynamic-queue mbs)

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Full Context

configure qos sap-egress dynamic-queue mbs

Description

This command configures the maximum buffer space (MBS) allowed for the dynamic queue. The MBS is applied to each dynamic queue and is not shared.

Default

no mbs (auto)

Parameters

size

Specifies that the MBS as an integer representing the required size.

Values 0 to 1073741824

default (auto)

bytes

Specifies that the value given for the *size* variable is interpreted as the queue's MBS value in bytes. The optional **bytes** and **kilobytes** keywords are mutually exclusive and are used to explicitly define the size.

kilobytes

Specifies that the value given for the *size* variable is interpreted as the queue's MBS value in kilobytes. The optional **kilobytes** and **bytes** keywords are mutually exclusive and are used to explicitly define the size.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs *size* [**bytes** | **kilobytes**]

no mbs

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue mbs)

Full Context

configure subscriber-mgmt sla-profile egress qos queue mbs

Description

This command configures the maximum size for the queue.

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The sum of the MBS for all queues on an egress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope a packet is associated with. A queue that has not exceeded its MBS size is not guaranteed that a buffer is available when needed or that the packet's RED slope will not force the discard of the packet. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard to queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

The **no** form of this command returns the MBS size to the size as configured in the QoS policy.

Parameters

size

This required parameter specifies that the MBS is expressed as an integer representing the required size in either bytes or kilobytes. The default is **kilobytes**. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly to define the size. By specifying the keyword **default** sets the MBS to its default value.

Values 0 to 1073741824, **default**

bytes

Specifies that the value given for *size* is interpreted as the queue's MBS value in bytes.

kilobytes

Specifies that the value given for *size* is interpreted as the queue's MBS value in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs *size* [**bytes** | **kilobytes**]

no mbs

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>queue mbs)

Full Context

configure subscriber-mgmt sla-profile ingress qos queue mbs

Description

The Maximum Burst Size (MBS) command configures the explicit definition of the maximum number of buffers allowed for a specific queue.

The MBS value is used by a queue to determine whether it has exhausted all of its buffers while enqueuing packets. Once the queue has exceeded the number of buffers allowed by MBS, all packets are discarded until packets have been drained from the queue.

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The sap-ingress context for mbs provides a mechanism for overriding the default maximum size for the queue.

The sum of the MBS for all queues on an ingress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope a packet is associated with. A queue that has not exceeded its MBS size is not guaranteed that a buffer is available when needed or that the packet's RED slope does not force the discard of the packet. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard to queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

The **no** form of this command returns the MBS size to the size as configured in the QoS policy.

Parameters

size

This required parameter specifies that the MBS is expressed as an integer representing the required size in either bytes or kilobytes. The default is **kilobytes**. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly to define the size. By specifying the keyword **default** sets the MBS to its default value.

Values 0 to 1073741824, **default**

bytes

Specifies that the value given for *size* is interpreted as the queue's MBS value is in bytes.

kilobytes

Specifies that the value given for *size* is interpreted as the queue's MBS value is in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs *size* [**bytes** | **kilobytes**]

no mbs

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>policer mbs)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>policer mbs)

Full Context

configure subscriber-mgmt sla-profile ingress qos policer mbs

configure subscriber-mgmt sla-profile egress qos policer mbs

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Description

This command configures the MBS for the QoS policer.

The **no** form of this command returns the MBS to its default value. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Parameters

size

This required parameter specifies that the MBS is expressed as an integer representing the required size in either bytes or kilobytes. The default is **kilobytes**. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly to define the size. By specifying the keyword **default** sets the MBS to its default value.

Values 0 to 2683435456, **default**

bytes

Specifies that the value given for *size* is interpreted as the queue's MBS value in bytes.

kilobytes

Specifies that the value given for *size* is interpreted as the queue's MBS value in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs *size* [**bytes** | **kilobytes** | **default**]

no mbs

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue mbs)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue mbs)

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue mbs)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue mbs)

Full Context

configure service vprn interface sap egress queue-override queue mbs

configure service ies interface sap egress queue-override queue mbs

configure service vprn interface sap ingress queue-override queue mbs

configure service ies interface sap ingress queue-override queue mbs

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Description

This command overrides specific attributes of the specified queue's MBS parameters. The MBS is a mechanism to override the default maximum size for the queue.

The sum of the MBS for all queues on an egress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope a packet is associated with. A queue that has not exceeded its MBS size is not guaranteed that a buffer is available when needed or that the packets RED slope is not forced the discard of the packet. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard to queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

If the CBS value is larger than the MBS value, an error will occur, preventing the MBS change.

The **no** form of this command returns the MBS size assigned to the queue.

Default

mbs default

Parameters

size

This required parameter specifies that the MBS is expressed as an integer representing the required size in either bytes or kilobytes. The default is **kilobytes**. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly to define the size. Specifying the keyword **default** sets the MBS to its default value.

Values 0 to 1073741824, default

bytes

Specifies that the value given for *size* is interpreted as the queue's MBS value in bytes.

kilobytes

Specifies that the value given for *size* is interpreted as the queue's MBS value in kb/s.

Platforms

All

mbs

Syntax

mbs *size* [**bytes** | **kilobytes**]

no mbs

Context

[Tree] (config>service>vpls>sap>ingress>queue-override>queue mbs)

[Tree] (config>service>vpls>sap>egress>queue-override>queue mbs)

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Full Context

configure service vpls sap ingress queue-override queue mbs

configure service vpls sap egress queue-override queue mbs

Description

This command overrides specific attributes of the specified queue's MBS parameters. The MBS value is used by a queue to determine whether it has exhausted all of its buffers while enqueuing packets. Once the queue has exceeded the amount of buffers allowed by MBS, all packets are discarded until packets have been drained from the queue.

The sum of the MBS for all queues on an ingress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope a packet is associated with. A queue that has not exceeded its MBS is not guaranteed that a buffer will be available when needed or that the packets RED slope will not force the discard of the packet. Setting correct CBS parameters and controlling CBS over-subscription is one major safeguard to queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

The **no** form of this command returns the MBS assigned to the queue to the default value.

Default

mbs default

Parameters

size

The size parameter is required when specifying mbs and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **bytes** and **kilobytes** keywords are mutually exclusive and are used to explicitly define whether the size represents bytes or kilobytes.

Values 0 to 1073741824

default

bytes

When **byte** is defined, the value given for size is interpreted as the queue's MBS value given in bytes.

kilobytes

When **kilobytes** is defined, the value is interpreted as the queue's MBS value given in kilobytes.

Platforms

All

mbs

Syntax

mbs *burst-size*

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no mbs

Context

[Tree] (config>subscr-mgmt>isa-policer mbs)

Full Context

configure subscriber-mgmt isa-policer mbs

Description

This command specifies the maximum burst-size value of this policer.

The **no** form of this command reverts to its default.

Default

mbs 0

Parameters

burst-size

The maximum burst-size in kbytes.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs {*size* [**bytes** | **kilobyte**] | **default**}

no mbs

Context

[Tree] (config>card>fp>ingress>access>qgrp>policer-over>plcr mbs)

[Tree] (config>card>fp>ingress>network>qgrp>policer-over>plcr mbs)

Full Context

configure card fp ingress access queue-group policer-override policer mbs

configure card fp ingress network queue-group policer-override policer mbs

Description

This command configures the policer's PIR leaky bucket's violate threshold. The **high-prio-only** command is applied to the MBS value to derive the bucket's low priority violate threshold. For ingress, trusted in-profile packets and untrusted high priority packets use the policer's high priority violate threshold while trusted out-of-profile and untrusted low priority packets use the policer's low priority violate threshold.

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The PIR bucket's violate threshold represent the maximum burst tolerance allowed by the policer. If the policer's offered rate is equal to or less than the policer's defined rate, the PIR bucket depth hovers around the 0 depth with spikes up to the maximum packet size in the offered load. If the offered rate increases beyond the metering rate, the amount of data allowed above the rate is capped by the threshold. The low priority violate threshold provides a smaller burst size for the lower priority traffic associated with the policer. Since all lower priority traffic is discarded at the lower burst tolerance size, the remaining burst tolerance defined by **high-prio-only** is available for the higher priority traffic.

The policer's mbs size defined in the QoS policy may be overridden on an sla-profile or SAP where the policy is applied.

The **no** form of this command reverts the policer to its default MBS size. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Parameters

size

The *size* parameter is required when specifying **mbs** and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **bytes** and **kilobytes** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

bytes

When **bytes** is defined, the value given for size is interpreted as the policer's MBS value given in bytes.

kilobytes

When **kilobytes** is defined, the value is interpreted as the policer's MBS value given in kilobytes.

default

Keyword that reverts the MBS to its default value.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

no mbs

Context

[Tree] (config>port>ethernet>access>ing>qgrp>qover>q mbs)

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q mbs)

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[Tree] (config>port>ethernet>access>egr>qgrp>qover>q mbs)

Full Context

configure port ethernet access ingress queue-group queue-overrides queue mbs

configure port ethernet network egress queue-group queue-overrides queue mbs

configure port ethernet access egress queue-group queue-overrides queue mbs

Description

The Maximum Burst Size (MBS) command specifies the default maximum buffer size for the template queue. The value is given in kilobytes.

The MBS value is used by a queue to determine whether it has exhausted all of its buffers while enqueuing packets. Once the queue has exceeded the amount of buffers allowed by MBS, all packets are discarded until packets have been drained from the queue.

The **queue-group** or network egress QoS context for mbs provides a mechanism for overriding the default maximum size for the queue.

The sum of the MBS for all queues on an ingress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope a packet is associated with. A queue that has not exceeded its MBS size is not guaranteed that a buffer will be available when needed or that the packets RED slope will not force the discard of the packet. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard to queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

This command applies to egress queue group queues as the queue-delay is only supported on egress queues. This command **the queue-delay** command are mutually exclusive.

The **no** form of this command returns the MBS size assigned to the queue to the value.

Default

mbs default

Parameters

size

The *size* parameter is required when specifying **mbs** and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 1073741824

bytes

When **byte** is defined, the value given for size is interpreted as the queue's MBS value given in bytes.

kilobytes

When **kilobytes** is defined, the value is interpreted as the queue's MBS value given in kilobytes.

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default

Keyword that reverts the MBS to its default value.

Platforms

All

mbs

Syntax

mbs *size* [**bytes** | **kilobytes**]

no mbs

Context

[Tree] (config>service>epipe>sap>ingress>policer-over>plcr mbs)

[Tree] (config>service>epipe>sap>egress>policer-over>plcr mbs)

[Tree] (config>service>ipipe>sap>egress>policer-over>plcr mbs)

[Tree] (config>service>ipipe>sap>ingress>policer-over>plcr mbs)

[Tree] (config>service>cpipe>sap>egress>policer-over>plcr mbs)

[Tree] (config>service>cpipe>sap>ingress>policer-over>plcr mbs)

Full Context

configure service epipe sap ingress policer-override policer mbs

configure service epipe sap egress policer-override policer mbs

configure service ipipe sap egress policer-override policer mbs

configure service ipipe sap ingress policer-override policer mbs

configure service cpipe sap egress policer-override policer mbs

configure service cpipe sap ingress policer-override policer mbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured mbs parameter for the specified policer-id.

The **no** form of this command is used to restore the MBS to the default value. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Default

no mbs

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Parameters

size

The size parameter is required when specifying mbs override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

bytes

When **bytes** is defined, the value given for *size* is interpreted as the policer MBS value in bytes.

kilobytes

When **kilobytes** is defined, the value given for *size* is interpreted as the policer MBS value in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe sap egress policer-override policer mbs
- configure service ipipe sap egress policer-override policer mbs
- configure service epipe sap ingress policer-override policer mbs
- configure service ipipe sap ingress policer-override policer mbs

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override policer mbs
- configure service cpipe sap ingress policer-override policer mbs

mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

no mbs

Context

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue mbs)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue mbs)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue mbs)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue mbs)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue mbs)

[Tree] (config>service>epipe>sap>egress>queue-override>queue mbs)

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Full Context

configure service cpipe sap ingress queue-override queue mbs

configure service cpipe sap egress queue-override queue mbs

configure service ipipe sap egress queue-override queue mbs

configure service ipipe sap ingress queue-override queue mbs

configure service epipe sap ingress queue-override queue mbs

configure service epipe sap egress queue-override queue mbs

Description

This command overrides specific attributes of the specified queue's MBS parameters. A queue uses its MBS value to determine whether it has exhausted all of its buffers while enqueuing packets. Once the queue has exceeded the number of buffers allowed by the MBS, all packets are discarded until packets have been drained from the queue.

The sum of the MBS for all queues on an ingress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope associated with a packet. A queue that has not exceeded its MBS is not guaranteed to have buffer available when needed or that the packet's RED slope will not force the discard of the packet. Setting correct CBS parameters and controlling CBS oversubscription is one major safeguard to queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

The **no** form of this command returns the MBS assigned to the queue to the default value.

Default

mbs default

Parameters

size

The size parameter is an integer expression of the maximum number of kilobytes or bytes of buffering allowed for the queue. A value of 0 causes the queue to discard all packets.

Values 0 to 1073741824, default

bytes

Indicates that the *size* parameter value is expressed in bytes.

kilobytes

Indicates that the *size* parameter is expressed in kilobytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue mbs
- configure service cpipe sap ingress queue-override queue mbs

All

- configure service epipe sap egress queue-override queue mbs

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- configure service ipipe sap ingress queue-override queue mbs
- configure service ipipe sap egress queue-override queue mbs
- configure service epipe sap ingress queue-override queue mbs

mbs

Syntax

mbs *size* [{**bytes** | **kilobytes**}]

no mbs

Context

[Tree] (config>service>vpls>sap>egress>policer-override>plcr mbs)

[Tree] (config>service>vpls>sap>ingress>policer-override>plcr mbs)

Full Context

configure service vpls sap egress policer-override policer mbs

configure service vpls sap ingress policer-override policer mbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured mbs parameter for the specified policer-id.

The **no** form of this command restores the MBS to the default value. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Default

no mbs

Parameters

size

This parameter is required when specifying MBS override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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mbs

Syntax

mbs *size* [{**bytes** | **kilobytes**}]

no mbs

Context

[Tree] (config>service>ies>if>sap>egress>policer-override>plcr mbs)

[Tree] (config>service>ies>if>sap>ingress>policer-override>plcr mbs)

Full Context

configure service ies interface sap egress policer-override policer mbs

configure service ies interface sap ingress policer-override policer mbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured mbs parameter for the specified policer-id.

The **no** form of this command restores the MBS setting to the default value. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Default

no mbs

Parameters

size

This parameter is required when specifying MBS override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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mbs

Syntax

mbs *size* [{**bytes** | **kilobytes**}]

no mbs

Context

[Tree] (config>service>vprn>if>sap>egress>policer-override>plcr mbs)

[Tree] (config>service>vprn>if>sap>ingress>policer-override>plcr mbs)

Full Context

configure service vprn interface sap egress policer-override policer mbs

configure service vprn interface sap ingress policer-override policer mbs

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured mbs parameter for the specified policer-id.

The **no** form of this command restores the MBS to the default value. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Default

no mbs

Parameters

size

This parameter is required when specifying MBS override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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mbs

Syntax

mbs *congested-mbs*

no mbs

Context

[Tree] (config>app-assure>group>policer>congestion-override mbs)

Full Context

configure application-assurance group policer congestion-override mbs

Description

This command configures the maximum burst size for the policer. It is recommended that MBS is configured larger than twice the MTU for the traffic handled by the policer to allow for some burstiness of the traffic. MBS is configurable for single-bucket, dual-bucket bandwidth and flow setup rate policers only.

The **no** form of this command removes the congested MBS value from the configuration.

Default

mbs 0

Parameters

congested-mbs

Specifies the maximum burst size, in kbytes, when the access-network-level, which the subscriber belongs to, is in a congested state.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs *maximum-burst-size*

no mbs

Context

[Tree] (config>app-assure>group>tod-override mbs)

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Full Context

configure application-assurance group policer tod-override mbs

Description

This command provides a mechanism to configure the maximum burst size for the policer. It is recommended that MBS is configured larger than twice the MTU for the traffic handled by the policer to allow for some burstiness of the traffic. MBS is configurable for single-bucket, dual-bucket bandwidth and flow setup rate policers only.

The **no** form of this command resets the MBS value to its default.

Default

mbs 0

Parameters

maximum-burst-size

Specifies an integer value defining either size, in kbytes, for the MBS of the bandwidth policer, or flow count for the MBS of the flow setup rate policers.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

no mbs

Context

[Tree] (config>qos>sap-ingress>policer mbs)

[Tree] (config>qos>sap-egress>dyn-policer mbs)

[Tree] (config>qos>sap-egress>policer mbs)

[Tree] (config>qos>sap-ingress>dyn-policer mbs)

Full Context

configure qos sap-ingress policer mbs

configure qos sap-egress dynamic-policer mbs

configure qos sap-egress policer mbs

configure qos sap-ingress dynamic-policer mbs

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Description

This command is used to configure the policer's PIR leaky bucket's high-priority violate threshold. The **high-prio-only** command is applied to the MBS value to derive the bucket's low-priority violate threshold. For ingress, trusted in-profile packets and untrusted high-priority packets use the policer's high-priority violate threshold while trusted out-of-profile and untrusted low-priority packets use the policer's low-priority violate threshold. At egress, inplus-profile, and in-profile packets use the policer's high-priority violate threshold and out-of-profile packets use the policer's low-priority violate threshold. Exceed-profile packets are discarded unless **enable-exceed-pir** is configured, in which case they are forwarded.

The PIR bucket's violate threshold represents the maximum burst tolerance allowed by the policer. If the policer's offered rate is equal to or less than the policer's defined rate, the PIR bucket depth hovers around the 0 depth with spikes up to the maximum packet size in the offered load. If the offered rate increases beyond the metering rate, the amount of data allowed above the rate is capped by the threshold. The low-priority violate threshold provides a smaller burst size for the lower priority traffic associated with the policer. Since all lower priority traffic is discarded at the lower burst tolerance size, the remaining burst tolerance defined by **high-prio-only** is available for the higher priority traffic.

The policer's MBS size defined in the QoS policy may be overridden on an SLA profile or SAP where the policy is applied.

The **no** form of this command returns the queue to its default MBS size. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Parameters

size [bytes | kilobytes]

The *size* parameter is required when specifying **mbs** and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **bytes** and **kilobytes** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 2683435456, **default**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-ingress policer mbs
- configure qos sap-egress policer mbs

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure qos sap-ingress dynamic-policer mbs
- configure qos sap-egress dynamic-policer mbs

mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

mbs delay-time *microseconds*

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mbs delay-percent *percent*

no mbs

Context

[Tree] (config>qos>sap-egress>queue mbs)

Full Context

configure qos sap-egress queue mbs

Description

This command configures the maximum number of buffers, in bytes or kilobytes, allowed for a specific queue. The value overrides the default value for the context.

The **delay-time** command option configures the MBS as a function of the expected delay. The system automatically translates this configuration into kilobytes based on the administrative rate of the queue parent (for example, the scheduler or aggregate-shaper).

The **delay-percent** command option configures the MBS as percentage of the SAP delay budget of the queue configured using the **latency-budget** command.

The **no** form of this command returns the queue to its default MBS.

Default

mbs default

Parameters

size

This parameter is required when specifying **mbs** and is expressed as an integer representing the required size in either bytes or kilobytes.

Default **kilobyte**

default

Keyword to set the MBS to its default value.

bytes

Keyword to interpret the configured value is in bytes.

Values 0 to 1073741824

kilobytes

Keyword to interpret the configured value is in kilobytes.

Values 0 to 1048576

Default kilobytes

microseconds

Specifies the MBS as a function of delay time.

Values 0 to 1000000

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percent

Specifies the MBS as a percentage of the SAP latency budget.

Values 0.00 to 100.00

Platforms

All

mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

no mbs

Context

[Tree] (config>qos>sap-ingress>queue mbs)

Full Context

configure qos sap-ingress queue mbs

Description

This command configures the maximum number of buffers allowed for a specific queue. The value is given in bytes or kilobytes and overrides the default value for the context.

The **no** form of this command returns the policer to its default MBS.

Default

no mbs

Parameters

size

The *size* parameter is required when specifying **mbs** and is expressed as an integer representing the required size in either bytes or kilobytes.

Default **kilobyte**

default

Sets the MBS to its default value.

bytes

Specifies that the value given for size is interpreted as the queue's MBS value given in bytes.

Values 0 to 2688000

kilobytes

Specifies the value is interpreted as the queue's MBS value given in kilobytes.

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Values 0 to 2625

Default kilobytes

Platforms

All

mbs

Syntax

mbs *percent*

no mbs

Context

[Tree] (config>qos>network-queue>queue mbs)

Full Context

configure qos network-queue queue mbs

Description

This command specifies the relative amount of buffer pool space for the maximum buffers for a specific ingress network FP forwarding class queue or egress network port forwarding class queue. The value is entered as a percentage.

The MBS value is used by a queue to determine whether it has exhausted its total allowed buffers while enqueuing packets. When the queue has exceeded its maximum amount of buffers, all packets are discarded until the queue transmits a packet. A queue that has not exceeded its MBS is not guaranteed to have a buffer available when needed or that the packet's RED slope will not force the discard of the packet. In order to safeguard against queue starvation (when a queue does not receive its fair share of buffers), set proper CBS parameters and control CBS oversubscription. Another safeguard is to properly set the RED slope parameters for the needs of the network queues.

The MBS can sometimes be smaller than the CBS. This will result in a portion of the CBS for the queue to be unused and should be avoided.

The **no** form of this command returns the MBS for the queue to the default for the forwarding class.

Parameters

percent

The percent of buffers from the total buffer pool space for the maximum number of buffers, expressed as a decimal integer. If 10 Mbytes is the total buffer space in the buffer pool, a value of 10 would limit the maximum queue size to 1 Mbyte (10%) of buffer space for the forwarding class queue. If the total size is increased to 20 Mbytes, the existing value of 10 would automatically increase the maximum size of the queue to 2 Mbytes.

Values 0 to 100

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Platforms

All

mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

no mbs

Context

[Tree] (config>qos>qgrps>egr>qgrp>policer mbs)

[Tree] (config>qos>qgrps>ing>qgrp>policer mbs)

Full Context

configure qos queue-group-templates egress queue-group policer mbs

configure qos queue-group-templates ingress queue-group policer mbs

Description

This command specifies the default maximum buffer size for the template queue in bytes or kilobytes.

The MBS value is used by a queue to determine whether it has exhausted all of its buffers while enqueuing packets. When the queue has exceeded the amount of buffers allowed by MBS, all packets are discarded until packets have been drained from the queue.

The **port>ethernet>access>ingress>queue-group** and **port>ethernet>access>egress>queue-group** contexts for **mbs** provides a mechanism for overriding the default maximum size for the queue.

The sum of the MBS for all queues on an ingress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope that a packet is associated with. A queue that has not exceeded its MBS size is not guaranteed that a buffer will be available when needed or that the packet's RED slope will not force the discard of the packet. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard against queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

When configured on an egress queue group queue, this command and the **queue-delay** command are mutually exclusive. In order to change between the **mbs** and **queue-delay** parameters, the current parameter must be removed before adding the new parameter; that is, changing from **mbs** to **queue-delay** requires a **no mbs** before the **queue-delay** is configured and changing from **queue-delay** to **mbs** requires a **no queue-delay** before the **mbs** is configured. If **queue-delay** is configured for an egress queue group queue, it is not possible to override the MBS for that queue.

For policers, this command is used to configure the policer's PIR leaky bucket's high-priority violate threshold. The **high-prio-only** command is applied to the MBS value to derive the bucket's low-priority violate threshold.

At ingress, trusted in-profile packets and untrusted high-priority packets use the policer's high-priority violate threshold while trusted out-of-profile and untrusted low-priority packets use the policer's low-priority violate threshold.

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At egress, inplus-profile and in-profile packets use the policer’s high-priority violate threshold and out-of-profile packets use the policer's low-priority violate threshold. Exceed-profile packets are discarded unless **enable-exceed-pir** is configured, in which case they are forwarded.

The PIR bucket’s violate threshold represents the maximum burst tolerance allowed by the policer. If the policer's offered rate is equal to or less than the policer's defined rate, the PIR bucket depth hovers around the 0 depth with spikes up to the maximum packet size in the offered load. If the offered rate increases beyond the metering rate, the amount of data allowed above the rate is capped by the threshold. The low-priority violate threshold provides a smaller burst size for the lower priority traffic associated with the policer. Since all lower priority traffic is discarded at the lower burst tolerance size, the remaining burst tolerance defined by high-prio-only is available for the higher priority traffic.

The policer’s mbs size defined in the QoS policy may be overridden on an SLA profile or SAP where the policy is applied.

The **no** form of this command returns the MBS size to its default value. By default, the MBS is 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicit configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

Default

default

Parameters

size

For queues, the size parameter is an integer expression of the maximum number of bytes or kilobytes of buffering allowed for the queue. For a value of 100 kbytes, enter the value 100. A value of 0 causes the queue to discard all packets. For policers, the size parameter is an integer expression of the maximum number of bytes for the policer's MBS. The queue MBS maximum value used is constrained by the pool size in which the queue exists and by the shared pool space in the corresponding megapool.

Values 0 to 2683435456

Default value: 16 Mbytes when PIR equals max or is greater than or equal to the FP capacity (this overrides an explicitly configured MBS value); otherwise, 10 ms volume of traffic for a configured non-zero/non-max PIR capped to 3968 kbytes, with a minimum of 256 bytes.

[bytes | kilobytes]

Specifies bytes or kilobytes.

Default kilobytes

default

Sets the MBS to its default value.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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mbs

Syntax

mbs {*size* [**bytes** | **kilobytes**] | **default**}

no mbs

Context

[Tree] (config>qos>qgrps>ing>qgrp>queue mbs)

[Tree] (config>qos>qgrps>egr>qgrp>queue mbs)

Full Context

configure qos queue-group-templates ingress queue-group queue mbs

configure qos queue-group-templates egress queue-group queue mbs

Description

This command specifies the default maximum buffer size for the template queue in bytes or kilobytes.

The MBS value is used by a queue to determine whether it has exhausted all of its buffers while enqueuing packets. When the queue has exceeded the amount of buffers allowed by MBS, all packets are discarded until packets have been drained from the queue.

The **port>ethernet>access>ingress>queue-group** and **port>ethernet>access>egress>queue-group** contexts for **mbs** provides a mechanism for overriding the default maximum size for the queue.

The sum of the MBS for all queues on an ingress access port can oversubscribe the total amount of buffering available. When congestion occurs and buffers become scarce, access to buffers is controlled by the RED slope that a packet is associated with. A queue that has not exceeded its MBS size is not guaranteed that a buffer will be available when needed or that the packet's RED slope will not force the discard of the packet. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard against queue starvation (when a queue does not receive its fair share of buffers). Another is properly setting the RED slope parameters for the needs of services on this port or channel.

When configured on an egress queue group queue, this command and the **queue-delay** command are mutually exclusive. In order to change between the **mbs** and **queue-delay** parameters, the current parameter must be removed before adding the new parameter; that is, changing from **mbs** to **queue-delay** requires a **no mbs** before the **queue-delay** is configured and changing from **queue-delay** to **mbs** requires a **no queue-delay** before the **mbs** is configured. If **queue-delay** is configured for an egress queue group queue, it is not possible to override the MBS for that queue.

For policers, this command is used to configure the policer's PIR leaky bucket's high-priority violate threshold. The **high-prio-only** command is applied to the MBS value to derive the bucket's low-priority violate threshold.

At ingress, trusted in-profile packets and untrusted high-priority packets use the policer's high-priority violate threshold while trusted out-of-profile and untrusted low-priority packets use the policer's low-priority violate threshold.

At egress, inplus-profile and in-profile packets use the policer's high-priority violate threshold and out-of-profile packets use the policer's low-priority violate threshold. Exceed-profile packets are discarded unless **enable-exceed-pir** is configured, in which case they are forwarded.

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The PIR bucket’s violate threshold represents the maximum burst tolerance allowed by the policer. If the policer's offered rate is equal to or less than the policer's defined rate, the PIR bucket depth hovers around the 0 depth with spikes up to the maximum packet size in the offered load. If the offered rate increases beyond the metering rate, the amount of data allowed above the rate is capped by the threshold. The low-priority violate threshold provides a smaller burst size for the lower priority traffic associated with the policer. Since all lower priority traffic is discarded at the lower burst tolerance size, the remaining burst tolerance defined by high-prio-only is available for the higher priority traffic.

The policer’s mbs size defined in the QoS policy may be overridden on an SLA profile or SAP where the policy is applied.

The **no** form of this command returns the MBS size assigned by the queue.

Default

default

Parameters

size

For queues, the size parameter is an integer expression of the maximum number of bytes or kilobytes of buffering allowed for the queue. For a value of 100 kbytes, enter the value 100. A value of 0 causes the queue to discard all packets. For policers, the size parameter is an integer expression of the maximum number of bytes for the policer's MBS. The queue MBS maximum value used is constrained by the pool size in which the queue exists and by the shared pool space in the corresponding megapool.

Values 0 to 1048576 or **default**

Minimum configurable non-zero value: 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

Minimum non-zero default value: maximum of 10 ms of CIR, or 6 kbytes on an FP2, 7680 bytes on an FP3, and 16 kbytes on an FP4

[bytes | kilobytes]

Specifies bytes or kilobytes.

Default kilobytes

default

Sets the MBS to its default value.

Platforms

All

mbs

Syntax

mbs *percent*

no mbs

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Context

[Tree] (config>qos>shared-queue>queue mbs)

Full Context

configure qos shared-queue queue mbs

Description

This command specifies the relative amount of the buffer pool space for the maximum buffers for a specific ingress shared queue.

The MBS value is used by a queue to determine whether it has exhausted its total allowed buffers while enqueuing packets. When the queue has exceeded its maximum amount of buffers, all packets are discarded until the queue transmits a packet. A queue that has not exceeded its MBS size is not guaranteed that a buffer will be available when needed. Setting proper CBS parameters and controlling CBS oversubscription is one major safeguard against queue starvation (when a queue does not receive its fair share of buffers).

The MBS size can sometimes be smaller than the CBS. This will result in a portion of the CBS for the queue to be unused and should be avoided.

Default

The queue MBS defaults are listed in Table 82: Queue MBS Default Values.

Table 82: Queue MBS Default Values

Queue	Default MBS
1	50
2	50
3	50
4	25
5	50
6	50
7	25
8	25
9	50
10	50
11	50
12	25
13	50

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Queue	Default MBS
14	50
15	25
16	25

Parameters

percent

The percent of buffers from the total buffer pool space for the maximum amount of buffers, expressed as a decimal integer.

Values 0 to 100

Platforms

All

mbs

Syntax

mbs *mbs*

no mbs

Context

[Tree] (config>system>security>cpm-queue>queue mbs)

Full Context

configure system security cpm-queue queue mbs

Description

This command specifies the maximum queue depth to which a queue can grow.

Parameters

mbs

Specifies the maximum burst size in kbytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.37 mbs-contribution

mbs-contribution

Syntax

mbs-contribution *size* [**bytes** | **kilobytes**] [**fixed**]

no mbs-contribution

Context

[Tree] (config>subscr-mgmt>sub-prof>egr>plcr-ctrl-plcy>mbs-thrshlds>prio mbs-contribution)

[Tree] (config>subscr-mgmt>sub-prof>ing>plcr-ctrl-plcy>mbs-thrshlds>prio mbs-contribution)

Full Context

configure subscriber-mgmt sub-profile egress policer-control-policy priority-mbs-thresholds priority mbs-contribution

configure subscriber-mgmt sub-profile ingress policer-control-policy priority-mbs-thresholds priority mbs-contribution

Description

This command is used to configure the policy-based burst tolerance for a parent policer instance created when the policy is applied to a SAP or subscriber context. The system uses the parent policer's **min-thresh-separation** value, the priority level's **mbs-contribution** value and the number of child policers currently attached to the priority level to derive the priority level's shared-portion and fair-portion of burst tolerance within the local priority level. The shared-portion and fair-portions for each priority level are then used by the system to calculate each priority level's discard-unfair threshold and discard-all threshold.

The value for a priority level's **mbs-contribution** within the policer-control-policy may be overridden on the SAP or subscriber sub-profile where the policy is applied in order to allow fine tuning of the discard-unfair and discard-all thresholds relevant to the needs of the local child policers on the object.

Accumulative Nature of Burst Tolerance for a Parent Policer Priority Level

When defining **mbs-contribution**, the specified size may only be a portion of the burst tolerance associated with the priority level. The packets associated with the priority level share the burst tolerance of lower within the parent policer. As the parent policer PIR bucket depth increases during congestion, the lower priority packets eventually experience discard based on each priority's discard-unfair and discard-all thresholds. Assuming congestion continues once all the lower priority packets have been prevented from consuming bucket depth, the burst tolerance for the priority level is consumed by its own packets and any packets associated with higher priorities.

The Effect of Fair and Unfair Child Policer Traffic at a Parent Policer Priority Level

The system continually monitors the offered rate of each child policer on each parent policer priority level and detects when the policer is in a congested state (the aggregate offered load is greater than the decrement rate defined on the parent policer). As previously stated, the result of congestion is that the parent policer's bucket depth will increase until it eventually hovers around either a discard-unfair or discard-all threshold belonging to one of the priority levels. This threshold is the point where enough

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packets are being discarded that the increment rate and decrement rate begin to even out. If only a single child policer is associated to the priority level, the discard-unfair threshold is not used since fairness is only applicable when multiple child policers are competing at the same priority level.

When multiple child policers are sharing the congested priority level, the system uses the offered rates and the parenting parameters of each child to determine the fair rate per child when the parent policer is unable to meet the bandwidth needs of each child. The fair rate represents the number of bandwidth that each child at the priority level should receive relative to the other children at the same level according to the policer control policy instance managing the child policers. This fair rate is applied as the decrement rate for each child's FIR bucket. Changing a child's FIR rate does not modify the number of packets forwarded by the parent policer for the child's priority level. It simply modifies the forwarded ratio between the children on that priority level. Since each child FIR bucket has some level of burst tolerance before marking its packets as unfair, the current parent policer bucket depth may at times rise above the discard-unfair threshold. The mbs-contribution value provides a means to define how much separation is provided between the priority level's discard-unfair and discard-all threshold to allow the parent policer to absorb some of the FIR burst before reaching the priority's discard-all threshold.

This level of fair aggregate burst tolerance is based on the decrement rate of the parent policer's PIR bucket while the individual fair bursts making up the aggregate are based on each child's FIR decrement rate. The aggregate fair rate of the priority level is managed by the system with consideration of the current rate of traffic in higher priority levels. In essence, the system ensures that for each iteration of the child FIR rate calculation, the sum of the child FIR decrement rates plus the sum of the higher priority traffic increment rates equals the parent policers decrement rate. This means that dynamic numbers of higher priority traffic can be ignored when sizing a lower priority's fair aggregate burst tolerance. Consider the following:

- The parent policer decrement rate is set to 20 Mb/s (max-rate 20,000).
- A priority level's fair burst size is set to 30 kbytes (mbs-contribution 30 kbytes).
- Higher priority traffic is currently taking 12 Mb/s.
- The priority level has three child policers attached.
- Each child's PIR MBS is set to 10 kbytes, which makes each child's FIR MBS 10 kbytes.
- The children want 10 Mb/s, but only 8 Mb/s is available,
- Based on weights, the children's FIR rates are set as follows.

Table 83: FIR Rates of the Children Based on Weights

	FIR Rate	FIR MBS
Child 1	4 Mb/s	10 kbytes
Child 2	3 Mb/s	10 kbytes
Child 3	1 Mb/s	10 kbytes

The 12 Mb/s of the higher priority traffic and the 8 Mb/s of fair traffic equal the 20 Mb/s decrement rate of the parent policer.

It is clear that the higher priority traffic is consuming 12 Mb/s of the parent policer's decrement rate, leaving 8 Mb/s of decrement rate for the lower priority's fair traffic.

- The burst tolerance of child 1 is based on 10 kbytes above 4 Mb/s,
- The burst tolerance of child 2 is based on 10 kbytes above 3 Mb/s,

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- The burst tolerance of child 3 is based on 10 kbytes above 1 Mb/s.

If all three children burst simultaneously (unlikely), they will consume 30 kbytes above 8 Mb/s. This is the same as the remaining decrement rate after the higher priority traffic.

Parent Policer Total Burst Tolerance and Downstream Buffering

The highest in-use priority level's discard-all threshold is the total burst tolerance of the parent policer. In some cases the parent policer represents downstream bandwidth capacity and the max-rate of the parent policer is set to prevent overrunning the downstream bandwidth. The burst tolerance of the parent policer defines how much more traffic may be sent beyond the downstream scheduling capacity. In the worst case scenario, when the downstream buffering is insufficient to handle the total possible burst from the parent policer, downstream discards based on lack of buffering may occur. However, in all likelihood, this is not the case.

In most cases, lower priority traffic in the policer is responsible for the greater part of congestion above the parent policer rate. Since this traffic is discarded with a lower threshold, this lowers the effective burst tolerance even while the highest priority traffic is present.

Configuring a Priority Level's MBS Contribution Value

In the most conservative case, a priority level's **mbs-contribution** value may be set to be greater than the sum of child policer's mbs and one max-size-frame per child policer. This ensures that even in the absolute worst case where all the lower priority levels are simultaneously bursting to the maximum capacity of each child, enough burst tolerance for the priority's children will exist if they also burst to their maximum capacity.

Since simply adding up all the child policer's PIR MBS values may result in large overall burst tolerances that are not ever likely to be needed, you should consider some level of burst oversubscription when configuring the **mbs-contribution** value for each priority level. The number of oversubscription should be determined based on the needs of each priority level.

Using the Fixed Keyword to Create Deterministic Parent Policer Discard Thresholds

In the default behavior, the system ignores the **mbs-contribution** values for a priority level on a subscriber or SAP parent policer when a child policer is not currently associated with the level. This prevents additional burst tolerance from being added to higher priority traffic within the parent policer.

This does cause fluctuations in the defined threshold values when child policers are added or removed from a parent policer instance. If this behavior is undesirable, the fixed keyword may be used which causes the **mbs-contribution** value to always be included in the calculation of parent policer's discard thresholds. The defined **mbs-contribution** value may be overridden on a subscriber sla-profile or on a SAP instance, but the fixed nature of the contribution cannot be overridden.

If the defined **mbs-contribution** value for the priority level is zero, the priority level will have no effect on the parent policer's defined discard thresholds. A packet associated with the priority level will use the next lower priority level's discard-unfair and discard-all thresholds.

The form of this command returns the policy's priority level's MBS contribution to the default value. When changed, the thresholds for the priority level and all higher priority levels for all instances of the parent policer is recalculated.

Parameters

***size* [bytes | kilobytes]**

The size parameter is required when executing the **mbs-contribution** command. It is expressed as an integer and specifies the priority's specific portion of accumulative MBS for the priority level in bytes or kilobytes which is selected by the trailing **bytes** or **kilobytes** keywords. If both **bytes** and **kilobytes** are missing, **kilobytes** is assumed. Setting this

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value has no effect on parent policer instances where the priority level's **mbs-contribution** value has been overridden.

Values 0 to 16777216

bytes | kilobytes:

The **bytes** keyword is optional and is mutually exclusive with the **kilobytes** keyword. When specified, size is interpreted as specifying the size of **min-thresh-separation** in bytes.

The **kilobytes** keyword is optional and is mutually exclusive with the **bytes** keyword. Size is interpreted as specifying the size of min-thresh-separation in kilobytes.

Default **kilobytes**

fixed

This optional fixed keyword is used to force the inclusion of the defined **mbs-contribution** value in the parent policer's discard threshold calculations. If the **mbs-contribution** command is executed without the **fixed** keyword, the fixed calculation behavior for the priority level is removed.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mbs-contribution

Syntax

mbs-contribution *size* [**bytes** | **kilobytes**]

no mbs-contribution

Context

[Tree] (config>card>fp>ing>network>qgrp>policer-ctrl-over>mbs-thrshlds>prio mbs-contribution)

[Tree] (config>card>fp>ingress>access>qgrp>policer-ctrl-over>mbs-thrshlds>prio mbs-contribution)

Full Context

configure card fp ingress network queue-group policer-control-override priority-mbs-thresholds priority mbs-contribution

configure card fp ingress access queue-group policer-control-override priority-mbs-thresholds priority mbs-contribution

Description

This command configures the policy-based burst tolerance for a parent policer instance created when the policy is applied to a SAP or subscriber context. The system uses the parent policer's **min-thresh-separation** value, the priority level's **mbs-contribution** value and the number of child policers currently attached to the priority level to derive the priority level's shared-portion and fair-portion of burst tolerance within the local priority level. The shared-portion and fair-portions for each priority level are then used by the system to calculate each priority level's discard-unfair threshold and discard-all threshold.

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The value for a priority level's **mbs-contribution** within the policer-control-policy may be overridden on the SAP or subscriber sub-profile where the policy is applied in order to allow fine tuning of the discard-unfair and discard-all thresholds relevant to the needs of the local child policers on the object.

Accumulative Nature of Burst Tolerance for a Parent Policer Priority Level

When defining **mbs-contribution**, the specified size may only be a portion of the burst tolerance associated with the priority level. The packets associated with the priority level share the burst tolerance of lower within the parent policer. As the parent policer PIR bucket depth increases during congestion, the lower priority packets eventually experience discard based on each priority's discard-unfair and discard-all thresholds. Assuming congestion continues once all the lower priority packets have been prevented from consuming bucket depth, the burst tolerance for the priority level will be consumed by its own packets and any packets associated with higher priorities.

The Effect of Fair and Unfair Child Policer Traffic at a Parent Policer Priority Level

The system continually monitors the offered rate of each child policer on each parent policer priority level and detects when the policer is in a congested state (the aggregate offered load is greater than the decrement rate defined on the parent policer). As previously stated, the result of congestion is that the parent policer's bucket depth will increase until it eventually hovers around either a discard-unfair or discard-all threshold belonging to one of the priority levels. This threshold is the point where enough packets are being discarded that the increment rate and decrement rate begin to even out. If only a single child policer is associated to the priority level, the discard-unfair threshold is not used since fairness is only applicable when multiple child policers are competing at the same priority level.

When multiple child policers are sharing the congested priority level, the system uses the offered rates and the parenting parameters of each child to determine the fair rate per child when the parent policer is unable to meet the bandwidth needs of each child. The fair rate represents the amount of bandwidth that each child at the priority level should receive relative to the other children at the same level according to the policer control policy instance managing the child policers. This fair rate is applied as the decrement rate for each child's FIR bucket. Changing a child's FIR rate does not modify the amount of packets forwarded by the parent policer for the child's priority level. It simply modifies the forwarded ratio between the children on that priority level. Since each child FIR bucket has some level of burst tolerance before marking its packets as unfair, the current parent policer bucket depth may at times rise above the discard-unfair threshold. The mbs-contribution value provides a means to define how much separation is provided between the priority level's discard-unfair and discard-all threshold to allow the parent policer to absorb some amount of FIR burst before reaching the priority's discard-all threshold.

This level of fair aggregate burst tolerance is based on the decrement rate of the parent policer's PIR bucket while the individual fair bursts making up the aggregate are based on each child's FIR decrement rate. The aggregate fair rate of the priority level is managed by the system with consideration of the current rate of traffic in higher priority levels. In essence, the system ensures that for each iteration of the child FIR rate calculation, the sum of the child FIR decrement rates plus the sum of the higher priority traffic increment rates equals the parent policers decrement rate. This means that dynamic amounts of higher priority traffic can be ignored when sizing a lower priority's fair aggregate burst tolerance. Consider the following:

- The parent policer decrement rate is set to 20 Mb/s (max-rate 20,000).
- A priority level's fair burst size is set to 30 kbytes (mbs-contribution 30 kilobytes).
- Higher priority traffic is currently taking 12 Mb/s.
- The priority level has three child policers attached.
- Each child's PIR MBS is set to 10 kbytes, which makes each child's FIR MBS 10 kbytes.
- The children want 10 Mb/s, but only 8 Mb/s is available.

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- The following table describes the FIR rates of the children based on weights.

Table 84: FIR Rates of the Children Based on Weights

	FIR Rate	FIR MBS
Child 1	4 Mb/s	10 kbytes
Child 2	3 Mb/s	10 kbytes
Child 3	1 Mb/s	10 kbytes

The 12 Mb/s of the higher priority traffic and the 8 Mb/s of fair traffic equal the 20 Mb/s decrement rate of the parent policer.

It is clear that the higher priority traffic is consuming 12 Mb/s of the parent policer's decrement rate, leaving 8 Mb/s of decrement rate for the lower priority's fair traffic.

- The burst tolerance of child 1 is based on 10 kbytes above 4 Mb/s,
- The burst tolerance of child 2 is based on 10 kbytes above 3 Mb/s,
- The burst tolerance of child 3 is based on 10 kbytes above 1 Mb/s.

If all three children burst simultaneously (unlikely), they will consume 30 kbytes above 8 Mb/s. This is the same as the remaining decrement rate after the higher priority traffic.

Parent Policer Total Burst Tolerance and Downstream Buffering

The highest in-use priority level's discard-all threshold is the total burst tolerance of the parent policer. In some cases the parent policer represents downstream bandwidth capacity and the max-rate of the parent policer is set to prevent overrunning the downstream bandwidth. The burst tolerance of the parent policer defines how much more traffic may be sent beyond the downstream scheduling capacity. In the worst case scenario, when the downstream buffering is insufficient to handle the total possible burst from the parent policer, downstream discards based on lack of buffering may occur. However, in all likelihood, this is not the case.

In most cases, lower priority traffic in the policer will be responsible for the greater part of congestion above the parent policer rate. Since this traffic is discarded with a lower threshold, this lowers the effective burst tolerance even while the highest priority traffic is present.

Configuring a Priority Level's MBS Contribution Value

In the most conservative case, a priority level's **mbs-contribution** value may be set to be greater than the sum of child policer's MBS and one max-size-frame per child policer. This ensures that even in the absolute worst case where all the lower priority levels are simultaneously bursting to the maximum capacity of each child, enough burst tolerance for the priority's children will exist if they also burst to their maximum capacity.

Since simply adding up all the child policer's PIR MBS values may result in large overall burst tolerances that are not ever likely to be needed, you should consider some level of burst oversubscription when configuring the **mbs-contribution** value for each priority level. The amount of oversubscription should be determined based on the needs of each priority level.

Using the Fixed Keyword to Create Deterministic Parent Policer Discard Thresholds

In the default behavior, the system ignores the **mbs-contribution** values for a priority level on a subscriber or SAP parent policer when a child policer is not currently associated with the level. This prevents additional burst tolerance from being added to higher priority traffic within the parent policer.

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This does cause fluctuations in the defined threshold values when child policers are added or removed from a parent policer instance. If this behavior is undesirable, the fixed keyword may be used which causes the **mbs-contribution** value to always be included in the calculation of parent policer's discard thresholds. The defined **mbs-contribution** value may be overridden on a subscriber SLA profile or on a SAP instance, but the fixed nature of the contribution cannot be overridden.

If the defined **mbs-contribution** value for the priority level is zero, the priority level will have no effect on the parent policer's defined discard thresholds. A packet associated with the priority level will use the next lower priority level's discard-unfair and discard-all thresholds.

The **no** form of this command reverts to the policy's priority level's MBS contribution to the default value. When changed, the thresholds for the priority level and all higher priority levels for all instances of the parent policer are recalculated.

Default

no mbs-contribution

Parameters

size

Specifies that the size parameter is required when executing the **mbs-contribution** command. It is expressed as an integer and specifies the priority's specific portion amount of accumulative MBS for the priority level in bytes or kilobytes which is selected by the trailing **bytes** or **kilobytes** keywords. If both **bytes** and **kilobytes** are missing, **kilobytes** is assumed. Setting this value has no effect on parent policer instances where the priority level's **mbs-contribution** value has been overridden. Clearing an override on parent policer instance causes this value to be enforced.

Values 0 to 16777216

bytes, kilobytes

Specifies that the **bytes** keyword is optional and is mutually exclusive with the **kilobytes** keyword. When specified, size is interpreted as specifying the size of **min-thresh-separation** in bytes.

The **kilobytes** keyword is optional and is mutually exclusive with the **bytes** keyword. When specified, size is interpreted as specifying the size of min-thresh-separation in kilobytes.

Default **kilobytes**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

mbs-contribution

Syntax

mbs-contribution *size* [**bytes** | **kilobytes**]

Context

[Tree] (config>service>ipipe>sap>egress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

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[Tree] (config>service>epipe>sap>egress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>cpipe>sap>ingress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>epipe>sap>ingress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>ipipe>sap>ingress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>cpipe>sap>egress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

Full Context

configure service ipipe sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service epipe sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service cpipe sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service epipe sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service ipipe sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service cpipe sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

Description

The mbs-contribution override command within the SAP ingress and egress contexts is used to override a parent policer's priority level's mbs-contribution parameter that is defined within the policer-control-policy applied to the SAP. This override allow the priority level's burst tolerance to be tuned based on the needs of the SAP's child policers attached to the priority level.

When the override is defined, modifications to the policer-control-policy priority level's mbs-contribution parameter have no effect on the SAP's parent policer priority level until the override is removed using the no mbs-contribution command within the SAP.

The **no** form of this command removes the override and allows the mbs-contribution setting from the policer-control-policy to control the parent policer's priority level's burst tolerance.

Default

no mbs-contribution

Parameters

size

Specifies the mbs-contribution override value.

Values 1 to 16777216 | default

bytes

Specifies that *size* is expressed in bytes. The bytes and kilobytes keywords are mutually exclusive and optional. The default is kilobytes.

kilobytes

Specifies that *size* is expressed in kilobytes. The bytes and kilobytes keywords are mutually exclusive and optional. The default is kilobytes.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution
- configure service ipipe sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution
- configure service ipipe sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution
- configure service epipe sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution
- configure service cpipe sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

mbs-contribution

Syntax

mbs-contribution *size* [{**bytes** | **kilobytes**}]

Context

[Tree] (config>service>vpls>sap>ingress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>vpls>sap>egress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

Full Context

configure service vpls sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service vpls sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

Description

The mbs-contribution override command within the SAP ingress and egress contexts is used to override a parent policer's priority level's mbs-contribution parameter that is defined within the policer-control-policy applied to the SAP. This override allow the priority level's burst tolerance to be tuned based on the needs of the SAP's child policers attached to the priority level.

When the override is defined, modifications to the policer-control-policy priority level's mbs-contribution parameter have no effect on the SAP's parent policer priority level until the override is removed using the no mbs-contribution command within the SAP.

The **no** form of this command removes the override and allows the mbs-contribution setting from the policer-control-policy to control the parent policer's priority level's burst tolerance.

Default

no mbs-contribution

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Parameters

size

This parameter is required when specifying MBS contribution override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 16777216 or default

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

mbs-contribution

Syntax

mbs-contribution *size* [{**bytes** | **kilobytes**}]

Context

[Tree] (config>service>ies>if>sap>ingress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>ies>if>sap>egress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

Full Context

configure service ies interface sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service ies interface sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

Description

The mbs-contribution override command within the SAP ingress and egress contexts is used to override a parent policer's priority level's mbs-contribution parameter that is defined within the policer-control-policy applied to the SAP. This override allow the priority level's burst tolerance to be tuned based on the needs of the SAP's child policers attached to the priority level.

When the override is defined, modifications to the policer-control-policy priority level's mbs-contribution parameter have no effect on the SAP's parent policer priority level until the override is removed using the no mbs-contribution command within the SAP.

The **no** form of this command removes the override and allows the mbs-contribution setting from the policer-control-policy to control the parent policer's priority level's burst tolerance.

Default

no mbs-contribution

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Parameters

size

This parameter is required when specifying MBS contribution override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 16777216 or default

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

mbs-contribution

Syntax

mbs-contribution *size* [**bytes** | **kilobytes**]

Context

[Tree] (config>service>vprn>if>sap>egress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

[Tree] (config>service>vprn>if>sap>ingress>policer-ctrl-over>mbs-thrshlds>priority mbs-contribution)

Full Context

configure service vprn interface sap egress policer-control-override priority-mbs-thresholds priority mbs-contribution

configure service vprn interface sap ingress policer-control-override priority-mbs-thresholds priority mbs-contribution

Description

The mbs-contribution override command within the SAP ingress and egress contexts is used to override a parent policer's priority level's mbs-contribution parameter that is defined within the policer-control-policy applied to the SAP. This override allow the priority level's burst tolerance to be tuned based on the needs of the SAP's child policers attached to the priority level.

When the override is defined, modifications to the policer-control-policy priority level's mbs-contribution parameter have no effect on the SAP's parent policer priority level until the override is removed using the no mbs-contribution command within the SAP.

The **no** form of this command removes the override and allows the mbs-contribution setting from the policer-control-policy to control the parent policer's priority level's burst tolerance.

Default

no mbs-contribution

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Parameters

size

This parameter is required when specifying MBS contribution override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 16777216 or default

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

mbs-contribution

Syntax

mbs-contribution *size* [**bytes** | **kilobytes**] [**fixed**]

no mbs-contribution

Context

[Tree] (config>qos>plcr-ctrl-plcy>root>priority-mbs-thresholds>priority mbs-contribution)

Full Context

configure qos policer-control-policy root priority-mbs-thresholds priority mbs-contribution

Description

The **mbs-contribution** command is used to configure the policy-based burst tolerance for a parent policer instance created when the policy is applied to a SAP, or a subscriber context for the 7450 ESS and 7750 SR, or a 7950 XRS multiservice site. The system uses the parent policer's **min-thresh-separation** value, the priority level's **mbs-contribution** value, and the number of child policers currently attached to the priority level to derive the priority level's shared-portion and fair-portion of burst tolerance within the local priority level. The shared-portion and fair-portions for each priority level are then used by the system to calculate each priority level's discard-unfair threshold and discard-all threshold. The mbs-contribution is the minimum separation between two adjacent active discard-all thresholds.

The value for a priority level's **mbs-contribution** within the policer-control-policy may be overridden on the SAP, or subscriber sub-profile (applies to the 7450 ESS and 7750 SR) or multiservice site (for 7950 XRS) where the policy is applied in order to allow fine tuning of the discard-unfair and discard-all thresholds relevant to the needs of the local child policers on the object.

Accumulative Nature of Burst Tolerance for a Parent Policer Priority Level

When defining **mbs-contribution**, the specified size may only be a portion of the burst tolerance associated with the priority level. The packets associated with the priority level share the burst tolerance of lower within the parent policer. As the parent policer PIR bucket depth increases during congestion, the lower priority packets eventually experience discard based on each priority's discard-unfair and discard-all thresholds. Assuming congestion continues when all the lower priority packets have been prevented from

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consuming bucket depth, the burst tolerance for the priority level will be consumed by its own packets and any packets associated with higher priorities.

The Effect of Fair and Unfair Child Policer Traffic at a Parent Policer Priority Level

The system continually monitors the offered rate of each child policer on each parent policer priority level and detects when the policer is in a congested state (the aggregate offered load is greater than the decrement rate defined on the parent policer). As previously stated, the result of congestion is that the parent policer's bucket depth will increase until it eventually hovers around either a discard-unfair or discard-all threshold belonging to one of the priority levels. This threshold is the point where enough packets are being discarded that the increment rate and decrement rate begin to even out. If only a single child policer is associated with the priority level, the discard-unfair threshold is not used since fairness is only applicable when multiple child policers are competing at the same priority level.

When multiple child policers are sharing the congested priority level, the system uses the offered rates and the parenting parameters of each child to determine the fair rate per child when the parent policer is unable to meet the bandwidth needs of each child. The fair rate represents the amount of bandwidth that each child at the priority level should receive relative to the other children at the same level according to the policer control policy instance managing the child policers. This fair rate is applied as the decrement rate for each child's FIR bucket. Changing a child’s FIR rate does not modify the number of packets forwarded by the parent policer for the child’s priority level. It just modifies the forwarded ratio between the children on that priority level. Since each child FIR bucket has some level of burst tolerance before marking its packets as unfair, the current parent policer bucket depth may at times rise above the discard-unfair threshold. The mbs-contribution value provides a means to define how much separation is provided between the priority level’s discard-unfair and discard-all threshold to allow the parent policer to absorb some amount of FIR burst before reaching the priority’s discard-all threshold.

This level of fair aggregate burst tolerance is based on the decrement rate of the parent policer’s PIR bucket while the individual fair bursts making up the aggregate are based on each child’s FIR decrement rate. The aggregate fair rate of the priority level is managed by the system with consideration of the current rate of traffic in higher priority levels. In essence, the system ensures that for each iteration of the child FIR rate calculation, the sum of the child FIR decrement rates plus the sum of the higher priority traffic increment rates equals the parent policers decrement rate. This means that dynamic amounts of higher priority traffic can be ignored when sizing a lower priority’s fair aggregate burst tolerance. Consider the following:

- The parent policer decrement rate is set to 20 Mb/s (max-rate 20,000).
- A priority level’s fair burst size is set to 30 kbytes (mbs-contribution 30 kbytes).
- Higher priority traffic is currently taking 12 Mb/s.
- The priority level has three child policers attached.
- Each child’s PIR MBS is set to 10 kbytes, which makes each child’s FIR MBS 10 kbytes.
- The children want 10 Mb/s, but only 8 Mb/s is available
- Based on weights, the children's FIR rates are set as follows.

Table 85: FIR Rates of the Children Based on Weights

	FIR Rate	FIR MBS
Child 1	4 Mb/s	10 kbytes
Child 2	3 Mb/s	10 kbytes

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	FIR Rate	FIR MBS
Child 3	1 Mb/s	10 kbytes

The 12 Mb/s of the higher priority traffic and the 8 Mb/s of fair traffic equal the 20 Mb/s decrement rate of the parent policer.

It is clear that the higher priority traffic is consuming 12 Mb/s of the parent policer's decrement rate, leaving 8 Mb/s of decrement rate for the lower priority's fair traffic.

- The burst tolerance of child 1 is based on 10 kbytes above 4 Mb/s.
- The burst tolerance of child 2 is based on 10 kbytes above 3 Mb/s.
- The burst tolerance of child 3 is based on 10 kbytes above 1 Mb/s.

If all three children burst simultaneously (unlikely), they will consume 30 kbytes above 8 Mb/s. This is the same as the remaining decrement rate after the higher priority traffic.

Parent Policer Total Burst Tolerance and Downstream Buffering

The highest in-use priority level's discard-all threshold is the total burst tolerance of the parent policer. In some cases, the parent policer represents downstream bandwidth capacity and the max-rate of the parent policer is set to prevent overrunning the downstream bandwidth. The burst tolerance of the parent policer defines how much more traffic may be sent beyond the downstream scheduling capacity. In the worst-case scenario, when the downstream buffering is insufficient to handle the total possible burst from the parent policer, downstream discards based on lack of buffering may occur. However, in all likelihood, this is not the case.

In most cases, lower priority traffic in the policer will be responsible for the greater part of congestion above the parent policer rate. Since this traffic is discarded with a lower threshold, this lowers the effective burst tolerance even while the highest priority traffic is present.

Configuring a Priority Level's MBS Contribution Value

In the most conservative case, a priority level's **mbs-contribution** value may be set to be greater than the sum of child policer's mbs and one max-size-frame per child policer. This ensures that even in the absolute worst case where all the lower priority levels are simultaneously bursting to the maximum capacity of each child, enough burst tolerance for the priority's children will exist if they also burst to their maximum capacity.

Since simply adding up all the child policer's PIR MBS values may result in large overall burst tolerances that are not ever likely to be needed, consider some level of burst oversubscription when configuring the **mbs-contribution** value for each priority level. The amount of oversubscription should be determined based on the needs of each priority level.

Using the Fixed Keyword to Create Deterministic Parent Policer Discard Thresholds

In the default behavior, the system ignores the **mbs-contribution** values for a priority level on a subscriber for 7450 ESS and 7750 SR, or a multiservice site for 7950 XRS, or SAP parent policer when a child policer is not currently associated with the level. This prevents additional burst tolerance from being added to higher priority traffic within the parent policer.

This does cause fluctuations in the defined threshold values when child policers are added or removed from a parent policer instance. If this behavior is undesirable, the fixed keyword may be used that causes the **mbs-contribution** value to always be included in the calculation of parent policer's discard thresholds. The defined **mbs-contribution** value may be overridden on a subscriber sla-profile for the 7450 ESS and 7750 SR, or on a multiservice site for the 7950 XRS, or on a SAP instance, but the fixed nature of the contribution cannot be overridden.

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If the defined **mbs-contribution** value for the priority level is zero, the priority level will have no effect on the parent policer's defined discard thresholds. A packet associated with the priority level will use the next lower priority level's discard-unfair and discard-all thresholds.

The **no** form of this command returns the policy's priority level's MBS contribution to the default value. When changed, the thresholds for the priority level and all higher priority levels for all instances of the parent policer will be recalculated.

Parameters

size

The size parameter is required when executing the **mbs-contribution** command. It is expressed as an integer and specifies the priority's specific portion amount of accumulative MBS for the priority level. Setting this value has no effect on parent policer instances where the priority level's **mbs-contribution** value has been overridden.

Values 0 to 4194304 or **default** (applies to the 7450 ESS)

0 to 16777216 or **default** (applies to the 7750 SR and 7950 XRS)

Default 8

bytes | kilobytes:

This parameter indicates whether the size is expressed in bytes or kilobytes.

Default **kilobytes**

fixed

The optional fixed keyword is used to force the inclusion of the defined **mbs-contribution** value in the parent policer's discard threshold calculations. If the **mbs-contribution** command is executed without the **fixed** keyword, the fixed calculation behavior for the priority level is removed.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

29.38 mbytes

mbytes

Syntax

mbytes {*mbytes* | **disable**}

no mbytes

Context

[Tree] (config>system>security>ssh>key-re-exchange>client mbytes)

[Tree] (config>system>security>ssh>key-re-exchange>server mbytes)

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Full Context

configure system security ssh key-re-exchange client mbytes

configure system security ssh key-re-exchange server mbytes

Description

This command configures the maximum bytes to be transmitted before a key re-exchange is initiated by the server.

The **no** form of this command reverts to the default value.

Default

mbytes 1024

Parameters

mbytes

Specifies the number of megabytes, on a SSH session, after which the SSH client initiates the key-re-exchange.

Values 1 to 64000

Default 1024

disable

Specifies that a session will never timeout. To re-enable **mbytes**, enter the command without the **disable** option.

Platforms

All

29.39 mc-constraints

mc-constraints

Syntax

mc-constraints

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac mc-constraints)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac mc-constraints

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Description

Commands in this context configure the level and its associated bandwidth for a bundle or a logical interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mc-constraints

Syntax

mc-constraints

Context

[Tree] (config>service>vpls>sap>mld-snooping>mcac mc-constraints)

[Tree] (config>service>vpls>sap>igmp-snooping>mcac mc-constraints)

Full Context

configure service vpls sap mld-snooping mcac mc-constraints

configure service vpls sap igmp-snooping mcac mc-constraints

Description

Commands in this context configure multicast CAC constraints.

Platforms

All

mc-constraints

Syntax

mc-constraints

Context

[Tree] (config>service>vprn>igmp>if>mcac mc-constraints)

[Tree] (config>service>vprn>igmp>grp-if>mcac mc-constraints)

[Tree] (config>service>vprn>mld>grp-if>mcac mc-constraints)

[Tree] (config>service>vprn>mld>if>mcac mc-constraints)

[Tree] (config>service>vprn>pim>if>mcac mc-constraints)

Full Context

configure service vprn igmp interface mcac mc-constraints

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configure service vprn igmp group-interface mcac mc-constraints

configure service vprn mld group-interface mcac mc-constraints

configure service vprn mld interface mcac mc-constraints

configure service vprn pim interface mcac mc-constraints

Description

Commands in this context configure multicast CAC constraints.

Platforms

All

- configure service vprn mld interface mcac mc-constraints
- configure service vprn pim interface mcac mc-constraints
- configure service vprn igmp interface mcac mc-constraints

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface mcac mc-constraints
- configure service vprn mld group-interface mcac mc-constraints

mc-constraints

Syntax

mc-constraints

Context

[Tree] (config>router>mld>interface>mcac mc-constraints)

[Tree] (config>router>mcac>policy>bundle mc-constraints)

[Tree] (config>router>mld>grp-if>mcac mc-constraints)

[Tree] (config>router>igmp>grp-if>mcac mc-constraints)

[Tree] (config>router>pim>interface>mcac mc-constraints)

[Tree] (config>router>igmp>interface>mcac mc-constraints)

Full Context

configure router mld interface mcac mc-constraints

configure router mcac policy bundle mc-constraints

configure router mld group-interface mcac mc-constraints

configure router igmp group-interface mcac mc-constraints

configure router pim interface mcac mc-constraints

configure router igmp interface mcac mc-constraints

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Description

Commands in this context configure the level and its associated bandwidth for a bundle or a logical interface.

Platforms

All

- configure router igmp interface mcac mc-constraints
- configure router mld interface mcac mc-constraints
- configure router pim interface mcac mc-constraints
- configure router mcac policy bundle mc-constraints

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface mcac mc-constraints
- configure router mld group-interface mcac mc-constraints

29.40 mc-ecmp-balance

mc-ecmp-balance

Syntax

[**no**] **mc-ecmp-balance**

Context

[Tree] (config>router>pim mc-ecmp-balance)

Full Context

configure router pim mc-ecmp-balance

Description

This command enables multicast balancing of traffic over ECMP links based on the number of (S, G) distributed over each link. When enabled, each new multicast stream that needs to be forwarded over an ECMP link is compared to the count of (S, G) already using each link, so that the link with the fewest (S, G) is chosen.

This command cannot be used together with the **mc-ecmp-hashing-enabled** command.

The **no** form of this command disables multicast ECMP balancing.

Platforms

All

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mc-ecmp-balance

Syntax

[**no**] **mc-ecmp-balance**

Context

[Tree] (config>service>vprn>pim mc-ecmp-balance)

Full Context

configure service vprn pim mc-ecmp-balance

Description

This command enables multicast balancing of traffic over ECMP links based on the number of (S, G) distributed over each link. When enabled, each new multicast stream that needs to be forwarded over an ECMP link is compared to the count of (S, G) already using each link, so that the link with the fewest (S, G) is chosen.

This command cannot be used together with the **mc-ecmp-hashing-enabled** command.

The **no** form of this command disables multicast ECMP balancing.

Platforms

All

29.41 mc-ecmp-balance-hold

mc-ecmp-balance-hold

Syntax

mc-ecmp-balance-hold *minutes*

no mc-ecmp-balance-hold

Context

[Tree] (config>router>pim mc-ecmp-balance-hold)

Full Context

configure router pim mc-ecmp-balance-hold

Description

This command defines a hold period that applies after an interface has been added to the ECMP link. It is also used periodically to rebalance if channels have been removed from the ECMP link.

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If the ECMP interface has not changed in the hold period and if no multicast streams have been removed, then no action is taken when the timer triggers.

This parameter should be used to avoid excessive changes to the multicast distribution.

A rebalance will not occur to multicast streams that have a priority greater than the configured **ecmp-opt-threshold**.

The **no** form of this command removes the minutes value from the configuration.

Parameters

minutes

Specifies the hold time, in minutes, that applies after an interface has been added to the ECMP link.

Values 2 to 600

Platforms

All

mc-ecmp-balance-hold

Syntax

mc-ecmp-balance-hold *minutes*

no mc-ecmp-balance-hold

Context

[Tree] (config>service>vprn>pim mc-ecmp-balance-hold)

Full Context

configure service vprn pim mc-ecmp-balance-hold

Description

This command configures the hold time for multicast balancing over ECMP links.

Parameters

minutes

Specifies the hold time, in minutes, that applies after an interface has been added to the ECMP link.

Platforms

All

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29.42 mc-ecmp-hashing-enabled

mc-ecmp-hashing-enabled

Syntax

mc-ecmp-hashing-enabled [**rebalance**]

no mc-ecmp-hashing-enabled

Context

[Tree] (config>service>vprn>pim mc-ecmp-hashing-enabled)

Full Context

configure service vprn pim mc-ecmp-hashing-enabled

Description

This command enables hash-based multicast balancing of traffic over ECMP links and causes PIM joins to be distributed over the multiple ECMP paths based on a hash of S and G (and possibly next-hop IP address). When a link in the ECMP set is removed, the multicast flows that were using that link are redistributed over the remaining ECMP links using the same hash algorithm. When a link is added to the ECMP set new joins may be allocated to the new link based on the hash algorithm, but existing multicast flows using the other ECMP links stay on those links until they are pruned.

Hash-based multicast balancing is supported for both IPv4 and IPv6.

This command cannot be used together with the **mc-ecmp-balance** command. Using this command and the **lag-usage-optimization** command on mixed port speed LAGs is not recommended, because some groups may be forwarded incorrectly.

The **no** form of this command disables the hash-based multicast balancing of traffic over ECMP links.

The **no** form of this command means that the use of multiple ECMP paths if enabled at the **config>router** or **config>service>vprn** context is controlled by the existing implementation and CLI commands **mc-ecmp-balance**.

Default

no mc-ecmp-hashing-enabled

Parameters

rebalance

Specifies to rebalance flows to newly added links immediately, instead of waiting until they are pruned.

Platforms

All

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mc-ecmp-hashing-enabled

Syntax

[**no**] **mc-ecmp-hashing-enabled** [**rebalance**]

Context

[Tree] (config>router>pim mc-ecmp-hashing-enabled)

Full Context

configure router pim mc-ecmp-hashing-enabled

Description

This command enables hash-based multicast balancing of traffic over ECMP links and causes PIM joins to be distributed over the multiple ECMP paths based on a hash of S and G (and possibly next-hop IP address). When a link in the ECMP set is removed, the multicast flows that were using that link are redistributed over the remaining ECMP links using the same hash algorithm. When a link is added to the ECMP set new joins may be allocated to the new link based on the hash algorithm, but existing multicast flows using the other ECMP links stay on those links until they are pruned.

Hash-based multicast balancing is supported for both IPv4 and IPv6.

This command cannot be used together with the **mc-ecmp-balance** command. Using this command and the **lag-usage-optimization** command on mixed port speed LAGs is not recommended, because some groups may be forwarded incorrectly.

The **no** form of this command disables the hash-based multicast balancing of traffic over ECMP links.

Default

no mc-ecmp-hashing-enabled

Parameters

rebalance

Specifies to rebalance flows to newly added links immediately, instead of waiting until they are pruned.

Platforms

All

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29.43 mc-endpoint

mc-endpoint

Syntax

[**no**] **mc-endpoint**

Context

[Tree] (config>redundancy>multi-chassis>peer mc-endpoint)

Full Context

configure redundancy multi-chassis peer mc-endpoint

Description

This command specifies that the endpoint is multi-chassis. This value should be the same on both MC-EP peers for the pseudowires that must be part of the same group.

The **no** form of this command removes the endpoint from the MC-EP. Single chassis behavior applies.

Default

no mc-endpoint

Platforms

All

mc-endpoint

Syntax

mc-endpoint *mc-ep-id*

no mc-endpoint

Context

[Tree] (config>service>vpls>endpoint mc-endpoint)

Full Context

configure service vpls endpoint mc-endpoint

Description

This command specifies the identifier associated with the multi-chassis endpoint. This value should be the same on both MC-EP peers for the pseudowires that must be part of the same group.

The **no** form of this command removes the endpoint from the MC-EP. Single chassis behavior applies.

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Default

no mc-endpoint

Parameters

mc-ep-id

Specifies a multi-chassis endpoint ID

Values 1 to 4294967295

Platforms

All

29.44 mc-enh-load-balancing

mc-enh-load-balancing

Syntax

[**no**] **mc-enh-load-balancing**

Context

[Tree] (config>system>load-balancing mc-enh-load-balancing)

Full Context

configure system load-balancing mc-enh-load-balancing

Description

This command enables enhanced egress multicast load balancing behavior for Layer 3 multicast. When enabled, the router will spray the multicast traffic using as hash inputs from the packet based on lsr-load-balancing, l4-load-balancing and system-ip-load-balancing configurations. That is, an ingress LER or IP PE will spray traffic based on the IP hash criteria: SA/DA + optional Layer 4 port + optional system IP egress LER or LSR will spray traffic based on label or IP hash criteria outlined above or both based on configuration of lsr-load-balancing, l4-load-balancing, and system-ip-load-balancing.

The **no** form of the command preserves the default behavior for per flow hashing of multicast traffic.

Default

no mc-enh-load-balancing

Platforms

All

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29.45 mc-ep-peer

mc-ep-peer

Syntax

mc-ep-peer *name*

mc-ep-peer *ip-address*

no mc-ep-peer

Context

[Tree] (config>service>vpls>endpoint>mc-ep mc-ep-peer)

Full Context

configure service vpls endpoint mc-endpoint mc-ep-peer

Description

This command adds multi-chassis endpoint object.

The **no** form of this command removes the multi-chassis endpoint object.

Default

no mc-ep-peer

Parameters

name

Specifies the name of the multi-chassis endpoint peer

ip-address

Specifies the IP address of multi-chassis endpoint peer

Platforms

All

29.46 mc-handover

mc-handover

Syntax

mc-handover *percentage*

no mc-handover

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Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>hd mc-handover)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>pip mc-handover)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>sd mc-handover)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface hd mc-handover

configure mcast-management multicast-info-policy video-policy video-interface pip mc-handover

configure mcast-management multicast-info-policy video-policy video-interface sd mc-handover

Description

This command sets the rate at which the Fast Channel Change (FCC) server will send unicast data to the FCC client during the handover to the multicast stream.

The **no** form of the command returns the parameter to the default value.

Default

mc-handover 25

Parameters

percentage

Specifies the percentage of nominal bandwidth.

Values

HD:	0 to 100
SD and PIP:	0 to 600

Default 25

Platforms

7450 ESS, 7750 SR, 7750 SR-s

29.47 mc-ipsec

mc-ipsec

Syntax

[**no**] **mc-ipsec**

Context

[Tree] (config>redundancy>multi-chassis>peer mc-ipsec)

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Full Context

configure redundancy multi-chassis peer mc-ipsec

Description

Commands in this context configure the 1:1 and N:M MC-IPsec multi-chassis state failover mechanism that allows an IPsec tunnel to continue to function without interruption if an active node fails.

See “1:1 Multichassis IPsec redundancy” and "N:M MC-IPsec redundancy" in the *7450 ESS and 7750 SR Multiservice ISA and ESA Advanced Configuration Guide for Classic CLI* for more information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.48 mc-ipsec-non-forwarding

mc-ipsec-non-forwarding

Syntax

[**no**] **mc-ipsec-non-forwarding tunnel-grp-id**

Context

[Tree] (config>vrrp>policy>priority-event mc-ipsec-non-forwarding)

Full Context

configure vrrp policy priority-event mc-ipsec-non-forwarding

Description

This command configures an instance of a multi-chassis IPsec tunnel-group Priority Event used to override the base priority value of a VRRP virtual router instance depending on the operational state of the event.

Parameters

tunnel-grp-id

Identifies the multi-chassis IPsec tunnel group whose non-forwarding state is monitored by this priority control event.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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29.49 mc-lag

mc-lag

Syntax

[**no**] **mc-lag**

Context

[Tree] (config>redundancy>multi-chassis>peer mc-lag)

Full Context

configure redundancy multi-chassis peer mc-lag

Description

Commands in this context configure multi-chassis LAG operations and related parameters.

The **no** form of this command administratively disables multi-chassis LAG. MC-LAG can be issued only when mc-lag is shutdown.

Default

no mc-lag

Platforms

All

mc-lag

Syntax

mc-lag

Context

[Tree] (config>eth-cfm>redundancy mc-lag)

Full Context

configure eth-cfm redundancy mc-lag

Description

Commands in this context configure the MC-LAG specific ETH-CFM redundancy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.50 mc-maximum-routes

mc-maximum-routes

Syntax

mc-maximum-routes *number* [**log-only**] [**threshold** *threshold*]

Context

[Tree] (config>service>vprn mc-maximum-routes)

Full Context

configure service vprn mc-maximum-routes

Description

This command specifies the maximum number of multicast routes that can be held in the form of this command in a VPN routing or forwarding (VRF) context. When this limit is reached, a log and SNMP trap are sent. If the **log-only** parameter is not specified and the maximum-routes value is set below the existing number of routes in a VRF, then no new joins are processed.

The **no** form of this command disables the limit of multicast routes within a VRF context. Issue the **no** form of this command only when the VPRN instance is shutdown.

Default

no mc-maximum-routes

Parameters

number

Specifies the maximum number of routes to be held in a VRF context.

Values 1 to 2147483647

log-only

Specifies that if the maximum limit is reached, only log the event. **log-only** does not disable the learning of new routes.

threshold

Specifies the percentage at which a warning log message and SNMP trap should be sent.

Values 0 to 100

Default 10

Platforms

All

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mc-maximum-routes

Syntax

mc-maximum-routes *number* [**log-only**] [**threshold** *threshold*]

no mc-maximum-routes

Context

[Tree] (config>router mc-maximum-routes)

Full Context

configure router mc-maximum-routes

Description

This command specifies the maximum number of multicast routes that can be held within a VPN routing/forwarding (VRF) context. When this limit is reached, a log and SNMP trap are sent. If the **log-only** parameter is not specified and the maximum-routes value is set below the existing number of routes in a VRF, then no new joins will be processed.

The **no** form of this command disables the limit of multicast routes within a VRF context. Issue the **no** form of this command only when the VPRN instance is shutdown.

Default

no mc-maximum-routes

Parameters

number

Specifies the maximum number of routes to be held in a VRF context.

Values 1 to 2147483647

log-only

Specifies that if the maximum limit is reached, only log the event. **log-only** does not disable the learning of new routes.

threshold

Specifies the percentage at which a warning log message and SNMP trap should be sent.

Values 0 to 100

Default 10

Platforms

All

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29.51 mc-ring

mc-ring

Syntax

mc-ring

Context

[Tree] (config>redundancy>multi-chassis>peer mc-ring)

Full Context

configure redundancy multi-chassis peer mc-ring

Description

Commands in this context configure the multi-chassis ring parameters.

The **no** form of this command reverts to the default.

Default

mc-ring

Platforms

All

mc-ring

Syntax

[**no**] **mc-ring**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync mc-ring)

Full Context

configure redundancy multi-chassis peer sync mc-ring

Description

This command specifies whether multi-chassis ring information should be synchronized with the multi-chassis peer.

Default

no mc-ring

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Platforms
All

29.52 mcac

mcac

Syntax
mcac

Context
[Tree] (config>service>pw-template>igmp-snooping mcac)

[Tree] (config>service>vpls>mesh-sdp>snooping mcac)

Full Context
configure service pw-template igmp-snooping mcac

configure service vpls mesh-sdp snooping mcac

Description
Commands in this context configure multicast CAC policy parameters and constraints for this interface.

Platforms
All

mcac

Syntax
mcac

Context
[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp mcac)

Full Context
configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac

Description
Commands in this context configure multicast CAC parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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mcac

Syntax

mcac

Context

[Tree] (config>service>vpls>sap>mld-snooping mcac)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping mcac)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping mcac)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping mcac)

[Tree] (config>service>vpls>sap>igmp-snooping mcac)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping mcac)

Full Context

configure service vpls sap mld-snooping mcac

configure service vpls mesh-sdp igmp-snooping mcac

configure service vpls spoke-sdp igmp-snooping mcac

configure service vpls spoke-sdp mld-snooping mcac

configure service vpls sap igmp-snooping mcac

configure service vpls mesh-sdp mld-snooping mcac

Description

This command configures multicast CAC policy and constraints for this interface.

Platforms

All

mcac

Syntax

mcac

Context

[Tree] (config>service>vprn>pim>if mcac)

[Tree] (config>service>vprn>igmp>if mcac)

[Tree] (config>service>vprn>igmp>grp-if mcac)

[Tree] (config>service>vprn>mld>if mcac)

[Tree] (config>service>vprn>mld>grp-if mcac)

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Full Context

configure service vprn pim interface mcac

configure service vprn igmp interface mcac

configure service vprn igmp group-interface mcac

configure service vprn mld interface mcac

configure service vprn mld group-interface mcac

Description

This command configures multicast CAC policy and constraints for this interface.

Platforms

All

- configure service vprn mld interface mcac
- configure service vprn igmp interface mcac
- configure service vprn pim interface mcac

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface mcac
- configure service vprn mld group-interface mcac

mcac

Syntax

mcac

Context

[Tree] (config>router>mld>interface mcac)

[Tree] (config>router mcac)

[Tree] (config>router>igmp>interface mcac)

[Tree] (config>router>igmp>group-interface mcac)

[Tree] (config>router>mld>group-interface mcac)

[Tree] (config>router>pim>if mcac)

Full Context

configure router mld interface mcac

configure router mcac

configure router igmp interface mcac

configure router igmp group-interface mcac

configure router mld group-interface mcac

configure router pim interface mcac

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Description

Commands in this context configure multicast CAC parameters.

Platforms

All

- configure router igmp interface mcac
- configure router pim interface mcac
- configure router mld interface mcac
- configure router mcac

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface mcac
- configure router igmp group-interface mcac

29.53 mcast-capacity

mcast-capacity

Syntax

mcast-capacity *primary-percentage* **secondary** *secondary-percentage*

no mcast-capacity

Context

[Tree] (config>mcast-mgmt>chassis-level>plane-capacity mcast-capacity)

Full Context

configure mcast-management chassis-level per-mcast-plane-capacity mcast-capacity

Description

This command configures the primary and secondary multicast plane capacities used when the full complement of possible switch fabrics in the system is not up (at least one possible switch fabric is not provisioned or is down). The rates are defined as a percentage of the total multicast plane capacity which is configured using the **total-capacity** command.

The **no** form of this command reverts to the default values.

Default

mcast-capacity 87.50 secondary 87.50

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Parameters

primary-percentage

Specifies the percentage of the total multicast plane capacity to be used for primary multicast planes.

secondary-percentage

Specifies the percentage of the total multicast plane capacity to be used for secondary multicast planes.

Values 0.01 to 100

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

29.54 mcast-ipv4

mcast-ipv4

Syntax

[**no**] **mcast-ipv4**

Context

[Tree] (config>cflowd>collector>export-filter>family mcast-ipv4)

Full Context

configure cflowd collector export-filter family mcast-ipv4

Description

This command filters multicast IPv4 flow data from being sent to the associated collector.

The **no** form of this command removes the filter, allowing multicast IPv4 flow data to be sent to the associated collector.

Default

no mcast-ipv4

Platforms

All

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29.55 mcast-ipv6

mcast-ipv6

Syntax

[**no**] **mcast-ipv6**

Context

[Tree] (config>cflowd>collector>export-filter>family mcast-ipv6)

Full Context

configure cflowd collector export-filter family mcast-ipv6

Description

This command filters multicast IPv6 flow data from being sent to the associated collector.

The **no** form of this command removes the filter, allowing multicast IPv6 flow data to be sent to the associated collector.

Default

no mcast-ipv6

Platforms

All

29.56 mcast-ipv6-snooping-scope

mcast-ipv6-snooping-scope

Syntax

mcast-ipv6-snooping-scope {**mac-based** | **sg-based**}

no mcast-ipv6-snooping-scope

Context

[Tree] (config>service>vpls mcast-ipv6-snooping-scope)

Full Context

configure service vpls mcast-ipv6-snooping-scope

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Description

This command specifies the forwarding scope used for IPv6 multicast traffic when PIM snooping for IPv6 is enabled.

By default, the scope is **mac-based**; IPv6 snooped multicast traffic is forwarded is based on the low-order 32 bits of the destination IPv6 address.

When the scope is configured as **sg-based**, the IPv6 snooped multicast traffic is forwarded based on both its full source (if specified in the join) and destination IPv6 address. SG-based forwarding is only supported on FP3- (or higher) based line cards.

PIM snooping for IPv6 must be disabled to change the forwarding mode within a VPLS service between **mac-based** and **sg-based**.

The **no** form of this command configures the router to use the default value.

Default

mcast-ipv6-snooping-scope mac-based

Parameters

mac-based

Sets forwarding for PIM-snooped IPv6 multicast traffic based on the low-order 32 bits of its destination IPv6 address.

sg-based

Sets forwarding for PIM-snooped IPv6 multicast traffic based on its full source (if specified in the join) and destination IPv6 address.

Platforms

All

29.57 mcast-management

mcast-management

Syntax

mcast-management

Context

[Tree] (config mcast-management)

Full Context

configure mcast-management

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Description

Commands in this context configure multicast management parameters. The **mcast-management** CLI node contains the **bandwidth-policy** and **multicast-info-policy** definitions. The bandwidth-policy is used to manage the ingress multicast paths into the switch fabric. The multicast-info-policy defines how each multicast channel is handled by the system. The policy may be used by the ingress multicast bandwidth manager, the ECMP path manager and the egress multicast CAC manager.

The **mcast-management** node always exists and contains the default bandwidth-policy and the default multicast-info-policy. Enter the mcast-management node when editing, deleting or creating a bandwidth policy or multicast info policy. The default bandwidth policy and multicast-info-policy cannot be edited or deleted.

A chassis-level node within multicast-management is used to control the switch fabric multicast planes replication limits. The switch fabric multicast planes are the individual multicast spatial replication contexts available in the system.

Platforms

All

29.58 mcast-path-management

mcast-path-management

Syntax

mcast-path-management

Context

[Tree] (config>card>fp>ingress mcast-path-management)

Full Context

configure card fp ingress mcast-path-management

Description

This CLI node contains the forwarding plane settings for ingress multicast path management. Enter the node to configure the bandwidth-policy and the administrative state of ingress multicast path management.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

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29.59 mcast-pool

mcast-pool

Syntax

mcast-pool percent-of-total *percent-of-buffers* **resv-cbs** *percent-of-pool* **slope-policy** *policy-name*

no mcast-pool

Context

[Tree] (config>mcast-mgmt>bw-plcy mcast-pool)

Full Context

configure mcast-management bandwidth-policy mcast-pool

Description

This command configures the ingress multicast path management buffer pool. The pool is used by the primary and secondary path queues through which all ingress managed multicast traffic must flow. The parameters may be used to configure the size of the pool relative to the total ingress buffer space, the amount of reserved CBS buffers within the pool and the slope policy used to manage early congestion detection functions in the shared portion of the pool.

Care should be taken when managing the buffer pool space as changes to the systems buffer pool behavior can have negative effects on multicast and unicast forwarding.

Sizing the Pool

The percent-of-total command defines how much of the total ingress buffer pool space for the MDA is dedicated for multicast channels managed by the bandwidth policy. Since multicast typically has a higher scheduling priority through the switch fabric, the buffer pool does not need to be large. By default, the system reserves 10% of the buffers on the ingress side of the MDA once multicast path management is enabled.

Reserved CBS Portion of the Pool

The multicast pool is divided into two portions; reserved and shared. The reserved portion is used by the multicast path queues until they cross there individual CBS thresholds. Since the CBS thresholds are configured as percentages and the percentages can oversubscribe the reserved portion of the pool, it is possible for some of the queues CBS buffer allocation to be met by the shared portion of the pool. By default, 50% of the pool is defined as reserved. This may be changed using the resv-cbs percentage parameter.

Shared Portion WRED Slopes

The shared portion of the buffer pool is used by queues that have crossed over their CBS thresholds. Since the total MBS values for the multicast path queues may oversubscribe the pool size, a buffer congestion control mechanism is supported within the pool in the form of two WRED slopes. The **slope-policy** parameter defines how the slopes are configured and whether they are activated. Each packet entering a path queue is defined as high or low priority within the queue based on the channel's preference

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value relative to the **cong-priority-threshold** command. When getting a shared buffer of a high priority packet, the high WRED slope is used. Low priority packets use the low WRED slope.

The **no** form of this command returns the managed multicast path pool to its default settings.

Parameters

percent-of-buffers

Specifies the percentage of ingress buffers that is allocated to the multicast pool.

Values 1 to 50

Default 10

percent-of-pool

Specifies the percentage of the pool that is reserved for multicast path queues within their CBS threshold.

Values 1 to 100

Default 50

slope-policy-name

Specifies the WRED slopes within the multicast pool. Once a slope policy is associated with a buffer pool, it cannot be deleted.

Default default

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

29.60 mcast-reporting

mcast-reporting

Syntax

[**no**] **mcast-reporting**

Context

[Tree] (config>subscr-mgmt>igmp-policy mcast-reporting)

Full Context

configure subscriber-mgmt igmp-policy mcast-reporting

Description

Commands in this context configure mcast reporting.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.61 mcast-reporting-dest

mcast-reporting-dest

Syntax

mcast-reporting-dest *dest-name* [**create**]

no mcast-reporting-dest *dest-name*

Context

[Tree] (config>mcast-management mcast-reporting-dest)

Full Context

configure mcast-management mcast-reporting-dest

Description

This command creates a multicast reporting destination hierarchy in CLI under which parameters defining this destination can be specified. The destination refers to an external node that collects and analyze IGMP events.

The multicast reporting destination is associated with a name that each subscriber can reference to send the IGMP related events.

It can be also referenced in the host tracking policy in case that IGMP events are related to the host tracking feature.

The **no** form of this command removes the destination name from the configuration.

Parameters

dest-name

Specifies the multicast reporting destination name.

Platforms

All

mcast-reporting-dest

Syntax

[**no**] **mcast-reporting-dest** [*dest-name*]

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Context

[Tree] (debug>mcast-mgmt mcast-reporting-dest)

Full Context

debug mcast-management mcast-reporting-dest

Description

This command debugs multicast path management reporting destinations.

Platforms

All

mcast-reporting-dest

Syntax

mcast-reporting-dest *dest-name*

no mcast-reporting-dest

Context

[Tree] (config>subscr-mgmt>igmp-policy>mcast-reporting mcast-reporting-dest)

Full Context

configure subscriber-mgmt igmp-policy mcast-reporting mcast-reporting-dest

Description

This command references the multicast reporting destination to which IGMP-related events are exported. The multicast-reporting-destination is referenced within the IGMP policy for the subscriber.

The **no** form of this command reverts to the default value.

Parameters

dest-name

Specifies the name of the multicast reporting destination, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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29.62 mcast-tunneling

mcast-tunneling

Syntax

[**no**] **mcast-tunneling**

Context

[Tree] (config>router>ldp>targ-session>peer-template mcast-tunneling)

[Tree] (config>router>ldp>targ-session>peer mcast-tunneling)

Full Context

configure router ldp targeted-session peer-template mcast-tunneling

configure router ldp targeted-session peer mcast-tunneling

Description

At the downstream router, the FEC is resolved and the result of the resolution is a Label Mapping advertisement to the upstream peer.

At the upstream router, if the RSVP LSP does not exist to the peer address, the upstream router does not use the T-LDP session for FEC resolution.

The **no** form of this command reverts to the default value.

Default

no mcast-tunneling

Platforms

All

29.63 mcast-upstream-asbr-frr

mcast-upstream-asbr-frr

Syntax

[**no**] **mcast-upstream-asbr-frr**

Context

[Tree] (config>router>ldp mcast-upstream-asbr-frr)

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Full Context

configure router ldp mcast-upstream-asbr-frr

Description

This command enables ASBR MoFRR.

When ASBR MoFRR is enabled, the local leaf will perform MoFRR for multiple ASBRs; for example, if there are two ASBRs, the local leaf will select one ASBR as the primary and another ASBR as the backup.

If the **mcast-upstream-frr** command is enabled, disabling ASBR MoFRR will only allow IGP MoFRR in the local AS; for example, a single ASBR will be selected and two separate, disjointed paths will be selected as the primary and backup LSPs from the local leaf to ASBR.

If the **mcast-upstream-frr** command is disabled, disabling ASBR MoFRR will disable MoFRR entirely.

The **no** form of the command disables ASBR MoFRR.

Default

no mcast-upstream-asbr-frr

Platforms

All

29.64 mcast-upstream-frr

mcast-upstream-frr

Syntax

[**no**] **mcast-upstream-frr**

Context

[Tree] (config>router>ldp mcast-upstream-frr)

Full Context

configure router ldp mcast-upstream-frr

Description

This command enables mLDP fast upstream switchover for mLDP FECs. This allows the router to switch to a backup upstream LSR in case of failure of the upstream LSR that is the primary next hop of the root LSR for the P2MP FEC.

See "Multicast LDP fast upstream switchover" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR MPLS Guide* for more information.

The **no** form of this command disables the fast upstream switchover for mLDP FECs.

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Default

no mcast-upstream-frr

Platforms

All

29.65 mcast-vpn-ipv4

mcast-vpn-ipv4

Syntax

mcast-vpn-ipv4 send *send-limit* **receive** [**none**]

mcast-vpn-ipv4 send *send-limit*

no mcast-vpn-ipv4

Context

[Tree] (config>router>bgp>group>add-paths mcast-vpn-ipv4)

[Tree] (config>router>bgp>group>neighbor>add-paths mcast-vpn-ipv4)

[Tree] (config>router>bgp>add-paths mcast-vpn-ipv4)

Full Context

configure router bgp group add-paths mcast-vpn-ipv4

configure router bgp group neighbor add-paths mcast-vpn-ipv4

configure router bgp add-paths mcast-vpn-ipv4

Description

This command configures the add-paths capability for multicast IPv4 VPN routes. By default, add-paths is not enabled for multicast IPv4 VPN routes.

The maximum number of multicast paths per IPv4 VPN prefix to send is the configured *send-limit*, which is a mandatory parameter. The capability to receive multiple multicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command, receive capability is enabled by default. The **none** option disables the receive capability.

The **no** form of this command disables add-paths support for multicast IPv4 VPN routes, causing sessions established using add-paths for multicast IPv4 VPN to go down and come back up without the add-paths capability.

Default

no mcast-vpn-ipv4

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Parameters

send-limit

Specifies the maximum number of paths per multicast IPv4 VPN prefix that are allowed to be advertised to add-paths peers. The actual number of advertised routes may be less. If the value is **none**, the router does not negotiate the send capability with respect to multicast IPv4 VPN AFI/SAFI.

Values 1 to 16, none

receive

Specifies that the router negotiates to receive multiple multicast routes per IPv4 VPN prefix.

none

Specifies that the router does not negotiate to receive multiple multicast routes per IPv4 VPN prefix.

Platforms

All

29.66 mcast-vpn-ipv6

mcast-vpn-ipv6

Syntax

mcast-vpn-ipv6 send *send-limit* **receive** [**none**]

mcast-vpn-ipv6 send *send-limit*

no mcast-vpn-ipv6

Context

[Tree] (config>router>bgp>add-paths mcast-vpn-ipv6)

[Tree] (config>router>bgp>group>add-paths mcast-vpn-ipv6)

[Tree] (config>router>bgp>group>neighbor>add-paths mcast-vpn-ipv6)

Full Context

configure router bgp add-paths mcast-vpn-ipv6

configure router bgp group add-paths mcast-vpn-ipv6

configure router bgp group neighbor add-paths mcast-vpn-ipv6

Description

This command configures the add-paths capability for multicast IPv6 VPN routes. By default, add-paths is not enabled for multicast IPv6 VPN routes.

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The maximum number of multicast paths per IPv6 VPN prefix to send is the configured *send-limit*, which is a mandatory parameter. The capability to receive multiple multicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command, receive capability is enabled by default. The **none** option disables the receive capability.

The **no** form of this command disables add-paths support for multicast IPv6 VPN routes, causing sessions established using add-paths for multicast IPv6 VPN to go down and come back up without the add-paths capability.

Default

no mcast-vpn-ipv6

Parameters

send-limit

Specifies the maximum number of paths per multicast IPv6 VPN prefix that are allowed to be advertised to add-paths peers. The actual number of advertised routes may be less. If the value is **none**, the router does not negotiate the send capability with respect to multicast IPv6 VPN AFI/SAFI.

Values 1 to 16, none

receive

Specifies that the router negotiates to receive multiple multicast routes per IPv6 VPN prefix.

none

Specifies that the router does not negotiate to receive multiple multicast routes per IPv6 VPN prefix.

Platforms

All

29.67 mcc-mnc-prefix

mcc-mnc-prefix

Syntax

mcc-mnc-prefix *imsi-prefix-string*

no mcc-mnc-prefix

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>imsi-apn-fltr>entry mcc-mnc-prefix)

Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter entry mcc-mnc-prefix

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Description

This command configures a matching condition for the IMSI (MCC-MNC) prefix.

Parameters

imsi-prefix-string

Specifies a string of 1 to 6 decimal digits representing the IMSI prefix to be matched against the IMSI IE of the packet, or the special value **ANY_IMSI** to indicate that an IMSI IE must be present as a matching condition regardless of the IMSI IE value.

If no MCC-MNC prefix is specified, the entry will match GTP packets that have an IMSI IE containing any value.

Values 0 to 999999, **ANY_IMSI**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.68 mcr-default-gtw

mcr-default-gtw

Syntax

mcr-default-gtw

Context

[Tree] (config>service>vpls mcr-default-gtw)

Full Context

configure service vpls mcr-default-gtw

Description

Commands in this context configure the default gateway information when using Dual Homing in L2-TPSDA. The IP and MAC address of the default gateway used for subscribers on an L2 MC-Ring are configured in this context. After a ring heals or fails, the system sends out a gratuitous ARP on an active ring SAP in order to attract traffic from subscribers on the ring with connectivity to that SAP.

Platforms

All

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29.69 mcs

mcs

Syntax

mcs [**detail**]

no mcs

Context

[Tree] (debug>service>id>pim-snooping mcs)

Full Context

debug service id pim-snooping mcs

Description

This command enables or disables debugging for PIM snooping multi-chassis synchronization.

Parameters

detail

Provides detailed debugging information

Platforms

All

mcs

Syntax

mcs [*ip-int-name*]

no mcs

Context

[Tree] (debug>router>igmp mcs)

Full Context

debug router igmp mcs

Description

This command enables debugging for IGMP multicast servers (MCS).

The **no** form of the command disables the IGMP interface debugging for the specifies interface name.

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Parameters

ip-int-name

Debugs the information associated with the specified IP interface name.

Values IP interface address

Platforms

All

29.70 mcs-interval

mcs-interval

Syntax

mcs-interval *minutes*

mcs-interval use-update-interval

no mcs-interval

Context

[Tree] (config>subscr-mgmt>acct-plcy mcs-interval)

Full Context

configure subscriber-mgmt radius-accounting-policy mcs-interval

Description

This command specifies the interval at which the active BNG in a dual-homed deployment synchronizes subscriber accounting data using MCS to the standby BNG. The MCS interval is a statically configured value or is equal to the configured RADIUS accounting update-interval.

The **no** form of the command reverts to the default value.

Default

no mcs-interval

Parameters

minutes

Specifies the interval, in minutes, at which accounting data of the subscriber is synchronized.

Values 5 to 60

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use-update-interval

Synchronizes subscriber accounting data at the same time as the RADIUS interim-update. For this, the configured update-interval in the RADIUS accounting policy is used, ignoring RADIUS overrides.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.71 mcs-peer

mcs-peer

Syntax

mcs-peer *ip-address* **sync-tag** [*sync-tag*]

no mcs-peer

Context

[Tree] (config>python>py-pol>cache mcs-peer)

Full Context

configure python python-policy cache mcs-peer

Description

This command specifies the MCS peer's address and sync-tag for syncing the cached entries of the python-policy. The sync-tag must be match on both chassis.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the IPv4 address of the MCS peer.

sync-tag

Specifies the tag for sync, up to 32 characters.

Platforms

All

mcs-peer

Syntax

mcs-peer *ip-address* **sync-tag** *sync-tag*

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no mcs-peer

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw mcs-peer)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw mcs-peer)

Full Context

configure service ies subscriber-interface group-interface wlan-gw mcs-peer

configure service vprn subscriber-interface group-interface wlan-gw mcs-peer

Description

This command specifies the MCS peer address and sync-tag for synchronization of ESM and the tunnel state for ESM over soft-GRE with an MCS peer.

The **no** form of this command specifies no MCS synchronization of WLAN-GW ESM host and tunnel state on this group interface.

Default

no mcs-peer

Parameters

ip-address

Specifies the IPv4 address or the global IPv6 unicast address for an MCS peer.

sync-tag

Specifies the sync tag for synchronization of ESM and the tunnel state for ESM over soft-GRE with an MCS peer.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.72 md

md

Syntax

md *file-url* [**router** *router-instance*]

Context

[Tree] (file md)

Full Context

file md

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Description

This command creates a new directory in a file system.

Directories can only be created one level at a time.

Parameters

file-url

Specifies the directory name to be created.

Values		
	local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
	remote-url	[{ftp | sftp}://*login*:*pswd@remote-locn*/][*file-path*]
		up to 247 characters
		directory length up to 99 characters each
	remote-locn	[hostname | ipv4-address | [ipv6-address]]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
		x:x:x:x:x:x:d.d.d.d[-*interface*]
		x - [0 to FFFF]H
		d - [0 to 255]D
		interface - up to 32 characters, for link local addresses
	cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

router-instance

Specifies the router name or the VPRN service ID.

Values		
	router-instance:	*router-name* | *vprn-svc-id*
	router-name:	"Base" | "management" | "vpls-management"
	vprn-svc-id:	1 to 2147483647

Platforms

All

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29.73 md-auto-id

md-auto-id

Syntax

md-auto-id

Context

[Tree] (config>eth-cfm md-auto-id)

Full Context

configure eth-cfm md-auto-id

Description

This command automatically assigns numerical index values for ma-index and md-index in model-driven management interfaces.

Classic management interfaces use a numerical index as the primary key for ETH-CFM domains and associations. In model-driven interfaces, domains and associations use string names as keys. The domain and association can optionally be created without having to explicitly select and specify a numerical index in model-driven interfaces. In this case, SR OS assigns an index using the configured index range.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

md-auto-id

Syntax

md-auto-id

Context

[Tree] (config>qos md-auto-id)

Full Context

configure qos md-auto-id

Description

This command automatically assigns numerical ID values for QoS policies in model-driven (MD) management interfaces.

Classic management interfaces use a numerical policy ID as the primary key for sap-ingress, sap-egress, and network QoS policies. In model-driven interfaces, SAP and network policies use string names as keys.

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The SAP and network policies can optionally be created in MD interfaces without having to explicitly select and specify a numerical policy ID. In this case, SR OS assigns an ID using the configured ID range.

Platforms

All

md-auto-id

Syntax

md-auto-id

Context

[Tree] (config>filter md-auto-id)

Full Context

configure filter md-auto-id

Description

This command automatically assigns numerical ID values for filter policies in model-driven management interfaces.

Classic management interfaces use a numerical filter ID as the primary key for IP filters, IPv6 filters, and MAC filters. In model-driven interfaces, IP, IPv6, and MAC filters use string names as keys. The filters can optionally be created in MD interfaces without having to explicitly select and specify a numerical filter ID. In this case, SR OS assigns an ID using the configured ID range.

Platforms

All

md-auto-id

Syntax

md-auto-id

Context

[Tree] (config>service md-auto-id)

Full Context

configure service md-auto-id

Description

This command automatically assigns numerical ID values for services, customers, and PW templates in model-driven (MD) management interfaces.

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Classic management interfaces use a numerical service ID, customer ID, and PW template ID as the primary key for services, customers, and PW templates. In model-driven interfaces, services, customers, and PW templates use string names as keys. The services, customers, and PW templates can optionally be created in MD interfaces without having to explicitly select and specify a numerical ID. In this case, SR OS assigns an ID using the configured ID range.

Platforms

All

29.74 md-cli

md-cli

Syntax

md-cli

Context

[Tree] (config>system>management-interface>cli md-cli)

Full Context

configure system management-interface cli md-cli

Description

Commands in this context configure the MD-CLI management interface.

Platforms

All

md-cli

Syntax

md-cli

Context

[Tree] (config>system>security>management-interface md-cli)

Full Context

configure system security management-interface md-cli

Description

Commands in this context configure hash-control for the MD-CLI interface.

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Platforms

All

29.75 md-index-range

md-index-range

Syntax

md-index-range start *md-index* **end** *md-index*

no md-index-range

Context

[Tree] (config>eth-cfm>md-auto-id md-index-range)

Full Context

configure eth-cfm md-auto-id md-index-range

Description

This command specifies the range of indexes used by SR OS to automatically assign an index to ETH-CFM domains that are created in model-driven interfaces without an index explicitly specified by the user or client.

A domain created with an explicitly-specified index cannot use an index in this range. In classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD interfaces, the range can be changed, which causes any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **md-auto-id** command for further details.

Parameters

start *md-index*

Specifies the lower value of the index range. The value must be less than or equal to the **end** value.

Values 1 to 4294967295

end *md-index*

Specifies the upper value of the index range. The value must be greater than or equal to the **start** value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.76 md-interfaces

md-interfaces

Syntax

[**no**] **md-interfaces**

Context

[Tree] (config>system>security>management-interface>output-authorization md-interfaces)

Full Context

configure system security management-interface output-authorization md-interfaces

Description

This command controls output authorization of commands or RPCs for model-driven interfaces that display configuration or state.

When enabled, output authorization is performed for the following commands:

- MD-CLI **info** and **compare** commands
- NETCONF <get> and <get-config> RPCs
- gNMI Get RPC

When disabled, output authorization is not performed, which may significantly decrease the system response time by reducing command authorization requests, especially when remote AAA servers are used. Input to edit configuration is always authorized based on the AAA configuration.

By default, authorization checks are performed for configuration and state output.

The **no** form of this command disables authorization checks, allowing the output to be displayed immediately.

Default

md-interfaces

Platforms

All

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29.77 md5-salt

md5-salt

Syntax

[**no**] **md5-salt** *string*

Context

[Tree] (config>app-assure>group>http-enrich>field md5-salt)

Full Context

configure application-assurance group http-enrich field md5-salt

Description

This command configures an MD5 salt string. The configured string is appended to the parameter before performing MD5 hashing of the field.

The **no** form of this command removes the configuration of the MD5 salt string.

Default

no md5-salt

Parameters

string

Specifies the MD5 string, up to 16 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.78 mda

mda

Syntax

[**no**] **mda** *mda-id*

Context

[Tree] (config>isa>wlan-gw-group mda)

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Full Context

configure isa wlan-gw-group mda

Description

This command enables an ISA for WLAN-GW functionality.

The **no** form of this command removes the ISA from the WLAN-GW configuration.

Parameters

mda-id

Indicates the IOM and MDA slot in format *slot*/*mda*.

Values slot — 1 to 10

mda — 1 to 2

Platforms

7750 SR, 7750 SR-e, 7750 SR-s

mda

Syntax

[**no**] **mda** *mda-slot*

Context

[Tree] (config>card mda)

Full Context

configure card mda

Description

This mandatory command enables access to a card's MDA context. In SR OS, MDAs cover MDA and XMA.

Parameters

mda-slot

Specifies the MDA slot number to be configured. Slots are numbered 1 and 2. On vertically oriented slots, the top MDA slot is number 1, and the bottom MDA slot is number 2. On horizontally oriented slots, the left MDA is number 1, and the right MDA slot is number 2.

Values 1, 2

Platforms

All

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mda

Syntax

[**no**] **mda** *mda-slot*

Context

[Tree] (config>card>xiom mda)

Full Context

configure card xiom mda

Description

Configures an MDA-s in one of the slots of an XIOM.

Parameters

mda-slot

Specifies the MDA-s slot number.

Values 1 or 2

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

mda

Syntax

[**no**] **mda** *mda-id*

Context

[Tree] (config>service>vpls>mesh-sdp>egress>mfib-allowed-mda-destinations mda)

[Tree] (config>service>vpls>spoke-sdp>egress>mfib-allowed-mda-destinations mda)

Full Context

configure service vpls mesh-sdp egress mfib-allowed-mda-destinations mda

configure service vpls spoke-sdp egress mfib-allowed-mda-destinations mda

Description

This command specifies an MFIB-allowed MDA destination for an SDP binding configured in the system.

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Parameters

mda-id

Specifies an MFIB-allowed MDA destination

Values		
	slot/mda	slot: 1 to 10
		mda: 1, 2
	slot/xiom/mda	slot: 1 to 10
		xiom: "x1" or "x2"
		mda: 1, 2

Platforms

All

mda

Syntax

[**no**] **mda** *mda-id*

Context

[Tree] (config>isa>tunnel-grp mda)

Full Context

configure isa tunnel-group mda

Description

This command specifies the MDA ID of the MS-ISA as the member of tunnel-group with multi-active enabled. Up to 16 MDA could be configured under the same tunnel-group.

Parameters

mda-id

Specifies the id of MS-ISA.

Values iom-slot-id/mda-slot-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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mda

Syntax

mda *mda-id* [**drain**]

no mda *mda-id*

Context

[Tree] (config>isa>lns-group mda)

Full Context

configure isa lns-group mda

Description

This command configures an ISA LNS group MDA.

The **no** form of the command removes the MDA ID from the LNS group configuration.

Parameters

mda-id

Specifies the MDA identifier.

Values

mda-id: *slot*/*mda*

slot: 1 to 10

mda: 1, 2

drain

Prevents new L2TP sessions being associated with the ISA. If an ISA is removed from the lns-group or if the lns-group be shutdown all associated L2TP sessions will be immediately terminated (and L2TP CDN messages sent to the L2TP peer). View show commands to determine which ISA is terminating which session (**show router l2tp session**).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mda

Syntax

[**no**] **mda** *mda-id*

Context

[Tree] (config>isa>nat-group mda)

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Full Context

configure isa nat-group mda

Description

This command configures an ISA NAT group MDA.

Parameters

mda-id

Specifies the MDA ID in the *slot/mda* format.

Values slot: 1 to 10

mda: 1 to 16

Note:
Available parameter values may differ by platform.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mda

Syntax

[**no**] **mda** *mda-id*

Context

[Tree] (config>service>pw-template>egress>mfib-mda mda)

Full Context

configure service pw-template egress mfib-allowed-mda-destinations mda

Description

This command specifies an MFIB-allowed media adapter destination for an SDP binding configured in the system.

Parameters

mda-id

Specifies an MFIB-allowed media adapters destination.

Values 1, 2

Platforms

All

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mda

Syntax

mda *mda*

no mda

Context

[Tree] (config>isa>tunnel-mem-pool mda)

Full Context

configure isa tunnel-member-pool mda

Description

This command configures an association between an MDA and the tunnel member pool.

The **no** form of this command removes the association between the MDA and the tunnel member pool.

Parameters

name

Specifies the name of the MDA, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.79 mda-type

mda-type

Syntax

mda-type *mda-type* [**level** *mda-level*]

no mda-type

Context

[Tree] (config>card>mda mda-type)

Full Context

configure card mda mda-type

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Description

This mandatory command provisions a specific MDA type to the device configuration for the slot. The MDA can be preprovisioned but an MDA must be provisioned before ports can be configured. Ports can be configured once the MDA is properly provisioned.

A maximum of two MDAs can be provisioned on an IOM or XCM. To modify an MDA slot, shut down all port associations.

XMAs are provisioned using MDA commands. A medium severity alarm is generated if an MDA is inserted that does not match the MDA type configured for the slot. This alarm is cleared when the correct MDA is inserted or the configuration is modified. A high severity alarm is raised when an administratively enabled MDA is removed from the chassis. This alarm is cleared if the either the correct MDA type is inserted or the configuration is modified. A low severity trap is issued if an MDA is removed that is administratively disabled.

An MDA can only be provisioned in a slot if the MDA type is allowed in the MDA slot. An error message is generated when an MDA is provisioned in a slot where it is not allowed.

Some MDA hardware can support two different firmware loads. One load includes the base Ethernet functionality, including 10G WAN mode, but does not include 1588 port-based timestamping. The second load includes the base Ethernet functionality and 1588 port-based timestamping, but does not include 10G WAN mode. These are identified as two MDA types that are the same, except for a "-ptp" suffix to indicate the second loadset; for example, *x40-10gb-sfp* and *x40-10gb-sfp-ptp*. A hard reset of the MDA occurs when switching between the two provisioned types.

A medium severity alarm is generated if an MDA is inserted that does not match the MDA type configured for the slot. This alarm is cleared when the correct MDA is inserted or the configuration is modified.

A high severity alarm is raised when an administratively enabled MDA is removed from the chassis. This alarm is cleared if the either the correct MDA type is inserted or the configuration is modified. A low severity trap is issued if an MDA is removed that is administratively disabled.

An alarm is raised if partial or complete MDA failure is detected. The alarm is cleared when the error condition ceases.

All parameters in the MDA context remain and if non-default values are required then their configuration remains as it is on all existing MDAs.

New generations of XMAs include variants controlled through hardware and software licensing. For these XMAs, the license level must be provisioned in addition to the MDA type. An XMA cannot become operational unless the provisioned license level matches the license level of the XMA installed into the slot. The set of license levels varies by MDA type.

The provisioned level controls aspects related to connector provisioning and the consumption of hardware egress queues and egress policers. Changes to the provisioned license level may be blocked if configuration that would not be permitted with the new target license level exists.

If the license level is not specified, the level is set to the highest license level for that XMA.

The **no** form of this command deletes the MDA from the configuration. The MDA must be administratively shut down before it can be deleted from the configuration.

Parameters

mda-type

Specifies the type of MDA selected for the slot position. Values for this attribute vary by platform and release. The release notes include a listing of all supported mda-types and their CLI strings. In addition, the command can be queried to check which mda-types are

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relevant for the active platform type. Some examples include me6-10gb-spf+ and x4-100g-cfp2.

mda-level

Specifies the MDA level. Possible values vary by MDA type.

Platforms

All

mda-type

Syntax

mda-type *mda-type*

no mda-type

Context

[Tree] (config>card>xiom>mda mda-type)

Full Context

configure card xiom mda mda-type

Description

This command adds an MDA-s to the device configuration for the slot. The MDA-s type can be preprovisioned, which means that the MDA-s does not have to be installed in the chassis.

An MDA-s must be provisioned before a connector or a port can be configured.

An MDA-s can only be provisioned in a slot that is vacant. No other MDA-s can be provisioned (configured) for that particular slot. To reconfigure a slot position, use the **no** form of this command to remove the current information.

An MDA-s can only be provisioned in a slot if the MDA-s type is allowed in the slot. An error message is generated if an attempt is made to provision an MDA-s type that is not allowed.

If an MDA-s is inserted that does not match the configured MDA-s type for the slot, then a log event and a facility alarm are raised. The alarm is cleared when the correct MDA-s type is installed or the configuration is modified.

A log event and a facility alarm are raised if an administratively enabled MDA-s is removed from the chassis. The alarm is cleared when the correct MDA-s type is installed or the configuration is modified. A log event is issued when a MDA-s is removed that is administratively disabled.

The **no** form of this command removes the MDA-s from the configuration.

Parameters

mda-type

Specifies the type of MDA-s to be configured and installed in the slot. Values for this attribute vary by platform and release. The release notes include a listing of all supported mda-types and their CLI strings. In addition, the command can be queried to check which mda-types are relevant for the active platform type.

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Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

29.80 mdl

mdl

Syntax

mdl {**eic** | **lic** | **fic** | **unit** | **pfi** | **port** | **gen**} *mdl-string*

no mdl [**eic** | **lic** | **fic** | **unit** | **pfi** | **port** | **gen**]

Context

[Tree] (config>port>tdm>ds3 mdl)

Full Context

configure port tdm ds3 mdl

Description

This command configures the maintenance data link (MDL) message for a DS-3/E-3.

This command is only applicable if the DS-3/E-3 is using C-bit framing (see the **config>port>tdm>ds3 framing** command).

The **no** form of this command removes the MDL string association and stops the transmission of any IDs.

Default

no mdl

Parameters

mdl-string

Specifies an MDL message up to 38 characters long on a DS-3.

eic

Specifies the equipment ID code up to 10 characters long.

lic

Specifies the equipment ID code up to 11 characters long.

fic

Specifies the ID code up to 10 characters long.

unit

Specifies the unit ID code up to 6 characters long.

pfi

Specifies the facility ID code up to 38 characters long.

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port

Specifies the port ID code up to 38 characters long.

gen

Specifies the generator number to send in the MDL test signal message up to 38 characters long.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

29.81 mdl-transmit

mdl-transmit

Syntax

mdl-transmit {**path** | **idle-signal** | **test-signal**}

no mdl-transmit [**path** | **idle-signal** | **test-signal**]

Context

[Tree] (config>port>tdm>ds3 mdl-transmit)

Full Context

configure port tdm ds3 mdl-transmit

Description

This command enables the transmission of an MDL message on a DS-3/E-3 over channelized interface.

The **no** form of this command disables transmission of the specified message or all messages.

Default

no mdl-transmit

Parameters

path

Specifies the MDL path message.

idle-signal

Specifies the MDL idle signal message.

test-signal

Specifies the MDL test signal message.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

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29.82 mdt-pim

mdt-pim

Syntax

mdt-pim mode {**asm** | **ssm**} **group-address** *group-ip-address*

no mdt-pim

Context

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi mdt-pim)

Full Context

configure service vprn mvpn provider-tunnel selective multistream-spmsi mdt-pim

Description

This command creates a multi-stream MDT that could match many (C-S,C-G)s into a single data MDT.

Parameters

group-ip-address

Specifies the group address of this data MDT, that is the provider group address.

Platforms

All

29.83 mdt-type

mdt-type

Syntax

mdt-type {**sender-receiver** | **sender-only** | **receiver-only**}

no mdt-type

Context

[Tree] (config>service>vprn>mvpn mdt-type)

Full Context

configure service vprn mvpn mdt-type

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Description

This command allows restricting MVPN instance per PE node to a specific role. By default, MVPN instance on a given PE node assumes the role of being a sender as well as receiver. This creates a mesh of MDT/PMSI across all PE nodes from this PE.

This command provides an option to configure either a sender-only or receiver-only mode per PE node. Restricting the role of a PE node prevents creating full mesh of MDT/PMSI across all PE nodes that are participating in MVPN instance.

auto-rp-discovery cannot be enabled together with **mdt-type sender-only** or **mdt-type receiver-only**, or **wildcard-spmsi** configurations.

The **no** version of this command restores the default (sender-receiver).

Default

mdt-type sender-receiver

Parameters

sender-receiver

Specifies MVPN has both sender and receivers connected to PE node.

sender-only

Specifies MVPN has only senders connected to PE node.

receiver-only

Specifies MVPN has only receivers connected to PE node.

Platforms

All

29.84 meas-interval

meas-interval

Syntax

meas-interval {**5-mins** | **15-mins** | **1-hour** | **1-day**} [**create**]

no meas-interval {**5-mins** | **15-mins** | **1-hour** | **1-day**}

Context

[Tree] (config>oam-pm>session meas-interval)

Full Context

configure oam-pm session meas-interval

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Description

This command establishes the parameters of the individual measurement intervals utilized by the session. Multiple measurement intervals may be specified within the session. A maximum of three different measurement intervals may be configured under each session.

The **no** form of this command deletes the specified measurement interval.

Parameters

meas-interval

Specifies the duration of the measurement interval.

Values 1-min, 5-mins, 15-mins, 1-hour, 1-day

create

Creates the measurement interval.

Platforms

All

29.85 measurement-template

measurement-template

Syntax

measurement-template *template-name* [**create**]

no measurement-template *template-name*

Context

[Tree] (config>test-oam>link-meas measurement-template)

Full Context

configure test-oam link-measurement measurement-template

Description

This command configures a measurement template identifier that can be assigned to the IP interface by name.

Configuration modifications can be made to the measurement template without disabling the template and while IP interfaces are actively referencing the **measurement-template**. See the *7450 ESS, 7750 SR, 7950 XRS, and VSR OAM and Diagnostics Guide* for more information about which modifications will cause the test on associated IP interfaces to "Terminate" and restart.

The **no** form of this command removes the template name. A measurement template can be removed if no interfaces are referencing the template.

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Parameters

template-name

Specifies the measurement template name, up to 64 characters.

create

Keyword used to create the measurement template. The create keyword requirement can be enabled or disabled in the **environment create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

29.86 med-out

med-out

Syntax

med-out {*number* | **igp-cost**}

no med-out

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy med-out)

Full Context

configure subscriber-mgmt bgp-peering-policy med-out

Description

This command enables advertising the Multi-Exit Discriminator (MED) and assigns the value used for the path attribute for the MED advertised to BGP peers if the MED is not already set.

The specified value can be overridden by any value set with a route policy.

The **no** form of this command used at the global level reverts to default where the MED is not advertised.

Parameters

number

Specifies the MED path attribute value, expressed as a decimal integer.

Values 0 to 4294967295

igp-cost

Specifies that the MED is set to the IGP cost of the given IP prefix.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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med-out

Syntax

med-out {*number* | **igp-cost**}

no med-out

Context

[Tree] (config>service>vprn>bgp med-out)

[Tree] (config>service>vprn>bgp>group>neighbor med-out)

[Tree] (config>service>vprn>bgp>group med-out)

Full Context

configure service vprn bgp med-out

configure service vprn bgp group neighbor med-out

configure service vprn bgp group med-out

Description

This command enables advertising the Multi-Exit Discriminator (MED) and assigns the value used for the path attribute for the MED advertised to BGP peers if the MED is not already set.

The specified value can be overridden by any value set via a route policy.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command used at the global level reverts to default where the MED is not advertised.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no med-out

Parameters

number

Specifies the MED path attribute value, expressed as a decimal integer.

Values 0 to 4294967295

igp-cost

Specifies the MED is set to the IGP cost of the given IP prefix.

Platforms

All

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med-out

Syntax

med-out {*number* | **igp-cost**}

no med-out

Context

[Tree] (config>router>bgp>group med-out)

[Tree] (config>router>bgp med-out)

[Tree] (config>router>bgp>group>neighbor med-out)

Full Context

configure router bgp group med-out

configure router bgp med-out

configure router bgp group neighbor med-out

Description

This command enables advertising the Multi-Exit Discriminator (MED) and assigns the value used for the path attribute for the MED advertised to BGP peers if the MED is not already set.

The specified value can be overridden by any value set via a route policy.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command used at the global level reverts to default where the MED is not advertised.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no med-out

Parameters

number

Specifies the MED path attribute value, expressed as a decimal integer.

Values 0 to 4294967295

igp-cost

Sets MED to the IGP cost of the given IP prefix.

Platforms

All

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29.87 medium-duration-flow-count

medium-duration-flow-count

Syntax

[**no**] **medium-duration-flow-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-cntr medium-duration-flow-count)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters medium-duration-flow-count

Description

This command includes the medium duration flow count in the AA subscriber's custom record. This command only applies to the 7750 SR.

The **no** form of this command excludes the medium duration flow count.

Default

no medium-duration-flow-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.88 member

member

Syntax

member *port-id*

no member

Context

[Tree] (config>eth-tunnel>path member)

Full Context

configure eth-tunnel path member

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Description

This command associates a port with the path defined under the Ethernet tunnel. If the operator wants to replace an existing member port or control tag, the whole path needs to be shutdown first. The alternate path will be activated as a result keeping traffic interruption to a minimum. Then the whole path must be deleted, the alternate path precedence modified to primary before re-creating the new path.

The following port-level configuration needs to be the same across the two member ports of an Ethernet tunnel:

- port>ethernet>access>{ingress|egress}>queue-group
- port>ethernet>egress-scheduler-policy
- port>access>egress>pool
- port>ethernet>dot1q-etype
- port>ethernet>qinq-etype
- port>ethernet>pbb-etype
- port>ethernet>mtu

The Ethernet tunnel will inherit the configuration from the first member port for these parameters. Additional member port that is added must have the same configuration.

The operator is allowed to update these port parameters only if the port is the sole member of an Ethernet tunnel. This means that in the example below, the operator needs to remove port 1/1/4 and port 1/1/5 before being allowed to modify 1/1/1 for the above parameters.

```
eth-tunnel 1
  path 1
    member 1/1/1
  path 2
    member 1/1/4
eth-tunnel 2
  path 1
    member 1/1/1
  path 2
    member 1/1/5
```

The **no** form of this command is used just to indicate that a member is not configured. The procedure described above, based on the **no path** command must be used to un-configure/change the member port assigned to the path.

Default

no member

Parameters

port-id

Specifies the port-id associated with the path in the format x/y/z where x represents the IOM, y the MDA and z the port numbers.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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member

Syntax

[**no**] **member** *encap-id* [**to** *encap-id*]

Context

[Tree] (config>service>vpls>sap>egress>encap-defined-qos>encap-group member)

Full Context

configure service vpls sap egress encap-defined-qos encap-group member

Description

This command adds or removes a member ISID or a range of contiguous ISID members to an encap-group. The user can add or remove members to the encap-group one at a time or as a range of contiguous values using the member command. However, when the **qos-per-member** option is enabled, members must be added or removed one at a time.

The **no** form of this command removes the single or range of ISID values from the encap-group.

Parameters

encap-id

Specifies the value of the single encap-id or the start encap-id of the range. ISID is the only encap-id supported.

to *encap-id*

Specifies the value of the end encap-id of the range. ISID is the only encap-id supported.

Platforms

All

member

Syntax

[**no**] **member** *interface-name*

Context

[Tree] (config>service>vprn>isis>link-group>level member)

Full Context

configure service vprn isis link-group level member

Description

This command adds or removes a links to the associated link-group. The interface name should already exist before it is added to a link-group.

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The **no** form of this command removes the specified interface from the associated link-group.

Parameters

interface-name

Specifies the name of the interface to be added or removed from the associated link-group.

Platforms

All

member

Syntax

member *user-profile-name* [*user-profile-name*]

no member *user-profile-name*

Context

[Tree] (config>system>security>user>console member)

Full Context

configure system security user console member

Description

This command is used to associate the user with a local command authorization profile.

A user can be associated with up to eight profiles.

When a user is a member of multiple profiles, profiles are evaluated in the order that they are configured. Evaluation stops if there is a match, or when the default action of the a profile is **deny-all**, **permit-all** or **read-only-all**. When the profile default action is **none** and if no match conditions are met in the profile, the next profile is evaluated. When the default action of the last profile is **none** and no explicit match is found, the command is denied.

The **no** form of this command removes the association between the user and the profile.

Default

member default

Parameters

user-profile-name

Specifies up to eight user profile names, up to 32 characters.

Platforms

All

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member

Syntax

[**no**] **member** *interface-name*

Context

[Tree] (config>router>isis>link-group>level member)

Full Context

configure router isis link-group level member

Description

This command adds or removes a link to the associated link-group. The interface name should already exist before it is added to a link-group.

The **no** form of this command removes the specified interface from the associated link-group.

Parameters

interface-name

Specifies the name of the interface to be added or removed from the associated link-group.

Platforms

All

member

Syntax

member *port-id* [**phy-number** *phy-number*] [**create**]

no member *port-id*

Context

[Tree] (config>card>mda>flex member)

Full Context

configure card mda flex member

Description

This command configures the MDA port ID for the FlexE member.

The **no** form of this command removes the MDA port ID.

Default

no member

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Parameters

port-id

Specifies the MDA port ID for the FlexE member, up to 18 characters.

phy-number

Specifies the physical layer interface (PHY) number for the FlexE member.

Values 0 to 62

create

Keyword to create an MDA FlexE member.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

member

Syntax

member *ext-comm-id*

[**no**] **member** *ext-comm-id*

Context

[Tree] (config>router>policy-options>extended-community-set member)

Full Context

configure router policy-options extended-community-set member

Description

Commands in this context add a route target member of an extended community set. The member must be configured in an exact match format and it must start with the substring ‘target:’. This substring is followed by two numbers separated from each other by a colon.

The meaning of the two numbers depends on whether the route target is in type 0, type 1 or type 2 format. These members cannot be configured to be regular expressions.

The **no** form of this command removes the route target member of an extended community set.

Parameters

ext-comm-id

Specifies the name of the extended community set, up to 64 characters.

Values target:{*ip-addr*:*comm-val* | *2byte-asnumber*:*ext-comm-val*| *4byte-snumber*:*comm-val*}

ip-addr a.b.c.d

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comm-val	0 to 65535
2byte-asnumber	0 to 65535
ext-comm-val	0 to 4294967295
4byte-asnumber	0 to 4294967295

Platforms

All

29.89 member-lsp-template

member-lsp-template

Syntax

member-lsp-template *template-name*

no member-lsp-template

Context

[Tree] (config>router>mpls>lsp-cont member-lsp-template)

Full Context

configure router mpls lsp-container member-lsp-template

Description

This command configures the LSP template used to create the member LSPs for this LSP container.

The **no** form of this command removes the LSP template.

Default

no member-lsp-template

Parameters

template-name

Specifies the LSP template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.90 member-pool

member-pool

Syntax

member-pool *name*

no member-pool

Context

[Tree] (config>isa>tunnel-grp member-pool)

Full Context

configure isa tunnel-group member-pool

Description

This command associates the tunnel group with a tunnel member pool. This tunnel group is used as the designated standby in an N:M IPsec redundancy configuration.

The **no** form of this command removes the tunnel member pool from the configuration.

Parameters

name

Specifies the name of the member pool, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.91 members

members

Syntax

[**no**] **members** *comm-id* [*comm-id*]

Context

[Tree] (config>router>policy-options>community members)

Full Context

configure router policy-options community members

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Description

This command adds members to a route policy community list to use in route policy entries.

Each member of a community list is a standard, extended, or large community value or a regular expression that potentially matches many community values. A regular expression incorporates terms and operators that use the terms. An individual numerical digit is an elementary term in the community regular expression. More complex terms can be built from elementary terms. The following are key operators supported by SR OS:

- .
- *
- ?
- {n}
- {m,n}
- {m, }

To reverse the match criteria when specifying a list of ranges or single values using square brackets, use the non-match operator (^) before the elements within the square brackets.

The **no** version of this command deletes route policy community members.

Parameters

comm-id

Specifies a BGP community value, up to 72 characters. A community ID can be specified in different forms.

Values [*as-num:comm-val* | *reg-ex* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *reg-ex* — A regular expression string. Allowed values are any string up to 72 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (such as "#", "$", or spaces), the entire string must be enclosed within double quotes.
- *ext-comm* — The extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*reg-ex1*&*reg-ex2*
  - {*target* | *origin*}:*ip-address*:*reg-ex2*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*

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- **flowspec-set**:*ext-asnum*:*group-id*
- **flowspec-set-trans**:*ext-asnum*:*group-id*
- **ipv6-redirect**: *ipv6-addr*
- **color**:*co-bits*:*color-value*

where:

- *target* — route target
- *origin* — route origin
- *ip-address* — a.b.c.d
- *ext-comm-val* — 0 to 4294967295
- *ext-asnum* — 0 to 4294967295
- *reg-ex1*, *reg-ex2* — A regular expression string. Allowed values are any string up to 63 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.
- **bandwidth** — bandwidth
- *val-in-mbps* — 0 to 16777215
- **ext:4300** — origin verification
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- **ext** — extended
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- **flowspec-set —** FlowSpec set
- **flowspec-set-trans —** FlowSpec set transitive
- *ipv6-addr* — x:x:x:x:x:x:x:x (eight 16-bit pieces)
- *group-id* — 0 to 16383
- *co-bits* — 00, 01, 10 or 11
- *color-value* — 0 to 4294967295

- *well-known-comm* — **null**, **no-export**, **no-export-subconfed**, **no-advertise**, **llgr-stale**, **no-llgr**, **blackhole**
- *large-comm* — large community, defined as one of the following:
  - *ext-asnum*:*ext-comm-val*:*ext-comm-val*
  - *reg-ex3*&*reg-ex3*&*reg-ex3*

  where:
  - *reg-ex3* — A regular expression string. Allowed values are any string up to 68 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

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Platforms

All

29.92 memory

memory

Syntax

memory *memory-size*

no memory

Context

[Tree] (config>esa>vm memory)

Full Context

configure esa vm memory

Description

This command configures the amount of memory (in gigabytes) that is allocated to the ESA-VM instance.

The **no** form of this command removes the memory allocation. To modify the memory allocation, first invoke the **no memory** command.

Parameters

memory-size

Specifies the amount of memory in GB.

Values 0 to 256

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

29.93 memory-alarm

memory-alarm

Syntax

memory-alarm high-threshold *high-percentage* **low-threshold** *low-percentage*

no memory-alarm

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Context

[Tree] (config>li>x-interfaces>x3>alarms memory-alarm)

Full Context

configure li x-interfaces x3 alarms memory-alarm

Description

This command configures the thresholds for raising the memory alarm. The low threshold value must be configured with a smaller value than the high threshold.

The **no** form of this command reverts to the default values.

Parameters

high-percentage

Specifies the high threshold value, as a percentage.

Values 1 to 100

Default 100

low-percentage

Specifies the low threshold value, as a percentage.

Values 0 to 99

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

29.94 memory-use-alarm

memory-use-alarm

Syntax

memory-use-alarm rising-threshold *threshold* [**falling-threshold** *threshold*] **interval** *seconds* [*rmon-event-type*] [**startup-alarm** *alarm-type*]

no memory-use-alarm

Context

[Tree] (config>system>thresholds memory-use-alarm)

Full Context

configure system thresholds memory-use-alarm

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Description

The memory thresholds are based on monitoring the TIMETRA-SYSTEM-MIB sgiMemoryUsed object. This object contains the amount of memory currently used by the system. The severity level is Alarm. The absolute sample type method is used.

The **no** form of this command removes the configured memory threshold warning.

Parameters

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated startup-alarm is equal to rising or either.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal the falling-threshold value.

The threshold value represents units in bytes.

Values -2147483648 to 2147483647

Default 0

falling-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated startup-alarm is equal to falling or either.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal the rising-threshold value.

The threshold value represents units in bytes.

Values -2147483648 to 2147483647

Default 0

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

The threshold value represents units in bytes.

Values 1 to 2147483647

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

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Values log — An entry is made in the RMON-MIB log table for each event occurrence. This does not create an OS logger entry. The RMON-MIB log table entries can be viewed using the CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

alarm-type

Specifies the alarm that may be sent when this alarm is first created. If the first sample is greater than or equal to the rising threshold value and startup-alarm is equal to rising or either, then a single rising threshold crossing event is generated. If the first sample is less than or equal to the falling threshold value and startup-alarm is equal to falling or either, a single falling threshold crossing event is generated.

Values rising, falling, either

Default either

Configuration example

```
memory-use-alarm rising-threshold 50000000 falling-threshold 45999999
interval 500 rmon-event-type both start-alarm either
```

Platforms

All

29.95 memory-use-warn

memory-use-warn

Syntax

memory-use-warn rising-threshold *threshold* [**falling-threshold** *threshold*] **interval** *seconds* [*rmon-event-type*] [**startup-alarm** *alarm-type*]

no memory-use-warn

Context

[Tree] (config>system>thresholds memory-use-warn)

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Full Context

configure system thresholds memory-use-warn

Description

The memory thresholds are based on monitoring MemoryUsed object. This object contains the amount of memory currently used by the system. The severity level is Alarm.

The absolute sample type method is used.

The **no** form of this command removes the configured compact flash threshold warning.

Parameters

rising-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is greater than or equal to this threshold and the associated startup-alarm is equal to rising or either.

After a rising threshold crossing event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches less than or equal the falling-threshold value.

The threshold value represents units in bytes.

Values -2147483648 to 2147483647

Default 0

falling-threshold *threshold*

Specifies a threshold for the sampled statistic. When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single threshold crossing event will be generated. A single threshold crossing event will also be generated if the first sample taken is less than or equal to this threshold and the associated startup-alarm is equal to falling or either.

After a falling threshold crossing event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches greater than or equal the rising-threshold value.

The threshold value represents units in bytes.

Values -2147483648 to 2147483647

Default 0

seconds

Specifies the polling period over which the data is sampled and compared with the rising and falling thresholds.

Values 1 to 2147483647

rmon-event-type

Specifies the type of notification action to be taken when this event occurs.

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Values log — An entry is made in the RMON-MIB log table for each event occurrence.

This does not create an SR OS logger entry. The RMON-MIB log table entries can be viewed using the **show>system>thresholds** CLI command.

trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs.

both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated.

none — No action is taken.

Default both

startup-alarm *alarm-type*

Specifies the alarm that may be sent when this alarm is first created. If the first sample is greater than or equal to the rising threshold value and startup-alarm is equal to rising or either, then a single rising threshold crossing event is generated. If the first sample is less than or equal to the falling threshold value and startup-alarm is equal to falling or either, a single falling threshold crossing event is generated.

Default either

Values rising, falling, either

Configuration example

```
memory-use-warn rising-threshold 500000 falling-threshold 400000 interval 800
 rmon-
event-type log start-alarm falling
```

Platforms

All

29.96 mep

mep

Syntax

[**no**] **mep** *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (config>eth-tunnel>path>eth-cfm mep)

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Full Context

configure eth-tunnel path eth-cfm mep

Description

This command provisions an 802.1ag maintenance endpoint (MEP).

The **no** form of this command reverts to the default values.

Parameters

mep-id

Specifies the maintenance association end point identifier.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

[**no**] **mep** *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (config>router>if>eth-cfm mep)

Full Context

configure router interface eth-cfm mep

Description

This command provisions the MEP.

The **no** form of this command reverts to the default values.

Default

no mep *mep-id* domain *md-index* association *ma-index*

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Parameters

mep-id

Specifies the MEP identifier.

Values 1 to 8191

md-index

Specifies the MD index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

[**no**] **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**vlan** *vlan-id*]

Context

[Tree] (config>lag>eth-cfm mep)

[Tree] (config>port>ethernet>eth-cfm mep)

Full Context

configure lag eth-cfm mep

configure port ethernet eth-cfm mep

Description

This command configures the MEP. Port-based MEPs and LAG-based MEPs are mutually exclusive. If a LAG member port includes a MEP, the configuration of a MEP on the LAG fails. If a LAG includes the configuration of a MEP, the configuration of MEPs on the LAG member ports fails.

The **no** form of this command reverts to the default values.

Default

no mep *mep-id* domain *md-index* association *ma-index*

Parameters

mep-id

Specifies the MA end point identifier.

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Values 1 to 8191

md-index

Specifies the MD index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

vlan-id

Specifies the outer VLAN ID of the tunnel and is specific to tunnel facility MEPs.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

mep *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {**up** | **down**}] [**primary-vlan-enable**]

no mep *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (config>service>epipe>sap>eth-cfm mep)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm mep)

[Tree] (config>service>ipipe>sap>eth-cfm mep)

Full Context

configure service epipe sap eth-cfm mep

configure service epipe spoke-sdp eth-cfm mep

configure service ipipe sap eth-cfm mep

Description

This command provisions the MEP.

The **no** form of this command reverts to the default values.

Parameters

mep-id

Specifies the MEP identifier.

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Values 1 to 8191

md-index

Specifies the MD index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

direction {up | down}

Keyword used to configure the MEP's facing direction on a bridge port. The up direction is not supported for all Fpipe services. For example, Ipipe does not support the up direction for MEPs.

Values **up** – Sends ETH-CFM messages toward the MAC relay entity.
down – Sends ETH-CFM messages away from the MAC relay entity.

primary-vlan-enable

Provides a method for linking the MEP with the primary VLAN configured under the bridge-identifier for the MA. This must be configured as part of the creation step and can only be changed by deleting the MEP and re-creating it. Primary VLANs are only supported under Layer 2 Epipe and VPLS services.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

mep *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {**up** | **down**}] [**primary-vlan-enable**]

no mep *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (config>service>vpls>sap>eth-cfm mep)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm mep)

[Tree] (config>service>vpls>eth-cfm mep)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm mep)

Full Context

configure service vpls sap eth-cfm mep

configure service vpls spoke-sdp eth-cfm mep

configure service vpls eth-cfm mep

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configure service vpls mesh-sdp eth-cfm mep

Description

This command configures the ETH-CFM maintenance endpoint (MEP). A MEP created at the VPLS service level **vpls>eth-cfm** creates a virtual MEP.

The **no** version of the command will remove the MEP.

Parameters

mep-id

Specifies the MEP identifier.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value.

Values 1 to 4294967295

ma-index

Specifies the maintenance association (MA) index value.

Values 1 to 4294967295

direction up | down

Sets the direction in which the MEP faces on the bridge port. Direction is not supported when a MEP is created directly under the vpls>eth-cfm construct (vMEP).

down — Sends ETH-CFM messages away from the MAC relay entity.

up — Sends ETH-CFM messages toward the MAC relay entity.

primary-vlan-enable

Sets a method for linking the MEP with the primary VLAN configured under the bridge-identifier for the MA. MEPs cannot be changed from or to primary VLAN functions. This must be configured as part of the creation step and can only be changed by deleting the MEP and re-creating it. Primary VLANs are only supported under Layer 2 Epipe and VPLS services.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

mep *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {**up** | **down**}]

no mep *mep-id* **domain** *md-index* **association** *ma-index*

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Context

[Tree] (config>service>ies>if>sap>eth-cfm mep)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm mep)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm mep)

Full Context

configure service ies interface sap eth-cfm mep

configure service ies interface spoke-sdp eth-cfm mep

configure service ies subscriber-interface group-interface sap eth-cfm mep

Description

This command configures the ETH-CFM maintenance endpoint (MEP).

Parameters

mep-id

Specifies the maintenance association end point identifier.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

direction up | down

The direction in which the maintenance association (MEP) faces on the bridge port. Direction UP is not applicable to IES MEPs.

down — Sends ETH-CFM messages away from the MAC relay entity.

up — Sends ETH-CFM messages towards the MAC relay entity.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep
- configure service ies interface sap eth-cfm mep

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep

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mep

Syntax

mep *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {**up** | **down**}]

no mep *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm mep)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm mep)

[Tree] (config>service>vprn>if>sap>eth-cfm mep)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep

configure service vprn subscriber-interface group-interface sap eth-cfm mep

configure service vprn interface sap eth-cfm mep

Description

This command configures the ETH-CFM maintenance endpoint (MEP).

Parameters

mep-id

Specifies the maintenance association end point identifier.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

direction up | down

Indicates the direction in which the maintenance association (MEP) faces on the bridge port. Direction UP is not supported on VPRN MEPs.

Values down — Sends continuity check messages away from the MAC relay entity.

up — Sends continuity check messages towards the MAC relay entity.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep
- configure service vprn interface sap eth-cfm mep

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep

mep

Syntax

[**no**] **mep**

Context

[Tree] (config>router>mpls>lsp>working-tp-path mep)

[Tree] (config>router>mpls>lsp>protect-tp-path mep)

Full Context

configure router mpls lsp working-tp-path mep

configure router mpls lsp protect-tp-path mep

Description

This command creates or edits an MPLS-TP maintenance entity group (MEG) endpoint (MEP) on and MPLS-TP path. MEPs represent the termination point for OAM flowing on the path, as well as linear protection for the LSP. Only one MEP can be configured at each end of the path.

The following commands are applicable to a MEP on an MPLS-TP working or protect path: oam-template, bfd-enable, and shutdown. In addition, a protection-template may be configured on a protect path.

The **no** form of this command removes a MEP from an MPLS-TP path.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

[**no**] **mep** *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (debug>eth-cfm mep)

Full Context

debug eth-cfm mep

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Description

This command specifies the MEP from which to debug the CFM PDUs.

The **no** form of this command removes the MEP parameters.

Parameters

mep-id

Specifies the maintenance association endpoint identifier of the launch point.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value of the launch point.

Values 1 to 4294967295

ma-index

Specifies the maintenance association (MA) index value of the launch point.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mep

Syntax

[**no**] **mep** *mep-id* **domain** *md-index* **association** *ma-index*

Context

[Tree] (config>eth-ring>path>eth-cfm mep)

Full Context

configure eth-ring path eth-cfm mep

Description

This command provisions an 802.1ag maintenance endpoint (MEP).

The **no** form of the command deletes the MEP.

Parameters

mep-id

Specifies the maintenance association end point identifier.

Values 1 to 81921

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md-index

Specifies the maintenance domain (MD) index value.

Values 1 to 4294967295

ma-index

Specifies the MA index value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

29.97 mesh-group

mesh-group

Syntax

mesh-group {**value** | **blocked**}

no mesh-group

Context

[Tree] (config>service>vprn>isis>if mesh-group)

Full Context

configure service vprn isis interface mesh-group

Description

This command assigns an interface to a mesh group. Mesh groups limit the amount of flooding that occurs when a new or changed LSP is advertised throughout an area.

All routers in a mesh group should be fully meshed. When LSPs need to be flooded, only a single copy is received rather than a copy per neighbor.

To create a mesh group, configure the same mesh group value for each interface that is part of the mesh group. All routers must have the same mesh group value configured for all interfaces that are part of the mesh group.

To prevent an interface from flooding LSPs, the optional **blocked** parameter can be specified. Configure mesh groups carefully. It is easy to create isolated islands that do not receive updates as (other) links fail.

The **no** form of this command removes the interface from the mesh group. The interface does not belong to a mesh group.

Default

no mesh-group

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Parameters

value

Specifies a unique decimal integer value distinguishes this mesh group from other mesh groups on this or any other router that is part of this mesh group.

Values 1 to 2000000000

blocked

Prevents an interface from flooding LSPs.

Platforms

All

mesh-group

Syntax

mesh-group {**value** | **blocked**}

no mesh-group

Context

[Tree] (config>router>isis>interface mesh-group)

Full Context

configure router isis interface mesh-group

Description

This command assigns an interface to a mesh group. Mesh groups limit the amount of flooding that occurs when a new or changed LSP is advertised throughout an area.

All routers in a mesh group should be fully meshed. When LSPs need to be flooded, only a single copy is received rather than a copy per neighbor.

To create a mesh group, configure the same mesh group value for each interface that is part of the mesh group. All routers must have the same mesh group value configured for all interfaces that are part of the mesh group.

To prevent an interface from flooding LSPs, the optional **blocked** parameter can be specified. Configure mesh groups carefully to avoid creating isolated islands that do not receive updates as (other) links fail.

The **no** form of this command removes the interface from the mesh group.

Parameters

value

Specifies the unique decimal integer value that distinguishes this mesh group from other mesh groups on this or any other router that is part of this mesh group.

Values 1 to 2000000000

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blocked

Prevents an interface from flooding LSPs.

Platforms

All

29.98 mesh-sdp

mesh-sdp

Syntax

mesh-sdp *sdp-id*[*:vc-id*] [**vc-type** {**ether** | **vlan**}] [**create**]

mesh-sdp *sdp-id*[*:vc-id*] [**vc-type** {**ether** | **vlan**}] [**create**] **leaf-ac**

mesh-sdp *sdp-id*[*:vc-id*] [**vc-type** {**ether** | **vlan**}] [**create**] **root-leaf-tag**

no mesh-sdp *sdp-id*[*:vc-id*]

Context

[Tree] (config>service>vpls mesh-sdp)

Full Context

configure service vpls mesh-sdp

Description

This command binds a VPLS service to an existing service destination point (SDP).

Mesh SDPs bound to a service are logically treated like a single bridge "port” for flooded traffic where flooded traffic received on any mesh SDP on the service is replicated to other "ports” (spoke SDPs and SAPs) and not transmitted on any mesh SDPs.

Note:
This command creates a binding between a service and an SDP. The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service is down.

The SDP must already be defined in the **config>service>sdp** context in order to associate the SDP with an Epipe or VPLS service. If the **sdp** *sdp-id* is not already configured, an error message is generated. If the *sdp-id* does exist, a binding between that *sdp-id* and the service is created.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end router devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router.

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Default

No *sdp-id* is bound to a service.

Parameters

sdp-id

Specifies an SDP identifier.

Values 1 to 17407

vc-id

Specifies a virtual circuit identifier. This value is used to validate the VC ID portion of each mesh SDP binding defined in the service. The default value of this object is equal to the service ID. Any value may be used for the *vc-id* when there is no existing mesh SDP within the service; if a mesh SDP exists then all other mesh SDPs in the service must be configured with the same *vc-id*.

Values 1 to 4294967295

vc-type

Specifies to override the default VC type signaled for the spoke or mesh binding to the far end of the SDP. The VC type is a 15 bit-quantity containing a value which represents the type of VC. The actual signaling of the VC type depends on the signaling parameter defined for the SDP. If signaling is disabled, the **vc-type** command can still be used to define the dot1q value expected by the far-end provider equipment. A change of the binding's VC type causes the binding to signal the new VC type to the far end when signaling is enabled.

VC types are derived according to IETF *draft-martini-l2circuit-trans-mpls*.

The VC type value for Ethernet is 0x0005.

The VC type value for an Ethernet VLAN is 0x0004.

ether

Defines the VC type as Ethernet. The **vlan** keyword is mutually exclusive. When the VC type is not defined then the default is Ethernet for spoke SDP bindings. Defining Ethernet is the same as executing **no vc-type** and restores the default VC type for the spoke SDP binding (hex 5).

vlan

Defines the VC type as VLAN. The top VLAN tag, if a VLAN tag is present, is stripped from traffic received on the pseudowire, and a vlan-tag is inserted when forwarding into the pseudowire. The **ethernet** and **vlan** keywords are mutually exclusive. When the VC type is not defined then the default is Ethernet for mesh SDP bindings.

Note:
The system expects a symmetrical configuration with its peer, specifically it expects to remove the same number of VLAN tags from received traffic as it adds to transmitted traffic. As some of the related configuration parameters are local and not communicated in the signaling plane, an asymmetrical behavior cannot always be detected and so cannot be blocked. Consequently, protocol extractions will not necessarily

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function for asymmetrical configurations as they would with a symmetrical configurations resulting in an unexpected operation.

root-leaf-tag

Specifies a tagging mesh SDP under an E-Tree VPLS. When a tag SDP binding is required, it is created with a root-leaf-tag flag. Only VLAN tag SDP bindings are supported. The VLAN type must be set to VC VLAN type. The root-leaf-tag parameter indicates this SDP binding is a tag SDP that uses a default VID 1 for root and 2 for leaf. The SDP binding tags egress E-Tree traffic with root and leaf VIDs as appropriate. Root and leaf VIDs are only significant between peering VPLS but the values must be consistent on each end. On ingress a tag SDP binding removes the VID tag on the interface between VPLS in the same E-Tree service. The tag SDP receives root tagged traffic and marks the traffic with a root indication internally. This option is not available on BGP EVPN-enabled E-Tree services.

leaf-ac

Specifies an access (AC) mesh SDP binding under a E-Tree VPLS as a leaf access (AC) SDP. The default E-Tree SDP type is a root AC if *leaf-ac* or *root-leaf-tag* is not specified at SDP binding creation. This option is only available when the VPLS is designated as an E-Tree VPLS. BGP EVPN-enabled E-Tree VPLS services support the **leaf-ac** option.

create

Keyword used to create the mesh SDP. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

29.99 mesh-sdp-binding

mesh-sdp-binding

Syntax

[**no**] **mesh-sdp-binding**

Context

[Tree] (config>service>vpls>site mesh-sdp-binding)

Full Context

configure service vpls site mesh-sdp-binding

Description

This command enables applications to all mesh SDPs.

The **no** form of reverts the default.

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Default

no mesh-sdp-binding

Platforms

All

29.100 message

message

Syntax

message {**eq** | **neq**} **pattern** *pattern* [**regexp**]

no message

Context

[Tree] (config>service>vprn>log>filter>entry>match message)

Full Context

configure service vprn log filter entry match message

Description

This command adds system messages as a match criterion.

The **no** form of this command removes messages as a match criterion.

Parameters

eq

Specifies if the matching criteria should be equal to the specified value.

neq

Specifies if the matching criteria should not be equal to the specified value.

pattern

Specifies a message, up to 400 characters, to be used in the match criteria.

regexp

Specifies the type of string comparison to use to determine if the log event matches the value of **message** command parameters. When the **regexp** keyword is not specified, the default matching algorithm used is a basic substring match.

Platforms

All

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message

Syntax

message {**eq** | **neq**} **pattern** *pattern* [**regexp**]

no message

Context

[Tree] (config>log>filter>entry>match message)

Full Context

configure log filter entry match message

Description

This command adds system messages as a match criterion.

The **no** form of this command removes messages as a match criterion.

Parameters

eq

Determines if the matching criteria should be equal to the specified value.

neq

Determines if the matching criteria should not be equal to the specified value.

pattern

Specifies a message up to 400 characters in length to be used in the match criteria.

regexp

Specifies the type of string comparison to use to determine if the log event matches the value of **message** command parameters. When the **regexp** keyword is not specified, the default matching algorithm used is a basic substring match.

Platforms

All

29.101 message-count

message-count

Syntax

message-count *count*

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Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>icmp6-gen>pkt-too-big message-count)

[Tree] (config>service>vprn>if>sap>ipsec-tun>icmp6-gen>pkt-too-big message-count)

[Tree] (config>ipsec>tnl-temp>icmp6-gen>pkt-too-big message-count)

[Tree] (config>router>if>ipsec-tunnel>icmp-gen>pkt-too-big message-count)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>icmp6-gen>pkt-too-big message-count)

Full Context

configure service vprn interface ipsec ipsec-tunnel icmp6-generation pkt-too-big message-count

configure service vprn interface sap ipsec-tunnel icmp6-generation pkt-too-big message-count

configure ipsec tunnel-template icmp6-generation pkt-too-big message-count

configure router interface ipsec-tunnel icmp-gen pkt-too-big message-count

configure service ies interface ipsec ipsec-tunnel icmp6-generation pkt-too-big message-count

Description

This command configures the maximum number of ICMPv6 messages that can be sent during the configured interval.

Parameters

count

Specifies the maximum number of ICMPv6 messages that can be sent during the configured interval

Values 10 to 1000

Default 100

Platforms

VSR

- configure service vprn interface ipsec ipsec-tunnel icmp6-generation pkt-too-big message-count
- configure service ies interface ipsec ipsec-tunnel icmp6-generation pkt-too-big message-count

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template icmp6-generation pkt-too-big message-count
- configure service vprn interface sap ipsec-tunnel icmp6-generation pkt-too-big message-count

message-count

Syntax

message-count *number*

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Context

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>icmp-gen>frag-required message-count)

[Tree] (config>ipsec>tnl-temp>icmp-gen>frag-required message-count)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>icmp-gen>frag-required message-count)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>icmp-gen>frag-required message-count)

[Tree] (config>router>if>ipsec>ipsec-tunnel>icmp-gen>frag-required message-count)

[Tree] (config>service>vprn>if>sap>ip-tunnel>icmp-gen>frag-required message-count)

Full Context

configure service ies interface ipsec ipsec-tunnel icmp-generation frag-required message-count

configure ipsec tunnel-template icmp-generation frag-required message-count

configure service vprn interface sap ipsec-tunnel icmp-generation frag-required message-count

configure service vprn interface ipsec ipsec-tunnel icmp-generation frag-required message-count

configure router interface ipsec ipsec-tunnel icmp-generation frag-required message-count

configure service vprn interface sap ip-tunnel icmp-generation frag-required message-count

Description

This command configures the maximum number of ICMP Destination Unreachable "fragmentation needed and DF set" messages (type 3, code 4) that can be sent during the period specified by the **interval** *seconds* command.

Default

message-count 100

Parameters

number

Specifies the number of ICMP Destination Unreachable "fragmentation needed and DF set" messages that are transmitted within the **interval** *seconds* command time.

Values 10 to 1000

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel icmp-generation frag-required message-count
- configure service vprn interface ipsec ipsec-tunnel icmp-generation frag-required message-count
- configure router interface ipsec ipsec-tunnel icmp-generation frag-required message-count

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ip-tunnel icmp-generation frag-required message-count
- configure service vprn interface sap ipsec-tunnel icmp-generation frag-required message-count
- configure ipsec tunnel-template icmp-generation frag-required message-count

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29.102 message-digest-key

message-digest-key

Syntax

message-digest-key *keyid* **md5** [*key* | *hash-key*] [**hash** | **hash2** | **custom**]

no message-digest-key *keyid*

Context

[Tree] (config>service>vprn>ospf>area>virtual-link message-digest-key)

[Tree] (config>service>vprn>ospf>area>sham-link message-digest-key)

[Tree] (config>service>vprn>ospf>area>if message-digest-key)

Full Context

configure service vprn ospf area virtual-link message-digest-key

configure service vprn ospf area sham-link message-digest-key

configure service vprn ospf area interface message-digest-key

Description

This command configures a message digest key when MD5 authentication is enabled on the interface, virtual-link or sham-link. Multiple message digest keys can be configured.

This command is not valid in the OSPF3 context.

The **no** form of this command removes the message digest key identified by the *key-id*.

Default

No message digest keys are defined.

Parameters

keyid

Specifies the key ID. The *keyid* is expressed as a decimal integer.

Values 1 to 255

md5 *key*

Specifies the MD5 key. The *key* can be any alphanumeric string up to 16 characters in length.

md5 hash-key

Specifies the MD5 hash key. The key can be any combination of ASCII characters up to 32 characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

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This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** parameter is not used, the key is assumed to be in a non-encrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

message-digest-key

Syntax

message-digest-key *key-id* **md5** [*key* | *hash-key* | *hash2-key*] [**hash** | **hash2** | **custom**]

no message-digest-key *key-id*

Context

[Tree] (config>router>ospf>area>virtual-link message-digest-key)

[Tree] (config>router>ospf>area>interface message-digest-key)

Full Context

configure router ospf area virtual-link message-digest-key

configure router ospf area interface message-digest-key

Description

This command configures a message digest key when MD5 authentication is enabled on the interface. Multiple message digest keys can be configured.

The **no** form of this command removes the message digest key identified by the *key-id*.

By default, no message keys are defined.

Parameters

key-id

Specifies the key ID. The *keyid* is expressed as a decimal integer.

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Values 1 to 255

key

Specifies the MD5 key. The *key* can be any alphanumeric string up to 16 characters in length.

hash-key* | *hash2-key

Specifies the MD5 hash or hash2 key. the hash key. The key can be any combination of ASCII characters up to 32 (hash1-key) or 55 (hash2-key) characters in length (encrypted). If spaces are used in the string, enclose the entire string in quotation marks (" ").

This is useful when a user must configure the parameter, but, for security purposes, the actual unencrypted key value is not provided.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

All

29.103 message-fast-tx

message-fast-tx

Syntax

message-fast-tx *time*

no message-fast-tx

Context

[Tree] (config>system>lldp message-fast-tx)

Full Context

configure system lldp message-fast-tx

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Description

This command configures the duration of the fast transmission period.

Default

no message-fast-tx

Parameters

time

Specifies the fast transmission period in seconds.

Values 1 to 3600

Default 1

Platforms

All

29.104 message-fast-tx-init

message-fast-tx-init

Syntax

message-fast-tx-init *count*

no message-fast-tx-init

Context

[Tree] (config>system>lldp message-fast-tx-init)

Full Context

configure system lldp message-fast-tx-init

Description

This command configures the number of LLDPDUs to send during the fast transmission period.

Default

no message-fast-tx-init

Parameters

count

Specifies the number of LLDPDUs to send during the fast transmission period.

Values 1 to 8

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Default 4

Platforms

All

29.105 message-interval

message-interval

Syntax

message-interval {[*seconds*] [**milliseconds** *milliseconds*]}

no message-interval

Context

[Tree] (config>service>ies>if>ipv6>vrrp message-interval)

Full Context

configure service ies interface ipv6 vrrp message-interval

Description

This command sets the advertisement timer and indirectly sets the master down timer on the virtual router instance. The message-interval setting must be the same for all virtual routers participating as a virtual router. Any VRRP advertisement message received with an Advertisement Interval field different than the virtual router instance configured message-interval value will be silently discarded.

The message-interval command is available in both non-owner and owner **vrrp** *virtual-router-id* nodal contexts. If the message-interval command is not executed, the default message interval of 1 second will be used.

The **no** form of this command restores the default message interval value of 1 second to the virtual router instance.

Default

message-interval 1

Parameters

seconds

The number of seconds that will transpire before the advertisement timer expires.

Values 1 to 255

Default 1

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milliseconds ***milliseconds***

Specifies the time interval, in milliseconds, between sending advertisement messages.

Values 100 to 900

Platforms

All

message-interval

Syntax

message-interval {[*seconds*] [**milliseconds** *milliseconds*]}

no message-interval

Context

[Tree] (config>service>ies>if>vrrp message-interval)

Full Context

configure service ies interface vrrp message-interval

Description

This command sets the advertisement timer and indirectly sets the master down timer on the virtual router instance. The message-interval setting must be the same for all virtual routers participating as a virtual router. Any VRRP advertisement message received with an Advertisement Interval field different than the virtual router instance configured message-interval value will be silently discarded.

The message-interval command is available in both non-owner and owner **vrrp** *virtual-router-id* nodal contexts. If the message-interval command is not executed, the default message interval of 1 second will be used.

The **no** form of this command restores the default message interval value of 1 second to the virtual router instance.

Parameters

seconds

The number of seconds that will transpire before the advertisement timer expires.

Values 1 to 255

Default 1

milliseconds ***milliseconds***

Specifies the time interval, in milliseconds, between sending advertisement messages. This parameter is not supported on non-redundant chassis.

Values 100 to 900

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Platforms

All

message-interval

Syntax

message-interval {[*seconds*] [**milliseconds** *milliseconds*]}

no message-interval

Context

[Tree] (config>service>vprn>if message-interval)

[Tree] (config>service>vprn>if>ipv6>vrrp message-interval)

Full Context

configure service vprn interface message-interval

configure service vprn interface ipv6 vrrp message-interval

Description

This command sets the advertisement timer and indirectly sets the master down timer on the virtual router instance. The message-interval setting must be the same for all virtual routers participating as a virtual router. Any VRRP advertisement message received with an Advertisement Interval field different than the virtual router instance configured message-interval value will be silently discarded.

The message-interval command is available in both non-owner and owner **vrrp** *virtual-router-id* nodal contexts. If the message-interval command is not executed, the default message interval of 1 second will be used.

The **no** form of this command restores the default message interval value of 1 second to the virtual router instance.

Parameters

seconds

The number of seconds that will transpire before the advertisement timer expires.

Values 1 to 255

Default 1

milliseconds ***milliseconds***

Specifies the time interval, in milliseconds, between sending advertisement messages. This parameter is not supported on single-slot chassis.

Values 100 to 900

Platforms

All

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message-interval

Syntax

message-interval {[*seconds*] [**milliseconds** *milliseconds*]}

no message-interval

Context

[Tree] (config>router>if>ipv6>vrrp message-interval)

[Tree] (config>router>if>vrrp message-interval)

Full Context

configure router interface ipv6 vrrp message-interval

configure router interface vrrp message-interval

Description

This command configures the administrative advertisement message timer used by the master virtual router instance to send VRRP advertisement messages and to derive the master down timer as backup.

For an owner virtual router instance, the administrative advertisement timer directly sets the operational advertisement timer and indirectly sets the master down timer for the virtual router instance.

Non-owner virtual router instances usage of the **message-interval** setting is dependent on the state of the virtual router (master or backup) and the state of the **master-int-inherit** parameter.

- When a non-owner is operating as master for the virtual router, the configured **message-interval** is used as the operational advertisement timer similar to an owner virtual router instance. The **master-int-inherit** command has no effect when operating as master.
- When a non-owner is in the backup state with **master-int-inherit** disabled, the configured **message-interval** value is used to match the incoming VRRP advertisement message advertisement interval field. If the locally configured message interval does not match the advertisement interval field, the VRRP advertisement is discarded.
- When a non-owner is in the backup state with **master-int-inherit** enabled, the configured **message-interval** is ignored. The master down timer is indirectly derived from the incoming VRRP advertisement message advertisement interval field value.

VRRP advertisements messages that are fragmented, or contain IP options (IPv4), or contain extension headers (IPv6) require a longer message interval to be configured.

The in-use value of the message interval is used to derive the master down timer to be used when the virtual router is operating in backup mode based on the following formula:

(3x (in-use message interval) + skew time)

The skew time portion is used to slow down virtual routers with relatively low priority values when competing in the master election process.

The command is available in both non-owner and owner **vrrp** nodal contexts.

By default, a **message-interval** of 1 second is used.

The **no** form of the command reverts to the default value.

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Default

message-interval 1 — Advertisement timer set to 1 second.

Parameters

seconds

The number of seconds that will transpire before the advertisement timer expires expressed as a decimal integer.

Values IPv4: 1 to 255 IPv6: 1 to 40

milliseconds

Specifies the time interval, in milliseconds, between sending advertisement messages.

Values 100 to 900 IPv6: 10 to 990

Platforms

All

29.106 message-length

message-length

Syntax

message-length *message-length*

no message-length

Context

[Tree] (config>service>sdp>keep-alive message-length)

Full Context

configure service sdp keep-alive message-length

Description

This command configures the SDP monitoring keepalive request message length transmitted.

The **no** form of this command reverts the **message-length** *octets* value to the default setting.

Default

no message-length — The message length should be equal to the SDP's operating path MTU as configured in the **config>service>sdp path-mtu** command. If the default size is overridden, the actual size used will be the smaller of the operational SDP ID Path MTU and the size specified.

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Parameters

message-length

Specifies the size of the keepalive request messages in octets, expressed as a decimal integer. The **size** keyword overrides the default keepalive message size.

Values 40 to 9198

Platforms

All

29.107 message-path

message-path

Syntax

message-path *sap-id*

no message-path

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp message-path)

[Tree] (config>service>ies>sub-if>grp-if>srrp message-path)

Full Context

configure service vprn subscriber-interface group-interface srrp message-path

configure service ies subscriber-interface group-interface srrp message-path

Description

This command defines a specific SAP for SRRP in-band messaging. A message-path SAP must be defined prior to activating the SRRP instance. The defined SAP must exist on the SRRP instances group IP interface for the command to succeed and cannot currently be associated with any dynamic or static subscriber hosts. Once a group IP interface SAP has been defined as the transmission path for SRRP Advertisement messages, it cannot be administratively shutdown, will not support static or dynamic subscriber hosts and cannot be removed from the group IP interface.

The SRRP instance message-path command may be executed at any time on the SRRP instance. Changing the message SAP fails if a dynamic or static subscriber host is associated with the new SAP. Once successfully changed, the SRRP instance immediately disables anti-spoof on the SAP and starts sending SRRP Advertisement messages, if the SRRP instance is activated.

Changing the current SRRP message SAP on an active pair of routers should be done in the following manner:

1. Shutdown the backup SRRP instance.
2. Change the message SAP on the shutdown node.

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3. Change the message SAP on the active master node.
4. Re-activate the shutdown SRRP instance.

Shutting down the backup SRRP instance prevents the SRRP instances from becoming master due to temporarily using differing message path SAPs.

If an MCS peering is operational between the redundant nodes and the SRRP instance has been associated with the peering, the designated message path SAP is sent from each member.

The **no** form of this command can only be executed when the SRRP instance is shutdown. Executing no message-path allows the existing SAP to be used for subscriber management functions. A new message-path SAP must be defined prior to activating the SRRP instance.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.108 message-retransmit

message-retransmit

Syntax

message-retransmit [**timeout** *timeout*] [**retry-count** *value*]

no message-retransmit

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile message-retransmit)

Full Context

configure subscriber-mgmt gtp peer-profile message-retransmit

Description

This command configures the retry-count and response-timeout for GTP messages.

The **no** form of this command reverts to the default values.

Default

message-retransmit timeout 5 retry-count 3

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Parameters

timeout

Specifies the interval, in seconds, between retransmission of signaling request messages towards the same peer Mobile Gateway.

Values 1 to 30

Default 5

value

Specifies the number of times a signaling request message is transmitted towards the same peer Mobile Gateway.

Values 1 to 8

Default 3

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.109 message-severity-level

message-severity-level

Syntax

message-severity-level

Context

[Tree] (config>system>management-interface>cli>md-cli>environment message-severity-level)

Full Context

configure system management-interface cli md-cli environment message-severity-level

Description

This command configures the message severity level.

Platforms

All

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29.110 message-size

message-size

Syntax

message-size *max-num-of-routes*

no message-size

Context

[Tree] (config>service>vprn>rip>group message-size)

[Tree] (config>service>vprn>rip>group>neighbor message-size)

[Tree] (config>service>vprn>ripng message-size)

[Tree] (config>service>vprn>rip message-size)

[Tree] (config>service>vprn>ripng>group>neighbor message-size)

[Tree] (config>service>vprn>ripng>group message-size)

Full Context

configure service vprn rip group message-size

configure service vprn rip group neighbor message-size

configure service vprn ripng message-size

configure service vprn rip message-size

configure service vprn ripng group neighbor message-size

configure service vprn ripng group message-size

Description

This command sets the maximum number of routes per RIP update message.

The **no** form of this command resets the maximum number of routes back to the default of 25.

Default

no message-size

Parameters

size

An Integer.

Values 25 to 255

Default 25

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Platforms

All

message-size

Syntax

message-size *max-num-of-routes*

no message-size

Context

[Tree] (config>router>rip>group message-size)

[Tree] (config>router>ripng>group message-size)

[Tree] (config>router>ripng>group>neighbor message-size)

[Tree] (config>router>rip message-size)

[Tree] (config>router>rip>group>neighbor message-size)

[Tree] (config>router>ripng message-size)

Full Context

configure router rip group message-size

configure router ripng group message-size

configure router ripng group neighbor message-size

configure router rip message-size

configure router rip group neighbor message-size

configure router ripng message-size

Description

This command configures the maximum number of routes per RIP update message.

The **no** form of the command reverts to the default value.

Default

message-size 25

Parameters

max-num-of-routes

The maximum number of RIP routes per RIP update message expressed as a decimal integer.

Values 25 to 255

Platforms

All

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29.111 message-timeout

message-timeout

Syntax

message-timeout *seconds*

Context

[Tree] (config>li>x-interfaces>x1>timeouts message-timeout)

Full Context

configure li x-interfaces x1 timeouts message-timeout

Description

This command configures the maximum time that the LIC must reply to an X1 message. If the timer expires, the session is released.

Parameters

seconds

Specifies the maximum timeout value, in seconds.

Values 180 to 300

Default 180

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

29.112 message-type

message-type

Syntax

message-type

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter message-type)

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Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type

Description

This command configures a TCA for the counter capturing hits due to the GTP filter message type.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

message-type

Syntax

message-type

Context

[Tree] (config>app-assure>group>gtp>gtp-filter message-type)

Full Context

configure application-assurance group gtp gtp-filter message-type

Description

This command specifies the context for configuration of GTP message-type filtering. If no **message-type** is specified within a filter, then all GTP message types are allowed.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.113 message-type-gtpv2

message-type-gtpv2

Syntax

message-type-gtpv2

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter message-type-gtpv2)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter message-type-gtpv2

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Description

This command configures a TCA for the counter capturing hits due to the GTPv2 message type filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

message-type-gtpv2

Syntax

message-type-gtpv2

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr message-type-gtpv2)

Full Context

configure application-assurance group gtp gtp-filter message-type-gtpv2

Description

This command specifies the context for the configuration of GTP-v2 message-type filtering. If no **message-type-gtpv2** is specified within a filter, then all GTP message types are allowed, except for the messages that are dropped by GTP-C inspection because they violate the expected GTP protocol for the deployment interface (for example, roaming deployment).

The **gtpc-inspection** command must be enabled before configuring **message-type-gtpv2** filtering.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.114 messages

messages

Syntax

[**no**] **messages**

Context

[Tree] (debug>router>ldp>if>event messages)

[Tree] (debug>router>ldp>peer>event messages)

Full Context

debug router ldp interface event messages

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debug router ldp peer event messages

Description

This command displays specific information (for example, message type, source, and destination) regarding LDP messages sent to and received from LDP peers.

The **no** form of the command disables debugging output for LDP messages.

Platforms

All

29.115 meta-data

meta-data

Syntax

meta-data

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action>insert-nsh meta-data)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action insert-nsh meta-data

Description

Commands in this context configure opaque metadata to be inserted in NSH in the steered traffic if the forward action indicates NSH insertion.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.116 metering-process

metering-process

Syntax

metering-process {**standard** | **fp-accelerated**}

Context

[Tree] (config>cflowd>sample-profile metering-process)

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Full Context

configure cflowd sample-profile metering-process

Description

This command specifies the method used to process cflowd samples.

Default

metering-process standard

Parameters

standard

Specifies that the samples are extracted at the CPM and are processed there.

fp-accelerated

Specifies to use FP acceleration for cflowd processing, in which flow processing and reporting is performed by the FP complex on the CPM.

Platforms

7750 SR-7s, 7750 SR-14s, 7950 XRS-20e

29.117 metric

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>service>vprn>static-route-entry>follow metric)

Full Context

configure service vprn static-route-entry follow metric

Description

This command configures the cost metric for the static route, expressed as a decimal integer. If there are multiple static routes with the same preference but different metrics, the lower cost (metric) route is installed. When the metric is configured as 0, the metric configured in OSPF, which is the default import metric, applies. When modifying the metric of an existing static route, the preference does not change unless specified. This value is also used to determine which static route to install in the forwarding table.

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Default

metric 1

Parameters

metric

Specifies the metric value.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

metric

Syntax

metric *value*

no metric

Context

[Tree] (config>service>vpls>spoke-sdp>spb>level metric)

[Tree] (config>service>vpls>sap>spb>level metric)

Full Context

configure service vpls spoke-sdp spb level metric

configure service vpls sap spb level metric

Description

This configures metric for this SPB interface SAP/spoke-sdp. This command is valid only for interfaces on control B-VPLS.

Parameters

value

Specifies the configuration metric value.

Values 1 to 16777215

Default 1000

Platforms

All

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metric

Syntax

metric *metric-value*

no metric [*metric-value*]

Context

[Tree] (config>service>vprn>static-route-entry>black-hole metric)

[Tree] (config>service>vprn>static-route-entry>indirect metric)

[Tree] (config>service>vprn>static-route-entry>next-hop metric)

[Tree] (config>service>vprn>static-route-entry>grt metric)

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel metric)

Full Context

configure service vprn static-route-entry black-hole metric

configure service vprn static-route-entry indirect metric

configure service vprn static-route-entry next-hop metric

configure service vprn static-route-entry grt metric

configure service vprn static-route-entry ipsec-tunnel metric

Description

This command specifies the cost metric for the static route, expressed as a decimal integer. This value is used when importing the static route into other protocols such as OSPF. When the metric is configured as 0 then the metric configured in OSPF, default-import-metric, applies. When modifying the metric of an existing static route, the preference will not change unless specified. This value is also used to determine which static route to install in the forwarding table.

If there are multiple static routes with the same preference but different metrics then the lower cost (metric) route will be installed.

The **no** form of this command returns the metric to the default value

Default

metric 1

Parameters

metric-value

Specifies the cost metric value.

Values 0 to 65535

Platforms

All

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metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>service>vprn>isis>if>level metric)

Full Context

configure service vprn isis interface level metric

Description

This command configures the metric used for the level on the interface.

In order to calculate the lowest cost to reach a given destination, each configured level on each interface must have a cost. The costs for each level on an interface may be different.

If the metric is not configured, the default of 10 is used unless reference bandwidth is configured.

The **no** form of this command reverts to the default value.

Default

no metric

Parameters

metric

The metric assigned for this level on this interface.

Values 1 to 16777215

Default 10

Platforms

All

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>service>vprn>ospf>area>if metric)

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[Tree] (config>service>vprn>ospf3>area>if metric)

[Tree] (config>service>vprn>ospf>area>sham-link metric)

Full Context

configure service vprn ospf area interface metric

configure service vprn ospf3 area interface metric

configure service vprn ospf area sham-link metric

Description

This command configures an explicit route cost metric for the OSPF interface that overrides the metrics calculated based on the speed of the underlying link.

The **no** form of this command deletes the manually configured interface metric, so the interface uses the computed metric based on the **reference-bandwidth** command setting and the speed of the underlying link.

Default

no metric

Parameters

metric

The metric to be applied to the interface expressed as a decimal integer.

Values 1 to 65535

Platforms

All

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>router>mpls>static-lsp metric)

[Tree] (config>router>mpls>lsp metric)

[Tree] (config>router>mpls>lsp-template metric)

Full Context

configure router mpls static-lsp metric

configure router mpls lsp metric

configure router mpls lsp-template metric

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Description

This command allows the user to override the LSP operational metric with a constant administrative value that will not change regardless of the actual path the LSP is using over its lifetime.

The LSP operational metric will match the metric the active path of this LSP is using at any given time. For a CSPF LSP, this metric represents the cumulative IGP metric of all the links the active path is using. If CSPF for this LSP is configured to use the TE metric, the LSP operational metric is set to the maximum value. For a non-CSPF LSP, the operational metric is the shortest IGP cost to the destination of the LSP.

The LSP operational metric is used by some applications to select an LSP among a set of LSPs that are destined to the same egress router. The LSP with the lowest operational metric will be selected. If more than one LSP with the same lowest LSP metric exists, the LSP with the lowest tunnel index will be selected. The configuration of a constant metric by the user will make sure the LSP always maintains its preference in this selection regardless of the path it is using at any given time. Applications that use the LSP operational metric include LDP-over-RSVP, VPRN auto-bind, and IGP, BGP and static route shortcuts.

The **no** form of this command disables the administrative LSP metric and reverts to the default setting in which the metric value will represent the LSP metric returned by MPLS. The same behavior is obtained if the user entered a metric of value zero (0).

Default

no metric. The LSP operational metric defaults to the metric returned by MPLS.

Parameters

metric

Specifies the integer value which specifies the value of the LSP administrative metric. A value of zero command reverts to the default setting and disables the administrative LSP metric.

Values 0 to 16777215

Platforms

All

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy metric)

Full Context

configure router mpls forwarding-policies forwarding-policy metric

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Description

This command configures the metric of an MPLS forwarding policy.

The *metric* parameter is supported with the endpoint policy only and is inherited by the routes which resolve their next hop to this policy.

The **no** form of this command removes the *metric* parameter from the MPLS forwarding policy.

Parameters

metric

Specifies the metric value.

Values 1 to 16777215

Platforms

All

metric

Syntax

metric *metric*

no metric [*metric*]

Context

[Tree] (config>router>static-route-entry>black-hole metric)

[Tree] (config>router>static-route-entry>next-hop metric)

[Tree] (config>router>static-route-entry>indirect metric)

Full Context

configure router static-route-entry black-hole metric

configure router static-route-entry next-hop metric

configure router static-route-entry indirect metric

Description

This command specifies the cost metric for the static route, expressed as a decimal integer. This value is used when importing the static route into other protocols such as OSPF. When the metric is configured as 0 then the metric configured in OSPF, default-import-metric, applies. When modifying the metric of an existing static route, the preference will not change unless specified. This value is also used to determine which static route to install in the forwarding table.

If there are multiple static routes with the same preference but different metrics then the lower cost (metric) route will be installed.

The **no** form of this command returns the metric to the default value

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Default

metric 1

Parameters

metric

Specifies the cost metric value.

Values 0 to 65535

Platforms

All

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>service>sdp metric)

Full Context

configure service sdp metric

Description

This command specifies the metric to be used within the tunnel table manager for decision making purposes. When multiple SDPs going to the same destination exist, this value is used as a tie-breaker by tunnel table manager users such as MP-BGP to select the route with the lower value.

Parameters

metric

Specifies the SDP metric.

Values 0 to 65535

Platforms

All

metric

Syntax

metric *metric*

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no metric

Context

[Tree] (config>router>isis>if>level metric)

Full Context

configure router isis interface level metric

Description

This command configures the metric used for the level on the interface.

In order to calculate the lowest cost to reach a given destination, each configured level on each interface must have a cost. The costs for each level on an interface may be different.

If the metric is not configured, the default of 10 is used unless reference bandwidth is configured.

The **no** form of this command reverts to the default value.

Default

metric 10

Parameters

metric

Specifies the metric assigned for this level on this interface.

Values 1 to 16777215

Platforms

All

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>router>ospf3>area>interface metric)

[Tree] (config>router>ospf>area>interface metric)

Full Context

configure router ospf3 area interface metric

configure router ospf area interface metric

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Description

This command configures an explicit route cost metric for the OSPF interface that overrides the metrics calculated based on the speed of the underlying link.

The **no** form of this command deletes the manually configured interface metric, so the interface uses the computed metric based on the **reference-bandwidth** command setting and the speed of the underlying link.

Default

no metric

Parameters

metric

Specifies the metric to be applied to the interface expressed as a decimal integer.

Values 1 to 65535

Platforms

All

metric

Syntax

metric *metric* [**equal** | **or-higher** | **or-lower**]

no metric

Context

[Tree] (config>router>policy-options>policy-statement>entry>from metric)

Full Context

configure router policy-options policy-statement entry from metric

Description

This command matches BGP routes based on local preference (the value in the MULTI_EXIT_DISC attribute).

If no comparison qualifiers are present (**equal**, **or-higher**, **or-lower**), then **equal** is the implied default.

A non-BGP route does not match a policy entry if it contains the **metric** command. In addition, a BGP route without a MED attribute also does not match a policy entry if it contains a **metric** command.

Default

no metric

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Parameters

metric

Specifies the MED value.

Values 0 to 4294967295, or a parameter name delimited by starting and ending at-sign (@) characters

equal

Specifies that matched routes should have the same MED as the value specified.

or-higher

Specifies that matched routes should have the same or a greater MED as the value specified.

or-lower

Specifies that matched routes should have the same or a lower MED as the value specified.

Platforms

All

metric

Syntax

metric {**add** | **subtract**} *metric*

metric set [**igp** | *metric-value*]

no metric

Context

[Tree] (config>router>policy-options>policy-statement>entry>action metric)

[Tree] (config>router>policy-options>policy-statement>default-action metric)

Full Context

configure router policy-options policy-statement entry action metric

configure router policy-options policy-statement default-action metric

Description

In a BGP import or export policy, this command assigns a MED value to routes matched by the policy statement entry. The MED value may be set to a fixed value (overriding the received value), set to the routing table cost of the route used to resolve the next hop of the BGP route, or modified by adding or subtracting a fixed value offset.

The **no** form of this command removes the MED attribute from the matched routes.

Default

no metric

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Parameters

add

Specifies that an integer is added to any existing metric. If the result of the addition results in a number greater than 4294967295, the value 4294967295 is used.

subtract

Specified *integer* is subtracted from any existing metric. If the result of the subtraction results in a number less than 0, the value of 0 is used.

set

Specifies that *integer* replaces any existing metric.

igp

Sets the MED value to the routing table cost of the route used to resolve the next hop of the BGP route.

metric

Specifies the metric modifier expressed as a decimal integer.

Values 0 to 4294967295

param-name —Specifies the metric parameter variable name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”

Platforms

All

metric

Syntax

metric *metric*

no metric

Context

[Tree] (config>router>isis>srv6>locator>level metric)

[Tree] (config>router>isis>srv6>msloc>level metric)

Full Context

configure router isis segment-routing-v6 locator level metric

configure router isis segment-routing-v6 micro-segment-locator level metric

Description

This command configures the Level 1 or Level 2 metric to advertise in the locator TLV.

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The **no** form of this command takes the value from the configuration of the Level 1 or Level 2 MT0 default metric parameter **config**>**router**>**isis**>**level**>**default-metric** which has a default value of 10.

Default

no metric

Parameters

metric

Specifies the configuration metric value.

Values 1 to 16777215

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

metric

Syntax

metric *metric-value*

no metric

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry metric)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry metric)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry metric

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry metric

Description

This command associates a metric with the provisioned managed route.

The **no** form of this command returns the metric to its default value.

Default

no metric

Parameters

metric-value

Specifies the metric value.

Values 1 to 4294967295

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

metric

Syntax

metric *metric*

Context

[Tree] (config>ipsec>tnl-temp>rev-route metric)

Full Context

configure ipsec tunnel-template reverse-route metric

Description

This command configures the metric for reverse routes. The system uses the metric when selecting a route to install in the route table.

Default

metric 0

Parameters

metric

Specifies the metric value for reverse routes.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.118 metric-in

metric-in

Syntax

metric-in *metric*

no metric-in

Context

[Tree] (config>service>vprn>ripng>group metric-in)

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[Tree] (config>service>vprn>ripng>group>neighbor metric-in)

[Tree] (config>service>vprn>rip metric-in)

[Tree] (config>service>vprn>ripng metric-in)

[Tree] (config>service>vprn>rip>group>neighbor metric-in)

[Tree] (config>service>vprn>rip>group metric-in)

Full Context

configure service vprn ripng group metric-in

configure service vprn ripng group neighbor metric-in

configure service vprn rip metric-in

configure service vprn ripng metric-in

configure service vprn rip group neighbor metric-in

configure service vprn rip group metric-in

Description

This command sets the metric added to routes received from a RIP neighbor.

The **no** form of this command reverts the *metric* value back to the default.

Default

no metric-in

Parameters

metric

The value added to the metric of routes received from a RIP neighbor, expressed as a decimal integer.

Values 1 to 16

Platforms

All

metric-in

Syntax

metric-in *metric*

no metric-in

Context

[Tree] (config>router>rip metric-in)

[Tree] (config>router>rip>group metric-in)

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[Tree] (config>router>ripng>group>neighbor metric-in)

[Tree] (config>router>rip>group>neighbor metric-in)

[Tree] (config>router>ripng>group metric-in)

[Tree] (config>router>ripng metric-in)

Full Context

configure router rip metric-in

configure router rip group metric-in

configure router ripng group neighbor metric-in

configure router rip group neighbor metric-in

configure router ripng group metric-in

configure router ripng metric-in

Description

This command configures the metric added to routes received from a RIP neighbor.

When applying an export policy to a RIP configuration, the policy overrides the metric values determined through calculations involving the **metric-in** and **metric-out** values.

The **no** form of the command reverts to the default value.

Default

metric-in 1

Parameters

metric

Specifies the value added to the metric of routes received from a RIP neighbor expressed as a decimal integer.

Values 1 to 16

Platforms

All

29.119 metric-out

metric-out

Syntax

metric-out *metric*

no metric-out

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Context

[Tree] (config>service>vprn>rip>group metric-out)

[Tree] (config>service>vprn>ripng metric-out)

[Tree] (config>service>vprn>ripng>group metric-out)

[Tree] (config>service>vprn>rip>group>neighbor metric-out)

[Tree] (config>service>vprn>ripng>group>neighbor metric-out)

[Tree] (config>service>vprn>rip metric-out)

Full Context

configure service vprn rip group metric-out

configure service vprn ripng metric-out

configure service vprn ripng group metric-out

configure service vprn rip group neighbor metric-out

configure service vprn ripng group neighbor metric-out

configure service vprn rip metric-out

Description

This command sets the metric added to routes exported into RIP and advertised to RIP neighbors.

The **no** form of this command removes the command from the config and resets the metric-in value back to the default.

Default

no metric-out

Parameters

metric

The value added to the metric for routes exported into RIP and advertised to RIP neighbors, expressed as a decimal integer.

Values 1 to 16

Platforms

All

metric-out

Syntax

metric-out *metric*

no metric-out

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Context

[Tree] (config>router>ripng>group metric-out)

[Tree] (config>router>rip metric-out)

[Tree] (config>router>rip>group metric-out)

[Tree] (config>router>ripng metric-out)

[Tree] (config>router>ripng>group>neighbor metric-out)

[Tree] (config>router>rip>group>neighbor metric-out)

Full Context

configure router ripng group metric-out

configure router rip metric-out

configure router rip group metric-out

configure router ripng metric-out

configure router ripng group neighbor metric-out

configure router rip group neighbor metric-out

Description

This command configures the metric assigned to routes exported into RIP and advertised to RIP neighbors.

When applying an export policy to a RIP configuration, the policy overrides the metric values determined through calculations involving the **metric-in** and **metric-out** values.

The **no** form of the command reverts to the default value.

Default

metric-out 1

Parameters

metric

Specifies the value added to the metric for routes exported into RIP and advertised to RIP neighbors expressed as a decimal integer.

Values 1 to 16

Platforms

All

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29.120 metric-type

metric-type

Syntax

metric-type *metric-type*

no metric-type

Context

[Tree] (config>router>mpls>lsp metric-type)

[Tree] (config>router>mpls>lsp-template metric-type)

Full Context

configure router mpls lsp metric-type

configure router mpls lsp-template metric-type

Description

This command configures the link metric type used by the local CSPF or the PCE controller in the SR-TE LSP path computation.

The **no** form of this command returns the link metric type to its default value.

Default

metric-type igp

Parameters

metric-type

Specifies the metric type for the LSP.

Values **igp** — Specifies use of the IGP metric.

te — Specifies use of the traffic-engineering metric. This is the default metric type.

delay — Specifies computation delay metrics.

Platforms

All

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metric-type

Syntax

metric-type {**igp** | **te-metric** | **delay**}

no metric-type

Context

[Tree] (config>router>fad>flex-algo metric-type)

Full Context

configure router flexible-algorithm-definitions flex-algo metric-type

Description

This command configures the type of metric for the flexible algorithm. The topology graph assumes that all links are configured with the correct metric type.

For example, if the flexible algorithm definition instructs the use of **te-metric** keyword, it is assumed that all links have *te-metric* configured. Links without the *te-metric* configuration are excluded from the flexible algorithm topology graph.

The **no** form of this command removes the configured metric type and sets it to its default value.

Default

metric-type igp

Parameters

igp

Keyword to use the IGP metric for the flexible algorithm topology graph.

te-metric

Keyword to use the TE metric for the flexible algorithm topology graph.

delay

Keyword to use the delay metric for the flexible algorithm topology graph.

Platforms

All

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29.121 mfib-allowed-mda-destinations

mfib-allowed-mda-destinations

Syntax

mfib-allowed-mda-destinations

Context

[Tree] (config>service>vpls>mesh-sdp>egress mfib-allowed-mda-destinations)

[Tree] (config>service>vpls>spoke-sdp>egress mfib-allowed-mda-destinations)

Full Context

configure service vpls mesh-sdp egress mfib-allowed-mda-destinations

configure service vpls spoke-sdp egress mfib-allowed-mda-destinations

Description

Commands in this context configure MFIB-allowed MDA destinations.

The allowed-mda-destinations node and the corresponding **mda** command are used on spoke and mesh SDP bindings to provide a list of MDA destinations in the chassis that are allowed as destinations for multicast streams represented by [*,g] and [s,g] multicast flooding records on the VPLS service. The MDA list only applies to IP multicast forwarding when IGMP snooping is enabled on the VPLS service. The MDA list has no effect on normal VPLS flooding such as broadcast, L2 multicast, unknown destinations or non-snooped IP multicast.

At the IGMP snooping level, a spoke or mesh SDP binding is included in the flooding domain for an IP multicast stream when it has either been defined as a multicast router port, received a IGMP query through the binding or has been associated with the multicast stream through an IGMP request by a host over the binding. Due to the dynamic nature of the way that a spoke or mesh SDP binding is associated with one or more egress network IP interfaces, the system treats the binding as appearing on all network ports. This causes all possible network destinations in the switch fabric to be included in the multicast streams flooding domain. The MDA destination list provides a simple mechanism that narrows the IP multicast switch fabric destinations for the spoke or mesh SDP binding.

If no MDAs are defined within the allowed-mda-destinations node, the system operates normally and will forward IP multicast flooded packets associated with the spoke or mesh SDP binding to all switch fabric taps containing network IP interfaces.

The MDA inclusion list should include all MDAs that the SDP binding may attempt to forward through. A simple way to ensure that an MDA that is not included in the list is not being used by the binding is to define the SDP the binding is associated with as MPLS and use an RSVP-TE LSP with a strict egress hop. The MDA associated with the IP interface defined as the strict egress hop should be present in the inclusion list. If the inclusion list does not currently contain the MDA that the binding is forwarding through, the multicast packets will not reach the destination represented by the binding.

By default, the MDA inclusion list is empty.

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If an MDA is removed from the list, the MDA is automatically removed from the flooding domain of any snooped IP multicast streams associated with a destination on the MDA unless the MDA was the last MDA on the inclusion list. Once the inclusion list is empty, all MDAs are eligible for snooped IP multicast flooding for streams associated with the SDP binding.

Platforms

All

mfib-allowed-mda-destinations

Syntax

mfib-allowed-mda-destinations

Context

[Tree] (config>service>pw-template>egress mfib-allowed-mda-destinations)

Full Context

configure service pw-template egress mfib-allowed-mda-destinations

Description

Commands in this context configure MFIB-allowed XMA or MDA destinations.

The allowed-mda-destinations node and the corresponding **mda** command are used on spoke and mesh SDP bindings to provide a list of XMA or MDA destinations in the chassis that are allowed as destinations for multicast streams represented by [*,g] and [s,g] multicast flooding records on the VPLS service. The XMA or MDA list only applies to IP multicast forwarding when IGMP snooping is enabled on the VPLS service. The XMA or MDA list has no effect on normal VPLS flooding such as broadcast, Layer 2 multicast, unknown destinations or non-snooped IP multicast.

At the IGMP snooping level, a spoke or mesh SDP binding is included in the flooding domain for an IP multicast stream when it has either been defined as a multicast router port, received a IGMP query through the binding or has been associated with the multicast stream through an IGMP request by a host over the binding. Due to the dynamic nature of the way that a spoke or mesh SDP binding is associated with one or more egress network IP interfaces, the system treats the binding as appearing on all network ports. This causes all possible network destinations in the switch fabric to be included in the multicast streams flooding domain. The XMA or MDA destination list provides a simple mechanism that narrows the IP multicast switch fabric destinations for the spoke or mesh SDP binding.

If no XMAs or MDAs are defined within the allowed-mda-destinations node, the system operates normally and will forward IP multicast flooded packets associated with the spoke or mesh SDP binding to all switch fabric taps containing network IP interfaces.

The XMA or MDA inclusion list should include all XMAs or MDAs that the SDP binding may attempt to forward through. A simple way to ensure that an XMA or MDA that is not included in the list is not being used by the binding is to define the SDP the binding is associated with as MPLS and use an RSVP-TE LSP with a strict egress hop. The XMA or MDA associated with the IP interface defined as the strict egress hop should be present in the inclusion list.

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If the inclusion list does not currently contain the XMA or MDA that the binding is forwarding through, the multicast packets will not reach the destination represented by the binding. By default, the XMA or MDA inclusion list is empty.

If an XMA or MDA is removed from the list, the XMA or MDA is automatically removed from the flooding domain of any snooped IP multicast streams associated with a destination on the XMA or MDA unless the XMA or MDA was the last XMA or MDA on the inclusion list. Once the inclusion list is empty, all XMAs or MDAs are eligible for snooped IP multicast flooding for streams associated with the SDP binding.

Platforms

All

29.122 mfib-ping

mfib-ping

Syntax

mfib-ping service *service-id* **source** *src-ip* **destination** *mcast-address* [**size** *size*] [**ttl** *vc-label-ttl*] [**count** *send-count*] [**return-control**] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (oam mfib-ping)

Full Context

oam mfib-ping

Description

This command determines the list of SAPs which egress a certain IP multicast stream (identified by source unicast and destination multicast IP addresses) within a VPLS service. An MFIB ping packet is always sent via the data plane.

An MFIB ping is forwarded across the VPLS following the MFIB. If an entry for the specified source unicast and destination multicast IP addresses exist in the MFIB for that VPLS, then the packet is forwarded along those paths, provided they are active. A response is generated only when there is an egress SAP binding for the specified IP multicast stream.

An MFIB ping reply can be sent using the data plane or the control plane. The **return-control** option configures the reply to be sent using the control plane. If **return-control** is not specified, the reply is sent using the data plane.

Parameters

service-id

Specifies the service ID of the VPLS to diagnose or manage.

Values 1 to 2147483647, *service-name*, up to 64 characters

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src-ip

Specifies the source IP address for the OAM request.

Values ipv4-address - a.b.c.dipv6-address - xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx

xx [0..FF]H

mcast-address

Specifies the destination multicast address for the OAM request.

Values ipv4-address - a.b.c.dipv6-address - xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx

xx [0..FF]H

size

Specifies the multicast OAM request packet size, in octets, expressed as a decimal integer. The request payload is padded to the specified size with a 6-byte PAD header and a byte payload of 0xAA as necessary.

If the octet size specified is less than the minimum packet, the minimum sized packet necessary to send the request is used.

Values 1 to 9786

Default No OAM packet padding

vc-label-ttl

Specifies the TTL value in the VC label for the OAM request, expressed as a decimal integer.

Values 1 to 255

Default 255

send-count

Specifies the number of messages to send, expressed as a decimal integer. The **count** parameter override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent.

The message interval value must be expired before the next message request is sent.

Values 1 to 100

Default 1

return-control

Specifies that the OAM reply must be sent using the control plane instead of the data plane.

timeout

Specifies the value used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the next message request.

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Upon the expiration of the message time out, the requesting router assumes that the message response is not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

Values 1 to 100

Default 5

interval

Specifies the value used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the interval is set to 1 second where the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

Platforms

All

Output

The following output is an example of multicast FIB connectivity test information

Output Example

```
A:ALA-A# oam mfib-ping service 10 source 10.10.10.1 destination 225.0.0.1 count 2
Seq Node-id                                              Path     Size  RTT
-------------------------------------------------------------------------------
[Send request Seq. 1.]
1   51.51.51.51:sap1/1/1                                 Self     100   0ms
1   54.54.54.54:sap1/1/2                                 In-Band  100   20ms
1   54.54.54.54:sap1/1/3                                 In-Band  100   10ms
1   52.52.52.52:sap1/1/3                                 In-Band  100   20ms
[Send request Seq. 2.]
2   51.51.51.51:sap1/1/1                                 Self     100   0ms
2   52.52.52.52:sap1/1/2                                 In-Band  100   10ms
2   54.54.54.54:sap1/1/2                                 In-Band  100   10ms
2   52.52.52.52:sap1/1/3                                 In-Band  100   20ms
2   54.54.54.54:sap1/1/3                                 In-Band  100   30ms
-------------------------------------------------------------------------------
A:ALA-AIM# oam mfib-ping service 1 source 11.11.0.0 destination 224.0.0.1
Seq Node-id                                              Path     Size  RTT
-------------------------------------------------------------------------------
[Send request Seq. 1.]
1   10.20.1.3:sap1/1/5:1                     Not in MFIB Self     40    0ms
1   10.20.1.3:sap1/1/2:1                                 Self     40    10ms
[Echo replies received: 2]
-------------------------------------------------------------------------------
A:ALA-AIM#
```


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29.123 mfib-table-high-wmark

mfib-table-high-wmark

Syntax

[**no**] **mfib-table-high-wmark** *high-water-mark*

Context

[Tree] (config>service>vpls mfib-table-high-wmark)

Full Context

configure service vpls mfib-table-high-wmark

Description

This command specifies the multicast FIB high watermark. When the percentage filling level of the multicast FIB exceeds the configured value, a trap is generated and a log entry is added.

The **no** form of this command reverts to the default.

Default

mfib-table-high-wmark 95

Parameters

high-water-mark

Specifies the multicast FIB high watermark as a percentage.

Values 1 to 100

Platforms

All

29.124 mfib-table-low-wmark

mfib-table-low-wmark

Syntax

[**no**] **mfib-table-low-wmark** *low-water-mark*

Context

[Tree] (config>service>vpls mfib-table-low-wmark)

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Full Context

configure service vpls mfib-table-low-wmark

Description

This command specifies the multicast FIB low watermark. When the percentage filling level of the multicast FIB drops below the configured value, the corresponding trap is cleared and a log entry is added.

The **no** form of this command reverts to the default.

Default

mfib-table-low-wmark

Parameters

low-water-mark

Specifies the multicast FIB low watermark as a percentage.

Values 1 to 100

Default 90

Platforms

All

29.125 mfib-table-size

mfib-table-size

Syntax

mfib-table-size *size*

no mfib-table-size

Context

[Tree] (config>service>vpls mfib-table-size)

Full Context

configure service vpls mfib-table-size

Description

This command specifies the maximum number of (s,g) entries in the multicast forwarding database (MFIB) for this VPLS instance.

The *mfib-table-size* parameter specifies the maximum number of multicast database entries for both learned and static multicast addresses for the VPLS instance. When a table-size limit is set on the mfib of

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a service which is lower than the current number of dynamic entries present in the mfib then the number of entries remains above the limit.

The **no** form of this command removes the configured maximum MFIB table size.

Default

no mfib-table-size

Parameters

size

Specifies the maximum number of (s,g) entries allowed in the Multicast FIB

Values 1 to 40959

Platforms

All

29.126 mgmt-ethernet

mgmt-ethernet

Syntax

mgmt-ethernet [**revert** *seconds*]

no mgmt-ethernet

Context

[Tree] (config>redundancy mgmt-ethernet)

Full Context

configure redundancy mgmt-ethernet

Description

This command configures the active CPM to use the management Ethernet port of the standby CPM if the management Ethernet port on the active CPM goes down.

The **revert** option allows the administrator to control when to revert back to the management Ethernet port of the primary CPM after it comes up again.

The **no** form of this command disables redundancy, so that connectivity to the active CPM is lost if its Ethernet port goes down.

Default

no mgmt-ethernet

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Parameters

seconds

Specifies the wait duration (in seconds) before reverting back to the management Ethernet port of the primary CPM.

Values 1 to 300

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

29.127 mh-mode

mh-mode

Syntax

mh-mode {**access** | **network**}

Context

[Tree] (config>service>vpls>bgp-evpn>vxlan mh-mode)

Full Context

configure service vpls bgp-evpn vxlan mh-mode

Description

This command configures multihoming mode.

Default

mh-mode access

Parameters

access

When configured in this mode, the BGP-EVPN instance does not participate in multihoming procedures, such as processing DF election for the service or enabling local bias forwarding mode.

network

When configured in this mode, the BGP-EVPN instance participates in multihoming procedures, such as processing DF election for the service or enable local bias forwarding mode.

In services with two VXLAN instances, only one of the two instances can be configured as **network**.

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Platforms

All

mh-mode

Syntax

mh-mode {**access** | **network**}

Context

[Tree] (config>service>vpls>bgp-evpn>srv6 mh-mode)

[Tree] (config>service>vpls>bgp-evpn>mpls mh-mode)

Full Context

configure service vpls bgp-evpn segment-routing-v6 mh-mode

configure service vpls bgp-evpn mpls mh-mode

Description

This command configures each BGP-EVPN instance in a multi-instance EVPN VPLS service to behave as network or access.

You can only configure one network instance for the service. If the service has a provider tunnel enabled, it requires a network instance.

Default

mh-mode network

Parameters

access

Specifies that the BGP-EVPN instance does not participate in multihoming procedures, such as DF election processing or local bias forwarding.

network

Specifies that the BGP-EVPN instance participates in multihoming procedures, such as DF election processing or local bias forwarding.

In services with two instances, only one of the two instances can be configured as **network**.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 mh-mode

All

- configure service vpls bgp-evpn mpls mh-mode

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mh-mode

Syntax

mh-mode {**access** | **network**}

Context

[Tree] (config>service>epipe>bgp-evpn>mpls mh-mode)

[Tree] (config>service>epipe>bgp-evpn>srv6 mh-mode)

Full Context

configure service epipe bgp-evpn mpls mh-mode

configure service epipe bgp-evpn segment-routing-v6 mh-mode

Description

This command configures each BGP-EVPN instance in a multi-instance Epipe service to behave as network or access.

You can only configure one network instance for the service. If the service has a provider tunnel enabled, it requires a network instance.

Default

mh-mode network

Parameters

access

Specifies that the BGP-EVPN instance does not participate in multihoming procedures, such as DF election processing or local bias forwarding.

network

Specifies that the BGP-EVPN instance participates in multihoming procedures, such as DF election processing or local bias forwarding.

In services with two instances, only one of the two instances can be configured as **network**.

Platforms

All

- configure service epipe bgp-evpn mpls mh-mode

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service epipe bgp-evpn segment-routing-v6 mh-mode

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29.128 mhf-creation

mhf-creation

Syntax

mhf-creation {**default** | **none** | **explicit** | **static**}

no mhf-creation

Context

[Tree] (cfg>eth-cfm>domain>assoc>bridge mhf-creation)

Full Context

configure eth-cfm domain association bridge-identifier mhf-creation

Description

This command defines the MIP method of creation. MIP creation mode and other factors are part of the MIP creation authority (**association** or **default-domain**) logic. The MIP creation algorithm may result in multiple potential MIPs. Only the lowest-level valid MIP is installed. The **static** creation mode is the exception to the single MIP installation rule.

Under the association context, the **level** *level* parameter is not supported as part of this command. The level is derived from the level configuration of the domain.

The **no** form of this command is only available under the **association** context, and reverts the current mode of creation to the default **none**. In order to transition to and from the **static** mode of operation, the active **mhf-creation** mode must be **none**.

Default

mhf-creation none

Parameters

default

Specifies MHFs (MIPs) can be created for this SAP or spoke SDP without the requirement for a MEP at some lower MA level. If a lower-level MEP exists, the creation method will behave as **explicit**.

none

Specifies that no MHFs (MIPs) can be created for this SAP or spoke SDP.

explicit

Specifies that MHFs (MIPs) can be created for this SAP or spoke SDP only if a MEP is created at some lower MD Level. There must be at least one lower MD Level MEP provisioned on the same SAP or spoke SDP.

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static

Specifies the exact level of the MHF (MIP) that will be created for this SAP. Multiple MHFs (MIPs) are allowed as long as the MD Level hierarchy is properly configured for the particular Primary VLAN. Ingress MHFs (MIPs) with primary VLAN are not supported on SDP Bindings.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mhf-creation

Syntax

mhf-creation {**none** | **default** | **explicit** | **static**} **level** *level*

no mhf-creation

Context

[Tree] (config>eth-cfm>default-domain>bridge-identifier mhf-creation)

Full Context

configure eth-cfm default-domain bridge-identifier mhf-creation

Description

This command defines the MIP method of creation. MIP creation mode and other factors are part of the MIP creation authority (**association** or **default-domain**) logic. The MIP creation algorithm may result in multiple potential MIPs. Only the lowest-level valid MIP is installed. The **static** creation mode is the exception to the single MIP installation rule.

Under the association context, the **level** *level* parameter is not supported as part of this command. The level is derived from the level configuration of the domain.

The **no** form of this command is only available under the **association** context, and reverts the current mode of creation to the default **none**. In order to transition to and from the **static** mode of operation, the active **mhf-creation** mode must be **none**.

Default

mhf-creation defer (config>eth-cfm>default-domain>bridge-identifier)

Parameters

none

Specifies that no MHFs (MIPs) can be created for this SAP or spoke SDP.

default

Specifies MHFs (MIPs) can be created for this SAP or spoke SDP without the requirement for a MEP at some lower MA level. If a lower-level MEP exists, the creation method will behave as **explicit**.

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explicit

Specifies that MHFs (MIPs) can be created for this SAP or spoke SDP only if a MEP is created at some lower MD Level. There must be at least one lower MD Level MEP provisioned on the same SAP or spoke SDP.

defer

Defers the MIP creation process to the system-wide read-only values. This parameter is only configurable under the **default-domain** context.

level

Specifies the requested level of the MIP. This is used by the MIP creation algorithm to determine its validity in comparison to other ETH-CFM MIPs in the same service. If *level* is configured as "defer", the level value will be inherited from the global read-only system values, and "-1" will be stored as a MIB value in the table.

Values 0 to 7, **defer**

Default defer

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

29.129 micro-loop-avoidance

micro-loop-avoidance

Syntax

micro-loop-avoidance [**fib-delay** *fib-delay*]

no micro-loop-avoidance

Context

[Tree] (config>router>isis>segment-routing micro-loop-avoidance)

Full Context

configure router isis segment-routing micro-loop-avoidance

Description

This command enables, in the IGP instance, the microloop avoidance feature to prevent microloops from using segment routing (SR) loop-free tunnels for packets that are forwarded over SR IS-IS node SIDs.

This command enables microloop avoidance for MT0. Microloop avoidance for MT2 is enabled when this command is enabled along with SR-MPLS MT2 using the **configure router isis segment-routing multi-topology mt2** command.

When enabled, the behavior of the feature is triggered by the receipt of a single event on a P2P link or broadcast link with two neighbors:

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- link addition or restoration
- link removal or failure
- link metric change

IGP then performs the following procedures:

1. IGP runs the main SPF and LFA SPFs.
2. For a node or a prefix in which the SPF resulted in no change to its next hops and metrics, IGP takes no action.
3. For a node or a prefix in which SPF resulted in a change to its next hops or metrics, IGP marks the route as eligible for microloop avoidance.
   a. Activate, for each node SID that uses a microloop avoidance eligible route with ECMP next hops, the common set of next hops between the previous and new SPF.
   b. Compute and activate, for each node SID which uses a microloop avoidance eligible route, with a single next hop loop-free SR tunnel that is applicable to the specific link event.

      This tunnel acts the microloop avoidance primary path for the route and uses the same outgoing interface as the new computed primary next hop.
   c. Program the TI-LFA, base LFA, or remote LFA backup path that protects the new primary next hop for the node SID.
4. Start the **fib-delay** timer to delay programming of new main and LFA SPF results into the FIB.
5. After the expiry of the **fib-delay** timer, program the new primary next hops for node SIDs routes that were marked eligible for microloop avoidance procedures.

The **no** form of this command disables the microloop avoidance feature.

Default

no micro-loop-avoidance

Parameters

fib-delay

Specifies the delay, in 100s of milliseconds, before the system programs the new next hops for the SR tunnel.

Values 1 to 300

Default 15

Platforms

All

micro-loop-avoidance

Syntax

[no] micro-loop-avoidance

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Context

[Tree] (config>router>isis>flex-algos>flex-algo micro-loop-avoidance)

Full Context

configure router isis flexible-algorithms flex-algo micro-loop-avoidance

Description

This command enables flexible algorithms-aware microloop avoidance. When enabled, the microloop configuration parameters are inherited from the base SPF.

This command enables microloop avoidance with flexible algorithms for MT0. Microloop avoidance with flexible algorithms for MT2 is enabled when this command is enabled along with SR-MPLS MT2 using the **configure router isis segment-routing multi-topology mt2** command.

The **no** form of this command disables the microloop avoidance for flexible algorithms.

Default

no micro-loop-avoidance

Platforms

All

micro-loop-avoidance

Syntax

[**no**] **micro-loop-avoidance**

Context

[Tree] (config>router>ospf>flex-algos>flex-algo micro-loop-avoidance)

Full Context

configure router ospf flexible-algorithms flex-algo micro-loop-avoidance

Description

This command enables microloop avoidance for an SR-OSPF flexible algorithm, and consequently, inherits the FIB delay timer from the SR-OSPF **configure router ospf segment-routing** context.

When enabled, FIB updates are delayed before programming new primary next hops to avoid microloops.

When enabled, the feature applies to the following contexts:

- OSPFv2 SR-OSPF IPv4 tunnel (node SID)
- IPv4 and IPv6 SR-TE LSPs that use a node SID in their segment list
- IPv4 and IPv6 SR policies that use a node SID in their segment list

The **no** form of this command disables microloop avoidance. When microloop avoidance is disabled, the system forces any running FIB delay to expire immediately and programs the new next hops for all

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impacted node SIDs. When disabled, microloop avoidance is disabled instantaneously and will be disabled for the next SPF runs. Microloop avoidance remains disabled until it is re-enabled.

Default

no micro-loop-avoidance

Platforms

All

micro-loop-avoidance

Syntax

micro-loop-avoidance [**fib-delay** *fib-delay*]

no micro-loop-avoidance

Context

[Tree] (config>router>ospf>segm-rtng micro-loop-avoidance)

Full Context

configure router ospf segment-routing micro-loop-avoidance

Description

This command enables microloop avoidance for SR-OSPF.

When enabled, the feature applies to the following contexts:

- SPFv2 SR-OSPF IPv4 tunnel (node SID)
- IPv4 and IPv6 SR-TE LSPs that use a node SID in their segment list
- IPv4 and IPv6 SR policies that use a node SID in their segment list

The **no** form of this command disables microloop avoidance. When microloop avoidance is disabled, the system forces any running FIB delay to expire immediately and programs the new next hops for all impacted node SIDs. When disabled, microloop avoidance is disabled instantaneously and will be disabled for the next SPF runs. Microloop avoidance remains disabled until it is re-enabled.

Default

no micro-loop-avoidance

Parameters

fib-delay

Specifies the FIB delay before programming new primary next hops. Configure the FIB delay timer to a value that corresponds to the worst-case IGP convergence in a network domain. The default FIB delay timer value corresponds to a network with a nominal convergence time.

Values 1 to 300

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Default 15 (equal to 1.5 seconds or 15 units of 100 ms)

Platforms
All

29.130 micro-segment

micro-segment

Syntax
[**no**] **micro-segment**

Context
[Tree] (config>router>segment-routing>srv6 micro-segment)

Full Context
configure router segment-routing segment-routing-v6 micro-segment

Description
Commands in this context configure micro-segment SRv6.

The **no** form of this command removes the configuration.

Platforms
7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

29.131 micro-segment-locator

micro-segment-locator

Syntax
[**no**] **micro-segment-locator** *ms-locator-name*

Context
[Tree] (config>router>segment-routing>srv6 micro-segment-locator)

Full Context
configure router segment-routing segment-routing-v6 micro-segment-locator

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Description

This command configures the name of an SRv6 micro-segment locator for use by the routing protocols and services. This also creates the context to configure the associated parameters.

A limit of 16 locators (regular and micro) per system is enforced.

The **no** form of this command removes the micro-segment locator.

Parameters

ms-locator-name

Specifies a micro-segment locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

micro-segment-locator

Syntax

[**no**] **micro-segment-locator** *ms-locator-name*

Context

[Tree] (config>router>segment-routing>srv6>inst micro-segment-locator)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator

Description

This command assigns a micro-segment locator to BGP for use with base router routes.

This command refers to a micro-segment locator name defined under the following context.

```
configure router segment-routing segment-routing-v6
```

The **no** form of this command removes the micro-segment locator.

Parameters

ms-locator-name

Specifies a micro-segment locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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micro-segment-locator

Syntax

[**no**] **micro-segment-locator** *ms-locator-name*

Context

[Tree] (config>service>epipe>srv6 micro-segment-locator)

[Tree] (config>service>vprn>srv6 micro-segment-locator)

[Tree] (config>service>vpls>srv6 micro-segment-locator)

Full Context

configure service epipe segment-routing-v6 micro-segment-locator

configure service vprn segment-routing-v6 micro-segment-locator

configure service vpls segment-routing-v6 micro-segment-locator

Description

This command assigns a micro-segment locator to the SRv6 instance in the service. The same micro-segment locator can be referenced in multiple BGP instances used by IPVPN or EVPN.

This command refers to a micro-segment locator name defined under the following context.

```
configure router segment-routing segment-routing-v6
```

The **no** form of this command removes the micro-segment locator name.

Parameters

ms-locator-name

Specifies a micro-segment locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

micro-segment-locator

Syntax

[**no**] **micro-segment-locator** *ms-locator-name*

Context

[Tree] (config>router>isis>srv6 micro-segment-locator)

Full Context

configure router isis segment-routing-v6 micro-segment-locator

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Description

This command assigns a micro-segment locator to each algorithm in an IS-IS instance. The same micro-segment locator of a specific algorithm number can be shared with other IGP instances and BGP instances in IP-VPN or EVPN.

This command refers to a micro-segment locator name defined under the following context.

```
configure router segment-routing segment-routing-v6
```

The **no** form of this command removes the micro-segment locator.

Default

no micro-segment-locator

Parameters

ms-locator-name

Specifies a micro-segment locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

micro-segment-locator

Syntax

micro-segment-locator *name* **function end-b6-encaps-red-next-csid** [**function-value** *function-value*]

no micro-segment-locator

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>srv6>binding-sid micro-segment-locator)

Full Context

configure router segment-routing sr-policies static-policy segment-routing-v6 binding-sid micro-segment-locator

Description

This command configures binding SID micro-segment-locator parameters for a local SRv6 policy.

The **no** form of the command removes the configuration.

Parameters

name

Specifies the name of the micro-segment-locator, up to 256 characters. A corresponding micro-segment-locator name must exist in the **config>router>segment-routing>srv6** context.

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end-b6-encaps-red-next-csid

Keyword to configure reduced encapsulation for the microbinding SID.

function-value

Specifies the optional function value of the local SRv6 microbinding SID. If a function value is configured, the router checks whether this function value is available for the named locator. If no function value is configured, the router dynamically allocates a value.

Values 1 to 65535

Default no function value

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

29.132 mid-pool

mid-pool

Syntax

[**no**] **mid-pool** *mid-pool-id*

Context

[Tree] (config>qos>hs-pool-policy>mid-tier mid-pool)

Full Context

configure qos hs-pool-policy mid-tier mid-pool

Description

Commands in this context configure mid-pool tier parameters for an HS pool policy. Parameters allow for allocating the percentage of the root pool size, defining a mid-tier pool's root-pool parent, specifying the port bandwidth oversubscription factor, or specifying a slope policy for the specific mid-tier pool.

The **no** form of the command reverts the parent root pool association to root-pool 1, reverts to the default allocation-percentage value, the default **port-bw-oversub-factor**, and default slope-policy to the specified mid-pool.

Parameters

mid-pool-id

Specifies the mid pool ID. This is a required parameter when this command is executed and specifies which mid-pool context is being entered.

Values 1 to 16

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Platforms
7750 SR-7/12/12e

29.133 mid-tier

mid-tier

Syntax
mid-tier

Context
[Tree] (config>qos>hs-pool-policy mid-tier)

Full Context
configure qos hs-pool-policy mid-tier

Description
Commands in this context configure HS pool policy parameters. Within the **mid-tier** context, mid-pools can be associated with a root pool, sized as a percentage of the root pool, have an HS slope policy applied, or be configured with a port bandwidth oversubscription factor parameter used to influence the port-class pool sizes associated with the mid-tier pool.

Platforms
7750 SR-7/12/12e

29.134 migrant

migrant

Syntax
[**no**] **migrant**

Context
[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>ue-state migrant)

Full Context
configure subscriber-mgmt wlan-gw tunnel-query ue-state migrant

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Description

This command enables matching on tunnels with migrant UEs.

The **no** form of this command disables matching on migrant UEs, unless UE state matching is disabled altogether.

Default

no migrant

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.135 millisecond-event-timestamp

millisecond-event-timestamp

Syntax

[no] millisecond-event-timestamp

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes millisecond-event-timestamp)

Full Context

configure aaa isa-radius-policy acct-include-attributes millisecond-event-timestamp

Description

This command enables the router to include the Alc-Millisecond-Event-Timestamp attribute in the accounting message. This attribute specifies the time the accounting event was logged, in milliseconds since Jan 1, 1970 00:00:00 UTC.

The **no** form of this command disables the router from including the Alc-Millisecond-Event-Timestamp attribute in the accounting message.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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29.136 min-advertisement

min-advertisement

Syntax

min-advertisement *seconds*

no min-advertisement

Context

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv min-advertisement)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv min-advertisement)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 min-advertisement)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 min-advertisement)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv min-advertisement)

[Tree] (config>service>vprn>router-advert>if min-advertisement)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv min-advertisement)

[Tree] (config>subscr-mgmt>rtr-adv-plcy min-advertisement)

Full Context

configure service vprn subscriber-interface ipv6 router-advertisements min-advertisement

configure service vprn subscriber-interface group-interface ipv6 router-advertisements min-advertisement

configure service vprn subscriber-interface group-interface ipv6 min-advertisement

configure service ies subscriber-interface group-interface ipv6 min-advertisement

configure service ies subscriber-interface ipv6 router-advertisements min-advertisement

configure service vprn router-advert interface min-advertisement

configure service ies subscriber-interface group-interface ipv6 router-advertisements min-advertisement

configure subscriber-mgmt router-advertisement-policy min-advertisement

Description

This command specifies the minimum time allowed between sending unsolicited router advertisements.

The **no** form of this command reverts to the default.

Default

min-advertisement 900

Parameters

seconds

Specifies the minimum advertisement interval, in seconds.

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Values 900 to 1350

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.137 min-advertisement-interval

min-advertisement-interval

Syntax

[**no**] **min-advertisement-interval** *seconds*

Context

[Tree] (config>service>vprn>router-advert>if min-advertisement-interval)

[Tree] (config>router>router-advert>if min-advertisement-interval)

Full Context

configure service vprn router-advertisement interface min-advertisement-interval

configure router router-advertisement interface min-advertisement-interval

Description

This command configures the minimum interval between sending ICMPv6 neighbor discovery router advertisement messages.

Default

min-advertisement-interval 200

Parameters

seconds

Specifies the minimum interval in seconds between sending ICMPv6 neighbor discovery router advertisement messages.

Values 3 to 1350

Platforms

All

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29.138 min-auth-interval

min-auth-interval

Syntax

min-auth-interval *min-auth-interval*

no min-auth-interval

Context

[Tree] (config>service>vpls>sap>arp-host min-auth-interval)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>arp-host min-auth-interval)

[Tree] (config>service>ies>sub-if>grp-if min-auth-interval)

[Tree] (config>service>vprn>sub-if>grp-if>arp-host min-auth-interval)

Full Context

configure service vpls sap arp-host min-auth-interval

configure subscriber-mgmt msap-policy vpls-only-sap-parameters arp-host min-auth-interval

configure service ies subscriber-interface group-interface min-auth-interval

configure service vprn subscriber-interface group-interface arp-host min-auth-interval

Description

This command configures the minimum authentication interval.

The **no** form of this command reverts to the default.

Default

min-auth-interval 15

Parameters

min-auth-interval

Specifies the minimum authentication interval, in minutes.

Values 1 to 6000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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min-auth-interval

Syntax

min-auth-interval [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no min-auth-interval

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-sol min-auth-interval)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-solicit min-auth-interval

Description

This command specify the minimum interval between two consecutive authentication attempts from the same host.

The **no** form of this command reverts to the default.

Parameters

days

Specifies the number of days that a user must wait for the next authentication attempt.

hours

Specifies the number of hours that a user must wait for the next authentication attempt.

minutes

Specifies the number of minutes that a user must wait for the next authentication attempt.

seconds

Specifies the number of seconds that a user must wait for the next authentication attempt.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

min-auth-interval

Syntax

min-auth-interval [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

min-auth-interval infinite

no min-auth-interval

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session min-auth-interval)

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session min-auth-interval)

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Full Context

configure service vprn subscriber-interface group-interface ipoe-session min-auth-interval

configure service ies subscriber-interface group-interface ipoe-session min-auth-interval

Description

Re-authentication for IPoE sessions enable dynamic policy changes.

This command configures the maximum frequency of re-authentications by specifying a minimum interval between two non-forced authentications for the same IPoE session.

A forced authentication is by default triggered by a circuit-id, interface-id or remote-id change (see the **force-auth** [**config>service>ies>sub-if>grp-if>ipoe-session force-auth**, **config>service>vprn>sub-if>grp-if>ipoe-session force-auth**] command).

Re-authentications are, by default, disabled and can be enabled by configuring a **min-auth-interval**.

Setting the **min-auth-interval** to zero seconds always re-authenticates on each trigger packet.

The **no** form of this command reverts to the default behavior.

Default

min-auth-interval infinite

Parameters

days

Specifies the min number of days between two non-forced authentications for IPoE sessions.

Values 0 to 365

hours

Specifies the min number of hours between two non-forced authentications for IPoE sessions.

Values 0 to 23

minutes

Specifies the min number of minutes between two non-forced authentications for IPoE sessions.

Values 0 to 59

seconds

Specifies the min number of seconds between two non-forced authentications for IPoE sessions.

Values 0 to 59

infinite

Specifies that non-forced re-authentications for IPoE sessions is not performed.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.139 min-avg-rate

min-avg-rate

Syntax

min-avg-rate *min-average-rate*

no min-avg-rate

Context

[Tree] (config>router>mpls>lsp-cont>opt min-avg-rate)

Full Context

configure router mpls lsp-container optimization min-avg-rate

Description

This command configures the average rate below which the container reduces the number of its member LSPs.

If the average traffic rate (over all the LSPs of the LSP container) drops below this value, the system decreases the number of LSPs.

The **no** form of this command reverts to the default value.

Default

min-average-rate 0

Parameters

min-average-rate

Specifies the minimum average traffic rate per LSP in the LSP container.

Values 0 to 6400000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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29.140 min-bandwidth

min-bandwidth

Syntax

min-bandwidth *rate-in-mbps*

no min-bandwidth

Context

[Tree] (config>router>mpls>lsp>auto-bandwidth min-bandwidth)

[Tree] (config>router>mpls>lsp-template>auto-bandwidth min-bandwidth)

Full Context

configure router mpls lsp auto-bandwidth min-bandwidth

configure router mpls lsp-template auto-bandwidth min-bandwidth

Description

This command configures the minimum bandwidth that auto-bandwidth allocation is allowed to request for an LSP.

This minimum bandwidth applies regardless of how the bandwidth adjustment is triggered.

The **no** form of this command reverts to the default value.

Default

min-bandwidth 0

Parameters

rate-in-mbps

Specifies the minimum reservable bandwidth, in Mb/s.

Values 0 to 6400000

Platforms

All

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29.141 min-delay

min-delay

Syntax

min-delay [*delay*]

no min-delay

Context

[Tree] (config>log>event-handling>handler>action-list>entry min-delay)

Full Context

configure log event-handling handler action-list entry min-delay

Description

This command specifies the minimum delay in seconds between subsequent executions of the action specified in this entry. This is useful, for example, to ensure that a script does not get triggered to execute too often.

Default

no min-delay

Parameters

delay

Specifies the unit in seconds.

Values 1 to 604800

Platforms

All

29.142 min-first-fragment-size-rx

min-first-fragment-size-rx

Syntax

min-first-fragment-size-rx *mtu-bytes*

no min-first-fragment-size-rx

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Context

[Tree] (config>router>nat>inside>dslite>address min-first-fragment-size-rx)

[Tree] (config>service>vprn>nat>inside>dslite>address min-first-fragment-size-rx)

Full Context

configure router nat inside dual-stack-lite address min-first-fragment-size-rx

configure service vprn nat inside dual-stack-lite address min-first-fragment-size-rx

Description

This command configures the minimum MTU size for the first fragment in the upstream direction. This command can be used to enable processing of first IPv6 fragments smaller than 1280 bytes. RFC 8200 recommends the minimum MTU in IPv6 be 1280 bytes which allows fragmentation only for packets that are larger than 1280 bytes. If a first fragment is smaller than 1280 bytes, DS-lite implementation in the SR OS, by default, drops the first fragment.

The **no** form of the command reverts to the default value.

Default

min-first-fragment-size-rx 1280

Parameters

mtu-bytes

Specifies the minimum MTU size for the first fragment in the upstream direction

Values 512 to 1280

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

29.143 min-frame-length

min-frame-length

Syntax

min-frame-length *byte-length*

Context

[Tree] (config>port>ethernet min-frame-length)

Full Context

configure port ethernet min-frame-length

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Description

This command configures the minimum transmitted frame length.

Note: The *byte-length* value of 72 is only supported on FP4 and newer generations of XMA, MDA-e-XP, and MDA-s.

Parameters

byte-length

Specifies the number of bytes for the minimum frame length.

Values 64, 68, 72

Default 64

Platforms

All

29.144 min-lease-time

min-lease-time

Syntax

min-lease-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no min-lease-time

Context

[Tree] (config>router>dhcp>server>pool min-lease-time)

[Tree] (config>service>vprn>dhcp>server>pool min-lease-time)

Full Context

configure router dhcp local-dhcp-server pool min-lease-time

configure service vprn dhcp local-dhcp-server pool min-lease-time

Description

This command configures the minimum lease time.

The **no** form of this command reverts to the default.

Default

min-lease-time min 10

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Parameters

min-lease-time

Specifies the minimum lease time.

Values

days	0 to 3650
hours	0 to 23
minutes	0 to 59
seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

29.145 min-member-lsps

min-member-lsps

Syntax

min-member-lsps *number*

no min-member-lsps

Context

[Tree] (config>router>mpls>lsp-cont min-member-lsps)

Full Context

configure router mpls lsp-container min-member-lsps

Description

This command configures the minimum number of member LSPs in the LSP container.

The **no** form of this command reverts to the default value.

Default

min-member-lsps 1

Parameters

number

Specifies the minimum number of member LSPs.

Values 1 to 64

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

29.146 min-num-ue

min-num-ue

Syntax

min-num-ue *minimum*

no min-num-ue

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query min-num-ue)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query min-num-ue

Description

This command enables matching only on tunnels that have at least the specified number of UEs connected.

The **no** form of this command disables matching on a minimum number of UEs.

Default

no min-num-ue

Parameters

minimum

Specifies the minimum number of UEs.

Values 1 to 4294967295

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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29.147 min-route-advertisement

min-route-advertisement

Syntax

min-route-advertisement *seconds*

no min-route-advertisement

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy min-route-advertisement)

Full Context

configure subscriber-mgmt bgp-peering-policy min-route-advertisement

Description

This command configures the minimum interval, in seconds, at which a prefix can be advertised to a peer.

The **no** form of this command reverts to default values.

Default

min-route-advertisement 30

Parameters

seconds

Specifies the minimum route advertising interval, in seconds, expressed as a decimal integer.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

min-route-advertisement

Syntax

min-route-advertisement *seconds*

no min-route-advertisement

Context

[Tree] (config>service>vprn>bgp min-route-advertisement)

[Tree] (config>service>vprn>bgp>group min-route-advertisement)

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[Tree] (config>service>vprn>bgp>group>neighbor min-route-advertisement)

Full Context

configure service vprn bgp min-route-advertisement

configure service vprn bgp group min-route-advertisement

configure service vprn bgp group neighbor min-route-advertisement

Description

This command configures the minimum interval, in seconds, at which a prefix can be advertised to a peer.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command reverts to default values.

Default

min-route-advertisement 30

Parameters

seconds

Specifies the minimum route advertising interval, in seconds, expressed as a decimal integer.

Values 1 to 255

Platforms

All

min-route-advertisement

Syntax

min-route-advertisement *seconds*

no min-route-advertisement

Context

[Tree] (config>router>bgp min-route-advertisement)

[Tree] (config>router>bgp>group>neighbor min-route-advertisement)

[Tree] (config>router>bgp>group min-route-advertisement)

Full Context

configure router bgp min-route-advertisement

configure router bgp group neighbor min-route-advertisement

configure router bgp group min-route-advertisement

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Description

This command configures the minimum interval, in seconds, between successive updates of a prefix towards a peer.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group), or neighbor level (only applies to specified peer). The most specific value is used.

The **no** form of this command used at the global level reverts to default.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

The **rapid-update** command can be used to override the peer-level **min-route-advertisement** time and applies the minimum setting (0 seconds) to routes belonging to address families specified by the **rapid-update** command; routes of other address families continue to be advertised according to the session-level MRAI setting.

The **rapid-update** and **rapid-withdrawal** commands may result in the routes being sent before the peer-level MRAI timer expires.

Default

min-route-advertisement 30

Parameters

seconds

Specifies the minimum route advertising interval, in seconds, expressed as a decimal integer.

Values 1 to 255

Platforms

All

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30 m Commands – Part III

30.1 min-thresh-separation

min-thresh-separation

Syntax

min-thresh-separation *size* [**bytes** | **kilobytes**]

no min-thresh-separation

Context

[Tree] (config>subscr-mgmt>sub-prof>ingress>policer-control-policy>priority-mbs-thresholds min-thresh-separation)

[Tree] (config>subscr-mgmt>sub-prof>egress>policer-control-policy>priority-mbs-thresholds min-thresh-separation)

Full Context

configure subscriber-mgmt sub-profile ingress policer-control-policy priority-mbs-thresholds min-thresh-separation

configure subscriber-mgmt sub-profile egress policer-control-policy priority-mbs-thresholds min-thresh-separation

Description

The **min-thresh-separation** command defines the minimum required separation between each in-use discard threshold maintained for each parent policer context associated with the policer-control-policy. The min-thresh-separation value may be overridden on each SAP or sub-profile to which the policy is applied.

The system uses the default or specified min-thresh-separation value in order to determine the minimum separation required between each of the of the parent policer discard thresholds. The system enforces the minimum separation based on the following behavior in two ways. The first is determining the size of the shared-portion for each priority level (when the **mbs-contribution** command's optional fixed keyword is not specified):

- When a parent policer instance's priority level has less than two child policers associated, the shared-portion for the level is zero.
- When a parent policer instance's priority level has two or more child policers associated, the shared-portion for the level is equal to the current value of **min-thresh-separation**.

The second function the system uses the **min-thresh-separation** value for is determining the value per priority level for the fair-portion:

- When a parent policer instance's priority level has no child policers associated, the fair-portion for the level is zero.

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- When a parent policer instance's priority level has one child policer associated, the fair-portion is equal to the maximum of the min-thresh-separation value and the priority level's mbs-contribution value.
- When a parent policer instance's priority level has two or more child policers associated, the fair-portion is equal to the maximum of the following:
  - **min-thresh-separation** value
  - The priority level's **mbs-contribution** value less **min-thresh-separation** value

When the **mbs-contribution** command's optional fixed keyword is defined for a priority level within the policy, the system will treat the defined **mbs-contribution** value as an explicit definition of the priority level's MBS. While the system will continue to track child policer associations with the parent policer priority levels, the association counters will have no effect. Instead the following rules is used to determine a fixed priority level's shared-portion and fair-portion:

- If a fixed priority level's **mbs-contribution** value is set to zero, both the shared-portion and fair-portion is set to zero
- If the **mbs-contribution** value is not set to zero:
  - The shared-portion is set to the current **min-thresh-separation** value
  - The fair-portion is set to the maximum of the following:

min-thresh-separation value

mbs-contribution value less **min-thresh-separation value**

Each time the **min-thresh-separation** value is modified, the thresholds for all instances of the parent policer created through association with this **policer-control-policy** are reevaluated.

Determining the Correct Value for the Minimum Threshold Separation Value

The minimum value for **min-thresh-separation** should be set equal to the maximum size packet that is handled by the parent policer. This ensures that when a lower priority packet is incrementing the bucket, the size of the increment will not cause the bucket's depth to equal or exceed a higher priority threshold. It also ensures that an unfair packet within a priority level cannot cause the PIR bucket to increment to the discard-all threshold within the priority.

When evaluating maximum packet size, each child policer's per-packet-offset setting should be taken into consideration. If the maximum size packet is 1518 bytes and a per-packet-offset parameter is configured to add 20 bytes per packet, min-thresh-separation should be set to 1538 due to the fact that the parent policer will increment its PIR bucket using the extra 20 bytes.

In most circumstances, a value larger than the maximum packet size is not necessary. Management of priority level aggregate burst tolerance is intended to be implemented using the priority level **mbs-contribution** command. Setting a value larger than the maximum packet size will not adversely affect the policer performance, but it may increase the aggregate burst tolerance for each priority level.

Note:
A priority level's shared-portion of the parent policer's PIR bucket depth is only necessary to provide some separation between a lower priority's discard-all threshold and this priority's discard-unfair threshold. It is expected that the burst tolerance for the unfair packets is relatively minimal since the child policers feeding the parent policer priority level all have some amount of fair burst before entering into an FIR exceed or unfair state. The fair burst amount for a priority level is defined using the mbs-contribution command.

The **no** form of this command returns the policy's **min-thresh-separation** value to the default value.

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Parameters

size

The size parameter is required when executing the **min-thresh-separation** command. It is expressed as an integer and specifies the shared portion in bytes or kilobytes that is selected by the trailing bytes or kilobytes keywords. If both bytes and kilobytes are missing, kilobytes is the assumed value. Setting this value has no effect on parent policer instances where the **min-thresh-separation** value has been overridden.

Values 0 to 16777216

[bytes | kilobytes]

The **bytes** keyword is optional and is mutually exclusive with the **kilobytes** keyword. When specified, size is interpreted as specifying the size of **min-thresh-separation** in bytes.

The **kilobytes** keyword is optional and is mutually exclusive with the **bytes** keyword. When specified, size is interpreted as specifying the size of **min-thresh-separation** in kilobytes.

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

min-thresh-separation

Syntax

min-thresh-separation *size* [**bytes** | **kilobytes**]

no min-thresh-separation

Context

[Tree] (config>card>fp>ingress>network>queue-group>policer-control-override>priority-mbs-thresholds min-thresh-separation)

[Tree] (config>card>fp>ingress>access>queue-group>policer-control-override>priority-mbs-thresholds min-thresh-separation)

Full Context

configure card fp ingress network queue-group policer-control-override priority-mbs-thresholds min-thresh-separation

configure card fp ingress access queue-group policer-control-override priority-mbs-thresholds min-thresh-separation

Description

This command defines the minimum required separation between each in-use discard threshold maintained for each parent policer context associated with the policer-control-policy. The min-thresh-separation value may be overridden on each SAP or sub-profile to which the policy is applied.

The system uses the default or specified min-thresh-separation value in order to determine the minimum separation required between each of the of the parent policer discard thresholds. The system enforces the

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minimum separation based on the following behavior in two ways. The first is determining the size of the shared-portion for each priority level (when the **mbs-contribution** command's optional fixed keyword is not specified):

- When a parent policer instance's priority level has less than two child policers associated, the shared-portion for the level will be zero.
- When a parent policer instance's priority level has two or more child policers associated, the shared-portion for the level will be equal to the current value of **min-thresh-separation**.

The second function the system uses the **min-thresh-separation** value for is determining the value per priority level for the fair-portion:

- When a parent policer instance's priority level has no child policers associated, the fair-portion for the level will be zero.
- When a parent policer instance's priority level has one child policer associated, the fair-portion will be equal to the maximum of the min-thresh-separation value and the priority level's mbs-contribution value.
- When a parent policer instance's priority level has two or more child policers associated, the fair-portion will be equal to the maximum of the following:
  - **min-thresh-separation** value
  - The priority level's **mbs-contribution** value less **min-thresh-separation** value

When the **mbs-contribution** command's optional fixed keyword is defined for a priority level within the policy, the system will treat the defined **mbs-contribution** value as an explicit definition of the priority level's MBS. While the system will continue to track child policer associations with the parent policer priority levels, the association counters will have no effect. Instead the following rules will be used to determine a fixed priority level's shared-portion and fair-portion:

- If a fixed priority level's **mbs-contribution** value is set to zero, both the shared-portion and fair-portion will be set to zero
- If the **mbs-contribution** value is not set to zero:
  - The shared-portion will be set to the current **min-thresh-separation** value
  - The fair-portion will be set to the maximum of the following:
    - **min-thresh-separation** value
    - **mbs-contribution** value less **min-thresh-separation value**

Each time the **min-thresh-separation** value is modified, the thresholds for all instances of the parent policer created through association with this **policer-control-policy** are reevaluated except for parent policer instances that currently have a min-thresh-separation override.

Determining the Correct Value for the Minimum Threshold Separation Value

The minimum value for **min-thresh-separation** should be set equal to the maximum size packet that will be handled by the parent policer. This ensures that when a lower priority packet is incrementing the bucket, the size of the increment will not cause the bucket's depth to equal or exceed a higher priority threshold. It also ensures that an unfair packet within a priority level cannot cause the PIR bucket to increment to the discard-all threshold within the priority.

When evaluating maximum packet size, each child policer's per-packet-offset setting should be taken into consideration. If the maximum size packet is 1518 bytes and a per-packet-offset parameter is configured to add 20 bytes per packet, min-thresh-separation should be set to 1538 due to the fact that the parent policer will increment its PIR bucket using the extra 20 bytes.

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In most circumstances, a value larger than the maximum packet size is not necessary. Management of priority level aggregate burst tolerance is intended to be implemented using the priority level **mbs-contribution** command. Setting a value larger than the maximum packet size will not adversely affect the policer performance, but it may increase the aggregate burst tolerance for each priority level.

One thing to note is that a priority level's shared-portion of the parent policer's PIR bucket depth is only necessary to provide some separation between a lower priority's discard-all threshold and this priority's discard-unfair threshold. It is expected that the burst tolerance for the unfair packets is relatively minimal since the child policers feeding the parent policer priority level all have some amount of fair burst before entering into an FIR exceed or unfair state. The fair burst amount for a priority level is defined using the mbs-contribution command.

The **no** form of this command returns the policy's **min-thresh-separation** value to the default value. This has no effect on instances of the parent policer where **min-thresh-separation** is overridden unless the override is removed.

Default

no min-thresh-separation

Parameters

size

Specifies that the size parameter is required when executing the **min-thresh-separation** command. It is expressed as an integer and specifies the shared portion in bytes or kilobytes that is selected by the trailing bytes or kilobytes keywords. If both bytes and kilobytes are missing, kilobytes is the assumed value. Setting this value has no effect on parent policer instances where the **min-thresh-separation** value has been overridden. Clearing an override on parent policer instance causes this value to be enforced.

Values 0 to 16777216

bytes | kilobytes

Specifies that the **bytes** keyword is optional and is mutually exclusive with the **kilobytes** keyword. When specified, size is interpreted as specifying the size of **min-thresh-separation** in bytes.

The **kilobytes** keyword is optional and is mutually exclusive with the **bytes** keyword. When specified, size is interpreted as specifying the size of **min-thresh-separation** in kilobytes.

Values bytes or kilobytes

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

min-thresh-separation

Syntax

min-thresh-separation *size* [**bytes** | **kilobytes**]

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Context

[Tree] (config>service>ipipe>sap>egress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>ipipe>sap>ingress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>epipe>sap>ingress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>cpipe>sap>egress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>epipe>sap>egress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>cpipe>sap>ingress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

Full Context

configure service ipipe sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service ipipe sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service epipe sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service cpipe sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service epipe sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service cpipe sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

Description

This command, within the SAP ingress and egress contexts, is used to override the root arbiter's parent policer min-thresh-separation parameter that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy min-thresh-separation parameter have no effect on the SAP's parent policer until the override is removed using the no min-thresh-separation command within the SAP.

The no form of this command removes the override and allows the min-thresh-separation setting from the policer-control-policy to control the root arbiter's parent policer's minimum discard threshold separation size.

Default

no min-thresh-separation

Parameters

size

The minimum discard threshold separation override value.

Values 1 to 16777216 | default

bytes

Signifies that *size* is expressed in bytes. The bytes and kilobytes keywords are mutually exclusive and optional. The default is kilobytes.

kilobytes

Signifies that *size* is expressed in kilobytes. The bytes and kilobytes keywords are mutually exclusive and optional. The default is kilobytes.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation
- configure service ipipe sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation
- configure service epipe sap egress policer-control-override priority-mbs-thresholds min-thresh-separation
- configure service ipipe sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-control-override priority-mbs-thresholds min-thresh-separation
- configure service cpipe sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

min-thresh-separation

Syntax

min-thresh-separation *size* [{**bytes** | **kilobytes**}]

Context

[Tree] (config>service>vpls>sap>ingress>policer-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>vpls>sap>egress>policer-ctrl-over>mbs-thrshlds min-thresh-separation)

Full Context

configure service vpls sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service vpls sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

Description

This command within the SAP ingress and egress contexts is used to override the root arbiter's parent policer min-thresh-separation parameter that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy min-thresh-separation parameter have no effect on the SAP's parent policer until the override is removed using the **no min-thresh-separation** command within the SAP.

The **no** form of this command removes the override and allows the min-thresh-separation setting from the policer-control-policy to control the root arbiter's parent policer's minimum discard threshold separation size.

Default

no min-thresh-separation

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Parameters

size

This parameter is required when specifying min-thresh-separation override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 16777216 or default

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

min-thresh-separation

Syntax

min-thresh-separation *size* [{**bytes** | **kilobytes**}]

Context

[Tree] (config>service>ies>if>sap>egress>policer-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>ies>if>sap>ingress>policer-ctrl-over>mbs-thrshlds min-thresh-separation)

Full Context

configure service ies interface sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service ies interface sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

Description

This command within the SAP ingress and egress contexts is used to override the root arbiter's parent policer min-thresh-separation parameter that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy min-thresh-separation parameter have no effect on the SAP's parent policer until the override is removed using the no min-thresh-separation command within the SAP.

The **no** form of this command removes the override and allows the min-thresh-separation setting from the policer-control-policy to control the root arbiter's parent policer's minimum discard threshold separation size.

Default

no min-thresh-separation

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Parameters

size

This parameter is required when specifying min-thresh-separation override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 16777216 or default

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

min-thresh-separation

Syntax

min-thresh-separation *size* [{**bytes** | **kilobytes**}]

Context

[Tree] (config>service>vprn>if>sap>egress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

[Tree] (config>service>vprn>if>sap>ingress>policy-ctrl-over>mbs-thrshlds min-thresh-separation)

Full Context

configure service vprn interface sap egress policer-control-override priority-mbs-thresholds min-thresh-separation

configure service vprn interface sap ingress policer-control-override priority-mbs-thresholds min-thresh-separation

Description

This command within the SAP ingress and egress contexts is used to override the root arbiter's parent policer min-thresh-separation parameter that is defined within the policer-control-policy applied to the SAP.

When the override is defined, modifications to the policer-control-policy min-thresh-separation parameter have no effect on the SAP's parent policer until the override is removed using the no min-thresh-separation command within the SAP.

The **no** form of this command removes the override and allows the min-thresh-separation setting from the policer-control-policy to control the root arbiter's parent policer's minimum discard threshold separation size.

Default

no min-thresh-separation

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Parameters

size

This parameter is required when specifying min-thresh-separation override and is expressed as an integer representing the required size in either bytes or kilobytes. The default is kilobytes. The optional **byte** and **kilobyte** keywords are mutually exclusive and are used to explicitly define whether size represents bytes or kilobytes.

Values 0 to 16777216 or default

Default kilobytes

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

min-thresh-separation

Syntax

min-thresh-separation *size* [**bytes** | **kilobytes**]

no min-thresh-separation

Context

[Tree] (config>qos>plcr-ctrl-plcy>root>priority-mbs-thresholds min-thresh-separation)

Full Context

configure qos policer-control-policy root priority-mbs-thresholds min-thresh-separation

Description

The **min-thresh-separation** command defines the minimum required separation between each in-use discard threshold maintained for each parent policer context associated with the policer-control-policy. The min-thresh-separation value may be overridden on each SAP or sub-profile to which the policy is applied.

The system uses the default or specified **min-thresh-separation** value in order to determine the minimum separation required between each of the of the parent policer discard thresholds. The system enforces the minimum separation based on the following behavior in two ways. The first is determining the size of the shared-portion for each priority level (when the **mbs-contribution** command's optional fixed keyword is not specified):

- When a parent policer instance's priority level has less than two child policers associated, the shared-portion for the level will be zero.
- When a parent policer instance's priority level has two or more child policers associated, the shared-portion for the level will be equal to the current value of **min-thresh-separation**.

The second function the system uses the **min-thresh-separation** value for is determining the value per priority level for the fair-portion:

- When a parent policer instance's priority level has no child policers associated, the fair-portion for the level will be zero.

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- When a parent policer instance's priority level has one child policer associated, the fair-portion will be equal to the maximum of the min-thresh-separation value and the priority level's mbs-contribution value.
- When a parent policer instance's priority level has two or more child policers associated, the fair-portion will be equal to the maximum of the following:
  - **min-thresh-separation** value
  - **mbs-contribution** value less **min-thresh-separation** value

When the **mbs-contribution** command's optional fixed keyword is defined for a priority level within the policy, the system will treat the defined **mbs-contribution** value as an explicit definition of the priority level's MBS. While the system will continue to track child policer associations with the parent policer priority levels, the association counters will have no effect. Instead, the following rules will be used to determine a fixed priority level's shared-portion and fair-portion:

- If a fixed priority level's **mbs-contribution** value is set to zero, both the shared-portion and fair-portion will be set to zero
- If the **mbs-contribution** value is not set to zero:
  - The shared-portion will be set to the current **min-thresh-separation** value
  - The fair-portion will be set to the maximum of the following:

    min-thresh-separation value

    mbs-contribution value less **min-thresh-separation value**

Each time the **min-thresh-separation** value is modified, the thresholds for all instances of the parent policer created through association with this **policer-control-policy** are reevaluated.

Determining the Correct Value for the Minimum Threshold Separation Value

The minimum value for **min-thresh-separation** should be set equal to the maximum size packet that will be handled by the parent policer. This ensures that when a lower priority packet is incrementing the bucket, the size of the increment will not cause the bucket's depth to equal or exceed a higher priority threshold. It also ensures that an unfair packet within a priority level cannot cause the PIR bucket to increment to the discard-all threshold within the priority.

When evaluating maximum packet size, each child policer's per-packet-offset setting should be taken into consideration. If the maximum size packet is 1518 bytes and a per-packet-offset parameter is configured to add 20 bytes per packet, min-thresh-separation should be set to 1538 due to the fact that the parent policer will increment its PIR bucket using the extra 20 bytes.

In most circumstances, a value larger than the maximum packet size is not necessary. Management of priority level aggregate burst tolerance is intended to be implemented using the priority level **mbs-contribution** command. Setting a value larger than the maximum packet size will not adversely affect the policer performance, but it may increase the aggregate burst tolerance for each priority level.

Note:
A priority level's shared-portion of the parent policer's PIR bucket depth is only necessary to provide some separation between a lower priority's discard-all threshold and this priority's discard-unfair threshold. It is expected that the burst tolerance for the unfair packets is relatively minimal since the child policers feeding the parent policer priority level all have some amount of fair burst before entering into an FIR exceed or unfair state. The fair burst amount for a priority level is defined using the mbs-contribution command.

The **no** form of this command returns the policy's **min-thresh-separation** value to the default value.

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Parameters

size

The *size* parameter is required when executing the **min-thresh-separation** command. It is expressed as an integer. Setting this value has no effect on parent policer instances where the **min-thresh-separation** value has been overridden.

Values 0 to 4194304 or **default** (applies to the 7450 ESS)

0 to 16777216 or **default** (applies to the 7750 SR or 7950 XRS)

Default 1536

bytes | kilobytes

This parameter indicates whether the size is expressed in bytes or kilobytes.

Default **kilobytes**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

30.2 min-wait-to-advertise

min-wait-to-advertise

Syntax

min-wait-to-advertise *seconds*

no min-wait-to-advertise

Context

[Tree] (config>service>vprn>bgp>convergence min-wait-to-advertise)

Full Context

configure service vprn bgp convergence min-wait-to-advertise

Description

This command configures the minimum amount of time that BGP waits, after the first session establishment following a restart of the BGP instance, until it can start advertising IPv4-unicast and IPv6-unicast routes to its BGP peers, to allow time for re-convergence.

The time limit configured by this command should allow sufficient time for all important peers to re-establish their sessions with the restarting router.

The **no** form of this command implements the default time limit of 0 seconds, which disables all forms of delayed route advertisement. In other words, it causes IPv4-unicast and IPv6-unicast routes to be re-advertised as soon as possible after BGP instance restart.

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Default

no min-wait-to-advertise

Parameters

seconds

Specifies the minimum amount of time, in seconds, that BGP waits until IPv4-unicast and IPv6-unicast routes can be advertised to peers.

Values 0 to 3600

Platforms

All

min-wait-to-advertise

Syntax

min-wait-to-advertise *seconds*

no min-wait-to-advertise

Context

[Tree] (config>router>bgp>convergence min-wait-to-advertise)

Full Context

configure router bgp convergence min-wait-to-advertise

Description

This command configures the minimum amount of time that BGP waits, after the first session establishment following a restart of the BGP instance, until it can start advertising IPv4-unicast and IPv6-unicast routes to its BGP peers, to allow time for re-convergence.

The time limit configured by this command should allow sufficient time for all important peers to re-establish their sessions with the restarting router.

The **no** form of this command implements the default time limit of 0 seconds, which disables all forms of delayed route advertisement. In other words, it causes IPv4-unicast and IPv6-unicast routes to be re-advertised as soon as possible after BGP instance restart.

Default

no min-wait-to-advertise

Parameters

seconds

Specifies the minimum amount of time, in seconds, that BGP waits until IPv4-unicast and IPv6-unicast routes can be advertised to peers.

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Values 0 to 3600

Platforms

All

30.3 minimum

minimum

Syntax

minimum [**percent** [*percent*]] [**number** [*number*]]

no minimum

Context

[Tree] (config>router>dhcp6>server>pool>prefix>thresholds>minimum-free minimum)

[Tree] (config>service>vprn>dhcp6>server>pool>prefix>thresholds>minimum-free minimum)

Full Context

configure router dhcp6 local-dhcp-server pool prefix thresholds minimum-free minimum

configure service vprn dhcp6 local-dhcp-server pool prefix thresholds minimum-free minimum

Description

This command configures a percentage-based or number-based threshold which represents the minimal available percentage or number of the prefix with a configured length in the provisioned prefix. The system sends out a warning if the actual percentage or number is lower than the configured threshold.

For example:

```
prefix 2001:0:0:ffe0::/50 pd wan-host create
   thresholds
       minimum-free prefix-length 64
           minimum number 3
```

With the above configuration, the system sends a warning when the number of available /64 in prefix 2001:0:0:ffe0::/50 is less than 3.

The **no** form of this command removes the command parameters from the configuration.

Parameters

percent

Specifies the percentage of used prefixes with the minimum free threshold length in the pool compared to the number of provisioned prefixes.

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Values 0 to 100

number

Specifies the number of prefixes.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.4 minimum-age

minimum-age

Syntax

minimum-age [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no minimum-age

Context

[Tree] (config>system>security>password minimum-age)

Full Context

configure system security password minimum-age

Description

Configure the minimum required age of a password before it can be changed again.

Default

minimum-age min 10

Parameters

days

Specifies the minimum required days of a password before it can be changed again.

Values 0 to 1

hours

Specifies the minimum required hours of a password before it can be changed again.

Values 0 to 23

minutes

Specifies the minimum required minutes of a password before it can be changed again.

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Values 0 to 59

seconds

Specifies the minimum required seconds of a password before it can be changed again.

Values 0 to 59

Note:
This command applies to local users.

Platforms

All

30.5 minimum-change

minimum-change

Syntax

minimum-change *distance*

no minimum-change

Context

[Tree] (config>system>security>password minimum-change)

Full Context

configure system security password minimum-change

Description

This command configures the minimum number of characters required to be different in the new password from a previous password.

The **no** form of this command reverts to default value.

Default

minimum-change 5

Parameters

distance

Specifies how many characters must be different in the new password from the old password.

Values 1 to 20

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Note:
This command applies to local users.

Platforms

All

30.6 minimum-classes

minimum-classes

Syntax

minimum-classes *minimum*

no minimum-classes

Context

[Tree] (config>system>security>password>complexity-rules minimum-classes)

Full Context

configure system security password complexity-rules minimum-classes

Description

Force the use of at least this many different character classes

The **no** form of this command resets to default.

Default

no minimum-classes

Parameters

minimum

Specifies the minimum number of classes to be configured.

Values 2 to 4

Platforms

All

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30.7 minimum-delay

minimum-delay

Syntax

minimum-delay [*minimum-delay*]

no minimum-delay

Context

[Tree] (config>router>isis>if>delay-normalization minimum-delay)

Full Context

configure router isis interface delay-normalization minimum-delay

Description

This command configures the minimum delay on the interface. For example, if 5 microseconds is configured, the system advertises this value as the minimum delay, even if TWAMP measures a delay of 2 microseconds.

The **no** form of this command reverts to the default.

Default

minimum-delay 1

Parameters

minimum-delay

Specifies the minimum delay in microseconds.

Values 1 to 10000000

Platforms

All

minimum-delay

Syntax

minimum-delay [*minimum-delay*]

no minimum-delay

Context

[Tree] (config>router>ospf>area>if>delay-normalization minimum-delay)

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Full Context

configure router ospf area interface delay-normalization minimum-delay

Description

This command configures the minimum delay on the interface. For example, if 5 microseconds is configured, the system advertises this value as the minimum delay, even if TWAMP measures a delay of 2 microseconds.

The **no** form of this command reverts to the default.

Default

minimum-delay 1

Parameters

minimum-delay

Specifies the minimum delay, in microseconds.

Values 1 to 10000000

Platforms

All

30.8 minimum-free

minimum-free

Syntax

minimum-free *minimum-free* [**percent**] [**event-when-depleted**]

no minimum-free

Context

[Tree] (config>service>vprn>dhcp>server>pool minimum-free)

[Tree] (config>router>dhcp>server>pool minimum-free)

Full Context

configure service vprn dhcp local-dhcp-server pool minimum-free

configure router dhcp local-dhcp-server pool minimum-free

Description

This command specifies the desired minimum number of free addresses in this pool.

The **no** form of this command reverts to the default.

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Default

minimum-free 1

Parameters

minimum-free

Specifies the minimum number of free addresses.

Values 0 to 255

percent

Specifies that the value indicates a percentage.

event-when-depleted

This parameter enables a system-generate event when all available addresses in the pool/subnet of local DHCP server are depleted.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

minimum-free

Syntax

minimum-free *minimum-free* [**percent**] [**event-when-depleted**]

no minimum-free

Context

[Tree] (config>router>dhcp>server>pool>subnet minimum-free)

[Tree] (config>service>vprn>dhcp>server>pool>subnet minimum-free)

Full Context

configure router dhcp local-dhcp-server pool subnet minimum-free

configure service vprn dhcp local-dhcp-server pool subnet minimum-free

Description

This command configures the minimum number of free addresses in this subnet. If the actual number of free addresses in this subnet falls below this configured minimum, a notification is generated.

The **no** form of the reverts to the default.

Default

minimum-free 1

Parameters

minimum-free

Specifies the minimum number of free addresses in this subnet.

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Values 0 to 255

percent

Specifies that the value indicates a percentage.

event-when-depleted

Enables a system-generate event when all available addresses in the pool or subnet of local DHCP server are depleted.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

minimum-free

Syntax

[**no**] **minimum-free prefix-length** [*prefix-length*]

Context

[Tree] (config>router>dhcp6>server>pool>thresholds minimum-free)

[Tree] (config>service>vprn>dhcp6>server>pool>thresholds minimum-free)

Full Context

configure router dhcp6 local-dhcp-server pool thresholds minimum-free

configure service vprn dhcp6 local-dhcp-server pool thresholds minimum-free

Description

This command creates a threshold for a given prefix length on the pool level. Up to 128 thresholds could be created. For example, with **minimum-free prefix-length 64**, then the usage of /64 prefix in the pool is counted.

There are two types of thresholds that could be defined at the pool level:

- Depleted — The system sends out a warning when the prefix with the configured length is no long available in the pool.
- Minimum free — A percentage-based threshold which represents the minimal available percentage of prefix with the configured length in the pool. The system will send out warning if the actual percentage is lower than the configured percentage.

Configuring this command also enables the system stats collection for **configure prefix length**, which could be displayed with the **show router** *router-id* **dhcp6 local-dhcp-server** *dhcp6-server-name* **pool-threshold-stats** command.

The **no** form of this command removes the prefix-length from the configuration.

Parameters

prefix-length

Specifies the IPv6 prefix length.

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Values 1 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.9 minimum-isa-generation

minimum-isa-generation

Syntax

minimum-isa-generation *min-isa-generation*

Context

[Tree] (config>isa>aa-grp minimum-isa-generation)

Full Context

configure isa application-assurance-group minimum-isa-generation

Description

This command configures the scale parameters for the ISA group. When *min-isa-generation* is configured as 1, the group and per-ISA limits are the MS-ISA scale.

If there is a mix of ISA 1s and 2s, the *min-isa-generation* must be left as 1.

When min-isa-gen is configured as 2, the per-isa resource limits shown in the **show isa application-assurance-group 1 load-balance** output will increase to show ISA2 limits.

Default

minimum-isa-generation 1

Parameters

min-isa-generation

Specifies the minimum ISA Generation allowed in this group.

Values 1 – ISA (ISA1)

2 – ISA2

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

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30.10 minimum-length

minimum-length

Syntax

minimum-length *length*

no minimum-length

Context

[Tree] (config>system>security>password>complexity-rules minimum-length)

Full Context

configure system security password complexity-rules minimum-length

Description

This command configures the minimum number of characters required for locally administered passwords, HMAC-MD5-96, HMAC-SHA-96, and des-keys configured in the system security section.

If multiple minimum-length commands are entered each command overwrites the previous entered command.

The **no** form of this command reverts to default value.

Default

minimum-length 6

Parameters

value

Specifies the minimum number of characters required for a password.

Values 6 to 50

Platforms

All

30.11 minimum-lifetimes

minimum-lifetimes

Syntax

minimum-lifetimes

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Context

[Tree] (config>python>py-pol>cache minimum-lifetimes)

Full Context

configure python python-policy cache minimum-lifetimes

Description

Commands in this context configure minimum-lifetime of Python cache information.

Platforms

All

30.12 minute

minute

Syntax

minute {*minute-number* [..*minute-number*] | **all**}

no minute

Context

[Tree] (config>system>cron>sched minute)

Full Context

configure system cron schedule minute

Description

This command specifies the minute to schedule a command. Multiple minutes of the hour can be specified. When multiple minutes are configured, each of them will cause the schedule to occur. If a minute is configured, but no **hour** or day is configured, the event will not execute. If a minute is configured without configuring the month, weekday, day-of-month, and minute, the event will not execute.

The **no** form of this command removes the specified minute from the configuration.

Default

no minute

Parameters

minute-number

Specifies the minute to schedule a command.

Values 0 to 59 (maximum 60 minute-numbers)

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all

Specifies all minutes.

Platforms

All

30.13 minutes

minutes

Syntax

minutes {*minutes* | **disable**}

no minutes

Context

[Tree] (config>system>security>ssh>key-re-exchange>server minutes)

[Tree] (config>system>security>ssh>key-re-exchange>client minutes)

Full Context

configure system security ssh key-re-exchange server minutes

configure system security ssh key-re-exchange client minutes

Description

This command configures the maximum time, in minutes, before a key re-exchange is initiated by the server.

The **no** form of this command reverts to the default value.

Default

minutes 60

Parameters

minutes

Specifies the time interval, in minutes, after which the SSH client will initiate the key-re-exchange.

Values 1 to 1440

Default 60

disable

Specifies that a session will never timeout. To re-enable **minutes**, enter the command without the **disable** option.

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Platforms

All

minutes

Syntax

minutes *minutes*

Context

[Tree] (config>test-oam>sath>svc-test>dur>cir minutes)

[Tree] (config>test-oam>sath>svc-test>dur>cir-pir minutes)

[Tree] (config>test-oam>sath>svc-test>dur>perf minutes)

[Tree] (config>test-oam>sath>svc-test>dur>policing minutes)

Full Context

configure test-oam service-activation-testhead service-test test-duration cir minutes

configure test-oam service-activation-testhead service-test test-duration cir-pir minutes

configure test-oam service-activation-testhead service-test test-duration performance minutes

configure test-oam service-activation-testhead service-test test-duration policing minutes

Description

This command configures the minutes portion of the duration of performance tests belonging to the service test.

Default

minutes 5

Parameters

minutes

Specifies the number of minutes to run the test.

Values 0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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30.14 mip

mip

Syntax

mip [**mac** *mac-address*] [**primary-vlan-enable** *vlan-id*] [**cfm-vlan-tag** *qtag1*[.*qtag2*]]

mip default-mac [**primary-vlan-enable** *vlan-id*] [**cfm-vlan-tag** *qtag1*[.*qtag2*]]

no mip [**primary-vlan-enable** *vlan-id*]

Context

[Tree] (config>service>epipe>sap>eth-cfm mip)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm mip)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm mip)

[Tree] (config>service>vpls>sap>eth-cfm mip)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm mip)

Full Context

configure service epipe sap eth-cfm mip

configure service vpls spoke-sdp eth-cfm mip

configure service vpls mesh-sdp eth-cfm mip

configure service vpls sap eth-cfm mip

configure service epipe spoke-sdp eth-cfm mip

Description

This command configures Maintenance Intermediate Points (MIPs). The creation rules of the MIP are dependent on the **mhf-creation** configuration for the MA.

The MIP can be created with a primary VLAN using the **primary-vlan-enable** *vlan-id* parameter matching the VLAN configured under the applicable association. Optional VLANs can be added the to the locally-generated CFM frames for egress processing using the **cfm-vlan-tag** option.

The **no** form of this command removes the MIP creation request.

Default

no mip

Parameters

qtag1

Specifies the outer VLAN ID.

Values 1 to 4094

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qtag2

Specifies the inner VLAN ID and can only be specified if *qtag1* is configured.

Values 1 to 4094

mac

Provides a method for manually configuring the MIP MAC address.

mac-address

Specifies the MAC address of the MIP.

Values 6-byte mac-address in the form of xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx of the MIP. The MAC address must be unicast. Using the all-zeros address is equivalent to the **no** form of this command.

default-mac

Specifies to change the MAC address back to the default MAC without having to delete and reconfigure the MIP.

primary-vlan-enable

Provides a method for linking the MIP with the primary VLAN configured under the bridge-identifier for the MA. This is only allowed if the mhf-creation method is static. MIPs cannot be changed from or to primary VLAN functions without first being deleted. This must be configured as part of the creation step and can only be changed by deleting the MIP and re-creating it. Primary VLANs are only supported under Layer 2 Epipe and VPLS services.

vlan-id

Specifies the VLAN ID. This parameter must match the VLAN ID under the bridge-identifier for the MA that is appropriate for this service.

Values 0 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mip

Syntax

mip primary-vlan-enable [**vlan** *vlan-id*]

no mip

Context

[Tree] (config>service>template>vpls-sap-template>eth-cfm mip)

Full Context

configure service template vpls-sap-template eth-cfm mip

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Description

This command allows Maintenance Intermediate Points (MIPs). The creation rules of the MIP are dependent on the mhf-creation configuration for the MA. This MIP option is only available for default and static mhf-creation methods.

Parameters

primary-vlan-enable

Provides a method for linking the MIP with the primary VLAN configured under the bridge-identifier for the MA. This is only allowed if the mhf-creation method is static. MIPs cannot be changed from or to primary VLAN functions without first being deleted. This must be configured as part of the creation step and can only be changed by deleting the MEP and re-creating it. Primary VLANs are only supported under Ethernet SAPs.

vlan

A required parameter when including primary-vlan-enable. Provides a method for associating the VLAN under the bride-identifier under the MA with the MIP.

vlan-id

Must match the vlan-id under the bridge-identifier for the MA that is appropriate for this service.

Values 0 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mip

Syntax

[**no**] **mip**

Context

[Tree] (config>router>mpls>mpls-tp>transit-path>reverse-path mip)

[Tree] (config>router>mpls>mpls-tp>transit-path>forward-path mip)

Full Context

configure router mpls mpls-tp transit-path reverse-path mip

configure router mpls mpls-tp transit-path forward-path mip

Description

This command creates a context for maintenance entity group intermediate point (MIP) parameters for the forward path and the reverse path of an MPLS-TP LSP at an LSR.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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mip

Syntax

[**no**] **mip domain** *md-index* **association** *ma-index*

Context

[Tree] (debug>eth-cfm mip)

Full Context

debug eth-cfm mip

Description

This command specifies the MIP from which to debug the CFM PDUs.

The **no** form of this command removes the MIP parameters.

Parameters

md-index

Specifies the maintenance domain (MD) index value of the launch point.

Values 1 to 4294967295

ma-index

Specifies the maintenance association (MA) index value of the launch point.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.15 mip-ltr-priority

mip-ltr-priority

Syntax

mip-ltr-priority *priority*

Context

[Tree] (cfg>eth-cfm>domain>assoc>bridge mip-ltr-priority)

Full Context

configure eth-cfm domain association bridge-identifier mip-ltr-priority

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Description

This command allows the operator to set the priority of the Linktrace Response Message (ETH-LTR) from a MIP for this association.

Default

7

Parameters

priority

Specifies the priority of the Linktrace Response Message (ETH-LTR) from a MIP.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mip-ltr-priority

Syntax

mip-ltr-priority *priority*

Context

[Tree] (config>eth-cfm>default-domain>bridge-identifier mip-ltr-priority)

Full Context

configure eth-cfm default-domain bridge-identifier mip-ltr-priority

Description

This command allows the operator to set the priority of the Linktrace Response Message (ETH-LTR) from a MIP for this association.

Default

defer

Parameters

priority

Specifies the priority of the Linktrace Response Message (ETH-LTR) from a MIP. The "defer" value is only supported under the default-domain context and causes **mip-ltr-priority** to inherit values from the global read-only-system values.

Values 0 to 7, **defer**

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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30.16 mirror-dest

mirror-dest

Syntax

mirror-dest *service-id* [**create**] [**type** *mirror-type*] [**name** *name*]

no mirror-dest *service-id*

Context

[Tree] (config>mirror mirror-dest)

Full Context

configure mirror mirror-dest

Description

This command creates a context to set up a service that is intended for packet mirroring. It is configured as a service to allow mirrored packets to be directed locally (within the same router) or remotely, over the core of the network and have a far-end decode mirror encapsulation.

The mirror destination service is comprised of destination parameters that define where the mirrored packets are to be sent. It also specifies whether the defined *service-id* will receive mirrored packets from far-end router over the network core.

The mirror destination service IDs are persistent between boots of the router and are included in the configuration saves. The local sources of mirrored packets for the service ID are defined within the **debug mirror mirror-source** command that references the same *service-id*. Up to 255 mirror destination service IDs can be created within a single system.

The **mirror-dest** command creates or edits a service ID for mirroring purposes. If the *service-id* does not exist within the context of all defined services, the mirror destination service is created and the context of the CLI is changed to that service ID. If the *service-id* exists within the context of defined mirror destination services, the CLI context is changed for editing parameters on that service ID. If the *service-id* exists within the context of another service type, an error message is returned and CLI context is not changed from the current context.

LI source configuration is saved using the **li>save** command.

The **no** form of this command removes a mirror destination from the system. The mirror source or **li-source** associations with the mirror destination *service-id* do not need to be removed or shutdown first. The mirror destination *service-id* must be shutdown before the service ID can be removed. When the service ID is removed, all **mirror-source** or **li-source** commands that have the service ID defined will also be removed from the system.

Parameters

service-id

The service identification identifies the service in the service domain. This ID is unique to this service and cannot be used by any other service, regardless of service type. The same service ID must be configured on every router that this particular service is defined on.

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If particular a service ID already exists for a service, then the same value cannot be used to create a mirror destination service ID with the same value. For example:

If an Epipe service ID **11** exists, then a mirror destination service ID **11** cannot be created. If a VPLS service ID **12** exists, then a mirror destination service ID **12** cannot be created.

If an IES service ID **13** exists, then a mirror destination service ID **13** cannot be created.

Values

service-id: 1 to 2147483647

svc-name: 64 characters maximum

create

Keyword used to create a mirror destination service.

mirror-type

The type describes the encapsulation supported by the mirror service.

Values The following values apply to the 7750 SR:

ether, ip-only

Values The following values apply to the 7950 XRS:

ether, ip-only

Values The following values apply to the 7450 ESS:

ether

name

Configures an optional service name identifier, up to 64 characters, to a given service. This service name can then be used in configuration references, display, and show commands throughout the system. A defined service name can help the service provider or administrator to identify and manage services within the SR OS platforms.

To create a service, you must assign a service ID; however, after it is created, either the service ID or the service name can be used to identify and reference a service.

If a name is not specified at creation time, then SR OS assigns a string version of the *service-id* as the name.

Service names may not begin with an integer (0 to 9).

Platforms

All

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30.17 mirror-dest-reservation

mirror-dest-reservation

Syntax

mirror-dest-reservation *service-id* **to** *service-id*

no mirror-dest-reservation

Context

[Tree] (config>li mirror-dest-reservation)

Full Context

configure li mirror-dest-reservation

Description

This command configures a range of service IDs reserved for RADIUS-triggered mirror destination. The range can be expanded or reduced in real time. The range cannot conflict with other service IDs.

The **no** form of this command removes the service IDs reserved for LI mirror destination services.

Parameters

service-id

Specifies the starting or ending service ID in the range for the mirror destination.

Values 1 to 2147483647

Platforms

All

30.18 mirror-dest-template

mirror-dest-template

Syntax

mirror-dest-template *name* [**type** *mirror-type*] [**create**]

no mirror-dest-template *name*

Context

[Tree] (config>li mirror-dest-template)

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Full Context

configure li mirror-dest-template

Description

This command creates a template used by RADIUS-triggered mirror destinations. RADIUS provides the IP destination (and other optional attributes) for the mirror destination and the mirror template provides the remaining mirror destination attributes for mirroring packets remotely over the core of an IP network.

The system supports up to eight mirror destination templates and allows a mirror destination to be swapped in real time. Only new LI sources will use the new attribute of the mirror destination template. Existing LI sources remain unchanged and continue to use the attribute of the previous mirror destination template.

The **no** form of this command removes a mirror destination template from the system.

Parameters

name

Specifies the template name, up to 32 characters.

mirror-type

Specifies the type of encapsulation supported by the mirror service.

Values ether, frame-relay, ppp, ip-only, atm-sdu, satop-e1, satop-t1, cesopsn, cesopsn-cas

create

Keyword required to create a template.

Platforms

All

mirror-dest-template

Syntax

mirror-dest-template *template-name*

no mirror-dest-template

Context

[Tree] (config>li>radius mirror-dest-template)

Full Context

configure li radius mirror-dest-template

Description

This command enables or disables the use of a RADIUS triggered mirror destination template to be used by new LI sources.

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Parameters

template-name

Specifies the template name, up to 32 characters. The template must already exist.

Platforms

All

30.19 mirror-source

mirror-source

Syntax

mirror-source [**all-inclusive**] *mirror-service-id*

no mirror-source

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action mirror-source)

Full Context

configure application-assurance group policy app-qos-policy entry action mirror-source

Description

This command configures an application-based policy mirroring service that uses this AA ISA group's AQP entry as a mirror source. When configured, AQP entry becomes a mirror source for IP packets seen by the AA (the mirrored packet is an IP packet analyzed by AA and does not include encapsulations present on the incoming interfaces).

Default

no mirror-source

Parameters

all-inclusive

Specifies that all packets during identification phase that could match a given AQP rule are mirrored in addition to packets after an application identification completes that match the AQP rule. This ensures all packets of a given flow are mirrored at a cost of sending unidentified packets that once the application is identified will no longer match this AQP entry.

mirror-service-id

Specifies the mirror source service ID to use for flows that match this policy.

Values 1 to 2147483647

svc-name: 64 characters maximum

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mirror-source

Syntax

[**no**] **mirror-source** *service-id*

Context

[Tree] (config>mirror mirror-source)

Full Context

configure mirror mirror-source

Description

This command configures mirror source parameters for a mirrored service.

The **mirror-source** command is used to enable mirroring of packets specified by the association of the **mirror-source** to sources of packets defined within the context of the *mirror-dest-service-id*. The mirror destination service must already exist within the system.

A mirrored packet cannot be mirrored to multiple destinations. If a packet matches multiple mirror source entries (for example, a SAP on one **mirror-source** and a port on another **mirror-source**), then the packet is mirrored to a single *mirror-dest-service-id* based on the following precedence:

1. Filter entry
2. Subscriber (applies to the 7750 SR and 7450 ESS)
3. SAP
4. Physical port

The precedence is structured so the most specific match criteria has precedence over a less specific match. For example, if a **mirror-source** defines a port and a SAP on that port, then a packet arriving on the SAP will be mirrored using the SAP mirror (and not mirrored using the Port mirror) because the SAP is more specific than the port.

The **no** form of this command deletes all related source commands within the context of the **mirror-source** *service-id*. The command does not remove the service ID from the system.

Parameters

service-id

Specifies the service identification identifies the service in the service domain. This ID is unique to this service and cannot be used by any other service, regardless of service type. The same service ID must be configured on every router that this particular service is defined on.

Values *service-id*: 1 to 2147483647

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svc-name: 64 characters maximum

Platforms

All

mirror-source

Syntax

[**no**] **mirror-source** *service-id*

Context

[Tree] (debug mirror-source)

Full Context

debug mirror-source

Description

This command configures mirror source parameters for a mirrored service.

The **mirror-source** command is used to enable mirroring of packets specified by the association of the **mirror-source** to sources of packets defined within the context of the *mirror-dest-service-id*. The mirror destination service must already exist within the system.

A mirrored packet cannot be mirrored to multiple destinations. If a packet matches multiple mirror source entries (for example, a SAP on one **mirror-source** and a port on another **mirror-source**), then the packet is mirrored to a single *mirror-dest-service-id* based on the following precedence:

1. Filter entry
2. Subscriber (applies to the 7750 SR and 7450 ESS)
3. SAP
4. Physical port

The precedence is structured so the most specific match criteria has precedence over a less specific match. For example, if a **mirror-source** defines a port and a SAP on that port, then a packet arriving on the SAP will be mirrored using the SAP mirror (and not mirrored using the Port mirror) because the SAP is more specific than the port.

The **mirror-source** configuration is not saved when a configuration is saved. A **mirror-source** manually configured within an ASCII configuration file will not be preserved if that file is overwritten by a **save** command. Define the **mirror-source** within a file associated with a **config exec** command to make a **mirror-source** persistent between system reboots.

By default, all mirror destination service IDs have a **mirror-source** associated with them. The **mirror-source** is not technically created with this command. Instead the service ID provides a contextual node for storing the current mirroring sources for the associated mirror destination service ID. The **mirror-source** is created for the mirror service when the operator enters the **debug>mirror-source** *svcId* for the first time. If the operator enters **li>li-source** *svcId* for the first time, an LI source is created for the mirror service. The

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mirror-source is also automatically removed when the mirror destination service ID is deleted from the system.

The **no** form of this command deletes all related source commands within the context of the **mirror-source** *service-id*. The command does not remove the service ID from the system.

Parameters

service-id

Specifies the mirror destination service ID for which match criteria will be defined. The *service-id* must already exist within the system.

Values *service-id*: 1 to 2147483647

svc-name: 64 characters maximum

Platforms

All

30.20 misc

misc

Syntax

[**no**] **misc**

Context

[Tree] (debug>router>igmp misc)

Full Context

debug router igmp misc

Description

This command enables debugging for IGMP miscellaneous information.

The **no** form of the command disables the debugging.

Platforms

All

Output

The following output is an example of debugged IGMP miscellaneous information.

Output Example

```
A:ALA-CA# debug router 100 igmp misc
*A:ALA-CA# show debug
```


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```
debug
    router "100"
        igmp
            misc
        exit
    exit
exit
*A:ALA-CA#
```

misc

Syntax

misc [**detail**]

no misc

Context

[Tree] (debug>router>rsvp>event misc)

[Tree] (debug>router>mpls>event misc)

Full Context

debug router rsvp event misc

debug router mpls event misc

Description

This command debugs miscellaneous events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about miscellaneous events.

Platforms

All

misc

Syntax

[**no**] **misc**

Context

[Tree] (debug>router>mtrace2 misc)

[Tree] (debug>router>mtrace misc)

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Full Context

debug router mtrace2 misc

debug router mtrace misc

Description

This command enables debugging for mtrace and mtrace2 miscellaneous.

Platforms

All

misc

Syntax

[**no**] **misc**

Context

[Tree] (debug>router>isis misc)

Full Context

debug router isis misc

Description

This command enables debugging for IS-IS misc.

The **no** form of the command disables debugging.

Platforms

All

misc

Syntax

[**no**] **misc**

Context

[Tree] (debug>router>ospf misc)

[Tree] (debug>router>ospf3 misc)

Full Context

debug router ospf misc

debug router ospf3 misc

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Description

This command enables debugging for miscellaneous OSPF events.

Platforms

All

30.21 mismatch-reaction

mismatch-reaction

Syntax

mismatch-reaction {**squelch-rx**}

no mismatch-reaction

Context

[Tree] (config>port>otu>pm-tti mismatch-reaction)

Full Context

configure port otu pm-tti mismatch-reaction

Description

This command allows the user to configure the consequent action to a pm-tti mismatch.

The **no** form of this command reverts to the default value.

Default

n/a, the received traffic is passed through.

Parameters

squelch-rx

Specifies that the received traffic is blocked.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mismatch-reaction

Syntax

mismatch-reaction {**none** | **squelch-rx**}

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Context

[Tree] (config>port>otu>psi-payload mismatch-reaction)

Full Context

configure port otu psi-payload mismatch-reaction

Description

This command allows the user to configure the consequent action to a psi-payload type mismatch.

Parameters

none

Specifies the received traffic is passed through.

squelch-rx

Specifies the received traffic is blocked.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mismatch-reaction

Syntax

mismatch-reaction {**none** | **squelch-rx**}

Context

[Tree] (config>port>otu>sm-tti mismatch-reaction)

Full Context

configure port otu sm-tti mismatch-reaction

Description

This command allows the user to configure the consequent action to a sm-tti mismatch.

Default

n/a

Parameters

none

Specifies that the received traffic is passed through.

squelch-rx

Specifies that the received traffic is blocked.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.22 missing-mandatory-ie

missing-mandatory-ie

Syntax

missing-mandatory-ie direction *direction* [**create**]

no missing-mandatory-ie direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter missing-mandatory-ie)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter missing-mandatory-ie

Description

This command configures a TCA for the counter capturing drops due to the GTP filter missing mandatory IE check. A missing-mandatory-ie drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a missing-mandatory-ie TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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30.23 mixed-lsp-mode

mixed-lsp-mode

Syntax

[**no**] **mixed-lsp-mode**

Context

[Tree] (config>service>sdp mixed-lsp-mode)

Full Context

configure service sdp mixed-lsp-mode

Description

This command enables the use by an SDP of the mixed-LSP mode of operation. This command indicates to the service manager that it must allow a primary LSP type and a backup LSP type in the same SDP configuration. For example, the **lsp** and **ldp** commands are allowed concurrently in the SDP configuration. The user can configure one or two types of LSPs under the same SDP. Without this command, these commands are mutually exclusive.

The user can configure an RSVP LSP as a primary LSP type with an LDP LSP as a backup type. The user can also configure an RFC 8277 BGP LSP as a backup LSP type.

If the user configures an LDP LSP as a primary LSP type, then the backup LSP type must be an RFC 8277 BGP labeled route.

At any given time, the service manager programs only one type of LSP in the linecard that will activate it to forward service packets according to the following priority order:

- RSVP LSP type. Up to 16 RSVP LSPs can be entered by the user and programmed by the service manager in ingress linecard to load balance service packets. This is the highest priority LSP type.
- LDP LSP type. One LDP FEC programmed by the service manager but the ingress card can use up to 16 LDP ECMP paths for the FEC to load balance service packets when ECMP is enabled on the node.
- BGP LSP type. One RFC 8277-labeled BGP prefix programmed by the service manager. The ingress card can use more than one next-hop for the prefix.

In the case of the RSVP/LDP SDP, the service manager will program the NHLFE(s) for the active LSP type preferring the RSVP LSP type over the LDP LSP type. If no RSVP LSP is configured or all configured RSVP LSPs go down, the service manager will re-program the card with the LDP LSP if available. If not, the SDP goes operationally down.

When a higher priority type LSP becomes available, the service manager reverts back to this LSP at the expiry of the sdp-revert-time timer or the failure of the currently active LSP, whichever comes first. The service manager then re-programs the card accordingly. If the infinite value is configured, then the SDP reverts to the highest priority type LSP only if the currently active LSP failed.

Note:
LDP uses a tunnel down damp timer which is set to three seconds by default. When the LDP LSP fails, the SDP will revert to the RSVP LSP type after the expiry of this timer. For an immediate

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switchover, this timer must be set to zero. Use the **config>router>ldp>tunnel-down-damp-time** command.

If the user changes the value of the sdp-revert-time timer, it will take effect only at the next use of the timer. Any timer which is outstanding at the time of the change will be restarted with the new value.

If class based forwarding is enabled for this SDP, the forwarding of the packets over the RSVP LSPs will be based on the FC of the packet as in current implementation. When the SDP activates the LDP LSP type, then packets are forwarded over the LDP ECMP paths using the regular hash routine.

In the case of the LDP/BGP SDP, the service manager will prefer the LDP LSP type over the BGP LSP type. The service manager will re-program the card with the BGP LSP if available otherwise it brings down the SDP operationally.

Also note the following difference in behavior of the LDP/BGP SDP compared to that of an RSVP/LDP SDP. For a given /32 prefix, only a single route will exist in the routing table: the IGP route or the BGP route. Thus, either the LDP FEC or the BGP label route is active at any given time. The impact of this is that the tunnel table needs to be re-programmed each time a route is deactivated and the other is activated. Furthermore, the SDP revert-time cannot be used since there is no situation where both LSP types are active for the same /32 prefix.

The **no** form of this command disables the mixed-LSP mode of operation. The user first has to remove one of the LSP types from the SDP configuration or the command will fail.

Default

no mixed-lsp-mode

Platforms

All

30.24 mixed-tunnel-mode

mixed-tunnel-mode

Syntax

[**no**] **mixed-tunnel-mode**

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw mixed-tunnel-mode)

[Tree] (config>service>ies>if>sap>ipsec-gw mixed-tunnel-mode)

Full Context

configure service vprn interface sap ipsec-gw mixed-tunnel-mode

configure service ies interface sap ipsec-gw mixed-tunnel-mode

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Description

This command configures the IPsec gateway to allow support of both remote access and dynamic LAN-to-LAN tunnels.

The **no** form of this command disables support of both tunnel types.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.25 mka-hello-interval

mka-hello-interval

Syntax

mka-hello-interval *mka-hello-interval*

no mka-hello-interval

Context

[Tree] (config>macsec>connectivity-association mka-hello-interval)

Full Context

configure macsec connectivity-association mka-hello-interval

Description

This command specifies the MKA hello interval.

The **no** form of this command disables the MKA hello interval.

Default

mka-hello-interval 2

Parameters

mka-hello-interval

Specifies the MKA hello interval, in seconds.

Values 1 to 6 s in 1-s increments, 500 ms

Platforms

All

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30.26 mka-key-server-priority

mka-key-server-priority

Syntax

mka-key-server-priority *mka-key-server-priority*

no mka-key-server-priority

Context

[Tree] (config>macsec>connectivity-association mka-key-server-priority)

Full Context

configure macsec connectivity-association mka-key-server-priority

Description

This command specifies the key server priority used by the MKA protocol to select the key server when MACsec is enabled using the static CAK security mode.

The **no** form of this command disables the **mka-key-server-priority**.

Default

mka-key-server-priority 16

Parameters

mka-key-server-priority

Specifies the priority of the server.

Values 0 to 255

Platforms

All

30.27 mka-over-ip

mka-over-ip

Syntax

mka-over-ip

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Context

[Tree] (config>anysec mka-over-ip)

Full Context

configure anysec mka-over-ip

Description

Commands in this context configure the MACsec Key Agreement (MKA) over IP.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

30.28 mka-udp-port

mka-udp-port

Syntax

mka-udp-port *port*

no mka-udp-port

Context

[Tree] (config>anysec>mka-ip mka-udp-port)

Full Context

configure anysec mka-over-ip mka-udp-port

Description

This command configures the UDP port that identifies the MKA packet on the system.

Nokia recommends configuring this UDP port network wide. In addition, the user should ensure the UDP port is not used by any other protocols in the network.

The **no** form of this command removes the configured UDP port.

Default

no mka-udp-port

Parameters

port

Specifies the UPD port that identifies the MKA packet.

Values 1024 to 49151

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Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

30.29 mld

mld

Syntax

[**no**] **mld**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync mld)

Full Context

configure redundancy multi-chassis peer sync mld

Description

This command specifies whether MLD protocol information should be synchronized with the multi-chassis peer.

Default

no mld

Platforms

All

mld

Syntax

[**no**] **mld**

Context

[Tree] (config>service>vprn mld)

Full Context

configure service vprn mld

Description

Commands in this context configure Multicast Listener Discovery (MLD) parameters.

The **no** form of this command disables MLD.

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Default
no mld

Platforms
All

mld

Syntax
[**no**] **mld**

Context
[Tree] (config>router mld)

Full Context
configure router mld

Description
Commands in this context configure Multicast Listener Discovery (MLD) parameters.

The **no** form of the command disables MLD.

Default
no mld

Platforms
All

30.30 mld-parameters

mld-parameters

Syntax
mld-parameters

Context
[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host mld-parameters)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host mld-parameters)

Full Context
configure subscriber-mgmt local-user-db ipoe host mld-parameters

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configure subscriber-mgmt local-user-db ppp host mld-parameters

Description

Commands in this context configure an MLD import policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.31 mld-policy

mld-policy

Syntax

mld-policy *mld-policy-name* [**create**]

no mld-policy *mld-policy-name*

Context

[Tree] (config>subscr-mgmt mld-policy)

Full Context

configure subscriber-mgmt mld-policy

Description

Commands in this context create an MLD policy.

The **no** form of this command reverts to the default.

Parameters

mld-policy-name

Specifies the MLD policy name up to 32 characters.

create

Keyword required to create the configuration context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mld-policy

Syntax

mld-policy *policy name*

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no mld-policy

Context

[Tree] (config>subscr-mgmt>sub-prof mld-policy)

Full Context

configure subscriber-mgmt sub-profile mld-policy

Description

This command enables Multicast Listener Discovery (MLD) processing per subscriber host.

The **no** form of this command reverts to the default.

Default

no mld-policy

Parameters

policy-name

Specifies the name of the MLD policy, up to 32 characters. The MLD policy must be defined in the config>subscr-mgmt context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.32 mld-snooping

mld-snooping

Syntax

mld-snooping

Context

[Tree] (config>service>vpls>sap mld-snooping)

[Tree] (config>service>vpls>mesh-sdp mld-snooping)

[Tree] (config>service>vpls>spoke-sdp mld-snooping)

[Tree] (config>service>vpls mld-snooping)

[Tree] (config>service>vpls>allow-ip-int-bind mld-snooping)

Full Context

configure service vpls sap mld-snooping

configure service vpls mesh-sdp mld-snooping

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configure service vpls spoke-sdp mld-snooping

configure service vpls mld-snooping

configure service vpls allow-ip-int-bind mld-snooping

Description

Commands in this context configure MLD snooping parameters.

Platforms

All

mld-snooping

Syntax

[**no**] **mld-snooping**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync mld-snooping)

Full Context

configure redundancy multi-chassis peer sync mld-snooping

Description

This command is not supported. It is not blocked for backwards-compatibility reasons but has no effect on the system if configured.

Default

no mld-snooping

Platforms

All

mld-snooping

Syntax

[**no**] **mld-snooping**

Context

[Tree] (debug>service>id mld-snooping)

Full Context

debug service id mld-snooping

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Description

This command enables and configures MLD-snooping debugging.

The **no** form of this command disables MLD-snooping debugging.

Platforms

All

mld-snooping

Syntax

mld-snooping

Context

[Tree] (config>service>vpls>vxlan mld-snooping)

Full Context

configure service vpls vxlan mld-snooping

Description

This command enables the MLD snooping context.

Platforms

All

mld-snooping

Syntax

mld-snooping

Context

[Tree] (config>service>vpls>pbb>bvpls>sdp mld-snooping)

[Tree] (config>service>vpls>pbb>bvpls>sap mld-snooping)

[Tree] (config>service>vpls>pbb>bvpls mld-snooping)

Full Context

configure service vpls pbb backbone-vpls sdp mld-snooping

configure service vpls pbb backbone-vpls sap mld-snooping

configure service vpls pbb backbone-vpls mld-snooping

Description

This command configures MLD snooping attributes for I-VPLS.

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Platforms

All

30.33 mldp

mldp

Syntax

[**no**] **mldp**

Context

[Tree] (config>service>vpls>provider-tunnel>inclusive mldp)

[Tree] (config>service>vpls>provider-tunnel>selective mldp)

Full Context

configure service vpls provider-tunnel inclusive mldp

configure service vpls provider-tunnel selective mldp

Description

This command configures the use of MLDP as a protocol for an LDP P2MP LSP that is used for forwarding Broadcast, Unicast unknown, and Multicast (BUM) packets of a VPLS or B-VPLS instance. This command is also used for forwarding IP multicast packets of an EVPN VPLS or R-VPLS service (when used under the **selective** context).

The **no** form of this command disables the use of MLDP as a protocol to set up the P2MP LSP.

Platforms

All

mldp

Syntax

[**no**] **mldp**

Context

[Tree] (config>service>vprn>mvpn>pt>selective mldp)

[Tree] (config>service>vprn>mvpn>pt>inclusive mldp)

Full Context

configure service vprn mvpn provider-tunnel selective mldp

configure service vprn mvpn provider-tunnel inclusive mldp

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Description

This command enables use of P2MP mLDP LSP as inclusive or selective PMSI tunnels.

For multi-stream S-PMSI, either LDP or RSVP-TE must first be configured before multi-stream policy can be configured.

Default

no mldp

Platforms

All

30.34 mlppp

mlppp

Syntax

mlppp

Context

[Tree] (config>subscr-mgmt>ppp-policy mlppp)

Full Context

configure subscriber-mgmt ppp-policy mlppp

Description

Commands in this context configure multi-link PPP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

30.35 mme

mme

Syntax

mme

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile mme)

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Full Context
configure subscriber-mgmt gtp peer-profile mme

Description
This command configures parameters specific to a Mobility Management Entity (MME) peer.

Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.36 mmrp

mmrp

Syntax
mmrp

Context
[Tree] (config>service>vpls>mrp mmrp)

Full Context
configure service vpls mrp mmrp

Description
This command configures MMRP parameters.

Platforms
All

30.37 mmrp-impm-override

mmrp-impm-override

Syntax
[**no**] **mmrp-impm-override**

Context
[Tree] (config>mcast-mgmt>chassis-level mmrp-impm-override)

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Full Context

configure mcast-management chassis-level mmrp-impm-override

Description

This command enables ingress Multicast Path Management (IMPM) from monitoring PIM and IGMP.

The **no** form of this command disables the IMPM monitoring.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

30.38 mmrp-mac

mmrp-mac

Syntax

[**no**] **mmrp-mac** *ieee-address*

Context

[Tree] (debug>service>id>mrp mmrp-mac)

Full Context

debug service id mrp mmrp-mac

Description

This command filters debug events and only shows events related to the MAC address specified.

The **no** form of this command removes the debug filter.

Parameters

ieee-address

xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx (cannot be all zeros)

Platforms

All

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30.39 mobility

mobility

Syntax

mobility

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw mobility)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw mobility)

Full Context

configure service ies subscriber-interface group-interface wlan-gw mobility

configure service vprn subscriber-interface group-interface wlan-gw mobility

Description

Commands in this context configure mobility parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.40 mobility-acct-updates

mobility-acct-updates

Syntax

[**no**] **mobility-acct-updates**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range>xconnect mobility-acct-updates)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range>xconnect mobility-acct-updates)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect mobility-acct-updates

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect mobility-acct-updates

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Description

This command enables the administrative state to send mobility-triggered accounting interim updates.

The **no** form of this command disables sending the mobility-triggered accounting updates.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.41 mobility-triggered-acct

mobility-triggered-acct

Syntax

mobility-triggered-acct

Context

[Tree] (config>router>wlan-gw mobility-triggered-acct)

[Tree] (config>service>vprn>wlan-gw mobility-triggered-acct)

Full Context

configure router wlan-gw mobility-triggered-acct

configure service vprn wlan-gw mobility-triggered-acct

Description

Commands in this context configure the mobility-triggered-accounting in wlan-gw context under router or VPRN service.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.42 mode

mode

Syntax

mode {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}

no mode

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Context

[Tree] (debug>router>local-dhcp-server mode)

[Tree] (debug>router>ip>dhcp mode)

[Tree] (debug>router>ip>dhcp6 mode)

Full Context

debug router local-dhcp-server mode

debug router ip dhcp mode

debug router ip dhcp6 mode

Description

This command debugs the DHCP tracing detail level.

Parameters

dropped-only

Displays only dropped packets.

ingr-and-dropped

Displays only ingress packet and dropped packets.

egr-ingr-and-dropped

Displays ingress, egress and dropped packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- debug router local-dhcp-server mode

All

- debug router ip dhcp mode
- debug router ip dhcp6 mode

mode

Syntax

mode {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}

no mode

Context

[Tree] (debug>service>id>ppp>packet mode)

Full Context

debug service id ppp packet mode

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Description

This command specifies PPP packet debug mode.

The **no** form of this command disables debugging.

Parameters

dropped-only

Displays only dropped packets.

ingr-and-dropped

Displays only ingress packet and dropped packets.

egr-ingr-and-dropped

Displays ingress, egress and dropped packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mode

Syntax

mode {**strict** | **loose** | **strict-no-ecmp**}

no mode

Context

[Tree] (config>service>vprn>sub-if>grp-if>urpf-check mode)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>urpf-check mode)

[Tree] (config>service>vprn>nw-if>urpf-check mode)

[Tree] (config>service>ies>if>urpf-check mode)

[Tree] (config>service>vprn>if>ipv6>urpf-check mode)

[Tree] (config>service>vprn>if>urpf-check mode)

[Tree] (config>service>ies>if>ipv6>urpf-check mode)

Full Context

configure service vprn subscriber-interface group-interface urpf-check mode

configure service ies subscriber-interface group-interface ipv6 urpf-check mode

configure service vprn network-interface urpf-check mode

configure service ies interface urpf-check mode

configure service vprn interface ipv6 urpf-check mode

configure service vprn interface urpf-check mode

configure service ies interface ipv6 urpf-check mode

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Description

This command specifies the mode of unicast RPF check.

The **no** form of this command reverts to the default (strict) mode.

Default

mode strict

Parameters

strict

When specified, uRPF checks whether incoming packet has a source address that matches a prefix in the routing table, and whether the interface expects to receive a packet with this source address prefix.

loose

In **loose** mode, uRPF checks whether incoming packet has source address with a corresponding prefix in the routing table. However, the loose mode does not check whether the interface expects to receive a packet with a specific source address prefix. This object is valid only when **urpf-check** is enabled.

strict-no-ecmp

When a packet is received on an interface in this mode and the SA matches an ECMP route the packet is dropped by uRPF.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface ipv6 urpf-check mode
- configure service vprn subscriber-interface group-interface urpf-check mode

All

- configure service ies interface ipv6 urpf-check mode
- configure service ies interface urpf-check mode
- configure service vprn interface ipv6 urpf-check mode
- configure service vprn network-interface urpf-check mode
- configure service vprn interface urpf-check mode

mode

Syntax

mode {**strict** | **loose** | **strict-no-ecmp**}

no mode

Context

[Tree] (config>subscr-mgmt>git>ipv4>urpf-check mode)

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Full Context

configure subscriber-mgmt group-interface-template ipv4 urpf-check mode

Description

This command configures the mode of Unicast RPF (uRPF) check.

The **no** form of this command reverts to the default.

Default

mode strict

Parameters

strict

Specifies that the uRPF checks whether the incoming packet has a source IP address that matches a prefix in the routing table, and whether the interface expects to receive a packet with this source IP address prefix.

loose

Specifies that the uRPF checks whether the incoming packet has a source IP address with a corresponding prefix in the routing table. However, the **loose** mode does not check whether the interface expects to receive a packet with a specific source IP address prefix. This object is valid only when the **urpf-check** command is enabled.

strict-no-ecmp

Specifies that when a packet is received on an interface in this mode and the SA matches an ECMP route, the packet is dropped by uRPF.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mode

Syntax

mode {**none** | **basic** | **advanced**}

Context

[Tree] (config>system>pwr-mgmt mode)

Full Context

configure system power-management mode

Description

This command sets the power mode.

Default

mode basic

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Parameters

none

Specifies that there is no management of power to modules. In this mode, no gradual shutdown of active XCMs and XMAs is enforced. No spare capacity is reserved and any APEQ failure may result in brownouts or card failures.

basic

Specifies that the node will bring up as many provisioned modules (in order of priority) as possible using the N+1 algorithm. In **basic** mode the system shuts down IO cards when power capacity drops below the Power Safety Level.

advanced

Specifies that the operator can maintain a spare APEQ as long as possible to make it immune to the possibility of power brown-outs. In **advanced** mode, the system starts shutting down IO cards when the power capacity drops below the Power Safety Level + Max rated APEQ.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

mode

Syntax

mode {**automatic** | **manual**}

Context

[Tree] (config>port>dwdm>coherent mode)

Full Context

configure port dwdm coherent mode

Description

This command configures the mode used to compensate for chromatic dispersion.

Parameters

automatic

Sets to automatic mode.

manual

Sets to manual mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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mode

Syntax

mode {**none** | **uni-n**}

Context

[Tree] (config>port>ethernet>elmi mode)

Full Context

configure port ethernet elmi mode

Description

This command configures the Ethernet LMI mode.

Parameters

none

Specifies that the E LMI mode is set to none.

uni-n

Specifies that the E LMI mode is set to UNI-N.

Platforms

All

mode

Syntax

mode {**network** | **hybrid**}

no mode

Context

[Tree] (config>port>ethernet mode)

[Tree] (config>port>tdm>e3 mode)

[Tree] (config>lag mode)

[Tree] (config>port>tdm>ds3 mode)

Full Context

configure port ethernet mode

configure port tdm e3 mode

configure lag mode

configure port tdm ds3 mode

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Description

This command configures an Ethernet portfor **access**, **network**, or **hybrid** mode operation.

An **access** port or channel is used for customer facing traffic on which services are configured. A Service Access Point (SAP) can only be configured on an access port or channel. When a port is configured for access mode, the appropriate **encap-type**must be specified to distinguish the services on the port. After an Ethernet port has been configured for access mode, multiple services can be configured on the Ethernet port.

A network port or channel participates in the service provider transport or infrastructure network when a network mode is selected. When the network option is configured, the encap-type cannot be configured for the port/channel.

A hybrid Ethernet port allows the combination of network and access modes of operation on a per-VLAN basis and must be configured as either dot1q or QinQ encapsulation.

When the hybrid port is configured to the dot1q encapsulation, the user configures a SAP inside a service simply by providing the SAP ID which must include the port-id value of the hybrid mode port and an unused VLAN tag value. The format is <*port-id*>:*qtag1*. A SAP of format <*port-id*>:* also supported.

The user configures a network IP interface under **config>router>if>port** by providing the port name which consists of the port-id of the hybrid mode port and an unused VLAN tag value. The format is <*port-id*>:*qtag1*. The user must explicitly enter a valid value for qtag1. The <*port-id*>:* value is not supported on a network IP interface. The 4096 VLAN tag space on the port is shared among VLAN SAPs and VLAN network IP interfaces.

When the hybrid port is configured to QinQ encapsulation, the user configures a SAP inside a service simply by providing the SAP ID which must include the port-id value of the hybrid mode port and the outer and inner VLAN tag values. The format is <port-id>:qtag1.qtag2. A SAP of format <*port-id*>: *qtag1*.* is also supported. The outer VLAN tag value must not have been used to create an IP network interface on this port. In addition, the qtag1.qtag2 value combination must not have been used by another SAP on this port.

The user configures a network IP interface under **config>router>if>port** by providing the port name which consists of the port-id of the hybrid mode port and a VLAN tag value. The format is <*port-id*>:*qtag1*.*. An outer VLAN tag qtag2 of * creates an IP network interface. In addition, the qtag1.qtag2 value combination must not have been used on another SAP or IP network interface on this port.

The **no** form of this command restores the default.

Default

mode network — For Ethernet ports

Parameters

network

Configures the Ethernet port, TDM channel or SONET path for transport network use.

hybrid

Configures the Ethernet port for hybrid use.

Platforms

All

- configure lag mode
- configure port ethernet mode

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7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm e3 mode
- configure port tdm ds3 mode

mode

Syntax

mode {**active** | **passive**}

Context

[Tree] (config>port>ethernet>efm-oam mode)

Full Context

configure port ethernet efm-oam mode

Description

This command configures the mode of OAM operation for this Ethernet port. These two modes differ in that active mode causes the port to continually send out efm-oam info PDUs while passive mode waits for the peer to initiate the negotiation process. A passive mode port cannot initiate monitoring activities (such as loopback) with the peer.

Default

mode active

Parameters

active

Provides capability to initiate negotiation and monitoring activities.

passive

Relies on peer to initiate negotiation and monitoring activities.

Platforms

All

mode

Syntax

mode {**manual** | **auto** | **off**}

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-carving mode)

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Full Context

configure service system bgp-evpn ethernet-segment service-carving mode

Description

This command configures the service-carving mode. This determines how the DF is elected for a specified Ethernet-Segment and service.

Default

mode auto

Parameters

auto

This mode is the service-carving algorithm defined in RFC 7432. The DF for the service is calculated based on the modulo function of the service (identified by either the evi or the isid) and the number of PEs.

manual

In this mode the DF is elected based on the manual configuration added in the **service-carving>manual** context.

off

In this mode all the services elect the same DF PE (assuming the same PEs are active for all the configured services). The PE with the lowest IP is elected as DF for the Ethernet-Segment.

Platforms

All

mode

Syntax

mode *mode*

Context

[Tree] (config>service>vpls>pim-snooping mode)

Full Context

configure service vpls pim-snooping mode

Description

This command sets the PIM snooping mode to proxy or plain snooping.

Parameters

mode

Specifies PIM snooping mode

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Values	snoop, proxy
Default	proxy

Platforms

All

mode

Syntax

mode {*rstp* | *comp-dot1w* | *dot1w* | *mstp* | *pmstp*}

no mode

Context

[Tree] (config>service>template>vpls-template>stp mode)

[Tree] (config>service>vpls>stp mode)

Full Context

configure service template vpls-template stp mode

configure service vpls stp mode

Description

This command specifies the version of Spanning Tree Protocol the bridge is currently running.

See section Spanning Tree Operating Modes for more information about these modes.

The **no** form of this command returns the STP variant to the default.

Default

mode rstp

Parameters

rstp

Corresponds to the Rapid Spanning Tree Protocol specified in IEEE 802.1D/D4-2003

dot1w

Corresponds to the mode where the Rapid Spanning Tree is backward compatible with IEEE 802.1w

compdot1w

Corresponds to the Rapid Spanning Tree Protocol in conformance with IEEE 802.1w

mstp

Sets MSTP as the STP mode of operation. Corresponds to the Multiple Spanning Tree Protocol specified in 802.1Q REV/D5.0-09/200

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pmstp

The PMSTP mode is only supported in VPLS services where the M-VPLS flag is configured

Platforms

All

mode

Syntax

mode {**all** | **dropped-only**}

no mode

Context

[Tree] (debug>service>id>arp-host mode)

Full Context

debug service id arp-host mode

Description

This command configures the ARP host tracing mode.

Parameters

all

Debugs all dropped packets.

dropped-only

Only displays dropped packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mode

Syntax

mode {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}

no mode

Context

[Tree] (debug>service>id>igmp-snooping mode)

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Full Context

debug service id igmp-snooping mode

Description

This command enables and configures the IGMP tracing mode.

The **no** form of this command disables the configures the IGMP tracing mode.

Platforms

All

mode

Syntax

mode {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}

no mode

Context

[Tree] (debug>service>id>mld mode)

Full Context

debug service id mld-snooping mode

Description

This command enables and configures the MLD tracing mode.

The **no** form of this command disables the configures the MLD tracing mode.

Platforms

All

mode

Syntax

mode {**mesh-group** | **standard**}

Context

[Tree] (config>service>vprn>msdp>group mode)

Full Context

configure service vprn msdp group mode

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Description

This command configures groups of peers in a full mesh topology to limit excessive flooding of source-active messages to neighboring peers.

Multicast Source Discovery Protocol (MSDP) peers can be configured grouped in a full-mesh topology that prevents excessive flooding of source-active messages to neighboring peers.

In a meshed configuration, all members of the group must have a peer connection with every other mesh group member. If this rule is not adhered to, then unpredictable results may occur.

Default

mode standard

Parameters

mesh-group

Specifies that source-active message received from a mesh group member are always accepted but are not flooded to other members of the same mesh group. These source-active messages are only flooded to non-mesh group peers or members of other mesh groups.

standard

Specifies a non-meshed mode.

Platforms

All

mode

Syntax

mode {**auto** | **napt** | **one-to-one**}

no mode

Context

[Tree] (config>service>vprn>nat>outside>pool mode)

Full Context

configure service vprn nat outside pool mode

Description

This command configures the mode of operation of this NAT address pool.

The mode value is only relevant while the value of pool type is equal to largeScale; while the value of pool type is equal to l2Aware, the mode of operation is always NAPT.

Default

mode auto

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Parameters

napt

Specifies NAPT (Network Address Port Translation)

auto

The system selects the actual mode based upon other configuration parameters; the actual mode can be NAPT or 1:1 NAT (also known as 'Basic NAT').

one-to-one

Indicates 1:1 NAT (also known as 'Basic NAT')

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mode

Syntax

mode {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}

no mode

Context

[Tree] (debug>service>id>dhcp mode)

Full Context

debug service id dhcp mode

Description

This command configures the DHCP tracing mode.

The **no** form of the command disables debugging.

Parameters

dropped-only

Only displays dropped packets.

ingr-and-dropped

Only displays ingress packet and dropped packets.

egr-ingr-and-dropped

Displays ingress, egress and dropped packets.

Platforms

All

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mode

Syntax

mode *mode*

Context

[Tree] (config>app-assure>group>gtp mode)

Full Context

configure application-assurance group gtp mode

Description

This command is used to either untunnel GTP-U traffic received on UDP port number 2152, or apply GTP filtering/firewall rules as specified under this GTP CLI context.

Default

mode filtering

Parameters

mode

Specifies the operational mode of the command.

Values **filtering** — AA applies GTP filtering rules to GTP-U traffic, without further analysis of IP traffic tunneled within GTP.

untunneling — AA untunnels GTP traffic and provides analytical reporting of the applications running within the GTP tunnels. The rest of the commands under GTP CLI context (such as GTP-filter and event-log) are not applicable in this mode.

For AA to untunnel GTP traffic, the operator must configure "gtp" under the partition by using the **config**>**app-assure**>**group**>**gtp** command.

The following caveats apply:

- Only GTP-U traffic with TID <> 0 is untunneled.
- Any UDP but non-GTP traffic that uses port 2152 will be identified as UDP traffic.
- Only GTP-U packets with message type: G-PDU (0xFF) is untunneled. Other GTP-U packets with different message types are reported as GTP Protocol.
- Only GTP-u packets with non-fragmented outer IP and no IPv4 options or IPv6 extension headers are untunneled. Otherwise, no inner GTP tunnel classification is performed and the traffic is identified and reported as GTP protocol.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mode

Syntax

mode {**auto** | **napt** | **one-to-one**}

no mode

Context

[Tree] (config>router>nat>outside>pool mode)

Full Context

configure router nat outside pool mode

Description

This command specifies the mode of operation of this NAT address pool.

The **no** form of the command reverts to the default.

Default

auto

Parameters

{auto | napt | one-to-one}

Specifies the mode of operation of this NAT pool.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mode

Syntax

mode {**mesh-group** | **standard**}

Context

[Tree] (config>router>msdp>group mode)

Full Context

configure router msdp group mode

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Description

This command configures the MSDP group topology. MSDP peers can be configured in a full-mesh topology to prevent excessive flooding of SA messages to neighboring peers.

In a mesh group, SA messages received from a mesh group member are always accepted but are not flooded to other members of the same mesh group. These SA messages are only flooded to non-mesh group peers or members of other mesh groups.

Note: In a meshed configuration, all members of the group must have a peer connection with every other mesh group member. If this rule is not adhered to, unpredictable results may occur.

Default

mode standard

Parameters

mesh-group

Keyword to configure to group in meshed mode.

standard

Keyword to configure the group in non-meshed mode.

Platforms

All

mode

Syntax

mode {**strict** | **loose** | **strict-no-ecmp**}

Context

[Tree] (config>router>if>ipv6>urpf-check mode)

[Tree] (config>router>if>urpf-check mode)

Full Context

configure router interface ipv6 urpf-check mode

configure router interface urpf-check mode

Description

This command specifies the mode of unicast RPF check.

The **no** form of this command reverts to the default (strict) mode.

Default

mode strict

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Parameters

strict

When specified, uRPF checks whether incoming packet has a source address that matches a prefix in the routing table, and whether the interface expects to receive a packet with this source address prefix.

loose

In **loose** mode, uRPF checks whether incoming packet has source address with a corresponding prefix in the routing table. However, the loose mode does not check whether the interface expects to receive a packet with a specific source address prefix. This object is valid only when **urpf-check** is enabled.

strict-no-ecmp

When a packet is received on an interface in this mode and the SA matches an ECMP route the packet is dropped by uRPF.

Platforms

All

mode

Syntax

mode {**ecmp-protected** | **linear**}

no mode

Context

[Tree] (config>router>segment-routing>maintenance-policy mode)

Full Context

configure router segment-routing maintenance-policy mode

Description

This command specifies the data path programming and protection mechanism for SR policy candidate paths to which the maintenance policy is applied.

In both the **linear** mode and **ecmp-protected** modes, if two or more candidate paths of the same {headend, color, endpoint} and also have the same mode, then the best preference path is treated as the primary while the next best preference path is the standby. If a third path is present in the linear mode, then this is treated as a tertiary and also programmed in the IOM.

If the currently active path goes unavailable due to S-BFD, the system failovers to the next best preference available candidate path. If S-BFD is down on all segment lists of all programmed candidate paths of an SR Policy, then the SR Policy is marked as down in TTM.

If the default mode is specified, the router only programs the segment lists of the best preference paths in the IOM.

The **no** form of this command removes the configured mode.

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Default

no mode

Parameters

ecmp-protected

Specifies only the top two routes (paths) are programmed in the IOM. Up to 32 segment lists can be programmed for each path.

linear

Specifies the top three routes are programmed in the IOM. Only one segment list is allowed per path.

Platforms

All

mode

Syntax

mode {**target-defined** | **on-change** | **sample**}

Context

[Tree] (config>system>telemetry>persistent-subscriptions>subscription mode)

Full Context

configure system telemetry persistent-subscriptions subscription mode

Description

This command configures the subscription path mode for telemetry notifications that are sent for the persistent subscription.

Default

mode target-defined

Parameters

target-defined

Keyword specifying that target defined mode is used.

on-change

Keyword specifying that on change mode is used.

sample

Keyword specifying that sample mode is used.

Platforms

All

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mode

Syntax

mode {**next-hop** | **per-prefix** }

Context

[Tree] (config>router>bgp>label-allocation>vpn-ipv4 mode)

Full Context

configure router bgp label-allocation vpn-ipv4 mode

Description

This command configures the label-allocation mode to use with VPN-IPv4 routes in the context of an inter-AS model B ASBR or next-hop-self route reflector.

When the mode is set to next hop, all VPN-IPv4 routes that share the same BGP next hop and outgoing label use the same incoming label.

When the mode is set to per prefix, each VPN-IPv4 route prefix is assigned a unique incoming label.

Default

mode next-hop

Parameters

next-hop

When specified, this keyword allocates labels based on the BGP next hop and received label of the best RIB-IN route. All VPN-IPv4 routes that share the same BGP next hop and outgoing label use the same incoming label. This is the default behavior and provides efficient label usage. BGP fast reroute and multipath for VPN-IPv4 routes are not supported with **mode next-hop**.

per-prefix

When specified, this keyword allocates a unique incoming label for each VPN-IPv4 route prefix. This provides per-prefix granularity and enables BGP FRR and multipath for VPN-IPv4 routes in the context of an inter-AS model B ASBR or next-hop-self route reflector.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mode

Syntax

mode {**next-hop** | **per-prefix** }

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Context

[Tree] (config>router>bgp>label-allocation>vpn-ipv6 mode)

Full Context

configure router bgp label-allocation vpn-ipv6 mode

Description

This command configures the label-allocation mode to use with VPN-IPv6 routes in the context of an inter-AS model B ASBR or next-hop-self route reflector.

When the mode is set to next hop, all VPN-IPv6 routes that share the same BGP next hop and outgoing label use the same incoming label.

When the mode is set to per prefix, each VPN-IPv6 route prefix is assigned a unique incoming label.

Default

mode next-hop

Parameters

next-hop

When specified, this keyword allocates labels based on the BGP next hop and received label of the best RIB-IN route. All VPN-IPv6 routes that share the same BGP next hop and outgoing label use the same incoming label. This is the default behavior and provides efficient label usage. BGP fast reroute and multipath for VPN-IPv6 routes are not supported with **mode next-hop**.

per-prefix

When specified, this keyword allocates a unique incoming label for each VPN-IPv6 route prefix. This provides per-prefix granularity and enables BGP FRR and multipath for VPN-IPv6 routes in the context of an inter-AS model B ASBR or next-hop-self route reflector.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.43 mode-annexb

mode-annexb

Syntax

[**no**] **mode-annexb**

Context

[Tree] (config>port>aps mode-annexb)

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Full Context

configure port aps mode-annexb

Description

This command configures the APS group for 1+1 Optimized operation as described in Annex B of ITU.T G.841. Note that Annex B operates in non-revertive bi-directional switching mode only as defined in G.841.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

30.44 modify-buffer-allocation-rate

modify-buffer-allocation-rate

Syntax

modify-buffer-allocation-rate

Context

[Tree] (config>port modify-buffer-allocation-rate)

Full Context

configure port modify-buffer-allocation-rate

Description

Commands in this context configure ingress and egress percentage of rate parameters. This command only applies to physical ports (for example, it will not work on APS or similar logical ports). The percentage of rate commands are used to define a percentage value that affects the amount of buffers used by ingress and egress port managed buffer space. Enter the modify-buffer-allocation-rate context when editing the port's percentage of rate commands.

Platforms

All

30.45 mofrr

mofrr

Syntax

[**no**] **mofrr**

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Context

[Tree] (debug>router>pim mofrr)

Full Context

debug router pim mofrr

Description

This command enables debugging for PIM multicast fast failover (MoFRR).

The **no** form of this command disables MoFRR debugging.

Platforms

All

30.46 mon-hw-agg-shaper-sch

mon-hw-agg-shaper-sch

Syntax

[**no**] **mon-hw-agg-shaper-sch**

Context

[Tree] (config>port>ethernet>egress mon-hw-agg-shaper-sch)

[Tree] (config>port>ethernet>access>egress>vport mon-hw-agg-shaper-sch)

Full Context

configure port ethernet egress mon-hw-agg-shaper-sch

configure port ethernet access egress vport mon-hw-agg-shaper-sch

Description

This command enables congestion monitoring of the hardware aggregate shaper scheduler on the specified port or vport.

The **no** form of this command disables congestion monitoring.

Default

no mon-hw-agg-shaper-sch

Platforms

7750 SR-1, 7750 SR-s

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30.47 mon-port-sch

mon-port-sch

Syntax

[**no**] **mon-port-sch**

Context

[Tree] (config>port>ethernet mon-port-sch)

[Tree] (config>port>ethernet>access>egress>vport mon-port-sch)

Full Context

configure port ethernet mon-port-sch

configure port ethernet access egress vport mon-port-sch

Description

This command enables congestion monitoring on an Egress Port Scheduler (EPS) that is applied to a physical port or to a Vport.

Congestion monitoring must be further configured under the port-scheduler CLI hierarchy. Once the congestion monitoring is in effect, the offered rate (incoming traffic) is compared to the configured port-scheduler congestion threshold. The results of these measurements are stored as the number of samples representing the number of times the offered rates exceeded the configured congestion threshold since the last clearing of the stats. Therefore, the results represent the number of times that the port-scheduler that is applied to a port/Vport was congested since the last reset of the stats (via a **clear** command).

The **no** form of this command disables congestion monitoring.

Default

no mon-port-sch

Platforms

All

30.48 monitor

monitor

Syntax

monitor *ip-prefix/length*

no monitor

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Context

[Tree] (config>service>ies>sub-if>wlan-gw>redundancy monitor)

Full Context

configure service ies subscriber-interface wlan-gw redundancy monitor

Description

This command specifies an IPv4 route (prefix/length) per subscriber-interface to be monitored in the FDB to determine liveness of the subscriber-interface (and consequently all associated group-interfaces of type **wlangw**) on a peer WLAN-GW. This route is the one that is advertised in routing by the peer WLAN-GW when the subscriber-interface and WLAN-GW group are operationally up.

Parameters

ip-prefix/length

Specifies the IP prefix and length.

Values ip-prefix: a.b.c.d

ip-prefix-length: 0 to 32

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

monitor

Syntax

monitor *ip-prefix/length*

no monitor

Context

[Tree] (config>router>nat>outside>pool>redundancy monitor)

[Tree] (config>service>vprn>nat>outside>pool>redundancy monitor)

Full Context

configure router nat outside pool redundancy monitor

configure service vprn nat outside pool redundancy monitor

Description

This command configures the monitoring route based on which the NAT multi-chassis switchover is triggered. Monitoring route of a NAT pool on the local node must match the export route of a corresponding NAT pool on the peering node. Presence of the monitoring route in the routing table is an indication that the peering NAT pool is active (since it is advertising its export route). The disappearance of the monitoring route from the routing table is an indication that the peering pool has failed and consequently the nodal

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switchover is triggered, the local pool becomes active and its export route is consequently advertised. The export route can be advertised only from:

- The active lead pool.
- Active pool for which fate-sharing is disabled.

Default

no monitor

Parameters

ip-prefix/length

Specifies the IP prefix and length.

Values			
	ip-prefix/length:	ip-prefix	a.b.c.d
		ip-prefix-length	0 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

monitor

Syntax

[**no**] **monitor**

Context

[Tree] (config>router>bgp>group>neighbor monitor)

[Tree] (config>router>bgp>group monitor)

[Tree] (config>router>bgp monitor)

[Tree] (config>service>vprn>bgp>group monitor)

[Tree] (config>service>vprn>bgp>group>neighbor monitor)

Full Context

configure router bgp group neighbor monitor

configure router bgp group monitor

configure router bgp monitor

configure service vprn bgp group monitor

configure service vprn bgp group neighbor monitor

Description

Commands in this context configure monitor parameters.

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The **no** form of this command disables BGP BMP monitoring.

Platforms

All

monitor

Syntax

[**no**] **monitor**

Context

[Tree] (config>app-assure>group>ip-id-asst>pdns monitor)

Full Context

configure application-assurance group ip-identification-assist passive-dns monitor

Description

This command configures the router to collect IP addresses by passively monitoring DNS traffic. The router uses the collected IP addresses to build its internal database.

The **no** form of this command disables passive DNS monitoring.

Default

monitor

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.49 monitor-agg-egress-queue-stats

monitor-agg-egress-queue-stats

Syntax

[**no**] **monitor-agg-egress-queue-stats**

Context

[Tree] (config>port monitor-agg-egress-queue-stats)

Full Context

configure port monitor-agg-egress-queue-stats

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Description

This command enables the monitoring of aggregate egress queue statistics on the port. All queues on the port are monitored, including SAP egress, network egress, subscriber egress, and egress queue group queues, as well as system queues that can be used, for example, to send port-related protocol packets (LACP, EFM, and so on). The aggregate in-profile, out-of-profile, and total statistics are provided for both forwarded and dropped packets and octets.

Monitoring of aggregate statistics is supported on **PXC** sub-ports but not on a **PXC** physical port. It is also not supported on satellite ports.

The **no** form of this command disables aggregate egress queue statistics monitoring on the specified port.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.50 monitor-bandwidth

monitor-bandwidth

Syntax

[**no**] **monitor-bandwidth**

Context

[Tree] (config>router>mpls>lsp>auto-bandwidth monitor-bandwidth)

[Tree] (config>router>mpls>lsp-template>auto-bandwidth monitor-bandwidth)

Full Context

configure router mpls lsp auto-bandwidth monitor-bandwidth

configure router mpls lsp-template auto-bandwidth monitor-bandwidth

Description

This command enables passive monitoring for auto-bandwidth. This prevents the system from performing any auto-bandwidth adjustments, but does not affect the collection and display of bandwidth measurements.

The **no** form of this command disables passive monitoring and allows the system to perform auto-bandwidth adjustments.

Default

no monitor-bandwidth

Platforms

All

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30.51 monitor-oper-group

monitor-oper-group

Syntax

monitor-oper-group *name* **priority-step** *step*

no monitor-oper-group

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp monitor-oper-group)

[Tree] (config>service>ies>sub-if>grp-if>srrp monitor-oper-group)

Full Context

configure service vprn subscriber-interface group-interface srrp monitor-oper-group

configure service ies subscriber-interface group-interface srrp monitor-oper-group

Description

This command will configure the association between the SRRP instance in a Fate Sharing Group and the operational-group that contains messaging SAPs. A state transition of a messaging SAP within an operational-group will trigger calculation of the priority for all SRRP instances that are associated with that operational-group.

The **no** form of this command reverts to the default.

Parameters

name

Specifies the name of the operational-group, up to 32 characters, that is tracking operational state of SRRP messaging SAPs

priority-step

Specifies the priority step for which the priority of an SRRP instance is changed. If a messaging SAP within an operational-group transition to a non-UP state, the priority is decreased by the step value. If the messaging SAP within the operational-group transition into the UP state, the priority of the SRRP instance is increased by the step value.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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monitor-oper-group

Syntax

monitor-oper-group *name*

no monitor-oper-group

Context

[Tree] (config>router>nat>outside>pool monitor-oper-group)

[Tree] (config>service>vprn>nat>outside>pool monitor-oper-group)

Full Context

configure router nat outside pool monitor-oper-group

configure service vprn nat outside pool monitor-oper-group

Description

This command configures an operational group monitored by a NAT pool. Although a NAT pool lacks its own operational state, it can track the status of another entity via the operational group associated with that entity.

When an operational group monitored by a NAT pool transitions to the down state, the route of the pool is withdrawn from the routing table. NAT steering is disabled when the destination prefix or filter entry points to a NAT policy linked to the affected pool. This applies whether the reference is direct or indirect (like through a default NAT policy). In such cases, related routes or filters are removed from the routing or forwarding table.

In effect, when the monitored operational group goes down, the NAT pool becomes unreachable.

Deterministic NAT is where NAT policy selection is defined in a deterministic prefix or address map. In this case, internal destination prefixes or filter entries not explicitly assigned a NAT policy are withdrawn from the routing and forwarding tables only if all NAT pools referenced by all NAT policies in the deterministic configuration become inactive. In other words, all monitored operational groups are down.

The **no** form of this command removes the association from the configuration.

Default

no monitor-oper-group

Parameters

name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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monitor-oper-group

Syntax

monitor-oper-group *name*

no monitor-oper-group

Context

[Tree] (config>lag monitor-oper-group)

Full Context

configure lag monitor-oper-group

Description

This command, supported on access LAG only, specifies the operational group to monitor. The state of the operational group affects the state of this LAG. When the operational group is inactive, the state of the LAG goes down and the LAG uses the configured **lag>standby-signaling** mechanism (**lacp** or **power-off**) to signal the CE that the LAG is not available.

Default

no monitor-oper-group

Parameters

name

Specifies the name of the **oper-group**, up to 32 characters.

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *name*

no monitor-oper-group

Context

[Tree] (config>service>vpls>bgp>pw-template-binding monitor-oper-group)

[Tree] (config>service>vpls>spoke-sdp monitor-oper-group)

[Tree] (config>service>vpls>sap monitor-oper-group)

[Tree] (config>service>vpls>site monitor-oper-group)

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Full Context

configure service vpls bgp pw-template-binding monitor-oper-group

configure service vpls spoke-sdp monitor-oper-group

configure service vpls sap monitor-oper-group

configure service vpls site monitor-oper-group

Description

This command specifies the operational group to be monitored by the object under which it is configured. The **oper-group** *name* must be already configured under the **config>service** context before its name is referenced in this command.

The **no** form of this command removes the association.

Default

no monitor-oper-group

Parameters

group-name

Specifies a character string of maximum 32 ASCII characters identifying the group instance.

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *group-name*

no monitor-oper-group

Context

[Tree] (config>service>epipe>spoke-sdp monitor-oper-group)

[Tree] (config>service>epipe>sap monitor-oper-group)

Full Context

configure service epipe spoke-sdp monitor-oper-group

configure service epipe sap monitor-oper-group

Description

This command specifies the operational group to be monitored by the object under which it is configured. The **oper-group** *name* must be already configured under the **config>service** context before its name is referenced in this command.

The **no** form of this command removes the association.

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Parameters

group-name

Specifies an oper group name.

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *group-name*

no monitor-oper-group

Context

[Tree] (config>service>epipe>pw-port monitor-oper-group)

Full Context

configure service epipe pw-port monitor-oper-group

Description

This command configures the monitoring operational group name, up to 32 characters in length, associated with this PW-port entry.

Parameters

group-name

Specifies an operational group to monitor.

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *name*

no monitor-oper-group

Context

[Tree] (config>service>ies>if monitor-oper-group)

Full Context

configure service ies interface monitor-oper-group

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Description

This command specifies the operational group to be monitored by the object under which it is configured. The oper-group name must be already configured under the config>service context before its name is referenced in this command.

The **no** form of this command removes the association from the configuration.

Default

no monitor-oper-group

Parameters

name

Specifies a character string of maximum 32 ASCII characters identifying the group instance.

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *name*

no monitor-oper-group

Context

[Tree] (config>service>vprn>if monitor-oper-group)

Full Context

configure service vprn interface monitor-oper-group

Description

This command specifies the operational group to be monitored by the object under which it is configured. The oper-group name must be already configured under the config>service context before its name is referenced in this command.

The **no** form of this command removes the association from the configuration.

Default

no monitor-oper-group

Parameters

name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

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Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *group-name* **family** {**ipv4** | **ipv6**} **add** [*1..4294967295*]

monitor-oper-group *group-name* **family** {**ipv4** | **ipv6**} **set** [*1..4294967295*]

monitor-oper-group *group-name* **family** {**ipv4** | **ipv6**} **subtract** [*1..4294967295*]

no monitor-oper-group [**family** {**ipv4** | **ipv6**}]

Context

[Tree] (config>service>vprn>pim>if monitor-oper-group)

Full Context

configure service vprn pim interface monitor-oper-group

Description

This command configures PIM to monitor the state of an operational group to provide a redundancy mechanism. PIM monitors the operational group and changes its DR priority to the specified value when the status of the operational group is up. This enables the router to become the PIM DR only when the operational group is up. If the operational group status changes to down, PIM changes its DR priority to the default or the value configured with **priority** under **config**>**service**>**vprn**>**pim**>**if**. The **oper-group** *group-name* must already be configured under the **config**>**service** context before its name is referenced in this command. Two operational groups are supported per PIM interface.

The **no** form of this command removes the operational group from the configuration.

Parameters

group-name

Specifies the operational group identifier up to 32 characters in length.

family

Specifies the address family.

ipv4

Specifies the IPv4 designated router priority.

ipv6

Specifies the IPv6 designated router priority.

add

Specifies that the value is to be added to the existing priority to become the designated router.

subtract

Specifies that the value is to be subtracted from the existing priority to become the designated router.

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set

Specifies the priority to become the designated router.

value

Specifies the priority modifier expressed as a decimal integer.

Values 1 to 4294967295

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group*name*

no oper-group

Context

[Tree] (config>isa>nat-group monitor-oper-group)

Full Context

configure isa nat-group monitor-oper-group

Description

This command configures the state of an operational group under the SRRP instance. The state is operationally up when the SRRP instance is in a Master state; it is set to down for any other SRRP state. The operational group name must be already configured under the **config>service** context before its name is referenced in this command.

The **no** form of this command removes the association from the configuration.

Default

no monitor-oper-group

Parameters

name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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monitor-oper-group

Syntax

monitor-oper-group *name* **health-drop** *drop*

no monitor-oper-group *name*

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy monitor-oper-group)

Full Context

configure isa nat-group inter-chassis-redundancy monitor-oper-group

Description

This command enables monitoring of the objects, such as SAPs, BFD sessions, or VRRP sessions for the purpose of adjusting the overall health of the node in a redundant inter- chassis NAT system. A state change of the objects in the oper-group influences the health of a NAT node in a redundant configuration.

The **no** form of this command reverts to the default.

Default

no monitor-oper-group

Parameters

name

Specifies the name of the operational group that is being monitored, up to 32 characters.

drop

A state change of an object in the oper-group influences the overall health of the system in the context of NAT inter-chassis redundancy. For example, a transition into a non-operational (down) state of an object within the monitored oper-group triggers a decrease of the overall health of the node for the amount specified by the health-drop value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

monitor-oper-group

Syntax

monitor-oper-group *name* **health-drop** *drop*

no monitor-oper-group *name*

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Context

[Tree] (config>service>vprn>subscriber-mgmt>up-resiliency monitor-oper-group)

[Tree] (config>service>ies>subscriber-mgmt>up-resiliency monitor-oper-group)

Full Context

configure service vprn subscriber-mgmt up-resiliency monitor-oper-group

configure service ies subscriber-mgmt up-resiliency monitor-oper-group

Description

This command defines parameters to derive the service health based on monitored operational groups. The BNG-UP sends the health value to the MAG-c. The MAG-c uses the value to determine the need for a BNG-UP status change (active or standby).

The **no** form of the command removes the configuration.

Parameters

name

Specifies the operational group name, up to 32 characters.

drop

Specifies the drop in the health value for every operational group member failure. Every failure of an operational group member decreases the base health value to a possible minimum of 0.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

monitor-oper-group

Syntax

monitor-oper-group *name* **health-drop** *drop*

no monitor-oper-group *name*

Context

[Tree] (config>service>vpls>sap>pfcp>up-resiliency monitor-oper-group)

Full Context

configure service vpls sap pfcp up-resiliency monitor-oper-group

Description

This command defines parameters to derive the service health based on monitored operational groups. The BNG-UP sends the health value to the BNG CPF. The BNG CPF uses the value to determine the need for a BNG-UP status change (active or standby).

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If the configured groups are not the same for all capture SAPs sharing the same underlying port or LAG, the configuration of a Layer 2 access ID alias is required, or else the system chooses arbitrarily one set of configured groups.

The **no** form of the command removes the configuration.

Parameters

name

Specifies the operational group name, up to 32 characters.

drop

Specifies the drop in the health value for every operational group member failure. Every failure of an operational group member decreases the base health value to a possible minimum of 0.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

monitor-oper-group

Syntax

monitor-oper-group *group-name* **family** {**ipv4** | **ipv6**} **add** [*value*]

monitor-oper-group *group-name* **family** {**ipv4** | **ipv6**} **set** [*value*]

monitor-oper-group *group-name* **family** {**ipv4** | **ipv6**} **subtract** [*value*]

no monitor-oper-group [**family** {**ipv4** | **ipv6**}]

Context

[Tree] (config>router>pim>if monitor-oper-group)

Full Context

configure router pim interface monitor-oper-group

Description

This command configures PIM to monitor the state of an operational group to provide a redundancy mechanism. PIM monitors the operational group and changes its DR priority to the specified value when the status of the operational group is up. This enables the router to become the PIM DR only when the operational group is up. If the operational group status changes to down, PIM changes its DR priority to the default or the value configured with **priority** under **config**>**router**>**pim**>**if**. The **oper-group** *group-name* must already be configured under the **config**>**service** context before its name is referenced in this command. Two operational groups are supported per PIM interface.

The **no** form of this command removes the operational group from the configuration.

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Parameters

group-name

Specifies the operational group identifier, up to 32 characters.

family

Specifies the address family.

ipv4

Specifies the IPv4 designated router priority.

ipv6

Specifies the IPv6 designated router priority.

add

Specifies that the value is to be added to the existing priority to become the designated router.

subtract

Specifies that the value is to be subtracted from the existing priority to become the designated router.

set

Specifies the priority to become the designated router.

value

Specifies the priority modifier expressed as a decimal integer.

Values 1 to 4294967295

Platforms

All

monitor-oper-group

Syntax

monitor-oper-group *group name*

no monitor-oper-group

Context

[Tree] (config>service>sdp>binding>pw-port monitor-oper-group)

Full Context

configure service sdp binding pw-port monitor-oper-group

Description

This command specifies the operational group to be monitored by the object under which it is configured. The oper-group name must be already configured under the config>service context before its name is referenced in this command.

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The **no** form of the command removes the association from the configuration.

Default

no monitor-oper-group

Parameters

name

Specifies a character string of maximum 32 ASCII characters identifying the group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

monitor-oper-group

Syntax

monitor-oper-group *group-name*

no monitor-oper-group

Context

[Tree] (config>port monitor-oper-group)

Full Context

configure port monitor-oper-group

Description

This command configures the operational group to monitor the operational group state. The state of the operational group affects the state of this port. When the operational group is inactive, the state of the port goes down and powers off the port to signal the CE that the connected port is not available.

Default

no monitor-oper-group

Parameters

group-name

Specifies operational group name to monitor, up to 32 characters.

Platforms

All

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monitor-oper-group

Syntax

monitor-oper-group *name*

no monitor-oper-group

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep monitor-oper-group)

[Tree] (config>service>epipe>sap>eth-cfm>mep monitor-oper-group)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep monitor-oper-group)

[Tree] (config>service>vpls>sap>eth-cfm>mep monitor-oper-group)

Full Context

configure service ies interface sap eth-cfm mep monitor-oper-group

configure service epipe sap eth-cfm mep monitor-oper-group

configure service vprn interface sap eth-cfm mep monitor-oper-group

configure service vpls sap eth-cfm mep monitor-oper-group

Description

This command configures the operational group that operationally affects the state of the SAP based on the state of the operational group. When the monitoring function detects an operationally down state for the operational group, the SAP is set to operationally down and any CFM defects present on the MEP are cleared. The MEP enters a pseudo down state and does not try to transmit CFM packets, and it is not expecting to receive CFM packets. When the monitoring function detects an operationally up state for the operational group, the CFM reason code that brought the SAP operationally down is removed. Assuming no other conditions prevent this, the SAP transitions to operationally up and the MEP is initialized.

This command is applicable to MEPs with a direction of down (**configure service sap eth-cfm mep direction down**) and a **configure eth-cfm domain association ccm-interval** of 1 second or higher.

The **no** form of this command removes the operational group.

Default

no monitor-oper-group

Parameters

name

Specifies the operational group name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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30.52 monitor-pool-depth

monitor-pool-depth

Syntax

monitor-pool-depth

Context

[Tree] (config>port>access>egress>pool monitor-pool-depth)

[Tree] (config>port>access>ingress>pool monitor-pool-depth)

[Tree] (config>port>network>egress>pool monitor-pool-depth)

[Tree] (config>card>fp>ingress>network>pool monitor-pool-depth)

Full Context

configure port access egress pool monitor-pool-depth

configure port access ingress pool monitor-pool-depth

configure port network egress pool monitor-pool-depth

configure card fp ingress network pool monitor-pool-depth

Description

Commands in this context configure alarm thresholds for pool buffer statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.53 monitor-port

monitor-port

Syntax

monitor-port *port-id* **health-drop** *drop*

no monitor-port *port-id*

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy monitor-port)

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Full Context

configure isa nat-group inter-chassis-redundancy monitor-port

Description

This command enables monitoring of the ports to adjust the overall health of the node in a redundant inter-chassis NAT system. A state change of a monitored port influences the health of a NAT node in a redundant configuration.

The **no** form of this command reverts to the default.

Default

no monitor-port

Parameters

port-id

Specifies the port being monitored.

Values slot/mda/port

drop

A state change of an object in the oper-group influences the overall health of the system in the context of NAT inter-chassis redundancy. For example, a transition into a non-operational (down) state of an object within the monitored oper-group triggers a decrease of the overall health of the node for the amount specified by the health-drop value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.54 monitor-ptsf-unusable

monitor-ptsf-unusable

Syntax

monitor-ptsf-unusable

Context

[Tree] (config>system>ptp>ptsf monitor-ptsf-unusable)

Full Context

configure system ptp ptsf monitor-ptsf-unusable

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Description

Commands in this context configure the monitoring of neighbor clocks for the Packet Timing Signal Fail (PTSF) unusable state (condition) when the profile is set to g8275dot1-2014.

When enabled, the local clock monitors the noise level of PTP event messages exchanged between external neighbor PTP ports and the local clock. If there is too much noise and the expectation is these event message would not allow the clock to meet its output performance requirements, that neighbor port is considered unusable. This relates to declaring the PTSF-unusable state as defined in the profile.

Once a neighbor port is declared unusable, its Announce messages are excluded from the BTCA and the port cannot be selected as the parent clock.

The unusable condition can be cleared using the following command:

clear system ptp port *port-id* **neighbor** *mac-address* **ptsf-unusable**

When disabled, PTP clears the PTSF-unusable state from all neighbor PTP ports.

Deleting or disabling the local PTP port clears the PTSF-unusable state from all neighbor PTP ports that are accessed through the local PTP port.

Disabling the **monitor-ptsf-unusable** function of the PTP clock clears the PTSF-unusable state from all neighbor PTP ports.

In addition, if no PTP messages have been received from a neighbor for 15 minutes, the neighbor information is purged, which also clears the PTSF-unusable state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.55 monitor-queue-depth

monitor-queue-depth

Syntax

monitor-queue-depth [**fast-polling**] [**violation-threshold** *percentage*]

no monitor-queue-depth

Context

[Tree] (config>service>epipe>sap>egress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>vpls>sap>egress>queue-override>queue monitor-queue-depth)

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q monitor-queue-depth)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue monitor-queue-depth)

[Tree] (config>port>ethernet>network>egress-port-queue-overrides>queue monitor-queue-depth)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue monitor-queue-depth)

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[Tree] (config>port>eth>access>egr>qgrp>qover>q monitor-queue-depth)

Full Context

configure service epipe sap egress queue-override queue monitor-queue-depth

configure service vpls sap egress queue-override queue monitor-queue-depth

configure port ethernet network egress queue-group queue-overrides queue monitor-queue-depth

configure service cpipe sap egress queue-override queue monitor-queue-depth

configure port ethernet network egress-port-queue-overrides queue monitor-queue-depth

configure service ipipe sap egress queue-override queue monitor-queue-depth

configure service ies interface sap egress queue-override queue monitor-queue-depth

configure service vprn interface sap egress queue-override queue monitor-queue-depth

configure port ethernet access egress queue-group queue-overrides queue monitor-queue-depth

Description

This command configures queue depth monitoring for the specified queue.

The **no** form of this command disables queue depth monitoring for the specified queue.

Parameters

fast-polling

Keyword used to specify that fast queue polling is enabled. Fast queue polling is only supported on FP3- and FP4-based hardware.

percentage

Specifies a percentage, up to two decimal places, of the queue MBS. When the depth of the queue exceeds this percentage, a violation is registered.

Values 00.01 to 99.99

Platforms

All

- configure service epipe sap egress queue-override queue monitor-queue-depth
- configure service vpls sap egress queue-override queue monitor-queue-depth
- configure service ipipe sap egress queue-override queue monitor-queue-depth
- configure port ethernet network egress queue-group queue-overrides queue monitor-queue-depth
- configure service ies interface sap egress queue-override queue monitor-queue-depth
- configure port ethernet access egress queue-group queue-overrides queue monitor-queue-depth
- configure port ethernet network egress-port-queue-overrides queue monitor-queue-depth
- configure service vprn interface sap egress queue-override queue monitor-queue-depth

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- configure service cpipe sap egress queue-override queue monitor-queue-depth

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monitor-queue-depth

Syntax

monitor-queue-depth [**fast-polling**]

no monitor-queue-depth

Context

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue monitor-queue-depth)

[Tree] (config>port>eth>access>ingress>qgrp>qover>q monitor-queue-depth)

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>vpls>sap>ingress>queue-override>queue monitor-queue-depth)

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue monitor-queue-depth)

Full Context

configure service ies interface sap ingress queue-override queue monitor-queue-depth

configure port ethernet access ingress queue-group queue-overrides queue monitor-queue-depth

configure service vprn interface sap ingress queue-override queue monitor-queue-depth

configure service ipipe sap ingress queue-override queue monitor-queue-depth

configure service epipe sap ingress queue-override queue monitor-queue-depth

configure service vpls sap ingress queue-override queue monitor-queue-depth

configure service cpipe sap ingress queue-override queue monitor-queue-depth

Description

This command enters the context for queue depth monitoring for the specified queue. The **fast-polling** option is not supported at ingress.

The **no** form of this command disables queue depth monitoring.

Platforms

All

- configure service ipipe sap ingress queue-override queue monitor-queue-depth
- configure service vprn interface sap ingress queue-override queue monitor-queue-depth
- configure service vpls sap ingress queue-override queue monitor-queue-depth
- configure service epipe sap ingress queue-override queue monitor-queue-depth
- configure port ethernet access ingress queue-group queue-overrides queue monitor-queue-depth
- configure service ies interface sap ingress queue-override queue monitor-queue-depth

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure service cpipe sap ingress queue-override queue monitor-queue-depth

30.56 monitor-receiver

monitor-receiver

Syntax

[**no**] **monitor-receiver**

Context

[Tree] (config>system>ptp>port monitor-receiver)

[Tree] (config>service>vprn>ptp>peer monitor-receiver)

[Tree] (config>system>ptp>peer monitor-receiver)

Full Context

configure system ptp port monitor-receiver

configure service vprn ptp peer monitor-receiver

configure system ptp peer monitor-receiver

Description

This command enables this PTP peer as a monitorReceiver for PTP. When not in TimeReceiver mode, the PTP port runs a time-recovery engine for PTP monitoring. This object is supported only when the PTP profile is set to G.8275.1 or G.8275.2.

The **no** form of this command disables this PTP peer as a monitorReceiver.

Default

no monitor-receiver

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.57 monitor-sender

monitor-sender

Syntax

[**no**] **monitor-sender**

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Context

[Tree] (config>system>ptp>port monitor-sender)

Full Context

configure system ptp port monitor-sender

Description

This command enables this PTP port as a monitorSender for PTP. When not in TimeTransmitter mode, the PTP port sends Announce, Sync, and Delay_Resp messages with the alternateMasterFlag set to TRUE for PTP monitoring at the remote clock. This object is supported only when the PTP profile is set to G.8275.1 or G.8275.2.

The **no** form of this command disables the PTP port as a monitorSender.

Default

no monitor-sender

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.58 monitor-threshold

monitor-threshold

Syntax

monitor-threshold *percent*

no monitor-threshold

Context

[Tree] (config>qos>port-scheduler-policy monitor-threshold)

[Tree] (config>qos>port-scheduler-policy>group monitor-threshold)

Full Context

configure qos port-scheduler-policy monitor-threshold

configure qos port-scheduler-policy group monitor-threshold

Description

This command defines the congestion monitoring threshold for the desired monitoring entity under the port-scheduler for per aggregate port-scheduler rate, per individual level, and per group that is aggregating multiple levels.

The congestion threshold is specified in percentages of the configured PIR rate for the entity for which congestion monitoring is desired. For example, if the configured PIR rate for level 1 is 100,000 kb/s,

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and the monitoring threshold is set to 90%, then an event where the offered rate is >90,000 kb/s will be recorded. This event is shown as part of the cumulative count of congestion threshold exceeds since the last clearing of the counters.

The **no** form of this command removes the congestion monitoring threshold.

Default

no monitor-threshold

Parameters

percent

Specifies the percent of the configured rate. If the offered rate exceeds the configured threshold, a counter monitoring the threshold will be increased.

Values 0 to 100

Platforms

All

monitor-threshold

Syntax

monitor-threshold *percent*

no monitor-threshold

Context

[Tree] (config>qos>hw-agg-shap-sched-plcy monitor-threshold)

Full Context

configure qos hw-agg-shaper-scheduler-policy monitor-threshold

Description

This command configures the egress scheduler monitor threshold for the hardware aggregate shaper scheduler policy. The value is expressed as a percentage of the scheduler rate, which is considered as a limit for determining congestion.

The **no** form of this command removes the congestion monitoring threshold.

Default

no monitor-threshold

Parameters

percent

Specifies the percent of the configured rate.

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Values 0 to 100

Platforms

7750 SR-1, 7750 SR-s

30.59 month

month

Syntax

month {*month-number* [*..month-number*] | *month-name* [*..month-name*] | **all**}

no month

Context

[Tree] (config>system>cron>sched month)

Full Context

configure system cron schedule month

Description

This command specifies the month when the event should be executed. Multiple months can be specified. When multiple months are configured, each of them will cause the schedule to trigger. If a month is configured without configuring the month, weekday, day-of-month, and minute, the event will not execute.

The **no** form of this command removes the specified month from the configuration.

Default

no month

Parameters

month-number

Specifies a month number.

Values 1 to 12 (maximum 12 month-numbers)

month-name

Specifies a month by name.

Values january, february, march, april, may, june, july, august, september, october, november, december (maximum 12 month names)

all

Specifies all months.

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Platforms

All

30.60 more

more

Syntax

[**no**] **more**

Context

[Tree] (environment more)

Full Context

environment more

Description

This command enables per-screen CLI output, meaning that the output is displayed on a screen-by- screen basis. The terminal screen length can be modified with the **terminal** command.

The following prompt appears at the end of each screen of paginated output:

```
Press any key to continue (Q to quit)
```

The **no** form of the command displays the output all at once. If the output length is longer than one screen, the entire output will be displayed, which may scroll the screen.

Default

more

Platforms

All

more

Syntax

[**no**] **more**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment more)

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Full Context

configure system management-interface cli md-cli environment more

Description

This command configures pagination of the output text.

The **no** form of this command reverts to the default value.

Default

more

Platforms

All

30.61 more-fragments

more-fragments

Syntax

more-fragments *more-fragments*

no more-fragments

Context

[Tree] (config>test-oam>build-packet>header>ipv4 more-fragments)

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv4 more-fragments)

Full Context

configure test-oam build-packet header ipv4 more-fragments

debug oam build-packet packet field-override header ipv4 more-fragments

Description

This command defines if the MF flag should be set in the associated IPv4 header.

The **no** form of this command reverts to the default value.

Default

more-fragments 0

Parameters

more-fragments

Specifies an MF flag for an IPv4 packet header to be launched by the OAM **find-egress** tool. A value of 1 means there are more fragments to be sent.

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Values 0, 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.62 motd

motd

Syntax

motd {**url** *url-prefix*: *source-url* | **text** *motd-text-string*}

no motd

Context

[Tree] (config>system>login-control motd)

Full Context

configure system login-control motd

Description

This command creates the message of the day displayed after a successful console login. Only one message can be configured.

The **no** form of this command removes the message.

Default

no motd

Parameters

url *url-prefix*: *source-url*

When the message of the day is present as a text file, provide both url-prefix and the source-url of the file containing the message of the day. The URL prefix can be local or remote.

text *motd-text-string*

Specifies the text of the message of the day. The *motd-text-string* must be enclosed in double quotes. Multiple text strings are not appended to one another.

Some special characters can be used to format the message text. The \n character can be used to create multi-line messages. A \n in the message moves to the beginning of the next line by sending ASCII/UTF-8 chars 0xA (LF) and 0xD (CR) to the client terminal. An \r in the message sends the ASCII/UTF-8 char 0xD (CR) to the client terminal.

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Platforms

All

30.63 move

move

Syntax

move *old-file-url new-file-url* [**force**] [**no-redirect**] [**client-tls-profile** *profile*] [**proxy** *proxy-url*] [**router** *router-instance*]

Context

[Tree] (file move)

Full Context

file move

Description

This command moves a local file, system file, or a directory. If the target already exists, the command fails and an error message displays.

The following prompt appears if the destination file already exists:

"Overwrite destination file (y/n)?”

Parameters

old-file-url

Specifies the file or directory to be moved.

Values

local-url	[*cflash-id*/][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
remote-url	[{ftp | sftp | http | https}://*login*:*pswd*@*remote-locn*/][*file-path*]
	up to 247 characters
	directory length up to 99 characters each
remote-locn	[hostname | ipv4-address | [ipv6-address]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H

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		d - [0 to 255]D
		interface - up to 32 characters, for link local addresses
	cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

new-file-url

Specifies the new destination to place the old-file-url.

Values

local-url	[*cflash-id*/][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
remote-url	[{ftp | sftp | http | https}:///*login*:*pswd*@*remote-locn*/][*file-path*]
	up to 247 characters
	directory length up to 99 characters each
remote-locn	[hostname | ipv4-address | [ipv6-address]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

force

Forces an immediate move of the specified file(s).

The **file move force** command moves the specified file(s) without displaying a user prompt message. This command also automatically accepts HTTP redirects unless overridden by the **no-redirect** parameter.

profile

Specifies the TLS client profile configured under **config**>**system**>**security**>**tls**>**client-tls-profile** to use.

proxy-url

Specifies the URL of an HTTP proxy. For example, http://proxy.mydomain.com:8000. This URL must be an HTTP URL and not an HTTPS URL.

no-redirect

Keyword to automatically refuse any HTTP redirects without prompting the user.

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router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance: *router-name* | *vprn-svc-id*

router-name: "Base" | "management" | "vpls-management"

vprn-svc-id: 1 to 2147483647

Platforms

All

30.64 move-frequency

move-frequency

Syntax

move-frequency *frequency*

no move-frequency

Context

[Tree] (config>service>vpls>mac-move move-frequency)

[Tree] (config>service>template>vpls-template>mac-move move-frequency)

Full Context

configure service vpls mac-move move-frequency

configure service template vpls-template mac-move move-frequency

Description

This command indicates the maximum rate at which MACs can be relearned in the VPLS service before the SAP where the moving MAC was last seen is automatically disabled to protect the system against undetected loops or duplicate MACs. The rate (relearns per second) is measured in a 5-second window.

The **no** form of this command reverts to the default value.

Default

2 (relearns per second, when mac-move is enabled). For example, the value 2 requires 10 MAC relearns in a 5-second period for the MAC to be considered duplicate.

Parameters

frequency

Specifies the rate, in relearns per second.

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Values 1 to 10

Platforms

All

30.65 mp-bgp-keep

mp-bgp-keep

Syntax

[**no**] **mp-bgp-keep**

Context

[Tree] (config>router>bgp mp-bgp-keep)

Full Context

configure router bgp mp-bgp-keep

Description

As a result of enabling this command, route refresh messages are no longer needed, or issued when VPN route policy changes are made; RIB-IN will retain all MP-BGP routes.

The **no** form of this command is used to disable this feature.

Default

no mp-bgp-keep

Platforms

All

30.66 mp-mbb-time

mp-mbb-time

Syntax

mp-mbb-time *interval*

no mp-mbb-time

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Context

[Tree] (config>router>ldp mp-mbb-time)

Full Context

configure router ldp mp-mbb-time

Description

This command configures the maximum time a P2MP transit/bud node must wait before switching over to the new path if the new node does not send MBB TLV to inform of the availability of data plane.

The **no** form of this command reverts to the default value.

Default

no mp-mbb-time (which equals a value of 3 seconds)

Parameters

interval

Specifies the MP MBB time, in seconds.

Values 0 to 10

Platforms

All

30.67 mpls

mpls

Syntax

mpls [**bgp** *bgp*] [**endpoint** *endpoint-name*]

no mpls [**bgp** *bgp*]

Context

[Tree] (config>service>vprn>bgp-evpn mpls)

[Tree] (config>service>vpls>bgp-evpn mpls)

[Tree] (config>service>epipe>bgp-evpn mpls)

Full Context

configure service vprn bgp-evpn mpls

configure service vpls bgp-evpn mpls

configure service epipe bgp-evpn mpls

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Description

Commands in this context configure the BGP EVPN MPLS parameters. In VPLS, either instance BGP 1 or BGP 2 can be configured, but not both simultaneously in the same service. Epipe and VPRN services only support instance 1. If the **bgp** *bgp* parameter is not specified, the instance is set to 1.

The **endpoint** option is only supported for Epipe services. When configured, the same endpoint name can be configured for the **bgp-evpn>mpls** context and an additional spoke SDP. An EVPN MPLS destination always has higher preference than a spoke SDP.

The **no** form of this command removes the MPLS instance from the service.

Parameters

bgp

Indicates the BGP instance identifier.

Values 1, 2

endpoint-name

Specifies the endpoint name for Epipe services, up to 32 characters.

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (config>service>vprn>bgp-ipvpn mpls)

Full Context

configure service vprn bgp-ipvpn mpls

Description

Commands in this context configure the BGP IPVPN parameters.

Platforms

All

mpls

Syntax

[**no**] **mpls**

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Context

[Tree] (config>router mpls)

Full Context

configure router mpls

Description

Commands in this context configure MPLS parameters. MPLS is not enabled by default and must be explicitly enabled (**no shutdown**).

The **no** form of this command deletes this MPLS protocol instance and removes all configuration parameters for this MPLS instance.

You must remove all SDP bindings and use the **shutdown** command to administratively disable the MPLS instance before deleting it.

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (config>router>rib-api mpls)

Full Context

configure router rib-api mpls

Description

Commands in this context configure MPLS parameters related to the RIB-API gRPC service.

Platforms

All

mpls

Syntax

mpls [**lsp** *lsp-name*] [**sender** *source-address*] [**endpoint** *endpoint-address*] [**tunnel-id** *tunnel-id*] [**lsp-id** *lsp-id*]

no mpls

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Context

[Tree] (debug>router mpls)

Full Context

debug router mpls

Description

This command enables and configures debugging for MPLS.

Parameters

lsp *lsp-name*

Specifies the LSP name up to 64 characters in length.

sender *source-address*

Specifies the IP address of the sender.

endpoint *endpoint-address*

Specifies the far-end IP address.

tunnel-id *tunnel-id*

Specifies the MPLS SDP ID.

Values 0 to 4294967295

lsp-id *lsp-id*

Specifies the LSP ID.

Values 1 to 65535

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (config>test-oam>build-packet>header mpls)

[Tree] (debug>oam>build-packet>packet>field-override>header mpls)

Full Context

configure test-oam build-packet header mpls

debug oam build-packet packet field-override header mpls

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Description

This command causes the associated header to be defined as an MPLS label header template and enables the context to define the MPLS parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mpls

Syntax

mpls

Context

[Tree] (config>oam-pm>session mpls)

Full Context

configure oam-pm session mpls

Description

Commands in this context configure MPLS-specific source and destination, LSP type and tunnel information, the priority, and the MPLS DM test configuration on the launch point.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mpls

Syntax

[**no**] **mpls**

Context

[Tree] (config>cflowd>collector>export-filter>family mpls)

Full Context

configure cflowd collector export-filter family mpls

Description

This command filters MPLS flow data from being sent to the associated collector.

The **no** form of this command removes the filter, allowing MPLS flow data to be sent to the associated collector.

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Default

no mpls

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (config>system>ip mpls)

Full Context

configure system ip mpls

Description

Commands in this context configure system-wide MPLS parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mpls

Syntax

[**no**] **mpls**

Context

[Tree] (config>oam-pm>session>ip>tunnel mpls)

Full Context

configure oam-pm session ip tunnel mpls

Description

Commands in this context configure the MPLS packet tunneling options for the session. Configure the **tunnel oam-pm session ip router-instance** to Base to configure commands in the MPLS context. When entering a context under MPLS, the system removes any previous configuration of any sibling context. You can only configure one of the contexts for each OAM-PM session.

The **no** form of this command deletes the **mpls** context and all configurations under it.

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Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mpls

Syntax
mpls

Context
[Tree] (config>anysec mpls)

Full Context
configure anysec mpls

Description
Commands in this context configure MPLS for ANYsec.

Platforms
7750 SR-1, 7750 SR-12e, 7750 SR-s

30.68 mpls-dm

mpls-dm

Syntax
mpls-dm

Context
[Tree] (config>test-oam mpls-dm)

Full Context
configure test-oam mpls-dm

Description
Commands in this context configure global MPLS delay measurement parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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30.69 mpls-echo-request-downstream-map

mpls-echo-request-downstream-map

Syntax

mpls-echo-request-downstream-map {**dsmap** | **ddmap**}

Context

[Tree] (config>test-oam mpls-echo-request-downstream-map)

Full Context

configure test-oam mpls-echo-request-downstream-map

Description

This command specifies which format of the downstream mapping TLV to use in all LSP trace packets and LDP tree trace packets originated on this node. The Downstream Mapping (DSMAP) TLV is the original format in RFC 4379 (obsoleted by RFC 8029) and is the default value. The new Downstream Detailed Mapping (DDMAP) TLV is the new enhanced format specified in RFC 6424 and RFC 8029.

This command applies to LSP trace of an RSVP P2P LSP, a MPLS-TP LSP, or LDP unicast FEC, and to LDP tree trace of a unicast LDP FEC. It does not apply to LSP trace of an RSVP P2MP LSP which always uses the DDMAP TLV.

The global DSMAP/DDMAP setting impacts the behavior of both OAM LSP trace packets and SAA test packets of type **lsp-trace** and is used by the sender node when one of the following events occurs:

1. An SAA test of type **lsp-trace** is created (not modified) and no value is specified for the per-test **downstream-map-tlv** {**dsmap** | **ddmap** | **none**} option. In this case, the SAA test **downstream-map-tlv** value defaults to the global **mpls-echo-request-downstream-map** value.
2. An OAM test of type **lsp-trace** test is executed and no value is specified for the per-test **downstream-map-tlv** {**dsmap** | **ddmap** | **none**} option. In this case, the OAM test **downstream-map-tlv** value defaults to the global **mpls-echo-request-downstream-map** value.

A consequence of the rules above is that a change to the value of **mpls-echo-request-downstream-map** option does not affect the value inserted in the downstream mapping TLV of existing tests.

Following are the details of the processing of the new DDMAP TLV:

1. When either the DSMAP TLV or the DDMAP TLV is received in an echo request message, the responder node includes the same type of TLV in the echo reply message with the proper downstream interface information and label stack information.
2. If an echo request message without a Downstream Mapping TLV (DSMAP or DDMAP) expires at a node which is not the egress for the target FEC stack, the responder node always includes the DSMAP TLV in the echo reply message. This can occur in the following cases:
   a. The user issues a LSP trace from a sender node with a **min-ttl** value higher than 1 and a **max-ttl** value lower than the number of hops to reach the egress of the target FEC stack. This is the sender node behavior when the global configuration or the per-test setting of the DSMAP/DDMAP is set to DSMAP.

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b. The user issues a LSP ping from a sender node with a **ttl** value lower than the number of hops to reach the egress of the target FEC stack. This is the sender node behavior when the global configuration of the DSMAP/DDMAP is set to DSMAP.

c. The behavior in (a) is changed when the global configuration or the per-test setting of the Downstream Mapping TLV is set to DDMAP. The sender node includes in this case the DDMAP TLV with the Downstream IP address field set to the all-routers multicast address as per Section 3.4 of RFC 8029. The responder node then bypasses the interface and label stack validation and replies with a DDMAP TLV with the correct downstream information for the target FEC stack.

3. A sender node never includes the DSMAP or DDMAP TLV in an lsp-ping message.

In addition to performing the same features as the DSMAP TLV, the new DDMAP TLV addresses the following scenarios:

1. Full validation of an LDP FEC stitched to a BGP IPv4 label route. In this case, the LSP trace message is inserted from the LDP LSP segment or from the stitching point.
2. Full validation of a BGP IPv4 label route stitched to an LDP FEC. This includes the case of explicit configuration of the LDP-BGP stitching in which the BGP label route is active in Route Table Manager (RTM) and the case of a BGP IPv4 label route resolved to the LDP FEC due to the IGP route of the same prefix active in RTM. In this case, the LSP trace message is inserted from the BGP LSP segment or from the stitching point.
3. Full validation of an LDP FEC which is stitched to a BGP LSP and stitched back into an LDP FEC. In this case, the LSP trace message is inserted from the LDP segments or the or from the stitching points.
4. Full validation of an LDP FEC tunneled over an RSVP LSP using LSP trace.

To properly check a target FEC which is stitched to another FEC (stitching FEC) of the same or a different type, or which is tunneled over another FEC (tunneling FEC), it is necessary for the responding nodes to provide details about the FEC manipulation back to the sender node. This is achieved via the use of the new FEC stack change sub-TLV in the Downstream Detailed Mapping TLV (DDMAP) defined in RFC 6424.

When the user configures the use of the DDMAP TLV on a trace for an LSP that does not undergo stitching or tunneling operation in the network, the procedures at the sender and responder nodes are the same as in the case of the DSMAP TLV.

This feature however introduces changes to the target FEC stack validation procedures at the sender and responder nodes in the case of LSP stitching and LSP hierarchy. These changes pertain to the processing of the new FEC stack change sub-TLV in the new DDMAP TLV and the new return code of value 15 `Label switched with FEC change`.

The **no** form of this command reverts to the default behavior of using the DSMAP TLV in a LSP trace packet and LDP tree trace packet.

Default

mpls-echo-request-downstream-map dsmap

Parameters

dsmap

Specifies that the DSMAP TLV should be used in all LSP trace packets and LDP tree trace packets originating on the node.

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ddmap

Specifies that the DDMAP TLV should be used in all LSP trace packets and LDP tree trace packets originating on the node.

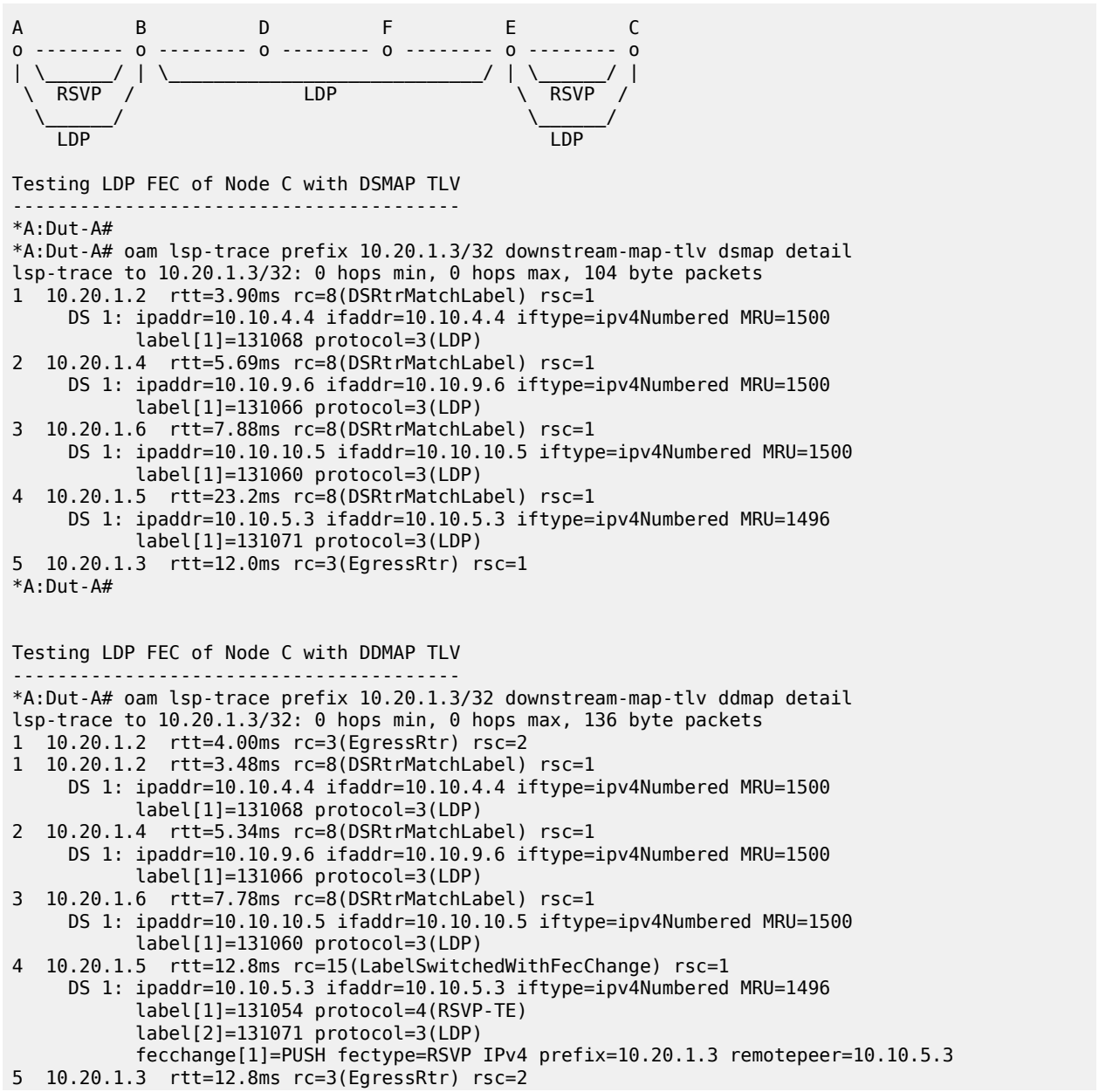
Platforms

All

Output

The following output is an example of mpls-echo-request-downstream-map information.

Output Example: LDP-over-RSVP



```
A          B          D          F          E          C
o -------- o -------- o -------- o -------- o -------- o
| \______/ | \____________________________/ | \______/ |
 \  RSVP  /              LDP                 \  RSVP  /
  \______/                                    \______/
    LDP                                         LDP

Testing LDP FEC of Node C with DSMAP TLV
----------------------------------------
*A:Dut-A#
*A:Dut-A# oam lsp-trace prefix 10.20.1.3/32 downstream-map-tlv dsmap detail
lsp-trace to 10.20.1.3/32: 0 hops min, 0 hops max, 104 byte packets
1  10.20.1.2  rtt=3.90ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.4.4 ifaddr=10.10.4.4 iftype=ipv4Numbered MRU=1500
           label[1]=131068 protocol=3(LDP)
2  10.20.1.4  rtt=5.69ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.9.6 ifaddr=10.10.9.6 iftype=ipv4Numbered MRU=1500
           label[1]=131066 protocol=3(LDP)
3  10.20.1.6  rtt=7.88ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.10.5 ifaddr=10.10.10.5 iftype=ipv4Numbered MRU=1500
           label[1]=131060 protocol=3(LDP)
4  10.20.1.5  rtt=23.2ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.5.3 ifaddr=10.10.5.3 iftype=ipv4Numbered MRU=1496
           label[1]=131071 protocol=3(LDP)
5  10.20.1.3  rtt=12.0ms rc=3(EgressRtr) rsc=1
*A:Dut-A#


Testing LDP FEC of Node C with DDMAP TLV
----------------------------------------
*A:Dut-A# oam lsp-trace prefix 10.20.1.3/32 downstream-map-tlv ddmap detail
lsp-trace to 10.20.1.3/32: 0 hops min, 0 hops max, 136 byte packets
1  10.20.1.2  rtt=4.00ms rc=3(EgressRtr) rsc=2
1  10.20.1.2  rtt=3.48ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.4.4 ifaddr=10.10.4.4 iftype=ipv4Numbered MRU=1500
           label[1]=131068 protocol=3(LDP)
2  10.20.1.4  rtt=5.34ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.9.6 ifaddr=10.10.9.6 iftype=ipv4Numbered MRU=1500
           label[1]=131066 protocol=3(LDP)
3  10.20.1.6  rtt=7.78ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.10.5 ifaddr=10.10.10.5 iftype=ipv4Numbered MRU=1500
           label[1]=131060 protocol=3(LDP)
4  10.20.1.5  rtt=12.8ms rc=15(LabelSwitchedWithFecChange) rsc=1
     DS 1: ipaddr=10.10.5.3 ifaddr=10.10.5.3 iftype=ipv4Numbered MRU=1496
           label[1]=131054 protocol=4(RSVP-TE)
           label[2]=131071 protocol=3(LDP)
           fecchange[1]=PUSH fectype=RSVP IPv4 prefix=10.20.1.3 remotepeer=10.10.5.3
5  10.20.1.3  rtt=12.8ms rc=3(EgressRtr) rsc=2
```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```
5  10.20.1.3  rtt=13.4ms rc=3(EgressRtr) rsc=1
*A:Dut-A#



D          F          E          C          A          B
o -------- o -------- o -------- o -------- o -------- o
  \_________________/ | \_________________/ | \______/ |
          LDP          \     RSVP ECA      / \  RSVP  /
                        \_________________/   \______/
                                LDP             LDP

Testing LDP FEC of Node B with DDMAP TLV
----------------------------------------
*A:Dut-D#
*A:Dut-D# oam lsp-trace prefix 10.20.1.2/32 downstream-map-tlv ddmap detail
lsp-trace to 10.20.1.2/32: 0 hops min, 0 hops max, 108 byte packets
1  10.20.1.6  rtt=3.17ms rc=8(DSRtrMatchLabel) rsc=1
     DS 1: ipaddr=10.10.10.5 ifaddr=10.10.10.5 iftype=ipv4Numbered MRU=1500
           label[1]=131065 protocol=3(LDP)
2  10.20.1.5  rtt=8.27ms rc=15(LabelSwitchedWithFecChange) rsc=1
     DS 1: ipaddr=10.10.5.3 ifaddr=10.10.5.3 iftype=ipv4Numbered MRU=1496
           label[1]=131068 protocol=4(RSVP-TE)
           label[2]=131065 protocol=3(LDP)
           fecchange[1]=PUSH fectype=RSVP IPv4 prefix=10.20.1.1 remotepeer=10.10.5.3
3  10.20.1.3  rtt=9.50ms rc=8(DSRtrMatchLabel) rsc=2
     DS 1: ipaddr=10.10.2.1 ifaddr=10.10.2.1 iftype=ipv4Numbered MRU=1500
           label[1]=131068 protocol=4(RSVP-TE)
4  10.20.1.1  rtt=10.4ms rc=3(EgressRtr) rsc=2
4  10.20.1.1  rtt=10.2ms rc=15(LabelSwitchedWithFecChange) rsc=1
     DS 1: ipaddr=10.10.1.2 ifaddr=10.10.1.2 iftype=ipv4Numbered MRU=1496
           label[1]=131066 protocol=4(RSVP-TE)
           label[2]=131071 protocol=3(LDP)
           fecchange[1]=PUSH fectype=RSVP IPv4 prefix=10.20.1.2 remotepeer=10.10.1.2
5  10.20.1.2  rtt=13.7ms rc=3(EgressRtr) rsc=2
5  10.20.1.2  rtt=13.6ms rc=3(EgressRtr) rsc=1
*A:Dut-D#
```

Output Example: LDP-BGP Stitching

```
A          B          C           D          E          F
o ------- o -------- o --------- o ------- o ------- o
  \_____/ |            \_______/           | \_____/
    LDP   |              RSVP              |   LDP
          |\_____________________________/|
          |               LDP              |
           \_____________________________/
                         BGP

Testing LDP FEC of Node F with DSMAP TLV
----------------------------------------
*A:Dut-A# *A:Dut-A# oam lsp-trace prefix 10.20.1.6/32 downstream-map-
tlv dsmap detail lsp-trace to 10.20.1.6/32: 0 hops min, 0 hops max, 104 byte packets
1  10.20.1.2  rtt=2.65ms rc=8(DSRtrMatchLabel) rsc=1
2  10.20.1.3  rtt=4.89ms rc=8(DSRtrMatchLabel) rsc=1
3  10.20.1.4  rtt=6.49ms rc=5(DSMappingMismatched) rsc=1
*A:Dut-A#

Testing LDP FEC of Node F with DDMAP TLV
----------------------------------------
*A:Dut-A# oam lsp-trace prefix 10.20.1.6/32 downstream-map-tlv ddmap detail lsp-
trace to 10.20.1.6/32: 0 hops min, 0 hops max, 108 byte packets
1  10.20.1.2  rtt=3.50ms rc=15(LabelSwitchedWithFecChange) rsc=1
```


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```
      DS 1: ipaddr=10.10.3.3 ifaddr=10.10.3.3 iftype=ipv4Numbered MRU=1496
            label[1]=131068 protocol=3(LDP)
            label[2]=131060 protocol=2(BGP)
            fecchange[1]=POP  fectype=LDP IPv4 prefix=10.20.1.6 remotepeer=0.0.0.0
(Unknown)
            fecchange[2]=PUSH fectype=BGP IPv4 prefix=10.20.1.6 remotepeer=10.20.1.5
            fecchange[3]=PUSH fectype=LDP IPv4 prefix=10.20.1.5 remotepeer=10.10.3.3
2  10.20.1.3  rtt=6.53ms rc=15(LabelSwitchedWithFecChange) rsc=2
      DS 1: ipaddr=10.10.11.4 ifaddr=10.10.11.4 iftype=ipv4Numbered MRU=1496
          label[1]=131060 protocol=4(RSVP-TE)
          label[2]=131070 protocol=3(LDP)
          label[3]=131060 protocol=2(BGP)
          fecchange[1]=PUSH fectype=RSVP IPv4 prefix=10.20.1.4 remotepeer=10.10.11.4
3  10.20.1.4  rtt=7.94ms rc=3(EgressRtr) rsc=3
3  10.20.1.4  rtt=6.69ms rc=8(DSRtrMatchLabel) rsc=2
      DS 1: ipaddr=10.10.6.5 ifaddr=10.10.6.5 iftype=ipv4Numbered MRU=1500
            label[1]=131071 protocol=3(LDP)
            label[2]=131060 protocol=2(BGP)
4  10.20.1.5  rtt=10.1ms rc=3(EgressRtr) rsc=2
4  10.20.1.5  rtt=8.97ms rc=15(LabelSwitchedWithFecChange) rsc=1
      DS 1: ipaddr=10.10.10.6 ifaddr=10.10.10.6 iftype=ipv4Numbered MRU=1500
           label[1]=131071 protocol=3(LDP)
           fecchange[1]=POP  fectype=BGP IPv4 prefix=10.20.1.6 remotepeer=0.0.0.0
(Unknown)
           fecchange[2]=PUSH fectype=LDP IPv4 prefix=10.20.1.6 remotepeer=10.10.10.6
5  10.20.1.6  rtt=11.8ms rc=3(EgressRtr) rsc=1 *A:Dut-A#


A         B          C           D         E
o ------- o -------- o --------- o ---3--- o
  \_____/ |            \_______/           |
    LDP   |              RSVP              |
          |\_____________________________/|
          |               LDP              |
           \_____________________________/
                         BGP
Testing BGP Label Route of Node E with DDMAP TLV
------------------------------------------------
*A:Dut-B# oam lsp-trace prefix 11.20.1.5/32 bgp-label downstream-map-
tlv ddmap detail lsp-trace to 11.20.1.5/32: 0 hops min, 0 hops max, 124 byte packets
1  10.20.1.3  rtt=2.35ms rc=15(LabelSwitchedWithFecChange) rsc=2
      DS 1: ipaddr=10.10.11.4 ifaddr=10.10.11.4 iftype=ipv4Numbered MRU=1496
          label[1]=131060 protocol=4(RSVP-TE)
          label[2]=131070 protocol=3(LDP)
          label[3]=131070 protocol=2(BGP)
          fecchange[1]=PUSH fectype=RSVP IPv4 prefix=10.20.1.4 remotepeer=10.10.11.4
2  10.20.1.4  rtt=4.17ms rc=3(EgressRtr) rsc=3
2  10.20.1.4  rtt=4.50ms rc=8(DSRtrMatchLabel) rsc=2
      DS 1: ipaddr=10.10.6.5 ifaddr=10.10.6.5 iftype=ipv4Numbered MRU=1500
            label[1]=131071 protocol=3(LDP)
            label[2]=131070 protocol=2(BGP)
3  10.20.1.5  rtt=7.78ms rc=3(EgressRtr) rsc=2
3  10.20.1.5  rtt=6.80ms rc=3(EgressRtr) rsc=1 *A:Dut-B#

B          C           D         E         F
o -------- o --------- o ---3--- o ---3--- o
|            \_______/           | \_____/
|              RSVP              |
|\_____________________________/|
|               LDP              |
 \_____________________________/
                BGP

Testing with DDMAP TLV LDP FEC of Node F when stitched to a BGP Label Route
```


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```
-------------------------------------------------------------------------------

*A:Dut-B# oam lsp-trace prefix 10.20.1.6/32 bgp-label downstream-map-
tlv ddmap detail lsp-trace to 10.20.1.6/32: 0 hops min, 0 hops max, 124 byte packets
1  10.20.1.3  rtt=3.21ms rc=15(LabelSwitchedWithFecChange) rsc=2
      DS 1: ipaddr=10.10.11.4 ifaddr=10.10.11.4 iftype=ipv4Numbered MRU=1496
          label[1]=131060 protocol=4(RSVP-TE)
          label[2]=131070 protocol=3(LDP)
          label[3]=131060 protocol=2(BGP)
          fecchange[1]=PUSH fectype=RSVP IPv4 prefix=10.20.1.4 remotepeer=10.10.11.4
2  10.20.1.4  rtt=5.50ms rc=3(EgressRtr) rsc=3
2  10.20.1.4  rtt=5.37ms rc=8(DSRtrMatchLabel) rsc=2
      DS 1: ipaddr=10.10.6.5 ifaddr=10.10.6.5 iftype=ipv4Numbered MRU=1500
          label[1]=131071 protocol=3(LDP)
          label[2]=131060 protocol=2(BGP)
3  10.20.1.5  rtt=7.82ms rc=3(EgressRtr) rsc=2
3  10.20.1.5  rtt=6.11ms rc=15(LabelSwitchedWithFecChange) rsc=1
      DS 1: ipaddr=10.10.10.6 ifaddr=10.10.10.6 iftype=ipv4Numbered MRU=1500
          label[1]=131071 protocol=3(LDP)
          fecchange[1]=POP  fectype=BGP IPv4 prefix=10.20.1.6 remotepeer=0.0.0.0
(Unknown)
          fecchange[2]=PUSH fectype=LDP IPv4 prefix=10.20.1.6 remotepeer=10.10.10.6
4  10.20.1.6  rtt=10.2ms rc=3(EgressRtr) rsc=1 *A:Dut-B#
```

30.70 mpls-fwd-policy

mpls-fwd-policy

Syntax

[**no**] **mpls-fwd-policy**

Context

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter mpls-fwd-policy)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter mpls-fwd-policy)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter mpls-fwd-policy)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter mpls-fwd-policy)

Full Context

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter mpls-fwd-policy

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter mpls-fwd-policy

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter mpls-fwd-policy

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter mpls-fwd-policy

Description

This command selects the MPLS forwarding policy type.

The **mpls-fwd-policy** value instructs BGP to use the MPLS forwarding policy to determine the address of the BGP next hop.

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The **no** form of this command removes the selected the MPLS forwarding policy type.

Default

no mpls-fwd-policy

Platforms

All

mpls-fwd-policy

Syntax

[**no**] **mpls-fwd-policy**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter mpls-fwd-policy)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter mpls-fwd-policy

Description

This command enables the use of the MPLS forwarding policy to resolve the indirect next hops of statically-configured routes.

Default

no mpls-fwd-policy

Platforms

All

mpls-fwd-policy

Syntax

[**no**] **mpls-fwd-policy**

Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter mpls-fwd-policy)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter mpls-fwd-policy)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter mpls-fwd-policy

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configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter mpls-fwd-policy

Description

This command selects MPLS forwarding policy to be used for next-hop resolution.

Platforms

All

mpls-fwd-policy

Syntax

mpls-fwd-policy

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter mpls-fwd-policy)

Full Context

configure service vprn auto-bind-tunnel resolution-filter mpls-fwd-policy

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

30.71 mpls-label

mpls-label

Syntax

mpls-label *value*

no mpls-label

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>seg-list>segment mpls-label)

Full Context

configure router segment-routing sr-policies static-policy segment-list segment mpls-label

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Description

This command configures the MPLS label value this is associated with a segment.

The **no** form of this command removes the label value.

Default

no mpls-label

Parameters

value

Specifies the MPLS label value.

Values 0 to 1048575

Platforms

All

30.72 mpls-labels

mpls-labels

Syntax

mpls-labels

Context

[Tree] (config>router mpls-labels)

Full Context

configure router mpls-labels

Description

This command creates a context for the configuration of global parameters related to MPLS labels.

Platforms

All

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30.73 mpls-time-stamp-format

mpls-time-stamp-format

Syntax

mpls-time-stamp-format {**rfc4379** | **unix**}

Context

[Tree] (config>test-oam mpls-time-stamp-format)

Full Context

configure test-oam mpls-time-stamp-format

Description

This command configures the format of the timestamp used by for lsp-ping, lsp-trace, p2mp-lsp-ping and p2mp-lsp-trace, vccv-ping, vccv-trace, and lsp-trace.

If **rfc4379** is selected, then the timestamp is in seconds and microseconds since 1900, otherwise it is in seconds and microseconds since 1970.

Changing this system-wide setting does not affect tests that are currently in progress, but SAAs starts to use the new timestamp when they are restarted. When an SR OS receives an echo request, it replies with the locally configured timestamp format, and does not try to match the timestamp format of the incoming echo request message.

Default

mpls-time-stamp-format unix

Parameters

rfc4379

Specifies the RFC 4379 (obsoleted by RFC 8029) time stamp format. The timestamp's **seconds** field holds the integral number of seconds since 1-Jan-1900 00:00:00 UTC. The timestamp's **microseconds** field contains a microseconds value in the range 0 to 999999. This setting is used to inter-operate with network elements which are fully compliant with RFC 4379, *Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures*, (such as an SR OS system with the same setting, or any other RFC 4379 compliant router).

unix

Specifies the Unix time stamp format. The time stamps **seconds** field holds a Unix time, the integral number of seconds since 1-Jan-1970 00:00:00 UTC. The time stamps **microseconds** field contains a microseconds value in the range 0 to 999999. This setting is used to inter-operate with network elements which send and expect a 1970-based timestamp in MPLS Echo Request/Reply PDUs (such as an SR OS system with the same setting, or an SR OS system running software earlier than R8.0 R4).

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Platforms

All

30.74 mpls-tp

mpls-tp

Syntax

[**no**] **mpls-tp**

Context

[Tree] (config>router>mpls mpls-tp)

Full Context

configure router mpls mpls-tp

Description

Generic MPLS-TP parameters and MPLS-TP transit paths are configured under this context. If a user configures **no mpls**, normally the entire mpls configuration is deleted. However, in the case of mpls-tp, a check is made that there is no other mpls-tp configuration (e.g., services or LSPs using mpls-tp on the node). The mpls-tp context cannot be deleted if MPLS-TP LSPs or SDPs exist on the system.

A **shutdown** of mpls-tp will bring down all MPLS-TP LSPs on the system.

Default

no mpls-tp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.75 mpls-tp-mep

mpls-tp-mep

Syntax

[**no**] **mpls-tp-mep**

Context

[Tree] (config>router>mpls>interface mpls-tp-mep)

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Full Context
configure router mpls interface mpls-tp-mep

Description
Commands in this context configure a section layer MEP for MPLS-TP on an MPLS interface.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.76 mpls-tp-static

mpls-tp-static

Syntax
mpls-tp-static

Context
[Tree] (config>oam-pm>session>mpls>lsp mpls-tp-static)

Full Context
configure oam-pm session mpls lsp mpls-tp-static

Description
Commands in this context configure an MPLS TP LSP and its attributes to be tested.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.77 mrib

mrib

Syntax
mrib [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

no mrib

Context
[Tree] (debug>router>pim mrib)

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Full Context

debug router pim mrib

Description

This command enables debugging for PIM MRIB.

The **no** form of this command disables debugging for PIM MRIB.

Parameters

grp-ip-address

Debugs information associated with the specified PIM MRIB.

Values multicast group address (ipv4, ipv6)

ip-address

Debugs information associated with the specified PIM MRIB.

Values source address (ipv4, ipv6)

detail

Debugs detailed MRIB information.

Platforms

All

30.78 mrinfo

mrinfo

Syntax

mrinfo {*ip-address* | *dns-name*} [**router** *router-instance* | **service-name** *service-name*]

Context

[Tree] (mrinfo)

Full Context

mrinfo

Description

This command is used to print relevant multicast information from the target multicast router. Information displayed includes adjacency information, protocol, metrics, thresholds, and flags from the target multicast route.

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Parameters

ip-address

Specifies the IP address of the multicast-capable target router.

Values ipv4 unicast address (a.b.c.d)

dns-name

Specifies the DNS name (if DNS name resolution is configured), up to 63 characters.

router-instance

Specifies the router name or service ID for the router instance.

Values *router-name*: Base

vprn-service-id: 1 to 2147483647

Default Base

service-name

Specifies the service name, up to 64 characters.

Platforms

All

Output

The following output is an example of mrinfo information. The output fields are described in the following table.

Output Example

```
A:dut-f# mrinfo 10.1.1.2

10.1.1.2  [version 3.0,prune,genid,mtrace]:
  10.1.1.2 -> 10.1.1.1 [1/0/pim]
  10.1.1.3 -> 0.0.0.0 [1/0/pim/down/disabled]
  10.1.1.4 -> 0.0.0.0 [1/0/pim/querier/leaf]
  239.200.200.3 -> 239.200.200.5 [1/0/tunnel/pim]...
```

Table 86: Mrinfo Output Fields

Label	Description
General flags	
version	Indicates software version on queried router
prune	Indicates that router understands pruning
genid	Indicates that router sends generation IDs
mtrace	Indicates that the router handles mtrace requests
Neighbors flags	

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Label	Description
1	Metric
0	Threshold (multicast time-to-live)
pim	PIM enabled on interface
down	Operational status of interface
disabled	Administrative status of interface
leaf	No downstream neighbors on interface
querier	Interface is IGMP querier
tunnel	Neighbor reached via tunnel

30.79 mrouter-dest

mrouter-dest

Syntax

[**no**] **mrouter-dest** *mac-name*

Context

[Tree] (config>service>vpls>pbb>bvpls>igmp-snooping mrouter-dest)

[Tree] (config>service>vpls>pbb>bvpls>mld-snooping mrouter-dest)

Full Context

configure service vpls pbb backbone-vpls igmp-snooping mrouter-dest

configure service vpls pbb backbone-vpls mld-snooping mrouter-dest

Description

This command configures the destination B-MAC address name to be used in the related backbone VPLS to reach a specific IGMP or MLD snooping MRouter. The name is associated at system level with the MAC address, using the command **config>service>pbb mac-name**.

Parameters

mac-name

Specifies the MAC name.

Values 32 chars max

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Platforms

All

30.80 mrouter-port

mrouter-port

Syntax

[**no**] **mrouter-port**

Context

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping mrouter-port)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping mrouter-port)

[Tree] (config>service>vpls>sap>igmp-snooping mrouter-port)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping mrouter-port)

[Tree] (config>service>vpls>bind>mld-snooping mrouter-port)

[Tree] (config>service>vpls>bind>igmp-snooping mrouter-port)

Full Context

configure service vpls spoke-sdp igmp-snooping mrouter-port

configure service vpls spoke-sdp mld-snooping mrouter-port

configure service vpls sap igmp-snooping mrouter-port

configure service vpls mesh-sdp igmp-snooping mrouter-port

configure service vpls allow-ip-int-bind mld-snooping mrouter-port

configure service vpls allow-ip-int-bind igmp-snooping mrouter-port

Description

This command specifies whether a multicast router is attached behind this SAP, SDP, or routed VPLS IP interface.

Configuring these objects as an mrouter-port will have a double effect. Firstly, all multicast traffic received on another SAP, SDP, or routed VPLS IP interface will be copied to this SAP, SDP, or routed VPLS IP interface. Secondly, IGMP/MLD reports generated by the system as a result of a router joining or leaving a multicast group, will be sent to this SAP, SDP, or routed VPLS IP interface.

If two multicast routers exist in the network, one of them will become the active querier. While the other multicast router (non-querier) stops sending IGMP queries, it should still receive reports to keep its multicast trees up-to-date. To support this, the mrouter-port should be enabled on all SAPs, SDPs, or routed VPLS IP interfaces connecting to a multicast router.

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Note:
The IGMP version to be used for the reports (v1, v2, or v3) can only be determined after an initial query has been received. Until such time, no reports are sent on the SAP, spoke-SDP, or routed VPLS IP interface, even if **mrouter-port** is enabled.

If the **send-queries** command is enabled on this SAP or spoke-SDP, the **mrouter-port** parameter cannot be set.

When PIM-snooping is enabled within a VPLS service, all IP multicast traffic and PIM messages will be sent to any SAP or SDP binding configured with an IGMP-snooping mrouter port. This occurs even without IGMP-snooping enabled, but is not supported in a BGP-VPLS or M-VPLS service.

The **no** form of this command reverts to the default.

Default

no mrouter-port

Platforms

All

mrouter-port

Syntax

[**no**] **mrouter-port**

Context

[Tree] (config>service>vpls>vxlan>igmp-snooping mrouter-port)

Full Context

configure service vpls vxlan igmp-snooping mrouter-port

Description

This command enables all VXLAN binds to be mrouter ports, indicating that a multicast router is attached behind each VXLAN binding. Configuring these objects as an **mrouter-port** has two effects. Firstly, all multicast traffic received on another object is copied to each VXLAN binding. Secondly, IGMP reports generated by the system as a result of a router joining or leaving a multicast group is sent to all VXLAN bindings. When PIM snooping for IPv4 is enabled within a VPLS service, all IP multicast traffic and PIM for IPv4 messages are sent to all VXLAN bindings configured with an **igmp-snooping mrouter-port**. This occurs even without **igmp-snooping** enabled.

Default

no mrouter-port

Platforms

All

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mrouter-port

Syntax

[**no**] **mrouter-port**

Context

[Tree] (config>service>vpls>vxlan>mld-snooping mrouter-port)

Full Context

configure service vpls vxlan mld-snooping mrouter-port

Description

This command enables all VXLAN binds to be mrouter ports, indicating that a multicast router is attached behind each VXLAN binding. Configuring these objects as an **mrouter-port** has two effects. Firstly, all multicast traffic received on another object is copied to each VXLAN binding. Secondly, MLD reports generated by the system as a result of a router joining or leaving a multicast group is sent to all VXLAN bindings.

Default

no mrouter-port

Platforms

All

mrouter-port

Syntax

[**no**] **mrouter-port**

Context

[Tree] (config>service>vpls>pbb>bvpls>sap>igmp-snooping mrouter-port)

[Tree] (config>service>vpls>pbb>bvpls>sap>mld-snooping mrouter-port)

[Tree] (config>service>vpls>pbb>bvpls>sdp>mld-snooping mrouter-port)

[Tree] (config>service>vpls>pbb>bvpls>sdp>igmp-snooping mrouter-port)

Full Context

configure service vpls pbb backbone-vpls sap igmp-snooping mrouter-port

configure service vpls pbb backbone-vpls sap mld-snooping mrouter-port

configure service vpls pbb backbone-vpls sdp mld-snooping mrouter-port

configure service vpls pbb backbone-vpls sdp igmp-snooping mrouter-port

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Description

This command specifies whether a multicast router is attached behind this SAP or spoke-SDP.

Configuring a SAP or spoke-SDP as an mrouter-port will have a double effect. Firstly, all multicast traffic received on another SAP or spoke-SDP will be copied to this SAP or spoke-SDP. Secondly, IGMP or MLD reports generated by the system as a result of someone joining or leaving a multicast group, will be sent to this SAP or SDP.

If two multicast routers exist in the local area network, one of them will become the active querier. The other multicast router (non-querier) stops sending IGMP or MLD queries, but it should still receive reports to keep its multicast trees up to date. To support this, the mrouter-port should be enabled on all SAPs or spoke-SDPs connecting to a multicast router.

The IGMP version to be used for the reports (v1, v2 or v3) or MLD version (v1 or v2) can only be determined after an initial query has been received. Until such time no reports are sent on the SAP, even if mrouter-port is enabled.

If the **send-queries** command is enabled on this SAP or spoke-SDP, the **mrouter-port** parameter cannot be set.

Default

no mrouter-port

Platforms

All

30.81 mrp

mrp

Syntax

mrp

Context

[Tree] (config>service>vpls mrp)

[Tree] (config>service>vpls>spoke-sdp mrp)

[Tree] (config>service>vpls>sap mrp)

[Tree] (config>service>vpls>mesh-sdp mrp)

Full Context

configure service vpls mrp

configure service vpls spoke-sdp mrp

configure service vpls sap mrp

configure service vpls mesh-sdp mrp

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Description

This command configures Multiple Registration Protocol (MRP) parameters. MRP is valid only under B-VPLS.

Platforms

All

mrp

Syntax

mrp

Context

[Tree] (config>service mrp)

Full Context

configure service mrp

Description

This command configures a Multi-service Route Processor (MRP).

Platforms

All

mrp

Syntax

[**no**] **mrp**

Context

[Tree] (debug>service>id mrp)

Full Context

debug service id mrp

Description

This command enables and configures MRP debugging.

Platforms

All

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30.82 mrp-policy

mrp-policy

Syntax

mrp-policy *policy-name* [**create**]

no mrp-policy *policy-name*

Context

[Tree] (config>service>mrp mrp-policy)

Full Context

configure service mrp mrp-policy

Description

Commands in this context configure an MRP policy. The mrp-policy specifies either a forward or a drop action for the Group B-MAC attributes associated with the ISIDs specified in the match criteria. The mrp-policy can be applied to multiple BVPLS services as long as the scope of the policy is template.

Any changes made to the existing policy, using any of the sub-commands, will be applied immediately to all services where this policy is applied. For this reason, when many changes are required on a mrp-policy, Nokia recommends that the policy be copied to a work area. That work-in-progress policy can be modified until complete and then written over the original mrp-policy. Use the **config mrp-policy copy** command to maintain policies in this manner.

The **no** form of this command deletes the mrp-policy. An MRP policy cannot be deleted until it is removed from all the SAPs or SDPs where it is applied.

Default

no mrp-policy

Parameters

policy-name

Specifies the redirect policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

create

This keyword is required when first creating the configuration context. When the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

All

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mrp-policy

Syntax

mrp-policy *policy-name*

no mrp-policy

Context

[Tree] (config>service>vpls>spoke-sdp>mrp mrp-policy)

[Tree] (config>service>vpls>sap>mrp mrp-policy)

[Tree] (config>service>vpls>mesh-sdp>mrp mrp-policy)

Full Context

configure service vpls spoke-sdp mrp mrp-policy

configure service vpls sap mrp mrp-policy

configure service vpls mesh-sdp mrp mrp-policy

Description

This command instructs MMRP to use the mrp-policy specified in the command to control which Group B-MAC attributes will be declared and registered on the egress SAP/Mesh-SDP/Spoke-SDP. The Group B-MACs will be derived from the ISIDs using the procedure used in the PBB solution. The Group MAC is standard OUI with the last 24 bits being the ISID value. If the policy-name refers to a non-existing mrp-policy the command should return error. Changes to a mrp-policy are allowed and applied to the SAP/SDPs under which the policy is referenced.

Default

no mrp-policy

Parameters

policy-name

Specifies the redirect policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

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30.83 mrpdu

mrpdu

Syntax

[**no**] **mrpdu**

Context

[Tree] (debug>service>id>mrp mrpdu)

Full Context

debug service id mrp mrpdu

Description

This command enables debugging of the MRP PDUs that are received or transmitted.

The **no** form of this command disables debugging of MRP PDUs.

Platforms

All

30.84 mru

mru

Syntax

mru *mru-bytes*

no mru

Context

[Tree] (config>subscr-mgmt>pppoe-client-policy mru)

Full Context

configure subscriber-mgmt pppoe-client-policy mru

Description

This command defines which Maximum Receive Unit (MRU) value is signaled by the PPPoE client.

The **no** form of this command reverts to the default.

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Default

mru 1492

Parameters

mru-bytes

Specifies the MRU value in octets.

Values 512 to 9154

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.85 mru-mismatch-detection

mru-mismatch-detection

Syntax

mru-mismatch-detection

no mru-mismatch-detection

Context

[Tree] (config>router>isis mru-mismatch-detection)

[Tree] (config>service>vprn>isis mru-mismatch-detection)

Full Context

configure router isis mru-mismatch-detection

configure service vprn isis mru-mismatch-detection

Description

This command verifies that the received IS-IS Hello (IIH) packet size does not exceed the maximum configured port MTU size. The received IIH packet is dropped when its size exceeds the maximum port MTU size.

By default, FP-based hardware does not send IS-IS packets larger than the configured port MTU size, but can accept IS-IS packets larger than the configured port MTU size.

The **no** form of this command allows the IS-IS router instance not to drop oversized received IIH packets.

Default

no mru-mismatch-detection

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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30.86 msap

msap

Syntax

[**no**] **msap** *msap-id*

Context

[Tree] (debug>service>id>ppp msap)

Full Context

debug service id ppp msap

Description

This command enable PPP debug for the specified managed SAP.

Multiple msap filters could be specified in the same debug command.

The **no** form of this command disables debugging.

Parameters

msap-id

Specifies the managed SAP ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.87 msap-defaults

msap-defaults

Syntax

msap-default

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host msap-defaults)

[Tree] (config>service>vpls>sap msap-defaults)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host msap-defaults)

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Full Context

configure subscriber-mgmt local-user-db ppp host msap-defaults

configure service vpls sap msap-defaults

configure subscriber-mgmt local-user-db ipoe host msap-defaults

Description

This command configures MSAP authentication defaults.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt local-user-db ipoe host msap-defaults
- configure subscriber-mgmt local-user-db ppp host msap-defaults

All

- configure service vpls sap msap-defaults

30.88 msap-policy

msap-policy

Syntax

msap-policy *msap-policy-name* [**create**]

no msap-policy *msap-policy-name*

Context

[Tree] (config>subscr-mgmt msap-policy)

Full Context

configure subscriber-mgmt msap-policy

Description

This command configures a managed SAP policy. Managed SAPs allow the use of policies and a SAP template for the creation of a SAP.

The **no** form of this command removes the MSAP policy from the configuration.

Parameters

msap-policy-name

Specifies the managed SAP policy name, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

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create

Keyword used to create the managed SAP policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.89 msdp

msdp

Syntax

[**no**] **msdp**

Context

[Tree] (config>service>vprn msdp)

Full Context

configure service vprn msdp

Description

This command enables a Multicast Source Discovery Protocol (MSDP) instance. When an MSDP instance is created, the protocol is enabled. To start or suspend execution of the MSDP protocol without affecting the configuration, use the [**no**] **shutdown** command.

For the MSDP protocol to function, at least one peer must be configured.

When MSDP is configured and started, an appropriate event message should be generated.

When the **no** form of this command is executed, all sessions must be terminated and an appropriate event message should be generated.

When all peering sessions are terminated, an event message per peer is not required.

The **no** form of this command deletes the MSDP protocol instance, removing all associated configuration parameters.

Default

no msdp

Platforms

All

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msdp

Syntax

[**no**] **msdp**

Context

[Tree] (debug>router msdp)

Full Context

debug router msdp

Description

This command enables debugging for MSDP.

The **no** form of this command disables MSDP debugging.

Platforms

All

msdp

Syntax

[**no**] **msdp**

Context

[Tree] (config>router msdp)

Full Context

configure router msdp

Description

This command enables a Multicast Source Discovery Protocol (MSDP) instance. When an MSDP instance is created, the protocol is enabled. To start or suspend execution of the MSDP protocol without affecting the configuration, use the **configure router msdp shutdown** command.

For the MSDP protocol to function, at least one peer must be configured.

When MSDP is configured and started, an appropriate event message should be generated.

When all peering sessions are terminated, an event message per peer is not required.

The **no** form of this command deletes the MSDP protocol instance, removing all associated configuration parameters. When the MSDP protocol instance is deleted, all sessions must be terminated and an appropriate event message should be generated.

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Default

no msdp

Platforms

All

30.90 msg

msg

Syntax

[**no**] **msg**

Context

[Tree] (debug>router>pim msg)

Full Context

debug router pim msg

Description

This command enables debugging for PIM messaging.

The **no** form of this command disables debugging for PIM messaging.

Platforms

All

msg

Syntax

msg [**detail**]

no msg

Context

[Tree] (debug>router>pcep>pcc msg)

[Tree] (debug>router>pcep>pcc>conn msg)

Full Context

debug router pcep pcc msg

debug router pcep pcc connection msg

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Description

This command enables debugging for PCC or connection messaging events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCC or connection messaging events.

Platforms

All

msg

Syntax

msg [**detail**]

no msg

Context

[Tree] (debug>router>pcep>pce msg)

[Tree] (debug>router>pcep>pce>conn msg)

Full Context

debug router pcep pce msg

debug router pcep pce connection msg

Description

This command enables debugging for PCE or connection messaging events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCE or connection messaging events.

Platforms

VSR-NRC

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30.91 msg-pacing

msg-pacing

Syntax

[**no**] **msg-pacing**

Context

[Tree] (config>router>rsvp msg-pacing)

Full Context

configure router rsvp msg-pacing

Description

This command enables RSVP message pacing in which the specified number of RSVP messages, specified in the **max-burst** command, are sent in a configured interval, specified in the **period** command. A count is kept of the messages that were dropped because the output queue for the interface used for message pacing was full.

Default

no msg-pacing

Platforms

All

30.92 msisdn

msisdn

Syntax

[**no**] **msisdn**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute msisdn)

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute msisdn)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute msisdn

configure subscriber-mgmt authentication-policy include-radius-attribute msisdn

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Description

This command enables the inclusion of the MSISDN in AAA protocols as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.93 mss-adjust-group

mss-adjust-group

Syntax

mss-adjust-group *bb-group-id* **segment-size** *segment-size*

no mss-adjust-group

Context

[Tree] (config>router mss-adjust-group)

[Tree] (config>service>vprn mss-adjust-group)

Full Context

configure router mss-adjust-group

configure service vprn mss-adjust-group

Description

This command associates the MSS adjust group consisting of multiple ISAs with the routing context in which the application requiring TCP MSS adjust resides.

Parameters

bb-group-id

Specifies the group used for TCP MSS adjust

segment-size

Specifies the value to put into the TCP Maximum Segment Size (MSS) option if it is not already present, or if the present value is higher

Values 160 to 10240

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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30.94 mst-instance

mst-instance

Syntax

mst-instance *mst-inst-number*

Context

[Tree] (config>service>vpls>sap>stp mst-instance)

Full Context

configure service vpls sap stp mst-instance

Description

Commands in this context configure MSTI related parameters at SAP level. This context can be open only for existing mst-instances defined at the service level (see **config**>**service**>**vpls**>**stp mst-instance**).

Parameters

mst-inst-number

Specifies an existing Multiple Spanning Tree Instance number.

Values 1 to 4094

Platforms

All

mst-instance

Syntax

mst-instance *mst-inst-number* [**create**]

no mst-instance [*mst-inst-number*]

Context

[Tree] (config>service>vpls>stp mst-instance)

Full Context

configure service vpls stp mst-instance

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Description

This command creates the context to configure MST instance (MSTI) related parameters. Up to 16 instances will be supported by MSTP. The instance 0 is mandatory by protocol and therefore, it cannot be created by the CLI. The software will maintain this instance automatically.

Parameters

mst-inst-number

Specifies the Multiple Spanning Tree instance

Values 1 to 4094

Platforms

All

30.95 mst-max-hops

mst-max-hops

Syntax

mst-max-hops *hops-count*

no mst-max-hops

Context

[Tree] (config>service>vpls>stp mst-max-hops)

Full Context

configure service vpls stp mst-max-hops

Description

This command specifies the number of hops in the region before BPDU is discarded and the information held for the port is aged out. The root bridge of the instance sends a BPDU (or M-record) with remaining-hop-count set to configured <*max-hops*>. When a bridge receives the BPDU (or M-record), it decrements the received remaining-hop-count by 1 and propagates it in BPDU (or M-record) it generates.

The **no** form of this command sets the *hops-count* to its default value.

Default

mst-max-hops 20

Parameters

hops-count

Specifies the maximum number of hops.

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Values 1 to 40

Platforms

All

30.96 mst-name

mst-name

Syntax

mst-name *region-name*

no mst-name

Context

[Tree] (config>service>vpls>stp mst-name)

Full Context

configure service vpls stp mst-name

Description

This command defines an MST region name. Two bridges are considered as a part of the same MST region as soon as their configuration of the MST region name, the MST-revision and VLAN-to-instance assignment is identical.

The **no** form of this command removes *region-name* from the configuration.

Default

no mst-name

Parameters

region-name

Specifies an MST-region name up to 32 characters in length.

Platforms

All

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30.97 mst-path-cost

mst-path-cost

Syntax

mst-path-cost *inst-path-cost*

no mst-path-cost

Context

[Tree] (config>service>vpls>sap>stp>mst-instance mst-path-cost)

Full Context

configure service vpls sap stp mst-instance mst-path-cost

Description

This commands specifies path-cost within a specified instance, expressing probability that a specified port will be put into the forwarding state in case a loop occurs (the highest value expresses lowest priority).

The **no** form of this command sets port-priority to its default value.

Default

The path-cost is proportional to link speed.

Parameters

inst-path-cost

Specifies the contribution of this port to the MSTI path cost of paths toward the spanning tree regional root that include this port.

Values 1 to 200000000

Platforms

All

30.98 mst-port-priority

mst-port-priority

Syntax

mst-port-priority *stp-priority*

no mst-port-priority

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Context

[Tree] (config>service>vpls>sap>stp>mst-instance mst-port-priority)

Full Context

configure service vpls sap stp mst-instance mst-port-priority

Description

This commands specifies the port priority within a specified instance, expressing probability that a specified port will be put into the forwarding state if a loop occurs.

The **no** form of this command sets port-priority to its default value.

Default

mst-port-priority 128

Parameters

stp-priority

Specifies the value of the port priority field.

Platforms

All

30.99 mst-priority

mst-priority

Syntax

mst-priority *bridge-priority*

no mst-priority

Context

[Tree] (config>service>vpls>stp>mst-instance mst-priority)

Full Context

configure service vpls stp mst-instance mst-priority

Description

This command specifies the bridge priority for this specific Multiple Spanning Tree Instance for this service. The *bridge-priority* value reflects likelihood that the switch will be chosen as the regional root switch (65535 represents the least likely). It is used as the highest 4 bits of the Bridge ID included in the MSTP BPDUs generated by this bridge.

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The priority can only take on values that are multiples of 4096 (4k). If a value is specified that is not a multiple of 4K, then the value will be replaced by the closest multiple of 4K, which is lower than the value entered.

All instances created by the **configure service vpls stp mst-instance vlan-range** command and not having explicit definition of bridge-priority inherit the default value.

The **no** form of this command sets the bridge-priority to its default value.

Default

mst-priority 32768

Parameters

bridge-priority

Specifies the priority of this specific Multiple Spanning Tree Instance for this service.

Values 0 to 65535

Platforms

All

30.100 mst-revision

mst-revision

Syntax

mst-revision *revision-number*

no mst-revision

Context

[Tree] (config>service>vpls>stp mst-revision)

Full Context

configure service vpls stp mst-revision

Description

This command defines the MST configuration revision number. Two bridges are considered as a part of the same MST region as soon as their configuration of MST-region name, MST-revision and VLAN-to-instance assignment is identical.

The **no** form of this command returns MST configuration revision to its default value.

Default

mst-revision 0

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Parameters

revision-number

Specifies the MSTP region revision number to define the MSTP region.

Values 0 to 65535

Platforms

All

30.101 mstat

mstat

Syntax

mstat source [*ip-address* | *dns-name*] **group** {*ip-address* | *dns-name*} [**destination** *ip-address* | *dns-name*] [**hop** *hop*] [**router** *router-instance* | **service-name** *service-name*] [**wait-time** *wait-time*]

Context

[Tree] (mstat)

Full Context

mstat

Description

This command traces a multicast path from a source to a receiver and displays multicast packet rate and loss information.

Parameters

source ip-address

Specifies the ip-address of the multicast capable target router.

Values ipv4 address (a.b.c.d)

dns-name

Specifies the DNS name (if DNS name resolution is configured), up to 63 characters.

group *ip-address*

Specifies the multicast address or DNS name of the group that resolves to the multicast group address that will be used. If the group is not specified, address 224.2.0.1 (the MBone audio) is used. This will suffice if packet loss statistics for a particular multicast group are not needed.

destination *ip-address*

Specifies either the IP address or the DNS name of the unicast destination. If this parameter is omitted the IP address of the system where the command is entered will be

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used. The receiver parameter can also be used to specify a local interface address as the destination address for sending the trace query. The response is also returned to the address specified as the receiver.

hop

Specifies the maximum number of hops that will be traced from the receiver back toward the source.

Values 1 to 255

Default 32 hops (infinity for the DVMRP routing protocol)

router-instance

Specifies the router name or service ID used to identify the router instance.

Values

router-name: Base

service-id: 1 to 2147483647

Default Base

service-name

Specifies the service name up to 64 characters in length.

wait-time

Specifies the number of seconds to wait for the response.

Values 1 to 60

Platforms

All

Output

The following output is an example of mstat information. The output fields are described in the following table.

Output Example

```
  Source          Response Dest     Overall       Packet Statistics for Traffic From
10.10.16.9        10.20.1.6        Mcast Pkt       10.10.16.9 to 239.5.6.7
     |         __/  rtt   29 ms      Rate          Lost/Sent = Pct Rate
     v        /                     ---------       --------------------
10.10.16.3
10.10.2.3         ?
     |       ^      ttl   2          1pps             0/0   = --     0 pps
     v       |
10.10.2.1
10.10.1.1         ?
     |       ^      ttl   3          1pps             0/0   = --     0 pps
     v       |
10.10.1.2
10.10.4.2         ?             Reached RP/Core
     |       ^      ttl   4          1pps             0/0   = --     0 pps
     v       |
```


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```
10.10.4.4
10.10.6.4         ?
     |       ^      ttl   5          1pps             0/0   = --     0 pps
     v       |
10.10.6.5
10.10.10.5        ?
     |       \__    ttl   6          1pps             0/0   = --     0 pps
     v          \
10.10.10.6       10.20.1.6
Receiver         Query Source
```

Table 87: Mstat Output Fields

Label	Description
hop	The number of hops from the source to the listed router
router name	The number of the router for this hop or "?" when not reverse DNS translated
address	The address of the router for this hop
protocol	The protocol used
ttl	The forward TTL threshold. TTL that a packet is required to have before it is forwarded over the outgoing interface.
forwarding code	Forwarding information/error code for this hop

For each interface between two nodes a line is printed, following the same layout as other routers with an implementation derived from mrouted. Consider the following:

- The forwarding information/error code is only displayed when different from "No Error".
- "?" means there is no reverse DNS translation.
- There is no "Overall Mcast Pkt Rate" available in the PE for the VPRN case.

30.102 mstat2

mstat2

Syntax

mstat2 source [*ip-address* | *dns-name* | *starg*] **group** {*ip-address* | *dns-name*} [**destination** *ip-address* | *dns-name*] [**hop** *hop*] [**router** *router-instance* | **service-name** *vprn-service-name*] [**wait-time** *seconds*]

Context

[Tree] (mstat2)

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Full Context

mstat2

Description

This command traces a multicast path from a source to a receiver and displays multicast packet rate and loss information.

Parameters

source ip-address

Specifies the ip-address of the multicast capable target router.

Values ipv4-prefix:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

dns-name

Specifies the DNS name (if DNS name resolution is configured), up to 63 characters.

starg

Specifies a static (*,G) entry. This command can only be enabled if no existing source addresses for this source is specified.

group *ip-address*

Specifies the multicast address or DNS name of the group that resolves to the multicast group address that will be used. If the group is not specified, address 224.2.0.1 (the MBone audio) is used. This will suffice if packet loss statistics for a particular multicast group are not needed.

Values ipv4-prefix:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

destination *ip-address*

Specifies either the IP address or the DNS name of the unicast destination. If this parameter is omitted the IP address of the system where the command is entered will be used. The receiver parameter can also be used to specify a local interface address as the destination address for sending the trace query. The response is also returned to the address specified as the receiver.

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Values ipv4-prefix:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

hop

Specifies the maximum number of hops that are traced from the receiver back toward the source.

Values 1 to 255

Default 32

router-instance

Specifies the router name or service ID used to identify the router instance.

Values

router-name: Base

service-id: 1 to 2147483647

Default Base

vprn-service-name

Specifies the service name, up to 64 characters.

seconds

Specifies the number of seconds to wait for the response.

Values 1 to 60

Default 3

Platforms

All

Output

Table 88: Mstat2 Output Fields

Label	Description
hop	Number of hops from the source to the listed router.
router name	Name of the router for this hop or "?" when not reverse DNS translated.

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Label	Description
address	Address of the router for this hop.
protocol	Protocol used.
ttl	Forward TTL threshold. TTL that a packet is required to have before it will be forwarded over the outgoing interface.
forwarding code	Forwarding information/error code for this hop.

For each interface between two nodes a line is printed, following the same layout as other routers with an implementation derived from mrouted. Consider the following:

- The forwarding information/error code is only displayed when different from "No Error”.
- "?” means there is no reverse DNS translation.
- There is no "Overall Mcast Pkt Rate” available in the PE for the VPRN case.

Output Example

```
*A:Dut-A# mstat2 group 239.225.6.1 source 10.0.1.66
Mtrace2 from 150.0.1.66 via group 225.6.6.1 Querying full reverse path...
Waiting to accumulate statistics...Results after 10 seconds:
 Source        Response Dest    Overall     Packet Statistics For
Traffic From
10.0.1.66      10.0.0.1         Mcast Pkt    10.10.1.66 To 239.5.6.7
      |       __/  rtt 24.0ms     Rate       Lost/Sent = Pct  Rate
      v      /                     -------     ---------------------
10.0.1.6
10.0.1.6       ?
      |     ^      ttl    2        10 pps        0/100  =  0%   10 pps
      v     |
10.0.1.4
10.10.4.4       usilhc03-hb2.ndc.lucent.com Reached RP/Core
      |     ^      ttl    3        10 pps        0/100  =  0%   10 pps
      v     |
10.10.4.2
10.0.1.2       10.1.0.110.ap.yournet.ne.jp
      |      \__   ttl    4        10 pps        0/100  =  0%   10 pps
      v         \
10.0.1.1       10.0.0.1
   Receiver      Query Source

*A:Dut-A# mstat2  group ff05::225:6:6:1 source 3ffe::150:0:1:66
Mtrace2 from source
<S> = 3ffe::150:0:1:66
via group
<G> = ff05::225:6:6:1
Querying full reverse path...
Waiting to accumulate statistics...Results after 10 seconds:
Destination <D> = 3ffe::120:0:1:1
Response Destination <RD> = 3ffe::1
   Source        Response Dest    Overall     Packet Statistics For
Traffic From
<S>             <RD>             Mcast Pkt    Source <S> To Group <G>
      |       __/  rtt 23.0ms     Rate       Lost/Sent = Pct  Rate
      v      /                     -------     ---------------------
Remote Address ::
Incoming IF 4
```


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```
3ffe::6 ?
Outgoing IF 3
      |     ^      ttl    2        20 pps        0/100  =  0%   10 pps
      v     |
Remote Address fe80::a248:1ff:fe01:2
Incoming IF 2
3ffe::5 ? Reached RP/Core
Outgoing IF 3
      |     ^      ttl    3        20 pps        0/100  =  0%   10 pps
      v     |
Remote Address fe80::a246:1ff:fe01:1
Incoming IF 3
3ffe::3 ?
Outgoing IF 2
      |      \__   ttl    4        30 pps        0/100  =  0%   10 pps
      v         \
<D>              <RD>
   Receiver       Query Source
```

30.103 mt

mt

Syntax

mt {**ipv4-unicast** | **ipv4-multicast** | **ipv6-unicast** | **ipv6-multicast**}

no mt

Context

[Tree] (config>router>bier>template>sub-domain mt)

Full Context

configure router bier template sub-domain mt

Description

This command specifies the multi-topology for this sub-domain.

The **no** form of this command removes the multi-topology from this sub-domain.

Parameters

ipv4-unicast

Specifies that the sub-domain uses IPv4 unicast topology. IPv4 unicast imports routes into the unicast RTM.

ipv4-multicast

Specifies that the sub-domain uses IPv4 multicast topology. IPv4 multicast imports routes into the multicast RTM.

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ipv6-unicast

Specifies that the sub-domain uses IPv6 unicast topology. IPv6 unicast imports routes into the unicast RTM.

ipv6-multicast

Specifies that the sub-domain uses IPv6 multicast topology. IPv6 multicast imports routes into the multicast RTM.

Platforms

All

30.104 mtrace

mtrace

Syntax

mtrace source [*ip-address* | *dns-name*] **group** {*ip-address* | *dns-name*} [**destination** *ip-address* | *dns-name*] [**hop** *hop*] [**router** *router-instance* | **service-name** *service-name*] [**wait-time** *wait-time*]

Context

[Tree] (mtrace)

Full Context

mtrace

Description

This command traces a multicast path from a source to a receiver.

Parameters

source ip-address

Specifies the ip-address of the multicast capable target router.

Values ipv4 address (a.b.c.d)

dns-name

Specifies the DNS name (if DNS name resolution is configured). 63 characters maximum.

group *ip-address*

Specifies the multicast address or DNS name of the group that resolves to the multicast group address that will be used. If the group is not specified, address 224.2.0.1 (the MBone audio) will be used. This will suffice if packet loss statistics for a particular multicast group are not needed.

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destination *ip-address*

Specifies either the IP address or the DNS name of the unicast destination. If this parameter is omitted the IP address of the system where the command is entered will be used. The receiver parameter can also be used to specify a local interface address as the destination address for sending the trace query. The response will also be returned to the address specified as the receiver.

hop

Specifies the maximum number of hops that will be traced from the receiver back toward the source.

Values 1 to 255

Default 32 hops (infinity for the DVMRP routing protocol)

router-instance

Specifies the router name or service ID used the identify the router instance.

Values

router-name: "Base"

service-id: 1 to 2147483647

Default Base

service-name

Specifies the service name up, to 64 characters.

wait-time

Specifies the time, in seconds, to wait for the response.

Values 1 to 60

Platforms

All

Output

The following output is an example of mtrace information.

Output Example

```
A:Dut-F# mtrace source 10.10.16.9 group 239.5.6.7

Mtrace from 10.10.16.9 via group 239.5.6.7
Querying full reverse path...

 0 ? (10.10.10.6)
-1 ? (10.10.10.5) PIM thresh^ 1 No Error
-2 ? (10.10.6.4) PIM thresh^ 1 No Error
-3 ? (10.10.4.2) PIM thresh^ 1 Reached RP/Core
-4 ? (10.10.1.1) PIM thresh^ 1 No Error
-5 ? (10.10.2.3) PIM thresh^ 1 No Error
-6 ? (10.10.16.9)
```


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```
Round trip time 29 ms; total ttl of 5 required.
```

Table 89: Mtrace Output Fields

Label	Description
hop	The number of hops from the source to the listed router
router name	The name of the router for this hop. If a DNS name query is not successful a "?" displays.
address	The address of the router for this hop
protocol	The protocol used
ttl	The forward TTL threshold. TTL that a packet is required to have before it will be forwarded over the outgoing interface.
forwarding code	The forwarding information/error code for this hop

mtrace

Syntax

[**no**] **mtrace**

Context

[Tree] (debug>router mtrace)

Full Context

debug router mtrace

Description

This command configures debugging for mtrace.

Platforms

All

30.105 mtrace2

mtrace2

Syntax

mtrace2

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Context

[Tree] (config>router mtrace2)

[Tree] (config>service>vprn mtrace2)

Full Context

configure router mtrace2

configure service vprn mtrace2

Description

This command traces a multicast path from a source to a receiver.

Platforms

All

mtrace2

Syntax

mtrace2 source [*ip-address* | *dns-name* | *starg*] **group** {*ip-address* | *dns-name*} [**destination** *ip-address* | *dns-name*] [**hop** *hop-count*] [**router** *router-instance* | **service-name** *service-name*] [**wait-time** *wait-time*]

Context

[Tree] (mtrace2)

Full Context

mtrace2

Description

This command traces a multicast path from a source to a receiver.

Parameters

source ip-address

Specifies the IP address of the multicast capable target router.

Values ipv4-prefix:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

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dns-name

Specifies the DNS name (if DNS name resolution is configured), up to 63 characters.

starg

Specifies a static (*,G) entry. This command can only be enabled if no existing source addresses for this source is specified.

group *ip-address*

Specifies the multicast address or DNS name of the group that resolves to the multicast group address that is used. If the group is not specified, address 224.2.0.1 (the MBone audio) is used. This suffices if packet loss statistics for a particular multicast group are not needed.

Values ipv4-prefix:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

destination *ip-address*

Specifies either the IP address or the DNS name of the unicast destination. If this parameter is omitted, the IP address of the system where the command is entered is used. The receiver parameter can also be used to specify a local interface address as the destination address for sending the trace query. The response is returned to the address specified as the receiver.

Values ipv4-prefix:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

hop-count

Specifies the maximum number of hops that are traced from the receiver back toward the source.

Values 1 to 255

Default 32 hops (infinity for the DVMRP routing protocol)

router-instance

Specifies the router name or service ID used the identify the router instance.

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Values

router-name: "Base"

service-id: 1 to 2147483647

Default Base

service-name

Specifies the service name, up to 64 characters.

wait-time

Specifies the number of seconds to wait for the response.

Values 1 to 60

Platforms

All

mtrace2

Syntax

[**no**] **mtrace2**

Context

[Tree] (debug>router mtrace2)

Full Context

debug router mtrace2

Description

This command configures debugging for mtrace2.

Platforms

All

30.106 mtu

mtu

Syntax

mtu *mtu-bytes*

no mtu

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Context

[Tree] (config>service>vprn>l2tp>group>ppp mtu)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp mtu)

[Tree] (config>router>l2tp>group>ppp mtu)

[Tree] (config>router>l2tp>group>tunnel>ppp mtu)

Full Context

configure service vprn l2tp group ppp mtu

configure service vprn l2tp group tunnel ppp mtu

configure router l2tp group ppp mtu

configure router l2tp group tunnel ppp mtu

Description

This command configures the maximum PPP MTU size.

Default

mtu 1500

Parameters

mtu-bytes

Specifies, in bytes, the maximum PPP MTU size.

Values 512 to 9212

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mtu

Syntax

mtu *bytes*

no mtu

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 mtu)

[Tree] (config>router>router-advert>if mtu)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv mtu)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv mtu)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv mtu)

[Tree] (config>service>vprn>router-advert>if mtu)

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[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv mtu)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 mtu)

[Tree] (config>subscr-mgmt>rtr-adv-plcy mtu)

Full Context

configure service vprn subscriber-interface group-interface ipv6 mtu

configure router router-advertisement interface mtu

configure service vprn subscriber-interface group-interface ipv6 router-advertisements mtu

configure service ies subscriber-interface group-interface ipv6 router-advertisements mtu

configure service ies subscriber-interface ipv6 router-advertisements mtu

configure service vprn router-advertisement interface mtu

configure service vprn subscriber-interface ipv6 router-advertisements mtu

configure service ies subscriber-interface group-interface ipv6 mtu

configure subscriber-mgmt router-advertisement-policy mtu

Description

This command specifies the value to be placed in link MTU options sent by the router on this interface.

The **no** form of this command reverts to the default.

Default

no mtu — The MTU option is not sent in the router advertisement messages.

Parameters

bytes

Specifies the advertised MTU value in bytes for this interface.

Values 1280 to 9800 (for **config**>**router**>**router-advert**>**if** and **config**>**service**>**vprn**>**router-advert**>**if** contexts only)

1280 to 9212 (for **subscriber management** context, **ies** and **vprn service subscriber-interface** contexts)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 router-advertisements mtu
- configure service vprn subscriber-interface group-interface ipv6 mtu
- configure service vprn subscriber-interface ipv6 router-advertisements mtu
- configure service ies subscriber-interface group-interface ipv6 mtu
- configure service ies subscriber-interface group-interface ipv6 router-advertisements mtu
- configure subscriber-mgmt router-advertisement-policy mtu
- configure service ies subscriber-interface ipv6 router-advertisements mtu

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All

- configure service vprn router-advertisement interface mtu
- configure router router-advertisement interface mtu

mtu

Syntax

mtu *mtu-bytes*

no mtu

Context

[Tree] (config>subscr-mgmt>pppoe-client-policy mtu)

Full Context

configure subscriber-mgmt pppoe-client-policy mtu

Description

This command defines which Maximum Transmission Unit (MTU) is applied, by default, for packets egressing the PPP link. If a lower MRU is sent during PPP link establishment, the MRU value is used.

The **no** form of this command reverts to the default.

Default

mtu 1492

Parameters

mtu-bytes

Specifies the MTU value in octets.

Values 512 to 9154

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

mtu

Syntax

mtu *mtu-bytes*

no mtu

Context

[Tree] (config>port>tdm>e3 mtu)

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[Tree] (config>port>tdm>ds3 mtu)

[Tree] (config>port>ethernet mtu)

Full Context

configure port tdm e3 mtu

configure port tdm ds3 mtu

configure port ethernet mtu

Description

This command configures the maximum payload MTU size for an Ethernet port, PPP-enabled port or sub-port and Frame Relay-enabled port or subport. The Ethernet port level MTU parameter indirectly defines the largest physical packet the port can transmit or the far-end Ethernet port can receive. Packets that cannot be fragmented at egress and exceed the MTU are discarded.

The value specified for the MTU includes the destination MAC address, source MAC address, the Ethertype or Length field and the complete Ethernet payload. The MTU value does not include the preamble, start of frame delimiter or the trailing CRC.

PoS channels use the MTU to define the largest PPP payload a PoS frame may contain. A significant difference between SONET/SDH PoS channel and Ethernet physical MTU values the overhead considered part of the framing method and the overhead considered to be part of the application using the frame. In Ethernet, the preamble, start of frame delimiter and the CRC are considered part of the framing overhead and not part of the frame payload. For a PoS channel, the HDLC framing overhead is not included in the physical MTU; only the PPP and PPP payload are included. If the port mode or encapsulation type is changed, the MTU assumes the default values of the new mode or encapsulation type.

The **no** form of this command restores the default values.

Default

The default MTU value depends on the (sub-)port type, mode and encapsulation and are listed in Table 90: Default MTU Values:

Table 90: Default MTU Values

Type	Mode	Encap Type	Default (Bytes)
10/100, Gig, or 10GigE	Access	null	1514
10/100, Gig, or 10GigE	Access	dot1q	1518
10/100, Gig, or 10GigE	Access	q-in-q	1522
SONET/SDH or TDM	Access	mpls	1506
TDM	Access	bcp-null	1518
TDM	Access	bcp-dot1q	1522
TDM	Access	ipcp	1502
TDM	Access	frame-relay	1578

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Type	Mode	Encap Type	Default (Bytes)
TDM	Access	atm	1524
10/100 or 100FX Ethernet	Network	null	1514
10/100 or 100FX Ethernet	Network	dot1q	1518

Parameters

mtu-bytes

Sets the maximum allowable size of the MTU, expressed as an integer.

Values		
	512 to 9212	config>port>ethernet
	512 to 9800	config>port>ethernet (for FP4-based connector ports)
	512 to 9208	config>port>tdm>ds3
	512 to 9208	config>port>tdm>e3

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm e3 mtu
- configure port tdm ds3 mtu

All

- configure port ethernet mtu

mtu

Syntax

mtu *mtu-bytes*

no mtu

Context

[Tree] (config>service>vprn>ospf>area>if mtu)

[Tree] (config>service>vprn>ospf3>area>if mtu)

Full Context

configure service vprn ospf area interface mtu

configure service vprn ospf3 area interface mtu

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Description

This command configures the OSPF packet size used on this interface. If this parameter is not configured, OSPF derives the MTU value from the MTU configured (default or explicitly) in the following contexts:

config>port>ethernet, **config>port>sonet-sdh>path**, **config>port>tdm>t3-e3**, **config>port>tdm>t1-e1>channel-group**

If this parameter is configured, the smaller value between the value configured here and the MTU configured (default or explicitly) in an above-mentioned contexts is used.

To determine the actual packet size, add 14 bytes for an Ethernet packet and 18 bytes for a tagged Ethernet packet to the size of the OSPF (IP) packet MTU configured in this command.

The **no** form of this command reverts to default value derived from the MTU configured in the **config>port** context.

Default

no mtu

Parameters

mtu-bytes

Specifies the MTU to be used by OSPF for this logical interface, in bytes.

Values 512 to 9786

Platforms

All

mtu

Syntax

mtu *value*

no mtu

Context

[Tree] (config>service>vprn>nat>outside mtu)

Full Context

configure service vprn nat outside mtu

Description

This command configures the Maximum Transmission Unit (MTU) for downstream traffic flowing through this router (as outside NAT router). The system fragments IP datagrams exceeding the MTU.

The **no** form of the command reverts to the default.

Default

no mtu

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Parameters

value

Specifies the MTU for downstream traffic.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mtu

Syntax

mtu *mtu-size*

no mtu

Context

[Tree] (config>router>nat>outside mtu)

Full Context

configure router nat outside mtu

Description

This command configures the MTU for downstream traffic flowing through this router (as outside NAT router). The system fragments IP datagrams exceeding the MTU.

Default

no mtu

Parameters

mtu-size

Specifies the MTU for downstream traffic.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mtu

Syntax

mtu *mtu*

no mtu

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Context

[Tree] (config>service>ipfix>export-policy>collector mtu)

Full Context

configure service ipfix ipfix-export-policy collector mtu

Description

This command sets the MTU size of the UDP packet containing IPFIX records destined for the collector node. Multiple records will be stuffed into a single IP packet until stuffing an additional data record would exceed MTU or the internal timer of 250 ms expires.

Default

mtu 1500

Parameters

mtu

Specifies the Maximum Transmission Unit range.

Values 512 to 9212

Platforms

All

mtu

Syntax

mtu *mtu-size*

Context

[Tree] (config>service>nat>syslog>syslog-export-policy mtu)

Full Context

configure service nat syslog syslog-export-policy mtu

Description

The command defines the MTU, the maximum size of the IP frame that can be transmitted. The size of the frame includes the syslog message and the IP header. This is an IP-MTU value.

When aggregation is enabled (the **max-tx-delay** command), generation of a syslog frame carrying multiple flow logs is triggered by one of the two events (whichever occurs first):

- Expiry of the max-tx-delay timer
- Exceeding MTU size

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Default

mtu 1500

Parameters

mtu-size

Specifies the MTU size in bytes.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mtu

Syntax

mtu *mtu-size*

no mtu

Context

[Tree] (config>service>nat>map-domain mtu)

Full Context

configure service nat map-domain mtu

Description

This command configures the IPv6 MTU in a MAP domain. The configured MTU applies to traffic in the downstream direction, towards the CE. The configured MTU value must be lower than the MTU of the outgoing port for the traffic, which includes L2 overhead.

Default

mtu 8686

Parameters

mtu-size

Specifies the IPMTU size of the translated IPv6 packet.

Values 160 to 8686

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

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mtu

Syntax

mtu *bytes*

no mtu

Context

[Tree] (config>router>ospf>area>interface mtu)

[Tree] (config>router>ospf3>area>interface mtu)

Full Context

configure router ospf area interface mtu

configure router ospf3 area interface mtu

Description

This command configures the OSPF packet size used on this interface. If this parameter is not configured OSPF derives the MTU value from the MTU configured (default or explicitly) in the following contexts:

- **config>port>ethernet**
- **config>port>sonet-sdh>path**
- **config>port>tdm>t3-e3**
- **config>port>tdm>t1-e1>channel-group**

If this parameter is configured, the smaller value between the value configured here and the MTU configured (default or explicitly) in an above-mentioned context is used.

To determine the actual packet size, add 14 bytes for an Ethernet packet and 18 bytes for a tagged Ethernet packet to the size of the OSPF (IP) packet MTU configured in this command.

The **no** form of this command reverts to the default derived from the MTU configured in the **config>port** context.

Default

no mtu

Parameters

bytes

Specifies the MTU to be used by OSPF for this logical interface in bytes.

Values 512 to 9786 in the **config**>**router**>**ospf**>**area**>**interface** context.

1280 to 9786 in the **config**>**router**>**ospf3**>**area**>**interface** context.

Platforms

All

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mtu

Syntax

mtu *mtu-size*

no mtu

Context

[Tree] (config>fwd-path-ext>fpe>srv6>interface-b mtu)

Full Context

configure fwd-path-ext fpe srv6 interface-b mtu

Description

This command configures the Maximum Transfer Unit (MTU) of interface-b of the SRv6 originating FPE.

The MTU is used to check if an IPv4 service packet should be fragmented and if an IPv6 service packet should be dropped when tunneled over SRv6.

The minimum value is the IPv6 minimum MTU value. The maximum value is set to the FP4 or FP5 maximum Ethernet port MTU of 9800 minus 14 bytes for Null Ethernet encapsulation.

The **no** form of this command reverts to the default value.

Default

mtu 9786

Parameters

mtu-size

Specifies the MTU size, in bytes.

Values 1280 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

mtu

Syntax

mtu *mtu-size*

no mtu

Context

[Tree] (config>aaa>isa-radius-plcy>servers>ipv6 mtu)

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Full Context

configure aaa isa-radius-policy servers ipv6 mtu

Description

This command configures the MTU used to fragment outgoing IPv6 RADIUS packets.

The **no** form of this command configures the router to use the default value.

Default

mtu 9000

Parameters

mtu-size

Specifies the MTU size, in bytes.

Values 1280 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

mtu

Syntax

mtu *mtu-size*

no mtu

Context

[Tree] (config>service>vpls>sap>pppoe>intermediate-agent mtu)

Full Context

configure service vpls sap pppoe intermediate-agent mtu

Description

This command sets the MTU for the PPPoE packet after processing by the PPPoE Intermediate Agent. The packet is dropped and a PADO or PADS response is generated containing a Generic-Error tag if the packet size exceeds the configured MTU.

The **no** form of this command configures the router to use the SAP operational MTU.

Default

no mtu

Parameters

mtu-size

Specifies the MTU size, in bytes.

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Values 0 | 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.107 mtu-over-head

mtu-over-head

Syntax

mtu-over-head *mtu-value*

no mtu-over-head

Context

[Tree] (config>service>vprn>pim mtu-over-head)

Full Context

configure service vprn pim mtu-over-head

Description

This commands subtracts the specified value from the MVPN MTU to allow a BIER header to be added without exceeding the network MTU.

Default

no mtu-over-head

Parameters

mtu-value

Specifies the value subtracted from the MVPN MTU.

Values 44, 76, 140, 268, 536

Platforms

All

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30.108 multi-access

multi-access

Syntax

[**no**] **multi-access**

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>access multi-access)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>access multi-access)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access multi-access

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access multi-access

Description

This command enables access from multiple APs into a per-tenant BD and the associated vRGW (BRG) instance.

The **no** form of this command disables access from multiple APs and limits access from a single AP into per tenant bridge domain (BD) and the associated vRGW (BRG) instance.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.109 multi-active

multi-active

Syntax

[**no**] **multi-active**

Context

[Tree] (config>isa>tunnel-grp multi-active)

Full Context

configure isa tunnel-group multi-active

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Description

This command enables configuring multiple active MS-ISA in the tunnel-group. IPsec traffic will be load balanced to configured active MS-ISAs.

Operational notes:

- A shutdown of group and removal of all existing configured tunnels of the tunnel-group are needed before provisioning command "multi-active”.
- If the tunnel-group is admin-up with "multi-active” configured then the configuration of "primary” and "backup” are not allowed.
- The active-mda-number must be =< total number of ISA configured.
  - If active-mda-number is less than total number of ISA configured then the delta number of ISA will become backup ISA.

Default

no multi-active

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.110 multi-chassis

multi-chassis

Syntax

multi-chassis

Context

[Tree] (config>redundancy multi-chassis)

Full Context

configure redundancy multi-chassis

Description

Commands in this context configure multi-chassis parameters.

Platforms

All

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30.111 multi-chassis-redundancy

multi-chassis-redundancy

Syntax

multi-chassis-redundancy *seconds*

no multi-chassis-redundancy

Context

[Tree] (config>python>py-pol>cache>minimum-lifetimes multi-chassis-redundancy)

Full Context

configure python python-policy cache minimum-lifetimes multi-chassis-redundancy

Description

This command specifies the minimum lifetime for a cache entry to be synchronized with the MCS peer.

The **no** form of this command reverts to the default.

Parameters

seconds

Specifies the multi-chassis redundancy time in second.

Values 1 to 600

Platforms

All

30.112 multi-chassis-shunt-id

multi-chassis-shunt-id

Syntax

multi-chassis-shunt-id *id*

no multi-chassis-shunt-id

Context

[Tree] (config>service>vprn>subscriber-mgmt multi-chassis-shunt-id)

[Tree] (config>service>ies>subscriber-mgmt multi-chassis-shunt-id)

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Full Context

configure service vprn subscriber-mgmt multi-chassis-shunt-id

configure service ies subscriber-mgmt multi-chassis-shunt-id

Description

This command configures the shunt ID that is used to shunt downstream traffic from a standby node to an active node. Because this ID identifies the traffic service on the standby node, the same ID must be configured per service on each node. This configuration is required for BNG CUPS inter-BNG-UP resiliency shunting, not for non- BNG-UP shunting. However, when configured, it is also used for shunting non- BNG-UPsessions in the same service.

The **no** form of the command removes the configuration.

Parameters

id

Specifies the shunt ID.

Values 1 to 8191

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.113 multi-chassis-shunt-interface

multi-chassis-shunt-interface

Syntax

multi-chassis-shunt-interface *ip-int-name* [**create**]

no multi-chassis-shunt-interface *ip-int-name*

Context

[Tree] (config>router>ipsec multi-chassis-shunt-interface)

[Tree] (config>service>vprn>ipsec multi-chassis-shunt-interface)

Full Context

configure router ipsec multi-chassis-shunt-interface

configure service vprn ipsec multi-chassis-shunt-interface

Description

Commands in this context configure a multi-chassis IPsec shunt interface.

The **no** form of this command removes the interface name from the configuration.

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Parameters

ip-int-name

Specifies the shunt interface name, up to 32 characters.

create

Keyword used to create the command instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

multi-chassis-shunt-interface

Syntax

multi-chassis-shunt-interface *ip-int-name*

no multi-chassis-shunt-interface *ip-int-name*

Context

[Tree] (config>router>ipsec>mc-shunt-profile>peer multi-chassis-shunt-interface)

[Tree] (config>service>vprn>ipsec>mc-shunt-profile>peer multi-chassis-shunt-interface)

Full Context

configure router ipsec multi-chassis-shunting-profile peer multi-chassis-shunt-interface

configure service vprn ipsec multi-chassis-shunting-profile peer multi-chassis-shunt-interface

Description

This command associates a multi-chassis-shunt-interface for the peer. The specified interface shunts traffic to the peer.

The **no** form of this command removes association from the configuration.

Parameters

ip-int-name

Specifies the shunt interface name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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30.114 multi-chassis-shunting-profile

multi-chassis-shunting-profile

Syntax

multi-chassis-shunting-profile *name* [**create**]

no multi-chassis-shunting-profile *name*

Context

[Tree] (config>service>vprn>ipsec multi-chassis-shunting-profile)

[Tree] (config>router>ipsec multi-chassis-shunting-profile)

Full Context

configure service vprn ipsec multi-chassis-shunting-profile

configure router ipsec multi-chassis-shunting-profile

Description

Commands in this context configure a multi-chassis IPsec shunting profile.

The **no** form of this command removes the name from the configuration.

Parameters

name

Specifies the profile name of a MC shunting profile, up to 32 characters.

create

Keyword used to create the command instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

multi-chassis-shunting-profile

Syntax

multi-chassis-shunting-profile *name*

no multi-chassis-shunting-profile

Context

[Tree] (config>service>ies>if multi-chassis-shunting-profile)

[Tree] (config>service>vprn>if multi-chassis-shunting-profile)

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Full Context

configure service ies interface multi-chassis-shunting-profile

configure service vprn interface multi-chassis-shunting-profile

Description

This command associates an existing multi-chassis IPsec shunting profile with the service interface.

The **no** form of this command removes the name from the configuration.

Parameters

name

Specifies the profile name of a **multi-chassis-shunting profile**, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.115 multi-homed-prefix

multi-homed-prefix

Syntax

[**no**] **multi-homed-prefix**

Context

[Tree] (config>router>ospf>lfa multi-homed-prefix)

Full Context

configure router ospf loopfree-alternates multi-homed-prefix

Description

This command enables multihomed prefix LFA for OSPF routes (IP FRR) and SR-OSPF node SID tunnels.

This feature makes use of the multihomed prefix model described in RFC 8518 to compute a backup IP next hop using an alternate ABR or ASBR for external prefixes and to an alternate router owner for local anycast prefixes.

This feature further enhances the multihomed prefix backup path calculation beyond RFC 8518 with the addition of repair tunnels that make use of a PQ node or a P-Q set to reach the alternate exit ABR or ASBR of external prefixes or the alternate owner router of local anycast prefixes.

The computed IP next-hop based backup path is added to OSPF routes of external /32 prefixes (OSPFv2 routes types 3, 4, 5, and 7) and local /32 anycast prefixes in the RTM if the prefix is not protected by base LFA or if the user set leaf preference value to **all**. The user must enable the **ip-fast-reroute** leaf to have these backup paths programmed into the FIB in data path.

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The computed IP next hop or repair tunnel based backup path is also programmed for SR-OSPF node SID tunnels of external /32 prefixes and to /32 prefixes in same area as the computing node S and which are advertised by multiple routers (anycast prefix) in both algorithm 0 and flexible-algorithm numbers.

The **no** form of this command disables multihomed prefix LFA.

Default

no multi-homed-prefix

Platforms

All

multi-homed-prefix

Syntax

[**no**] **multi-homed-prefix**

Context

[Tree] (config>router>isis>lfa multi-homed-prefix)

Full Context

configure router isis loopfree-alternates multi-homed-prefix

Description

This command enables multihomed prefix LFA for IS-IS routes (IP FRR), SR-ISIS tunnels, and SRv6-ISIS tunnels.

This feature uses the multihomed prefix model described in RFC 8518 to compute a backup IP next hop using an alternate ABR or ASBR for external prefixes and to an alternate router owner for local anycast prefixes.

This feature further enhances the multihomed prefix backup path calculation beyond RFC 8518 with the addition of repair tunnels that make use of a PQ node or a P-Q set to reach the alternate exit ABR or ASBR of external prefixes or the alternate owner router of intra-area anycast prefixes.

The computed IP next hop-based backup path is added to IS-IS routes of external /32 or /128 prefixes and intra-area /32 or /128 anycast prefixes in the RTM if the prefix is not protected by base LFA or if the user set leaf **preference** command option to **all**. The user must enable the **ip-fast-reroute** leaf to have these backup paths programmed into the FIB in datapath.

The computed IP next hop or repair tunnel-based backup path is also programmed for:

1. SR-ISIS node SID tunnels of external /32 IPv4 prefixes and /128 IPv6 prefixes, and node SID tunnels of intra-area /32 IPv4 anycast prefixes and /128 anycast IPv6 prefixes, in both algorithm 0 and flexible-algorithms
2. SRv6-ISIS locator routes and tunnels of external prefixes and of intra-area anycast prefixes of any size, in both algorithm 0 and flexible algorithm numbers

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As a result, an SR-TE LSP, an SR-MPLS policy, or an SRv6 policy which uses an SR-ISIS SID or an SRv6-ISIS SID of those same prefixes in its configured or computed SID list benefits from the multihomed prefix LFA protection.

Once the IP next-hop based multihomed prefix LFA is enabled, the extensions to compute an SR-TE repair tunnel for the multihomed prefix LFA in the case of SR-ISIS and SRv6-ISIS are automatically enabled if the user also enabled TI-LFA or Remote LFA. The computation reuses the SID list of the primary path or of the TI-LFA or Remote LFA backup path of the alternate ABR or ASBR or alternate owner router.

The **no** form of this command disables multihomed prefix LFA.

Default

no multi-homed-prefix

Platforms

All

30.116 multi-homing

multi-homing

Syntax

multi-homing single-active [**no-esi-label**]

multi-homing all-active [**no-esi-label**]

no multi-homing

Context

[Tree] (config>service>system>bgp-evpn>eth-seg multi-homing)

Full Context

configure service system bgp-evpn ethernet-segment multi-homing

Description

This command configures the multihoming mode for the Ethernet segment as defined in RFC 7432.

By default, the use of ESI label is enabled for **all-active** and **single-active** as defined in RFC 7432 (for **single-active multi-homing,** the ESI label is used to avoid transient loops).

When **single-active no-esi-label** or **all-active no-esi-label** is specified, the system does not allocate a label for the ESI; and therefore, advertises ESI label 0 to peers. Even if the ESI is configured not to send the ESI label, on reception of an ESI label from a peer, the PE always sends traffic to that peer using the received ESI label.

The **no** form of this command removes multihoming mode on the Ethernet segment.

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Default

no multi-homing

Parameters

single-active

Configures single-active mode for the Ethernet segment.

all-active

Configures all-active mode for the Ethernet segment.

no-esi-label

Configures the system to not send an ESI label for single-active or all-active mode.

Platforms

All

30.117 multi-instance

multi-instance

Syntax

[**no**] **multi-instance**

Context

[Tree] (config>router>ospf multi-instance)

Full Context

configure router ospf multi-instance

Description

This command enables OSPF multi-instance RFC 6549, *OSPFv2 Multi-Instance Extensions,* support in the BASE router. This support is enabled per instance and allows flexibility when migrating a specific instance from the classic OSPFv2 to a multi-instance OSPFv2.

The **no** form of this command disables OSPF multi-instance support in the BASE router.

Default

no multi-instance

Platforms

All

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30.118 multi-part-tlv

multi-part-tlv

Syntax

multi-part-tlv

Context

[Tree] (config>router>isis multi-part-tlv)

[Tree] (config>service>vprn>isis multi-part-tlv)

Full Context

configure router isis multi-part-tlv

configure service vprn isis multi-part-tlv

Description

Commands in this context configure the behavior of the MP-TLV capability.

Platforms

All

30.119 multi-path

multi-path

Syntax

multi-path

Context

[Tree] (config>service>vprn>bgp multi-path)

Full Context

configure service vprn bgp multi-path

Description

This command configures ECMP multipath parameters to apply to address families that support BGP multipath.

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Platforms

All

multi-path

Syntax

multi-path

Context

[Tree] (config>router>bgp multi-path)

Full Context

configure router bgp multi-path

Description

This command configures ECMP multipath parameters to apply to address families that support BGP multipath.

Platforms

All

multi-path

Syntax

[**no**] **multi-path**

Context

[Tree] (config>fwd-path-ext>fpe multi-path)

Full Context

configure fwd-path-ext fpe multi-path

Description

This command enables configuration of multipath FPEs that can contain multiple port cross-connect (PXC) ports or LAGs of PXC ports.

The **no** form of the command disables multipath FPE.

Default

no multi-path

Platforms

All

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multi-path

Syntax

[no] multi-path

Context

[Tree] (config>router>pcep>pcc>cap-adv multi-path)

[Tree] (config>router>pcep>pce>cap-adv multi-path)

Full Context

configure router pcep pcc capability-advertisement multi-path

configure router pcep pce capability-advertisement multi-path

Description

This command enables the router to advertise the multipath capability in the OPEN message.

The **no** form of this command disables the advertisement of the multipath capability.

Default

no multi-path

30.120 multi-path-list

multi-path-list

Syntax

multi-path-list

Context

[Tree] (config>fwd-path-ext>fpe multi-path-list)

Full Context

configure fwd-path-ext fpe multi-path-list

Description

This command enables the context to configure a multipath FPE list instance, which can contain multiple PXC ports or LAGs of PXC ports.

Platforms

All

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30.121 multi-service-site

multi-service-site

Syntax

[**no**] **multi-service-site** *customer-site-name*

Context

[Tree] (config>service>ies>if>sap multi-service-site)

[Tree] (config>service>ies>sub-if>grp-if>sap multi-service-site)

[Tree] (config>service>vprn>sub-if>grp-if>sap multi-service-site)

Full Context

configure service ies interface sap multi-service-site

configure service ies subscriber-interface group-interface sap multi-service-site

configure service vprn subscriber-interface group-interface sap multi-service-site

Description

This command creates a new customer site or edits an existing customer site with the *customer-site-name* parameter. A customer site is an anchor point to create an ingress and egress virtual scheduler hierarchy. When a site is created, it must be assigned to a chassis slot or port. When scheduler policies are defined for ingress and egress, the scheduler names contained in each policy are created according to the parameters defined in the policy. Multi-service customer sites exist for the sole purpose of creating a virtual scheduler hierarchy and making it available to queues on multiple Service Access Points (SAPs).

The scheduler policy association with the customer site normally prevents the scheduler policy from being deleted until after the scheduler policy is removed from the customer site. The multi-service-site object generates a log message indicating that the association was deleted due to scheduler policy removal.

When the multi-service customer site is created, an ingress and egress scheduler policy association does not exist. This does not prevent the site from being assigned to a chassis slot or prevent service SAP assignment. After the site has been created, the ingress and egress scheduler policy associations can be assigned or removed at any time.

The **no** form of this command removes the value from the configuration.

Default

n/a — Each customer site must be explicitly created.

Parameters

customer-site-name

Each customer site must have a unique name within the context of the customer. If *customer-site-name* already exists for the customer ID, the CLI context changes to that site name for the purpose of editing the site scheduler policies or assignment. Any modifications made to an existing site affects all SAPs associated with the site. Changing a

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scheduler policy association may cause new schedulers to be created and existing policers and queues on the SAPs to no longer be orphaned. Existing schedulers on the site may cease to exist, causing policers and queues relying on that scheduler to be orphaned.

If the *customer-site-name* does not exist, it is assumed that an attempt is being made to create a site of that name in the customer ID context. The success of the command execution depends on the following:

The maximum number of customer sites defined for the chassis slot has not been met.

The *customer-site-name* is valid.

The **create** keyword is included in the command line syntax (if the system requires it).

When the maximum number of customer sites has been exceeded a configuration error occurs, the command will not execute and the CLI context will not change.

If the *customer-site-name* is invalid, a syntax error occurs, the command will not execute and the CLI context will not change.

Values Valid names consist of any string, up to 32 characters, composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

- configure service ies interface sap multi-service-site

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface sap multi-service-site
- configure service ies subscriber-interface group-interface sap multi-service-site

multi-service-site

Syntax

multi-service-site *customer-site-name*

no multi-service-site

Context

[Tree] (config>service>vprn>if>sap multi-service-site)

[Tree] (config>service>vpls>sap multi-service-site)

[Tree] (config>service>ies>sap multi-service-site)

Full Context

configure service vprn interface sap multi-service-site

configure service vpls sap multi-service-site

configure service ies sap multi-service-site

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Description

This command associates the SAP with a *customer-site-name*. If the specified *customer-site-name* does not exist in the context of the service customer ID an error occurs and the command is not executed. If *customer-site-name* exists, the current and future defined queues on the SAP (ingress and egress) attempts to use the scheduler hierarchies created within *customer-site-name* as parent schedulers.

This command is mutually exclusive with the SAP ingress and egress scheduler policy commands. If a scheduler policy has been applied to either the ingress or egress nodes on the SAP, the **multi-service-site** command fails without executing. The locally applied scheduler policies must be removed prior to executing the **multi-service-site** command.

The **no** form of this command removes the SAP from any multi-service customer site the SAP belongs to. Removing the site can cause existing or future policers and queues to enter an orphaned state.

Parameters

customer-site-name

Specifies an existing customer site name, up to 32 characters. Valid names consist of any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. If the *customer-site-name* exists and local scheduler policies have not been applied to the SAP, the current and future policers queues defined on the SAP looks for their parent schedulers within the scheduler hierarchies defined in the customer-site-name.

Platforms

All

multi-service-site

Syntax

multi-service-site *customer-site-name*

no multi-service-site

Context

[Tree] (config>service>cpipe>sap multi-service-site)

[Tree] (config>service>ipipe>sap multi-service-site)

[Tree] (config>service>epipe>sap multi-service-site)

Full Context

configure service cpipe sap multi-service-site

configure service ipipe sap multi-service-site

configure service epipe sap multi-service-site

Description

This command associates the SAP with a *customer-site-name*. If the specified *customer-site-name* does not exist in the context of the service customer ID an error occurs and the command will not execute. If

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customer-site-name exists, the current and future defined queues on the SAP (ingress and egress) will attempt to use the scheduler hierarchies created within *customer-site-name* as parent schedulers.

The **no** form of this command removes the SAP from any multi-service customer site the SAP belongs to. Removing the site can cause existing or future queues to enter an orphaned state.

Parameters

customer-site-name

The customer-site-name must exist in the context of the customer-id defined as the service owner. If customer-site-name exists and local scheduler policies have not been applied to the SAP, the current and future queues defined on the SAP will look for their parent schedulers within the scheduler hierarchies defined on customer-site-name.

Values Any valid customer-site-name created within the context of the customer-id.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap multi-service-site

All

- configure service ipipe sap multi-service-site
- configure service epipe sap multi-service-site

multi-service-site

Syntax

multi-service-site *customer-site-name* [**create**]

no multi-service-site *customer-site-name*

Context

[Tree] (config>service>cust multi-service-site)

Full Context

configure service customer multi-service-site

Description

This command creates a new customer site or edits an existing customer site with the *customer-site-name* parameter. A customer site is an anchor point to create an ingress and egress virtual scheduler hierarchy. When a site is created, it must be assigned to a chassis slot or port. When scheduler policies are defined for ingress and egress, the scheduler names contained in each policy are created according to the parameters defined in the policy. Multi-service customer sites exist for the sole purpose of creating a virtual scheduler hierarchy and making it available to queues on multiple Service Access Points (SAPs).

The scheduler policy association with the customer site normally prevents the scheduler policy from being deleted until after the scheduler policy is removed from the customer site. The multi-service-site object will generate a log message indicating that the association was deleted due to scheduler policy removal.

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When the multi-service customer site is created, an ingress and egress scheduler policy association does not exist. This does not prevent the site from being assigned to a chassis slot or prevent service SAP assignment. After the site has been created, the ingress and egress scheduler policy associations can be assigned or removed at any time.

Parameters

customer-site-name

Specifies the customer site name. Each customer site must have a unique name within the context of the customer. If *customer-site-name* already exists for the customer ID, the CLI context changes to that site name for the purpose of editing the site scheduler policies or assignment. Any modifications made to an existing site will affect all SAPs associated with the site. Changing a scheduler policy association may cause new schedulers to be created and existing policers and queues on the SAPs to no longer be orphaned. Existing schedulers on the site may cease to exist, causing policers and queues relying on that scheduler to be orphaned.

If the *customer-site-name* does not exist, it is assumed that an attempt is being made to create a site of that name in the customer ID context. The success of the command execution depends on the following:

- The maximum number of customer sites defined for the chassis has not been met.
- The *customer-site-name* is valid.
- The **create** keyword is included in the command line syntax (if the system requires).

When the maximum number of customer sites has been exceeded a configuration error occurs; the command will not execute and the CLI context will not change.

If the *customer-site-name* is invalid, a syntax error occurs; the command will not execute and the CLI context will not change.

Values Valid names consist of any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

30.122 multi-session-id

multi-session-id

Syntax

[**no**] **multi-session-id**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes multi-session-id)

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Full Context

configure aaa isa-radius-policy acct-include-attributes multi-session-id

Description

This command enables the inclusion of the multi-session-id attributes.

The **no** form of the command excludes the multi-session-id attributes.

Default

no multi-session-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.123 multi-sub-sap

multi-sub-sap

Syntax

multi-sub-sap [**subscriber** *limit*]

no multi-sub-sap

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt multi-sub-sap)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt multi-sub-sap

Description

This command defines the maximum number of subscribers (dynamic + static) that can be simultaneously active on an MSAP.

If the limit is reached, a new host is denied access and the corresponding DHCP ACK is dropped.

The **no** form of this command reverts back to the default setting.

Default

multi-sub-sap 1

Parameters

limit

Specifies the maximum number of subscribers allowed.

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Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 1 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

multi-sub-sap

Syntax

multi-sub-sap *subscriber-limit*

no multi-sub-sap

Context

[Tree] (config>service>vpls>sap>sub-sla-mgmt multi-sub-sap)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt multi-sub-sap)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt multi-sub-sap)

Full Context

configure service vpls sap sub-sla-mgmt multi-sub-sap

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt multi-sub-sap

configure service ies subscriber-interface group-interface sap sub-sla-mgmt multi-sub-sap

Description

This command defines the maximum number of subscribers (dynamic and static) that can be simultaneously active on this SAP.

If the limit is reached, a new host is denied access and the corresponding DHCP ACK is dropped.

The **no** form of this command reverts back to the default setting.

Parameters

subscriber-limit

Specifies the maximum number of subscribers allowed for this SAP. The operational maximum value may be smaller than the configured value due to equipped hardware dependencies.

Values 2 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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30.124 multi-topology

multi-topology

Syntax

[**no**] **multi-topology**

Context

[Tree] (config>service>vprn>isis multi-topology)

Full Context

configure service vprn isis multi-topology

Description

This command enables IS-IS multi-topology support.

The **no** form of this command disables IS-IS multi-topology.

Default

no multi-topology

Platforms

All

multi-topology

Syntax

[**no**] **multi-topology**

Context

[Tree] (config>router>isis multi-topology)

Full Context

configure router isis multi-topology

Description

This command enables IS-IS multi-topology support.

Default

no multi-topology

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Platforms

All

multi-topology

Syntax

multi-topology mt2

no multi-topology

Context

[Tree] (config>router>isis>segment-routing multi-topology)

Full Context

configure router isis segment-routing multi-topology

Description

This command configures SR-MPLS for SR-ISIS MT, which enables Segment Routing in MT2.

The **no** form of this command disables Segment Routing in MT2.

Default

no multi-topology

Platforms

All

multi-topology

Syntax

multi-topology [**mt0**] [**mt2**]

no multi-topology

Context

[Tree] (config>router>isis>srv6>locator multi-topology)

Full Context

configure router isis segment-routing-v6 locator multi-topology

Description

This command configures the use of a local SRv6 locator in an IS-IS IPv6 topology. A user can enable one or more locators in an IS-IS instance. Each locator can be enabled in a single topology of an IS-IS instance, topology 0 (MT0) or topology 2 (MT2). A local locator can be used in multiple IS-IS instances, but can only be assigned to at most one IPv6 topology independently within each IS-IS instance.

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Note:
To enable the processing of local and remote IPv6 prefixes and SRv6 locators in MT0 and MT2, use the **configure router isis segment-routing-v6 no shutdown** command. In addition, to enable SRv6 forwarding in the MT0, MT2, or both topologies, use the **configure router isis ipv6-routing native**, **configure router isis multi-topology ipv6-unicast**, or both commands.

By default, a locator name added to an IS-IS instance is enabled in MT0.

The **no** form of this command returns to the default operation of the locator.

Default

multi-topology mt0

Parameters

mt0

Specifies to use the standard topology (topology 0) in an IS-IS instance.

mt2

Specifies to use the IPv6 routing topology (topology 2) in an IS-IS instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

multi-topology

Syntax

multi-topology [**mt0**] [**mt2**]

no multi-topology

Context

[Tree] (config>router>isis>srv6>msloc multi-topology)

Full Context

configure router isis segment-routing-v6 micro-segment-locator multi-topology

Description

This command configures the use of a local SRv6 micro-segment locator in an IS-IS IPv6 topology. A user can enable one or more micro-segment locators in an IS-IS instance. Each micro-segment locator can be enabled in a single topology of an IS-IS instance, topology 0 (MT0) or topology 2 (MT2). A local micro-segment locator can be used in multiple IS-IS instances, but can only be assigned to at most one IPv6 topology independently within each IS-IS instance.

Note:
To enable the processing of local and remote IPv6 prefixes and SRv6 locators in MT0 and MT2, use the **configure router isis segment-routing-v6 no shutdown** command. In addition, to

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enable SRv6 forwarding in the MT0, MT2, or both topologies, use the **configure router isis ipv6-routing native**, **configure router isis multi-topology ipv6-unicast**, or both commands.

By default, a micro-segment locator name added to an IS-IS instance is enabled in MT0.

The **no** form of this command returns to the default operation of the micro-segment locator.

Default

multi-topology mt0

Parameters

mt0

Specifies to use the standard topology (topology 0) in an IS-IS instance.

mt2

Specifies to use the IPv6 routing topology (topology 2) in an IS-IS instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

30.125 multi-tunnel-type

multi-tunnel-type

Syntax

[**no**] **multi-tunnel-type**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>mobility multi-tunnel-type)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>mobility multi-tunnel-type)

Full Context

configure service ies subscriber-interface group-interface wlan-gw mobility multi-tunnel-type

configure service vprn subscriber-interface group-interface wlan-gw mobility multi-tunnel-type

Description

This command enables terminating multiple types of tunnels.

The **no** form of this command disables terminating multiple types of tunnels.

Default

no multi-tunnel-type

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

30.126 multicast

multicast

Syntax

multicast [**key-id** *key-id* | **authentication-keychain** *keychain-name*] [**version** *version*]

no multicast

Context

[Tree] (config>system>time>ntp multicast)

Full Context

configure system time ntp multicast

Description

This command configures NTP the node to transmit multicast packets on the CPM/CCM MGMT port. Broadcast and multicast messages can easily be spoofed; authentication is strongly recommended.

The **no** form of this command removes the multicast address from the configuration.

Parameters

key-id

Specifies the configured authentication key and authentication type used by this version to transmit NTP packets. If this command is omitted from the configuration, packets are sent unencrypted.

Values 1 to 255

keychain-name

Identifies the keychain name, up to 32 characters.

version

Specifies the NTP version number that is generated by this node. This parameter does not need to be configured when in client mode in which case all three versions are accepted.

Values 2 to 4

Default 4

Platforms

All

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30.127 multicast-fast-failover

multicast-fast-failover

Syntax

[**no**] **multicast-fast-failover**

Context

[Tree] (config>router>pim multicast-fast-failover)

Full Context

configure router pim multicast-fast-failover

Description

This command configures the option to enable Multicast-Only Fast Reroute (MoFRR) functionality for IPv4 PIM-SSM interfaces in the global routing table instance.

The **no** form of this command disables MoFRR for IPv4 PIM-SSM interfaces.

Default

no multicast-fast-failover

Platforms

All

30.128 multicast-import

multicast-import

Syntax

[**no**] **multicast-import**

Context

[Tree] (config>service>vprn>isis multicast-import)

Full Context

configure service vprn isis multicast-import

Description

This command enables ISIS to submit routes into the multicast Route Table Manager (RTM).

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The **no** form of this command disables the submission of routes into the multicast RTM.

Default

no multicast-import

Platforms

All

multicast-import

Syntax

[**no**] **multicast-import**

Context

[Tree] (config>service>vprn>ospf multicast-import)

[Tree] (config>service>vprn>ospf3 multicast-import)

Full Context

configure service vprn ospf multicast-import

configure service vprn ospf3 multicast-import

Description

This command enables the submission of routes into the multicast Route Table Manager (RTM) by OSPF.

The **no** form of this command disables the submission of routes into the multicast RTM.

Default

no multicast-import

Platforms

All

multicast-import

Syntax

[**no**] **multicast-import** [{**both** | **ipv4** | **ipv6**}]

Context

[Tree] (config>router>isis multicast-import)

Full Context

configure router isis multicast-import

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Description

This command enables the submission of routes into the multicast Route Table Manager (RTM) by IS-IS.

The **no** form of this command disables the submission of routes into the multicast RTM.

Default

no multicast-import

Parameters

both

Allows submission of both IPv4 and IPv6 routes.

ipv4

Allows submission of IPv4 routes only.

ipv6

Allows submission of IPv6 routes only.

Platforms

All

multicast-import

Syntax

[**no**] **multicast-import**

Context

[Tree] (config>router>ospf3 multicast-import)

[Tree] (config>router>ospf multicast-import)

Full Context

configure router ospf3 multicast-import

configure router ospf multicast-import

Description

This command enables the submission of routes into the multicast Route Table Manager (RTM) by OSPF.

The **no** form of this command disables the submission of routes into the multicast RTM.

Default

no multicast-import

Platforms

All

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30.129 multicast-import-policy

multicast-import-policy

Syntax

multicast-import-policy *policy-name*

[**no**] **multicast-import-policy**

Context

[Tree] (config>router>ospf multicast-import-policy)

Full Context

configure router ospf multicast-import-policy

Description

This command specifies the policy used by OSPF to submit routes to the multicast RTM.

This command applies only when the **multicast-import** command is enabled for OSPF. By default, enabling **multicast-import** causes OSPF to submit all IGP routes to the multicast RTM. Configuring this command allows the user to specify prefixes in the policy prefix list to control OSPF route submission.

The **no** form of this command disables the use of the policy to submit routes.

Default

no multicast-import-policy

Parameters

policy-name

Specifies the name of the policy, up to 32 characters.

Platforms

All

30.130 multicast-info-policy

multicast-info-policy

Syntax

multicast-info-policy *policy-name* [**create**]

no multicast-info-policy

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Context

[Tree] (config>mcast-management multicast-info-policy)

Full Context

configure mcast-management multicast-info-policy

Description

This command configures a multicast information policy. Multicast information policies are used to manage parameters associated with Layer 2 and Layer 3 multicast records. Multiple features use the configured information within the policy. The multicast ingress path manager uses the policy to decide the inactive and active state behavior for each multicast record using the ingress paths to the switch fabric. The system's multicast ECMP join decisions are influenced by the channel information contained within the policy.

Multicast Bundles:

A multicast information policy consists of one or multiple named bundles. Multicast streams are mapped to a bundle based on matching the destination address of the multicast stream to configured channel ranges defined within the bundles. Each policy has a bundle named 'default' that is used when a destination address does not fall within any of the configured channel ranges.

Each bundle has a set of default parameters used as the starting point for multicast channels matching the bundle. The default parameters may be overridden by optional exception parameters defined under each channel range. Further optional parameter overrides are possible under explicit source address contexts within each channel range.

Default Multicast Information Policy

A multicast information policy always exists with the name 'default' and cannot be edited or deleted. The following parameters are contained in the default multicast information policy:

Policy Description:	Default policy, cannot be edited or deleted.
Bundle:	default
Bundle Description:	Default Bundle, cannot be edited or deleted.
Congestion-Priority-Threshold:	4
ECMP-Optimization-Limit-Threshold:	7
Bundle Defaults:	
Administrative Bandwidth:	0 (undefined)
Preference:	0
CAC-Type:	Optional
Bandwidth Activity:	Dynamic with no black-hole rate
Explicit Ingress SF Path:	None (undefined)
Configured Channel Ranges:	None

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The default multicast information policy is applied to all VPLS and VPRN services and all routing contexts until an explicitly defined multicast information policy has been mapped.

Explicit Multicast Information Policy Associations

Each VPLS service and each routing context (including VPRN routing contexts) supports an explicit association with an pre-existing multicast information policy. The policy may need to be unique per service or routing context since that each context has its own multicast address space. The same multicast channels may be and most likely be used for completely different multicast streams and applications in each forwarding context.

Interaction with Ingress Multicast Path Management

When ingress multicast path management is enabled on an MDA, the system automatically creates a bandwidth manager context that manages the multicast path bandwidth into the switch fabric used by the ingress ports on the MDA. As routing or snooping protocols generate Layer 2 or Layer 3 multicast FIB records that are populated on the MDA's forwarding plane, they are processed though the multicast information policy that is associated with the service or routing context associated with the record. The policy returns the following information for the record to be used by the ingress bandwidth manager:

- The records administrative bandwidth (0 if undefined)
- Preference level (0 to 7 with 7 being highest)
- Bandwidth activity monitoring setting (use admin bw or dynamic monitoring) If admin bw is indicated, also returns active and inactive thresholds
- Initial switch fabric multicast path (primary or secondary)
- Explicit switch fabric multicast path (primary, secondary, or none)

Interaction with Multicast ECMP Optimization

The multicast information policy is used by the multicast ECMP optimization function to derive each channels administrative bandwidth. The ECMP function tallies all bandwidth information for channels joined and attempts to equalize the load between the various paths to the sender. The multicast information policy returns the following information to the ECMP path manager:

- Administrative bandwidth (0 if undefined)
- Preference (0 to 7 with 7 the highest preference value)

Default

multicast-info-policy "default"

Parameters

policy-name

Identifies the name of the policy to be either created or edited. Each multicast information policy must be uniquely named within the system. Names of up to 32 ASCII characters are supported with the normal character restrictions.

create

The create keyword is required if creating a new multicast information policy when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the multicast information policy name already exists.

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Platforms

All

multicast-info-policy

Syntax

multicast-info-policy *policy-name*

no multicast-info-policy

Context

[Tree] (config>service>ies multicast-info-policy)

[Tree] (config>service>vprn multicast-info-policy)

[Tree] (config>router multicast-info-policy)

[Tree] (config>service>vpls multicast-info-policy)

Full Context

configure service ies multicast-info-policy

configure service vprn multicast-info-policy

configure router multicast-info-policy

configure service vpls multicast-info-policy

Description

This command overrides the default multicast information policy on a service or routing context. When the policy association is changed, all multicast channels in the service or routing context must be reevaluated.

If a multicast information policy is not explicitly associated with the service or routing context, the default multicast information policy is used when ingress multicast path management is enabled.

While a multicast information policy is associated with a service or routing context, the policy cannot be deleted from the system.

The **no** form of the command removes an explicit multicast information policy from the service or routing context and restores the default multicast information policy.

Parameters

policy-name

Specifies the policy name, up to 32 characters. The *policy-name* parameter is required and specifies an existing multicast information policy that should be associated with the service or routing context.

Platforms

All

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30.131 multicast-leave-sync-propagation

multicast-leave-sync-propagation

Syntax

multicast-leave-sync-propagation *time*

Context

[Tree] (config>service>system>bgp-evpn multicast-leave-sync-propagation)

Full Context

configure service system bgp-evpn multicast-leave-sync-propagation

Description

This command configures the additional amount of time that the system waits before removing a multicast state that was synchronized in an Ethernet Segment via Multicast Join or Leave Synch routes. This value represents a delta corresponding to the time it takes for a BGP advertisement to propagate to ES peers.

The node triggering the route computes the maximum response time as the product of the locally configured values, Last Member Query Count and Last Member Query Interval (this value is taken from the **config**>**service**>**vpls**>**sap**>**igmp-snooping**>**last-member-query-interval** or **config**>**service**>**vpls**>**spoke-sdp**>**igmp-snooping**> **last-member-query-interval** commands depending on the Ethernet Segment being used), and adds the delta value to the Maximum Response Time. Increasing the Maximum Response Time by this value can help minimize the churn of removing and recreating the state on the node.

The maximum response time value should be configured consistently in all ES peers. For example, in a scenario where a maximum response time of five seconds is advertised by PE-A and there is a delay of four seconds in the BGP propagation to PE-B, the timer could already expire on PE-A while PE-B is still in LMQ time and can still receive joins (which would recreate state in A after a join synch route from B). To minimize this situation, adding an extra delta timer on PE-A, reduces the potential churn of PE-A removing and recreating the state.

Default

multicast-leave-sync-propagation 5

Parameters

time

Specifies the multicast leave sync propagation delay time, in seconds.

Values 0 to 300

Default 5

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Platforms

All

30.132 multicast-lsp

multicast-lsp

Syntax

multicast-lsp *lsp-name*

no multicast-lsp

Context

[Tree] (config>service>sdp>class-forwarding multicast-lsp)

Full Context

configure service sdp class-forwarding multicast-lsp

Description

This command specifies the RSVP or static LSP in this SDP to use to forward VPLS multicast and broadcast packets. The LSP name must exist and must have been associated with this SDP using the command **config**>**service**>**sdp**>**lsp**. In the absence of an explicit configuration by the user, the default LSP is used.

Default

no multicast-lsp — traffic mapped to default-lsp *name*

Parameters

lsp-name

Specifies the RSVP or static LSP to use.

Platforms

All

30.133 multicast-network-domain

multicast-network-domain

Syntax

multicast-network-domain *multicast-network-domain*

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no multicast-network-domain

Context

[Tree] (config>service>ies>if multicast-network-domain)

Full Context

configure service ies interface multicast-network-domain

Description

This command is used to enable efficient multicast replication over a spoke SDP. Multicast traffic is copied to only a subset of network interfaces that may be used as egress for a spoke SDP. A network domain is defined by associating multiple interfaces to a logical group that may participate in multicast replication for a spoke SDP.

The **no** form of command disables efficient multicast replication to a network domain for a spoke SDP and traffic is replicated to all forwarding complexes.

Default

no multicast-network-domain

Platforms

All

30.134 multicast-policer

multicast-policer

Syntax

multicast-policer *policer-id* [**fp-redirect-group**]

no multicast-policer

Context

[Tree] (config>qos>sap-ingress>fc multicast-policer)

Full Context

configure qos sap-ingress fc multicast-policer

Description

Within a **sap-ingress** QoS policy forwarding class context, the **multicast-policer** command is used to map packets that match the forwarding class and are considered multicast in nature to the specified policer-id. The specified policer-id must already exist within the **sap-ingress** QoS policy. While the system is determining the forwarding class of a packet, it is also looking up its forwarding destination based on the ingress service type and the service instance forwarding records. Two basic types of services

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support multicast packets: routed services (IES and VPRN) and L2 multipoint services (VPLS, I-VPLS, and B-VPLS). For the routed service types, a multicast packet is destined to an IPv4 or IPv6 multicast address. For the L2 multipoint services, a multicast packet is a packet destined to a multicast MAC address (multicast bit set in the destination MAC address but not the ff:ff:ff:ff:ff:ff broadcast address). The VPLS services also support two other multipoint forwarding types (broadcast and unknown), which are considered separate from the multicast forwarding type.

If ingress forwarding logic has resolved a packet to the multicast forwarding type within the forwarding class, it will be mapped to either an ingress multipoint queue (using the **multicast** *queue-id* or **multicast** *queue-id* **group** *ingress-queue-group* commands) or an ingress policer (**multicast-policer** *policer-id*). The **multicast** and **multicast-policer** commands within the forwarding class context are mutually exclusive. By default, the multicast forwarding type is mapped to the SAP ingress default multipoint queue. If the **multicast-policer** *policer-id* command is executed, any previous policer mapping or queue mapping for the multicast forwarding type within the forwarding class is overridden if the policer mapping is successful.

A policer defined within the **sap-ingress** policy is not actually created on an ingress SAP or a subscriber using an **sla-profile** where the policy is applied until at least one forwarding type (unicast, broadcast, unknown, or multicast) from one of the forwarding classes is mapped to the policer. If insufficient policer resources exist to create the policer for a SAP or subscriber or multiservice site, or ingress policing is not supported on the port associated with the SAP or subscriber or multiservice site, the initial forwarding class forwarding type mapping will fail.

The **multicast-policer** command is ignored for instances of the policer applied to SAPs subscribers or multiservice site where broadcast packets are not supported.

When the multicast forwarding type within a forwarding class is mapped to a policer, the multicast packets classified to the subclasses within the forwarding class are also mapped to the policer.

The **no** form of this command is used to restore the mapping of the multicast forwarding type within the forwarding class to the default multipoint queue. If all forwarding class forwarding types had been removed from the default multipoint queue, the queue will not exist on the SAPs subscribers or multiservice site associated with the QoS policy, and the **no multicast-policer** command will cause the system to attempt to create the default multipoint queue on each object. If the system cannot create the queue on each instance, the **no multicast-policer** command will fail and the multicast forwarding type within the forwarding class will continue its mapping to the existing *policer-id*. If the **no multicast-policer** command results in a policer without any current mappings, the policer will be removed from the SAPs and subscribers associated with the QoS policy. All statistics associated with the policer on each SAP and subscriber will be lost.

Parameters

policer-id

When the forwarding class **multicast-policer** command is executed, a valid *policer-id* must be specified. The parameter *policer-id* references a *policer-id* that has already been created within the **sap-ingress** QoS policy.

Values 1 to 63

fp-redirect-group

Redirects a forwarding class to a forwarding plane queue-group as specified in a SAP QoS policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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30.135 multicast-queue

multicast-queue

Syntax

multicast-queue *queue-id* [**group** *queue-group-name*]

no multicast-queue

Context

[Tree] (config>qos>sap-ingress>fc multicast-queue)

Full Context

configure qos sap-ingress fc multicast-queue

Description

This command overrides the default multicast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all multicast traffic on a SAP using this policy is forwarded using the *queue-id*.

The multicast forwarding type includes the **unknown** unicast forwarding type and the **broadcast** forwarding type unless each is explicitly defined to a different multipoint queue. When the unknown and broadcast forwarding types are left as default, they will track the defined queue for the multicast forwarding type.

The **no** form of this command sets the multicast forwarding type *queue-id* back to the default queue for the forwarding class. If the **broadcast** and **unknown** forwarding types were not explicitly defined to a multipoint queue, they will also be set back to the default multipoint queue (queue 11).

Parameters

queue-id

The *queue-id* parameter specified must be an existing, multipoint queue defined in the config>qos>sap-ingress context.

Values Any valid multipoint queue-ID in the policy including 2 through 32.

Default 11

group *queue-group-name*

This optional parameter is used to redirect the forwarding type within the forwarding class to the specified queue-id within the queue-group-name. When the policy is applied, all packets matching the forwarding class and forwarding type will be redirected to the queue within the specified queue group. The *queue-group-name* are configured in the **config>qos>queue-group-templates** egress and ingress contexts.

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Platforms

All

multicast-queue

Syntax

multicast-queue *queue-id*

no multicast-queue

Context

[Tree] (config>qos>network-queue>fc multicast-queue)

Full Context

configure qos network-queue fc multicast-queue

Description

This command overrides the default multicast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all multicast traffic using this policy is forwarded using the *queue-id*.

The multicast forwarding type includes the **unknown** unicast forwarding type and the **broadcast** forwarding type, unless each is explicitly defined to a different multipoint queue. When the unknown and broadcast forwarding types are left as default, they will track the defined queue for the multicast forwarding type.

The **no** form of this command sets the multicast forwarding type *queue-id* back to the default queue for the forwarding class. If the **broadcast** and **unknown** forwarding types were not explicitly defined to a multipoint queue, they will also be set back to the default multipoint queue (queue 11).

Resource Utilization

When a multipoint queue is created and at least one forwarding class is mapped to the queue using the **multipoint-queue** command, a single ingress multipoint hardware queue is created per instance of the applied network-queue policy, using the queue-policy command at the ingress network FP level. Multipoint queues are not created at egress and the multipoint queues defined in the network-queue policy are ignored when the policy is applied to an egress port.

Parameters

queue-id

Specifies any valid multipoint queue-ID in the policy. The *queue-id* parameter specified must be an existing, multipoint queue defined in the **config>qos>network-queue>queue** context.

Values 1 to 16

Default 11

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Platforms

All

multicast-queue

Syntax

multicast-queue *queue-id*

Context

[Tree] (config>qos>shared-queue>fc multicast-queue)

Full Context

configure qos shared-queue fc multicast-queue

Description

This command configures the multicast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all multicast traffic on a SAP using this policy is forwarded using the *queue-id*.

The multicast forwarding type includes the **unknown** unicast forwarding type and the **broadcast** forwarding type unless each is explicitly defined to a different multipoint queue. When the unknown and broadcast forwarding types are left as default, they will track the defined queue for the multicast forwarding type.

The **no** form of this command sets the multicast forwarding type *queue-id* back to the default queue for the forwarding class. If the **broadcast** and **unknown** forwarding types were not explicitly defined to a multipoint queue, they will also be set back to the default multipoint queue (queue 11).

Parameters

queue-id

The *queue-id* parameter specified must be an existing, multipoint queue defined in the **config>qos>sap-ingress** context policer-output-queues profile. For the 7950 XRS, this is not configurable in the policer-output-queues profile.

Values 9 to 16

Default 11

Platforms

All

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30.136 multicast-redirection

multicast-redirection

Syntax

multicast-redirection [**fwd-service** *service-id*] *ip-int-name*

no multicast-redirection

Context

[Tree] (config>router>policy-options>policy-statement>entry>action multicast-redirection)

Full Context

configure router policy-options policy-statement entry action multicast-redirection

Description

This command configures the interface where to redirect IGMP multicast traffic to.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

multicast-redirection

Syntax

multicast-redirection [**fwd-service** *service-id*] *ip-int-name*

no multicast-redirection

Context

[Tree] (config>router>policy-options>policy-statement>default-action multicast-redirection)

Full Context

configure router policy-options policy-statement default-action multicast-redirection

Description

This command enables a redirection under a filtering policy. The filtering policy in this case becomes a redirection policy and it is defined under the **router>policy-option** hierarchy.

After the redirection policy is applied to the subscriber, all IGMP messages will be processed per subscriber host before they get redirected to the referenced interface (and possibly service). However, multicast traffic will not be replicated directly per subscriber host but instead it will be forwarded on the interface that is referenced in the redirection policy. The redirected interface must have IGMP enabled.

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Currently all traffic is redirected and there is no ability to selectively redirect multicast traffic based on match conditions (such as, multicast-groups, source IP address of IGMP messages). Multicast redirection is supported between VPRN services and also between interfaces within the Global Routing Context. Multicast redirection is not supported between the VPRN services and the Global Routing Context. Multicast redirection is supported in the wholesale/retail VPRN context.

Note:
Redirecting from a VPRN instance to the GRT is not supported. Redirecting from a VPRN to a different VPRN is supported and redirecting from an IES to another IES is also supported.

Default

no multicast-redirection

Parameters

fwd-service *service-id*

Specifies the service to which traffic should be redirected. This option is applied only in the VPRN context. It is possible to redirect the multicast group into another service instance routing interface.

ip-int-name

specifies the alternate interface to which IGMP messages are redirected.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.137 multicast-senders

multicast-senders

Syntax

multicast-senders {**auto** | **always** | **never**}

no multicast-senders

Context

[Tree] (config>service>vprn>pim>if multicast-senders)

Full Context

configure service vprn pim interface multicast-senders

Description

This command configures the way subnet matching is done for incoming data packets on this interface. An IP multicast sender is an user entity to be authenticated in a receiving host.

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Parameters

auto

Subnet matching is automatically performed for incoming data packets on this interface.

always

Subnet matching is always performed for incoming data packets on this interface.

never

Subnet matching is never performed for incoming data packets on this interface.

Platforms

All

multicast-senders

Syntax

multicast-senders {**auto** | **always** | **never**}

no multicast-senders

Context

[Tree] (config>router>pim>interface multicast-senders)

Full Context

configure router pim interface multicast-senders

Description

This command configures how traffic from directly-attached multicast sources should be treated on broadcast interfaces. It can also be used to treat all traffic received on an interface as traffic coming from a directly-attached multicast source. This is particularly useful if a multicast source is connected to a point-to-point or unnumbered interface.

The **no** form of this command reverts to the default value.

Default

multicast-senders auto

Parameters

auto

Specifies that, on broadcast interfaces, the forwarding plane performs subnet-match check on multicast packets received on the interface to determine if the packet is from a directly-attached source. On unnumbered/point-to-point interfaces, all traffic is implicitly treated as coming from a remote source.

always

Treats all traffic received on the interface as coming from a directly-attached multicast source.

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never

Specifies that, on broadcast interfaces, traffic from directly-attached multicast sources will not be forwarded; however, traffic from a remote source will still be forwarded if there is a multicast state for it. On unnumbered/point-to-point interfaces, it means that all traffic received on that interface must not be forwarded.

Platforms

All

30.138 multicast-service

multicast-service

Syntax

multicast-service *service-id*

no multicast-service

Context

[Tree] (config>service>vprn>video-interface multicast-service)

[Tree] (config>service>ies>video-interface multicast-service)

Full Context

configure service vprn video-interface multicast-service

configure service ies video-interface multicast-service

Description

This command adds a multicast service association to the video interface. This parameter is not required on the video interface when the service carries both unicast and multicast traffic.

When multicast and unicast are carried in separate service instances, the operator can set this parameter on the unicast video interface to form an association with the multicast service when replies need to be sent in the multicast service instance.

When multicast and unicast are carried in separate services when a downstream device (such as a DSLAM) can perform a service cross connect between the services and performs multicast replication.

The **no** form of the command removes the multicast service association.

Parameters

service-id

The service ID of the associated multicast service.

Values *service-id*: 1 to 2147483647

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svc-name: 64 characters maximum

Platforms

7450 ESS, 7750 SR, 7750 SR-s

30.139 multicast6-fast-failover

multicast6-fast-failover

Syntax

[**no**] **multicast6-fast-failover**

Context

[Tree] (config>router>pim multicast6-fast-failover)

Full Context

configure router pim multicast6-fast-failover

Description

This command enables Multicast-Only Fast Reroute (MoFRR) functionality for IPv6 PIM-SSM interfaces in the global routing table instance.

The **no** form of this command disables MoFRR for IPv6 PIM-SSM interfaces.

Default

no multicast6-fast-failover

Platforms

All

30.140 multicastclient

multicastclient

Syntax

multicastclient [**authenticate**]

no multicastclient

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Context

[Tree] (config>system>time>ntp multicastclient)

Full Context

configure system time ntp multicastclient

Description

This command configures the node to receive multicast NTP messages on the CPM MGMT port. If the **multicastclient** command is not configured, received NTP multicast traffic is ignored. Use the **show** command to view the state of the configuration.

The **no** form of this command removes the multicast client for the specified interface from the configuration.

Parameters

authenticate

Specifies to make authentication a requirement (optional). If authentication is required, the authentication key ID received must have been configured in the **authentication-key** command, and that key ID type and key value must also match.

Platforms

All

30.141 multihop

multihop

Syntax

multihop *ttl-value*

no multihop

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy multihop)

Full Context

configure subscriber-mgmt bgp-peering-policy multihop

Description

This command configures the time to live (TTL) value entered in the IP header of packets sent to an EBGP peer multiple hops away.

This parameter is meaningful only when configuring EBGP peers. It is ignored if set for an IBGP peer.

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The **no** form of this command is used to convey to the BGP instance that the EBGP peers are directly connected.

The **no** form of this command reverts to default values.

Default

multihop 1 (EBGP peers are directly connected)

multihop 64 (IBGP)

Parameters

ttl-value

Specifies the TTL value, expressed as a decimal integer.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

multihop

Syntax

multihop *ttl-value*

no multihop

Context

[Tree] (config>service>vprn>bgp>group multihop)

[Tree] (config>service>vprn>bgp>group>neighbor multihop)

[Tree] (config>service>vprn>bgp multihop)

Full Context

configure service vprn bgp group multihop

configure service vprn bgp group neighbor multihop

configure service vprn bgp multihop

Description

This command configures the time to live (TTL) value entered in the IP header of packets sent to an EBGP peer multiple hops away.

This parameter is meaningful only when configuring EBGP peers. It is ignored if set for an IBGP peer.

The **no** form of this command is used to convey to the BGP instance that the EBGP peers are directly connected.

The **no** form of this command reverts to default values.

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Default

multihop 1 (EBGP peers are directly connected)

multihop 64 (IBGP)

Parameters

ttl-value

Specifies the TTL value, expressed as a decimal integer.

Values 1 to 255

Platforms

All

multihop

Syntax

multihop *ttl-value*

no multihop

Context

[Tree] (config>router>bgp multihop)

[Tree] (config>router>bgp>group>neighbor multihop)

[Tree] (config>router>bgp>group multihop)

Full Context

configure router bgp multihop

configure router bgp group neighbor multihop

configure router bgp group multihop

Description

This command configures the time to live (TTL) value entered in the IP header of packets sent to an EBGP peer multiple hops away.

The **no** form of this command is used to convey to the BGP instance that the EBGP peers are directly connected.

The **no** form of this command used at the global level reverts to default.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

multihop 1 — EBGP peers are directly connected.

multihop 64 — IBGP

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Parameters

ttl-value

Specifies the TTL value, expressed as a decimal integer.

Values 1 to 255

Platforms

All

30.142 multipath-eligible

multipath-eligible

Syntax

[**no**] **multipath-eligible**

Context

[Tree] (config>service>vprn>bgp>neighbor multipath-eligible)

[Tree] (config>service>vprn>bgp>group multipath-eligible)

Full Context

configure service vprn bgp neighbor multipath-eligible

configure service vprn bgp group multipath-eligible

Description

This command specifies that a BGP neighbor or the set of BGP neighbors in a peer group should be part of a selective multipath set. Selective multipaths are only supported by the ipv4, label-ipv4, ipv6, and label-ipv6 address families.

If no candidate multipath route for an IP prefix came from a multipath-eligible peer, multipaths are selected without further constraints.

If the best route for an IP prefix is received from a neighbor marked as multipath-eligible, other routes for the same prefix are not eligible to be used as multipaths unless they also came from peers marked as multipath-eligible.

If the best route for an IP prefix did not come from a multipath-eligible peer but there is at least one candidate multipath route for the same prefix from a multipath-eligible peer, multipath is not used.

The **no** form of this command marks a neighbor or group as non-multipath eligible. The effect of this depends on whether other neighbors and groups are marked as multipath eligible.

Default

no multipath-eligible

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Platforms

All

multipath-eligible

Syntax

[**no**] **multipath-eligible**

Context

[Tree] (config>router>bgp>group multipath-eligible)

[Tree] (config>router>bgp>group>neighbor multipath-eligible)

Full Context

configure router bgp group multipath-eligible

configure router bgp group neighbor multipath-eligible

Description

This command specifies that a BGP neighbor or the set of BGP neighbors in a peer group should be part of a selective multipath set. Selective multipaths are only supported by the **ipv4**, **label-ipv4**, **ipv6**, and **label-ipv6** address families.

If no candidate multipath route for an IP prefix came from a multipath-eligible peer then multipaths are selected without further constraints.

If the best route for an IP prefix is received from a neighbor marked as multipath-eligible, then other routes for the same prefix are not eligible to be used as multipaths unless they also came from peers marked as multipath-eligible.

If the best route for an IP prefix did not come from a multipath-eligible peer but there is at least one candidate multipath route for the same prefix from a multipath-eligible peer then multipath is not used.

The **no** form of this command marks a neighbor or group as non-multipath eligible. The effect of this depends on whether other neighbors and groups are marked as multipath eligible.

Default

no multipath-eligible

Platforms

All

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30.143 multiple-option

multiple-option

Syntax

multiple-option {**true** | **false**}

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match multiple-option)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match multiple-option)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match multiple-option

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match multiple-option

Description

This command configures the multiple-option match condition.

The **no** form of this command reverts to the default.

Parameters

true

Enables checking the number of IP options in the IP header.

false

Disables checking the number of IP options in the IP header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

multiple-option

Syntax

multiple-option {**true** | **false**}

no multiple-option

Context

[Tree] (config>filter>ip-filter>entry>match multiple-option)

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Full Context

configure filter ip-filter entry match multiple-option

Description

This command configures matching packets that contain one or more than one option fields in the IP header as an IP filter match criterion.

The **no** form of the command removes the checking of the number of option fields in the IP header as a match criterion.

Default

no multiple-option

Parameters

true

Specifies matching on IP packets that contain more than one option field in the header.

false

Specifies matching on IP packets that do not contain multiple option fields present in the header.

Platforms

All

multiple-option

Syntax

multiple-option {**true** | **false**}

no multiple-option

Context

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match multiple-option)

Full Context

configure system security cpm-filter ip-filter entry match multiple-option

Description

This command configures matching packets that contain more than one option fields in the IP header as an IP filter match criterion.

The **no** form of this command removes the checking of the number of option fields in the IP header as a match criterion.

Default

no multiple-option

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Parameters

true

Specifies matching on IP packets that contain more than one option field in the header.

false

Specifies matching on IP packets that do not contain multiple option fields present in the header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.144 multiplier

multiplier

Syntax

multiplier [*multiplier*]

no multiplier

Context

[Tree] (config>lag>bfd>family multiplier)

Full Context

configure lag bfd family multiplier

Description

This command specifies the detect multiplier used for a micro-BFD session over the associated LAG links. If a BFD control packet is not received for a period of multiplier X receive-interval then the session is declared down.

The **no** form of this command removes multiplier from the configuration.

Default

multiplier 3

Parameters

multiplier

Specifies the multiplier value.

Values 3 to 20

Platforms

All

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multiplier

Syntax

multiplier *multiplier-value*

no multiplier

Context

[Tree] (cfg>lag>eth-cfm>mep>csf multiplier)

[Tree] (config>port>ethernet>eth-cfm>mep>csf-enable multiplier)

Full Context

configure lag eth-cfm mep csf-enable multiplier

configure port ethernet eth-cfm mep csf-enable multiplier

Description

This command configures the multiplier used for timing out the CSF.

Parameters

multiplier-value

Specifies the multiplier used for timing out CSF.

Values 0.0, 2.0 to 30.0

Default 3.5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

multiplier

Syntax

multiplier *multiplier-value*

no multiplier

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>csf-enable multiplier)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>csf-enable multiplier)

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[Tree] (config>service>epipe>sap>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>vpls>sap>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep multiplier)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>csf-enable multiplier)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>csf-enable multiplier)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep csf-enable multiplier

configure service vpls mesh-sdp eth-cfm mep csf-enable multiplier

configure service ies subscriber-interface group-interface sap eth-cfm csf-enable multiplier

configure service epipe spoke-sdp eth-cfm mep csf-enable multiplier

configure service ies interface spoke-sdp eth-cfm mep csf-enable multiplier

configure service epipe sap eth-cfm mep csf-enable multiplier

configure service vpls spoke-sdp eth-cfm mep csf-enable multiplier

configure service vpls sap eth-cfm mep csf-enable multiplier

configure service vprn interface sap eth-cfm mep csf-enable multiplier

configure service ies subscriber-interface group-interface sap eth-cfm mep multiplier

configure service vprn subscriber-interface group-interface sap eth-cfm mep csf-enable multiplier

configure service ies interface sap eth-cfm mep csf-enable multiplier

Description

This command configures the multiplication factor applied to the receive time that is used to clear the CSF condition.

The **no** form of this command disables the multiplier used for timing out CSF.

Default

multiplier 3.5

Parameters

multiplier-value

Specifies the multiplication factor applied to the receive time that is used to clear the CSF condition. This value can only be configured in increments of 0.5. Configuring a value of 0.0 means that the CSF condition is cleared only when C-DCI is received.

Values 0.0, 2.0 to 30.0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure service ies interface sap eth-cfm mep csf-enable multiplier
- configure service epipe sap eth-cfm mep csf-enable multiplier
- configure service epipe spoke-sdp eth-cfm mep csf-enable multiplier
- configure service vprn interface sap eth-cfm mep csf-enable multiplier
- configure service vpls sap eth-cfm mep csf-enable multiplier
- configure service ies interface spoke-sdp eth-cfm mep csf-enable multiplier
- configure service vpls mesh-sdp eth-cfm mep csf-enable multiplier
- configure service vpls spoke-sdp eth-cfm mep csf-enable multiplier
- configure service vprn interface spoke-sdp eth-cfm mep csf-enable multiplier

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep multiplier
- configure service vprn subscriber-interface group-interface sap eth-cfm mep csf-enable multiplier

multiplier

Syntax

multiplier *multiplier*

no multiplier

Context

[Tree] (config>router>bfd>bfd-template multiplier)

Full Context

configure router bfd bfd-template multiplier

Description

This command specifies the detect multiplier for a BFD session. If a BFD control packet is not received for a period of *multiplier* x *receive-interval* (the parameter value of the **receive-interval** command), the session is declared down.

The **no** form of this command reverts to the default value.

Default

multiplier 3

Parameters

multiplier

Specifies the multiplier.

Values 3 to 20

Default 3

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Platforms

All

multiplier

Syntax

multiplier *sample-window-durations*

Context

[Tree] (config>test-oam>link-meas>template>asw multiplier)

Full Context

configure test-oam link-measurement measurement-template aggregate-sample-window multiplier

Description

This command configures the number of sample windows in an aggregate sample window.

Default

multiplier 12

Parameters

sample-window-durations

Specifies the number of sample windows

Values 1 to 12

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

multiplier

Syntax

multiplier *interval-durations*

Context

[Tree] (config>test-oam>link-meas>template>sw multiplier)

Full Context

configure test-oam link-measurement measurement-template sample-window multiplier

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Description

This command configures the number of probe results that should be in the sample window. For example, a multiplier of 10 and an interval of 5 results in 50 probes being transmitted from an individual sample window. Consequently, 50 probe results are expected within the 50 second duration that the sample window is "In-progress”.

Default

multiplier 10

Parameters

interval-durations

Specifies the number of intervals in a sample window.

Values 1 to 900

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

multiplier

Syntax

multiplier *multiplier*

no multiplier

Context

[Tree] (config>router>lsp-bfd>tail-end multiplier)

Full Context

configure router lsp-bfd tail-end multiplier

Description

This command configures the LSP BFD multiplier for the tail end of LSP BFD sessions.

The **no** form of this command reverts to the default value.

Default

multiplier 3

Parameters

multiplier

Specifies the multiplier.

Values 1 to 20

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Default 3

Platforms

All

multiplier

Syntax

multiplier *intervals*

Context

[Tree] (config>test-oam>lag-meas>template>sw multiplier)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template sample-window multiplier

Description

This command configures the duration of each sample window length, which is equal to the interval multiplied by this value.

Default

multiplier 10

Parameters

intervals

Specifies the duration of the sample window length.

Values 1 to 900

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

30.145 multipliers

multipliers

Syntax

multipliers sample-multiplier *num1* **adjust-multiplier** *num2*

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no multipliers

Context

[Tree] (config>router>mpls>lsp-template>auto-bandwidth multipliers)

[Tree] (config>router>mpls>lsp>auto-bandwidth multipliers)

Full Context

configure router mpls lsp-template auto-bandwidth multipliers

configure router mpls lsp auto-bandwidth multipliers

Description

This command configures the sample multiplier and adjust multiplier for an LSP.

The sample multiplier is the number of collection intervals between periodic computations of the data rate of the LSP. The byte count includes the Layer 2 encapsulation of MPLS packets and represents traffic of all forwarding classes and priorities (in-profile versus out-of-profile) belonging to the LSP. The router calculates the average data rate (in bits per second) over each sample interval.

The adjust multiplier is the number of collection intervals between periodic evaluations by the ingress LER about whether to adjust the LSP bandwidth. The router keeps track of the maximum average data rate of each LSP since the last reset of the adjust count. The maximum of this average data rate over multiple sample intervals is the measured bandwidth input to the auto-bandwidth adjustment algorithms.

Setting the adjust multiplier to a value less than the sample multiplier is not allowed. Nokia recommends setting the adjust multiplier to a multiple of the sample multiplier.

The **no** form of this command instructs the system to use the values configured in the **configure router mpls auto-bandwidth-multipliers** command.

Default

no multipliers

Parameters

num1

Specifies the number of collection intervals in a sample interval.

Values 1 to 511

num2

Specifies the number of collection intervals in an adjust interval.

Values 1 to 16383

Platforms

All

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30.146 multistream-spmsi

multistream-spmsi

Syntax

multistream-spmsi *index* [**create**]

no multistream-spmsi *index*

Context

[Tree] (config>service>vprn>mvpn>pt>selective multistream-spmsi)

Full Context

configure service vprn mvpn provider-tunnel selective multistream-spmsi

Description

This command creates a multi-stream S-PMSI policy. Having multiple multi-stream S-PMSIs per MVPN creates a link list, in which the first match (lowest index) will be chosen for a multicast stream. The number of configured multi-stream S-PMSIs cannot exceed the configured maximum S-PMSI for a given MVPN.

Parameters

index

Specifies the index number.

Values 1 to 1024

Platforms

All

30.147 mvpn

mvpn

Syntax

mvpn

Context

[Tree] (config>service>vprn mvpn)

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Full Context

configure service vprn mvpn

Description

Commands in this context configure MVPN-related parameters for the IP VPN.

Platforms

All

mvpn

Syntax

[**no**] **mvpn**

Context

[Tree] (config>router>ldp>import-pmsi-routes mvpn)

Full Context

configure router ldp import-pmsi-routes mvpn

Description

This command specifies that the SR OS is to cache inter-as MVPN PMSI AD routes for option B.

The **no** form of this command disables caching of MVPN PMSI AD routes. The default is disabled, however when an upgrade from a software load that does not supports this command is performed, this command will be enabled after the upgrade.

This command is not enabled if the user is using an older config file.

Default

no mvpn

Platforms

All

mvpn

Syntax

[**no**] **mvpn**

Context

[Tree] (config>router>gtm mvpn)

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Full Context

configure router gtm mvpn

Description

This command enables and disables the context to configure MVPN-related parameters.

Platforms

All

30.148 mvpn-ipv4

mvpn-ipv4

Syntax

mvpn-ipv4 send *send-limit* **receive** [**none**]

mvpn-ipv4 send *send-limit*

no mvpn-ipv4

Context

[Tree] (config>router>bgp>group>neighbor>add-paths mvpn-ipv4)

[Tree] (config>router>bgp>group>add-paths mvpn-ipv4)

[Tree] (config>router>bgp>add-paths mvpn-ipv4)

Full Context

configure router bgp group neighbor add-paths mvpn-ipv4

configure router bgp group add-paths mvpn-ipv4

configure router bgp add-paths mvpn-ipv4

Description

This command configures the add-paths capability for multicast VPN IPv4 routes. By default, add-paths is not enabled for multicast VPN IPv4 routes.

The maximum number of paths per multicast VPN IPv4 NRLI to send is the configured *send-limit*, which is a mandatory parameter. The capability to receive multiple multicast paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command, receive capability is enabled by default. The **none** option disables the receive capability.

The **no** form of this command disables add-paths support for multicast VPN IPv4 routes, causing sessions established using add-paths for multicast VPN IPv4 to go down and come back up without the add-paths capability.

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Default

no mvpn-ipv4

Parameters

send-limit

Specifies the maximum number of paths per multicast VPN IPv4 NRLI that are allowed to be advertised to add-paths peers. The actual number of advertised routes may be less. If the value is **none**, the router does not negotiate the send capability with respect to multicast VPN IPv4 AFI/SAFI.

Default 1 to 16, none

receive

Specifies that the router negotiates to receive multiple routes per multicast VPN IPv4 NRLI.

none

Specifies that the router does not negotiate to receive multiple routes per multicast VPN IPv4 NRLI.

Platforms

All

30.149 mvpn-ipv6

mvpn-ipv6

Syntax

mvpn-ipv6 send *send-limit* **receive** [**none**]

mvpn-ipv6 send *send-limit*

no mvpn-ipv6

Context

[Tree] (config>router>bgp>group>neighbor>add-paths mvpn-ipv6)

[Tree] (config>router>bgp>group>add-paths mvpn-ipv6)

[Tree] (config>router>bgp>add-paths mvpn-ipv6)

Full Context

configure router bgp group neighbor add-paths mvpn-ipv6

configure router bgp group add-paths mvpn-ipv6

configure router bgp add-paths mvpn-ipv6

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Description

This command configures the add-paths capability for multicast VPN IPv6 routes. By default, add-paths is not enabled for multicast VPN IPv6 routes.

The maximum number of paths per multicast VPN IPv6 NRLI to send is the configured *send-limit*, which is a mandatory parameter. The capability to receive multiple multicast VPN paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command, receive capability is enabled by default. The **none** option disables the receive capability.

The **no** form of this command disables add-paths support for multicast VPN IPv6 routes, causing sessions established using add-paths for multicast VPN IPv6 to go down and come back up without the add-paths capability.

Default

no mvpn-ipv6

Parameters

send-limit

Specifies the maximum number of paths per multicast VPN IPv6 NRLI that are allowed to be advertised to add-paths peers. The actual number of advertised routes may be less. If the value is **none**, the router does not negotiate the send capability with respect to multicast VPN IPv6 AFI/SAFI.

receive

Specifies that the router negotiates to receive multiple routes per multicast VPN IPv6 NRLI.

none

Specifies that the router does not negotiate to receive multiple routes per multicast VPN IPv6 NRLI.

Platforms

All

30.150 mvpn-no-export

mvpn-no-export

Syntax

[**no**] **mvpn-no-export**

Context

[Tree] (config>router>ldp>import-pmsi-routes mvpn-no-export)

Full Context

configure router ldp import-pmsi-routes mvpn-no-export

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Description

This command specifies that the SR OS is to cache intra-as MVPN PMSI AD routes for option B.

The **no** form of this command disables caching of intra-as MVPN PMSI AD routes. The default is disabled, however when an upgrade from a software load that does not supports this command is performed, this command will be enabled after the upgrade.

This command is enabled if the user is using an older config file.

Default

no mvpn-no-export

Platforms

All

30.151 mvpn-rtcache

mvpn-rtcache

Syntax

mvpn-rtcache [**group** *grp-ip-address*] [**peer** *ip-address*]

no mvpn-rtcache

Context

[Tree] (debug>router>pim mvpn-rtcache)

Full Context

debug router pim mvpn-rtcache

Description

This command enables debugging for the PIM MVPN route cache.

The **no** form of this command disables debugging for the PIM MVPN route cache.

Parameters

grp-ip-address

Debugs information associated with the specified group.

Values multicast group address (ipv4, ipv6) or zero

peer-ip-address

Debugs information associated with the specified peer.

Values peer address (ipv4, ipv6)

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Platforms

All

30.152 mvpn-type

mvpn-type

Syntax

mvpn-type {**1** | **2** | **3** | **4** | **5** | **6** | **7**}

no mvpn-type

Context

[Tree] (config>router>policy-options>policy-statement>entry>from mvpn-type)

Full Context

configure router policy-options policy-statement entry from mvpn-type

Description

This command allows match on ng-MVPN BGP route type when the policy is used for VRF-import/VRF-export/BGP global export policy. The policy will only be applied to multicast routes.

The **no** form of this command disables **mvpn-type** in the policy evaluation.

Default

no mvpn-type

Parameters

1 | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7***

BGP MVPN route-type as per RFC 6514.

Platforms

All

30.153 mvpn-vrf-import-subtype-new

mvpn-vrf-import-subtype-new

Syntax

[**no**] **mvpn-vrf-import-subtype-new**

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Context

[Tree] (config>router>bgp mvpn-vrf-import-subtype-new)

Full Context

configure router bgp mvpn-vrf-import-subtype-new

Description

When enabled, the type/subtype in advertised routes is encoded as 0x010b.

The **no** form of this command (the default) encodes the type/subtype as 0x010a (to preserve backwards compatibility).

Default

no mvpn-vrf-import-subtype-new

Platforms

All

30.154 mvr

mvr

Syntax

mvr

Context

[Tree] (config>service>vpls>igmp-snooping mvr)

[Tree] (config>service>vpls>sap>igmp-snooping mvr)

[Tree] (config>service>vpls>sap>mld-snooping mvr)

[Tree] (config>service>vpls>mld-snooping mvr)

Full Context

configure service vpls igmp-snooping mvr

configure service vpls sap igmp-snooping mvr

configure service vpls sap mld-snooping mvr

configure service vpls mld-snooping mvr

Description

Commands in this context configure Multicast VPLS Registration (MVR) parameters.

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Platforms

All

mvr

Syntax

mvr

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp mvr)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mvr

Description

Commands in this context configure Multicast VPLS Registration (MVR) parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

30.155 mvrp

mvrp

Syntax

mvrp

Context

[Tree] (config>service>vpls>sap>mrp mvrp)

[Tree] (config>service>vpls>mrp mvrp)

Full Context

configure service vpls sap mrp mvrp

configure service vpls mrp mvrp

Description

This object consolidates the MVRP attributes. MVRP is only supported initially in the management VPLS so the object is not supported under BVPLS, IVPLS or regular VPLS not marked with the m-vpls tag.

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Platforms

All

30.156 mvrp-control

mvrp-control

Syntax

[**no**] **mvrp-control**

Context

[Tree] (config>service>vpls>vpls-group mvrp-control)

Full Context

configure service vpls vpls-group mvrp-control

Description

This command enables MVRP control in the VPLS instances instantiated using the templates for the specified vpls-group. That means the flooding FDB will be created empty and will be populated with endpoints whenever MVRP receives a declaration and a registration on a specific endpoint. Also the VLAN ID associated by the control VPLS with the instantiated VPLS will be declared on service activation by MVRP on all virtual MVRP ports in the control VPLS. Service activation takes place when at least one other SAP is provisioned and brought up under the data VPLS. This is usually a customer facing SAP or a SAP leading outside of the MVRP controlled domain.

The **no** form of this command disallows MVRP control over this VPLS. The VPLS will be created with a regular FDB and will become as a result active upon creation time. Command change is allowed only when the related vpls-group is in shutdown state.

Default

no mvrp-control

Platforms

All

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31 n Commands

31.1 n393

n393

Syntax

n393 [*value*]

no n393

Context

[Tree] (config>port>ethernet>elmi n393)

Full Context

configure port ethernet elmi n393

Description

This command configures the monitored count of consecutive errors.

Parameters

value

Specifies the monitored count of consecutive errors.

Values 2 to 10

Platforms

All

31.2 nak-non-matching-subnet

nak-non-matching-subnet

Syntax

[**no**] **nak-non-matching-subnet**

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Context

[Tree] (config>service>vprn>dhcp>server>pool nak-non-matching-subnet)

[Tree] (config>router>dhcp>server>pool nak-non-matching-subnet)

Full Context

configure service vprn dhcp local-dhcp-server pool nak-non-matching-subnet

configure router dhcp local-dhcp-server pool nak-non-matching-subnet

Description

When this command is enabled, if the local DHCPv4 server receives a DHCP request with option 50 (client requested a previously allocated message as described in section 3.2 of RFC 2131, *Dynamic Host Configuration Protocol*) and the address allocation algorithm uses a pool that does not have option 50, the system returns a DHCP NAK. Otherwise, the system drops the DHCP packet.

The **no** form of this command reverts to the default.

Default

no nak-non-matching-subnet

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.3 name

name

Syntax

name *header-name*

Context

[Tree] (config>app-assure>group>http-enrich>field name)

Full Context

configure application-assurance group http-enrich field name

Description

This command configures an HTTP enrichment template field header name.

The **no** form of this command removes the http enrichment template field header name from the configuration.

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Parameters

header-name

Specifies the name of the http enrichment policy that is inserted before the actual field name (for example, x-subId = subscriberID).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

name

Syntax

name *system-name*

no name

Context

[Tree] (config>system name)

Full Context

configure system name

Description

This command creates a system name string for the device.

For example, system-name parameter ALA-1 for the **name** command configures the device name as ALA-1.

```
ABC>config>system# name "ALA-1"
ALA-1>config>system#
```

Only one system name can be configured. If multiple system names are configured, the last one encountered overwrites the previous entry.

The **no** form of the command reverts to the default value.

Default

no name

Parameters

system-name

Specifies the system name as a character string. The string may be up to 64 characters. Any printable, seven-bit ASCII characters can be used within the string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

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name

Syntax

name *name-string* **value** *value-string*

name *name-string* **address** *ip-address*

name *name-string* **decimal** *decimal*

name *name-string* **number** *value-number*

name *name-string* **prefix** *ip-prefix/ip-prefix-length*

no name *name-string*

Context

[Tree] (config>router>policy-options>global-variables name)

[Tree] (config>router>policy-options>policy-statement>entry>from>policy-variables name)

Full Context

configure router policy-options global-variables name

configure router policy-options policy-statement entry from policy-variables name

Description

This command configures routing policies that are often reused across BGP peers of a common type (transit, peer, customer, and so on). Using global variables allows a user to have a single variable that is consistent across all peers of a type, while retaining the flexibility to reference different policy functions (prefixes, prefix-lists, community lists, and so on) with unique names.

Depending on the parameter referenced, specify the correct type as follows:

- value-string: **as-path, as-path-group, community, prefix-list, damping**
- ip-address: **next-hop**
- value-number: **aigp-metric, as-path-prepend, local-preference, metric, origin, origin-validation, preference, tag, type**

The **no** form of this command removes the global variable.

Parameters

name-string

Specifies the name of the global variable, with the variable delimited by at-signs (@) at the beginning and the end of the name. Allowed values are any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

value-string

The value of the policy variable. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

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value-number

Specifies the numerical value of the policy variable.

Values 0 to 4294967295

ip-address

Specifies the IP address of the policy variable.

Values		
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D

decimal

Specifies the decimal value of the policy variable.

Values 0.000 to 4294967295.000

ip-prefix/ip-prefix-length

Specifies the IP prefix and prefix length of the policy variable.

Values		
	ip-prefix/ip-prefix-length	*ipv4-prefix*/*ipv4-prefix-length* | *ipv6-prefix*/*ipv6-prefix-length*
	ipv4-prefix	a.b.c.d (host bits must be 0)
	ipv4-prefix-length	[0 to 32]
	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D
	ipv6-prefix-length	[0 to 128]

Platforms

All

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31.4 named-display

named-display

Syntax

[**no**] **named-display**

Context

[Tree] (config>eth-cfm>system named-display)

Full Context

configure eth-cfm system named-display

Description

This command configures name-based display on the system for **show eth-cfm** CLI outputs. By default, the CLI outputs only display the values for the domain *md-index*, association *ma-index*, and bridge-identifier *bridge-number*. When this command is enabled, the outputs also display the administrative names for domains, associations, and bridge-identifiers in addition to the numerical values.

The **no** form of this command disables name-based display for **show eth-cfm** CLI outputs.

Default

no named-display

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

31.5 named-pool-policy

named-pool-policy

Syntax

named-pool-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy named-pool-policy)

Full Context

configure qos copy named-pool-policy

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Description

This command copies an existing **named-pool-policy** to another **named-pool-policy**. The **copy** command is a configuration level maintenance tool used to create new entries using an existing profile ID. If **overwrite** is not specified, an error occurs if the destination policy exists.

Parameters

src-name

Specifies the existing source **named-pool-policy**, up to 32 characters, from which the **copy** command attempts to copy.

dst-name

Specifies the destination **named-pool-policy** *dst-name*, up to 32 characters, to which the copy command attempts to copy.

overwrite

Use this parameter when the **named-pool-policy** *dst-name* already exists. If it does, everything in the existing destination **named-pool-policy** *dst-name* is completely overwritten with the contents of the **named-pool-policy** *src-name*. The **overwrite** parameter must be specified or else the following error message is returned:

```
MINOR: CLI use {overwrite}; destination named-pool-policy "test"
exists.
```

If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make" manner and therefore should be handled with care.

Platforms

All

31.6 nas-identifier

nas-identifier

Syntax

[**no**] **nas-identifier**

Context

[Tree] (config>aaa>l2tp-acct-plcy>include-radius-attribute nas-identifier)

Full Context

configure aaa l2tp-accounting-policy include-radius-attribute nas-identifier

Description

This command enables the generation of the nas-identifier RADIUS attribute.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-identifier

Syntax

[**no**] **nas-identifier**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute nas-identifier)

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute nas-identifier)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute nas-identifier

configure subscriber-mgmt authentication-policy include-radius-attribute nas-identifier

Description

This command enables the generation of the **nas-identifier** RADIUS attribute.

The **no** form of this command disables the generation of the **nas-identifier** RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-identifier

Syntax

[**no**] **nas-identifier**

Context

[Tree] (config>ipsec>rad-auth-plcy>include nas-identifier)

[Tree] (config>ipsec>rad-acct-plcy>include nas-identifier)

Full Context

configure ipsec radius-authentication-policy include-radius-attribute nas-identifier

configure ipsec radius-accounting-policy include-radius-attribute nas-identifier

Description

This command enables the generation of the **nas-identifier** RADIUS attribute.

Default

no nas-identifier

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nas-identifier

Syntax

[**no**] **nas-identifier**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nas-identifier)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes nas-identifier)

Full Context

configure aaa isa-radius-policy acct-include-attributes nas-identifier

configure aaa isa-radius-policy auth-include-attributes nas-identifier

Description

This command enables the inclusion of the NAS-Identifier attributes.

The **no** form of the command excludes NAS-Identifier attributes.

Default

no nas-identifier

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.7 nas-ip-addr

nas-ip-addr

Syntax

[**no**] **nas-ip-addr**

Context

[Tree] (config>ipsec>rad-acct-plcy>include nas-ip-addr)

[Tree] (config>ipsec>rad-auth-plcy>include nas-ip-addr)

Full Context

configure ipsec radius-accounting-policy include-radius-attribute nas-ip-addr

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configure ipsec radius-authentication-policy include-radius-attribute nas-ip-addr

Description

This command enables the generation of the NAS IP address attribute.

Default

no nas-ip-addr

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.8 nas-ip-address

nas-ip-address

Syntax

[**no**] **nas-ip-address**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nas-ip-address)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes nas-ip-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes nas-ip-address

configure aaa isa-radius-policy auth-include-attributes nas-ip-address

Description

This command enables the generation of the NAS-IP-Address RADIUS attribute.

Default

no nas-ip-address

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.9 nas-ip-address-origin

nas-ip-address-origin

Syntax

nas-ip-address-origin {**isa-ip** | **system-ip**}

no nas-ip-address-origin

Context

[Tree] (config>aaa>isa-radius-plcy nas-ip-address-origin)

Full Context

configure aaa isa-radius-policy nas-ip-address-origin

Description

This command specifies the RADIUS NAS-IP-Address attribute.

The **no** form of the command reverts to the default.

Default

nas-ip-address-origin system-ip

Parameters

system-ip

Specifies that the value of the object TIMETRA-VRTR-MIB::vRiaIpAddress.1.1.1 is used.

isa-ip

Specifies that a value in the range specified by tmnxRadIsaPlcySrvSrcAddrStart and tmnxRadIsaPlcySrvSrcAddrEnd is used that corresponds to the ISA card that transmits the Access-Request packet or the Accounting-Request packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.10 nas-ipv6-address

nas-ipv6-address

Syntax

[**no**] **nas-ipv6-address**

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Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nas-ipv6-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes nas-ipv6-address

Description

This command configures the router to include the NAS-IPv6-Address attribute in RADIUS accounting messages using the address specified in the **configure aaa isa-radius-policy nas-ip-address-origin** command. The NAS-IPv6-Address attribute is included in both IPv4 and IPv6 RADIUS connections.

The **no** form of this command configures the router to exclude the NAS-IPv6-Address attribute from RADIUS accounting messages.

Default

nas-ipv6-address

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nas-ipv6-address

Syntax

[**no**] **nas-ipv6-address**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes nas-ipv6-address)

Full Context

configure aaa isa-radius-policy auth-include-attributes nas-ipv6-address

Description

This command configures the router to include the NAS-IPv6-Address attribute in RADIUS authentication messages using the address specified in the **configure aaa isa-radius-policy nas-ip-address-origin** command. The NAS-IPv6-Address attribute is included in both IPv4 and IPv6 RADIUS connections.

The **no** form of this command configures the router to exclude the NAS-IPv6-Address attribute from RADIUS authentication messages.

Default

nas-ipv6-address

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.11 nas-port

nas-port

Syntax

[**no**] **nas-port** *binary-spec*

Context

[Tree] (config>aaa>l2tp-acct-plcy>include-radius-attribute nas-port)

Full Context

configure aaa l2tp-accounting-policy include-radius-attribute nas-port

Description

This command enables the generation of the nas-port RADIUS attribute. Enter decimal representation of a 32-bit string that indicates the port information. This 32-bit string can be compiled based on different information from the port (data types). Using number-of-bits data-type syntax indicates the number of bits from the 32 bits that are used for the specific data type. These data types can be combined up to 32 bits. In between the different data types 0s and 1s as bits can be added.

The **no** form of this command disables the **nas-port** configuration.

Parameters

binary-spec

Specifies the NAS port attribute.

Values

binary-spec	<bit-specification> <binary-spec>
bit-specification	0 | 1 | <bit-origin>
bit-origin	*<number-of-bits><origin>
number-of-bits	1 to 32
origin	s | m | p | o | i | v | c
	s slot number
	m MDA number
	p port number, lag-id, pw-id or pxc-id
	o outer VLAN ID
	i inner VLAN ID
	v ATM VPI

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c ATM VCI or PXC subport (subport a = 0, subport b = 1)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

Output

The following output shows an example.

Output Example

```
*12o*12i00*2s*2m*2p => oooo oooo oooo iiii iiii iiii 00ss mmpp
If outer vlan = 0 & inner vlan = 1 & slot = 3 & mda = 1 & port = 1
=>  0000 0000 0000 0000 0000 0001 0011 0101 => nas-port = 309
```

nas-port

Syntax

nas-port *binary-spec*

no nas-port

Context

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute nas-port)

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute nas-port)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute nas-port

configure subscriber-mgmt radius-accounting-policy include-radius-attribute nas-port

Description

This command enables the generation of the **nas-port** RADIUS attribute. You enter decimal representation of a 32-bit string that indicates your port information. This 32-bit string can be compiled based on different information from the port (data types). By using syntax number-of-bits data-type you indicate how many bits from the 32 bits are used for the specific data type. These data types can be combined up to 32 bits. In between the different data types 0's and/or 1's as bits can be added.

The **no** form of this command disables the **nas-port** configuration.

Parameters

binary-spec

Specifies the NAS port attribute.

Values binary-spec <bit-specification> <binary-spec>

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bit-specification	0 | 1 | <bit-origin>
bit-origin	*<number-of-bits><origin>
number-of-bits	1 to 32
origin	s | m | p | o | i | v | c
	s slot number
	m MDA number
	p port number, lag-id, pw-id or pxc-id
	o outer VLAN ID
	i inner VLAN ID
	v ATM VPI
	c ATM VCI or PXC subport (subport a = 0, subport b = 1)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

Output

The following is an example of binary spec information.

Output Example

```
*12o*12i00*2s*2m*2p => oooo oooo oooo iiii iiii iiii 00ss mmpp
If outer vlan = 0 & inner vlan = 1 & slot = 3 & mda = 1 & port = 1
=>  0000 0000 0000 0000 0000 0001 0011 0101 => nas-port = 309
```

nas-port

Syntax

nas-port *binary-spec*

no nas-port

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp nas-port)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp nas-port)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp nas-port

configure subscriber-mgmt diameter-application-policy gx include-avp nas-port

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Description

This command specifies the format of the 32 bit string used as value for the Nas-Port AVP.

Parameters

binary-spec

Specifies the NAS-Port AVP format.

Values

binary-spec	<bit-specification> <binary-spec>	
bit-specification	0 | 1 | <bit-origin>	
bit-origin	*<number-of-bits><origin>	
number-of-bits	1 to 32	
origin	s | m | p | o | i | v | c	
	s	slot number
	m	MDA number
	p	port number, lag-id, pw-id or pxc-id
	o	outer VLAN ID
	i	inner VLAN ID
	v	ATM VPI
	c	ATM VCI or PXC subport (subport a = 0, subport b = 1)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port

Syntax

[**no**] **nas-port**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nas-port)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes nas-port)

Full Context

configure aaa isa-radius-policy acct-include-attributes nas-port

configure aaa isa-radius-policy auth-include-attributes nas-port

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Description

This command enables the generation of the NAS-Port RADIUS attribute.

Default

no nas-port

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.12 nas-port-id

nas-port-id

Syntax

nas-port-id

nas-port-id [**prefix-string** *string*] [**suffix** *suffix-option*]

no nas-port-id

Context

[Tree] (config>aaa>l2tp-acct-plcy>include-radius-attribute nas-port-id)

Full Context

configure aaa l2tp-accounting-policy include-radius-attribute nas-port-id

Description

This command enables the generation of the nas-port-id RADIUS attribute. Optionally, the value of this attribute (the SAP ID) can be prefixed by a fixed string and suffixed by the circuit-id or the remote-id of the client connection. If a suffix is configured, but no corresponding data is available, the suffix used is 0/0/0/0/0/0.

The **no** form of this command reverts to the default.

Parameters

string

Specifies that a user configurable string be added to the RADIUS NAS port attribute, up to 8 characters.

suffix-option

Specifies the suffix type to be added to the RADIUS NAS port attribute.

Values circuit-id, remote-id

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port-id

Syntax

[**no**] **nas-port-id** [**prefix-string** *string*] [**suffix** *suffix-option*]

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute nas-port-id)

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute nas-port-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute nas-port-id

configure subscriber-mgmt authentication-policy include-radius-attribute nas-port-id

Description

This command enables the generation of the **nas-port-id** RADIUS attribute. Optionally, the value of this attribute (the SAP ID) can be prefixed by a fixed string and suffixed by the circuit-id or the remote-id of the client connection. If a suffix is configured, but no corresponding data is available, the suffix used is 0/0/0/0/0/0.

The **no** form of this command disables the generation of the **nas-port-id** RADIUS attribute.

Parameters

string

Specifies that a user configurable string is added to the RADIUS NAS port attribute, up to 8 characters.

suffix-option

Specifies the suffix type to be added to the RADIUS NAS port attribute.

Values circuit-id, remote-id

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port-id

Syntax

nas-port-id [**prefix-type** {**none** | **user-string**}] [**prefix-string** *prefix-string*] [**suffix-type** {**circuit-id** | **none** | **remote-id** | **user-string**}] [**suffix-string** *suffix-string*]

no nas-port-id

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Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp nas-port-id)

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp nas-port-id)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp nas-port-id

configure subscriber-mgmt diameter-application-policy nasreq include-avp nas-port-id

Description

This command includes the Nas-Port-Id AVP.

Parameters

prefix-type

Specifies what type of prefix is added to the NAS-Port-Id attribute if included in Nas-Port-Id AVP messages.

Values **none** — No prefix is added

user-string — Specifies the user configurable string to be added as prefix to the NAS-Port-Id attribute if included in DIAMETER Gx messages

prefix-string

Specifies the user configurable string up to 8 characters, to be added as a prefix.

suffix-type}

Specifies the suffix to be added to the NAS-Port attribute NAS-Port AVP.

Values **none** — No suffix is added

circuit-id — Specifies the circuit-id is added as suffix-string

remote-id — Specifies the remote-id is added as suffix-string

user-string — Specifies a user configurable suffix-string is added

suffix-string

Specifies the string, up to 64 characters, to be added as suffix.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port-id

Syntax

[**no**] **nas-port-id**

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Context

[Tree] (config>ipsec>rad-auth-plcy>include nas-port-id)

[Tree] (config>ipsec>rad-acct-plcy>include nas-port-id)

Full Context

configure ipsec radius-authentication-policy include-radius-attribute nas-port-id

configure ipsec radius-accounting-policy include-radius-attribute nas-port-id

Description

This command enables the generation of the **nas-port-id** RADIUS attribute. Optionally, the value of this attribute (the SAP-id) can be prefixed by a fixed string and suffixed by the circuit-id or the remote-id of the client connection. If a suffix is configured, but no corresponding data is available, the suffix used will be 0/0/0/0/0/0.

Default

no nas-port-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nas-port-id

Syntax

[**no**] **nas-port-id**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes nas-port-id)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nas-port-id)

Full Context

configure aaa isa-radius-policy auth-include-attributes nas-port-id

configure aaa isa-radius-policy acct-include-attributes nas-port-id

Description

This command enables the generation of the nas-port-id RADIUS attribute. Optionally, the value of this attribute (the SAP-id) can be prefixed by a fixed string and suffixed by the circuit-id or the remote-id of the client connection. If a suffix is configured, but no corresponding data is available, the suffix used will be 0/0/0/0/0/0.

Default

no nas-port-id

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.13 nas-port-type

nas-port-type

Syntax

nas-port-type

nas-port-type [*type*]

no nas-port-type

Context

[Tree] (config>aaa>l2tp-acct-plcy>include-radius-attribute nas-port-type)

Full Context

configure aaa l2tp-accounting-policy include-radius-attribute nas-port-type

Description

This command enables the generation of the nas-port-type RADIUS attribute. If set to **nas-port-type**, the following values are sent: 32 (null-encap), 33 (dot1q), 34 (qinq), 15 (DHCP hosts). The **nas-port-type** can also be set as a specified value, with an integer from 0 to 255.

The **no** form of this command reverts to the default.

Parameters

type

Specifies an enumerated integer that specifies the value that is put in the RADIUS nas-port-type attribute.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port-type

Syntax

nas-port-type

nas-port-type *value*

no nas-port-type

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Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute nas-port-type)

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute nas-port-type)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute nas-port-type

configure subscriber-mgmt authentication-policy include-radius-attribute nas-port-type

Description

This command enables the generation of the **nas-port-type** RADIUS attribute. If set to **nas-port-type**, the following values are sent: 32 (null-encap), 33 (dot1q), 34 (qinq), 15 (DHCP hosts). The **nas-port-type** can also be set as a specified value, with an integer from 0 to 255.

The **no** form of this command disables the generation of the **nas-port-type** RADIUS attribute

Parameters

value

Specifies an enumerated integer that specifies the value that is put in the RADIUS nas-port-type attribute.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port-type

Syntax

nas-port-type

nas-port-type [*type*]

no nas-port-type

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp nas-port-type)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp nas-port-type)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp nas-port-type

configure subscriber-mgmt diameter-application-policy gx include-avp nas-port-type

Description

This command includes the Nas-Port-Type AVP.

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Parameters

none

Specifies values as defined in RFC 2865, Remote Authentication Dial-In User Service (RADIUS), and RFC 4603, Additional Values for the NAS-Port-Type Attribute.

type

Specifies the integer value for the Nas-Port-Type AVP.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

nas-port-type

Syntax

[**no**] **nas-port-type**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes nas-port-type)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nas-port-type)

Full Context

configure aaa isa-radius-policy auth-include-attributes nas-port-type

configure aaa isa-radius-policy acct-include-attributes nas-port-type

Description

This command enables the generation of the NAS-Port-Type RADIUS attribute.

The **no** form of the command disables the generation.

Default

no nas-port-type

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.14 nasreq

nasreq

Syntax

nasreq

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy nasreq)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq

Description

Commands in this context configure NASREQ application-specific attributes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.15 nat

nat

Syntax

nat

Context

[Tree] (config>isa>wlan-gw-group nat)

Full Context

configure isa wlan-gw-group nat

Description

Commands in this context configure NAT parameters under wlan-gw-group.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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nat

Syntax

[**no**] **nat**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync nat)

Full Context

configure redundancy multi-chassis peer sync nat

Description

Commands in this context synchronize NAT groups.

The **no** form of this command disables the feature.

Default

nat

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat

Syntax

[**no**] **nat**

Context

[Tree] (config>router nat)

[Tree] (config>service>vprn nat)

Full Context

configure router nat

configure service vprn nat

Description

This command enables a NAT instance for the specified router or service.

The **no** form of this command disables the NAT instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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nat

Syntax

nat

Context

[Tree] (config>li>li-source nat)

Full Context

configure li li-source nat

Description

Commands in this context configure LI NAT parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat

Syntax

nat

Context

[Tree] (config>subscriber-mgmt>pfcp-association nat)

Full Context

configure subscriber-mgmt pfcp-association nat

Description

Commands in this context configure NAT groups for BNG CUPS PFCP association (see the **nat-group** command in the **config**>**subscriber-mgmt**>**pfcp-association**>**nat** context).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat

Syntax

nat [**nat-policy** *nat-policy-name*]

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Context

[Tree] (config>filter>ip-filter>entry>action nat)

Full Context

configure filter ip-filter entry action nat

Description

This command enables NAT traffic diversion based on IPv4 filters (LSN44) or IPv6 filters (DS-Lite, NAT64). The filter contains a matching condition based on any combination of the 5 tuple. Traffic is diverted to NAT based on such defined matching condition. Filter fields outside of the 5 tuples are not valid and it will be ignored in filter based traffic diversion to NAT.

The pool selection for the outside IP address and port along with other mapping characteristics can be specified by the means on the NAT policy.

Parameters

nat-type

Specifies the NAT type.

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat

Syntax

nat nat-type *nat-type* [**nat-policy** *nat-policy-name*]

nat firewall-policy *firewall-policy-name*

Context

[Tree] (config>filter>ipv6-filter>entry>action nat)

Full Context

configure filter ipv6-filter entry action nat

Description

This command enables NAT traffic diversion based on IPv4 filters (LSN44) or IPv6 filters (DS-Lite, NAT64). The filter contains a matching condition based on any combination of the 5-tuple. Traffic is diverted to NAT based on the defined matching condition. Filter fields outside of the 5 tuples are not valid and they are ignored in filter-based traffic diversion to NAT.

The NAT policy can be used to specify pool selection for the outside IP address and port, along with other mapping characteristics.

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Parameters

nat-type

Keyword used to specify a NAT type.

nat-type

Specifies the NAT type.

Values dslite, nat64

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

firewall-policy

Keyword used to specify a firewall policy.

firewall-policy-name

Specifies the firewall policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat

Syntax

nat

Context

[Tree] (admin nat)

Full Context

admin nat

Description

This command performs NAT operations.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.16 nat-access-mode

nat-access-mode

Syntax

nat-access-mode *access-mode*

Context

[Tree] (config>subscr-mgmt>sub-profile nat-access-mode)

Full Context

configure subscriber-mgmt sub-profile nat-access-mode

Description

This command configures the NAT access mode.

Access mode in L2-Aware NAT environment is a reflection of supported home set up (bridged or routed) in relation to the configured anti-spoof setting.

This configuration option is only applicable to L2-Aware NAT subscribers. It determines which home model is supported with L2-Aware NAT:

- Bridged RG with mac-ip anti-spoof
- Bridged RG with nh-mac anti-spoof
- Routed RG with NAT and mac-ip anti-spoof
- Routed RG with NAT and nh-mac anti-spoof
- Routed RG without NAT and nh-mac anti-spoof

Default

nat-access-mode auto

Parameters

access-mode

Specifies the NAT access mode.

Values auto — The supported combinations are:

- Bridged RG with mac-ip anti-spoof
- Routed RG with NAT and mac-ip anti-spoof
- Routed RG with NAT and nh-mac anti-spoof
- Routed RG without NAT and nh-mac anti-spoof

bridged — The supported combinations are:

- Bridged RG with mac-ip anti-spoof

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- Bridged RG with nh-mac anti-spoof
- Routed RG with NAT and mac-ip anti-spoof
- Routed RG with NAT and nh-mac anti-spoof
- Routed RG without NAT and nh-mac anti-spoof

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.17 nat-allow-bypass

nat-allow-bypass

Syntax

[**no**] **nat-allow-bypass**

Context

[Tree] (config>subscr-mgmt>sub-prof nat-allow-bypass)

Full Context

configure subscriber-mgmt sub-profile nat-allow-bypass

Description

This command enables Layer 2-aware NAT host for selective bypass. NAT bypass for eligible Layer 2-aware NAT subscribers must be explicitly enabled with this command. Once enabled, the IP filter configuration applied in SLA profile determines whether the traffic is bypassed.

The **no** form of this command causes traffic received from subscribers associated with this profile to not bypass the Layer 2-aware NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.18 nat-classifier

nat-classifier

Syntax

nat-classifier *nat-classifier-name*

no nat-classifier

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Context

[Tree] (config>service>nat>nat-policy>dnat nat-classifier)

Full Context

configure service nat nat-policy dnat nat-classifier

Description

This command when configured within the nat-policy, references a nat-classifier and consequently activates DNAT functionality. Unless this command is provisioned, the destination IP address translation will not take place. The **nat-classifier** identifies the traffic (in a filter-like fashion) that is subjected to DNAT.

The **no** form of this command removes the *nat-classifier-name* from the configuration.

Parameters

nat-classifier-name

Specifies the name, up to 32 characters, of the NAT classifier.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-classifier

Syntax

nat-classifier *nat-classifier-name* [**create**]

no nat-classifier

Context

[Tree] (config>service>nat nat-classifier)

Full Context

configure service nat nat-classifier

Description

This command creates a nat-classifier. Traffic can be identified in nat-classifier based on the protocol type and destination ports. Once the traffic is identified, an action associated with identified traffic, such as destination NAT (DNAT), can be taken.

The **no** form of the command removes the *nat-classifier-name* from the configuration.

Parameters

nat-classifier-name

Specifies the name, up to 32 characters, of the referenced NAT classifier.

create

Keyword used to create the NAT classifier.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.19 nat-domain

nat-domain

Syntax

nat-domain router *router-name* **name** *domain-name*

no nat-domain

Context

[Tree] (config>service>nat>firewall-policy nat-domain)

Full Context

configure service nat firewall-policy nat-domain

Description

This command specifies a router and domain to which the firewall policy is applied. All associated traffic must be part of the prefixes specified by this domain. The domain must be configured in the outside routing context where firewall protection is applied.

The **no** form of this command removes the domain association from the firewall policy.

Default

no nat-domain

Parameters

domain-name

Specifies the name of the firewall domain, up to 32 characters, in the specified router instance.

router-name

Specifies the name of the router instance to use.

Values *router-name* | *vprn-svc-id*

router-name — "Base", "management"

vprn-svc-id — 1 to 2147483647

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.20 nat-group

nat-group

Syntax

nat-group *nat-group-id* [**create**]

no nat-group nat-group-id

Context

[Tree] (config>router>isa-svc-chain nat-group)

Full Context

configure router isa-service-chaining nat-group

Description

This command allows service chaining to be enabled for subscribers whose NAT flows are established on the set of ISAs in the specified NAT group.

The **no** form of this command removes the NAT group from the configuration.

Parameters

nat-group-id

Specifies the NAT group identifier.

Values 1 to 4

create

Keyword used to create the NAT group instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-group

Syntax

nat-group *nat-group-id* **sync-tag** *tag*

no nat-group *nat-group-id*

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>nat nat-group)

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Full Context

configure redundancy multi-chassis peer sync nat nat-group

Description

This command enables MCS for NAT. NAT group health information is exchanged between the pair of redundant NAT nodes. The system elects one of the nodes as the active node for the NAT group, while the other node becomes a standby node.

The **no** form of this command disables multi-chassis synchronization for a NAT group.

Default

no nat-group

Parameters

nat-group-id

Specifies the NAT group that is synchronized.

Values 1 to 4

tag

Specifies the synchronization tag that must be the same on both nodes of the NAT group. It is mandatory and must match its counterpart on the peering node for the NAT group that is being synchronized, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-group

Syntax

nat-group *nat-group-id* [**create**]

no nat-group *nat-group-id*

Context

[Tree] (config>isa nat-group)

Full Context

configure isa nat-group

Description

This command configures an ISA NAT group.

The **no** form of the command removes the ID from the configuration.

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Parameters

nat-group-id

Specifies the ISA NAT group ID.

Values 1 to 4

create

Keyword used to create the NAT group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-group

Syntax

nat-group *nat-group-id*

no nat-group

Context

[Tree] (config>subscriber-mgmt>pfcp-association>nat nat-group)

Full Context

configure subscriber-mgmt pfcp-association nat nat-group

Description

This command configures a NAT group participating in NAT on BNG CUPS. ISAs in the NAT group are enabled for operation in BNG CUPS, but are not limited to BNG CUPS deployment. They can be used simultaneously with other versions of NAT in BNG, outside of the CUPS functionality.

The **no** version of this command deletes the NAT group.

Parameters

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.21 nat-import

nat-import

Syntax

nat-import *policy-name* [*policy-name*]

no nat-import

Context

[Tree] (config>service>vprn>nat>inside nat-import)

[Tree] (config>router>nat>inside nat-import)

Full Context

configure service vprn nat inside nat-import

configure router nat inside nat-import

Description

This command references an import-policy to determine the routes that should be installed in the routing table as NAT routes, which are used to steer traffic to NAT.

A dynamic route obtained by BGP-VPN can be imported into an inside (private side) routing context in NAT environment. This route is associated with a NAT policy that maps traffic destined into a NAT pool and outside routing context. If the NAT policy is not explicitly configured in the import route policy, the imported NAT route is, by default, associated with the default NAT policy defined in the NAT inside routing context.

All BGP-VPN routes that are destined to be imported into NAT inside routing context must be configured with **action-type accept** in the route policy.

Parameters

policy-name

Specifies up to five NAT import policy names, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-import

Syntax

nat-import all [**inside-router** *router-instance*]

nat-import route *ipv4-address* [**inside-router** *router-instance*]

no nat-import all [**inside-router** *router-instance*]

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no nat-import route *ipv4-address* [**inside-router** *router-instance*]

Context

[Tree] (debug>nat nat-import)

Full Context

debug nat nat-import

Description

This command enables debugging for routes dynamically imported into NAT from BGP.

The events related to dynamic routes in NAT can be filtered by a specific route and inside routing context.

Only events related to dynamic imports are dispayed. Events related to static route configurations are not shown.

Typical debug output displays the following information:

- `18 2021/06/15 09:29:54.436 UTC MINOR: DEBUG #2001 vprn550 NAT_IMPORT`

  This entry represents the debug event, the inside service in which the event occurred, and the process related to the event. For this particular log, the event ID is 2001 which occurred in the inside service vprn 550 and was related to a dynamic route importing into NAT.

- `dest-prefix 10.10.10.0/24 nat-policy ls-outPolicy service 500 : start import : ACCEPT by policy-statement evaluation`

  This entry represents the description of the event. The destination prefix 10.10.10.0/24 is associated with **nat-policy** *ls-outPolicy* and was successfully imported from the outside vprn 500 (into the inside vprn 550 identified by the first entry).

The **no** form of the command disables debugging of the specified parameters.

Parameters

all

Specifies to debug all routes dynamically imported into NAT from BGP.

router-instance

Specifies filtering based on specific inside routing context.

ipv4-address

Specifies filtering based on the specific route.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.22 nat-outside

nat-outside

Syntax

nat-outside *nat-group-id* [**create**]

no nat-outside *nat-group-id*

Context

[Tree] (config>service>epipe nat-outside)

Full Context

configure service epipe nat-outside

Description

This command binds an Epipe to a NAT context running on an ISA-BB, allowing the Epipe to act as the outside service for the NAT or firewall. When **nat-outside** is enabled, one end of the Epipe is implicitly tied to ISA BB forwarding, leaving one remaining SAP, spoke, or similar available to be configured.

The **no** version of this command removes the Epipe binding to a NAT context.

Parameters

nat-group-id

The NAT group ID where the PPPoE client is applied.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.23 nat-policy

nat-policy

Syntax

nat-policy *policy-name*

no nat-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range nat-policy)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range nat-policy)

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Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range nat-policy

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range nat-policy

Description

This command specifies the NAT policy for WLAN-GW ISA subscribers.

The **no** form of this command reverts to the default.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-policy

Syntax

nat-policy *nat-policy-name*

no nat-policy

Context

[Tree] (config>router>nat>inside nat-policy)

[Tree] (config>service>vprn>nat>inside nat-policy)

[Tree] (config>router>policy-options>policy-statement>entry>action nat-policy)

Full Context

configure router nat inside nat-policy

configure service vprn nat inside nat-policy

configure router policy-options policy-statement entry action nat-policy

Description

This command configures the NAT policy that is used for large-scale NAT in this service. If a **nat-policy** is not configured, then the default **nat-policy** is used.

The **no** form of the command removes the policy name from the configuration.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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nat-policy

Syntax

nat-policy *nat-policy-name*

no nat-policy

Context

[Tree] (config>router>policy-options>policy-statement>default-action nat-policy)

Full Context

configure router policy-options policy-statement default-action nat-policy

Description

This command assigns a NAT policy to the matched routes that do not have a more specific nat-policy configured under action.

A dynamic route obtained by BGP-VPN can be imported into an inside (private side) routing context in NAT environment. This route must be associated with a NAT policy that maps traffic destined to it into a NAT pool and outside routing context. If the NAT policy is not specified within the route policy, the imported NAT route, by default, is associated with the default NAT policy defined in the NAT inside routing context.

All BGP-VPN routes that are destined to be imported into NAT inside routing context must have action-type set to **accept**, regardless of whether the NAT policy is configured in the action.

The **no** form of the command removes the policy name from the configuration.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-policy

Syntax

nat-policy *nat-policy-name* [**create**]

no nat-policy *nat-policy-name*

Context

[Tree] (config>service>nat nat-policy)

Full Context

configure service nat nat-policy

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Description

This command configures a NAT policy.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

create

Keyword used to create the NAT policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-policy

Syntax

nat-policy *policy-name*

no nat-policy

Context

[Tree] (config>subscr-mgmt>sub-profile nat-policy)

Full Context

configure subscriber-mgmt sub-profile nat-policy

Description

This command configures the NAT policy to be used for subscribers associated with this subscriber profile.

Parameters

policy-name

Specifies the policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-policy

Syntax

[**no**] **nat-policy** *nat-policy-name*

Context

[Tree] (config>service>vprn>nat>inside>spf-policy nat-policy)

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[Tree] (config>router>nat>inside>spf-policy nat-policy)

Full Context

configure service vprn nat inside spf-policy nat-policy

configure router nat inside spf-policy nat-policy

Description

This command declares that the NAT policy for the **inside** routing context is used when SPF is requested. The predeclaration of the NAT policy used in SPF is mandatory in the following scenarios.

- when assigning SPF to NAT subscribers in pools that differ from the ones to which their corresponding source prefixes are mapped
- when the source prefixes are not configured for the NAT subscriber

The **no** form of this command removes the policy name from the configuration.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.24 nat-policy-name

nat-policy-name

Syntax

[**no**] **nat-policy-name**

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>include nat-policy-name)

Full Context

configure service nat syslog syslog-export-policy include nat-policy-name

Description

This command includes the NAT policy name in the flow log.

The **no** form of the command disables the feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.25 nat-port-forwarding

nat-port-forwarding

Syntax

nat-port-forwarding

Context

[Tree] (config>system>persistence nat-port-forwarding)

Full Context

configure system persistence nat-port-forwarding

Description

This command configures NAT port forwarding persistence parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.26 nat-port-range

nat-port-range

Syntax

[**no**] **nat-port-range**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute nat-port-range)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute nat-port-range

Description

This command enables the generation of the of **nat-port-range** attribute.

The **no** form of this command disables the generation of the **nat-port-range** attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.27 nat-prefix-list

nat-prefix-list

Syntax

nat-prefix-list *name*

no nat-prefix-list *name*

Context

[Tree] (config>subscr-mgmt>sub-prof nat-prefix-list)

Full Context

configure subscriber-mgmt sub-profile nat-prefix-list

Description

This command specifies the nat-prefix-list referenced within the subscriber-profile is used to associate L2-aware subscriber traffic with additional nat-policies based on the destination IPv4 address of the traffic.

The **no** form of the command removes the prefix list name from the configuration.

Parameters

name

Specifies the nat prefix list name. Allowed values are any string up to 32 characters long composed of printable,7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

nat-prefix-list

Syntax

nat-prefix-list *name* [**create**] [**application** *application-choice*]

no nat-prefix-list *name*

Context

[Tree] (config>service>nat nat-prefix-list)

Full Context

configure service nat nat-prefix-list

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Description

This command is used to create configuration context for:

- IP prefixes that are used select multiple nat-policies per subscriber in L2-aware NAT.
- Inside IP prefixes in DNAT-only scenario. The inside IP prefixes are then setup as downstream routes used to steer the return (downstream) traffic to the proper MS-ISA.

The **no** form of the command removes the prefix list name from the configuration.

Parameters

name

Specifies the nat prefix list name. Allowed values are any string up to 32 characters long composed of printable,7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

application *application-choice*

Specifies how this NAT prefix list is to be applied.

Values **l2-aware-dest-to-policy**: Specifies that the nat-prefix-list can be applied only within the sub-profile for l2-aware subscribers. It will contain mapping between the destination prefix and a nat-policy. **dnat-only-subscribers**: Specifies that the nat-prefix-list can be applied only to dnat-only-subscribers. It will contain the source-prefix that needs to be install in outside routing context so that the return traffic from the outside can be directed to proper MS-ISA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.28 nat-subscriber-string

nat-subscriber-string

Syntax

[**no**] **nat-subscriber-string**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes nat-subscriber-string)

Full Context

configure aaa isa-radius-policy acct-include-attributes nat-subscriber-string

Description

This command enables the inclusion of the NAT subscriber string attributes.

The **no** form of the command excludes NAT subscriber string attributes.

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Default

no nat-subscriber-string

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.29 nat-traversal

nat-traversal

Syntax

nat-traversal [**force**] [**keep-alive-interval** *keep-alive-interval*] [**force-keep-alive**]

no nat-traversal

Context

[Tree] (config>ipsec>ike-policy nat-traversal)

Full Context

configure ipsec ike-policy nat-traversal

Description

This command specifies whether NAT-T (Network Address Translation Traversal) is enabled, disabled or in forced mode.

The **no** form of this command reverts the parameters to the default.

Default

no nat-traversal

Parameters

force

Forces to enable NAT-T

keep-alive-interval *keep-alive-interval*

Specifies the keep-alive interval in seconds.

Values 120 to 600

force-keep-alive

When specified, the keep-alive does not expire.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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31.30 nat64

nat64

Syntax

[**no**] **nat64**

Context

[Tree] (config>service>vprn>nat>inside nat64)

[Tree] (config>router>nat>inside nat64)

Full Context

configure service vprn nat inside nat64

configure router nat inside nat64

Description

Commands in this context configure NAT64 parameters.

The **no** form of the command disables NAT64.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.31 nat64-lsn-sub

nat64-lsn-sub

Syntax

[**no**] **nat64-lsn-sub router** *router-instance* **ip** *ipv6-prefix*

Context

[Tree] (config>li>li-source>nat nat64-lsn-sub)

Full Context

configure li li-source nat nat64-lsn-sub

Description

This command configures a NAT64 LSN subscriber source.

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Parameters

router-instance

Specifies the routing instance into which to inject the mirrored packets.

ipv6-prefix

Specifies the IPv6 address.

Values		
	ipv6-prefix:	<prefix>/<length>
	prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x to [0 to FFFF]H
		d t o[0t o 255]D
	<length>	[0 to 128]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.32 nat66

nat66

Syntax

[**no**] **nat66**

Context

[Tree] (config>router>nat>inside nat66)

[Tree] (config>service>vprn>nat>inside nat66)

Full Context

configure router nat inside nat66

configure service vprn nat inside nat66

Description

Commands in this context configure IPv6 NAT and stateful inbound filtering functions on the inside subscriber zone.

The **no** form of this command disables IPv6 NAT filtering functions.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.33 nbr

nbr

Syntax

nbr [**detail**]

no nbr

Context

[Tree] (debug>router>rsvp>event nbr)

Full Context

debug router rsvp event nbr

Description

This command debugs neighbor events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about neighbor events.

Platforms

All

31.34 ncp-renegotiation

ncp-renegotiation

Syntax

ncp-renegotiation {**ignore** | **terminate-session**}

no ncp-renegotiation

Context

[Tree] (config>subscr-mgmt>ppp-policy ncp-renegotiation)

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Full Context

configure subscriber-mgmt ppp-policy ncp-renegotiation

Description

This command configures the NCP renegotiation.

The **no** form of the command reverts to the default value.

Default

ncp-renegotiation terminate-session

Parameters

ignore

Specifies that BNG ignore subsequent renegotiation messages after successful IPCP negotiation.

terminate-session

Specifies that the PPP session be terminated.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.35 nd

nd

Syntax

nd

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 nd)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 nd)

Full Context

configure service vprn subscriber-interface group-interface ipv6 nd

configure service ies subscriber-interface group-interface ipv6 nd

Description

Commands in this context configure neighbor discovery (ND) parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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nd

Syntax

nd

Context

[Tree] (config>service>ies>if>vpls>evpn nd)

[Tree] (config>service>vprn>if>vpls>evpn nd)

Full Context

configure service ies interface vpls evpn nd

configure service vprn interface vpls evpn nd

Description

Commands in this context configure ND host route parameters.

Platforms

All

31.36 nd-host-route

nd-host-route

Syntax

nd-host-route

Context

[Tree] (config>service>vprn>if>ipv6 nd-host-route)

Full Context

configure service vprn interface ipv6 nd-host-route

Description

Commands in this context populate ND host route entries.

Platforms

All

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31.37 nd-learn-unsolicited

nd-learn-unsolicited

Syntax

nd-learn-unsolicited {**global** | **link-local** | **both**}

no nd-learn-unsolicited

Context

[Tree] (config>service>ies>if>ipv6 nd-learn-unsolicited)

Full Context

configure service ies interface ipv6 nd-learn-unsolicited

Description

This command enables the ability to learn neighbor entries out of received unsolicited Neighbor Advertisement messages with or without the solicited flag set. The command can be enabled for global addresses, link-local addresses, or for both.

The **no** form of this command makes the router use standard RFC 4861 behavior, as described below, for learning of neighbor entries.

- If an unsolicited NA, regardless of the S flag, is received from a neighbor that is not yet in the ND cache, the NA is ignored.
- If an NS, RS, RA, or Redirect message with a Link Layer Address (MAC) is received from a neighbor that is not yet in the ND cache, a new neighbor entry is created in the cache to store the received Link Layer MAC. The neighbor is put in the stale state.

Parameters

global

Learns global neighbor entries out of received unsolicited Neighbor Advertisement messages.

link-local

Learns link local neighbor entries out of received unsolicited Neighbor Advertisement messages.

both

Learns both global and link local neighbor entries out of received unsolicited Neighbor Advertisement messages.

Platforms

All

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nd-learn-unsolicited

Syntax

nd-learn-unsolicited {**global** | **link-local** | **both**}

no nd-learn-unsolicited

Context

[Tree] (config>service>vprn>if>ipv6 nd-learn-unsolicited)

Full Context

configure service vprn interface ipv6 nd-learn-unsolicited

Description

This command enables the ability to learn neighbor entries out of received unsolicited Neighbor Advertisement messages, with or without the solicited flag set. The command can be enabled for global addresses, link-local addresses, or for both.

The **no** form of this command makes the router follow standard RFC 4861 behavior for learning of neighbor entries.

- If an unsolicited NA (regardless of the S flag) is received from a neighbor that is not yet in the ND cache, the NA is ignored in line with RFC 4861.
- If an NS, RS, RA, or Redirect message with a Link Layer Address (MAC) is received from a neighbor that is not yet in the ND cache, a new neighbor entry is created in the cache to store the received Link Layer MAC. The neighbor is put in the STALE state. This is the standard RFC behavior.

Parameters

global

Learns global neighbor entries out of received unsolicited Neighbor Advertisement messages.

link-local

Learns link local neighbor entries out of received unsolicited Neighbor Advertisement messages.

both

Learns both global and link local neighbor entries out of received unsolicited Neighbor Advertisement messages.

Platforms

All

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nd-learn-unsolicited

Syntax

nd-learn-unsolicited {**global** | **link-local** | **both**}

no nd-learn-unsolicited

Context

[Tree] (config>router>if>ipv6 nd-learn-unsolicited)

Full Context

configure router interface ipv6 nd-learn-unsolicited

Description

This command enables the ability to learn neighbor entries out of received unsolicited Neighbor Advertisement messages, with or without the solicited flag set. The command can be enabled for global addresses, link-local addresses, or for both.

The **no** form of this command makes the router follow standard RFC 4861 behavior for learning of neighbor entries.

- If an unsolicited NA (regardless of the S flag) is received from a neighbor that is not yet in the ND cache, the NA is ignored in line with RFC 4861.
- If an NS, RS, RA, or Redirect message with a Link Layer Address (MAC) is received from a neighbor that is not yet in the ND cache, a new neighbor entry is created in the cache to store the received Link Layer MAC. The neighbor is put in the STALE state. This is the standard RFC behavior.

Parameters

global

Learns global neighbor entries out of received unsolicited Neighbor Advertisement messages. This parameter is relevant only to global IPv6 addresses.

link-local

Learns link local neighbor entries out of received unsolicited Neighbor Advertisement messages.

both

Learns both global and link local neighbor entries out of received unsolicited Neighbor Advertisement messages.

Platforms

All

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31.38 nd-populate-host-route

nd-populate-host-route

Syntax

[**no**] **nd-populate-host-route**

Context

[Tree] (config>service>ies>interface>ipv6 nd-populate-host-route)

Full Context

configure service ies interface ipv6 nd-populate-host-route

Description

This command enables the addition or deletion of host routes in the route-table derived from neighbor entries in the neighbor cache. To enable this command, the interface must be shut down. The command triggers the population of host routes in the route table out of their corresponding static, dynamic, or EVPN types in the neighbor table. Neighbor entries installed by subscriber management, local interfaces, and others, do not create host-routes.

Only reachable entries are added to the route table (entries are created from solicited NA messages). Entries created as stale — from Neighbor Solicitation (NS), unsolicited Neighbor Advertisements (NA), Router Solicitation (RS), Router Advertisement (RA), and Redirect messages — are not added to the route table because the neighbor is not confirmed as two-way.

- RA, RS, NS, and Redirect messages with a link layer address are added as STALE cache entries. Unsolicited NAs are added as STALE if **nd-learn-unsolicited** is configured.
- To speed up the addition of host routes to the route table for neighbors created as STALE, the following procedure is used:
  - If **nd-populate-host-route** is configured, the router sends an NS (unicast Neighbor Unreachability Detection (NUD) message) to the neighbor created as STALE. Only one NUD message is sent.
  - If **nd-populate-host-route** is not configured, no confirmation message is sent and regular procedures apply.
- When the solicited NA for the neighbor is received, the entry becomes reachable and is then added to the route-table.

The **no** form of this command disables the creation of host routes from the neighbor cache.

Platforms

All

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31.39 nd-proactive-refresh

nd-proactive-refresh

Syntax

nd-proactive-refresh {**global** | **link-local** | **both**}

no nd-proactive-refresh

Context

[Tree] (config>service>ies>if>ipv6 nd-proactive-refresh)

Full Context

configure service ies interface ipv6 nd-proactive-refresh

Description

This command enables a proactive refresh of the neighbor entries. When enabled, at the stale timer expiration, the router sends a NUD message to the host (regardless of the existence of traffic to the IP address on the IOM), so the entry can be refreshed or removed.

This behavior is different from ARP, where the refresh is sent 30 seconds prior to the entry's age out time. The refresh can be optionally enabled for global addresses, link-local addresses, or both.

The **no** form of this command disables the proactive behavior and the router only refreshes an entry if there is traffic that needs to be sent to the IP address.

Parameters

global

Refreshes global neighbor entries.

link-local

Refreshes link local neighbor entries.

both

Refreshes both global and link local neighbor entries.

Platforms

All

nd-proactive-refresh

Syntax

nd-proactive-refresh {**global** | **link-local** | **both**}

no nd-proactive-refresh

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Context

[Tree] (config>service>vprn>if>ipv6 nd-proactive-refresh)

Full Context

configure service vprn interface ipv6 nd-proactive-refresh

Description

This command enables a proactive refresh of the neighbor entries. When enabled, at the stale timer expiration, the router sends an NUD message to the host (regardless of the existence of traffic to the IP address on the IOM), so the entry can be refreshed or removed.

This behavior is different from ARP, where the refresh is sent 30 seconds prior to the entry's age out time. The refresh can be optionally enabled for global addresses, link-local addresses, or both.

The **no** form of this command disables the proactive behavior and the router only refreshes an entry if there is traffic that needs to be sent to the IP address.

Parameters

global

Refreshes global neighbor entries. This parameter is relevant only to global IPv6 addresses.

link-local

Refreshes link local neighbor entries. This parameter is relevant only to global IPv6 addresses.

both

Refreshes both global and link local neighbor entries. This parameter is relevant only to global IPv6 addresses.

Platforms

All

nd-proactive-refresh

Syntax

nd-proactive-refresh {**global** | **link-local** | **both**}

no nd-proactive-refresh

Context

[Tree] (config>router>if>ipv6 nd-proactive-refresh)

Full Context

configure router interface ipv6 nd-proactive-refresh

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Description

This command enables a proactive refresh of the neighbor entries. When enabled, at the stale timer expiration, the router sends an NUD message to the host (regardless of the existence of traffic to the IP address on the IOM), so the entry can be refreshed or removed.

This behavior is different from ARP, where the refresh is sent 30 seconds prior to the entry's age out time. The refresh can be optionally enabled for global addresses, link-local addresses, or both.

The **no** form of this command disables the proactive behavior and the router only refreshes an entry if there is traffic that needs to be sent to the IP address.

Parameters

global

Refreshes global neighbor entries. This parameter is relevant only to global IPv6 addresses.

link-local

Refreshes link local neighbor entries. This parameter is relevant only to global IPv6 addresses.

both

Refreshes both global and link local neighbor entries. This parameter is relevant only to global IPv6 addresses.

Platforms

All

31.40 nd-route-tag

nd-route-tag

Syntax

nd-route-tag *tag*

no nd-route-tag

Context

[Tree] (config>service>ies>if>ipv6 nd-route-tag)

Full Context

configure service ies interface ipv6 nd-route-tag

Description

This command adds a route tag to the ARP-ND host routes generated out of the neighbor entries in the interface. As any other route tag, it can be used to match ARP-ND routes in BGP export policies.

The **no** form of this command removes the route tag for the ARP-ND host routes.

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Parameters

tag

Specifies the route tag to be added when the proxy ND entries are advertised to EVPN.

Values 1 to 255

Platforms

All

31.41 nd-router-preference

nd-router-preference

Syntax

nd-router-preference {**medium** | **high** | **low**}

no nd-router-preference

Context

[Tree] (config>router>router-advert>if nd-router-preference)

[Tree] (config>service>vprn>router-advert>if nd-router-preference)

Full Context

configure router router-advertisement interface nd-router-preference

configure service vprn router-advertisement interface nd-router-preference

Description

This command configures the default router preference for Router Advertisement (RA) and allows IPv6 hosts to discover and select a default gateway address by listening to RAs.

This feature provides basic traffic engineering functionality for host devices. When this command is applied, the router advertises the respective router preference to the connected host to assist in its selection of the most appropriate default gateway on a link.

This extension is backward compatible, both for routers (setting the router preference bits) and hosts (interpreting the router preference bits). These bits are ignored by hosts that do not implement the RFC 4191 functionality by configuring this command. Similarly, hosts that do not implement the RFC 4191 functionality interpret the values sent by devices that do not implement the RFC 4191 extension with the **medium** preference option.

The **no** form of this command configures this command to the default value.

Default

nd-router-preference medium

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Parameters

medium

Specifies the router advertises a medium default gateway preference.

high

Specifies the router advertises a high default gateway preference.

low

Specifies the router advertises a low default gateway preference.

Platforms

All

31.42 neid

neid

Syntax

neid *hex-string*

no neid

Context

[Tree] (config>system>ned>profile neid)

Full Context

configure system network-element-discovery profile neid

Description

This command configures the NEID for this profile.

The **no** form of this command deletes the NEID for this profile.

Parameters

hex-string

A hexadecimal string that consists of a subnet ID and basic ID. The first 8 high-order bits indicate the subnet ID and range from 0x1 to 0xFE. The 16 low-order bits indicate the basic ID and ranges from 0x0001 to 0xFFFE. The NEID cannot be configured as 0x90006 to 0x9FF06 or 0x9bff0.

Values 0x10001 to 0xFEFFFE

Platforms

All

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31.43 neighbor

neighbor

Syntax

neighbor *ip-address* [**create**]

no neighbor *ip-address*

Context

[Tree] (config>service>vpls>gsmp>group neighbor)

[Tree] (config>service>vprn>gsmp>group neighbor)

Full Context

configure service vpls gsmp group neighbor

configure service vprn gsmp group neighbor

Description

This command adds a neighbor in the GSMP group.

The **no** form of this command removes the neighbor from the GSMP group.

Parameters

ip-address

Specifies the IP address in dotted decimal notation.

create

This keyword is mandatory when creating a GSMP group name. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

All

neighbor

Syntax

[**no**] **neighbor** *ip-int-name*

Context

[Tree] (config>service>vprn>rip>group neighbor)

[Tree] (config>router>rip>group neighbor)

[Tree] (config>router>ripng>group neighbor)

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Full Context

configure service vprn rip group neighbor

configure router rip group neighbor

configure router ripng group neighbor

Description

This command creates a context for configuring a RIP neighbor interface. By default, group interfaces are not activated with RIP, unless explicitly configured. The BNG only learns RIP routes from IPv4 host on the group interface. The RIP neighbor group interface defaults to **none**. The send operation is unchangeable for group-interface.

The **no** form of this command deletes the RIP interface configuration for this group interface. The shutdown command in the **config>router>rip>group group-name>neighbor** context can be used to disable an interface without removing the configuration for the interface.

Default

no neighbor

Parameters

ip-int-name

Specifies the IP interface name. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

If the IP interface name does not exist or does not have an IP address configured, an error message will be returned.

Platforms

All

neighbor

Syntax

neighbor *ipv6-address mac-address*

no neighbor *ipv6-address*

Context

[Tree] (config>service>ies>if>ipv6 neighbor)

Full Context

configure service ies interface ipv6 neighbor

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Description

This command configures IPv6-to-MAC address mapping on the IES interface.

Parameters

ipv6-address

The IPv6 address of the interface for which to display information.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D

mac-address

Specifies the 48-bit MAC address for the IPv6-to-MAC address mapping in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

neighbor

Syntax

[**no**] **neighbor** *ip-address*

Context

[Tree] (config>router>bgp>group neighbor)

Full Context

configure router bgp group neighbor

Description

This command creates a BGP peer/neighbor instance within the context of the BGP group.

This command can be issued repeatedly to create multiple peers and their associated configuration.

The **no** form of this command is used to remove the specified neighbor and the entire configuration associated with the neighbor. The neighbor must be administratively **shutdown** before attempting to delete it. If the neighbor is not shutdown, the command will not result in any action except a warning message on the console indicating that neighbor is still administratively up.

Default

no neighbor

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Parameters

ip-address

Specifies the IP address of the BGP peer router in dotted decimal notation.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface]
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: 32 characters maximum, mandatory for link local addresses

Platforms

All

neighbor

Syntax

[**no**] **neighbor** *ip-address*

Context

[Tree] (config>service>vprn>bgp>group neighbor)

Full Context

configure service vprn bgp group neighbor

Description

This command creates a BGP peer/neighbor instance within the context of the BGP group.

This command can be issued repeatedly to create multiple peers and their associated configuration.

The **no** form of this command is used to remove the specified neighbor and the entire configuration associated with the neighbor. The neighbor must be administratively **shutdown** before attempting to delete it. If the neighbor is not shut down, the command will not result in any action except a warning message on the console indicating that neighbor is still administratively up.

Parameters

ip-address

The IP address of the BGP peer router in dotted decimal notation.

Values ipv4-address a.b.c.d (host bits must be 0)

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ipv6-address	x:x:x:x:x:x:x:x[-interface]	
	x:x:x:x:x:x:d.d.d.d[-interface]	
	x: [0 to FFFF]H	
	d: [0 to 255]D	
	interface: 32 characters maximum, mandatory for link local addresses	

The ipv6-address applies to the 7750 SR only.

Platforms

All

neighbor

Syntax

neighbor *ipv6-address mac-address*

no neighbor *ipv6-address*

Context

[Tree] (config>service>vprn>if>ipv6 neighbor)

Full Context

configure service vprn interface ipv6 neighbor

Description

This command configures IPv6-to-MAC address mapping on the interface.

Parameters

ipv6-address

Specifies the IPv6 address on the interface.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

mac-address

Specifies the 48-bit MAC address for the static ARP in the form *aa*:*bb*: *cc*:*dd*:*ee*:*ff* or *aa-bb-cc -dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed

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values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

neighbor

Syntax

[**no**] **neighbor** *ip-address*

Context

[Tree] (config>service>vprn>ospf3>area>if neighbor)

[Tree] (config>service>vprn>ospf>area>if neighbor)

Full Context

configure service vprn ospf3 area interface neighbor

configure service vprn ospf area interface neighbor

Description

This command configures an OSPF non-broadcast multi-access (NBMA) neighbor. The OSPF interface must be configured as an NBMA interface with the **interface-type non-broadcast** command. An NBMA network has no broadcast or multicast capabilities, so the router cannot discover its neighbors dynamically. All neighbors must be configured statically with the **neighbor** command.

In addition to configuring the OSPF NBMA neighbor's IP address, the neighbor's MAC address may need to be configured with the **config>service>vprn>interface>static-arp** command for OSPFv2 neighbors using its IPv4 address, and the **config>service>vprn>interface>ipv6>neighbor** command for OSPFv3 neighbors using its IPv6 link-local address.

The **no** form of this command removes the **neighbor** configuration.

Default

No OSPF NBMA neighbors are configured.

Parameters

ip-address

Specifies the OSPFv2 neighbor's IPv4 address or the OSPFv3 neighbor's IPv6 link-local address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x [-interface]
	x:x:x:x:x:x:d.d.d.d [-interface]
	x: [0..FFFF]H

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d: [0..255]D

interface —32 characters max, for link local addresses.

Platforms

All

neighbor

Syntax

neighbor *ipv6-address mac-address*

no neighbor *ipv6-address*

Context

[Tree] (config>router>if>ipv6 neighbor)

Full Context

configure router interface ipv6 neighbor

Description

This command configures an IPv6-to-MAC address mapping on the interface. Use this command if a directly attached IPv6 node does not support ICMPv6 neighbor discovery, or for some reason, a static address must be used. This command can only be used on Ethernet media.

The *ipv6-address* must be on the subnet that was configured from the IPv6 **address** command or a link-local address.

Parameters

ipv6-address

The IPv6 address assigned to a router interface.

Values			
	ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
		x:x:x:x:x:x:d.d.d.d	
		x:	[0 to FFFF]H
		d:	[0 to 255]D

mac-address

Specifies the MAC address for the neighbor in the form of xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

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Platforms

All

neighbor

Syntax

neighbor [*ip-int-name*]

no neighbor

Context

[Tree] (debug>router>ip neighbor)

Full Context

debug router ip neighbor

Description

This command enables IPv6 neighbor debugging.

Parameters

ip-int-name

Specifies the IP interface name.

Platforms

All

neighbor

Syntax

[**no**] **neighbor** *ipv4-address*

[**no**] **neighbor** *ipv6-address*

Context

[Tree] (config>router>ospf3>area>interface neighbor)

[Tree] (config>router>ospf>area>interface neighbor)

Full Context

configure router ospf3 area interface neighbor

configure router ospf area interface neighbor

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Description

This command configures an OSPF non-broadcast multi-access (NBMA) neighbor. The OSPF interface must be configured as an NBMA interface with the **interface-type non-broadcast** command. An NBMA network has no broadcast or multicast capabilities, so the router cannot discover its neighbors dynamically. All neighbors must be configured statically with the **neighbor** command.

In addition to configuring the IP address of the OSPF NBMA neighbor, the MAC address of the neighbor may need to be configured with the **config>router>interface>static-arp** command for OSPFv2 neighbors using its IPv4 address, and the **config>router>interface>ipv6>neighbor** command for OSPFv3 neighbors using its IPv6 link-local address.

The **no** form of this command removes the **neighbor** configuration.

Default

no neighbor

Parameters

ipv4-address

Specifies the IPv4 address of the OSPFv2 neighbor.

Values ipv4-address — a.b.c.d

ipv6-address

Specifies the IPv6 link-local address of the OSPFv3 neighbor.

Values

ipv6-address:	x:x:x:x:x:x:x:x [-interface]
	x:x:x:x:x:x:d.d.d.d [-interface]
	x: [0..FFFF]H
	d: [0..255]D
	interface — 32 characters maximum for link local addresses.

Platforms

All

neighbor

Syntax

neighbor [*ip-int-name* | *ip-address*]

neighbor [*ip-int-name*] [*router-id*]

no neighbor

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Context

[Tree] (debug>router>ospf neighbor)

[Tree] (debug>router>ospf3 neighbor)

Full Context

debug router ospf neighbor

debug router ospf3 neighbor

Description

This command enables debugging for an OSPF or OSPF3 neighbor.

Parameters

ip-int-name

Specifies the neighbor interface name.

ip-address

Specifies neighbor information for the neighbor identified by the specified IP address, in the **debug**>**router**>**ospf** context.

router-id

Specifies neighbor information for the neighbor identified by the specified router ID, in the **debug**>**router**>**ospf3** context.

Platforms

All

neighbor

Syntax

neighbor {*ip-address* | **prefix-list** *name*}

no neighbor

Context

[Tree] (config>router>policy-options>policy-statement>entry>to neighbor)

[Tree] (config>router>policy-options>policy-statement>entry>from neighbor)

Full Context

configure router policy-options policy-statement entry to neighbor

configure router policy-options policy-statement entry from neighbor

Description

This command specifies the neighbor address as found in the source address of the actual join and prune message as a filter criterion. If no neighbor is specified, any neighbor is considered a match.

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The **no** form of the of the command removes the neighbor IP match criterion from the configuration.

Default

no neighbor

Parameters

ip-address

Specifies the neighbor IP address in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x [-interface]
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: 32 characters maximum, mandatory for link local addresses

prefix-list *name*

Specifies the prefix-list name. Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The *name* specified must already be defined.

Platforms

All

neighbor

Syntax

[**no**] **neighbor**

Context

[Tree] (config>service>vprn>isis>mp-tlv neighbor)

[Tree] (config>router>isis>mp-tlv neighbor)

Full Context

configure service vprn isis multi-part-tlv neighbor

configure router isis multi-part-tlv neighbor

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Description

This command enables the origination of multiple instances of neighbor TLVs (TLV 22 and TLV 222). When enabled, the router splits TLVs that exceed the maximum size (255 bytes) into MP-TLVs of the same type and key.

The **no** form of this command disables this capability for neighbor TLVs. TLVs that exceed the maximum size are truncated to fit the limit.

Default

neighbor

Platforms

All

31.44 neighbor-limit

neighbor-limit

Syntax

neighbor-limit [*value*]

no neighbor-limit

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>nd neighbor-limit)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>nd neighbor-limit)

Full Context

configure service vprn subscriber-interface group-interface ipv6 nd neighbor-limit

configure service ies subscriber-interface group-interface ipv6 nd neighbor-limit

Description

This command configures the maximum number of neighbors learned for a single host by doing neighbor discovery.

The **no** form of this command reverts to the default.

Default

neighbor-limit 1

Parameters

value

Specifies the maximum number of neighbors learned.

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Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

neighbor-limit

Syntax

neighbor-limit *limit* [**log-only**] [**threshold** *percent*]

no neighbor-limit

Context

[Tree] (config>service>ies>if>ipv6 neighbor-limit)

Full Context

configure service ies interface ipv6 neighbor-limit

Description

This command configures the maximum amount of dynamic IPv6 neighbor entries that can be learned on an IP interface.

When the number of dynamic neighbor entries reaches the configured percentage of this limit, an SNMP trap is sent. When the limit is exceeded, no new entries are learned until an entry expires and traffic to these destinations is dropped. Entries that have already been learned is refreshed.

The **no** form of this command removes the **neighbor-limit**.

Default

no neighbor-limit

Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, entries above the limit is learned.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

limit

The number of entries that can be learned on an IP interface expressed as a decimal integer. If the limit is set to 0, dynamic neighbor learning is disabled and no dynamic neighbor entries are learned.

Values 0 to 102400

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Platforms

All

neighbor-limit

Syntax

neighbor-limit *limit* [**log-only**] [**threshold** *percent*]

no neighbor-limit

Context

[Tree] (config>service>vprn>if>ipv6 neighbor-limit)

Full Context

configure service vprn interface ipv6 neighbor-limit

Description

This command configures the maximum amount of dynamic IPv6 neighbor entries that can be learned on an IP interface.

When the number of dynamic neighbor entries reaches the configured percentage of this limit, an SNMP trap is sent. When the limit is exceeded, no new entries are learned until an entry expires and traffic to these destinations will be dropped. Entries that have already been learned will be refreshed.

The **no** form of this command removes the **neighbor-limit**.

Default

neighbor-limit 90

Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, entries above the limit will be learned.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

limit

The number of entries that can be learned on an IP interface expressed as a decimal integer. If the limit is set to 0, dynamic neighbor learning is disabled and no dynamic neighbor entries are learned.

Values 0 to 102400

Platforms

All

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neighbor-limit

Syntax

neighbor-limit *limit* [**log-only**] [**threshold** *percent*]

no neighbor-limit

Context

[Tree] (config>router>if>ipv6 neighbor-limit)

Full Context

configure router interface ipv6 neighbor-limit

Description

This command configures the maximum amount of dynamic IPv6 neighbor entries that can be learned on an IP interface.

When the number of dynamic neighbor entries reaches the configured percentage of this limit, an SNMP trap is sent. When the limit is exceeded, no new entries are learned until an entry expires and traffic to these destinations will be dropped. Entries that have already been learned will be refreshed.

The **no** form of this command removes the neighbor-limit.

Default

no neighbor-limit

Parameters

limit

The number of entries that can be learned on an IP interface expressed as a decimal integer. If the limit is set to 0, dynamic neighbor learning is disabled and no dynamic neighbor entries are learned.

Values 0 to 102400

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, entries above the limit will be learned.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

Platforms

All

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31.45 neighbor-liveness-time

neighbor-liveness-time

Syntax

neighbor-liveness-time *interval*

no neighbor-liveness-time

Context

[Tree] (config>router>ldp>graceful-restart neighbor-liveness-time)

Full Context

configure router ldp graceful-restart neighbor-liveness-time

Description

This command configures the neighbor liveness time.

The **no** form of this command returns the default value.

Default

no neighbor-liveness (which equals a value of 120 seconds)

Parameters

interval

Specifies the length of time in seconds.

Values 5 to 300

Platforms

All

31.46 neighbor-resolution

neighbor-resolution

Syntax

[**no**] **neighbor-resolution**

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Context

[Tree] (config>service>ies>if>ipv6>dhcp6-relay neighbor-resolution)

[Tree] (config>service>vprn>if>ipv6>dhcp6-relay neighbor-resolution)

Full Context

configure service ies interface ipv6 dhcp6-relay neighbor-resolution

configure service vprn interface ipv6 dhcp6-relay neighbor-resolution

Description

This command enables neighbor resolution with DHCPv6 relay.

The **no** form of this command disables neighbor resolution.

Platforms

All

31.47 neighbor-solicitation

neighbor-solicitation

Syntax

[**no**] **neighbor-solicitation**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>auto-reply neighbor-solicitation)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>auto-reply neighbor-solicitation)

Full Context

configure service ies subscriber-interface group-interface ipv6 auto-reply neighbor-solicitation

configure service vprn subscriber-interface group-interface ipv6 auto-reply neighbor-solicitation

Description

This command enables auto-reply for neighbor solicitation.

The **no** form of this command disables auto-reply neighbor solicitation.

Default

neighbor-solicitation

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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31.48 neighbor-trust

neighbor-trust

Syntax

neighbor-trust [**vpn-ipv4**] [**vpn-ipv6**] [**evpn**]

no neighbor-trust

Context

[Tree] (config>router>bgp neighbor-trust)

Full Context

configure router bgp neighbor-trust

Description

This command enables a label security feature for prefixes of a VPN family at an inter-AS boundary.

This label security feature allows the configuration of a router, acting in a PE, ASBR, or both roles, to accept packets of VPN-IP or EVPN prefixes only from direct EBGP neighbors to which it advertised a service label.

The untrusted state identifies the participating interfaces. The router supports a maximum of 15 network interfaces that can participate in this feature.

At a high level, BGP tracks each direct EBGP neighbor over an untrusted interface to which it sent a prefix label. For each of those prefixes, BGP programs a bitmap in the ILM record that indicates, on per-untrusted interface basis, whether the matching received packets must be forwarded or dropped.

The **no** form of this command disables the inter-AS security feature for the VPN family.

Parameters

vpn-ipv4

Keyword to enable the inter-AS label security for VPN IPv4 family.

vpn-ipv6

Keyword to enable the inter-AS label security for VPN IPv6 family.

evpn

Keyword to enable the inter-AS label security for EVPN family.

Platforms

All

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31.49 neip

neip

Syntax

neip

Context

[Tree] (config>system>ned>profile neip)

Full Context

configure system network-element-discovery profile neip

Description

Commands in this context configure the NEIP.

Platforms

All

31.50 netbios-name-server

netbios-name-server

Syntax

netbios-name-server *ip-address* [*ip-address*]

no netbios-name-server

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options netbios-name-server)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>options netbios-name-server)

[Tree] (config>router>dhcp>server>pool>options netbios-name-server)

[Tree] (config>service>vprn>dhcp>server>pool>options netbios-name-server)

Full Context

configure subscriber-mgmt local-user-db ipoe host options netbios-name-server

configure subscriber-mgmt local-user-db ppp host options netbios-name-server

configure router dhcp local-dhcp-server pool options netbios-name-server

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configure service vprn dhcp local-dhcp-server pool options netbios-name-server

Description

This command configures up to four Network Basic Input/Output System (NetBIOS) name server IP addresses for a DHCP client.

The **no** form of this command removes the IP address from the netbios-name-server configuration.

Parameters

ip-address

Specifies up to four NetBIOS name server IP addresses. The address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.51 netbios-node-type

netbios-node-type

Syntax

netbios-node-type *netbios-node-type*

no netbios-node-type

Context

[Tree] (config>service>vprn>dhcp>server>pool>options netbios-node-type)

[Tree] (config>router>dhcp>server>pool>options netbios-node-type)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options netbios-node-type)

Full Context

configure service vprn dhcp local-dhcp-server pool options netbios-node-type

configure router dhcp local-dhcp-server pool options netbios-node-type

configure subscriber-mgmt local-user-db ipoe host options netbios-node-type

Description

This command configures the Network Basic Input/Output System (NetBIOS) node type.

The **no** form of this command removes the NetBIOS node type parameters from the configuration.

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Parameters

netbios-node-type

Specifies the netbios node type.

Values B — Broadcast node uses broadcasting to query nodes on the network for the owner of a NetBIOS name.

P — Peer-to-peer node uses directed calls to communicate with a known NetBIOS name server for the IP address of a NetBIOS machine name.

M — Mixed node uses broadcast queries to find a node, and if that fails, queries a known P-node name server for the address.

H — Hybrid node is the opposite of the M-node action so that a directed query is executed first, and if that fails, a broadcast is attempted.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.52 netconf

netconf

Syntax

netconf

Context

[Tree] (debug>system netconf)

Full Context

debug system netconf

Description

Commands in this context debug NETCONF.

Platforms

All

netconf

Syntax

netconf

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Context

[Tree] (config>system>security>profile netconf)

Full Context

configure system security profile netconf

Description

This command authorizes various netconf capabilities for the user.

Platforms

All

netconf

Syntax

netconf

Context

[Tree] (config>system>security>management-interface netconf)

Full Context

configure system security management-interface netconf

Description

Commands in this context configure hash-control for the Netconf interface.

Platforms

All

31.53 netconf-client

netconf-client

Syntax

netconf-client *name* [**create**] [**remote-address** *ip-address* | *ipv6-address*]

no netconf-client *name*

Context

[Tree] (config>system>netconf>call-home netconf-client)

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Full Context

configure system netconf call-home netconf-client

Description

This command configures the list of NETCONF clients with which the NETCONF server maintains simultaneous call home connections.

The **no** form of this command disables the use of the list of NETCONF clients.

Default

no netconf-client

Parameters

name

Specifies a name, up to 32 characters, for the NETCONF client list.

create

Keyword to create a NETCONF client list.

ip-address

Specifies the IP address for the NETCONF client.

Values a.b.c.d

ipv6-address

Specifies the IPv6 address for the NETCONF client.

Values
- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

31.54 netconf-stream

netconf-stream

Syntax

netconf-stream *stream-name*

no netconf-stream

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Context

[Tree] (config>li>log>log-id netconf-stream)

Full Context

configure li log log-id netconf-stream

Description

This command is used to associate a NETCONF stream name with a Lawful Intercept log ID. The NETCONF stream name must be unique in the Lawful Intercept context of the SR OS device. For the same Lawful Intercept log ID, the **to netconf** command must be configured for a subscription to that NETCONF stream name to be accepted. If the NETCONF stream is changed, active subscriptions to the changed stream name are terminated by SR OS.

The **no** form of this command removes a NETCONF stream name from a Lawful Intercept log ID. Active subscriptions to the removed stream name are terminated by SR OS.

Parameters

stream-name

Specifies a NETCONF stream name, up to 32 characters.

Platforms

All

netconf-stream

Syntax

netconf-stream *stream-name*

no netconf-steam

Context

[Tree] (config>log>log-id netconf-stream)

Full Context

configure log log-id netconf-stream

Description

This command is used to associate a NETCONF stream name with a log ID. The NETCONF stream name must be unique per SR OS device. For the same log ID, **to netconf** must be configured for a subscription to that NETCONF stream name to be accepted. A **netconf-stream** cannot be set to "NETCONF" as "NETCONF" is reserved for log-id 101. If a **netconf-stream** is changed, active subscriptions to the changed stream name are terminated by SR OS.

The **no** form of this command removes a NETCONF stream name from a log ID. Active subscriptions to the removed stream name are terminated by SR OS.

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Parameters

stream-name

Specifies a NETCONF stream name, up to 32 characters.

Platforms

All

31.55 network

network

Syntax

network next-hop *ip-address* [**router** *router-instance*]

network next-hop *ip-address* [**service-name** *service-name*]

no network

Context

[Tree] (config>subscr-mgmt>steering-profile network)

Full Context

configure subscriber-mgmt steering-profile network

Description

This command specifies the downstream next-hop IP address and an optional routing instance to be used as a network VAS router in the steering profile.

The **no** form of this command removes the specified next-hop IP address and the router instance if specified.

Parameters

ip-address

Specifies the IP address to be used as the downstream next-hop IP address in dotted decimal notation.

router-instance

Specifies the router instance to be used as an access VAS router.

Values

router-instance: *router-name* | *vprn-svc-id*

router-name: "Base”

vprn-svc-id: 1 to 2147483647

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service-name

Specifies the service name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

network

Syntax

[**no**] **network**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext network)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext network)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext network

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext network

Description

Commands in this context configure network side attributes.

The **no** form of this command resets the network parameters to the default values.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

network

Syntax

network

Context

[Tree] (config>card>mda network)

[Tree] (config>port network)

Full Context

configure card mda network

configure port network

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Description

This command enables the network context to configure egress and ingress pool policy parameters.

On the MDA level, network egress pools are only allocated on channelized MDAs.

Platforms

All

network

Syntax

network

Context

[Tree] (config>card>fp>ingress network)

Full Context

configure card fp ingress network

Description

This command specifies the CLI node that contains the network forwarding-plane parameters.

Platforms

All

network

Syntax

network

Context

[Tree] (config>port>ethernet network)

[Tree] (config>port>tdm>e3 network)

[Tree] (config>port>tdm>ds3 network)

Full Context

configure port ethernet network

configure port tdm e3 network

configure port tdm ds3 network

Description

This command enables access to the context to configure network port parameters.

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Platforms

All

- configure port ethernet network

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 network
- configure port tdm e3 network

network

Syntax

network

Context

[Tree] (config>service>vpls>vxlan network)

Full Context

configure service vpls vxlan network

Description

Commands in this context configure network parameters for the VPLS VXLAN service.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

network

Syntax

network

Context

[Tree] (config>service>vprn network)

Full Context

configure service vprn network

Description

Commands in this context configure network parameters for the VPRN service.

Platforms

All

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network

Syntax

network *network-policy-id* [**create**] [**name** *name*]

no network *network-policy-id*

Context

[Tree] (config>qos network)

Full Context

configure qos network

Description

This command creates or edits a QoS network policy. The network policy defines the treatment that IP or MPLS packets receive as they ingress and egress the network port.

The QoS network policy consists of an ingress and egress component. The ingress component of the policy defines how DiffServ code points and MPLS EXP bits are mapped to internal forwarding class and profile state. The forwarding class and profile state define the Per Hop Behavior (PHB) or the QoS treatment through the router. The mapping on each network interface defaults to the mappings defined in the default network QoS policy until an explicit policy is defined for the network interface.

The egress component of the network QoS policy defines the queuing parameters associated with each forwarding class. Each of the forwarding classes defined within the system automatically creates a queue on each network interface. This queue gets all the parameters defined within the default network QoS policy 1 until an explicit policy is defined for the network interface access uplink port. If the egressing packet originated on an ingress SAP, or the remarking parameter is defined for the egress interface, the egress QoS policy also defines the IP DSCP, dot1p/DE, or MPLS EXP bit marking based on the forwarding class and the profile state.

Network **policy-id 1** exists as the default policy that is applied to all network interfaces by default. The network **policy-id 1** cannot be modified or deleted. It defines the default DSCP-to-FC mapping and MPLS EXP-to-FC mapping for the ingress. For the egress, it defines six forwarding classes that represent individual queues and the packet marking criteria.

Network **policy-id 1** exists as the default policy that is applied to all network ports by default. This default policy cannot be modified or deleted. It defines the default DSCP-to-FC mapping and default unicast meters for ingress IP traffic. For the egress, it defines the forwarding class to dot1p and DSCP values and the packet marking criteria.

If a new network policy is created (for instance, policy-id 3), only the default action and egress forwarding class parameters are identical to the default policy. A new network policy does not contain the default DSCP-to-FC and MPLS-EXP-to-FC mapping for network QoS policy of type **ip-interface** or the DSCP-to-FC mapping (for network QoS policy of type **port**). The default network policy can be copied (use the copy command) to create a new network policy that includes the default ingress DSCP-to-FC and MPLS EXP-to-FC mapping (as appropriate). Parameters can be modified, or the **no** form of this command can be used to remove an object from the configuration.

Any changes made to an existing policy, using any of the sub-commands, will be applied immediately to all network interfaces where this policy is applied. For this reason, when many changes are required on a policy, it is highly recommended that the policy be copied to a work area policy-id. That work-in-progress

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policy can be modified until complete, then written over the original policy-id. Use the config qos copy command to maintain policies in this manner.

The **no** form of this command deletes the network policy. A policy cannot be deleted until it is removed from all entities where it is applied. The default network **policy** *policy-id* 1 cannot be deleted.

Default

network 1 — System Default Network Policy 1

Parameters

network-policy-id

The policy-id uniquely identifies the policy on the router.

Values 1 to 65535

Default 1

create

Required parameter when creating a QoS network policy.

name name

A name that is saved as part of the configuration data. If a name is not specified at creation time, then SR OS assigns a string version of the network policy identifier as the name.

Values A string up to 64 characters

Platforms

All

network

Syntax

network *src-pol dst-pol* [**overwrite**]

Context

[Tree] (config>qos>copy network)

Full Context

configure qos copy network

Description

This command copies existing QoS policy entries for a QoS policy-id to another QoS policy-id.

The **copy** command is used to create new policies using existing policies and also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

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Parameters

src-pol dst-pol

Indicates that the source and destination policies are network policy IDs. Specify the source policy that the copy command will copy and specify the destination policy to which the command will duplicate the policy to a new or different policy ID.

Values 1 to 65535

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy will be overwritten with the contents of the source policy. If **overwrite** is not specified, the following error occurs if the destination policy ID exists.

```
SR>config>qos# copy network 1 427
MINOR: CLI Destination "427" exists use {overwrite}.
SR>config>qos# copy network 1 427 overwrite
```

Platforms

All

network

Syntax

network

Context

[Tree] (cfg>service>vprn>vxlan>instance network)

Full Context

configure service vprn vxlan instance network

Description

Commands in this context configure network parameters for the VPRN VXLAN service.

Platforms

7750 SR-1, 7750 SR-s

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31.56 network-address

network-address

Syntax

network-address {**eq** | **neq**} *ip-address*

network-address {**eq** | **neq**} **ip-prefix-list** *ip-prefix-list-name*

no network-address

Context

[Tree] (config>app-assure>group>policy>app-filter>entry network-address)

Full Context

configure application-assurance group policy app-filter entry network-address

Description

This command configures the network address to use in application definition. The network address will match the destination IP address in a from-sub flow or the source IP address in a to-sub flow.

The **no** form of this command restores the default (removes the network address from application criteria defined by this entry).

Default

no network-address

Parameters

eq

Specifies a comparison operator indicating that the value configured and the value in the flow are equal.

neq

Specifies a comparison operator indicating that the value configured differs from the value in the flow.

ip-address

Specifies a valid unicast address.

Values		
	ipv4-address	a.b.c.d[/mask]
		mask - [1..32]
	ipv6-address	x:x:x:x:x:x:x:x/prefix-length
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H

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d - [0..255]D

prefix-length [1..128]

ip-prefix-list-name

Specifies the name of an IP prefix list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.57 network-domain

network-domain

Syntax

[**no**] **network-domain** *network-domain-name*

Context

[Tree] (config>router>network-domains network-domain)

Full Context

configure router network-domains network-domain

Description

This command creates network-domains that can be associated with individual interfaces and SDPs.

Default

network-domain "default”

Parameters

network-domain-name

Specifies the network domain name, up to 32 characters.

Platforms

All

network-domain

Syntax

[**no**] **network-domain** *network-domain-name*

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Context

[Tree] (config>router>if network-domain)

Full Context

configure router interface network-domain

Description

This command assigns a given interface to a given network-domain. The network-domain is then taken into account during sap-ingress queue allocation for VPLS SAP.

The network-domain association can only be done in a base-routing context. Associating a network domain with an loop-back or system interface will be rejected. Associating a network-domain with an interface that has no physical port specified will be accepted, but will have no effect as long as a corresponding port, or LAG, is defined.

Single interfaces can be associated with multiple network-domains.

Default

network-domain "default”

Platforms

All

network-domain

Syntax

network-domain *network-domain-name*

no network-domain

Context

[Tree] (config>service>sdp network-domain)

Full Context

configure service sdp network-domain

Description

This command assigns a given SDP to a given network-domain. The network-domain is then taken into account during sap-ingress queue allocation for VPLS SAP.

The network-domain association can only be done in a base-routing context. Associating a network domain with an loop-back or system interface will be rejected. Associating a network-domain with an interface that has no physical port specified will be accepted, but will have no effect as long as a corresponding port, or LAG, is undefined.

A single SDP can only be associated with a single network-domain.

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Default

network-domain "default"

Platforms

All

31.58 network-domains

network-domains

Syntax

network-domains

Context

[Tree] (config>router network-domains)

Full Context

configure router network-domains

Description

This command opens context for defining network-domains. This command is applicable only in the base routing context.

Platforms

All

31.59 network-element-discovery

network-element-discovery

Syntax

network-element-discovery

Context

[Tree] (config>system network-element-discovery)

Full Context

configure system network-element-discovery

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Description

Commands in this context configure the network-element discovery parameters and MIB table generation.

Platforms

All

31.60 network-instance-id

network-instance-id

Syntax

[**no**] **network-instance-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute network-instance-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute network-instance-id

Description

This command enables the generation of the **network-instance-id** attribute.

The **no** form of this command disables the generation of the **network-instance-id** attribute.

Default

no network-instance-id

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.61 network-instance-name

network-instance-name

Syntax

[**no**] **network-instance-name**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute network-instance-name)

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Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute network-instance-name

Description

This command enables the generation of the **network-instance-name** attribute.

The **no** form of this command disables the generation of the **network-instance-name** attribute.

Default

no network-instance-name

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.62 network-interconnect-vxlan

network-interconnect-vxlan

Syntax

network-interconnect-vxlan *instance*

no network-interconnect-vxlan

Context

[Tree] (config>service>system>bgp-evpn>eth-seg network-interconnect-vxlan)

Full Context

configure service system bgp-evpn ethernet-segment network-interconnect-vxlan

Description

This command associates the VXLAN instance with the virtual Ethernet Segment. The association of the virtual ES is based on the VXLAN instance and range of services where the VXLAN instance is configured.

The **no** form of this command removes the VXLAN instance from the Ethernet Segment association.

Parameters

instance

Specifies the VXLAN instance that is to be associated with the virtual ES.

Values 1

Platforms

All

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31.63 network-interface

network-interface

Syntax

network-interface *interface-name* [**create**]

no network-interface *interface-name*

Context

[Tree] (config>service>vprn network-interface)

Full Context

configure service vprn network-interface

Description

This command configures a network interface in a VPRN that acts as a CSC interface to a CSC-CE in a Carrier Supporting Carrier IP VPN deployment model.

Parameters

interface-name

Specifies the name of the interface to be added.

create

Keyword used to create the network interface.

Platforms

All

31.64 network-ip

network-ip

Syntax

network-ip *ip-address*[*/mask*]

no network-ip

Context

[Tree] (config>app-assure>group>transit-prefix-policy>entry>match network-ip)

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Full Context

configure application-assurance group transit-prefix-policy entry match network-ip

Description

This command configures an entry for an address of prefix transit aa-sub and is used when the site is a remote site on the same opposite side of the system as the parent SAP. The network IP addresses represents the dest-IP in the from-SAP direction and src-IP in the to-SAP direction.

The **no** form of this command removes the network IP address/mask from the match criteria.

Parameters

ip-address[/mask]

specifies the network address prefix and length associated with this transit prefix policy entry.

Values

ip-address[/mask] :	ipv4-address - a.b.c.d[/mask]
	mask - [1..32]
	ipv6-address - x:x:x:x:x:x:x:x/prefix-length
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D
	prefix-length [1..128]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.65 network-queue

network-queue

Syntax

network-queue *policy-name* [**create**]

no network-queue *policy-name*

Context

[Tree] (config>qos network-queue)

Full Context

configure qos network-queue

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Description

This command creates a context to configure a network queue policy. Network queue policies define the ingress network queuing at the FP network node level and on the Ethernet port and SONET/SDH path level to define network egress queuing.

Default

network-queue "default”

Parameters

policy-name

The name of the network queue policy.

Values Valid names consist of any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

create

Required keyword when creating a network queue policy.

Platforms

All

network-queue

Syntax

network-queue *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy network-queue)

Full Context

configure qos copy network-queue

Description

This command copies or overwrites existing network queue QoS policies to another network queue policy ID.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

network-queue

Indicates that the source policy ID and the destination policy ID are network-queue policy IDs. Specify the source policy ID that the copy command will attempt to copy from and specify the destination policy ID to which the command will copy a duplicate of the policy.

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overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy will be overwritten with the contents of the source policy. If **overwrite** is not specified, the following message is generated indicating that the destination policy ID exists.

Example:

```
– SR7>config>qos# copy network-queue nq1 nq2
– MINOR: CLI Destination "nq2" exists - use {overwrite}.
– SR7>config>qos# copy network-queue nq1 nq2 overwrite
```

Platforms

All

31.66 network-rtt-threshold

network-rtt-threshold

Syntax

network-rtt-threshold *network-rtt-threshold*

no network-rtt-threshold

Context

[Tree] (config>app-assure>group>tcp-optimizer network-rtt-threshold)

Full Context

configure application-assurance group tcp-optimizer network-rtt-threshold

Description

This command configures the threshold of the Route Trip Time (RTT) delay of the network side (between AA and the content provider) above which TCP Optimization (TCPO) is performed. This enables the operator to disable optimization for content that is served from a location close to the TCP optimizer.

Default

no network-rtt-threshold

Parameters

network-rtt-threshold

Specifies the network side RTT delay threshold, inmilliseconds.

Values 1 to 100

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.67 network-type

network-type

Syntax

network-type {**sdh** | **sonet**}

Context

[Tree] (config>system>ptp network-type)

Full Context

configure system ptp network-type

Description

This command configures the codeset to be used for the encoding of QL values into PTP clockClass values and vice versa when the profile is configured for G.8265.1 or G.8275.2.

This setting only applies to the range of values observed in the clockClass values transmitted out of the node in Announce messages. The router supports the reception of any valid value in Table 1/G.8265.1 and Table2/G.8275.2.

Default

network-type sdh

Parameters

sdh

Specifies the values used on a G.781 Option 1 compliant network.

sonet

Specifies the values used on a G.781 Option 2 compliant network.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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31.68 new-password-at-login

new-password-at-login

Syntax

[**no**] **new-password-at-login**

Context

[Tree] (config>system>security>user>console new-password-at-login)

Full Context

configure system security user console new-password-at-login

Description

This command forces the user to change a password at the next console login. The new password applies to FTP but the change can be enforced only by the console, SSH, or Telnet login.

The **no** form of this command does not force the user to change passwords.

Default

no new-password-at-login

Platforms

All

31.69 new-qinq-untagged-sap

new-qinq-untagged-sap

Syntax

[**no**] **new-qinq-untagged-sap**

Context

[Tree] (config>system>ethernet new-qinq-untagged-sap)

Full Context

configure system ethernet new-qinq-untagged-sap

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Description

This command controls the behavior of QinQ SAP y.0 (for example, 1/1/1:3000.0). If the flag is not enabled (no new-qinq-untagged-sap), the y.0 SAP works the same as the y.* SAP (for example, 1/1/1:3000.*); all frames tagged with outer VLAN y and no inner VLANs or inner VLAN x where inner VLAN x is not specified in a SAP y.x configured on the same port (for example, 1/1/1:3000.10).

If the flag is enabled, then the following new behavior immediately applies to all existing and future y.0 SAPs: the y.0 SAP maps all the ingress frames tagged with outer tag VLAN-id of y (qinq-etype) and no inner tag or with inner tag of VLAN-id of zero (0). When the flag is disabled, there is no disruption for existing usage of this SAP type.

Default

no new-qinq-untagged-sap

Platforms

7450 ESS, 7750 SR-1, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, VSR

31.70 new-session-id

new-session-id

Syntax

[**no**] **new-session-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh new-session-id)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling new-session-id

Description

This command determines the Diameter session ID when Extended Failure Handling (EFH) is active and an attempt is made to establish a new Diameter Gy session with the Online Charging Server (OCS). An attempt to establish a new Diameter Gy session is made when the allocated interim credit is used or the validity time expires for a rating group of a Diameter Gy session. The first attempt always uses a new Diameter session ID. This command controls the behavior for each subsequent attempt. The behavior is as follows:

- no new-session-id (default) — The same Diameter session ID is used for each subsequent attempt.
- new-session-id — A new Diameter session ID is used for each attempt.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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31.71 newline

newline

Syntax

[**no**] **newline**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>prompt newline)

Full Context

configure system management-interface cli md-cli environment prompt newline

Description

This command displays a new line before the first prompt line.

The **no** form of this command suppresses the new line before the first prompt line.

Default

newline

Platforms

All

31.72 next

next

Syntax

[**no**] **next**

Context

[Tree] (config>service>nat>pcp-server-policy>option next)

Full Context

configure service nat pcp-server-policy option next

Description

This command enables support for the **next** option.

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The **no** form of this command reverts to the default.

Default

no next

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

31.73 next-attempt

next-attempt

Syntax

next-attempt {**same-preference-level** | **next-preference-level**}

no next-attempt

Context

[Tree] (config>service>vprn>l2tp next-attempt)

[Tree] (config>router>l2tp next-attempt)

Full Context

configure service vprn l2tp next-attempt

configure router l2tp next-attempt

Description

This command enables tunnel selection algorithm based on the tunnel preference level.

The **no** form of this command reverts to the default.

Default

next-attempt next-preference-level

Parameters

same-preference-level

If the **tunnel-spec** selection algorithm evaluates into a tunnel that is currently unavailable (for example, a tunnel in a denylist) then the next elected tunnel, if available, is chosen within the same preference-level as the last attempted tunnel. Only when all tunnels within the same preference level are exhausted, the tunnel selection algorithm moves to the next preference level.

In case that a new session setup request is received while all tunnels on the same preference level are denylisted, the L2TP session tries to be established on denylisted tunnels before the tunnel selection moves to the next preference level.

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next-preference-level

If the **tunnel-spec** selection algorithm evaluates into a tunnel that is currently unavailable (for example tunnel in a denylist) then the selection algorithm tries to select the tunnel from the next preference level, even though the tunnels on the same preference level might be available for selection.

Default next-preference-level

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.74 next-header

next-header

Syntax

next-header *next-header*

no next-header

Context

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry next-header)

Full Context

configure system security management-access-filter ipv6-filter entry next-header

Description

This command specifies the next header to match. The protocol type such as TCP, UDP or OSPF is identified by its respective protocol number. Well-known protocol numbers include ICMP(1), TCP(6), UDP(17). IPv6 Extension headers are identified by the next header IPv6 numbers as per RFC 2460. This command only applies to the 7750 SR and 7950 XRS.

Parameters

next-header

Specifies for IPv4 MAF the IP protocol field, and for IPv6 the next header type to be used in the match criteria for this Management Access Filter Entry.

Values

next-header:	0 to 255, protocol numbers accepted in DHB
keywords:	none, crtp, crudp, egp, eigrp, encap, ether-ip, gre, icmp, drp, igmp, igp, ip, ipv6, ipv6-icmp, ipv6-no-nxt, isis, iso-ip, l2tp, spf-igp, pim, pnni, ptp, rdp, rsvp, stp, tcp, udp, vrrp

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Platforms

All

31.75 next-hop

next-hop

Syntax

next-hop {*ip-address* | *ip-int-name* | *ipv6 address*}

Context

[Tree] (config>service>vprn>static-route-entry next-hop)

Full Context

configure service vprn static-route-entry next-hop

Description

This command specifies the directly connected next hop IP address or interface used to reach the destination. If the next hop is over an unnumbered interface or a point-to-point interface, the *ip-int-name* of the unnumbered or point-to-point interface (on this node) can be configured.

If the next hop is over an unnumbered interface in the 7450 ESS router, the *ip-int-name* of the unnumbered interface (on this node) can be configured.

The configured *ip-address* can be either on the network side or the access side on this node. The address must be associated with a network directly connected to a network configured on this node.

Default

no next-hop

Parameters

ip-int-name, ipv4-address, ipv6-address

the IP-INT, IPv4, and IPv6 addresses

Values The following values apply to the 7750 SR and 7950 XRS:

ip-int-name	32 characters max
ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x-[interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H
	d: [0 to 255]D

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interface: 32 characters maximum, mandatory for link local addresses

IPv6 static routes are not supported on the 7450 ESS except in mixed mode.

Platforms

All

next-hop

Syntax

next-hop *ip-address*

no next-hop

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp>pri next-hop)

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp>bkup next-hop)

Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group primary-next-hop next-hop

configure router mpls forwarding-policies forwarding-policy next-hop-group backup-next-hop next-hop

Description

This command configures the address of primary or backup next hop of an NHG entry in a forwarding policy.

The **no** form of this command removes the address of primary or backup next hop of an NHG entry in a forwarding policy.

Parameters

ip-address

Specifies the destination IPv4 or IPv6 address.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D

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Platforms

All

next-hop

Syntax

next-hop {*ip-int-name* | *ip-address* | *ipv6-address*}

Context

[Tree] (config>router>static-route-entry next-hop)

Full Context

configure router static-route-entry next-hop

Description

This command specifies the directly connected next hop IP address or interface used to reach the destination. If the next hop is over a point-to-point unnumbered interface, the **ip-int-name** of the unnumbered point-to-point interface (on this node) can be configured.

If the next hop is over an unnumbered interface in the 7450 ESS router, the *ip-int-name* of the unnumbered interface (on this node) can be configured.

The configured *ip-address* can be either on the network side or the access side on this node. The address must be associated with a network directly connected to a network configured on this node.

Default

no next-hop

Parameters

ip-int-name* | *ip-address* | *ipv6-address

Specifies the interface or IPv4/IPv6 address of the next hop.

Values The following values apply to the 7750 SR, 7450 ESS, and 7950 XRS:

ip-int-name	32 characters max
ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x-[interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0..FFFF]H
	d: [0..255]D
	interface: 32 characters maximum, mandatory for link local addresses

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Platforms

All

next-hop

Syntax

[**no**] **next-hop** *ip-address*

Context

[Tree] (config>vrrp>policy>priority-event>route-unknown next-hop)

Full Context

configure vrrp policy priority-event route-unknown next-hop

Description

This command enables an allowed next hop IP address to match the IP route prefix for a route-unknown priority control event.

If the next-hop IP address does not match one of the defined *ip-address*, the match is considered unsuccessful and the **route-unknown** event transitions to the set state.

The **next-hop** command is optional. If no **next-hop** *ip-address* commands are configured, the comparison between the RTM prefix return and the **route-unknown** IP route prefix are not included in the next hop information.

When more than one next hop IP addresses are eligible for matching, a **next-hop** command must be executed for each IP address. Defining the same IP address multiple times has no effect after the first instance.

The **no** form of the command removes the *ip-address* from the list of acceptable next hops when looking up the **route-unknown** prefix. If this *ip-address* is the last next hop defined on the **route-unknown** event, the returned next hop information is ignored when testing the match criteria. If the *ip-address* does not exist, the **no next-hop** command returns a warning error, but continues to execute if part of an **exec** script.

Default

no next-hop — No next hop IP address for the route unknown priority control event is defined.

Parameters

ip-address

The IP address for an acceptable next hop IP address for a returned route prefix from the RTM when looking up the **route-unknown** route prefix.

Values The following values apply to the 7450 ESS:

ipv4-address: a.b.c.d

Values The following values apply to the 7750 SR and 7950 XRS:

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ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x[-interface]	
	x:	[0..FFFF]H
	interface:	32 chars maximum, mandatory for link local addresses

The link-local IPv6 address must have an interface name specified. The global IPv6 address must not have an interface name specified.

Platforms

All

next-hop

Syntax

next-hop *ip-address*

next-hop prefix-list *name*

no next-hop

Context

[Tree] (config>router>policy-options>policy-statement>entry>from next-hop)

Full Context

configure router policy-options policy-statement entry from next-hop

Description

This command enables BGP routes to be matched based on the BGP next-hop address. The match condition is evaluated against the IPv4 or IPv6 address in the NEXT_HOP or MP_REACH_NLRI attribute.

When the next-hop match is applied to VPN-IP routes, the Route Distinguisher (RD) is ignored.

A non-BGP route does not match a policy entry if it contains the **next-hop** command.

Default

no next-hop

Parameters

ip-address

An IPv4 or IPv6 address.

Values a.b.c.d or x:x:x:x:x:x:x:x or x:x:x:x:x:x:d.d.d.d

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name

Specifies the name of a prefix-list (up to 64 characters).

prefix-list

Specifies that the BGP next hop should be matched against a prefix-list instead of an individual IP address.

Platforms

All

next-hop

Syntax

next-hop {*ip-address* | **peer-address**}

no next-hop

Context

[Tree] (config>router>policy-options>policy-statement>entry>action next-hop)

[Tree] (config>router>policy-options>policy-statement>default-action next-hop)

Full Context

configure router policy-options policy-statement entry action next-hop

configure router policy-options policy-statement default-action next-hop

Description

This command assigns the specified next hop IP address to routes matching the policy statement entry.

If a next-hop IP address is not specified, the next-hop attribute is not changed.

The **no** form of this command disables assigning a next hop address in the route policy entry.

Default

no next-hop

Parameters

ip-address

Specifies the next hop IP address in dotted decimal notation.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

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param-name: The next-hop parameter variable name.

Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@".

peer-address

Set the next-hop IP address to the peer's IP address.

Platforms

All

next-hop

Syntax

next-hop {**frr**}

no next-hop

Context

[Tree] (config>service>vprn>bgp-ipvpn>srv6>upa-trigger next-hop)

[Tree] (conf>rtr>bgp>srv6>family>upa-trigger next-hop)

[Tree] (config>service>vprn>bgp-evpn>srv6>upa-trigger next-hop)

Full Context

configure service vprn bgp-ipvpn segment-routing-v6 upa-trigger next-hop

configure router bgp segment-routing-v6 family upa-trigger next-hop

configure service vprn bgp-evpn segment-routing-v6 upa-trigger next-hop

Description

This command activates BGP to check the NLRI next hop in the routing table for a matching UPA entry using the LPM.

The **no** form of this command reverts to the default.

Default

no next-hop

Parameters

frr

Keyword to enable BGP FRR when UPA is received.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

next-hop

Syntax

[**no**] **next-hop**

Context

[Tree] (debug>router>p2mp-sr-tree>segment-routing-mpls>replication-segment next-hop)

Full Context

debug router p2mp-sr-tree segment-routing-mpls replication-segment next-hop

Description

This command traces replication segment events for all next hops.

The **no** form of this command disables the tracing.

Default

no next-hop

Platforms

7750 SR-a, 7750 SR-e

31.76 next-hop-address

next-hop-address

Syntax

next-hop-address *ip-address*

no next-hop-address

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls>downstream-nodes next-hop-address)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls downstream-nodes next-hop-address

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Description

This command configures the IP address of the next hop for the P2MP SR tree replication segment.

The **no** form of this command removes the next hop address.

Default

no next-hop-address

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	where:
	x: [0 to FFFF]H
	d: [0 to 255]D
	interface: up to 32 characters, mandatory for link local addresses

Platforms

All

31.77 next-hop-group

next-hop-group

Syntax

next-hop-group *index* [**resolution-type** { **direct** | **indirect**}]

no next-hop-group *index*

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy next-hop-group)

Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group

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Description

This command configures an NHG entry in an MPLS forwarding policy.

Each NHG can have primary and backup next hops of the same type.

The **no** form of this command removes the NHG from the MPLS forwarding policy.

Parameters

index

Specifies the index value.

Values 1 to 32

direct

Specifies the direct resolution type.

indirect

Specifies the indirect resolution type.

Platforms

All

31.78 next-hop-interface-name

next-hop-interface-name

Syntax

next-hop-interface-name *interface-name*

no next-hop-interface-name

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls>downstream-nodes next-hop-interface-name)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls downstream-nodes next-hop-interface-name

Description

This command configures the outgoing interface name for the P2MP SR tree replication segment.

The **no** form of this command removes the outgoing interface name.

Default

no next-hop-interface-name

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Parameters

interface-name

Specifies the name of the outgoing interface, up to 32 characters.

Platforms

All

31.79 next-hop-reachability

next-hop-reachability

Syntax

[**no**] **next-hop-reachability**

Context

[Tree] (configure>service>vprn>bgp>bfd-strict-mode next-hop-reachability)

[Tree] (configure>router>bgp>group>bfd-strict-mode next-hop-reachability)

[Tree] (configure>service>vprn>bgp>group>bfd-strict-mode next-hop-reachability)

[Tree] (configure>service>vprn>bgp>group>neighbor>bfd-strict-mode next-hop-reachability)

[Tree] (configure>router>bgp>bfd-strict-mode next-hop-reachability)

[Tree] (configure>router>bgp>group>neighbor>bfd-strict-mode next-hop-reachability)

Full Context

configure service vprn bgp bfd-strict-mode next-hop-reachability

configure router bgp group bfd-strict-mode next-hop-reachability

configure service vprn bgp group bfd-strict-mode next-hop-reachability

configure service vprn bgp group neighbor bfd-strict-mode next-hop-reachability

configure router bgp bfd-strict-mode next-hop-reachability

configure router bgp group neighbor bfd-strict-mode next-hop-reachability

Description

This command configures the router to consider next-hop self routes belonging to specific address families received from a peer within scope of this command as having an unresolved next hop, provided that the following requirements are met:

- The BFD session to the peer is in a down state.
- There is a valid interface BFD configuration that applies to the peer.
- There is a valid BFD liveness configuration that applies to the peer.

The unresolved state is maintained until the BFD session state changes to up or administratively down, even if there is a resolving route or tunnel that matches the BGP next-hop address.

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Routes received from one peer with a BGP next-hop address equal to the address of another peer are not affected by the BFD session to the other peer.

The behavior of the router when this command is enabled does not depend on whether Strict-BFD is used, as both features are independent.

Enabling this command only affects routes belonging to the following address families:

- IPv4
- IPv6
- IPv4 VPN
- IPv6 VPN
- labeled unicast IPv4
- labeled unicast IPv6
- EVPN
- IPv4 multicast
- IPv6 multicast
- IPv4 VPN multicast
- IPv6 VPN multicast

The **no** form of this command prevents the router from considering next-hop self routes belonging to the preceding address families as having an unresolved next hop if the BFD session goes down.

Default

no next-hop-reachability

Platforms

All

31.80 next-hop-resolution

next-hop-resolution

Syntax

next-hop-resolution

Context

[Tree] (config>service>vprn>bgp next-hop-resolution)

Full Context

configure service vprn bgp next-hop-resolution

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Description

Commands in this context configure next-hop resolution parameters.

Platforms

All

next-hop-resolution

Syntax

next-hop-resolution

Context

[Tree] (config>router>bgp next-hop-resolution)

Full Context

configure router bgp next-hop-resolution

Description

Commands in this context configure next-hop resolution parameters.

Platforms

All

31.81 next-hop-self

next-hop-self

Syntax

[**no**] **next-hop-self**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy next-hop-self)

Full Context

configure subscriber-mgmt bgp-peering-policy next-hop-self

Description

This command configures the neighbor to always set the NEXTHOP path attribute to its own physical interface when advertising to a peer.

The **no** form of this command disables the command.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

next-hop-self

Syntax

[**no**] **next-hop-self**

Context

[Tree] (config>service>vprn>bgp>group>neighbor next-hop-self)

[Tree] (config>service>vprn>bgp>group next-hop-self)

Full Context

configure service vprn bgp group neighbor next-hop-self

configure service vprn bgp group next-hop-self

Description

This command configures the group or neighbor to always set the NEXTHOP path attribute to its own physical interface when advertising to a peer.

This is primarily used to avoid third-party route advertisements when connected to a multi-access network.

The **no** form of this command used at the group level allows third-party route advertisements in a multi-access network.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no next-hop-self — Third-party route advertisements are allowed.

Platforms

All

next-hop-self

Syntax

[**no**] **next-hop-self**

Context

[Tree] (config>router>bgp>group next-hop-self)

[Tree] (config>router>bgp>group>neighbor next-hop-self)

Full Context

configure router bgp group next-hop-self

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configure router bgp group neighbor next-hop-self

Description

This command enables BGP to advertise routes to members of a group or to a specific neighbor using a local address of the BGP instance as the BGP next-hop address. Note that **next-hop-self** is set without exception, regardless of the route source (EBGP or IBGP) or its family. When used with VPN-IPv4 and VPN-IPv6 routes the **enable-rr-vpn-forwarding** command should also be configured.

The **no** form of this command uses protocol standard behavior to decide whether or not to set **next-hop-self** in advertised routes.

Default

no next-hop-self

Platforms

All

next-hop-self

Syntax

[**no**] **next-hop-self**

Context

[Tree] (config>router>policy-options>policy-statement>entry>action next-hop-self)

[Tree] (config>router>policy-options>policy-statement>default-action next-hop-self)

Full Context

configure router policy-options policy-statement entry action next-hop-self

configure router policy-options policy-statement default-action next-hop-self

Description

This command configures BGP to advertise routes that match a policy entry (or that match no other policy entry and, therefore, to which the default action applies) using a local address of the BGP instance as the BGP next-hop address. The command applies to IPv4, IPv6, label-IPv4, and label-IPv6 routes. It also applies to VPN-IPv4 and VPN-IPv6 routes, but only when used in conjunction with the **enable-rr-vpn-forwarding** command.

This command affects how routes are advertised to IBGP peers, regardless of whether or not they were learned from an IBGP or EBGP peer

The **no** form of this command uses protocol standard behavior to decide whether or not to set **next-hop-self** in advertised routes.

Default

no next-hop-self

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Platforms

All

31.82 next-hop-unchanged

next-hop-unchanged

Syntax

next-hop-unchanged [**label-ipv4**] [**label-ipv6**] [**vpn-ipv4**] [**vpn-ipv6**] [**evpn**]

no next-hop-unchanged

Context

[Tree] (config>router>bgp>group next-hop-unchanged)

[Tree] (config>router>bgp>group>neighbor next-hop-unchanged)

Full Context

configure router bgp group next-hop-unchanged

configure router bgp group neighbor next-hop-unchanged

Description

This command enables unchanged BGP next-hops when sending BGP routes to peers in this group or neighbor.

The **no** form of this command disables unchanged BGP next-hops.

Default

no next-hop-unchanged

Parameters

evpn

Specifies BGP next hops are unchanged for the evpn address family.

label-ipv4

Specifies BGP next hops are unchanged for the label-ipv4 address family.

label-ipv6

Specifies BGP next hops are unchanged for the label-ipv6 address family.

vpn-ipv4

Specifies BGP next hops are unchanged for the vpn-ipv4 address family.

vpn-ipv6

Specifies BGP next hops are unchanged for the vpn-ipv6 address family.

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Platforms

All

31.83 nh-type

nh-type

Syntax

nh-type {**ip** | **tunnel**}

no nh-type

Context

[Tree] (config>router>route-next-hop-policy>template nh-type)

Full Context

configure router route-next-hop-policy template nh-type

Description

This command configures the next-hop type constraint into the route next-hop policy template.

The user can select if tunnel backup next-hop or IP backup next-hop is preferred. The default in SR OS implementation is to prefer IP next-hop over tunnel next-hop. The implementation will fall back to the other type if no LFA next-hop of the preferred type is found.

When the route next-hop policy template is applied to an IP interface, all prefixes using this interface as a primary next-hop will follow the next-hop type preference specified in the template.

The **no** form deletes the next-hop type constraint from the route next-hop policy template.

Default

nh-type ip

Parameters

{ip | tunnel}

Specifies the two possible values for the next-hop type.

Default ip

Platforms

All

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31.84 nmda

nmda

Syntax

nmda

Context

[Tree] (config>system>management-interface>yang-modules nmda)

Full Context

configure system management-interface yang-modules nmda

Description

Commands in this context configure the attributes for the Network Management Datastores Architecture (NMDA).

Platforms

All

31.85 nmda-support

nmda-support

Syntax

[**no**] **nmda-support**

Context

[Tree] (config>system>management-interface>yang-modules>nmda nmda-support)

Full Context

configure system management-interface yang-modules nmda nmda-support

Description

This command enables the advertisement of NMDA support over NETCONF through the use of YANG library 1.1.

The **no** form of this command disables NMDA advertisement over NETCONF and YANG library 1.0 is used.

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Default

no nmda-support

Platforms

All

31.86 node

node

Syntax

node *origin-host-string* [**destination-realm** *destination-realm-string*]

no diameter-node

Context

[Tree] (config>aaa>diam node)

Full Context

configure aaa diameter node

Description

This command creates a Diameter client node in the SR OS. Multiple Diameter client nodes with their own peer definitions are simultaneously supported in SR OS.

Each such node is defined by a unique DiameterIdentity (the origin host and realm names).

The **no** form of this command removes the origin host string from the configuration.

Parameters

origin-host-string

Specifies the origin host name, up to 80 characters, is a mandatory parameter that translates to an Origin-Host AVP that is carried in all Diameter messages. The origin host and origin realm form a Diameter Identity that must be unique within the Diameter network in which they participate.

destination-realm-string

Specifies the destination realm name, up to 80 characters, is an optional parameter that translates to an Origin-Realm AVP that is carried in all Diameter messages. The destination host and destination realm form a Diameter Identity that must be unique within the Diameter network in which they participate

If the realm name is not configured, it will be extracted from the host parameter as follows:

- it is set to the string after the first dot (.) in the configured origin-host-string
- it is set to the configured origin-host-string if a dot (.) is not present in the string

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create

Keyword used to create the Diameter client node. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

node

Syntax

[**no**] **node** *host-name*

Context

[Tree] (debug>diameter node)

Full Context

debug diameter node

Description

This command debugs the Diameter node. Node-level debugging can report on all message exchange between the peers. Although this level can report messages that contain session id (app level messages), this level is session unaware. It deals strictly with getting the messages in and out of the system (connection level messages which are not routable, and application level messages which are routable).

Parameters

host-name

Specifies the host name, up to 80 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.87 node-id

node-id

Syntax

node-id fqdn *domain-name*

node-id use-ip-address

Context

[Tree] (config>subscr-mgmt>pfcp-association node-id)

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Full Context

configure subscriber-mgmt pfcp-association node-id

Description

This command configures the FQDN as sent in PFCP messages. This command can be configured to use the linked interface source IP address, or a pre-configured.

Default

node-id use-ip-address

Parameters

domain-name

Specifies the FQDN, up to 255 characters.

use-ip-address

Specifies to use the IP address of the interface configured for this association.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

node-id

Syntax

node-id *node-id*

no node-id

Context

[Tree] (config>router>mpls>mpls-tp node-id)

Full Context

configure router mpls mpls-tp node-id

Description

This command configures the MPLS-TP Node ID for the node. This is used as the 'from' Node ID used by MPLS-TP LSPs originating at this node. The default value of the node-id is the system interface IPv4 address. The Node ID may be entered in 4-octet IPv4 address format, <a.b.c.d>, or as an unsigned 32 bit integer. The Node ID is not treated as a routable IP address from the perspective of IP routing, and is not advertised in any IP routing protocols.

The MPLS-TP context cannot be administratively enabled unless at least a system interface IPv4 address is configured because MPLS requires that this value is configured.

Default

no node-id

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Parameters

node-id

Specifies the MPLS-TP node ID for the node.

Values a.b.c.d or 1 to 4294967295

Default System interface IPv4 address

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

node-id

Syntax

node-id *mac-address*

no node-id

Context

[Tree] (config>eth-ring node-id)

Full Context

configure eth-ring node-id

Description

This optional command configures the MAC address of the RPL control. The default is to use the chassis MAC for the ring control. This command overrides the chassis MAC address with a different MAC address.

The **no** form of the command removes the RPL link.

Default

no node-id

Parameters

mac-address

xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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31.88 node-id-in-rro

node-id-in-rro

Syntax

[**no**] **node-id-in-rro** [**include** | **exclude**]

Context

[Tree] (config>router>rsvp node-id-in-rro)

Full Context

configure router rsvp node-id-in-rro

Description

This command enables the option to include node-id sub-object in RRO. Node-ID sub-object propagation is required to provide fast reroute protection for LSP that spans across multiple area domains.

If this option is disabled, then node-id is not included in RRO object.

Default

node-id-in-rro exclude

Platforms

All

31.89 node-protect

node-protect

Syntax

[**no**] **node-protect**

Context

[Tree] (config>router>mpls>lsp>fast-reroute node-protect)

[Tree] (config>router>mpls>lsp-template>fast-reroute node-protect)

Full Context

configure router mpls lsp fast-reroute node-protect

configure router mpls lsp-template fast-reroute node-protect

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Description

This command enables or disables node and link protection on the specified LSP. Node protection ensures that traffic from an LSP traversing a neighboring router will reach its destination even if the neighboring router fails.

Default

node-protect (for a provisioned LSP)

no node-protect (for a P2P LSP template)

Platforms

All

node-protect

Syntax

node-protect [**max-pq-nodes** *value*]

no node-protect

Context

[Tree] (config>router>isis>loopfree-alternates>remote-lfa node-protect)

Full Context

configure router isis loopfree-alternates remote-lfa node-protect

Description

This command enables node-protect in which the router prefers a node-protect over a link-protect repair tunnel for a given prefix if both are found in the Remote LFA or TI-LFA SPF computations. The SPF computations may only find a link-protect repair tunnel for prefixes owned by the protected node.

The **no** form of this command disables node-protect.

Default

no node-protect

Parameters

value

Specifies the maximum number of PQ nodes found in the LFA SPFs for which the node protection check is performed. The node-protect condition means the router must run the original Remote LFA algorithm plus one extra forward SPF on behalf of each PQ node found, potentially after applying the **max-pq-cost** parameter, to check if the path from the PQ node to the destination does not traverse the protected node. Setting this parameter to a lower value means the LFA SPFs will use less computation time and resources but may result in not finding a node-protect repair tunnel.

Values 1 to 32

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Default 16

Platforms

All

node-protect

Syntax

[**no**] **node-protect**

Context

[Tree] (config>router>isis>loopfree-alternates>ti-lfa node-protect)

Full Context

configure router isis loopfree-alternates ti-lfa node-protect

Description

This command enables node-protect in which the router prefers a node-protect over a link-protect repair tunnel for a given prefix if both are found in the Remote LFA or TI-LFA SPF computations. The SPF computations may only find a link-protect repair tunnel for prefixes owned by the protected node.

The **no** form of this command disables node-protect.

Default

no node-protect

Platforms

All

node-protect

Syntax

node-protect [**max-pq-nodes** *value*]

no node-protect

Context

[Tree] (config>router>ospf>loopfree-alternates>remote-lfa node-protect)

[Tree] (config>router>ospf3>loopfree-alternates>remote-lfa node-protect)

Full Context

configure router ospf loopfree-alternates remote-lfa node-protect

configure router ospf3 loopfree-alternates remote-lfa node-protect

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Description

This command enables node-protect in which the router prefers a node-protect over a link-protect repair tunnel for a given prefix if both are found in the Remote LFA or TI-LFA SPF computations. The SPF computations may only find a link-protect repair tunnel for prefixes owned by the protected node.

The **no** form of this command disables node-protect.

Default

no node-protect

Parameters

max-pq-nodes value

Specifies the maximum number of PQ nodes found in the LFA SPFs for which the node protection check is performed. The node-protect condition means the router must run the original Remote LFA algorithm plus one extra forward SPF on behalf of each PQ node found, potentially after applying the **max-pq-cost** parameter, to check if the path from the PQ node to the destination does not traverse the protected node. Setting this parameter to a lower value means the LFA SPFs will use less computation time and resources but may result in not finding a node-protect repair tunnel.

Values 1 to 32

Default 16

Platforms

All

node-protect

Syntax

[**no**] **node-protect**

Context

[Tree] (config>router>ospf>loopfree-alternates>ti-lfa node-protect)

[Tree] (config>router>ospf3>loopfree-alternates>ti-lfa node-protect)

Full Context

configure router ospf loopfree-alternates ti-lfa node-protect

configure router ospf3 loopfree-alternates ti-lfa node-protect

Description

This command enables node-protect in which the router prefers a node-protect over a link-protect repair tunnel for a given prefix if both are found in the Remote LFA or TI-LFA SPF computations. The SPF computations may only find a link-protect repair tunnel for prefixes owned by the protected node.

The **no** form of this command disables node-protect.

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Default

no node-protect

Platforms

All

31.90 node-sid

node-sid

Syntax

[**no**] **node-sid**

Context

[Tree] (config>router>isis>segm-rtng>ingress-statistics node-sid)

[Tree] (config>router>ospf3>segm-rtng>egress-statistics node-sid)

[Tree] (config>router>ospf3>segm-rtng>ingress-statistics node-sid)

[Tree] (config>router>ospf>segm-rtng>ingress-statistics node-sid)

[Tree] (config>router>ospf>segm-rtng>egress-statistics node-sid)

[Tree] (config>router>isis>segm-rtng>egress-statistics node-sid)

Full Context

configure router isis segment-routing ingress-statistics node-sid

configure router ospf3 segment-routing egress-statistics node-sid

configure router ospf3 segment-routing ingress-statistics node-sid

configure router ospf segment-routing ingress-statistics node-sid

configure router ospf segment-routing egress-statistics node-sid

configure router isis segment-routing egress-statistics node-sid

Description

This command enables the allocation of statistic indices to each node SID (received by means of IGP advertisement). All NHLFEs associated to a given SID share the same index. If a statistics index is not available at allocation time, the allocation fails, then the system re-tries the allocation. The system generates a log on the first fail and a log on the final successful allocation.

The **no** form of this command disables the allocation of statistic indices to each node SID, releases the statistic indices, and clears the associated counters.

Default

no node-sid

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Platforms

All

node-sid

Syntax

node-sid index *index-value* [**clear-n-flag**]

node-sid label *label-value* [**clear-n-flag**]

no node-sid

Context

[Tree] (config>router>ospf3>area>interface node-sid)

[Tree] (config>router>ospf>area>interface node-sid)

Full Context

configure router ospf3 area interface node-sid

configure router ospf area interface node-sid

Description

This command assigns a node SID index or label value to the prefix representing the primary address of a network interface of type system or loopback. A separate SID value can be configured for each IPv4 and IPv6 primary address of the interface. The secondary address of an IPv4 interface cannot be assigned a node SID index and does not inherit the SID of the primary IPv4 address.

In OSPFv2 and OSPFv3, the node SID is configured in the primary area but is inherited in any other area in which the interface is added as secondary.

This command fails if the network interface is not of type loopback or if the interface is defined in an IES or VPRN context. Assigning the same SID index or label value to the same interface in two different IGP instances is not allowed within the same node.

The value of the label or index SID is taken from the range configured for this IGP instance. When using the global mode of operation, the segment routing module checks that the same index or label value is not assigned to more than one loopback interface address. When using the per-instance mode of operation, this check is not required because the index, and therefore, the label ranges of IGP instances are not allowed to overlap.

The **clear-n-flag** option allows the user to clear the N-flag (node-sid flag) in an OSPF or OSPF3 prefix SID sub-TLV originated for the prefix of a loopback interface on the system. By default, the prefix SID sub-TLV for the prefix of a loopback interface is tagged as a node SID; that is, it belongs to this node only. However, to configure and advertise an anycast SID using the same loopback interface prefix on multiple nodes, the user must clear the N-flag to assure interoperability with third-party implementations, which may perform a strict check on the receive end and drop duplicate prefix SID sub-TLVs when the N-flag is set.

The SR OS implementation is relaxed on the receive end and accepts duplicate prefix SIDs with the N-flag set or clear. SR OS will resolve to the closest owner, or owners if ECMP, of the prefix SID cost-wise.

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Parameters

index-value

Specifies the node SID index value.

Values 0 to 4294967295

label-value

Specifies the node SID label value.

Values 0 to 4294967295

clear-n-flag

Clears the node SID flag.

Default no clear-n-flag

Platforms

All

node-sid

Syntax

node-sid index [**0..4294967295**]

node-sid label [**1..4294967295**]

no node-sid

Context

[Tree] (config>router>ospf>area>if>flex-algo node-sid)

Full Context

configure router ospf area interface flex-algo node-sid

Description

This command configures a flexible algorithm-aware node SID label.

The **no** form of this command removes the configured node SID label.

Default

no node-sid

Platforms

All

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node-sid

Syntax

node-sid

no node-sid

Context

[Tree] (config>router>segment-routing>sr-mpls>prefix-sids node-sid)

Full Context

configure router segment-routing sr-mpls prefix-sids node-sid

Description

This command sets the N-flag for the SR SID. The N-flag should be set when the prefix SID is a node SID for the primary prefix. If the N-flag is not set, the SR SID is an SR anycast SID.

The **no** form of this command removes the assigned node SID.

Default

no node-sid

Platforms

All

31.91 nokia-combined-modules

nokia-combined-modules

Syntax

[**no**] **nokia-combined-modules**

Context

[Tree] (config>system>management-interface>yang-modules nokia-combined-modules)

Full Context

configure system management-interface yang-modules nokia-combined-modules

Description

This command enables support of the "combined" Nokia SR OS YANG files for both configuration and state data in the NETCONF server.

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When **management-interface configuration-mode** is set to **classic**, attempts to access (read or write) the configuration using the Nokia configuration modules or namespace via NETCONF results in errors, even if **nokia-combined-modules** or **nokia-submodules** is enabled.

This command and the **nokia-submodules** command cannot both be enabled at the same time.

The **no** form of this command disables support of the combined Nokia SR OS YANG files.

Default

nokia-combined-modules

Platforms

All

31.92 nokia-grpc-rpc-authorization

nokia-grpc-rpc-authorization

Syntax

[**no**] **nokia-grpc-rpc-authorization**

Context

[Tree] (config>system>security>tacplus>service-request nokia-grpc-rpc-authorization)

[Tree] (config>service>vprn>aaa>remote-servers>tacplus>service-request nokia-grpc-rpc-authorization)

Full Context

configure system security tacplus service-request nokia-grpc-rpc-authorization

configure service vprn aaa remote-servers tacplus service-request nokia-grpc-rpc-authorization

Description

This command enables the nokia-grpc-rpc-authorization service to be requested from the TACACS+ server after successful authentication.

The **no** form of this command disables the nokia-grpc-rpc-authorization service from being requested from the TACACS+ server.

Default

no nokia-grpc-rpc-authorization

Platforms

All

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31.93 nokia-netconf-base-op-authorization

nokia-netconf-base-op-authorization

Syntax

[**no**] **nokia-netconf-base-op-authorization**

Context

[Tree] (config>system>security>tacplus>service-request nokia-netconf-base-op-authorization)

[Tree] (config>service>vprn>aaa>remote-servers>tacplus>service-request nokia-netconf-base-op-authorization)

Full Context

configure system security tacplus service-request nokia-netconf-base-op-authorization

configure service vprn aaa remote-servers tacplus service-request nokia-netconf-base-op-authorization

Description

This command enables the nokia-netconf-base-op-authorization service to be requested from the TACACS+ server after successful authentication.

The **no** form of this command disables that the nokia-netconf-base-op-authorization service from being requested from the TACACS+ server.

Default

no nokia-netconf-base-op-authorization

Platforms

All

31.94 nokia-submodules

nokia-submodules

Syntax

[**no**] **nokia-submodules**

Context

[Tree] (config>system>management-interface>yang-modules nokia-submodules)

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Full Context

configure system management-interface yang-modules nokia-submodules

Description

This command enables support of the alternative submodule-based packaging of the Nokia SR OS YANG files for both configuration and state data in the SR OS NETCONF server.

When **management-interface configuration-mode** is set to **classic**, attempts to access (read or write) the configuration using the Nokia configuration modules or namespace via NETCONF results in errors, even if **nokia-combined-modules** or **nokia-submodules** is enabled.

This command and the **nokia-combined-modules** command cannot both be enabled at the same time.

The **no** form of this command disables support of submodule-based packaging of the Nokia SR OS YANG files.

Default

no nokia-submodules

Platforms

All

31.95 nokia-user

nokia-user

Syntax

[**no**] **nokia-user**

Context

[Tree] (config>system>security>tacplus>service-request nokia-user)

[Tree] (config>service>vprn>aaa>remote-servers>tacplus>service-request nokia-user)

Full Context

configure system security tacplus service-request nokia-user

configure service vprn aaa remote-servers tacplus service-request nokia-user

Description

This command enables the nokia-user service to be requested from the TACACS+ server after successful authentication

The **no** form of this command disables the nokia-user service from being requested from the TACACS+ server.

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Default

no nokia-user

Platforms

All

31.96 nokia-user-profile

nokia-user-profile

Syntax

[**no**] **nokia-user-profile**

Context

[Tree] (config>system>security>tacplus>svc-req nokia-user-profile)

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus>svc-req nokia-user-profile)

Full Context

configure system security tacplus service-request nokia-user-profile

configure service vprn aaa remote-servers tacplus service-request nokia-user-profile

Description

This command enables the nokia-user-profile service to be requested from the TACACS+ server after successful authentication.

The **no** form of this command disables the nokia-user-profile service from being requested from the TACACS+ server.

Default

no nokia-user-profile

Platforms

All

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31.97 non-dr-attract-traffic

non-dr-attract-traffic

Syntax

[**no**] **non-dr-attract-traffic**

Context

[Tree] (config>service>vprn>pim non-dr-attract-traffic)

Full Context

configure service vprn pim non-dr-attract-traffic

Description

This command specifies whether the router should ignore the designated router state and attract traffic even when it is not the designated router.

An operator can configure an interface (router or IES or VPRN interfaces) to IGMP and PIM. The interface IGMP state will be synchronized to the backup node if it is associated with the redundant peer port. The interface can be configured to use PIM which will cause multicast streams to be sent to the elected DR only. The DR will also be the router sending traffic to the DSLAM. Since it may be required to attract traffic to both routers a flag non-dr-attract-traffic can be used in the PIM context to have the router ignore the DR state and attract traffic when not DR. While using this flag, the router may not send the stream down to the DSLAM while not DR.

When enabled, the designated router state is ignored. When disabled, **no non-dr-attract-traffic**, the designated router value is honored.

Default

no non-dr-attract-traffic

Platforms

All

non-dr-attract-traffic

Syntax

non-dr-attract-traffic [**from-evpn**] [**from-pim-mvpn**]

no non-dr-attract-traffic

Context

[Tree] (config>service>vpls>bind>evpn-mcast-gateway non-dr-attract-traffic)

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Full Context

configure service vpls allow-ip-int-bind evpn-mcast-gateway non-dr-attract-traffic

Description

This command triggers the required procedures so that multicast traffic can be attracted to the router when it is not elected as DR.

The **no** form of this command disables the attraction of non-DR traffic.

Default

non-dr-attract-traffic from-pim-mvpn

Parameters

from-evpn

Specifies that non-DR traffic generates a wildcard SMET route to attract the MCAST traffic from the OISM domain. No Layer 3 IFF or PIM/C-MCAST route is triggered from received SMET routes on the non-DR.

from-pim-mvpn

Specifies that non-DR traffic does not generate a wildcard SMET route but it does create an IIF or generate PIM/C-MCAST join upon receiving an SMET route. Local joins on a non-SBD service generate PIM/C-MCAST routes or SMETs despite this.

Platforms

All

non-dr-attract-traffic

Syntax

[**no**] **non-dr-attract-traffic**

Context

[Tree] (config>router>pim non-dr-attract-traffic)

Full Context

configure router pim non-dr-attract-traffic

Description

This command specifies whether the router should ignore the designated router state and attract traffic even when it is not the designated router.

An operator can configure an interface (router or IES or VPRN interfaces) to IGMP and PIM. The interface state will be synchronized to the backup node if it is associated with the redundant peer port. The interface can be configured to use PIM which will cause multicast streams to be sent to the elected DR only. The DR will also be the router sending traffic to the DSLAM. Since it may be required to attract traffic to both routers a flag non-dr-attract-traffic can be used in the PIM context to have the router ignore the DR state and

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attract traffic when not DR. While using this flag, the router may not send the stream down to the DSLAM while not DR.

When enabled, the designated router state is ignored.

The **no** form of this command the designated router value is honored.

Default

no non-dr-attract-traffic

Platforms

All

31.98 non-ip

non-ip

Syntax

[**no**] **non-ip**

Context

[Tree] (config>cflowd>collector>export-filter>family non-ip)

Full Context

configure cflowd collector export-filter family non-ip

Description

This command configures the router to prevent Layer 2 and MPLS carrying non-IP flow data from being sent to the associated cflowd collector. Collector version 10 must be configured to filter Layer 2 and MPLS carrying non-IP flow data.

The **no** form of this command removes the filter, allowing Layer 2 and MPLS carrying non-IP flow data to be sent to the associated cflowd collector.

Default

no non-ip

Platforms

All

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31.99 non-multi-chassis-tunnel-id-range

non-multi-chassis-tunnel-id-range

Syntax

non-multi-chassis-tunnel-id-range start *l2tp-tunnel-id* **end** *l2tp-tunnel-id*

non-multi-chassis-tunnel-id-range default

no non-multi-chassis-tunnel-id-range

Context

[Tree] (config>system>l2tp non-multi-chassis-tunnel-id-range)

Full Context

configure system l2tp non-multi-chassis-tunnel-id-range

Description

This command sets the tunnel-id range that is used to allocate a new tunnel-id for a tunnel for which no multi-chassis redundancy is configured.

The **no** form of this command is a double negation and means all tunnel-IDs are configured for multi-chassis redundancy.

Default

Sets the tunnel-id range to the full tunnel-id range available on this system meaning that by default no tunnel-ID has multi-chassis redundancy.

non-multi-chassis-tunnel-id-range default or non-multi-chassis-tunnel-id-range start 1 end <maximum *tunnel-id*>

The default for **start** *l2tp-tunnel-id* is 1. No tunnel-ids are available for which no multi-chassis redundancy is configured when set to 0.

The default for **end** *l2tp-tunnel-id* is the maximum tunnel-id allowed on this system. The **end** *l2tp-tunnel-id* must be set to 0 when the **start** *l2tp-tunnel-id* is set to 0 and vice versa.

Parameters

start *l2tp-tunnel-id*

Specifies the start of the range of L2TP tunnel identifiers that can be allocated by L2TP on this system, to be synchronized with Multi Chassis Redundancy Synchronization (MCS).

Values 0 to 16383

end *l2tp-tunnel-id*

Specifies the end of the range of L2TP tunnel identifiers that can be allocated by L2TP on this system, to be synchronized with Multi Chassis Redundancy Synchronization (MCS).

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Values 1 to 16383

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.100 non-sub-traffic

non-sub-traffic

Syntax

non-sub-traffic sub-profile *sub-profile-name* **sla-profile** *sla-profile-name* [**subscriber** *sub-ident-string*] [**app-profile** *app-profile-name*]

no non-sub-traffic

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt>single-sub non-sub-traffic)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt>single-sub non-sub-traffic)

[Tree] (config>service>vpls>sap>sub-sla-mgmt>single-sub non-sub-traffic)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt>single-sub non-sub-traffic)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt single-sub-parameters non-sub-traffic

configure service ies subscriber-interface group-interface sap sub-sla-mgmt single-sub-parameters non-sub-traffic

configure service vpls sap sub-sla-mgmt single-sub-parameters non-sub-traffic

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt single-sub-parameters non-sub-traffic

Description

This command configures traffic profiles for non-IP traffic such as PPPoE packets on a VPLS SAP. It is used in conjunction with the **profiled-traffic-only** command to forward non-IP traffic through the single subscriber SAP without the need for SAP queues.

The **no** form of this command removes any configured profile.

Parameters

sub-profile-name

Specifies an existing subscriber profile name to be associated with the non-sub-traffic L2 host. The subscriber profile is configured in the **config>subscr-mgmt>sub-profile** context.

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sla-profile-name

Specifies an existing SLA profile name to be associated with the non-sub-traffic L2 host. The SLA profile is configured in the **config>subscr-mgmt>sla-profile** context.

sub-ident-string

Specifies the subscriber ID to be associated with the non-sub-traffic L2 host. The *sub-ident-string* should match the dynamic subscriber associated with the SAP. If no *sub-ident-string* is configured and no dynamic subscriber is yet associated, then the system will use a default subscriber ID that is overridden when a dynamic subscriber is created on the SAP.

app-profile-name

Specifies an existing app profile name to be associated with the non-sub-traffic L2 host. The application profile is configured in the **config>app-assure>group>policy>app-prof** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.101 non-vid-pid-absent

non-vid-pid-absent

Syntax

non-vid-pid-absent *milli-seconds*

no non-vid-pid-absent

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms non-vid-pid-absent)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms non-vid-pid-absent)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms non-vid-pid-absent)

Full Context

configure mcast-management multicast-info-policy bundle video analyzer alarms non-vid-pid-absent

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms non-vid-pid-absent

configure mcast-management multicast-info-policy bundle channel video analyzer alarms non-vid-pid-absent

Description

This command configures the analyzer to check for a PID within the specified interval.

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Default

no non-vid-pid-absent

Parameters

milli-seconds

Specifies the interval, in milliseconds.

Values 100 to 5000

Platforms

7450 ESS, 7750 SR, 7750 SR-s

31.102 nonce-length

nonce-length

Syntax

nonce-length *length*

no nonce-length

Context

[Tree] (config>router>l2tp>l2tpv3 nonce-length)

[Tree] (config>service>vprn>l2tp>group>l2tpv3 nonce-length)

[Tree] (config>service>vprn>l2tp>l2tpv3 nonce-length)

Full Context

configure router l2tp l2tpv3 nonce-length

configure service vprn l2tp group l2tpv3 nonce-length

configure service vprn l2tp l2tpv3 nonce-length

Description

This command configures the length for the local L2TPv3 nonce (random number) value used in the Nonce AVP.

The **no** form of this command removes the nonce length from the configuration.

Default

no nonce-length

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Parameters

length

Specifies the length of the Nonce AVP value.

Values 16 to 64

default

When specified within the **config>service>vprn>l2tp>group>l2tpv3** context, this is referencing to the **nonce-length** configuration within the **config>service>vprn>l2tp>l2tpv3** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.103 none

none

Syntax

none

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress>queues none)

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress>policers none)

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress>queues none)

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress>policers none)

Full Context

configure subscriber-mgmt idle-timeout-policy egress queues none

configure subscriber-mgmt idle-timeout-policy ingress policers none

configure subscriber-mgmt idle-timeout-policy ingress queues none

configure subscriber-mgmt idle-timeout-policy egress policers none

Description

This command disables monitoring of all egress or ingress (policers or queues) for idle time.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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31.104 normal-state

normal-state

Syntax

normal-state {**open** | **closed**}

Context

[Tree] (config>system>alarm-contact-input normal-state)

Full Context

configure system alarm-contact-input normal-state

Description

This command configures the normal state of the alarm contact input circuit. When the system detects a transition from the normal state, an alarm is generated. The alarm is cleared when the system detects a transition back to the normal state.

Note:
Configure the normal state as **closed** if an external power source is used to power the alarm contact inputs.

Default

normal-state open

Parameters

open

Specifies that the normal state of the alarm contact input circuit is open. When the system detects a transition to the closed state, an alarm is generated. The alarm is cleared when the system detects a transition back to the open state.

closed

Specifies that the normal state of the alarm contact input circuit is closed. When the system detects a transition to the open state, an alarm is generated. The alarm is cleared when the system detects a transition back to the closed state.

Platforms

7750 SR-a

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31.105 not-master

not-master

Syntax

not-master {**true** | **false**}

Context

[Tree] (config>system>ptp>port not-master)

Full Context

configure system ptp port not-master

Description

This command blocks the PTP port from entering the timeTransmitter state.

Default

not-master false

Parameters

true

Specifies that the PTP port is blocked from entering the timeTransmitter state.

false

Specifies that the PTP port is not blocked from entering the timeTransmitter state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

not-master

Syntax

not-master {**true** | **false**}

Context

[Tree] (config>service>vprn>ptp>peer not-master)

[Tree] (config>system>ptp>peer not-master)

Full Context

configure service vprn ptp peer not-master

configure system ptp peer not-master

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Description

This command blocks the PTP port associated with the peer from entering the timeTransmitter state.

Default

not-master false

Parameters

true

Specifies that the PTP port is blocked from entering the timeTransmitter state.

false

Specifies that the PTP port is not blocked from entering the timeTransmitter state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

31.106 notification

notification

Syntax

[**no**] **notification**

Context

[Tree] (config>port>ethernet>lldp>dstmac notification)

Full Context

configure port ethernet lldp dest-mac notification

Description

This command enables LLDP notifications.

The **no** form of this command disables LLDP notifications.

Default

no notification

Platforms

All

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notification

Syntax

notification [**neighbor** *ip-address* | **group** *name*]

no notification

Context

[Tree] (debug>router>bgp notification)

Full Context

debug router bgp notification

Description

This command decodes and logs all sent and received notification messages in the debug log.

The **no** form of this command disables the debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

notification

Syntax

[**no**] **notification**

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Context

[Tree] (config>lag>lldp-member-template>dstmac notification)

Full Context

configure lag lldp-member-template dest-mac notification

Description

This command enables LLDP notifications.

The **no** form of this command disables LLDP notifications.

Default

no notification

Platforms

All

31.107 notification-bundling

notification-bundling

Syntax

notification-bundling

Context

[Tree] (config>system>telemetry notification-bundling)

Full Context

configure system telemetry notification-bundling

Description

Commands in this context configure SubscribeResponse notification bundling.

Platforms

All

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31.108 notification-interval

notification-interval

Syntax

notification-interval *time*

no notification-interval

Context

[Tree] (config>system>lldp notification-interval)

Full Context

configure system lldp notification-interval

Description

This command configures the minimum time between change notifications.

The **no** form of this command reverts to the default value.

Default

no notification-interval

Parameters

time

Specifies the minimum time, in seconds, between change notifications.

Values 5 to 3600

Default 5

Platforms

All

31.109 notify-dest-change

notify-dest-change

Syntax

[**no**] **notify-dest-change**

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Context

[Tree] (config>filter>redirect-policy notify-dest-change)

Full Context

configure filter redirect-policy notify-dest-change

Description

This command instructs the system to send notifications (Log, SNMP, …) when the active destination of a redirect policy changes. No notification is sent when there are no more active destinations (as this is covered by a specific other notification). Notifications can be controlled (using the **config**>**log**>**event-control** command) using application ID *2017* and event-name *tFilterRPActiveDstChangeEvent*.

The **no** form of the command disables notification generation.

Default

no notify-dest-change

Platforms

All

31.110 nsp-proxy

nsp-proxy

Syntax

[**no**] **nsp-proxy**

Context

[Tree] (debug>system nsp-proxy)

Full Context

debug system nsp-proxy

Description

This command enables debugging for NSP proxy.

The **no** form of this command disables debugging for NSP proxy.

Default

no nsp-proxy

Platforms

VSR-NRC

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31.111 nssa

nssa

Syntax

[**no**] **nssa**

Context

[Tree] (config>service>vprn>ospf>area nssa)

[Tree] (config>service>vprn>ospf3>area nssa)

Full Context

configure service vprn ospf area nssa

configure service vprn ospf3 area nssa

Description

This command creates the context to configure an OSPF Not So Stubby Area (NSSA) and adds/removes the NSSA designation from the area.

NSSAs are similar to stub areas in that no external routes are imported into the area from other OSPF areas. The major difference between a stub area and an NSSA is that an NSSA has the capability to flood external routes that it learns throughout its area and via an ABR to the entire OSPF domain.

Existing virtual links of a non-stub or NSSA area are removed when the designation is changed to NSSA or stub.

An area can be designated as stub or NSSA but never both at the same time.

By default, an area is not configured as an NSSA area.

The **no** form of this command removes the NSSA designation and configuration context from the area.

Default

no nssa — The OSPF area is not an NSSA.

Platforms

All

nssa

Syntax

[**no**] **nssa**

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Context

[Tree] (config>router>ospf>area nssa)

[Tree] (config>router>ospf3>area nssa)

Full Context

configure router ospf area nssa

configure router ospf3 area nssa

Description

This command creates the context to configure an OSPF or OSPF3 Not So Stubby Area (NSSA) and adds/removes the NSSA designation from the area.

NSSAs are similar to stub areas in that no external routes are imported into the area from other OSPF areas. The major difference between a stub area and an NSSA is an NSSA has the capability to flood external routes that it learns throughout its area and via an ABR to the entire OSPF or OSPF3 domain.

Existing virtual links of a non-stub or NSSA area will be removed when the designation is changed to NSSA or stub.

An area can be designated as stub or NSSA but never both at the same time.

By default, an area is not configured as an NSSA area.

The **no** form of this command removes the NSSA designation and configuration context from the area.

Default

no nssa

Platforms

All

31.112 nssa-range

nssa-range

Syntax

nssa-range [*ip-address*]

no nssa-range

Context

[Tree] (debug>router>ospf3 nssa-range)

[Tree] (debug>router>ospf nssa-range)

Full Context

debug router ospf3 nssa-range

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debug router ospf nssa-range

Description

This command enables debugging for an NSSA range.

Parameters

ip-address

Specifies the IPv4 or IPv6 address range to debug OSPF or OSPF3 leaks.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

31.113 ntf-logout-retry-count

ntf-logout-retry-count

Syntax

ntf-logout-retry-count [*value*]

no ntf-logout-retry-count

Context

[Tree] (config>service>vprn>wpp>portals>portal ntf-logout-retry-count)

[Tree] (config>router>wpp>portals>portal ntf-logout-retry-count)

Full Context

configure service vprn wpp portals portal ntf-logout-retry-count

configure router wpp portals portal ntf-logout-retry-count

Description

This command configures the number of retransmissions of an NTF_LOGOUT message.

The **no** form of this command reverts to the default.

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Default

ntf-logout-retry-count 5

Parameters

value

Specifies the number of retransmissions of an NTF_LOGOUT message.

Values 0 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

31.114 ntp

ntp

Syntax

[**no**] **ntp**

Context

[Tree] (config>service>vprn ntp)

Full Context

configure service vprn ntp

Description

Commands in this context configure NTP and its operation. It also enables NTP server mode within the VPRN routing instance so that the router responds to NTP requests from external clients received inside the VPRN.

The **no** form of this command stops the execution of NTP and removes its configuration.

Default

no ntp

Platforms

All

ntp

Syntax

[**no**] **ntp**

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Context

[Tree] (config>system>time ntp)

Full Context

configure system time ntp

Description

Commands in this context configure Network Time Protocol (NTP) and its operation. This protocol defines a method to accurately distribute and maintain time for network elements. Furthermore, this capability allows for the synchronization of clocks between the various network elements.

The **no** form of the command stops the execution of NTP and remove its configuration.

Default

ntp

Platforms

All

ntp

Syntax

ntp [**router** *router-instance*] [**interface** *ip-int-name*]

Context

[Tree] (debug>system ntp)

Full Context

debug system ntp

Description

This command enables and configures debugging for NTP.

The **no** form of the command disables debugging for NTP.

Parameters

router-instance

Specifies the router name or CPM router instance.

Values *router-name* | *vprn-svc-id*

router-name – "Base", "management"

vprn-svc-id – 1 to 2147483647

Default Base

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ip-int-name

Specifies the name of the IP interface. The name can be up to 32 characters and must begin with a letter. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

Platforms

All

31.115 ntp-reply

ntp-reply

Syntax

[**no**] **ntp-reply**

Context

[Tree] (config>service>ies>if>ipv6>vrrp ntp-reply)

[Tree] (config>service>ies>if>vrrp ntp-reply)

Full Context

configure service ies interface ipv6 vrrp ntp-reply

configure service ies interface vrrp ntp-reply

Description

This command configures the reception and response to NTP requests directed at the VRRP virtual IP address. This behavior only applies the router currently acting as the master VRRP router.

The **no** form of this command disables the processing of NTP requests.

Default

no ntp-reply

Platforms

All

ntp-reply

Syntax

[**no**] **ntp-reply**

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Context

[Tree] (config>service>vprn>if>vrrp ntp-reply)

[Tree] (config>service>vprn>if>ipv6>vrrp ntp-reply)

Full Context

configure service vprn interface vrrp ntp-reply

configure service vprn interface ipv6 vrrp ntp-reply

Description

This command configures the reception and response to NTP requests directed at the VRRP virtual IP address. This behavior only applies to the router currently acting as the master VRRP router.

The **no** form of this command disables the processing of NTP requests.

Default

no ntp-reply

Platforms

All

ntp-reply

Syntax

[**no**] **ntp-reply**

Context

[Tree] (config>router>if>vrrp ntp-reply)

[Tree] (config>router>if>ipv6>vrrp ntp-reply)

Full Context

configure router interface vrrp ntp-reply

configure router interface ipv6 vrrp ntp-reply

Description

This command configures the reception and response to NTP requests directed at the VRRP virtual IP address. This behavior only applies to the router currently acting as the master VRRP router.

The **no** form of this command disables NTP requests from being processed.

Default

no ntp-reply

Platforms

All

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31.116 ntp-server

ntp-server

Syntax

ntp-server [**authenticate**]

no ntp-server

Context

[Tree] (config>system>time>ntp ntp-server)

Full Context

configure system time ntp ntp-server

Description

This command configures the node to assume the role of an NTP server. Unless the **server** command is used, this node will function as an NTP client only and will not distribute the time to downstream network elements.

Default

no ntp-server

Parameters

authenticate

Specifies to make authentication a requirement (optional). If authentication is required, the authentication key-id received in a message must have been configured in the **authentication-key** command, and that key-id type and key value must also match.

The authentication key from the received messages will be used for the transmitted messages.

Platforms

All

31.117 number

number

Syntax

number {**eq** | **neq** | **lt** | **lte** | **gt** | **gte**} *event-id*

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no number

Context

[Tree] (config>service>vprn>log>filter>entry>match number)

Full Context

configure service vprn log filter entry match number

Description

This command adds an SR OS application event number as a match criterion.

SR OS event numbers uniquely identify a specific logging event within an application.

Only one **number** command can be entered per event filter entry. The latest **number** command overwrites the previous command.

The **no** form of this command removes the event number as a match criterion.

Default

no event-number — No event ID match criterion is specified.

Parameters

eq | neq | lt | lte | gt | gte

Specifies the type of match. Valid operators are listed below.

Values

Table 91: Valid Operators

Operator	Note
eq	equal to
neq	not equal to
lt	less than
lte	less than or equal to
gt	greater than
gte	greater than or equal to

event-id

Specifies the event ID, expressed as a decimal integer.

Values 1 to 4294967295

Platforms

All

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number

Syntax

number {**eq** | **neq** | **lt** | **lte** | **gt** | **gte**} *event-id*

no number

Context

[Tree] (config>log>filter>entry>match number)

Full Context

configure log filter entry match number

Description

This command adds an SR OS application event number as a match criterion.

SR OS event numbers uniquely identify a specific logging event within an application.

Only one **number** command can be entered per event filter entry. The latest **number** command overwrites the previous command.

The **no** form of this command removes the event number as a match criterion.

Parameters

eq | neq | lt | lte | gt | gte

Specifies the type of match. Valid operators are listed in Table 92: Valid Operators.

Table 92: Valid Operators

Operator	Notes
eq	equal to
neq	not equal to
lt	less than
lte	less than or equal to
gt	greater than
gte	greater than or equal to

event-id

The event ID, expressed as a decimal integer.

Values 1 to 4294967295

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Platforms

All

31.118 number-down

number-down

Syntax

number-down *number-lag-port-down* **level** *level-id*

no number-down *number-lag-port-down*

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac>mc-constraints number-down)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac mc-constraints number-down

Description

This command configures the number of ports down along with level for multicast CAC policy on an MSAP.

The **no** form of this command reverts to the default.

Parameters

number-lag-port-down

Specifies the number of port in a LAG group that are down. If the number of ports available in the LAG is reduced by the number of ports configured in this command here then bandwidth allowed for bundle and/or interface is as per the levels configured in this context.

Values 1 to 64 (for 64-link LAG)
1 to 32 (for other LAGs)

level-id

Specifies the amount of bandwidth available within a given bundle for MC traffic for a specified level.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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number-down

Syntax

number-down *number-lag-port-down* **level** *level-id*

no number-down *number-lag-port-down*

Context

[Tree] (config>service>vpls>sap>igmp-snooping>mcac>mc-constraints number-down)

[Tree] (config>service>vpls>sap>mld-snooping>mcac>mc-constraints number-down)

Full Context

configure service vpls sap igmp-snooping mcac mc-constraints number-down

configure service vpls sap mld-snooping mcac mc-constraints number-down

Description

This command configure the number of ports down along with level for multicast CAC policy on this interface.

Default

no number-down

Parameters

number-lag-port-down

Specifies that the number of ports available in the LAG is reduced by the number of ports configured in this command here then bandwidth allowed for bundle and/or interface will be as per the levels configured in this context.

Values 1 to 64 (for 64-link LAG) 1 to 32 (for other LAGs)

Platforms

All

number-down

Syntax

number-down *number-lag-port-down* **level** *level-id*

no number-down

Context

[Tree] (config>service>vprn>igmp>if>mcac>mc-constraints number-down)

[Tree] (config>service>vprn>pim>if>mcac>mc-constraints number-down)

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[Tree] (config>service>vprn>mld>if>mcac>mc-constraints number-down)

Full Context

configure service vprn igmp interface mcac mc-constraints number-down

configure service vprn pim interface mcac mc-constraints number-down

configure service vprn mld interface mcac mc-constraints number-down

Description

This command configures the number of ports down and level for interface's multicast CAC policy.

The **no** form of this command removes the values from the configuration.

Default

not enabled

Parameters

number-lag-port-down

If the number of ports available in the LAG is reduced by the number of ports configured in this command here then bandwidth allowed for bundle and/or interface will be as per the levels configured in this context.

Values 1 to 64 (for 64-link LAG)
1 to 32 (for other LAGs)

level-id

Specifies an entry for the multicast CAC policy constraint level configured on this system.

Values 1 to 8

Platforms

All

number-down

Syntax

number-down *number-lag-port-down* **level** *level-id*

no number-down *number-lag-port-down*

Context

[Tree] (config>router>igmp>if>mcac>mc-constraints number-down)

[Tree] (config>router>mld>if>mcac>mc-constraints number-down)

[Tree] (config>router>pim>if>mcac>mc-constraints number-down)

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Full Context

configure router igmp interface mcac mc-constraints number-down

configure router mld interface mcac mc-constraints number-down

configure router pim interface mcac mc-constraints number-down

Description

This command configures the number of ports down along with level for the MCAC policy on this interface.

The **no** form of this command removes the values from the configuration.

Parameters

number-lag-port-down

Specifies the number of LAG ports down. If the number of ports available in the LAG is reduced by the number of ports configured in this command, then the bandwidth allowed for a bundle or interface will be as per the levels configured in this context.

Values 1 to 64 (for 64-link LAG)

1 to 32 (for other LAGs)

level *level-id*

Specifies the bandwidth for a given level. Level 1 has the highest priority. Level 8 has the lowest priority.

Values 1 to 8

Platforms

All

number-down

Syntax

[**no**] **number-down** *number-of-lag-ports-down*

Context

[Tree] (config>vrrp>policy>priority-event>lag-port-down number-down)

Full Context

configure vrrp policy priority-event lag-port-down number-down

Description

This command creates a context to configure an event set threshold within a lag-port-down priority control event.

The **number-down** command defines a sub-node within the **lag-port-down** event and is uniquely identified with the *number-of-lag-ports-down* parameter. Each **number-down** node within the same **lag-**

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port-down event node must have a unique *number-of-lag-ports-down* value. Each **number-down** node has its own **priority** command that takes effect whenever that node represents the current threshold.

The total number of sub-nodes (uniquely identified by the *number-of-lag-ports-down* parameter) allowed in a single **lag-port-down** event is equal to the total number of possible physical ports allowed in a LAG.

A **number-down** node is not required for each possible number of ports that could be down. The active threshold is always the closest lower threshold. When the number of ports down equals a given threshold, that is the active threshold.

The **no** form of the command deletes the event set threshold. The threshold may be removed at any time. If the removed threshold is the current active threshold, the event set thresholds must be re-evaluated after removal.

Default

no number-down — No threshold for the LAG priority event is created.

Parameters

number-of-lag-ports-down

The number of LAG ports down to create a set event threshold. This is the active threshold when the number of down ports in the LAG equals or exceeds *number-of-lag-ports-down*, but does not equal or exceed the next highest configured *number-of-lag-ports-down*.

Values 1 to 64 (applies to 64-link LAG) 1 to 32 (applies to other LAGs)

Platforms

All

31.119 number-paths

number-paths

Syntax

number-paths *number-of-paths* [**redundant-sfm** *number-of-paths*]

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2>sec-path number-paths)

Full Context

configure mcast-management bandwidth-policy t2-paths secondary-path number-paths

Description

This command is used to explicitly provision the number of secondary paths (and imply the number of primary paths) supported by the TChip based forwarding plane the bandwidth policy is managing. The default (and minimum) number of secondary paths is 1 and the maximum configurable is 15. The number of primary paths is total number of available paths minus the number of secondary paths.

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Secondary paths are used by:

- Expedited VPLS, IES and VPRN service ingress multipoint queues
- Expedited network ingress multipoint queues
- Managed multicast explicit path primary channels (using the primary paths managed multipoint queue)
- All managed multicast dynamic path channels when the primary paths or multicast planes are not at their limit (using the primary paths managed multipoint queue)
- Highest preference managed multicast dynamic path channels when the primary paths or multicast planes are at their limit (using the primary paths managed multipoint queue)

Secondary paths are used by:

- Best-Effort VPLS, IES and VPRN service ingress multipoint queues
- Best-Effort network ingress multipoint queues
- Managed multicast explicit path secondary channels (using the secondary paths managed multipoint queue)
- Lower preference managed multicast dynamic path channels when the primary paths or multicast planes are at their limit (using the secondary paths managed multipoint queue)

The number of secondary paths should be increased from the default value of 1 when a single secondary path is enough for explicit secondary path managed traffic or the amount of best-effort multipoint non-managed queue traffic.

The **no** form of this command restores the default number of secondary paths.

Default

number-paths 1 redundant-sfm 1

Parameters

number-of-paths

Specifies the number of secondary paths when only one switch fabric is active, while the dual-sfm parameter specifies the same value when two switch fabrics are active.

Values 1 to 15

Default 1

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

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31.120 number-retries

number-retries

Syntax

number-retries *number-retries*

no number-retries

Context

[Tree] (config>service>vpls>mac-move number-retries)

[Tree] (config>service>template>vpls-template>mac-move number-retries)

Full Context

configure service vpls mac-move number-retries

configure service template vpls-template mac-move number-retries

Description

This command configures the number of times retries are performed for re-enabling the SAP/SDP.

Default

number-retries 3

Parameters

number-retries

Specifies number of retries for re-enabling the SAP/SDP. A zero (0) value indicates unlimited number of retries.

Values 0 to 255

Platforms

All

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32 o Commands

32.1 oam

oam

Syntax

oam

Context

[Tree] (oam)

Full Context

oam

Description

Commands in this context use the OAM test suite.

Platforms

All

oam

Syntax

[**no**] **oam**

Context

[Tree] (config>service>vprn>gsmp>group>ancp oam)

[Tree] (config>service>vpls>gsmp>group>ancp oam)

Full Context

configure service vprn gsmp group ancp oam

configure service vpls gsmp group ancp oam

Description

This command enables the GSMP ANCP OAM capability to be negotiated at startup of the GSMP connection.

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The **no** form of this command disables the feature.

Platforms
All

oam

Syntax
oam

Context
[Tree] (debug oam)

Full Context
debug oam

Description
This command enables OAM debugging.

Platforms
All

32.2 oam-pm

oam-pm

Syntax
oam-pm session *session-name* {**dm** | **dmm** | **lmm** | **slm** | **twamp-light**} { **start** | **stop**}

Context
[Tree] (oam oam-pm)

Full Context
oam oam-pm

Description
This command allows the operator to start and stop on-demand OAM-PM sessions.

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Parameters

session-name

Identifies the session name, up to 32 characters, that the test is associated with.

dm

Specifies the MPLS delay measurement test that is affected by the command.

dmm

Specifies the DMM test that is affected by the command.

lmm

Specifies the LMM test that is affected by the command.

slm

Specifies the SLM test that is affected by the command.

twamp-light

Specifies the TWAMP-light test that is affected by the command.

start

Manually starts the test.

stop

Manually stops the test.

Platforms

All

oam-pm

Syntax

oam-pm

Context

[Tree] (config oam-pm)

Full Context

configure oam-pm

Description

Commands in this context configure proactive and on-demand tests used to gather the performance and statistical information and define storage parameters (including binning structures).

Platforms

All

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32.3 oam-template

oam-template

Syntax

[**no**] **oam-template** *name*

Context

[Tree] (config>router>mpls>mpls-tp oam-template)

Full Context

configure router mpls mpls-tp oam-template

Description

This command creates or edits an OAM template Generally applicable proactive OAM parameters are configured using templates. The top-level template is the OAM template.

Generic MPLS-TP OAM and fault management parameters are configured in the OAM Template.

Proactive CC/CV uses BFD and parameters such as Tx/Rx timer intervals, multiplier and other session/ fault management parameters specific to BFD are configured using a BFD Template, which is referenced from the OAM template.

Default

no oam-template

Parameters

name

Specifies a text string name for the template of up to 32 characters in printable 7-bit ASCII, enclosed in double quotes. Named OAM templates are referenced from the MPLS-TP path MEP configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

oam-template

Syntax

oam-template *name*

no oam-template

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Context

[Tree] (config>router>mpls>lsp>working-tp-path>mep oam-template)

[Tree] (config>router>mpls>lsp>protect-tp-path>mep oam-template)

Full Context

configure router mpls lsp working-tp-path mep oam-template

configure router mpls lsp protect-tp-path mep oam-template

Description

This command applies an OAM template to an MPLS-TP working or protect path. It contains configuration parameters for proactive OAM mechanisms that can be enabled on the path; for example, BFD. Configuration of an OAM template is optional.

The **no** form of this command removes the OAM template from the path.

Default

no oam-template

Parameters

name

Specifies a text string name for the template up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.4 ocsp

ocsp

Syntax

[**no**] **ocsp**

Context

[Tree] (debug>certificate ocsp)

Full Context

debug certificate ocsp

Description

This command enables debug output of the OCSP protocol for a CA profile.

The **no** form of this command disables the debug output.

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Platforms

All

ocsp

Syntax

ocsp

Context

[Tree] (config>system>security>pki>ca-profile ocsp)

Full Context

configure system security pki ca-profile ocsp

Description

Commands in this context configure OCSP parameters.

Platforms

All

32.5 octet-counters

octet-counters

Syntax

[**no**] **octet-counters**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes octet-counters)

Full Context

configure aaa isa-radius-policy acct-include-attributes octet-counters

Description

This command enables the inclusion of the octet-counters attributes.

The **no** form of this command excludes octet-counters attributes.

Default

no octet-counters

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.6 octets-admitted-count

octets-admitted-count

Syntax

[**no**] **octets-admitted-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr octets-admitted-count)

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr octets-admitted-count)

Full Context

configure log accounting-policy custom-record aa-specific to-aa-sub-counters octets-admitted-count

configure log accounting-policy custom-record aa-specific from-aa-sub-counters octets-admitted-count

Description

This command includes the admitted octet count in the AA subscriber's custom record and only applies to the 7750 SR.

The **no** form of this command excludes the admitted octet count.

Default

no octets-admitted-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.7 octets-denied-count

octets-denied-count

Syntax

[**no**] **octets-denied-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr octets-denied-count)

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[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr octets-denied-count)

Full Context

configure log accounting-policy custom-record aa-specific to-aa-sub-counters octets-denied-count

configure log accounting-policy custom-record aa-specific from-aa-sub-counters octets-denied-count

Description

This command includes the denied octet count in the AA subscriber's custom record and only applies to the 7750 SR.

The **no** form of this command excludes the denied octet count.

Default

no octets-denied-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.8 offer-selection

offer-selection

Syntax

offer-selection

Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp offer-selection)

[Tree] (config>service>vprn>sub-if>dhcp offer-selection)

[Tree] (config>service>ies>sub-if>grp-if>dhcp offer-selection)

Full Context

configure service vprn subscriber-interface group-interface dhcp offer-selection

configure service vprn subscriber-interface dhcp offer-selection

configure service ies subscriber-interface group-interface dhcp offer-selection

Description

Commands in this context configure a discover delay to influence the offer selection of DHCPv4 clients.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.9 offer-time

offer-time

Syntax

offer-time [**min** *minutes*] [**sec** *seconds*]

no offer-time

Context

[Tree] (config>service>vprn>dhcp>server>pool offer-time)

[Tree] (config>router>dhcp>server>pool offer-time)

Full Context

configure service vprn dhcp local-dhcp-server pool offer-time

configure router dhcp local-dhcp-server pool offer-time

Description

This command configures the time interval during which a DHCP offer is valid.

The **no** form of this command reverts to the default.

Default

offer-time min 1

Parameters

time

Specifies the offer time.

Values	**min** *minutes*	0 to 10
	sec *seconds*	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.10 offered-measurement

offered-measurement

Syntax

offered-measurement

Context

[Tree] (config>qos>adv-config-policy>child-control offered-measurement)

Full Context

configure qos adv-config-policy child-control offered-measurement

Description

This command modifies the offered rate measurement used to determine the bandwidth the queue or policer is requesting from its parent virtual scheduling context.

This command modifies the parameters that control the child requested bandwidth for all policers and queues associated with the policy.

Platforms

All

32.11 offset

offset

Syntax

offset *offset*

Context

[Tree] (config>system>time>dst-zone offset)

Full Context

configure system time dst-zone offset

Description

This command specifies the number of minutes that are added to the time when summer time takes effect. The same number of minutes is subtracted from the time when the summer time ends.

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Default

offset 60

Parameters

offset

Specifies the number of minutes added to the time at the beginning of summer time and subtracted at the end of summer time, expressed as an integer.

Values 0 to 60

Default 60

Platforms

All

32.12 on-cac-failure

on-cac-failure

Syntax

[**no**] **on-cac-failure**

Context

[Tree] (config>router>rsvp>te-threshold-update on-cac-failure)

Full Context

configure router rsvp te-threshold-update on-cac-failure

Description

This command is used to enable a CAC failure-triggered IGP update.

The **no** form of this command should reset on-cac-failure to the default value and disable the CAC failure-triggered IGP update.

Default

no on-cac-failure

Platforms

All

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32.13 on-error

on-error

Syntax

[**no**] **on-error**

Context

[Tree] (debug>diameter>node on-error)

Full Context

debug diameter node on-error

Description

This command debugs Diameter node errors. Only errors raised before the peer is determined. For example, there is no route for this message in the realm routing table, and therefore the peer cannot be determined.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

on-error

Syntax

[**no**] **on-error**

Context

[Tree] (debug>diam>node>peer on-error)

Full Context

debug diameter node peer on-error

Description

This command reports only peer error conditions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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on-error

Syntax

[**no**] **on-error**

Context

[Tree] (debug>diam>application>policy on-error)

[Tree] (debug>diam>application on-error)

Full Context

debug diameter application policy on-error

debug diameter application on-error

Description

This command debugs Diameter application errors and reports only peer error conditions, for example, an unknown session-id.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

32.14 on-failure

on-failure

Syntax

on-failure [**failover** {**enabled** | **disabled**}] [**handling** {**continue** | **retry-and-terminate** | **terminate**}]

no on-failure

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy on-failure)

Full Context

configure subscriber-mgmt diameter-application-policy on-failure

Description

This command is applicable to both legacy (pre-Release 16.0.R4) and new (Release 16.0.R4 and later) implementations of Diameter base in the SR OS:

- Legacy Diameter base description:

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This command configures session failure handling. The behavior of the application's session in case of a peer failure can be controlled by the Diameter server through two AVPs carried in CCA messages that are defined in RFC 4006, *Diameter Credit-Control Application*:

– CC-Session-Failover AVP
  - FAILOVER_NOT_SUPPORTED
  - FAILOVER_SUPPORTED

– Credit-Control-Failure-Handling AVP
  - TERMINATE
  - CONTINUE
  - RETRY_AND_TERMINATE

If those AVPs are not provided by the Diameter server, the local configuration provided by this command takes effect. This command defines the following:

– peer-failover behavior to a secondary peer if the primary peer is unresponsive

  From the application point of view, the primary peer is considered unresponsive if the request message that was sent to it, times out. The time out of the message is determined by the tx-timer command.

  The peer-failover action based on the request message timeout is defined per session. In other words, a request message timeout for one session cannot cause the failover for some other session.

  The maximum number of transmissions per session is hard-coded to 2 and the same message is never re-transmitted to the same TCP socket (a TCP socket is defined as a current peering connection defined by the TCP source/destination IP addresses/ports; closing and then reopening a connection to the same peer results in creation of a new TCP socket). When the original message for the session times out on the primary peer, the message is re-transmitted to the secondary peer, if the secondary peer is available and the failover is enabled with the corresponding handling mechanism. If the secondary peer is unavailable, the original message is not re-transmitted to the same primary peer again.

  After receiving a reply from a peer, the session is tied to that peer until the next timeout. The session always sticks to the peer from which it received the last response.

– handling behavior if the response from the peer is not received or the peers are not available (all peering connections are closed)

  If the response to a session initiation message is not received, the fate of the session depends on the configuration (the session can terminate or continue to exist with default parameters).

- New Diameter base description:

  This command configures session failure handling. The behavior of a Diameter application (Gx, Gy, or NASREQ) that fails to receive a response (an answer message CCA) to a transmitted request message (CCR) for a session, can be controlled by the Diameter server through two AVPs carried in CCA messages that are defined in RFC 4006, *Diameter Credit-Control Application*:

  – CC-Session-Failover AVP
    - FAILOVER_NOT_SUPPORTED
    - FAILOVER_SUPPORTED

  – Credit-Control-Failure-Handling AVP
    - TERMINATE

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- CONTINUE
- RETRY_AND_TERMINATE

If the Diameter server does not provide these AVPs, the local configuration provided by this command takes effect. This command defines the following:

– Retransmission behavior of the application in case that the response to a transmitted request message is not received. The Diameter base notifies the application after the lifetime of the transmitted request message expires (tx timeout) or the route to the destination-realm is unavailable. Depending on the configuration option, the application can then retransmit the message, or suppress retransmission.

– Handling behavior defines whether the session is terminated or continues to exist in absence of the response from the Diameter server.

Default

on-failure failover enabled handling terminate

Parameters

failover enabled

Specifies that application session is allowed to switch to the secondary peer (for legacy Diameter base). For new Diameter base, this keyword specifies that application session is allowed to retransmit the request message (CCR).

failover disabled

Specifies that the application session is not allowed to switch to the secondary peer (for legacy Diameter base). For new Diameter base, this keyword specifies that the application session is not allowed to retransmit the request message (CCR).

handling continue

Specifies that the sessions continue to exist if the response to a transmitted CCR message is not received. Whether the transmitted message is re-transmitted depends on the failover configuration. In case of session initiation procedure in the Gx case (CCR-I timeout), the subscriber host is nonetheless instantiated with the default parameters, assuming that they are provided. If the default parameter are not provided, the subscriber host initiation fails.

handling retry-and-terminate

Specifies that the message is re-transmitted if the peer-failover is enabled and the secondary peer is available. When the retransmitted request message times out, the application session terminates (for legacy Diameter base). For new Diameter base, this keyword specifies that the message is re-transmitted if the failover is enabled. If the response to the retransmitted request message is not received (re-transmission times out), the application session terminates.

handling terminate

Specifies that the session is terminated if the response to the original request message is not received. No re-transmissions is attempted, regardless if the failover is enabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.15 on-link

on-link

Syntax

[**no**] **on-link**

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv>pfx-opt on-link)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv>pfx-opt on-link)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv>pfx-opt on-link)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv>pfx-opt on-link)

[Tree] (config>service>vprn>router-advert>if on-link)

Full Context

configure service vprn subscriber-interface group-interface ipv6 router-advertisements prefix-options on-link

configure service vprn subscriber-interface ipv6 router-advertisements prefix-options on-link

configure service ies subscriber-interface ipv6 router-advertisements prefix-options on-link

configure service ies subscriber-interface group-interface ipv6 router-advertisements prefix-options on-link

configure service vprn router-advert interface on-link

Description

This command specifies whether the prefix is assigned to an interface on the specified link.

The **no** form of this command reverts to the default.

Default

on-link

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

on-link

Syntax

[**no**] **on-link**

Context

[Tree] (config>subscr-mgmt>rtr-adv>pfx-opt>stateless on-link)

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[Tree] (config>subscr-mgmt>rtr-adv>pfx-opt>stateful on-link)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options stateless on-link

configure subscriber-mgmt router-advertisement-policy prefix-options stateful on-link

Description

This command specifies whether the prefix is to be assigned to an interface on the specified link.

The **no** form of this command reverts to the default.

Default

on-link

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

on-link

Syntax

[**no**] **on-link**

Context

[Tree] (config>service>vprn>router-advert>if>prefix on-link)

Full Context

configure service vprn router-advertisement interface prefix on-link

Description

This command specifies whether the prefix can be used for onlink determination.

Default

on-link

Platforms

All

on-link

Syntax

[**no**] **on-link**

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Context

[Tree] (config>router>router-advert>if>prefix on-link)

Full Context

configure router router-advertisement interface prefix on-link

Description

This command specifies whether the prefix can be used for on link determination.

Default

on link

Platforms

All

32.16 one-garp-per-sap

one-garp-per-sap

Syntax

[**no**] **one-garp-per-sap**

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp one-garp-per-sap)

[Tree] (config>service>ies>sub-if>grp-if>srrp one-garp-per-sap)

Full Context

configure service vprn subscriber-interface group-interface srrp one-garp-per-sap

configure service ies subscriber-interface group-interface srrp one-garp-per-sap

Description

This command enables the sending of one gratuitous ARP to each SAP and is applicable to PPPoE only deployments in which there are multiple subnets under the subscriber interface. In such case, if the switchover occurs, it is sufficient to send a single Gratuitous ARP on every VLAN to update the Layer 2 forwarding path in the access aggregation network. This single gratuitous ARP contains the IP address of the first GW address found under the subscriber interface address.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.17 one-time-http-redirection

one-time-http-redirection

Syntax

one-time-http-redirection ip-filter *filter-id*

one-time-http-redirection

Context

[Tree] (config>subscr-mgmt>sla-prof one-time-http-redirection)

Full Context

configure subscriber-mgmt sla-profile one-time-http-redirection

Description

This command specifies the one-time HTTP redirection filter ID. This filter applies to the host when it is created, and is replaced by the SLA profile ingress filter (configured in the **configure subscriber-mgmt sla-profile ingress** context) after the first HTTP request from the host is redirected.

Note: The system does not check if the configured filter includes the HTTP redirection entry. If the filter does not include the HTTP redirection, it is not replaced in the future.

If the 7750 SR receives a filter insertion via CoA or access-accept when the one-time redirection filter is still active, the received filter entries are only applied to the SLA profile ingress filter. Also, after the first HTTP redirection, the original SLA profile ingress filter and the received filter replace the redirection filter.

The **no** form of this command reverts to the default.

Default

no one-time-http-redirection

Parameters

filter-id

Specifies the ID of filter that is used for HTTP redirection.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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one-time-http-redirection

Syntax

one-time-http-redirection

Context

[Tree] (debug>service>id one-time-http-redirection)

Full Context

debug service id one-time-http-redirection

Description

This command produces one-time HTTP redirection debug output.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

32.18 one-time-redirect

one-time-redirect

Syntax

one-time-redirect url *rdr-url-string* **port** *port-num*

no one-time-redirect

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm one-time-redirect)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm one-time-redirect)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt one-time-redirect

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt one-time-redirect

Description

This command enables one-time http-redirect to specify redirect URL for traffic matching the specified destination port.

The **no** form of this command reverts to the default.

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Default

no one-time-redirect

Parameters

url *rdr-url-string*

Specifies the HTTP web address that is sent to the user's browser.

port *port-num*

Specifies the destination port number as a decimal hex or binary.

Values 1 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.19 one-way-delay-test

one-way-delay-test

Syntax

one-way-delay-test {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*]

Context

[Tree] (oam>eth-cfm one-way-delay-test)

Full Context

oam eth-cfm one-way-delay-test

Description

This command issues an ETH-CFM one-way delay test.

Parameters

mac-address

Specifies a unicast destination MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID of the peer within the association. The domain and association information are derived from the **source mep** for the session. The Layer 2 IEEE MAC address is resolved from previously-learned remote MAC addressing, derived from the reception and processing of the ETH-CC PDU. The local MEP must be administratively enabled.

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Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

priority

Specifies the priority.

Values 0 to 7

Default 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.20 one-way-delay-threshold

one-way-delay-threshold

Syntax

one-way-delay-threshold *seconds*

Context

[Tree] (config>port>ethernet>eth-cfm>mep one-way-delay-threshold)

[Tree] (config>lag>eth-cfm>mep one-way-delay-threshold)

[Tree] (config>eth-tunnel>path>eth-cfm>mep one-way-delay-threshold)

Full Context

configure port ethernet eth-cfm mep one-way-delay-threshold

configure lag eth-cfm mep one-way-delay-threshold

configure eth-tunnel path eth-cfm mep one-way-delay-threshold

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Description

This command enables one way delay threshold time limit.

Default

one-way-delay-threshold 3

Parameters

seconds

Specifies the value, in seconds, for the threshold.

Values 0 to 600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

one-way-delay-threshold

Syntax

one-way-delay-threshold *seconds*

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep one-way-delay-threshold)

Full Context

configure service epipe sap eth-cfm mep one-way-delay-threshold

Description

This command enables/disables eth-test functionality on MEP.

Parameters

seconds

Specifies the one way-delay threshold in seconds.

Values 0 to 600

Default 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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one-way-delay-threshold

Syntax

one-way-delay-threshold *seconds*

Context

[Tree] (config>service>vpls>sap>eth-cfm>mep one-way-delay-threshold)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep one-way-delay-threshold)

Full Context

configure service vpls sap eth-cfm mep one-way-delay-threshold

configure service vpls spoke-sdp eth-cfm mep one-way-delay-threshold

Description

This command enables/disables eth-test functionality on MEP.

Parameters

seconds

Specifies the one way delay threshold, in seconds.

Values 0 to 600

Default 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

one-way-delay-threshold

Syntax

one-way-delay-threshold *seconds*

Context

[Tree] (config>service>ies>if>sap>mep one-way-delay-threshold)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep one-way-delay-threshold)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep one-way-delay-threshold)

Full Context

configure service ies interface sap mep one-way-delay-threshold

configure service ies subscriber-interface group-interface sap eth-cfm mep one-way-delay-threshold

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configure service ies interface spoke-sdp eth-cfm mep one-way-delay-threshold

Description

This command enables one way delay threshold time limit.

Default

one-way-delay-threshold 3

Parameters

seconds

Specifies the value for the threshold.

Values 0 to 600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep one-way-delay-threshold

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep one-way-delay-threshold

one-way-delay-threshold

Syntax

one-way-delay-threshold *time*

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm one-way-delay-threshold)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm one-way-delay-threshold)

[Tree] (config>service>vprn>if>sap>eth-cfm one-way-delay-threshold)

Full Context

configure service vprn interface spoke-sdp eth-cfm one-way-delay-threshold

configure service vprn subscriber-interface group-interface sap eth-cfm one-way-delay-threshold

configure service vprn interface sap eth-cfm one-way-delay-threshold

Description

This command enables one way delay threshold time limit.

Default

3 seconds

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Parameters

priority

Specifies the value for the threshold.

Values 0 to 600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm one-way-delay-threshold
- configure service vprn interface sap eth-cfm one-way-delay-threshold

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm one-way-delay-threshold

one-way-delay-threshold

Syntax

one-way-delay-threshold *seconds*

Context

[Tree] (config>router>if>eth-cfm>mep one-way-delay-threshold)

Full Context

configure router interface eth-cfm mep one-way-delay-threshold

Description

This command enables a one-way delay threshold time limit.

Default

one-way-delay-threshold 3

Parameters

seconds

Specifies the value, in seconds, for the threshold.

Values 0 to 600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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one-way-delay-threshold

Syntax

one-way-delay-threshold *seconds*

Context

[Tree] (config>eth-ring>path>eth-cfm>mep one-way-delay-threshold)

Full Context

configure eth-ring path eth-cfm mep one-way-delay-threshold

Description

This command configures a one way delay threshold time limit.

Default

one-way-delay-threshold 3

Parameters

seconds

Specifies the value, in seconds, for the threshold.

Values 0 to 600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.21 opaque-data

opaque-data

Syntax

opaque-data *hex-string*

no opaque-data

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action>insert-nsh>meta-data opaque-data)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action insert-nsh meta-data opaque-data

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Description

This command specifies 16-byte opaque data HEX string to be inserted in NSH meta-data (with MD-Type set to 1). The opaque data can also be provided (overridden) by AAA server. AAA server has precedence over static configuration. The **opaque-data** and **insert-subscriber-id** commands are mutually exclusive.

The **no** form of this command removes the HEX string from the configuration.

Parameters

hex-string

Specifies the HEX string up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.22 opcode

opcode

Syntax

[**no**] **opcode**

Context

[Tree] (config>service>nat>pcp-server-policy opcode)

Full Context

configure service nat pcp-server-policy opcode

Description

This command specifies the PCP opcodes supported by the PCP servers using this PCP policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.23 open

open

Syntax

open [**neighbor** *ip-address* | **group** *name*]

no open

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Context

[Tree] (debug>router>bgp open)

Full Context

debug router bgp open

Description

This command decodes and logs all sent and received open messages in the debug log.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

32.24 openconfig

openconfig

Syntax

openconfig

Context

[Tree] (config>service>vprn>if>extref openconfig)

[Tree] (config>router>if>extref openconfig)

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Full Context

configure service vprn interface external-reference openconfig

configure router interface external-reference openconfig

Description

Commands in this context configure the OpenConfig reference key used to map a Nokia vendor-specific configuration and the OpenConfig state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.25 oper-down-on-group-degrade

oper-down-on-group-degrade

Syntax

[**no**] **oper-down-on-group-degrade**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw oper-down-on-group-degrade)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw oper-down-on-group-degrade)

Full Context

configure service ies subscriber-interface group-interface wlan-gw oper-down-on-group-degrade

configure service vprn subscriber-interface group-interface wlan-gw oper-down-on-group-degrade

Description

This command operationally brings down the WLAN-GW group if the total number of operational WLAN-GW IOMs in the WLAN-GW group fall below the configured number of active WLAN-GW IOMs. This triggers withdrawal of the route to tunnel endpoint and subscriber subnets in routing.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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32.26 oper-group

oper-group

Syntax

oper-group *name*

no oper-group

Context

[Tree] (config>service>epipe oper-group)

Full Context

configure service epipe oper-group

Description

This command associates an operational group to the status of the Epipe. When this oper-group is used in Epipes with static VXLAN or BGP-EVPN, the oper-group behaves as follows:

- The Epipe (and the oper-group) goes down if a SAP or spoke SDP goes operationally down because of an administrative shutdown, service shutdown, or non-DF status as a result of EVPN multi-homing single-active election.
- The Epipe (and oper-group) goes down if the Epipe's EVPN destination is removed (because of an EVPN AD per-EVI route withdrawal, for example).
- The Epipe (and oper-group) does not go down if a static VXLAN destination exists and the egress VTEP is not in the global route table.

The operational group must be monitored in a different service and not in the service where it is defined.

The **no** version of this command removes the oper-group association.

Parameters

name

Specifies the name of the **oper-group**, up to 32 characters.

Platforms

All

oper-group

Syntax

oper-group *name*

no oper-group

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Context

[Tree] (config>service>epipe>bgp-evpn>srv6 oper-group)

[Tree] (config>service>vpls>bgp-evpn>srv6 oper-group)

[Tree] (config>service>system>bgp-evpn>eth-seg oper-group)

[Tree] (config>service>vpls>bgp-evpn>mpls oper-group)

[Tree] (config>service>vpls>bgp-evpn>vxlan oper-group)

[Tree] (config>service>epipe>bgp-evpn>mpls oper-group)

Full Context

configure service epipe bgp-evpn segment-routing-v6 oper-group

configure service vpls bgp-evpn segment-routing-v6 oper-group

configure service system bgp-evpn ethernet-segment oper-group

configure service vpls bgp-evpn mpls oper-group

configure service vpls bgp-evpn vxlan oper-group

configure service epipe bgp-evpn mpls oper-group

Description

This command adds the BGP EVPN MPLS, SRv6, or VXLAN instance or Ethernet Segment (ES) as a member of the operational group.

When configured on an ES, the state of the operational group depends on the state of the SAPs contained in the ES. The operational group transitions to up if at least one SAP in the ES is up. The operational group goes down when all the associated SAPs are operationally down. The ES operational group should be monitored on the LAG associated with the ES, along with single-active multi-homing, so that the NDF state can be signaled to the CE by LAG standby signaling.

When configured on a BGP EVPN instance, the operational group is up when it is either empty (meaning that the operational group has no members) or at least an EVPN destination is created under the EVPN instance added as member. When configured, no other SAP, SDP binding, or BGP EVPN instance can be added to the same operational group within the same or a different service.

The operational group is down when the following apply:

- on a BGP EVPN instance
- the service is disabled
- the BGP EVPN MPLS, VXLAN or SRv6 instance are disabled
- all the EVPN destinations in the instance are removed

Default

no oper-group

Parameters

name

Specifies the name of the operational group, up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 oper-group
- configure service epipe bgp-evpn segment-routing-v6 oper-group

All

- configure service system bgp-evpn ethernet-segment oper-group
- configure service epipe bgp-evpn mpls oper-group
- configure service vpls bgp-evpn vxlan oper-group
- configure service vpls bgp-evpn mpls oper-group

oper-group

Syntax

oper-group *name*

no oper-group

Context

[Tree] (config>service>epipe>vxlan>egr-vtep oper-group)

Full Context

configure service epipe vxlan egr-vtep oper-group

Description

This command associates an operational group with the VXLAN static egress VTEP. If the egress VTEP IP disappears from the routing table, the oper-group status becomes operationally down.

The operational group must be monitored in a different service and not in the service where it is defined.

The **no** version of this command removes the oper-group association.

Parameters

name

Specifies the name of the **oper-group**, up to a maximum of 32 characters.

Platforms

All

oper-group

Syntax

oper-group *group-name*

no oper-group

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Context

[Tree] (config>service>epipe>sap oper-group)

Full Context

configure service epipe sap oper-group

Description

This command configures the operational group identifier.

The no form of this command removes the group name from the configuration.

Parameters

group-name

Specifies the Operational-Group identifier up to 32 characters in length.

Platforms

All

oper-group

Syntax

oper-group *group-name*

no oper-group

Context

[Tree] (config>service>vpls>bgp>pw-template-binding oper-group)

[Tree] (config>service>vpls>spoke-sdp oper-group)

[Tree] (config>service>vpls>sap oper-group)

Full Context

configure service vpls bgp pw-template-binding oper-group

configure service vpls spoke-sdp oper-group

configure service vpls sap oper-group

Description

This command associates the context to which it is configured to the operational group specified in the *group-name*. The **oper-group** *oper-name* must be already configured under **config>service** context before its name is referenced in this command.

The **no** form of this command removes the association.

Default

no oper-group

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Parameters

group-name

Specifies a character string of maximum 32 ASCII characters identifying the group instance.

Platforms

All

oper-group

Syntax

oper-group *group-name*

no oper-group

Context

[Tree] (config>service>ies>if>vrrp oper-group)

Full Context

configure service ies interface vrrp oper-group

Description

This command configures VRRP to associate with an operational group. When associated, VRRP notifies the operational group of its state changes so that other protocols can monitor it to provide a redundancy mechanism. When VRRP is the master router (MR), the operational group is up and is down for all other VRRP states.

The **no** form of this command removes the association.

Default

no oper-group

Parameters

group-name

Specifies the operational group identifier up to 32 characters in length.

Platforms

All

oper-group

Syntax

oper-group *group-name*

no oper-group

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Context

[Tree] (config>service>vprn>if>vrrp oper-group)

[Tree] (config>service>vprn>if>ipv6>vrrp oper-group)

Full Context

configure service vprn interface vrrp oper-group

configure service vprn interface ipv6 vrrp oper-group

Description

This command configures VRRP to associate with an operational group. When associated, VRRP notifies the operational group of its state changes so that other protocols can monitor it to provide a redundancy mechanism. When VRRP is the master router (MR), the operational group is up and is down for all other VRRP states.

The **no** form of this command removes the association.

Default

no oper-group — No operational group is configured.

Parameters

group-name

Specifies the operational group identifier, up to 32 characters in length.

Platforms

All

oper-group

Syntax

oper-group *group-name*

no oper-group

Context

[Tree] (config>router>if>vrrp oper-group)

[Tree] (config>router>if>ipv6>vrrp oper-group)

Full Context

configure router interface vrrp oper-group

configure router interface ipv6 vrrp oper-group

Description

This command configures VRRP to associate with an operational group. When associated, VRRP notifies the operational group of its state changes so that other protocols can monitor it to provide a redundancy

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mechanism. When VRRP is the master router (MR), the operational group is up; the operational group is down for all other VRRP states.

The **no** form of the command removes the association.

Default

no oper-group — No operational group is configured.

Parameters

group-name

Specifies the operational group identifier, up to 32 characters.

Platforms

All

oper-group

Syntax

oper-group *group-name* [**create**]

no oper-group *group-name*

Context

[Tree] (config>service oper-group)

Full Context

configure service oper-group

Description

This command creates a system-wide group (operational group) name which can be used to associate a number of service objects (for example, SAPs or pseudowires). The status of the group is derived from the status of its members. The status of the group can then be used to influence the status of non-member objects. For example, when a group status is marked as down, the object(s) that monitor the group change their status accordingly.

The **no** form of the command removes the group. All the object associations need to be removed before the no form of the command can be executed.

Default

no oper-group

Parameters

group-name

Specifies the operational group identifier up to 32 characters in length.

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create

This keyword is required when first creating the configuration context. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

All

oper-group

Syntax

oper-group *name*

no oper-group

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp oper-group)

[Tree] (config>service>ies>sub-if>grp-if>srrp oper-group)

Full Context

configure service vprn subscriber-interface group-interface srrp oper-group

configure service ies subscriber-interface group-interface srrp oper-group

Description

This command configures the state of an operational group under SRRP instance as up when the SRRP instance is in a Master state, and down for any other SRRP state. The operational group name must be already configured under the **config>service** context before its name is referenced in this command.

The **no** form of this command removes the association from the configuration.

Default

no oper-group

Parameters

name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

oper-group

Syntax

oper-group *name*

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no oper-group

Context

[Tree] (config>isa>nat-group oper-group)

Full Context

configure isa nat-group oper-group

Description

This command configures the state of the operational group associated with a NAT group; it is considered up only when the NAT group itself is up. In all other NAT group states, the operational group is marked as down. This includes the "degraded" state, where the number of active ESA-VMs in the NAT group falls below the configured active threshold limit. In this case, the operational group will be operationally down.

The **no** form of this command removes the association from the configuration.

Default

no oper-group

Parameters

name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

oper-group

Syntax

oper-group *name*

no oper-group

Context

[Tree] (config>lag oper-group)

Full Context

configure lag oper-group

Description

This command configures the operational group associated with a LAG; it is considered up only when the LAG itself is up. In all other states, the operational group is marked as down.

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Note: A LAG can be configured to transition to a down state if the number of active member links falls below the configured port threshold. When this threshold is breached, the operational group also transitions to a down state.

The **no** form of this command removes the association from the configuration.

Default

no oper-group

Parameters

name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

oper-group

Syntax

oper-group *oper-group-name*

no oper-group

Context

[Tree] (config>isa>aa-grp oper-group)

Full Context

configure isa application-assurance-group oper-group

Description

This command configures the operational group that is associated with an AA group.

The AA operational group state is either up or down. The state is up when the number of operational and administratively enabled AA-ESA-VMs meets or exceeds the configured limit of the AA group. If the available AA-ESA-VMs fall below this limit, because of an AA ESA VM failure or administrative state shutdown, the operational group status is changed to the down state.

The **no** form of this command removes the association from the configuration.

Default

no oper-group

Parameters

oper-group-name

Specifies a character string, up to 32 ASCII characters, identifying the group instance.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.27 oper-members

oper-members

Syntax

oper-members *oper-members*

no oper-members

Context

[Tree] (config>service>vprn>isis>link-group>level oper-members)

Full Context

configure service vprn isis link-group level oper-members

Description

This command sets the threshold for the minimum number of operational links for the associated link-group. If the number of operational links drops below this threshold, the configured offsets are applied. For example, oper-members=3. The metric of the member interfaces is increased when the number of interfaces is lower than 3.

The **no** form of this command reverts the oper-members limit to 1.

Default

no oper-members

Parameters

oper-members

Specifies the number of operational members.

Values 0 to 8

Platforms

All

oper-members

Syntax

oper-members [*value*]

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no oper-members

Context

[Tree] (config>router>isis>link-group>level oper-members)

Full Context

configure router isis link-group level oper-members

Description

This command sets the threshold for the minimum number of operational links for the associated link-group. If the number of operational links drops below this threshold, the configured offsets are applied. For example, oper-members=3. The metric of the member interfaces is increased when the number of interfaces is lower than 3.

The **no** form of this command reverts the **oper-members** limit to 1.

Default

oper-members 1

Parameters

value

Specifies the threshold for operational members.

Values 1 to 8

Platforms

All

32.28 oper-up-on-mhstandby

oper-up-on-mhstandby

Syntax

[**no**] **oper-up-on-mhstandby**

Context

[Tree] (config>service>epipe>pw-port oper-up-on-mhstandby)

Full Context

configure service epipe pw-port oper-up-on-mhstandby

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Description

This command causes the PW port to remain operationally up on the non-DF PE as well as all the PW SAPs contained in the PW port.

The PW port status shows an operationally up status with a flag MH Standby.

The **no** form of this command causes the PW port to remain operationally down on the non-DF PE as well as all the PW SAPs contained in the PW port.

Default

no oper-up-on-mhstandby

Platforms

All

32.29 oper-up-while-empty

oper-up-while-empty

Syntax

[**no**] **oper-up-while-empty**

Context

[Tree] (config>service>vprn>sub-if>grp-if oper-up-while-empty)

[Tree] (config>service>ies>sub-if>grp-if oper-up-while-empty)

Full Context

configure service vprn subscriber-interface group-interface oper-up-while-empty

configure service ies subscriber-interface group-interface oper-up-while-empty

Description

This command allows the subscriber interface to treat this group interface to be operationally enabled without any active SAPs.

This command is typically used with MSAPs where advertising the subnet prior to having a MSAP dynamically created is needed.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.30 operations

operations

Syntax

operations

Context

[Tree] (config>system>management-interface operations)

Full Context

configure system management-interface operations

Description

Commands in this context configure parameters associated with operational commands in model-driven interfaces.

Platforms

All

32.31 opt-reporting-fields

opt-reporting-fields

Syntax

opt-reporting-fields [**host-mac**] [**pppoe-session-id**] [**svc-id**] [**sap-id**]

no opt-reporting-fields

Context

[Tree] (config>subscr-mgmt>igmp-policy>mcast-reporting opt-reporting-fields)

Full Context

configure subscriber-mgmt igmp-policy mcast-reporting opt-reporting-fields

Description

This command specifies optional data relevant to the IGMP event that can be exported. This optional data includes:

- Host MAC address

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- PPPoE session-ID
- Service ID
- SAP

The **no** form of this command reverts to the default value.

Parameters

host-mac

Specifies that the host-mac optional field should be included into the multicast reporting messages.

pppoe-session-id

Specifies that the pppoe-session-id optional field should be included into the multicast reporting messages.

svc-id

Specifies that the svc-id optional field should be included into the multicast reporting messages.

sap-id

Specifies that the sap-id optional field should be included into the multicast reporting messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

32.32 optical-line-system

optical-line-system

Syntax

optical-line-system

no optical-line-system

Context

[Tree] (config>port>transceiver optical-line-system)

Full Context

configure port transceiver optical-line-system

Description

This command enables the QSFP-LS pluggable optical line system, used in conjunction with 400G ZR/ZR+ coherent pluggable modules.

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Note: A user cannot enable a transceiver as both a Digital Coherent Optic (DCO) and an Open Line System (OLS) at the same time.

The **no** form of this command reverts to the default.

Default

no optical-line-system

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.33 optimal-route-reflection

optimal-route-reflection

Syntax

optimal-route-reflection

Context

[Tree] (config>router>bgp optimal-route-reflection)

Full Context

configure router bgp optimal-route-reflection

Description

This command creates the optimal route reflection context.

Platforms

All

32.34 optimization

optimization

Syntax

optimization

Context

[Tree] (config>router>mpls>lsp-cont optimization)

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Full Context

configure router mpls lsp-container optimization

Description

Commands in this context configure the optimization parameters for the LSP container.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.35 optimization-timer

optimization-timer

Syntax

optimization-timer *value*

no optimization-timer

Context

[Tree] (config>router>mpls>lsp-cont>opt optimization-timer)

Full Context

configure router mpls lsp-container optimization optimization-timer

Description

This command configures the optimization timer, which defines the period at which the container analyzes its member LSPs and decides if an optimization is needed.

The **no** form of this command reverts to the default value.

Default

optimization-timer 2880

Parameters

value

Specifies the timer-based determination, in minutes, of rate samples of each LSP in the LSP container.

Values 15 to 44640 minutes (31 days)

The minimum is 15 minutes and the maximum is 44640 minutes (31 days).

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.36 optimized-mode

optimized-mode

Syntax

[**no**] **optimized-mode**

Context

[Tree] (config>system>cpm-http-redirect optimized-mode)

Full Context

configure system cpm-http-redirect optimized-mode

Description

This command enables the **cpm-http-redirect optimized-mode**. The **optimized-mode** improves the scale of HTTP redirect sessions supported system wide.

Default

optimized-mode

Platforms

All

32.37 option

option

Syntax

option *dhcp-option-number* {**present** | **absent**}

option *dhcp-option-number* **match hex** *hex-string* [**exact**] [**invert-match**]

option *dhcp-option-number* **match string** *ascii-string* [**exact**] [**invert-match**]

no option

Context

[Tree] (config>filter>dhcp-filter>entry option)

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Full Context

configure filter dhcp-filter entry option

Description

This command configures match criteria for the DHCP filter policy entry.

The **no** form of this command reverts to the default.

Parameters

dhcp-option-number

Specifies the DHCP option number.

Values 0 to 255

present

Specifies that the related DHCP option must be present.

absent

Specifies that the related DHCP option must be absent.

hex-string

Specifies that the option must partially match a specified hex string.

Values 0x0 to 0xFFFFFFFF (up to 254 hex nibbles)

ascii-string

Specifies that the option must partially match a specified ASCII string, up to 127 characters.

exact

Specifies that this option requires an exact match of a hex or ASCII string.

invert-match

Requires the option not to partially match.

Platforms

All

option

Syntax

option *dhcp6-option-number* {**present** | **absent**}

option *dhcp6-option-number* **match hex** *hex-string* [**exact**] [**invert-match**]

option *dhcp6-option-number* **match string** *ascii-string* [**exact**] [**invert-match**]

no option

Context

[Tree] (config>filter>dhcp6-filter>entry option)

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Full Context

configure filter dhcp6-filter entry option

Description

This command configures match criteria for the DHCP6 filter policy entry.

The **no** form of this command reverts to the default.

Parameters

dhcp-option-number

Specifies the DHCP6 option number.

Values 0 to 255

present

Specifies that the related DHCP6 option must be present.

absent

Specifies that the related DHCP6 option must be absent.

match hex *hex-string*

Specifies that the option must (partially) match a specified hex string.

Values 0x0 to 0xFFFFFFFF (up to 254 hex nibbles)

match string *ascii-string*

Specifies that the option must partially match a specified ASCII string, up to 127 characters.

exact

Specifies that this option requires an exact match of a hex or ASCII string.

invert-match

Requires the option not to partially match.

Platforms

All

option

Syntax

option *option-number* **address** *ipv4-address* [*ipv4-address*]

option *option-number* **hex** *hex-string*

option *option-number* **string** *ascii-string*

no option *option-number*

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>to-client-options>ipv4 option)

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Full Context

configure subscriber-mgmt local-user-db ipoe host to-client-options ipv4 option

Description

This command configures DHCPv4 options via LUDB that are passed in all DHCP messages to the client. The options are blindly appended to any options already present in the DHCP message. In other words, there is no intelligent merging of the options where overlapping options from different sources are further evaluated to determine whether only one option or multiple options should be returned to the client.

Multiple DHCP options can be configured at the same time although each option requires its own option statement. Those options are equivalent to RADIUS VSAs **Alc-ToCLient-Dhcp4-Options**.

DHCPv4 options can be provided via DHCPv4 server in the relay case. In addition, DHCPv4 options provided via LUDB or RADIUS can be supplied and consequently appended to the already existing options. If DHCPv4 options are provided simultaneously via LUDB and RADIUS, the RADIUS as a source of DHCPv4 option is blocked and the options supplied via LUDB are passed to the client. This is valid for the relay and proxy case.

Any DHCP option may be encoded in the option statement. The following is an example of the option statement for DHCPv4 default-gateway:

option 3 192.168.1.254

DHCPv4 options may be fixed length or variable length. They are appended at the end of DHCPv4 messages. All options begin with a tag octet, which uniquely identifies the option. Fixed-length options without data consist of only a tag octet. Only options 0 and 255 are fixed length. All other options are variable-length.

The **no** form of the removes the option from the configuration.

Parameters

option-number

Specifies up to four option numbers. This can be a well-known or an anonymous option.

Values 1 to 254

ipv4-address

Specifies an IPv4 address as an option.

Values a.b.c.d

hex-string

Specifies options coded as hex characters.

Values 0x0..0xFFFFFFFF, up to 254 hex nibbles

ascii-string

Specifies options coded as an ASCII string, up to 27 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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option

Syntax

option *option-number* **address** [*ip-address*]

option *option-number* **hex** *hex-string*

option *option-number* **string** *ascii-string*

option *option-number* **domain** *domain-name*

no option *option-number*

Context

[Tree] (ipoe>host>to-server-options>ipv6 option)

Full Context

configure subscriber-mgmt local-user-db ipoe host to-server-options ipv6 option

Description

This command specifies the DHCPv6 options to send to the server.

The **no** form of this command removes the option parameters from the configuration.

Parameters

option-number

Specifies the option number and the identification string that is inserted in the DHCP client message to the server.

Values 1 to 65535

ip-address

Specifies the IPv6 address.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

hex-string

Specifies the hex value of the option.

Values 0x0 to 0xFFFFFFFF, up to 254 hex nibbles

ascii-string

Specifies the string value of the option.

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Values up to 127 characters

domain-name

Specifies the domain as in RFC 1035, *Domain Names - Implementation and Specification*, section 3.1.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

option

Syntax

option *option-number* **address** [*ip-address*]

option *option-number* **hex** *hex-string*

option *option-number* **string** *ascii-string*

option *option-number* **domain** *domain-name*

no option *option-number*

Context

[Tree] (ppp>host>to-client-options>ipv6 option)

[Tree] (ipoe>host>to-client-options>ipv6 option)

Full Context

configure subscriber-mgmt local-user-db ppp host to-client-options ipv6 option

configure subscriber-mgmt local-user-db ipoe host to-client-options ipv6 option

Description

This command specifies the DHCPv6 options to send to the client.

The **no** form of this command removes the option parameters from the configuration.

Parameters

option-number

Specifies the option number and the identification string that is inserted in the DHCP client message to the client.

Values 1 to 65535

ip-address

Specifies the IPv6 address. Up to four addresses can be specified.

Values ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

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x: [0 to FFFF]H

d: [0 to 255]D

hex-string

Specifies the hex value of the option.

Values 0x0 to 0xFFFFFFFF, up to 254 hex nibbles

ascii-string

Specifies the string value of the option.

Values up to 127 characters

domain-name

Specifies the domain as in RFC 1035, *Domain Names - Implementation and Specification*, section 3.1.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

option

Syntax

[**no**] **option**

Context

[Tree] (config>service>ies>if>ipv6>dhcp6-relay option)

[Tree] (config>service>vprn>if>ipv6>dhcp6-relay option)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 option)

Full Context

configure service ies interface ipv6 dhcp6-relay option

configure service vprn interface ipv6 dhcp6-relay option

configure service vprn subscriber-interface group-interface ipv6 option

Description

Commands in this context configure DHCPv6 relay information options.

The **no** form of this command disables DHCPv6 relay information options.

Platforms

All

- configure service ies interface ipv6 dhcp6-relay option
- configure service vprn interface ipv6 dhcp6-relay option

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7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 option

option

Syntax

[**no**] **option**

Context

[Tree] (config>router>if>dhcp option)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only-sap-parameters>dhcp option)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 option)

[Tree] (config>service>vprn>sub-if>dhcp option)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp option)

[Tree] (config>service>vprn>if>dhcp option)

[Tree] (config>service>ies>if>dhcp option)

[Tree] (config>service>vpls>sap>dhcp option)

[Tree] (config>service>ies>sub-if>grp-if>dhcp option)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 option)

Full Context

configure router interface dhcp option

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option

configure service vprn subscriber-interface group-interface ipv6 dhcp6 option

configure service vprn subscriber-interface dhcp option

configure service vprn subscriber-interface group-interface dhcp option

configure service vprn interface dhcp option

configure service ies interface dhcp option

configure service vpls sap dhcp option

configure service ies subscriber-interface group-interface dhcp option

configure service ies subscriber-interface group-interface ipv6 dhcp6 option

Description

This command enables DHCP Option 82 (Relay Agent Information Option) parameters processing and enters the context for configuring Option 82 sub-options.

The **no** form of this command reverts to the default.

Default

no option

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Platforms

All

- configure service ies interface dhcp option
- configure service vpls sap dhcp option
- configure service vprn interface dhcp option
- configure router interface dhcp option

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option
- configure service vprn subscriber-interface group-interface ipv6 dhcp6 option
- configure service vprn subscriber-interface group-interface dhcp option
- configure service ies subscriber-interface group-interface dhcp option
- configure service ies subscriber-interface group-interface ipv6 dhcp6 option
- configure service vprn subscriber-interface dhcp option

option

Syntax

[**no**] **option**

Context

[Tree] (config>service>nat>pcp-server-policy option)

Full Context

configure service nat pcp-server-policy option

Description

This command configures the PCP options supported by the PCP servers using this PCP policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

option

Syntax

option {**basic** | **isis-enhanced**}

no option

Context

[Tree] (config>system>security>keychain>direction>bi>entry option)

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Full Context

configure system security keychain direction bi entry option

Description

This command configures allows options to be associated with the authentication key.

Parameters

basic

Specifies that IS-IS should use RFC 5304 encoding of the authentication information. It is only applicable if used with the IS-IS protocol. All other protocols should ignore this configuration command.

isis-enhanced

Specifies that IS-IS should use RFC 5310 encoding of the authentication information. It is only applicable if used with the IS-IS protocol. All other protocols should ignore this configuration command.

Platforms

All

option

Syntax

option *option* [**create**]

no option *option*

Context

[Tree] (config>app-assure>group>dns-enrich option)

Full Context

configure application-assurance group dns-enrich option

Description

This command configures the DNS option for the enriched device ID.

The **no** form of this command removes the DNS option for the enriched device ID.

Default

no option

Parameters

option

Specifies the device ID for the DNS enrichment configuration.

The device ID is the only currently supported value.

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create

Keyword to create the DNS enrichment configuration for the specified option.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.38 option-present

option-present

Syntax

option-present {**true** | **false**}

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match option-present)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match option-present)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match option-present

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match option-present

Description

This command configures the option-present match condition.

The **no** form of this command reverts to the default.

Parameters

true

Enables checking for the presence of IP options in the IP header.

false

Disables checking for the presence of IP options in the IP header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

option-present

Syntax

option-present {**true** | **false**}

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no option-present

Context

[Tree] (config>filter>ip-filter>entry>match option-present)

Full Context

configure filter ip-filter entry match option-present

Description

This command configures matching packets that contain any IP options in the IP header as an IP filter match criterion.

The **no** form of the command removes the checking of IP options in the IP header as a match criterion.

Default

no option-present

Parameters

true

Specifies matching on all IP packets that contain any IP options in the IP header. A match occurs for all packets that have any IP option present. An option field of zero is considered as no option present.

false

Specifies matching on IP packets that do not have any IP option present in the IP header. (an option field of zero). An option field of zero is considered as no option present.

Platforms

All

option-present

Syntax

option-present {**true** | **false**}

no option-present

Context

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match option-present)

Full Context

configure system security cpm-filter ip-filter entry match option-present

Description

This command configures matching packets that contain the option field or have an option field of zero in the IP header as an IP filter match criterion.

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The **no** form of this command removes the checking of the option field in the IP header as a match criterion.

Default

no option-present

Parameters

true

Specifies matching on all IP packets that contain the option field in the header. A match occurs for all packets that have the option field present. An option field of zero is considered as no option present.

false

Specifies matching on IP packets that do not have any option field present in the IP header (an option field of zero). An option field of zero is considered as no option present.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.39 option60

option60

Syntax

option60 hex *hex-string*

option60 string *ascii-string*

no option60

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident option60)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification option60

Description

This command specifies the Vendor-Identifying Vendor Option to match. Option 60 is encoded as Type-Length-Value (TLV). The *hex-string* portion of Option 60 in the received DHCP request is used for matching. Only the first 32 bytes can be defined here. If Option 60 from the message is longer, those bytes are ignored.

Note:
This command is only used when **option60** is configured as one of the **match-list** parameters.

The **no** form of this command removes **option60** from the configuration.

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Parameters

hex-string

Specifies the hexadecimal format for this option.

Values 0x0 to 0xFFFFFFFF(maximum 64 hex nibbles)

ascii-string

Specifies the string format for this option, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

32.40 options

options

Syntax

options

Context

[Tree] (config>service>vprn>dhcp6>server>pool>prefix options)

[Tree] (config>router>dhcp>server>pool>subnet options)

[Tree] (config>router>dhcp6>server>defaults options)

[Tree] (config>service>vprn>dhcp>server>pool options)

[Tree] (config>router>dhcp>server>pool options)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host options)

[Tree] (config>service>vprn>dhcp6>server>pool options)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host options)

[Tree] (config>router>dhcp6>server>pool>prefix options)

[Tree] (config>router>dhcp6>server>pool options)

Full Context

configure service vprn dhcp6 local-dhcp-server pool prefix options

configure router dhcp local-dhcp-server pool subnet options

configure router dhcp6 local-dhcp-server defaults options

configure service vprn dhcp local-dhcp-server pool options

configure router dhcp local-dhcp-server pool options

configure subscriber-mgmt local-user-db ppp host options

configure service vprn dhcp6 local-dhcp-server pool options

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configure subscriber-mgmt local-user-db ipoe host options

configure router dhcp6 local-dhcp-server pool prefix options

configure router dhcp6 local-dhcp-server pool options

Description

Commands in this context configure pool options. The options defined here can be overruled by defining the same option in the local user database.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn dhcp6 local-dhcp-server pool prefix options
- configure router dhcp6 local-dhcp-server pool prefix options
- configure service vprn dhcp local-dhcp-server pool options
- configure router dhcp local-dhcp-server pool options
- configure router dhcp6 local-dhcp-server pool options
- configure service vprn dhcp6 local-dhcp-server pool options
- configure router dhcp local-dhcp-server pool subnet options
- configure subscriber-mgmt local-user-db ipoe host options
- configure subscriber-mgmt local-user-db ppp host options

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server defaults options

options

Syntax

options

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile>dhcp-pool options)

Full Context

configure subscriber-mgmt vrgw brg brg-profile dhcp-pool options

Description

Commands in this context configure options that are reflected in DHCP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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options

Syntax

options

Context

[Tree] (config>redundancy>multi-chassis options)

Full Context

configure redundancy multi-chassis options

Description

This command enables the CLI context to configure multi-chassis options parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

options

Syntax

options

Context

[Tree] (config>system>persistence options)

Full Context

configure system persistence options

Description

This command enables the CLI context to configure persistence options parameters.

Platforms

All

options

Syntax

options

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Context

[Tree] (config>service>vpls>sap>dhcp6>ldra options)

Full Context

configure service vpls sap dhcp6 ldra options

Description

Commands in this context configure forwarding path options.

Platforms

All

32.41 options6

options6

Syntax

options6

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host options6)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host options6)

Full Context

configure subscriber-mgmt local-user-db ppp host options6

configure subscriber-mgmt local-user-db ipoe host options6

Description

Commands in this context configure IPv6 DNS server information in the local user database.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.42 origin

origin

Syntax

origin {**igp** | **egp** | **incomplete** | **any** | **aaa** | **dynamic** | **static** | **bonding | pfcp**}

no origin

Context

[Tree] (config>router>policy-options>policy-statement>entry>from origin)

Full Context

configure router policy-options policy-statement entry from origin

Description

This command configures the match criteria for the origin attribute of the route. The origin attribute is applicable to BGP routes and to the following subscriber-management routes.

- Host routes (for example, IPv4 /32 address, or IPv6 SLAAC prefix) carry the origin attribute with the **aaa**, **dynamic**, or **static** options, depending on the address assignment method. For CUPS hosts, the **pfcp** option is used for the origin attribute. Host routes can also be distinguished using the **sub-mgmt** option for the **protocol** command.
- Dynamically provisioned prefixes or loopback addresses carry the origin attribute with the **aaa** or **pfcp** options, depending on the protocol that provides the prefix and address. Dynamic routes can also be distinguished using the **direct** option for the **protocol** command.
- Statically configured prefixes under the subscriber interface do not have an origin attribute.These routes can be distinguished using the **direct** option for the **protocol** command.
- Framed routes for non-CUPS hosts do not have an origin attribute. Framed routes for CUPS hosts use the **pfcp** option for the origin attribute. Alternatively, framed routes can be distinguished using the **managed** option for the **protocol** command.

These values that are specific to subscriber-management routes are never carried in BGP updates as part of the BGP origin attribute and are not visible within the BGP process.

Default

no origin

Parameters

igp

Specifies path-matching information that originates within the local AS.

egp

Specifies path-matching information that originates in another AS.

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incomplete

Configures path-matching information learned by another method.

any

Specifies to ignore this criteria.

aaa

Specifies to use the subscriber-host address that originates from AAA.

Values IPv4 — subscriber-management /32 host routes that originate from the RADIUS framed-ip-address VSA other than 255.255.255.254. The 255.255.255.254 returned by the RADIUS indicates that the BNG (NAS) should assign an IP address from its own pool.

IPv6 — subscriber-management routes that originate through framed-ipv6-prefix (SLAAC), delegated-ipv6-prefix (IA_PD) or alc-ipv6-address (IA_NA) RADIUS attributes. It is also applicable to VSA Alc-IPv6-Sub-If-Prefix, where the subscriber interface prefix can originate from RADIUS. This is valid for IPoE and PPPoE type hosts.

dynamic

Specifies to use the subscriber host address that originates from DHCP, DHCPv6, or the local address server.

Values IPv4 — subscriber-management /32 host routes that originate from the DHCP server (local or remote) or RADIUS framed-ip-address=255.255.255.254 (RFC 2865).

IPv6 — subscriber-management routes that are assigned via local DHCPv6 server pools whose name is obtained through the Alc-Delegated-IPv6-Pool (PD pool) and Framed-IPv6-Pool (NA pool) RADIUS attributes, or the local address server whose name is obtained through the Alc-SLAAC-IPv6-Pool (SLAAC pool) RADIUS attribute. This is valid for IPoE and PPPoE type hosts.

For IPoEv6 only, the pool name can also be obtained from ipv6-delegated-prefix-pool (PD pool) and ipv6-wan-address-pool (NA pool) from the LUDB.

static

Specifies to use the subscriber-host address that originates from the local user database.

Values IPv4 — subscriber-management /32 host routes that originate from the LUDB and also covers the RADIUS fallback category (RADIUS falls back to system defaults or to the LUDB).

IPv6 — subscriber-management routes that originate from the LUDB from ipv6-address (IA_NA) or ipv6-prefix (IA_PD), or ipv6-slaac-prefix (SLAAC).

bonding

Specifies to use bonding.

pfcp

Specifies to use routes learned using the PFCP protocol.

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Platforms

All

origin

Syntax

origin {**igp** | **egp** | **incomplete** | *param-name*}

no origin

Context

[Tree] (config>router>policy-options>policy-statement>default-action origin)

[Tree] (config>router>policy-options>policy-statement>entry>action origin)

Full Context

configure router policy-options policy-statement default-action origin

configure router policy-options policy-statement entry action origin

Description

This command sets the BGP origin assigned to routes exported into BGP.

If the routes are exported into protocols other than BGP, this option is ignored.

The **no** form of this command disables setting the BGP origin for the route policy entry.

Default

no origin

Parameters

igp

Sets the path information as originating within the local AS.

egp

Sets the path information as originating in another AS.

incomplete

Sets the path information as learned by some other means.

param-name

The origin parameter variable name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

Platforms

All

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32.43 origin-invalid-unusable

origin-invalid-unusable

Syntax

[**no**] **origin-invalid-unusable**

Context

[Tree] (config>service>vprn>bgp>best-path-selection origin-invalid-unusable)

Full Context

configure service vprn bgp best-path-selection origin-invalid-unusable

Description

When this command is configured, all VPRN BGP routes that have an origin validation state of "Invalid" are considered unusable by the best path selection algorithm, meaning they are not used for forwarding, not advertised to BGP peers, and not eligible for export as a VPN-IP route.

With the default value, VPRN BGP routes with an origin validation state of "Invalid" are usable if they are selected.

Default

no origin-invalid-unusable

Platforms

All

origin-invalid-unusable

Syntax

[**no**] **origin-invalid-unusable**

Context

[Tree] (config>router>bgp>best-path-selection origin-invalid-unusable)

Full Context

configure router bgp best-path-selection origin-invalid-unusable

Description

When **origin-invalid-unusable** is configured, all routes that have an RPKI origin validation state of 'Invalid' are considered unusable by the best path selection algorithm, meaning they are not used for forwarding and not advertised to BGP peers.

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With the default of **no origin-invalid-unusable**, routes with an RPKI origin validation state of 'Invalid' are compared to other 'usable' routes for the same prefix according to the BGP decision process.

Default

no origin-invalid-unusable

Platforms

All

32.44 origin-validation

origin-validation

Syntax

origin-validation

Context

[Tree] (config>router origin-validation)

Full Context

configure router origin-validation

Description

Commands in this context display origin validation information.

Platforms

All

32.45 origin-validation-state

origin-validation-state

Syntax

origin-validation-state state

no origin-validation-state

Context

[Tree] (config>router>policy-options>policy-statement>entry>from origin-validation-state)

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Full Context

configure router policy-options policy-statement entry from origin-validation-state

Description

This command is used to match BGP routes on the basis of origin validation state:

- Valid (0)
- Not-Found (1)
- Invalid (2)

Default

no origin-validation-state

Parameters

valid

Marks the route as having an origin validation state of valid.

notFound

Marks the route as having an origin validation state of Not Found.

invalid

Marks the route as having an origin validation state of invalid.

Platforms

All

origin-validation-state

Syntax

origin-validation-state {*state* | *param-name*}

no origin-validation-state

Context

[Tree] (config>router>policy-options>policy-statement>entry>action origin-validation-state)

[Tree] (config>router>policy-options>policy-statement>default-action origin-validation-state)

Full Context

configure router policy-options policy-statement entry action origin-validation-state

configure router policy-options policy-statement default-action origin-validation-state

Description

This command is used to mark BGP IPv4 and IPv6 routes matching the **default-action** or a specific entry of a route policy with one of the 3 following origin validation states:

- Valid (0)

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- Not-Found (1)
- Invalid (2)

Default

no origin-validation-state

Parameters

state

Specifies the default operational origin validation state for this policy statement.

Values valid — Marks the route as having an origin validation state of valid.

notFound — Marks the route as having an origin validation state of Not Found.

invalid — Marks the route as having an origin validation state of invalid.

param-name

Specifies the origin parameter variable name. Allowed values are any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

Platforms

All

32.46 originate-default-route

originate-default-route

Syntax

originate-default-route [**type-nssa**] [**adjacency-check**]

no originate-default-route

Context

[Tree] (config>service>vprn>ospf3>area>nssa originate-default-route)

[Tree] (config>service>vprn>ospf>area>nssa originate-default-route)

Full Context

configure service vprn ospf3 area nssa originate-default-route

configure service vprn ospf area nssa originate-default-route

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Description

This command specifies whether when configuring an NSSA with no summaries, the Area Border Router (ABR) injects a type-7 LSA default route into the NSSA area. The default behavior is to inject a type-3 LSA default route, but some older implementations expect a type-7 LSA default route.

When configuring an NSSA with no summaries, the ABR will inject a type 3 LSA default route into the NSSA area. Some older implementations expect a type 7 LSA default route.

The **no** form of this command disables origination of a default route.

Default

no originate-default-route — A default route is not originated.

Parameters

type-nssa

Specifies that a type 7 LSA should be used for the default route.

Configure this parameter to inject a type 7 LSA default route into an NSSA configured with no summaries, instead of a type 3 LSA.

To revert to a type 3 LSA, execute the **originate-default-route** command without the **type-nssa** parameter.

Default type 3 LSA default route

adjacency-check

Specifies whether adjacency checks are performed before originating a default route. If this parameter is configured, then no area 0 adjacency is required for the ABR to advertise the default route.

Default Adjacency checks are performed, and an area 0 adjacency is required for the ABR to advertise the default route

Platforms

All

originate-default-route

Syntax

originate-default-route [**type-7**] [**no-adjacency-check**]

originate-default-route [**type-nssa**] [**no-adjacency-check**]

no originate-default-route

Context

[Tree] (config>router>ospf3>area>nssa originate-default-route)

[Tree] (config>router>ospf>area>nssa originate-default-route)

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Full Context

configure router ospf3 area nssa originate-default-route

configure router ospf area nssa originate-default-route

Description

This command enables the generation of a default route and its LSA type (3 or 7) into a Not So Stubby Area (NSSA) by an NSSA Area Border Router (ABR).

When configuring an NSSA with no summaries, the ABR will inject a type 3 LSA default route into the NSSA area. Some older implementations expect a type 7 LSA default route.

The **no** form of this command disables origination of a default route.

Default

no originate-default-route

Parameters

type-7

Specifies a type 7 LSA should be used for the default route in the **config**>**router**>**ospf**>**area**>**nssa** context.

Configure this parameter to inject a type-7 LSA default route instead the type 3 LSA into the NSSA configured with no summaries.

To revert to a type 3 LSA, enter **originate-default-route** without the **type-7** parameter.

Default Type 3 LSA default route.

type-nssa

Specifies an NSSA-LSA type should be used for the default route in the **config**>**router**>**ospf3**>**area**>**nssa** context.

no-adjacency-check

Specifies whether adjacency checks are performed before originating a default route. If this parameter is configured, then no area 0 adjacency is required for the ABR to advertise the default route.

Default Adjacency checks are performed, and an area 0 adjacency is required for the ABR to advertise the default route.

Platforms

All

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32.47 originated-qos-marking

originated-qos-marking

Syntax

[**no**] **originated-qos-marking** *dscp-name*

Context

[Tree] (config>system>telemetry>persistent-subscriptions>subscription originated-qos-marking)

Full Context

configure system telemetry persistent-subscriptions subscription originated-qos-marking

Description

This command configures the QoS marking used for packets carrying telemetry notifications.

The **no** form of this command removes the QoS marking.

Parameters

dscp-name

Specifies the QoS marking name.

The *dscp-name* parameter is a 6-bit value. It must be one of the predefined DSCP names in the system.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, e f, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

All

originated-qos-marking

Syntax

originated-qos-marking *dscp-name*

no originated-qos-marking

Context

[Tree] (config>system>grpc-tunnel>destination-group>destination originated-qos-marking)

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Full Context

configure system grpc-tunnel destination-group destination originated-qos-marking

Description

This command configures the QoS marking used for packets carrying gRPC tunnel packets.

The **no** form of this command removes the QoS marking.

Default

no originated-qos-marking

Parameters

dscp-name

Specifies the QoS marking name.

The *dscp-name* parameter is a 6-bit value. It must be one of the predefined DSCP names in the system.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, e f, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

All

32.48 origination-fpe

origination-fpe

Syntax

origination-fpe *origination-fpe*

no origination-fpe

Context

[Tree] (config>router>segment-routing>srv6 origination-fpe)

Full Context

configure router segment-routing segment-routing-v6 origination-fpe

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Description

This command configures the SRv6 FPE ID for origination of SRv6 tunnels on local services. A single FPE can be configured for SRv6 origination.

The **no** form of this command removes the origination FPE from the configuration.

Default

no origination-fpe

Parameters

origination-fpe

Specifies the FPE ID for origination of SRv6 tunnels on local services.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

32.49 orphan-override

orphan-override

Syntax

orphan-override [**level** *priority-level*] [**weight** *weight*] [**cir-level** *cir-level*] [**cir-weight** *cir-weight*]

no orphan-override

Context

[Tree] (config>qos>port-scheduler-policy orphan-override)

Full Context

configure qos port-scheduler-policy orphan-override

Description

This command overrides the default orphan behavior for port schedulers created using the port scheduler policy. The default orphan behavior is to give all orphan queues and schedulers bandwidth after all other properly parented queues and schedulers. Orphans by default do not receive any within-CIR bandwidth and receive above-CIR bandwidth after priority levels 8 through 1 have been allocated. The orphan-override command accepts the same parameters as the port-parent command in the SAP egress and network queue policy contexts. The defined parameters are used as a default port-parent association for any queue or scheduler on the port that the port scheduler policy is applied.

Orphan queues and schedulers are identified as:

- Any queue or scheduler that does not have a port-parent or parent command applied

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- Any queue that has a parent command applied, but the specified scheduler name does not exist on the queue's SAP, MSS, or SLA Profile instance.

A queue or scheduler may be properly parented to an upper level scheduler, but that scheduler may be orphaned. In this case, the queue or scheduler receives bandwidth from its parent scheduler based on the parent schedulers ability to receive bandwidth as an orphan.

Within-CIR Priority Level Parameters

The within-CIR parameters define which port priority level the orphan queues and schedulers should be associated with when receiving bandwidth for the queue or schedulers within-CIR offered load. The within-CIR offered load is the amount of bandwidth the queue or schedulers could use that is equal to or less than its defined or summed CIR value. The summed value is only valid on schedulers and is the sum of the within-CIR offered loads of the children attached to the scheduler. The parameters that control within-CIR bandwidth allocation for orphans are the orphan-override commands cir-level and cir-weight keywords. The cir-level keyword defines the port priority level that the scheduler or queue uses to receive bandwidth for its within-CIR offered load. The cir-weight is used when multiple queues or schedulers exist at the same port priority level for within-CIR bandwidth. The weight value defines the relative ratio that is used to distribute bandwidth at the priority level when more within-CIR offered load exists than the port priority level has bandwidth.

A cir-weight equal to zero (the default value) has special meaning and informs the system that the orphan queues and schedulers do not receive bandwidth from the within-CIR distribution. Instead, all bandwidth for the orphan queues and schedulers must be allocated from the port scheduler's above-CIR pass.

Above-CIR Priority Level Parameters

The above-CIR parameters define which port priority level the orphan queues and schedulers should be associated with when receiving bandwidth for the queue or schedulers above-CIR offered load. The above-CIR offered load is the amount of bandwidth the queue or schedulers could use that is equal to or less than its defined PIR value (based on the queue or schedulers rate command) less any bandwidth that was given to the queue or scheduler during the above-CIR scheduler pass. The parameters that control above-CIR bandwidth allocation for orphans are the orphan-override commands level and weight keywords. The **level** keyword defines the port priority level that the scheduler or queue uses to receive bandwidth for its above-CIR offered load. The weight is used when multiple queues or schedulers exist at the same port priority level for above-CIR bandwidth. The weight value defines the relative ratio that is used to distribute bandwidth at the priority level when more above-CIR offered load exists than the port priority level has bandwidth.

The **no** form of this command removes the orphan override port parent association for the orphan queues and schedulers on port schedulers created with the port scheduler policy. Any orphan queues and schedulers on a port associated with the port scheduler policy will revert to default orphan behavior.

Parameters

level *priority-level*

Defines the port priority the orphan queues and schedulers will use to receive bandwidth for their above-CIR offered-load.

Values 1 to 8 (8 is the highest priority)

Default 1

weight *weight*

Defines the weight the orphan queues and schedulers will use in the above-CIR port priority level (defined by the level parameter).

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Values 1 to 100

Default 1

cir-level ***cir-level***

Defines the port priority the orphan queues and schedulers will use to receive bandwidth for their within-CIR offered-load. If the cir-weight parameter is set to a value of 0 (the default value), the orphan queues and schedulers do not receive bandwidth during the port scheduler's within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 1 to 8 (8 is the highest level)

cir-weight ***cir-weight***

Defines the weight the orphan queues and schedulers will use in the within-CIR port priority level (defined by the cir-level parameter). When the cir-weight parameter is set to a value of 0 (the default value), the orphan queues and schedulers do not receive bandwidth during the port scheduler's within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 1 to 100 (100 is the highest weight)

Platforms

All

32.50 ospf

ospf

Syntax

ospf [*router-id*]

no ospf

Context

[Tree] (config>service>vprn ospf)

Full Context

configure service vprn ospf

Description

This command enables access to the context to enable an OSPF protocol instance.

OSPF instances are **shutdown** when created, so that all parameters can be configured prior to the instance being enabled.

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The **no** form of this command deletes the OSPF protocol instance removing all associated configuration parameters.

Default

no ospf

Parameters

router-id

Specifies the OSPF router ID to be used with the associated OSPF instance. The *router-id* must be given a dot decimal notation format.

Values a.b.c.d

Platforms

All

ospf

Syntax

ospf *ospf-instance* [*router-id*]

[**no**] **ospf** *ospf-instance*

Context

[Tree] (config>router ospf)

Full Context

configure router ospf

Description

This command creates an OSPF routing instance and then enters the associated context to configure the associated protocol parameters.

Additionally, the router ID can be specified as another parameter of the OSPF command. This parameter is required for all non-base OSPF instances.

The default value for the base instance is inherited from the configuration in the **config**>**router** context. When that is not configured, the following apply:

1. the system uses the system interface address (which is also the loopback address)
2. if a system interface address is not configured, it uses the last 32 bits of the chassis MAC address

This is a required command when configuring multiple instances and the instance being configured is not the base instance. When configuring multiple instances of OSPF, there is a risk of loops because networks are advertised by multiple domains configured with multiple interconnections to one another. To prevent this from happening, all routers in a domain should be configured with the same domain ID. Each domain (OSPF-instance) should be assigned a specific bit value in the 32-bit tag mask.

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The default value for non-base instances is 0.0.0.0 and is invalid; in this case, the instance of OSPF will not start. When configuring a new router ID, the instance is not automatically restarted with the new router ID. The next time the instance is initialized, the new router ID is used.

Issue the shutdown and no shutdown commands for the instance for the new router ID to be used, or reboot the entire router.

OSPF instances are **shutdown** when created, so that all parameters can be configured prior to the instance being enabled.

The **no** form of this command to reverts to the default value.

Default

no ospf

Parameters

ospf-instance

Specifies a unique integer that identifies a specific instance of a version of the OSPF protocol running in the router instance specified by the router ID.

Values 1 to 31

router-id

Specifies the OSPF router ID to be used with the associated OSPF instance. This IP address must be given a dot decimal notation format.

Platforms

All

ospf

Syntax

ospf [*ospf-instance*]

no ospf [*ospf-instance*]

Context

[Tree] (debug>router ospf)

Full Context

debug router ospf

Description

Indicates the OSPF instance for debugging purposes.

Parameters

ospf-instance

Debugs the specified OSPF instance.

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Values 0 to 31

Platforms

All

32.51 ospf-dynamic-hostnames

ospf-dynamic-hostnames

Syntax

[**no**] **ospf-dynamic-hostnames**

Context

[Tree] (config>system ospf-dynamic-hostnames)

Full Context

configure system ospf-dynamic-hostnames

Description

This command enables OSPF dynamic hostnames.

The router receiving the new Dynamic Hostname within the OSPF Router Information (RI) LSA is instructed to process the received dynamic hostname information.

The **no** form of this command disables OSPF dynamic hostnames.

Default

no ospf-dynamic-hostnames

Platforms

All

32.52 ospf3

ospf3

Syntax

ospf3 [*instance-id*] [*router-id*]

[**no**] **ospf3** *instance-id*

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Context

[Tree] (config>service>vprn ospf3)

Full Context

configure service vprn ospf3

Description

This command creates an OSPFv3 routing instance and then enters the associated context to configure associated protocol parameters.

OSPF instances are **shutdown** when created, so that all parameters can be configured before the instance is enabled.

The **no** form of this command deletes the OSPFv3 protocol instance, removing all associated configuration parameters.

Default

no ospf3

Parameters

instance-id

Specifies the instance ID for the OSPFv3 instance being created or modified. The instance ID must match the specified range based on the address family.

Values 0 to 31: IPv6 unicast

64 to 95: IPv4 unicast

router-id

Specifies the IP address.

Platforms

All

ospf3

Syntax

ospf3 [*ospf-instance*] [*router-id*]

[**no**] **ospf3** *instance-id*

Context

[Tree] (config>router ospf3)

Full Context

configure router ospf3

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Description

This command creates an OSPFv3 routing instance and then enters the associated context to configure associated protocol parameters.

OSPFv3 instances are **shutdown** when created, so that all parameters can be configured prior to the instance being enabled.

The **no** form of this command deletes the OSPFv3 protocol instance, removing all associated configuration parameters.

Parameters

ospf-instance

Specifies the instance ID for the OSPFv3 instance being created or modified. The instance ID must match the specified range based on the address family.

Values 0 to 31: IPV6 unicast

64 to 95: IPV4 unicast

router-id

Specifies the OSPF router ID to be used with the associated OSPF instance. This IP address must be given a dot decimal notation format.

Platforms

All

ospf3

Syntax

ospf3 [*ospf-instance*]

no ospf3 [*ospf-instance*]

Context

[Tree] (debug>router ospf3)

Full Context

debug router ospf3

Description

Indicates the OSPF3 instance for debugging purposes.

Parameters

ospf-instance

Debugs the specified OSPF3 instance.

Values 0 to 31 | 64 to 95

0 to 31 — IPv6-unicast address-family

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64 to 95 — IPv4-unicast address-family

Platforms

All

32.53 other-stateful-configuration

other-stateful-configuration

Syntax

[**no**] **other-stateful-configuration**

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 other-stateful-configuration)

[Tree] (config>service>vprn>router-advert>if other-stateful-configuration)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv other-stateful-configuration)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 other-stateful-configuration)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv other-stateful-configuration)

[Tree] (config>subscr-mgmt>rtr-adv-plcy other-stateful-configuration)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv other-stateful-configuration)

Full Context

configure service vprn subscriber-interface group-interface ipv6 other-stateful-configuration

configure service vprn router-advertisement interface other-stateful-configuration

configure service vprn subscriber-interface ipv6 router-advertisements other-stateful-configuration

configure service ies subscriber-interface group-interface ipv6 other-stateful-configuration

configure service ies subscriber-interface group-interface ipv6 router-advertisements other-stateful-configuration

configure subscriber-mgmt router-advertisement-policy other-stateful-configuration

configure service ies subscriber-interface ipv6 router-advertisements other-stateful-configuration

Description

This command sets the "other configuration" flag. This flag indicates that DHCPv6 is available for auto-configuration of other (non-address) information such as DNS-related information or information on other servers in the network. See RFC 3736, *Stateless Dynamic Host Configuration Protocol (DHCP) for IPv6*.

The **no** form of this command removes the flag.

Default

no other-stateful-configuration

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 other-stateful-configuration
- configure subscriber-mgmt router-advertisement-policy other-stateful-configuration
- configure service ies subscriber-interface group-interface ipv6 router-advertisements other-stateful-configuration
- configure service ies subscriber-interface group-interface ipv6 other-stateful-configuration
- configure service ies subscriber-interface ipv6 router-advertisements other-stateful-configuration
- configure service vprn subscriber-interface ipv6 router-advertisements other-stateful-configuration

All

- configure service vprn router-advertisement interface other-stateful-configuration

other-stateful-configuration

Syntax

[**no**] **other-stateful-configuration**

Context

[Tree] (config>router>router-advert>if other-stateful-configuration)

Full Context

configure router router-advertisement interface other-stateful-configuration

Description

This command sets the "Other configuration" flag. This flag indicates that DHCPv6lite is available for autoconfiguration of other (non-address) information such as DNS-related information or information about other servers in the network. See RFC 3736, *Stateless Dynamic Host Configuration Protocol (DHCP) for IPv6*.

Default

no other-stateful-configuration

Platforms

All

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32.54 other-sub-tags

other-sub-tags

Syntax

other-sub-tags *action*

no other-sub-tags

Context

[Tree] (config>service>vpls>sap>pppoe>intermediate-agent>bbf-vendor-specific-tag other-sub-tags)

Full Context

configure service vpls sap pppoe intermediate-agent bbf-vendor-specific-tag other-sub-tags

Description

This command specifies the action that the PPPoE Intermediate Agent performs on sub-tags in the BBF vendor specific PPPoE tag that are different from Circuit ID and Remote ID.

The **no** form of this command resets the configuration to its default.

Default

other-sub-tags remove

Parameters

action

Specifies the action.

Values		
	keep	Keep the Circuit ID sub-tag when present in the received packet. Do not insert a Circuit ID sub-tag when not present in the received packet.
	remove	Remove the Circuit ID sub-tag when present in the received packet. Do not insert a Circuit ID sub-tag when not present in the received packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.55 otu

otu

Syntax

[**no**] **otu**

Context

[Tree] (config>port otu)

Full Context

configure port otu

Description

This command specifies whether or not to enable OTU encapsulation. The port must be shut down before OTU is enabled. This command is valid only for ports on assemblies that support this encapsulation mode. Refer to the appropriate Installation Guide for ports assembly to determine if OTU encapsulation is supported.

Note that OTU cannot be disabled on OTU3 encapsulated OC768 or 40-Gigabit Ethernet.by the **no otu** command. Therefore, the default depends on the port type. The default for OTU3 encapsulated OC768 or 40-Gigabit Ethernet is **otu**.

The **no** form of this command disables OTU (clear channel 10GE-LAN/WAN or OC192).

Default

no otu

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.56 otu2-lan-data-rate

otu2-lan-data-rate

Syntax

otu2-lan-data-rate {**11.049** | **11.096**}

Context

[Tree] (config>port>otu otu2-lan-data-rate)

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Full Context

configure port otu otu2-lan-data-rate

Description

This command specifies the data rate to use when configured for an OTU encapsulated 10GE-LAN signal. The port must be shut down before changing the 10GE LAN OTU2 data rate.

Default

otu2-lan-data-rate 11.049

Parameters

11.049

Configures the port to transmit and receive an 11.049 Gb/s synchronous OTU encapsulated 10GE-LAN signal (No fixed stuffing bytes in the OTU2 frame).

11.096

Configures the port to transmit and receive an 11.096 Gb/s synchronous OTU encapsulated 10GE-LAN signal (with fixed stuffing bytes in the OTU2 frame).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.57 out-label

out-label

Syntax

out-label *out-label* **out-link** *if-name* [**next-hop** *ip-address*]

no out-label

Context

[Tree] (config>router>mpls>lsp>protect-tp-path out-label)

[Tree] (config>router>mpls>lsp>working-tp-path out-label)

Full Context

configure router mpls lsp protect-tp-path out-label

configure router mpls lsp working-tp-path out-label

Description

This command configures the outgoing label value to use for an MPLS-TP working or protect path. The out-link is the outgoing interface on the node that this path will use, and must be specified. If the out-link refers to a numbered IP interface, the user may optionally configure the **next-hop** parameter and the

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system will determine the interface to use to reach the configured next-hop, but will check that the user-entered value for the *out-link* corresponds to the link returned by the system. If they do not correspond, then the path will not come up.

Default

no out-label

Parameters

out-label

Specifies the out label.

Values 32 to 16415

if-name

Specifies the interface name.

ip-address

Specifies the IPv4 address in a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.58 out-of-credit-action

out-of-credit-action

Syntax

out-of-credit-action {**continue** | **disconnect-host** | **block-category** | **change-service-level**}

no out-of-credit-action

Context

[Tree] (config>subscr-mgmt>credit-control-policy out-of-credit-action)

Full Context

configure subscriber-mgmt credit-control-policy out-of-credit-action

Description

This command configures the action to be performed when out of credit is reached.

The **no** form of this command reverts to the default.

Default

out-of-credit-action continue

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Parameters

action

Specifies the action to be taken when out of credit is out reached.

Values continue, disconnect-host, block-category, change-service-level

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

32.59 out-of-credit-action-override

out-of-credit-action-override

Syntax

out-of-credit-action-override {**continue** | **block-category** | **change-service-level**}

no out-of-credit-action-override

Context

[Tree] (config>subscr-mgmt>cat-map>category out-of-credit-action-override)

Full Context

configure subscriber-mgmt category-map category out-of-credit-action-override

Description

This command specifies the action to be taken if the credit is exhausted.

Parameters

continue

Specifies to continue when running out of credit.

block-category

Specifies to block the category when running out of credit.

change-service-level

Specifies to change the service level when running out of credit.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.60 out-of-credit-reporting

out-of-credit-reporting

Syntax

out-of-credit-reporting {**final** | **quota-exhausted**}

no out-of-credit-reporting

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy out-of-credit-reporting)

Full Context

configure subscriber-mgmt diameter-application-policy gy out-of-credit-reporting

Description

This command changes the reporting reason in an intermediate interrogation when the final granted units have been consumed and a corresponding **out-of-credit-action** different from **disconnect-host** is started.

The **no** form of this command reverts to the default value.

Default

out-of-credit-reporting final

Parameters

final

Specifies the reporting reason in an intermediate interrogation when the final granted units have been consumed and a corresponding **out-of-credit-action** different from **disconnect-host** is started.

quota-exhausted

Specifies the reporting reason in an intermediate interrogation when the final granted units have been consumed and a corresponding **out-of-credit-action** different from **disconnect-host** is started.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.61 out-profile-octets-discarded-count

out-profile-octets-discarded-count

Syntax

[**no**] **out-profile-octets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-counters out-profile-octets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-counters out-profile-octets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters out-profile-octets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters out-profile-octets-discarded-count

Description

This command includes the out of profile packets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv6 octets discarded count instead.

The **no** form of this command excludes the out of profile packets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

out-profile-octets-discarded-count

Syntax

[**no**] **out-profile-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>e-counters out-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters out-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters out-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters out-profile-octets-discarded-count)

Full Context

configure log accounting-policy custom-record queue e-counters out-profile-octets-discarded-count

configure log accounting-policy custom-record policer e-counters out-profile-octets-discarded-count

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configure log accounting-policy custom-record ref-policer e-counters out-profile-octets-discarded-count

configure log accounting-policy custom-record ref-queue e-counters out-profile-octets-discarded-count

Description

This command includes the out of profile packets discarded count.

The **no** form of this command excludes the out of profile packets discarded count.

Default

no out-profile-octets-discarded-count

Platforms

All

out-profile-octets-discarded-count

Syntax

[**no**] **out-profile-octets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>policer>i-counters out-profile-octets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters out-profile-octets-discarded-count)

Full Context

configure log accounting-policy custom-record policer i-counters out-profile-octets-discarded-count

configure log accounting-policy custom-record ref-policer i-counters out-profile-octets-discarded-count

Description

This command includes the out of profile octets discarded count.

The **no** form of this command excludes the out of profile octets discarded count.

Default

no out-profile-octets-discarded-count

Platforms

All

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32.62 out-profile-octets-forwarded-count

out-profile-octets-forwarded-count

Syntax

[**no**] **out-profile-octets-forwarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters out-profile-octets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-counters out-profile-octets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-counters out-profile-octets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters out-profile-octets-forwarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters out-profile-octets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters out-profile-octets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters out-profile-octets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters out-profile-octets-forwarded-count

Description

This command includes the out of profile octets forwarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv6 octets forwarded count instead.

The **no** form of this command excludes the out of profile octets forwarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

out-profile-octets-forwarded-count

Syntax

[**no**] **out-profile-octets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters out-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters out-profile-octets-forwarded-count)

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[Tree] (config>log>acct-policy>cr>queue>e-counters out-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters out-profile-octets-forwarded-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters out-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-queue e-counters out-profile-octets-forwarded-count

configure log accounting-policy custom-record queue e-counters out-profile-octets-forwarded-count

configure log accounting-policy custom-record policer e-counters out-profile-octets-forwarded-count

Description

This command includes the out of profile octets forwarded count.

The **no** form of this command excludes the out of profile octets forwarded count.

Default

no out-profile-octets-forwarded-count

Platforms

All

out-profile-octets-forwarded-count

Syntax

[**no**] **out-profile-octets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>policer>i-counters out-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters out-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters out-profile-octets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters out-profile-octets-forwarded-count)

Full Context

configure log accounting-policy custom-record policer i-counters out-profile-octets-forwarded-count

configure log accounting-policy custom-record queue i-counters out-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-policer i-counters out-profile-octets-forwarded-count

configure log accounting-policy custom-record ref-queue i-counters out-profile-octets-forwarded-count

Description

This command includes the out of profile octets forwarded count.

The **no** form of this command excludes the out of profile octets forwarded count.

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Default

no out-profile-octets-forwarded-count

Platforms

All

32.63 out-profile-octets-offered-count

out-profile-octets-offered-count

Syntax

[**no**] **out-profile-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters out-profile-octets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters out-profile-octets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters out-profile-octets-offered-count

configure log accounting-policy custom-record policer e-counters out-profile-octets-offered-count

Description

This command includes the out of profile octets offered count.

The **no** form of this command excludes the out of profile octets offered count.

Default

no out-profile-octets-offered-count

Platforms

All

out-profile-octets-offered-count

Syntax

[**no**] **out-profile-octets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>policer>i-counters out-profile-octets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters out-profile-octets-offered-count)

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Full Context

configure log accounting-policy custom-record policer i-counters out-profile-octets-offered-count

configure log accounting-policy custom-record ref-policer i-counters out-profile-octets-offered-count

Description

This command includes the out of profile octets offered count.

The **no** form of this command excludes the out of profile octets offered count.

Default

no out-profile-octets-offered-count

Platforms

All

32.64 out-profile-packets-discarded-count

out-profile-packets-discarded-count

Syntax

[**no**] **out-profile-packets-discarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-counters out-profile-packets-discarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-counters out-profile-packets-discarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters out-profile-packets-discarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters out-profile-packets-discarded-count

Description

This command includes the out of profile packets discarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv6 packets discarded count instead.

The **no** form of this command excludes the out of profile packets discarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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out-profile-packets-discarded-count

Syntax

[**no**] **out-profile-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters out-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters out-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>queue>e-counters out-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters out-profile-packets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-queue e-counters out-profile-packets-discarded-count

configure log accounting-policy custom-record policer e-counters out-profile-packets-discarded-count

configure log accounting-policy custom-record queue e-counters out-profile-packets-discarded-count

configure log accounting-policy custom-record ref-policer e-counters out-profile-packets-discarded-count

Description

This command includes the out of profile packets discarded count.

The **no** form of this command excludes the out of profile packets discarded count.

Default

no out-profile-packets-discarded-count

Platforms

All

out-profile-packets-discarded-count

Syntax

[**no**] **out-profile-packets-discarded-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters out-profile-packets-discarded-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters out-profile-packets-discarded-count)

Full Context

configure log accounting-policy custom-record ref-policer i-counters out-profile-packets-discarded-count

configure log accounting-policy custom-record policer i-counters out-profile-packets-discarded-count

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Description

This command includes the out of profile packets discarded count.

The **no** form of this command excludes the out of profile packets discarded count.

Default

no out-profile-packets-discarded-count

Platforms

All

32.65 out-profile-packets-forwarded-count

out-profile-packets-forwarded-count

Syntax

[**no**] **out-profile-packets-forwarded-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters out-profile-packets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters out-profile-packets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>e-counters out-profile-packets-forwarded-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>e-counters out-profile-packets-forwarded-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters out-profile-packets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters out-profile-packets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record queue e-counters out-profile-packets-forwarded-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue e-counters out-profile-packets-forwarded-count

Description

This command includes the out of profile packets forwarded count.

For queues with **stat-mode v4-v6**, this command includes the IPv6 packets forwarded count instead.

The **no** form of this command excludes the out of profile packets forwarded count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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out-profile-packets-forwarded-count

Syntax

[**no**] **out-profile-packets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>policer>e-counters out-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>queue>e-counters out-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters out-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>e-counters out-profile-packets-forwarded-count)

Full Context

configure log accounting-policy custom-record policer e-counters out-profile-packets-forwarded-count

configure log accounting-policy custom-record queue e-counters out-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-policer e-counters out-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-queue e-counters out-profile-packets-forwarded-count

Description

This command includes the out of profile packets forwarded count.

The **no** form of this command excludes the out of profile packets forwarded count.

Platforms

All

out-profile-packets-forwarded-count

Syntax

[**no**] **out-profile-packets-forwarded-count**

Context

[Tree] (config>log>acct-policy>cr>queue>i-counters out-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters out-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters out-profile-packets-forwarded-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters out-profile-packets-forwarded-count)

Full Context

configure log accounting-policy custom-record queue i-counters out-profile-packets-forwarded-count

configure log accounting-policy custom-record policer i-counters out-profile-packets-forwarded-count

configure log accounting-policy custom-record ref-policer i-counters out-profile-packets-forwarded-count

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configure log accounting-policy custom-record ref-queue i-counters out-profile-packets-forwarded-count

Description

This command includes the out of profile packets forwarded count.

The **no** form of this command excludes the out of profile packets forwarded count.

Default

no out-profile-packets-forwarded-count

Platforms

All

32.66 out-profile-packets-offered-count

out-profile-packets-offered-count

Syntax

[**no**] **out-profile-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters out-profile-packets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters out-profile-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters out-profile-packets-offered-count

configure log accounting-policy custom-record policer e-counters out-profile-packets-offered-count

Description

This command includes the out of profile packets offered count.

The **no** form of this command excludes the out of profile packets offered count.

Default

no out-profile-packets-offered-count

Platforms

All

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out-profile-packets-offered-count

Syntax

[**no**] **out-profile-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>policer>i-counters out-profile-packets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters out-profile-packets-offered-count)

Full Context

configure log accounting-policy custom-record policer i-counters out-profile-packets-offered-count

configure log accounting-policy custom-record ref-policer i-counters out-profile-packets-offered-count

Description

This command includes the out of profile packets offered count.

The **no** form of this command excludes the out of profile packets offered count.

Default

no out-profile-packets-offered-count

Platforms

All

32.67 out-profile-rate

out-profile-rate

Syntax

out-profile-rate *packet-rate-limit* [**log-event**]

no out-profile-rate

Context

[Tree] (config>sys>security>cpu-protection>policy out-profile-rate)

Full Context

configure system security cpu-protection policy out-profile-rate

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Description

This command applies a packet arrival rate limit for the entire SAP/interface, above which packets will be market as discard eligible, in other words, out-profile/low-priority/yellow. The rate defined is a global rate limit for the interface regardless of the number of traffic flows. It is a per-SAP/interface rate.

The **no** form of this command sets out-profile-rate parameter back to the default value.

Default

out-profile-rate 3000 for cpu-protection-policy-id 1-253

out-profile-rate 6000 for cpu-protection-policy-id 254 (default access interface policy)

out-profile-rate 3000 for cpu-protection-policy-id 255 (default network interface policy)

Parameters

packet-rate-limit

Specifies a packet arrival rate limit in packets per second.

Values 1 to 65535, **max** (max indicates no limit)

log-events

Issues a tmnxCpmProtViolSapOutProf, tmnxCpmProtViolIfOutProf, or tmnxCpmProtViolSdpBindOutProf log event and tracks violating interfaces when the out-profile-rate is exceeded. Supported on CPM3 and above only.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

32.68 out-remark

out-remark

Syntax

out-remark {**dscp** *dscp-name* | **prec** *ip-prec-value*}

no out-remark

Context

[Tree] (config>qos>sap-ingress>fc out-remark)

Full Context

configure qos sap-ingress fc out-remark

Description

This command is used in a SAP ingress QoS policy to define an explicit out-of-profile remark action for a forwarding class or subclass. While the SAP ingress QoS policy may be applied to any SAP, the remarking

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functions are only enforced when the SAP is associated with an IP or subscriber interface (in an IES or VPRN). When the policy is applied to a Layer 2 SAP (for example, Epipe or VPLS), the remarking definitions are silently ignored.

In the case where the policy is applied to a Layer 3 SAP, the out-of-profile remarking definition will be applied to packets that have been classified to the forwarding class or subclass. It is possible for a packet to match a classification command that maps the packet to a particular forwarding class or subclass, only to have a more explicit (higher priority match) override the association. Only the highest priority match forwarding class or subclass association will drive the out-of-profile marking.

The out-remark command is only applicable to ingress IP routed packets that are considered out-of-profile. The profile of a SAP ingress packet is affected by either the explicit in-profile/out-of-profile definitions or the ingress policing function applied to the packet. Table 93: Out-remark Command Effect describes the effect of the out-remark command on received SAP ingress packets. Within the out-of-profile IP packet's ToS field, either the six DSCP bits or the three precedence bits are remarked.

Table 93: Out-remark Command Effect

SAP Ingress Packet State	out-remark Command Effect
Non-Routed, Policed In-Profile	No Effect (non-routed packet)
Non-Routed, Policed Out-of-Profile	No Effect (non-routed packet)
Non-Routed, Explicit In-Profile	No Effect (non-routed packet)
Non-Routed, Explicit Out-of-Profile	No Effect (non-routed packet)
IP Routed, Policed In-Profile	No Effect (in-profile packet)
IP Routed, Policed Out-of-Profile	out-remark value applied to IP header ToS field
IP Routed, Explicit In-Profile	No Effect (in-of-profile packet)
IP Routed, Explicit Out-of-Profile	out-remark value applied to IP header ToS field

A packet that is explicitly remarked at ingress will not be affected by any egress remarking decision. Explicit ingress remarking has highest priority.

An explicit dscp name or precedence value must be specified for out-of-profile remarking to be applied.

The **no** form of this command disables ingress remarking of out-of-profile packets classified to the forwarding class or subclass.

Default

no out-remark

Parameters

dscp *dscp-name*

Specifies that the matching packet's DSCP bits should be overridden with the value represented by *dscp-name*.

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The *dscp-name* parameter is a 6-bit value. It must be one of the predefined DSCP names defined on the system.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, c p35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, e f, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

prec ***ip-prec-value***

Specifies that the matching packet's precedence bits should be overridden with the value represented by *ip-prec-value*.

The value specified by *ip-prec-value* is used to overwrite the precedence bits within a matching routed packets IP header ToS field.

Values 0 to 7

Platforms

All

32.69 outband

outband

Syntax

outband *service-id*

no outband

Context

[Tree] (config>system>security>vprn-aaa-server outband)

Full Context

configure system security vprn-aaa-server outband

Description

This command configures TACACS+ and RADIUS servers in a VPRN to be used for AAA by that VPRN and by sessions on the console or out-of-band (OOB) Ethernet ports.

The **no** form of this command disables the use of servers in out-of-band management.

Default

no outband

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Parameters

service-id

Specifies the VPRN server for AAA to use for OOB sessions.

Values *service-id*: 1 to 2147483648

svc-name: 64 characters maximum

Platforms

All

32.70 outbound-max-sessions

outbound-max-sessions

Syntax

outbound-max-sessions *number-of-sessions*

no outbound-max-sessions

Context

[Tree] (config>system>login-control>telnet outbound-max-sessions)

[Tree] (config>system>login-control>ssh outbound-max-sessions)

Full Context

configure system login-control telnet outbound-max-sessions

configure system login-control ssh outbound-max-sessions

Description

This parameter limits the number of outbound Telnet and SSH sessions. A maximum of 15 Telnet and SSH connections can be established from the router. The local serial port cannot be disabled.

The **no** form of this command reverts to the default value.

Default

outbound-max-sessions 5

Parameters

value

Specifies the maximum number of concurrent outbound Telnet sessions, expressed as an integer.

Values 0 to 15

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Platforms

All

32.71 outbound-route-filtering

outbound-route-filtering

Syntax

[**no**] **outbound-route-filtering**

Context

[Tree] (config>router>bgp>group>neighbor outbound-route-filtering)

[Tree] (config>router>bgp>group outbound-route-filtering)

[Tree] (config>router>bgp outbound-route-filtering)

Full Context

configure router bgp group neighbor outbound-route-filtering

configure router bgp group outbound-route-filtering

configure router bgp outbound-route-filtering

Description

This command opens the configuration tree for sending or accepting BGP filter lists from peers (outbound route filtering).

Default

no outbound-route-filtering

Platforms

All

outbound-route-filtering

Syntax

[**no**] **outbound-route-filtering**

Context

[Tree] (debug>router>bgp outbound-route-filtering)

Full Context

debug router bgp outbound-route-filtering

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Description

This command enables debugging for all BGP outbound route filtering (ORF) packets. ORF is used to inform a neighbor of targets (using target-list) that it is willing to receive.

Platforms

All

32.72 outer-tag

outer-tag

Syntax

outer-tag *value* [*vid-mask*]

no outer-tag

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match outer-tag)

Full Context

configure qos sap-ingress mac-criteria entry match outer-tag

Description

This command configures the matching of the first tag that is carried transparently through the service. Service delimiting tags are stripped from the frame and the outer tag on ingress is the first tag after any service delimiting tags. The outer tag is the first tag before any service delimiting tags on egress. This allows matching VLAN tags for explicit filtering or QoS setting when using default or null encapsulations.

On dot1Q SAPs, the outer tag is the only tag that can be matched. On dot1Q SAPs with exact match (sap 2/1/1:50), the outer tag will be populated with the next tag that is carried transparently through the service or 0 if there is no additional VLAN tags on the frame.

On QinQ SAPs that strip a single service delimiting tag, the outer tag will contain the next tag (which is still the first tag carried transparently through the service.) On SAPs with two service delimiting tags (two tags stripped), the **outer-tag** will contain 0 even if there are more than two tags on the frame.

The optional *vid_mask* is defaulted to 4095 (exact match) but may be specified to allow pattern matching. The masking operation is ((value & vid-mask) = = (tag & vid-mask)). A value of 6 and a mask of 7 would match all VIDs with the lower 3 bits set to 6.

For QoS, the VID type cannot be specified on the default QoS policy.

The default vid-mask is set to 4095 for exact match.

Platforms

All

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outer-tag

Syntax

outer-tag *value* [*vid-mask*]

no outer-tag

Context

[Tree] (config>filter>mac-filter>entry>match outer-tag)

Full Context

configure filter mac-filter entry match outer-tag

Description

This command configures the matching of the first tag that is carried transparently through the service. Service delimiting tags are stripped from the frame and outer tag on ingress is the first tag after any service delimiting tags. Outer tag is the first tag before any service delimiting tags on egress. This allows matching VLAN tags for explicit filtering or QoS setting when using default or null encapsulations.

On dot1Q SAPs outer-tag is the only tag that can be matched. On dot1Q SAPs with exact match (sap 2/1/1:50) the outer-tag will be populated with the next tag that is carried transparently through the service or 0 if there is no additional VLAN tags on the frame.

On QinQ SAPs that strip a single service delimiting tag, outer-tag will contain the next tag (which is still the first tag carried transparently through the service.) On SAPs with two service delimiting tags (two tags stripped) outer-tag will contain 0 even if there are more than 2 tags on the frame.

The optional *vid-mask* is defaulted to 4095 (exact match) but may be specified to allow pattern matching. The masking operation is ((value & vid-mask) = = (tag & vid-mask)). A value of 6 and a mask of 7 would match all VIDs with the lower 3 bits set to 6.

For QoS the VID type cannot be specified on the default QoS policy.

The default vid-mask is set to 4095 for exact match.

Default

no outer-tag

Platforms

All

outer-tag

Syntax

outer-tag *number*

no outer-tag

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Context

[Tree] (config>li>li-fltr>li-mac-fltr>entry>match outer-tag)

Full Context

configure li li-filter li-mac-filter entry match outer-tag

Description

This command configures the outer-tag to match on and must be used in conjunction with the match criteria SAP for the entry match to activate.

The match criteria SAP must be an exact match with the QinQ configured on the Epipe or VPLS service. An associated outer-tag must be provisioned. For example, SAP 1/1/1:1.*, where the outer-tag is "*", and an outer-tag of 1 would perform LI on 1/1/1:1.1 on a 1/1/1:1.* SAP.

The **no** form of this command removes the outer-tag as the match criterion.

Default

no outer-tag

Parameters

number

Specifies the outer-tag value.

Values 1 to 4094 in decimal
0x1 to 0xFFFE in hexadecimal

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.73 output

output

Syntax

output

Context

[Tree] (config>system>sync-if-timing>bits output)

Full Context

configure system sync-if-timing bits output

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Description

This command provides a context to configure and enable or disable the external BITS timing reference output to the central clock of the router. On redundant systems, there are two possible BITS-out interfaces, one for each CPM or CCM.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

32.74 output-authorization

output-authorization

Syntax

output-authorization

Context

[Tree] (config>system>security>management-interface output-authorization)

Full Context

configure system security management-interface output-authorization

Description

This command configures the authorization of the configuration and state output in model-driven interfaces and telemetry. When enabled, commands that display configuration or state output authorize every element in the output. If a remote AAA server is configured, this can cause delays in displaying output while it is authorized. If a large amount of output is displayed, for example, when displaying the system configuration, the remote AAA server receives a large number of authorization requests.

Input to edit the configuration is not affected by this command, and is always authorized.

Platforms

All

32.75 outside

outside

Syntax

outside

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Context

[Tree] (config>router>nat outside)

[Tree] (config>service>vprn>nat outside)

Full Context

configure router nat outside

configure service vprn nat outside

Description

Commands in this context configure the outside NAT instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.76 outside-ip

outside-ip

Syntax

[**no**] **outside-ip**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes outside-ip)

Full Context

configure aaa isa-radius-policy acct-include-attributes outside-ip

Description

This command enables the inclusion of the outside IP attributes.

The **no** form of the command excludes outside IP attributes.

Default

no outside-ip

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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32.77 outside-range

outside-range

Syntax

outside-range *outside-ip-address*

no outside-range

Context

[Tree] (config>service>vprn>nat>inside>deterministic>address-map outside-range)

[Tree] (config>router>nat>inside>deterministic>address-map outside-range)

Full Context

configure service vprn nat inside deterministic address-map outside-range

configure router nat inside deterministic address-map outside-range

Description

This command configures the mapping of the inside address range of deterministic NAT subscribers to the first IP address in the outside IP address range in the NAT pool.

The last outside IP address is determined by the number of subscribers mapped to an outside IP address via the **configure router nat outside pool subscriber-limit** and **configure service vprn nat outside pool subscriber-limit** commands.

The **no** form of this command removes the configuration.

Default

no outside-range

Parameters

outside-ip-address

Specifies an outside IPv4 address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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32.78 outside-service-id

outside-service-id

Syntax

[**no**] **outside-service-id**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes outside-service-id)

Full Context

configure aaa isa-radius-policy acct-include-attributes outside-service-id

Description

This command enables the inclusion of the NAT outside service ID attributes.

The **no** form of the command excludes NAT outside service ID attributes.

Default

no outside-service-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.79 overall

overall

Syntax

overall *max-nr-of-hosts*

no overall

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits overall)

[Tree] (config>subscr-mgmt>sub-profile>host-limits overall)

Full Context

configure subscriber-mgmt sla-profile host-limits overall

configure subscriber-mgmt sub-profile host-limits overall

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Description

This command configures the maximum number of subscriber hosts per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of subscriber hosts limit.

Parameters

max-nr-of-hosts

Specifies the maximum number of subscriber hosts.

Values 1 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

overall

Syntax

overall *max-nr-of-sessions*

no overall

Context

[Tree] (config>subscr-mgmt>sub-profile>session-limits overall)

[Tree] (config>subscr-mgmt>sla-profile>session-limits overall)

Full Context

configure subscriber-mgmt sub-profile session-limits overall

configure subscriber-mgmt sla-profile session-limits overall

Description

This command configures the maximum number of subscriber sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of subscriber sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of subscriber sessions.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.80 overall-rate

overall-rate

Syntax

overall-rate *packet-rate-limit*

no overall-rate

Context

[Tree] (config>sys>security>cpu-protection>policy overall-rate)

Full Context

configure system security cpu-protection policy overall-rate

Description

This command applies a maximum packet arrival rate limit (applied per SAP/interface) for the entire SAP/interface, above which packets will be discarded immediately. The rate defined is a global rate limit for the interface regardless of how many traffic flows are present on the SAP/interface. It is a per-SAP/interface rate.

The **no** form of this command sets overall-rate parameter back to the default value.

Default

overall max for cpu-protection-policy-id 1 to 253

overall 6000 for cpu-protection-policy-id 254 (default access interface policy)

overall max for cpu-protection-policy-id 255 (default network interface policy)

Parameters

packet-rate-limit

Specifies a packet arrival rate limit in packets per second.

Values 1 to 65535, **max** (the max indicates no limit)

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

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32.81 overflow

overflow

Syntax

overflow *percent*

no overflow

Context

[Tree] (config>cflowd overflow)

Full Context

configure cflowd overflow

Description

This command specifies the percentage of the flow cache entries removed when the maximum number of entries is exceeded. The entries removed are the entries that have not been updated for the longest amount of time.

The **no** form of this command resets the number of entries cleared from the flow cache on overflow to the default value.

Default

overflow 1

Parameters

percent

Specifies the percentage of the flow cache entries removed when the maximum number of entries is exceeded.

Values 1 to 50 percent

Platforms

All

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32.82 overflow-limit

overflow-limit

Syntax

overflow-limit *number* **threshold** *percent* [**bw** *rate-in-mbps*]

no overflow-limit

Context

[Tree] (config>router>mpls>lsp>auto-bandwidth overflow-limit)

[Tree] (config>router>mpls>lsp-template>auto-bandwidth overflow-limit)

Full Context

configure router mpls lsp auto-bandwidth overflow-limit

configure router mpls lsp-template auto-bandwidth overflow-limit

Description

This command configures overflow-triggered auto-bandwidth adjustment. The bandwidth adjustment is initiated when the configured *number* of overflow samples is reached, regardless of how much time remains until the adjust interval ends.

A sample interval is counted as an overflow if the average data rate during the sample interval is higher than the currently reserved bandwidth by at least the thresholds configured for this command.

If overflow-triggered auto-bandwidth adjustment is successful, the overflow count, maximum average data rate, and adjust count are reset. If overflow-triggered auto-bandwidth adjustment fails, the overflow count is reset but the maximum average data rate and adjust count maintain the current values.

The **no** form of this command disables overflow-triggered auto-bandwidth adjustment.

Default

no overflow-limit

Parameters

number

Specifies the number of overflow samples to trigger an overflow auto-bandwidth adjustment attempt.

Values 1 to 10

percent

Specifies the minimum difference between the current bandwidth reservation of the LSP and the sampled data rate, expressed as a percentage of the current bandwidth reservation, for counting an overflow sample.

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Values 0 to 100

rate-in-mbps

Specifies the minimum difference between the current bandwidth reservation of the LSP and the sampled data rate, expressed as an absolute bandwidth (Mb/s), for counting an overflow sample.

Values 0 to 6400000

Platforms

All

32.83 overlapping-reverse-route

overlapping-reverse-route

Syntax

[**no**] **overlapping-reverse-route**

Context

[Tree] (config>service>vprn>ipsec overlapping-reverse-route)

Full Context

configure service vprn ipsec overlapping-reverse-route

Description

This command configures the router to accept overlapping DL2L tunnel reverse routes from different tunnels and install the routes based on the preference, metric, or ECMP configuration.

This command is mutually exclusive with the **configure service vprn ipsec allow-reverse-route-override-type** command.

The **no** form of this command disables the acceptance of overlapping reverse routes. The router handles the overlapping route according to the **allow-reverse-route-override-type** command configuration. See the *7450 ESS, 7750 SR, and VSR Multiservice ISA and ESA Guide* for more information.

Default

no overlapping-reverse-route

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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32.84 overload

overload

Syntax

overload [**timeout** *seconds*]

no overload

Context

[Tree] (config>service>vpls>spb overload)

Full Context

configure service vpls spb overload

Description

This command administratively sets the SPB to operate in the overload state for a specific time period, in seconds, or indefinitely. During normal operation, the router may be forced to enter an overload state due to a lack of resources. When in the overload state, the router is only used if the destination is reachable by SPB and is not used for other transit traffic.

If a time period is specified, the overload state persists for the configured length of time. If no time is specified, the overload state operation is maintained indefinitely.

The overload command can be useful in circumstances where SPB is overloaded or used prior to executing a shutdown command to divert traffic around the switch.

The **no** form of this command causes the router to exit the overload state.

Default

no overload

Parameters

seconds

The time, in seconds, that this router must operate in overload state.

Values 60 to 1800

Default Infinity (overload state maintained indefinitely)

Platforms

All

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overload

Syntax

overload [**timeout** *seconds*] [**max-metric**]

no overload

Context

[Tree] (config>service>vprn>isis overload)

Full Context

configure service vprn isis overload

Description

This command administratively sets the IS-IS router to operate in the overload state for a specific time period, in seconds, or indefinitely.

During normal operation, the router may be forced to enter an overload state due to a lack of resources. When in the overload state, the router is only used if the destination is reachable by the router and will not be used for other transit traffic.

If a time period is specified, the overload state persists for the configured length of time. If no time is specified, the overload state operation is maintained indefinitely.

The **overload** command can be useful in circumstances where the router is overloaded or used prior to executing a **shutdown** command to divert traffic around the router.

The **max-metric** parameter can be set to advertise transit links with the maximum metric of 0xffffffe (wide metrics) or 0x3f (regular metrics), instead of setting the overload bit when placing the router in overload.

The **no** form of this command causes the router to exit the overload state.

Default

no overload

Parameters

seconds

Specifies the time, in seconds, that this router must operate in overload state.

Values 60 to 1800

Default infinity (overload state maintained indefinitely)

max-metric

Set the maximum metric instead of overload.

Platforms

All

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overload

Syntax

overload [**timeout** *seconds*]

no overload

Context

[Tree] (config>service>vprn>ospf overload)

[Tree] (config>service>vprn>ospf3 overload)

Full Context

configure service vprn ospf overload

configure service vprn ospf3 overload

Description

This command changes the overload state of the local router so that it appears to be overloaded. When overload is enabled, the router can participate in OSPF routing, but is not used for transit traffic. Traffic destined for directly attached interfaces continue to reach the router.

To put the IGP in an overload state, enter a **timeout** value. The IGP enters the overload state until the **timeout** timer expires or a **no overload** command is executed.

If the **overload** command is performed during the execution of an **overload-on-boot** command, the **overload** command takes precedence. This could occur as a result of a saved configuration file in which both parameters are saved. When the file is saved by the system, the **overload-on-boot** command is saved after the **overload** command.

Use the **no** form of this command to return to the default. When the **no overload** command is executed, the overload state is terminated, regardless the reason the protocol entered overload state.

Default

no overload

Parameters

timeout seconds

Specifies the number of seconds to reset overloading.

Values 60 to1800

Default 60

Platforms

All

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overload

Syntax

overload [**timeout** *seconds*] [**max-metric**]

no overload

Context

[Tree] (config>router>isis overload)

Full Context

configure router isis overload

Description

This command administratively sets the IS-IS router to operate in the overload state for a specific time period, in seconds, or indefinitely.

During normal operation, the router may be forced to enter an overload state because of a lack of resources. When in the overload state, the router is only used if the destination is reachable by the router and is not used for other transit traffic.

If a time period is specified, the overload state persists for the configured length of time. If no time is specified, the overload state operation is maintained indefinitely.

The overload command is cleared from the configuration after a reboot if **overload-on-boot** is configured with or without a timeout value. To keep the IS-IS router in the overload state indefinitely after rebooting, configure **overload-on-boot** with no timeout value or configure the **overload** command with **no overload-on-boot** command.

The **overload** command can be useful in circumstances where the router is overloaded or used before executing a **shutdown** command to divert traffic around the router.

The **max-metric** parameter can be set to advertise transit links with the maximum metric of 0xffffffe (wide metrics) or 0x3f (regular metrics), instead of setting the overload bit when placing the router in overload.

The **no** form of this command causes the router to exit the overload state.

Default

no overload

Parameters

seconds

Specifies the time, in seconds, that this router must operate in overload state.

Default infinity (overload state maintained indefinitely)

Values 60 to 1800

max-metric

Sets the maximum metric instead of overload.

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Platforms

All

overload

Syntax

overload [**timeout** *seconds*]

no overload

Context

[Tree] (config>router>ospf3 overload)

[Tree] (config>router>ospf overload)

Full Context

configure router ospf3 overload

configure router ospf overload

Description

This command changes the overload state of the local router so that it appears to be overloaded. When overload is enabled, the router can participate in OSPF routing, but is not used for transit traffic. Traffic destined to directly attached interfaces continues to reach the router.

To put the IGP in an overload state enter a timeout value. The IGP will enter the overload state until the timeout timer expires or a **no overload** command is executed.

If the **overload** command is encountered during the execution of an **overload-on-boot** command then this command takes precedence. This could occur as a result of a saved configuration file where both parameters are saved. When the file is saved by the system the **overload-on-boot** command is saved after the **overload** command. **However**, when **overload-on-boot** is configured under OSPF with no timeout value configured, the router will remain in overload state indefinitely after a reboot.

The **no** form of this command reverts to the default. When the **no overload** command is executed, the overload state is terminated regardless of the reason the protocol entered overload state.

Default

no overload

Parameters

timeout seconds

Specifies the number of seconds to reset overloading.

Values 1 to 1800 in the following context.

```
configure router ospf
```


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60 to 1800 in the following context.

```
configure router ospf3
```

Platforms

All

32.85 overload-drop

overload-drop

Syntax

overload-drop [**event-log** *event-log-name*]

no overload-drop

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action overload-drop)

Full Context

configure application-assurance group policy app-qos-policy entry action overload-drop

Description

This command configures a drop action for cases where flow records are not created (overload).

Parameters

event-log-name

Specifies the event log name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

overload-drop

Syntax

overload-drop direction *direction* [**create**]

no overload-drop direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca overload-drop)

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Full Context

configure application-assurance group statistics threshold-crossing-alert overload-drop

Description

This command configures a TCA for the counter capturing drops due to the overload-drop AQP command. An overload-drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating an overload-drop TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.86 overload-export-external

overload-export-external

Syntax

[**no**] **overload-export-external**

Context

[Tree] (config>service>vprn>isis overload-export-external)

Full Context

configure service vprn isis overload-export-external

Description

This command enables external routes that are exported with an IS-IS export policy to continue to be advertised when the router is in overload.

The **no** form of this command causes external routes to be withdrawn when the router is in overload.

Default

no overload-export-external

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Platforms

All

overload-export-external

Syntax

[**no**] **overload-export-external**

Context

[Tree] (config>router>isis overload-export-external)

Full Context

configure router isis overload-export-external

Description

This command enables external routes that are exported with an IS-IS export policy to continue to be advertised when the router is in overload.

The **no** form of this command causes external routes to be withdrawn when the router is in overload.

Default

no overload-export-external

Platforms

All

32.87 overload-export-interlevel

overload-export-interlevel

Syntax

[**no**] **overload-export-interlevel**

Context

[Tree] (config>service>vprn>isis overload-export-interlevel)

Full Context

configure service vprn isis overload-export-interlevel

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Description

This command enables inter-level routes that are exported with an IS-IS export policy to continue to be advertised when the router is in overload.

The **no** form of this command causes inter-level routes to be withdrawn when the router is in overload.

Default

no overload-export-interlevel

Platforms

All

overload-export-interlevel

Syntax

[**no**] **overload-export-interlevel**

Context

[Tree] (config>router>isis overload-export-interlevel)

Full Context

configure router isis overload-export-interlevel

Description

This command enables inter-level routes that are exported with an IS-IS export policy to continue to be advertised when the router is in overload.

The **no** form of this command causes inter-level routes to be withdrawn when the router is in overload.

Default

no overload-export-interlevel

Platforms

All

32.88 overload-fib-error-notify-only

overload-fib-error-notify-only

Syntax

overload-fib-error-notify-only [**retry** *seconds*]

no overload-fib-error-notify-only

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Context

[Tree] (config>service>vprn>isis overload-fib-error-notify-only)

[Tree] (config>router>isis overload-fib-error-notify-only)

Full Context

configure service vprn isis overload-fib-error-notify-only

configure router isis overload-fib-error-notify-only

Description

This command configures the IS-IS router to send a notification when an overload condition occurs when programming the FIB, instead of advertising the overload condition of the router in the IS-IS LSP.

Note: Nokia recommends being careful using this command. When you configure the router not to advertise the IS-IS overload state in the IS-IS LSP, other routers are not instructed to take the overloaded router out of the IS-IS forwarding topology and this will cause suboptimal forwarding and non-deterministic behavior on the overloaded router. To avoid changing the default IS-IS overflow behavior, leave this command disabled.

When this command is configured, the IS-IS router enters a suboptimal state where it only sends a notification trap; the router can still be used by transit traffic in this state. The IS-IS router tracks the segment routing prefix SIDs where FIB programming failed. With the **retry** parameter configured, the router retries programming the segment routing prefix SIDs in the FIB using this tracked information.

When this command is not configured, during normal operation, the system may force the router to enter an overload state because of a lack of FIB resources. In this state, the router is used to terminate traffic and is not used to transit traffic.

The removal of the **overload-fib-error-notify-only** command configuration causes the system to program the failed entries in the FIB by triggering an immediate SPF.

The **no** form of this command causes the router to enter the full overload state.

Default

no overload-fib-error-notify-only

Parameters

seconds

Specifies the time, in seconds, this router uses to retry programming the failed entries in the FIB when **overload-fib-error-notify-only** is configured. The **overload-fib-error-notify-only** command must be configured to use the retry timer.

Values 10 to 1800

Default 10

Platforms

All

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32.89 overload-include-ext-1

overload-include-ext-1

Syntax

[**no**] **overload-include-ext-1**

Context

[Tree] (config>service>vprn>ospf3 overload-include-ext-1)

[Tree] (config>service>vprn>ospf overload-include-ext-1)

Full Context

configure service vprn ospf3 overload-include-ext-1

configure service vprn ospf overload-include-ext-1

Description

This command controls whether routes should be readvertised with a maximum metric value when the system goes into overload state for any reason. When this command is enabled and the router is in overload, all external type-1 routes are advertised with the maximum metric.

The **no** form of this command reverts to the default value.

Default

no overload-include-ext-1

Platforms

All

overload-include-ext-1

Syntax

[**no**] **overload-include-ext-1**

Context

[Tree] (config>router>ospf3 overload-include-ext-1)

[Tree] (config>router>ospf overload-include-ext-1)

Full Context

configure router ospf3 overload-include-ext-1

configure router ospf overload-include-ext-1

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Description

This command controls whether external type-1 routes should be readvertised with a maximum metric value when the system goes into overload state for any reason. When this command is enabled and the router is in overload, all external type-1 routes are advertised with the maximum metric.

The **no** form of this command reverts to the default value.

Default

no overload-include-ext-1

Platforms

All

32.90 overload-include-ext-2

overload-include-ext-2

Syntax

[**no**] **overload-include-ext-2**

Context

[Tree] (config>service>vprn>ospf3 overload-include-ext-2)

[Tree] (config>service>vprn>ospf overload-include-ext-2)

Full Context

configure service vprn ospf3 overload-include-ext-2

configure service vprn ospf overload-include-ext-2

Description

This command controls whether external type-2 routes should be readvertised with a maximum metric value when the system goes into overload state for any reason. When this command is enabled and the router is in overload, all external type-2 routes is advertised with the maximum metric.

The **no** form of this command reverts to the default value.

Default

no overload-include-ext-2

Platforms

All

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overload-include-ext-2

Syntax

[**no**] **overload-include-ext-2**

Context

[Tree] (config>router>ospf3 overload-include-ext-2)

[Tree] (config>router>ospf overload-include-ext-2)

Full Context

configure router ospf3 overload-include-ext-2

configure router ospf overload-include-ext-2

Description

This command controls whether external type-2 routes should be readvertised with a maximum metric value when the system goes into overload state for any reason. When this command is enabled and the router is in overload, all external type-2 routes are advertised with the maximum metric.

The **no** form of this command reverts to the default value.

Default

no overload-include-ext-2

Platforms

All

32.91 overload-include-locators

overload-include-locators

Syntax

overload-include-locators

no overload-include-locators

Context

[Tree] (config>router>isis overload-include-locators)

Full Context

configure router isis overload-include-locators

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Description

This command configures the router to include SRv6 locators when advertising links and prefixes with **max-metric** if the IS-IS instance goes into overload because of resource depletion or manual configuration.

The **no** form of this command causes the router to stop including the SRv6 locators when advertising links and prefixes with **max-metric**.

Default

no overload-include-locators

Platforms

All

32.92 overload-include-stub

overload-include-stub

Syntax

[**no**] **overload-include-stub**

Context

[Tree] (config>service>vprn>ospf overload-include-stub)

[Tree] (config>service>vprn>ospf3 overload-include-stub)

Full Context

configure service vprn ospf overload-include-stub

configure service vprn ospf3 overload-include-stub

Description

This command controls whether the OSPF stub networks should be advertised with a maximum metric value when the system goes into overload state for any reason. When enabled, the system uses the maximum metric value. When this command is enabled and the router is in overload, all stub interfaces, including loopback and system interfaces, are advertised at the maximum metric.

The **no** form of this command reverts to the default value.

Default

no overload-include-stub

Platforms

All

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overload-include-stub

Syntax

[**no**] **overload-include-stub**

Context

[Tree] (config>router>ospf3 overload-include-stub)

[Tree] (config>router>ospf overload-include-stub)

Full Context

configure router ospf3 overload-include-stub

configure router ospf overload-include-stub

Description

This command controls whether the OSPF stub networks should be advertised with a maximum metric value when the system goes into overload state for any reason. When enabled, the system uses the maximum metric value. When this command is enabled and the router is in overload, all stub interfaces, including loopback and system interfaces, are advertised at the maximum metric.

The **no** form of this command reverts to the default value.

Default

no overload-include-stub

Platforms

All

32.93 overload-on-boot

overload-on-boot

Syntax

overload-on-boot [**timeout** *seconds*]

no overload-on-boot

Context

[Tree] (config>service>vpls>spb overload-on-boot)

Full Context

configure service vpls spb overload-on-boot

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Description

When the router is in an overload state, SPB the B-VPLS is used only if there is no other SPB B-VPLS to reach the destination. This command configures the IGP upon bootup in the overload state until one of the following events occur:

- The timeout timer expires.
- A manual override of the current overload state is entered with the **no** form of the **config**>**service**>**vpls**>**spb overload** command.

The **no** form of this command does not affect the overload-on-boot function.

If no timeout is specified, SPB IS-IS goes into overload indefinitely after a reboot. After the reboot, the SPB IS-IS status displays a permanent overload state:

```
L1 LSDB Overload: Manual on boot (Indefinitely in overload)
```

This state can be cleared with the **configure service vpls spb no overload**command.

When specifying a timeout value, SPB IS-IS goes into overload for the configured timeout after a reboot. After the reboot, SPB IS-IS status displays the remaining time the system stays in overload:

```
L1 LSDB Overload: Manual on boot (Overload Time Left: 17)
```

The overload state can be cleared before the timeout expires with the **no** form of the **configure service vpls spb overload** command.

The **no** form of this command removes the overload-on-boot functionality from the configuration.

Default

no overload-on-boot

Parameters

seconds

Specifies the time, in seconds, that this router must operate in overload state.

Values 60 to 1800

Default Infinity (overload state maintained indefinitely)

Platforms

All

overload-on-boot

Syntax

overload-on-boot [**timeout** *seconds*] [**max-metric**]

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no overload-on-boot

Context

[Tree] (config>service>vprn>isis overload-on-boot)

Full Context

configure service vprn isis overload-on-boot

Description

When the router is in an overload state, it is used only if there is no other router to reach the destination. This command configures the IGP upon bootup in the overload state until one of the following events occur:

- The timeout timer expires.
- A manual override of the current overload state is entered with the **config>router>isis>no overload** command.

  The **no overload** command does not affect the **overload-on-boot** function.

If no timeout is specified, IS-IS will go into overload indefinitely after a reboot. After the reboot, the IS-IS status will display a permanent overload state:

- L1 LSDB Overload : Manual on boot (Indefinitely in overload)
- L2 LSDB Overload : Manual on boot (Indefinitely in overload)

This state can be cleared with the **config>router>isis>no overload** command.

When specifying a timeout value, IS-IS will go into overload for the configured timeout after a reboot. After the reboot, the IS-IS status will display the remaining time the system stays in overload:

- L1 LSDB Overload : Manual on boot (Overload Time Left : 17)
- L2 LSDB Overload : Manual on boot (Overload Time Left : 17)

The overload state can be cleared before the timeout expires with the **config>router>isis>no overload** command.

The **no** form of this command removes the overload-on-boot functionality from the configuration.

Use the **show router isis status** command to display the administrative and operational state as well as all timers.

Default

no overload-on-boot

Parameters

timeout *seconds*

Configure the timeout timer for overload-on-boot in seconds.

Values 60 to 1800

max-metric

Set the maximum metric instead of overload.

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Platforms

All

overload-on-boot

Syntax

overload-on-boot [**timeout** *seconds*]

no overload

Context

[Tree] (config>service>vprn>ospf3 overload-on-boot)

[Tree] (config>service>vprn>ospf overload-on-boot)

Full Context

configure service vprn ospf3 overload-on-boot

configure service vprn ospf overload-on-boot

Description

When the router is in an overload state, it is used only if there is no other router to reach the destination. This command configures the IGP upon bootup in the overload state until one of the following events occur:

- The timeout timer expires.
- A manual override of the current overload state is entered with the **no overload** command.

The **no overload** command does not affect the **overload-on-boot** function.

The **no** form of this command removes the overload-on-boot functionality from the configuration.

Default

no overload-on-boot

Parameters

timeout seconds

Specifies the number of seconds to reset overloading.

Values 60 to1800

Default 60

Platforms

All

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overload-on-boot

Syntax

overload-on-boot [**timeout** *seconds*] [**max-metric**]

no overload-on-boot

Context

[Tree] (config>router>isis overload-on-boot)

Full Context

configure router isis overload-on-boot

Description

When the router is in an overload state, the router is used only if there is no other router to reach the destination. This command configures the IGP upon bootup in the overload state until one of the following events occur:

1. The timeout timer expires.
2. A manual override of the current overload state is entered with the **config>router>isis>no overload** command.

The **no overload** command does not affect the **overload-on-boot** function.

If no timeout is specified, IS-IS will go into overload indefinitely after a reboot. After the reboot, the IS-IS status will display a permanent overload state:

- L1 LSDB Overload : Manual on boot (Indefinitely in overload)
- L2 LSDB Overload : Manual on boot (Indefinitely in overload)

This state can be cleared with the **config>router>isis>no overload** command.

When specifying a timeout value, IS-IS will go into overload for the configured timeout after a reboot. After the reboot, the IS-IS status will display the remaining time the system stays in overload:

- L1 LSDB Overload : Manual on boot (Overload Time Left : 17)
- L2 LSDB Overload : Manual on boot (Overload Time Left : 17)

The overload state can be cleared before the timeout expires with the **config>router>isis>no overload** command.

The **no** form of this command removes the overload-on-boot functionality from the configuration.

Use the show router isis status command to display the administrative and operational state as well as all timers.

Default

no overload-on-boot

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Parameters

seconds

Specifies the timeout timer for overload-on-boot, in seconds.

Values 60 to 1800

max-metric

Sets the maximum metric instead of overload.

Platforms

All

overload-on-boot

Syntax

overload-on-boot [**timeout** *seconds*]

no overload

Context

[Tree] (config>router>ospf3 overload-on-boot)

[Tree] (config>router>ospf overload-on-boot)

Full Context

configure router ospf3 overload-on-boot

configure router ospf overload-on-boot

Description

When the router is in an overload state, the router is used only if there is no other router to reach the destination. This command configures the IGP upon bootup in the overload state until one of the following events occur:

- the timeout timer expires
- a manual override of the current overload state is entered with the **no overload** command

The **no overload** command does not affect the **overload-on-boot** function.

The **no** form of this command removes the overload-on-boot functionality from the configuration.

The default timeout value is 60 seconds, which means after 60 seconds overload status the SR will recover (change back to non-overload status). However, when **overload-on-boot** is configured under OSPF with no timeout value the router will remain in overload state indefinitely after a reboot.

Default

no overload-on-boot

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Parameters

timeout seconds

Specifies the number of seconds to reset overloading.

Values 1 to 1800 in the **config**>**router**> **ospf** context

60 to 1800 in the **config**>**router**>**ospf3** context

Platforms

All

32.94 overload-sub-quarantine

overload-sub-quarantine

Syntax

overload-sub-quarantine

Context

[Tree] (config>isa>aa-grp overload-sub-quarantine)

Full Context

configure isa application-assurance-group overload-sub-quarantine

Description

Commands in this context configure overload subscriber detection for this application assurance group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.95 override

override

Syntax

[**no**] **override**

Context

[Tree] (config>service>vprn>pim>rp>static override)

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Full Context

configure service vprn pim rp static override

Description

This command changes the precedence of static RP over dynamically learned Rendezvous Point (RP).

When enabled, the static group-to-RP mappings take precedence over the dynamically learned mappings.

Default

no override

Platforms

All

override

Syntax

[**no**] **override**

Context

[Tree] (config>router>pim>rp>ipv6>static>address override)

[Tree] (config>router>pim>rp>static>address override)

Full Context

configure router pim rp ipv6 static address override

configure router pim rp static address override

Description

This command changes the precedence of static RP over dynamically-learned Rendezvous Points (RPs).

When enabled, the static group-to-RP mappings take precedence over the dynamically learned mappings.

The **no** form of this command reverts to the default.

Default

no override

Platforms

All

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32.96 override-bmi

override-bmi

Syntax

override-bmi *value*

no override-bmi

Context

[Tree] (config>router>isis>segm-rtng>msd override-bmi)

Full Context

configure router isis segment-routing maximum-sid-depth override-bmi

Description

This command provides the ability to override the announced MSD node Base MPLS Imposition (BMI). The MSD-BMI value announced by a router can be used by recipients to understand the number of MPLS labels that can be imposed inclusive of all service, transport, or special labels.

When **override-bmi** is not configured, the router announces the node maximum supported BMI assuming the most simple services and Layer 2 encapsulation.

The **no** form of this command reverts to the default.

Default

no override-bmi

Parameters

values

Specifies the override BMI.

Values 0 to 12

Platforms

All

override-bmi

Syntax

override-bmi *value*

no override-bmi

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Context

[Tree] (config>router>ospf>segm-rtng>msd override-bmi)

Full Context

configure router ospf segment-routing maximum-sid-depth override-bmi

Description

This command provides the ability to override the announced MSD node Base MPLS Imposition (BMI). The MSD-BMI value announced by a router can be used by recipients to understand the number of MPLS labels that can be imposed inclusive of all service, transport, or special labels.

When **override-bmi** is not configured, the router announces the node maximum supported BMI assuming the most simple services and Layer 2 encapsulation.

The **no** form of this command reverts to the default.

Default

no override-bmi

Parameters

values

Specifies the override BMI. The upper limit depends on the FP chipset used.

Values 0 to 12

Platforms

All

32.97 override-erld

override-erld

Syntax

override-erld *value*

no override-erld

Context

[Tree] (config>router>isis>segm-rtng>msd override-erld)

Full Context

configure router isis segment-routing maximum-sid-depth override-erld

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Description

This command provides the ability to override the announced MSD node Entropy Readable Label Depth (ERLD). It is useful for ingress LSRs to know each intermediate LSR's capability of reading the maximum label stack depth and performing EL-based load balancing.

When **override-erld** is not configured, then the router announces the node maximum supported ERLD assuming the most simple Layer 2 encapsulation.

The **no** form of this command reverts to the default.

Default

no override-erld

Parameters

values

Specifies the override ERLD.

Values 0 to 15

Platforms

All

override-erld

Syntax

override-erld *value*

no override-erld

Context

[Tree] (config>router>ospf>segm-rtng>msd override-erld)

Full Context

configure router ospf segment-routing maximum-sid-depth override-erld

Description

This command provides the ability to override the announced MSD node Entropy Readable Label Depth (ERLD). It is useful for ingress LSRs to know each intermediate LSR's capability of reading the maximum label stack depth and performing EL-based load balancing.

When **override-erld** is not configured, then the router announces the node maximum supported ERLD assuming the most simple Layer 2 encapsulation.

Default

no override-erld

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Parameters

values

Specifies the override ERLD. The upper limit depends on the FP chipset used.

Values 0 to 15

Platforms

All

32.98 override-slaac

override-slaac

Syntax

[**no**] **override-slaac**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 override-slaac)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6 override-slaac)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6 override-slaac)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 override-slaac)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 override-slaac

configure service vprn subscriber-interface ipv6 dhcp6 override-slaac

configure service ies subscriber-interface ipv6 dhcp6 override-slaac

configure service vprn subscriber-interface group-interface ipv6 dhcp6 override-slaac

Description

This command allows a DHCP IA_NA address to override and replace a host existing SLAAC address. When this feature is enabled, a subscriber SLAAC address is removed once the DHCP IA_NA address assignment is completed. If used with conjunction with the **allow-multiple-wan-address** command, the DHCP IA_NA address will also override the SLAAC address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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32.99 override-tunnel-elc

override-tunnel-elc

Syntax

[**no**] **override-tunnel-elc**

Context

[Tree] (config>router>bgp override-tunnel-elc)

Full Context

configure router bgp override-tunnel-elc

Description

This command enables or disables entropy label capability (ELC) on BGP tunnels.

When this command is enabled, the system assumes that all far ends for BGP tunnels are entropy-label-capable, regardless of any received capability signaling. This ensures that the entropy label will be inserted on BGP tunnels in the absence of capability signaling support by the far end.

This is a system-wide configuration, since efficient entropy label operation requires that all LSRs in a network support entropy labels. This command should be used with care, particularly in inter-AS use cases, since entropy label capability may differ between domains.

Default

no override-tunnel-elc

Platforms

All

override-tunnel-elc

Syntax

[**no**] **override-tunnel-elc**

Context

[Tree] (config>router>isis>entropy-label override-tunnel-elc)

[Tree] (config>router>ospf>entropy-label override-tunnel-elc)

Full Context

configure router isis entropy-label override-tunnel-elc

configure router ospf entropy-label override-tunnel-elc

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Description

This command configures the ability to override any received entropy label capability advertisement. When enabled, the system assumes that all nodes for an IGP domain are capable of receiving and processing the entropy label on segment routed tunnels. This command can only be configured if **entropy-label** is enabled via the **config**>**router**>**isis**>**segment-routing**> **entropy-label** or **config**>**router**>**ospf**>**segment-routing**> **entropy-labe**l command.

The **no** form of this command disables the override. The system assumes entropy label capability for other nodes in the IGP instance if capability advertisements are received.

Default

no override-tunnel-elc

Platforms

All

override-tunnel-elc

Syntax

[**no**] **override-tunnel-elc**

Context

[Tree] (config>router>mpls>lsp override-tunnel-elc)

[Tree] (config>router>mpls>lsp-template override-tunnel-elc)

Full Context

configure router mpls lsp override-tunnel-elc

configure router mpls lsp-template override-tunnel-elc

Description

This command allows the system to override any received entropy label capability advertisement.

This command is enabled under the LSP context or in LSP templates of type **pce-init-p2p-srte** and **on-demand-p2p-srte**, the system assumes that all nodes along the path of the SR-TE LSP are capable of receiving and processing the entropy label. This includes SR-TE LSPs that have a PCE-computed path, PCE-initiated SR-TE LSPs, and on-demand SR-TE LSPs.

The **no** form of this command disables the override.

Default

no override-tunnel-elc

Platforms

All

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32.100 own-auth-method

own-auth-method

Syntax

own-auth-method {**psk** | **cert** | **eap-only**}

no own-auth-method

Context

[Tree] (config>ipsec>ike-policy own-auth-method)

Full Context

configure ipsec ike-policy own-auth-method

Description

This command configures the authentication method used with this IKE policy on its own side.

Default

no own-auth-method

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

32.101 owner

owner

Syntax

owner {**bgp-ad** | **bgp-vpls** | **bgp-evpn-mpls**}

no owner

Context

[Tree] (config>service>vpls>provider-tunnel>inclusive owner)

Full Context

configure service vpls provider-tunnel inclusive owner

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Description

This command selects the owner protocol of the inclusive PMSI tunnel in the service. Only one of the protocols will support the provider tunnel.

The **bgp-vpls** and **bgp-evpn-mpls** parameters cannot be configured together in the same service. Although **bgp-ad** and **bgp-evpn** can coexist in the same service, **bgp-ad** cannot be configured as the owner of the provider-tunnel. In addition, the following applies to this configuration:

- The owner must be explicitly set before the provider-tunnel can be **no shutdown**.
- If the owner is **bgp-ad**, then BGP-EVPN MPLS and BGP-EVPN VXLAN will fail to **no shutdown**.
- The provider-tunnel must be shutdown to change the owner; on the fly change is not allowed.

Default

no owner

Parameters

bgp-ad

Specifies that bgp-ad is the owner of the provider-tunnel.

bgp-vpls

Specifies that bgp-vpls is the owner of the provider-tunnel.

bgp-evpn-mpls

Specifies that BGP-EVPN MPLS is the owner of the provider-tunnel.

Platforms

All

owner

Syntax

owner {**bgp-evpn-mpls**}

no owner

Context

[Tree] (config>service>vpls>provider-tunnel>selective owner)

Full Context

configure service vpls provider-tunnel selective owner

Description

This command selects the owner protocol of the selective PMSI tunnel in the service.

The owner must be explicitly set before the provider tunnel can be enabled.

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Default

no owner

Parameters

bgp-evpn-mpls

Specifies that BGP-EVPN MPLS is the owner of the provider tunnel.

Platforms

All

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33 p Commands – Part I

33.1 p2mp

p2mp

Syntax

p2mp {**enable** | **disable**}

Context

[Tree] (config>router>ldp>session-params>peer>fec-type-capability p2mp)

Full Context

configure router ldp session-parameters peer fec-type-capability p2mp

Description

This command enables or disables P2MP FEC capability for the session.

Platforms

All

33.2 p2mp-id

p2mp-id

Syntax

p2mp-id *id*

Context

[Tree] (config>router>mpls>lsp p2mp-id)

Full Context

configure router mpls lsp p2mp-id

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Description

This command configures the identifier of an RSVP P2MP LSP. An RSVP P2MP LSP is fully identified by the combination of: <P2MP ID, tunnel ID, extended tunnel ID> part of the P2MP session object, and <tunnel sender address, LSP ID> fields in the p2mp sender_template object.

The **p2mp-id** is a 32-bit identifier used in the session object that remains constant over the life of the P2MP tunnel. It is unique within the scope of the ingress LER.

The **no** form restores the default value of this parameter.

This command is not supported on the 7450 ESS.

Default

0

Parameters

id

Specifies a P2MP identifier.

Values 0 to 65535

Platforms

All

33.3 p2mp-ipv4

p2mp-ipv4

Syntax

p2mp {**enable** | **disable**}

Context

[Tree] (config>router>ldp>if-params>if>ipv4>fec-type-capability p2mp-ipv4)

[Tree] (config>router>ldp>if-params>if>ipv6>fec-type-capability p2mp-ipv4)

[Tree] (config>router>ldp>session-params>peer>fec-cap p2mp-ipv4)

Full Context

configure router ldp interface-parameters interface ipv4 fec-type-capability p2mp-ipv4

configure router ldp interface-parameters interface ipv6 fec-type-capability p2mp-ipv4

configure router ldp session-parameters peer fec-type-capability p2mp-ipv4

Description

This command enables or disables IPv4 P2MP FEC capability on the interface.

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The **config>router>ldp>if-params>if>ipv6>fec-type-capability>p2mp-ipv4** command is not supported on the 7450 ESS.

Platforms

All

33.4 p2mp-ipv6

p2mp-ipv6

Syntax

p2mp {**enable** | **disable**}

Context

[Tree] (config>router>ldp>if-params>if>ipv4>fec-type-capability p2mp-ipv6)

[Tree] (config>router>ldp>session-params>peer>fec-cap p2mp-ipv6)

[Tree] (config>router>ldp>if-params>if>ipv6>fec-type-capability p2mp-ipv6)

Full Context

configure router ldp interface-parameters interface ipv4 fec-type-capability p2mp-ipv6

configure router ldp session-parameters peer fec-type-capability p2mp-ipv6-address

configure router ldp interface-parameters interface ipv6 fec-type-capability p2mp-ipv6

Description

This command enables or disables IPv6 P2MP FEC capability on the interface.

This command is not supported on the 7450 ESS.

Platforms

All

33.5 p2mp-ldp-tree-join

p2mp-ldp-tree-join

Syntax

p2mp-ldp-tree-join

p2mp-ldp-tree-join ipv4

p2mp-ldp-tree-join ipv6

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p2mp-ldp-tree-join ipv4 ipv6

no p2mp-ldp-tree-join [**ipv4**] [**ipv6**]

Context

[Tree] (config>service>vprn>pim>if p2mp-ldp-tree-join)

Full Context

configure service vprn pim interface p2mp-ldp-tree-join

Description

This command configures the option to join P2MP LDP tree toward the multicast source for the VPRN service. If p2mp-ldp-tree-join is enabled, a PIM multicast join received on an interface is processed to join P2MP LDP LSP using the in-band signaled P2MP tree for the same multicast flow. LDP P2MP tree is setup toward the multicast source. Route to source of the multicast node is looked up from the RTM. The next-hop address for the route to source is set as the root of LDP P2MP tree.

The **no** form of command disables joining P2MP LDP tree for IPv4 or IPv6 or both (if both or none is specified).

Default

no p2mp-ldp-tree-join

Parameters

ipv4

Enables dynamic mLDP in-band signaling for IPv4 PIM joins. IPv4 multicast must be enabled; see **ipv4-multicast-disable**. For backward compatibility **p2mp-ldp-tree-join** is equivalent to **p2mp-ldp-tree-join ipv4**.

ipv6

Enables dynamic mLDP in-band signaling for IPv6 PIM joins. IPv6 multicast must be enabled; see **ipv6-multicast-disable**.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

p2mp-ldp-tree-join

Syntax

[**no**] **p2mp-ldp-tree-join** [**ipv4**] [**ipv6**]

Context

[Tree] (config>router>pim>interface p2mp-ldp-tree-join)

Full Context

configure router pim interface p2mp-ldp-tree-join

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Description

This command configures the option to join the P2MP LDP tree toward the multicast source. If **p2mp-ldp-tree-join** is enabled, a PIM multicast join received on an interface is processed to join the P2MP LDP LSP, using the in-band signaled P2MP tree for the same multicast flow. LDP P2MP tree is set up toward the multicast source. The route to the multicast node source is looked up from the RTM. The next-hop address for the route to source is set as the root of LDP P2MP tree.

The **no** form of this command disables joining the P2MP LDP tree for IPv4 or IPv6 or for both (if both or none is specified).

Default

no p2mp-ldp-tree-join

Parameters

ipv4

Enables dynamic MLDP in-band signaling for IPv4 PIM joins. IPv4 multicast must be enabled. For backward compatibility **p2mp-ldp-tree-join** is equivalent to **p2mp-ldp-tree-join ipv4**.

ipv6

Enables dynamic MLDP in-band signaling for IPv6 PIM joins. IPv6 multicast must be enabled.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.6 p2mp-lsp-ping

p2mp-lsp-ping

Syntax

p2mp-lsp-ping *lsp-name* [**p2mp-instance** *instance-name* [**s2l-dest-address** *ipv4-address* [*ipv4-address* (...up to 5 max)]] [**ttl** *label-ttl*]

p2mp-lsp-ping ldp *p2mp-identifier* [**vpn-recursive-fec**] [**sender-addr** *ipv4-address*] [**leaf-addr** *ipv4-address* (...up to 5 max)]

p2mp-lsp-ping ldp-ssm source *ip-address* **group** *ip-address* [{**router** *router-instance* | **service-name** *service-name*}] [**sender-addr** *ipv4-address*] [**leaf-addr** *ipv4-address* (...up to 5 max)]

p2mp-lsp-ping p2mp-policy root-address *ipv4-address* **root-tree-id** *tree-id* [{**instance-id** *instance-id* [**sender-addr** *ipv4-address*] [**leaf-addr** *ipv4-address* (...up to 5 max)]

NOTE: Options common to all **p2mp-lsp-ping** cases**:** [**fc** *fc-name* [**profile** {**in** | **out**}]] [**size** *octets*] [**timeout** *timeout*] [**detail**]

Context

[Tree] (oam p2mp-lsp-ping)

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Full Context

oam p2mp-lsp-ping

Description

This command performs an in-band connectivity test for an RSVP P2MP LSP. The Echo Request message is sent on the active P2MP instance and replicated in the datapath over all branches of the P2MP LSP instance. By default, all egress LER nodes that are leaves of the P2MP LSP instance reply to the Echo Request message.

Use the LDP P2MP generic identifier, along with source IP address of the head-end node, to uniquely identify the LDP P2MP LSP in a 7750 SR or 7950 XRS network. Use the LDP **p2mp-identifier** mandatory parameter to test LSP ping. A user must use the LDP P2MP identifier specified to configure a tunnel interface on the head-end node as **p2mp-identifier** to test a specific LSP.

Use the P2MP-policy option, along with the root-address tree ID and instance ID to identify a tree SID candidate path and instance to send an in-band Echo Request to all the leaves and bud nodes on that P2MP policy tree.

To reduce the scope of the Echo Reply messages, explicitly enter a list of addresses for the egress LER nodes that are required to reply. A maximum of five addresses can be specified in a single run of the **p2mp-lsp-ping** command. An LER node can parse the list of egress LER addresses and, if its address is included in the list, send back an Echo Reply message.

The output of the command without the **detail** keyword provides a high-level summary of received error codes and success codes. The output of the command with the **detail** keyword shows a line for each replying node, as in the output of the LSP ping for a P2P LSP.

The display is delayed until all responses are received or the timer configured in the **timeout** parameter expires. No other CLI commands can be entered while waiting for the display. Entering A ^C aborts the ping operation.

Note: The **p2mp-lsp-ping** command is not supported in a VPLS/B-VPLS PMSI context.

The timestamp format to be sent, and to be expected when received in a PDU, is as configured by the **configure test-oam mpls-time-stamp-format** command. If RFC 4379 (obsoleted by RFC 8029) is selected, the timestamp is in seconds and microseconds since 1900; otherwise, it is in seconds and microseconds since 1970.

Parameters

detail

Displays detailed P2MP LSP information.

fc-name

Specifies the **fc** and **profile** parameters used to indicate the forwarding class and profile of the MPLS echo request packet.

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified FC and profile parameter values. The marking of the EXP of the packet is dictated by the LSP-EXP mappings on the outgoing interface.

When the MPLS echo request packet is received on the responding node, the **fc** and **profile** parameter values are dictated by the LSP-EXP mappings of the incoming interface.

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When an MPLS echo reply packet is generated in CPM and forwarded to the outgoing interface, the packet is queued in an egress network queue. This queue is selected according to the **fc** and **profile** parameter values determined by the classification of the echo request packet that is being replied to at the incoming interface. The marking of the EXP of the packet is dictated by the LSP-EXP mappings on the outgoing interface. The ToS byte is not modified. The following table describes this behavior.

Table 94: p2mp-lsp-ping Request Packet and Behavior

Request Packet	Behavior
CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by the user in the OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • packet queued as {fc1, profile1} • ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet {tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • packet queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

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Values be, l2, af, l1, h2, ef, h1, nc

Default be

instance-id

Specifies the path instance ID on the root.

instance-name

Specifies the name, up to 32 characters, of the specific instance of the P2MP LSP to send the echo request.

label-ttl

Specifies the TTL value for the MPLS label, expressed as a decimal integer.

Values 1 to 255

Default 255

leaf-addr *ipv4-address*

Specifies up to five egress LER system addresses that are required to reply to the LSP ping Echo Request message as defined in RFC 6425 (applies to the 7750 SR and 7950 XRS only).

Values ipv4-address: a.b.c.d

lsp-name

Specifies the name, up to 64 characters, that identifies an P2MP LSP to ping.

ldp-ssm

Specifies a specific multicast stream to be tested when using dynamic multicast in mLDP. The source and group addresses correspond to the <S,G> being advertised by this mLDP FEC.

Values

source	*ipv4-address*	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x* (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0t o 255]D
group	*mcast-address*	
	mcast-v6-address	
router	*router-name*	Base | management
		Default - Base
	service-id	[1 to 2147483647]
	service-name	up to 64 characters

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sender-addr	*ipv4-address*	*a.b.c.d*
leaf-addr	*ipv4-address*	*a.b.c.d*

p2mp-identifier

Specifies the identifier for an LDP P2MP LSP to ping (applies to the 7750 SR and 7950 XRS only).

Values 1 to 4294967295

profile {in | out}

Specifies the profile of the LSP ping Echo Request message.

Default out

octets

Specifies the size of the MPLS echo request packet in octets, expressed as a decimal integer, including the IP header but not the label stack. The request payload is padded with zeros to the specified size.

Note: An OAM command is not failed if the user enters a size lower than the minimum required to build the packet for the Echo Request message. The payload is automatically padded to meet the minimum size.

Values 1 to 9786

Default 1

root-address *ipv4-address*

Specifies the IPv4 identifier of the root.

Note: IPv6 is not supported.

root-tree-id *tree-id*

Specifies the tree identifier of the P2MP LSP on the root.

s2l-dest-addr *ipv4-address*

Specifies up to five egress LER system addresses that are required to reply to the LSP ping Echo Request message.

sender-addr *ipv4-address*

Specifies the IPv4 address used in the ICMP packet configured as the source IP of the UDP ICMP packet and used for the echo reply destination IP address (applies to the 7750 SR and 7950 XRS only).

Note: By default, the source IP address of the ICMP packet is set to the root address. When the sender address is set this source address is changed to the sender address.

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timeout

Specifies the time, in seconds, that is used to override the default *timeout* value and is the amount of time that the router waits for an Echo Reply message from all leaves of the P2MP LSP after sending the message request message. After the expiration of the message time out, the requesting router no longer waits for reply messages. Any Echo Reply message received after the request times out is silently discarded.

Values 1 to 120

Default 10

vpn-recursive-fec

Specifies a VPN recursive FEC element to the launched packet (useful for pinging a VPN BGP inter-AS Option B leaf). This parameter issues an OAM **p2mp-lsp-ping** with RFC 6512 VPN recursive opaque FEC type 8.

See the "OAM" subsection of the "Label Distribution Protocol" chapter in the *7450 ESS, 7750 SR, 7950 XRS, and VSR MPLS Guide* for more information.

Platforms

All

33.7 p2mp-lsp-trace

p2mp-lsp-trace

Syntax

p2mp-lsp-trace *lsp-name* **p2mp-instance** *instance-name* **s2l-dest-address** *ip-address* [**fc** *fc-name* [**profile** {**in** | **out**}]] [**size** *octets*] [**max-fail** *no-response-count*] [**probe-count** *probes-per-hop*] [**min-ttl** *min-label-ttl*] [**max-ttl** *max-label-ttl*] [**timeout** *timeout*] [**interval** *interval*] [**detail**]

Context

[Tree] (oam p2mp-lsp-trace)

Full Context

oam p2mp-lsp-trace

Description

This command discovers and displays the hop-by-hop path for a source-to-leaf (S2L) sub-LSP of an RSVP P2MP LSP.

The LSP trace capability allows the user to trace the path of a single S2L path of a P2MP LSP. Its operation is like **p2mp-lsp-ping**, but the sender of the echo reply request message includes the downstream mapping TLV to request the downstream branch information from a branch LSR or bud LSR. The branch LSR or bud LSR also includes the downstream mapping TLV to report the information

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about the downstream branches of the P2MP LSP. An egress LER does not include this TLV in the echo response message.

The parameter probe-count operates in the same way as in LSP Trace on a P2P LSP. It represents the maximum number of probes sent per TTL value before stops waiting for Echo Reply messages. If a response is received from the traced node before reaching maximum number of probes, then no more probes are sent for the same TTL. The sender of the echo request then increments the TTL and uses the information it received in the downstream mapping TLV to start sending probes to the node downstream of the last node which replied. This continues until the egress LER for the traced S2L path replies.

Like **p2mp-lsp-ping**, an LSP trace probe reports on all egress LER nodes that eventually receive the Echo Request message, but only the traced egress LER node replies to the last probe.

Any branch LSR node or bud LSR node in the P2MP LSP tree may receive a copy of the Echo Request message with the TTL in the outer label expiring at this node. However, only a branch LSR or bud LSR that has a downstream branch over which the traced egress LER is reachable responds.

When a branch LSR or bud LSR responds, it sets the global return code in the echo response message to RC=14 - "See DDMAP TLV for Return Code and Return Sub-Code" and the return code in the DDMAP TLV corresponding to the outgoing interface of the branch used by the traced S2L path to RC=8 - "Label switched at stack-depth <RSC>". Note that **p2mp-lsp-trace** is not supported in a VPLS/B-VPLS PMSI context.

The timestamp format to be sent, and to be expected when received in a PDU, is as configured by the **config>test-oam>mpls-time-stamp-format** command. If RFC 4379 (obsoleted by RFC 8029) is selected, then the timestamp is in seconds and microseconds since 1900, otherwise it is in seconds and microseconds since 1970.

Parameters

lsp-name

Specifies the name that identifies an P2MP LSP, up to 64 characters, to ping.

instance-name

Specifies the name, up to 32 characters, of the specific instance of the P2MP LSP to send the echo request.

ip-address

Specifies the egress LER system address of the S2L sub-LSP path which is being traced.

Values a.b.c.d

fc-name

Specifies the **fc** and **profile** parameters are used to indicate the forwarding class and profile of the MPLS echo request packet.

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified FC and profile parameter values. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface.

When the MPLS echo request packet is received on the responding node, the **fc** and **profile** parameter values are dictated by the LSP-EXP mappings of the incoming interface.

When an MPLS echo reply packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in an egress network queue. The egress network queue is selected according to the **fc** and **profile** parameter values determined by the classification

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of the echo request packet that is being replied to at the incoming interface. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface. The ToS byte is not modified. Table 95: p2mp-lsp-trace Request Packet and Behavior summarizes this behavior.

Table 95: p2mp-lsp-trace Request Packet and Behavior

Request Packet	Behavior
CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • packet queued as {fc1, profile1} • ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet {tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • packet queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet{tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

Values be, l2, af, l1, h2, ef, h1, nc

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Default be

profile {in | out}

Specifies the profile of the LSP trace echo request message.

Default out

octets

Specifies the size in octets, expressed as a decimal integer, of the MPLS echo request packet, including the IP header but not the label stack. The request payload is padded with zeros to the specified size. Note that an OAM command is not failed if the user enters a size lower than the minimum required to build the packet for the echo request message. The payload is automatically padded to meet the minimum size.

Values 1 to 9786

Default 1

no-response-count

Specifies the maximum number of consecutive MPLS echo requests, expressed as a decimal integer that do not receive a reply before the trace operation fails for a given TTL.

Values 1 to 10

Default 5

probes-per-hop

Specifies the number of LSP trace echo request messages to send per TTL value.

Values 1 to 10

Default 1

min-label-ttl

Specifies the minimum TTL value in the MPLS label for the LSP trace test, expressed as a decimal integer.

Values 1 to 255

Default 1

max-label-ttl

Specifies the maximum TTL value in the MPLS label for the LSP trace test, expressed as a decimal integer.

Values 1 to 255

Default 30

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for an echo reply message from all leaves of the

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P2MP LSP after sending the message request message. Upon the expiration of the message time out, the requesting router no longer waits for reply messages. Any echo reply message received after the request times out is silently discarded.

Values 1 to 60

Default 3

interval

Specifies the time, in seconds, used to override the default echo request message send interval and defines the minimum amount of time that must expire before the next echo request message is sent.

If the **interval** is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of an echo reply message corresponding to the outstanding message request.

Values 1 to 10

Default 1

Platforms

All

Output

The following output is an example of p2mp-lsp-trace information.

Output Example

```
*A:Dut-C# oam p2mp-lsp-trace "p2mp_1" p2mp-instance "1" s2l-dest-address 10.20.1.
10.20.1.4  10.20.1.5  10.20.1.6
*A:Dut-C# oam p2mp-lsp-trace "p2mp_1" p2mp-instance "1" s2l-dest-
address 10.20.1.5 detail
P2MP LSP p2mp_1: 132 bytes MPLS payload
P2MP Instance 1, S2L Egress 10.20.1.5

  1  10.20.1.1  rtt=3.78 ms rc=8(DSRtrMatchLabel)
     DS 1: ipaddr 10.20.1.2 iftype 'ipv4Unnumbered' ifaddr 2 MRU=1500 label=131060
proto=4(RSVP-TE) B/E flags:0/0
  2  10.20.1.2  rtt=3.54 ms rc=8(DSRtrMatchLabel)
     DS 1: ipaddr 10.20.1.4 iftype 'ipv4Unnumbered' ifaddr 3 MRU=1500 label=131061
proto=4(RSVP-TE) B/E flags:0/0
  3  10.20.1.5  rtt=5.30 ms rc=5(DSMappingMismatched)

Probe returned multiple responses. Result may be inconsistent.

*A:Dut-C#
```


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33.8 p2mp-merge-point-abort-timer

p2mp-merge-point-abort-timer

Syntax

p2mp-merge-point-abort-timer *seconds*

no p2mp-merge-point-abort-timer

Context

[Tree] (config>router>rsvp p2mp-merge-point-abort-timer)

Full Context

configure router rsvp p2mp-merge-point-abort-timer

Description

This command configures a timer to abort Merge-Point (MP) node procedures for an S2L of a P2MP LSP instance. When a value higher than zero is configured for this timer, it enters into effect anytime this node activates Merge-Point procedures for one or more P2MP LSP S2L paths. As soon an ingress interface goes operationally down, the Merge-Point node starts the abort timer. Upon expiry of the timer, MPLS cleans up all P2MP LSP S2L paths which ILM is on the failed interface and which have not already received a Path refresh over the bypass LSP.

The **no** form of this command disables the timer.

Default

no p2mp-merge-point-abort-timer

Parameters

seconds

Specifies the length of the abort timer in seconds

Values 1 to 65535

Platforms

All

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33.9 p2mp-policy

p2mp-policy

Syntax

[**no**] **p2mp-policy** *policy-name*

Context

[Tree] (config>router>p2mp-sr-tree p2mp-policy)

Full Context

configure router p2mp-sr-tree p2mp-policy

Description

This command creates a P2MP policy entry for the P2MP SR tree.

The **no** form of this command deletes the specified policy entry.

Parameters

policy-name

Specifies the policy name, up to 32 characters.

Platforms

All

33.10 p2mp-policy-mpls

p2mp-policy-mpls

Syntax

[**no**] **p2mp-policy-mpls**

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>p2mp-sr p2mp-policy-mpls)

[Tree] (config>service>vprn>mvpn>pt>selective>p2mp-sr p2mp-policy-mpls)

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi p2mp-policy-mpls)

Full Context

configure service vprn mvpn provider-tunnel inclusive p2mp-sr p2mp-policy-mpls

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configure service vprn mvpn provider-tunnel selective p2mp-sr p2mp-policy-mpls

configure service vprn mvpn provider-tunnel selective multistream-spmsi p2mp-policy-mpls

Description

This command enables a P2MP policy for the MVPN provider tunnel.

The **no** form of this command disables the P2MP policy.

Platforms

All

33.11 p2mp-resignal-timer

p2mp-resignal-timer

Syntax

p2mp-resignal-timer *minutes*

no p2mp-resignal-timer

Context

[Tree] (config>router>mpls p2mp-resignal-timer)

Full Context

configure router mpls p2mp-resignal-timer

Description

This command configures the re-signal timer for a P2MP LSP instance. MPLS requests CSPF to re-compute the whole set of S2L paths of a given active P2MP instance each time the P2MP re-signal timer expires. The P2MP re-signal timer is configured separately from the P2P LSP parameter. MPLS performs a global MBB and moves each S2L sub-LSP in the instance into its new path using a new P2MP LSP ID if the global MBB is successful, regardless of the cost of the new S2L path.

This command is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

The **no** form of this command disables the timer-based re-signaling of P2MP LSPs on this system.

Parameters

minutes

Specifies the time MPLS waits before attempting to re-signal the P2MP LSP instance.

Values 60 to 10080

Platforms

All

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33.12 p2mp-s2l-fast-retry

p2mp-s2l-fast-retry

Syntax

p2mp-s2-fast-retry *seconds*

no p2mp-s2l-fast-retry

Context

[Tree] (config>router>rsvp p2mp-s2l-fast-retry)

[Tree] (config>router>mpls p2mp-s2l-fast-retry)

Full Context

configure router rsvp p2mp-s2l-fast-retry

configure router mpls p2mp-s2l-fast-retry

Description

This command configures a global parameter to allow the user to apply a shorter retry timer for the first try after an active LSP path went down due to a local failure or the receipt of a ResvTear. This timer is used only in the first try. Subsequent retries will continue to be governed by the existing LSP level retry-timer.

The config>router>mpls>p2mp-s2l-fast-retry command is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

The **no** form of this command disables the timer.

Default

no p2mp-s2l-fast-retry

Parameters

seconds

Specifies the length of time for retry timer, in seconds

Values 1 to 10 seconds

Platforms

All

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33.13 p2mp-sr

p2mp-sr

Syntax

[**no**] **p2mp-sr**

Context

[Tree] (config>service>vprn>mvpn>pt>selective p2mp-sr)

[Tree] (config>service>vprn>mvpn>pt>inclusive p2mp-sr)

Full Context

configure service vprn mvpn provider-tunnel selective p2mp-sr

configure service vprn mvpn provider-tunnel inclusive p2mp-sr

Description

This command enables P2MP SR for the MVPN provider tunnel.

The **no** form of this command disables P2MP SR.

Default

no p2mp-sr

Platforms

All

33.14 p2mp-sr-tree

p2mp-sr-tree

Syntax

[**no**] **p2mp-sr-tree**

Context

[Tree] (config>router p2mp-sr-tree)

Full Context

configure router p2mp-sr-tree

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Description

Commands in this context configure P2MP SR parameters.

Default

no p2mp-sr-tree

Platforms

All

33.15 p2mp-template-lsp

p2mp-template-lsp

Syntax

[**no**] **p2mp-template-lsp rsvp-session-name** *SessionNameString* **sender** *sender-address*

Context

[Tree] (config>router>mpls>ingress-stats p2mp-template-lsp)

Full Context

configure router mpls ingress-statistics p2mp-template-lsp

Description

This command configures an ingress statistics context matching on the RSVP session name for a RSVP P2MP LSP at the egress LER.

This command is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

When the ingress LER signals the path of the S2L sub-LSP, it includes the name of the LSP and that of the path in the Session Name field of the Session Attribute object in the Path message. The encoding is as follows:

Session Name: <lsp-name::path-name>, where lsp-name component is encoded as follows:

- P2MP LSP through the user configuration for L3 multicast in global routing instance: "LspNameFromConfig”
- P2MP LSP as I-PMSI or S-PMSI in L3 mVPN: templateName-SvcId-mTTmIndex
- P2MP LSP as I-PMSI in VPLS/B-VPLS: templateName-SvcId-mTTmIndex

The ingress statistics CLI configuration allows the user to match either on the exact name of the P2MP LSP as configured at the ingress LER or on a context that matches on the template name and the service-id as configured at the ingress LER.

When the matching is performed on a context, the user must enter the RSVP session name string in the format "templateName-svcId” to include the LSP template name as well as the mVPN VPLS/B-VPLS service ID as configured at the ingress LER. In this case, one or more P2MP LSP instances signaled by the same ingress LER could be associated with the ingress statistics configuration and the user is provided

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with CLI parameter max-stats to limit the maximum number of stat indexes that can be assigned to this context. If the context matches more than this value, the additional request for stat indices from this context is rejected. A background tasks monitors the ingress statistics templates which have one or more matching LSP instances with unassigned stat index and assigns one to them as they are freed.

Note the following rules when configuring an ingress statistics context based on template matching:

- max-stats, after allocated, can be increased but not decreased unless the entire ingress statistics context matching a template name is deleted.
- To delete ingress statistics context matching a template name, a shutdown is required.
- An accounting policy cannot be configured or de-configured until the ingress statistics context matching a template name is shut down.
- After deleting an accounting policy from an ingress statistics context matching a template name, the policy is not removed from the log until a "no shut” is performed on the ingress statistics context.

If there are no stat indexes available at the time the session of the P2MP LSP matching a template context is signaled and the session state installed by the egress LER, no stats are allocated to the session.

Furthermore, the assignment of stat indexes to the LSP names that match the context will also be not deterministic. The latter is due to the fact that a stat index is assigned and released following the dynamics of the LSP creation or deletion by the ingress LER. For example, a multicast stream crosses the rate threshold and is moved to a newly signaled S-PMSI dedicated to this stream. Later on, the same steam crosses the threshold downwards and is moved back to the shared I-PMSI and the P2MP LSP corresponding to the S-PMSI is deleted by the ingress LER.

The **no** form deletes the ingress statistics context matching on the RSVP session name.

Parameters

rsvp-session-name *SessionNameString*

Specifies the name of the RSVP P2MP session in the format of "templateName-svcId”. This field can hold up to 64 characters.

sender *sender-address*

Specifies a string of 15 characters representing the IP address of the ingress LER for the LSP.

Platforms

All

33.16 p2mp-ttl-propagate

p2mp-ttl-propagate

Syntax

[**no**] **p2mp-ttl-propagate**

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Context

[Tree] (config>router>mpls p2mp-ttl-propagate)

Full Context

configure router mpls p2mp-ttl-propagate

Description

This command configures the uniform mode of operation for RSVP P2MP LSPs.

The **no** form of this command configures the pipe mode of operation for P2MP LSPs.

When the mode of operation is modified, the new configuration applies to future P2MP LSPs only and the existing operational LSPs are not affected.

Default

p2mp-ttl-propagate

Platforms

All

33.17 p2p-active-path-fast-retry

p2p-active-path-fast-retry

Syntax

p2p-active-path-fast-retry *seconds*

no p2p-active-path-fast-retry

Context

[Tree] (config>router>mpls p2p-active-path-fast-retry)

Full Context

configure router mpls p2p-active-path-fast-retry

Description

This command configures a global parameter to allow the user to apply a shorter retry timer for the first try after an active LSP path went down due to a local failure or the receipt of a ResvTear. This timer is used only in the first try. Subsequent retries will continue to be governed by the existing LSP level retry-timer.

The **no** form of this command disables the timer.

Default

no p2p-active-path-fast-retry

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Parameters

seconds

Specifies the length of time for retry timer, in seconds

Values 1 to 10 seconds

Platforms

All

33.18 p2p-merge-point-abort-timer

p2p-merge-point-abort-timer

Syntax

p2p-merge-point-abort-timer *seconds*

no p2p-merge-point-abort-timer

Context

[Tree] (config>router>rsvp p2p-merge-point-abort-timer)

Full Context

configure router rsvp p2p-merge-point-abort-timer

Description

This command configures a timer to abort Merge-Point (MP) node procedures for a P2P LSP path. When a value higher than zero is configured for this timer, it will enter into effect anytime this node activates Merge-Point procedures for one or more P2P LSP paths. As soon an ingress interface goes operationally down, the Merge-Point node starts the abort timer. Upon expiry of the timer, MPLS will clean up all P2P LSP paths which ILM is on the failed interface and which have not already received a Path refresh over the bypass LSP.

The **no** form of this command disables the timer.

Default

no p2p-merge-point-abort-timer

Parameters

seconds

Specifies the length of the abort timer in seconds

Values 1 to 65535

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Platforms

All

33.19 p2p-template-lsp

p2p-template-lsp

Syntax

[**no**] **p2p-template-lsp rsvp-session-name** *SessionNameString* **sender** *sender-address*

Context

[Tree] (config>router>mpls>ingress-stats p2p-template-lsp)

Full Context

configure router mpls ingress-statistics p2p-template-lsp

Description

This command configures an ingress statistics context matching on the RSVP session name for a RSVP P2P auto-LSP at the egress LER.

When the ingress LER signals the path of a template based **one-hop-p2p** or **mesh-p2p auto-lsp**, it includes the name of the LSP and that of the path in the Session Name field of the Session Attribute object in the Path message. The encoding is as follows:

Session Name: *lsp-name::path-name*, where *lsp-name* component is encoded as follows:

P2MP LSP through the user configuration for Layer 3 multicast in global routing instance: "LspNameFromConfig”

- P2MP LSP as I-PMSI or S-PMSI in L3 mVPN: templateName-SvcId-mTTmIndex
- P2MP LSP as I-PMSI in VPLS/B-VPLS: templateName-SvcId-mTTmIndex.

The ingress statistics CLI configuration allows the user to match either on the exact name of the P2P auto-LSP or on a context that matches on the template name and the destination of the LSP at the ingress LER.

When the matching is performed on a context, the user must enter the RSVP session name string in the format "templateName-svcId” to include the LSP template name as well as the mVPN VPLS/B-VPLS service ID as configured at the ingress LER. In this case, one or more P2MP LSP instances signaled by the same ingress LER could be associated with the ingress statistics configuration. The user is provided with CLI parameter max-stats to limit the maximum number of stat indices which can be assigned to this context. If the context matches more than this value, the additional request for stat indices from this context is rejected.

Note the following rules when configuring an ingress statistics context based on template matching:

- **max-stats**, once allocated, can be increased but not decreased unless the entire ingress statistics context matching a template name is deleted.
- To delete ingress statistics context matching a template name, a shutdown is required.

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- An accounting policy cannot be configured or de-configured until the ingress statistics context matching a template name is shut down.
- After deleting an accounting policy from an ingress statistics context matching a template name, the policy is not removed from the log until a **no shut** is performed on the ingress statistics context.

If there are no stat indexes available at the time the session of the P2P LSP matching a template context is signaled and the session state installed by the egress LER, no stats are allocated to the session.

Furthermore, the assignment of stat indexes to the LSP names that match the context is not deterministic. The latter is because a stat index is assigned and released following the dynamics of the LSP creation or deletion by the ingress LER. For example, a multicast stream crosses the rate threshold and is moved to a newly signaled S-PMSI dedicated to this stream. Later on, the same steam crosses the threshold downwards and is moved back to the shared I-PMSI and the P2MP LSP corresponding to the S-PMSI is deleted by the ingress LER.

The **no** form deletes the ingress statistics context matching on the RSVP session name.

Parameters

rsvp-session-name *SessionNameString*

Specifies the name of the RSVP P2MP session in the format of "templateName-svcId". This field can hold up to 64 characters.

sender *sender-address*

Specifies a string of 15 characters representing the IP address of the ingress LER for the LSP.

Platforms

All

33.20 packet

packet

Syntax

packet detail-level {**high** | **low**}

packet mode {**all** | **dropped**}

no packet

Context

[Tree] (debug>gtp packet)

Full Context

debug gtp packet

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Description

This command enables debugging of GTP packets sent or received by the system's control plane.

The **no** form of this command disables debugging of GTP packets.

Parameters

detail-level {high | low}

Specifies how much detail is to be displayed when debugging a GTP packet.

Values	**high**	Specifies to display and decode all data in the packet.
	low	Specifies to display and decode only the most important data.
Default	low	

mode {all | dropped}

Specifies which packets is debugged.

Values	**all**	Specifies to debug all packets.
	dropped	Specifies to debug only dropped packets.
Default	dropped	

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

packet

Syntax

[**no**] **packet**

Context

[Tree] (debug>router>l2tp>group packet)

[Tree] (debug>router>l2tp packet)

[Tree] (debug>router>l2tp>peer packet)

[Tree] (debug>router>l2tp>assignment-id packet)

Full Context

debug router l2tp group packet

debug router l2tp packet

debug router l2tp peer packet

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debug router l2tp assignment-id packet

Description

This command enables packet debugging.

The **no** form of this command disables packet debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

packet

Syntax

[**no**] **packet**

Context

[Tree] (debug>service>id>ppp packet)

Full Context

debug service id ppp packet

Description

This command enables debugging for specific PPPoE packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

packet

Syntax

[**no**] **packet**

Context

[Tree] (debug>router>wpp>portal packet)

[Tree] (debug>router>wpp packet)

Full Context

debug router wpp portal packet

debug router wpp packet

Description

This command enables WPP packet debugging.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

packet

Syntax

packet [**hello** | **jp**]

packet [**hello** | **jp**] **evpn-mpls**

packet [**hello** | **jp**] [**sap** *sap-id*]

packet [**hello** | **jp**] [**sdp** *sdp-id:vc-id*]

packet [**hello** | **jp**] **vxlan vtep** *ip-address* **vni** *vni-id*

no packet

Context

[Tree] (debug>service>id>pim-snooping packet)

Full Context

debug service id pim-snooping packet

Description

This command enables or disables debugging for PIM packets.

Parameters

hello* | *jp

PIM packet types

sap-id

Debugs packets associated with the specified SAP

sdp-id:vc-id

Debugs packets associated with the specified SDP

evpn-mpls

Debugs PIM snooping statistics for EVPN-MPLS destinations

Platforms

All

packet

Syntax

packet [**query** | **v1-report** | **v2-report** | **v3-report** | **v2-leave**] [*ip-int-name* | *ip-address*] [**mode** {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}]

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packet [**query** | **v1-report** | **v2-report** | **v3-report** | **v2-leave**] [**mode** { **dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}] **group-interface** *ip-int-name*

packet [**query** | **v1-report** | **v2-report** | **v3-report** | **v2-leave**] **host** *ip-address* [**mode** {**dropped-only** | **ingr-and-dropped** | **egr-ingr-and-dropped**}]

no packet [**query** | **v1-report** | **v2-report** | **v3-report** | **v2-leave**] [*ip-int-name* | *ip-address*]

no packet [**query** | **v1-report** | **v2-report** | **v3-report** | **v2-leave**] **group-interface** *ip-int-name*

no packet [**query** | **v1-report** | **v2-report** | **v3-report** | **v2-leave**] **host** *ip-address*

Context

[Tree] (debug>router>igmp packet)

Full Context

debug router igmp packet

Description

This command enables/disables debugging for IGMP packets.

Parameters

query

Specifies to log the IGMP group- and source-specific queries transmitted and received on this interface.

v1-report

Specifies to debug IGMP V1 reports transmitted and received on this interface.

v2-report

Specifies to debug IGMP V2 reports transmitted and received on this interface.

v3-report

Specifies to debug IGMP V3 reports transmitted and received on this interface.

v2-leave

Specifies to debug the IGMP Leaves transmitted and received on this interface.

ip-int-name

Debugs the information associated with the specified IP interface name.

Values IP interface address

ip-address

Debugs the information associated with the specified IP address.

Platforms

All

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packet

Syntax

packet [**detail**]

no packet

Context

[Tree] (debug>router>ldp>peer packet)

[Tree] (debug>router>ldp>if packet)

Full Context

debug router ldp peer packet

debug router ldp interface packet

Description

This command enables debugging for specific LDP packets.

The **no** form of the command disables the debugging output.

Parameters

detail

Displays detailed information.

Platforms

All

packet

Syntax

[**no**] **packet**

Context

[Tree] (debug>router>rsvp packet)

Full Context

debug router rsvp packet

Description

Commands in this context debug packets.

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Platforms

All

packet

Syntax

packet [*pkt-type*] [**peer** *ip-address*]

no packet

Context

[Tree] (debug>router>msdp packet)

Full Context

debug router msdp packet

Description

This command enables debugging for MSDP packets.

The **no** form of this command disables MSDP packet debugging.

Parameters

pkt-type

Debugs information associated with the specified packet type.

Values keep-alive, source-active, sa-request, sa-response

ip-address

Debugs information associated with the specified peer IP address.

Platforms

All

packet

Syntax

packet [**hello** | **register** | **register-stop** | **jp** | **bsr** | **assert** | **crp** | **mdt-tlv** | **auto-rp-announcement** | **auto-rp-mapping** | **graft** | **graft-ack**] [*ip-int-name* | *mt-int-name* | *int-ip-address* | *mpls-if-name*] [**family** {**ipv4** | **ipv6**}] [**send** | **receive**]

no packet

Context

[Tree] (debug>router>pim packet)

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Full Context

debug router pim packet

Description

This command enables debugging for PIM packets.

The **no** form of this command disables debugging for PIM packets.

Parameters

hello | register | register-stop | jp | bsr | assert | crp | mdt-tlv | auto-rp-announcement | auto-rp-mapping | graft | graft-ack

Specifies PIM packet types.

ip-int-name

Debugs the information associated with the specified IP interface name, up to 32 characters.

mt-int-name

Debugs the information associated with the specified VPRN ID and group address.

Values *vprn-id*-mt-*grp-ip-address*

int-ip-address

Debugs the information associated with the specified IP address.

ipv4

Specifies to display IPv4 packets.

ipv6

Specifies to display IPv6 packets.

mpls-if-name

Debugs the information associated with the specified MPLS interface.

Values mpls-if-*index*

receive

Specifies to display received packets.

send

Specifies to display sent packets.

family

Debugs database packet information.

Values ipv4, ipv6

Platforms

All

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packet

Syntax

packet jitter-buffer *milliseconds* [**payload-size** *bytes*]

packet payload-size *bytes*

no packet

Context

[Tree] (config>mirror>mirror-dest>sap>cem packet)

Full Context

configure mirror mirror-dest sap cem packet

Description

This command specifies the jitter buffer size, in milliseconds, and payload size, in bytes.

Default

The default value depends on the CEM SAP endpoint type, and if applicable, the number of timeslots.

Table 96: Packet CEM SAP Endpoint Types

Endpoint Type	Timeslots	Default Jitter Buffer (in ms)
unstructuredE1	n/a	5
unstructuredT1	n/a	5
unstructuredE3	n/a	5
unstructuredT3	n/a	5
nxDS0 (E1/T1)	N = 1	32
	N = 2 to 4	16
	N = 5 to 15	8
	N >= 16	5
nxDS0WithCas (E1)	N	8
nxDS0WithCas (T1)	N	12

Parameters

milliseconds

Specifies the jitter buffer size in milliseconds (ms).

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Configuring the payload size and jitter buffer to values that result in less than 2 packet buffers or greater than 32 packet buffers is not allowed.

Setting the jitter butter value to 0 sets it back to the default value.

Values 1 — 250

bytes

Specifies the payload size (in bytes) of packets transmitted to the packet service network (PSN) by the CEM SAP. This determines the size of the data that will be transmitted over the service. If the size of the data received is not consistent with the payload size then the packet is considered malformed.

Default The default value depends on the CEM SAP endpoint type, and if applicable, the number of timeslots.

Table 97: CEM SAP Endpoint Types

Endpoint Type	Timeslots	Default Payload Size (in bytes)
unstructuredE1	n/a	256
unstructuredT1	n/a	192
unstructuredE3	n/a	1024
unstructuredT3	n/a	1024
nxDS0 (E1/T1)	N = 1	64
	N = 2 to 4	N x 32
	N = 5 to 15	N x 16
	N >= 16	N x 8
nxDS0WithCas (E1)	N	N x 16
nxDS0WithCas (T1)	N	N x 24

For all endpoint types except for nxDS0WithCas, the valid payload size range is from the default to 2048 bytes.

For nxDS0WithCas, the payload size divide by the number of timeslots must be an integer factor of the number of frames per trunk multiframe (for example, 16 for E1 trunk and 24 for T1 trunk).

For 1xDS0, the payload size must be a multiple of 2.

For NxDS0, where N > 1, the payload size must be a multiple of the number of timeslots.

For unstructuredE1, unstructuredT1, unstructuredE3 and unstructuredT3, the payload size must be a multiple of 32 bytes.

Configuring the payload size and jitter buffer to values that result in less than 2 packet buffers or greater than 32 packet buffer is not allowed.

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Setting the payload size to 0 sets it back to the default value.

Values 16 to 2048

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

packet

Syntax

packet *packet-number* [**create**]

no packet *packet-number*

Context

[Tree] (debug>oam>build-packet packet)

Full Context

debug oam build-packet packet

Description

This command configures a packet to be launched by the OAM **find-egress** tool.

The **no** form of this command removes the packet number value.

Parameters

packet-number

Specifies a packet to be launched by the OAM **find-egress** tool.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

packet

Syntax

packet all

packet cfm-opcode *opcode* [*opcode*]

no packet

Context

[Tree] (debug>eth-cfm>mep packet)

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[Tree] (debug>eth-cfm>mip packet)

Full Context

debug eth-cfm mep packet

debug eth-cfm mip packet

Description

This command defines the ETH-CFM opcodes of interest to be debugged.

The **no** form of this command stops packet debugging and the collection of PDUs.

Parameters

all

Specifies that debugging is enabled for all ETH-CFM packets.

opcode

Specifies a standard numerical reference or common three-letter acronym (TLA) that identifies the CFM PDU type. Up to five opcodes can be specified, and a combination of both numbers and TLAs can be used.

MEPs support all opcodes.

MIPs support 2 (LBR), 3 (LBM), 4 (LTR), and 5 (LTM).

Unknown or unsupported opcodes in TLA form are rejected. The applicable numerical opcode can be used instead. When numerical references are used, they are converted to a known TLA or left in numerical form if the TLA is unknown.

Re-entering the **packet** command overwrites the previous opcode entries for the MEP or MIP.

Values MEP: 1 to 255 | common TLA

MIP: 2 to 5 | common TLA

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

packet

Syntax

packet [{*ip-int-name* | *ip-address*}] [**headers**] [*protocol-id*]

no packet [{*ip-int-name* | *ip-address*}]

Context

[Tree] (debug>router>ip packet)

Full Context

debug router ip packet

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Description

This command enables debugging for IP packets.

Parameters

ip-int-name

Only displays the interface information associated with the specified IP interface name.

Values 32 characters maximum

ip-address

Only displays the interface information associated with the specified IP address.

headers

Only displays information associated with the packet header.

protocol-id

Specifies the decimal value representing the IP protocol to debug. Well-known protocol numbers include ICMP(1), TCP(6), UDP(17). The **no** form the command removes the protocol from the criteria.

Values 0 to 255 (values can be expressed in decimal, hexadecimal, or binary)

Platforms

All

packet

Syntax

[**no**] **packet**

Context

[Tree] (debug>router>pcp>pcp-server packet)

Full Context

debug router pcp pcp-server packet

Description

This command enables packet debugging.

The **no** form of this command disables packet debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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packet

Syntax

[**no**] **packet** [{**query** | **request** | **response**}]

Context

[Tree] (debug>router>mtrace packet)

Full Context

debug router mtrace packet

Description

This command enables debugging for mtrace packets.

Platforms

All

packet

Syntax

[**no**] **packet** [{**query** | **request** | **reply**}]

Context

[Tree] (debug>router>mtrace2 packet)

Full Context

debug router mtrace2 packet

Description

This command enables debugging for mtrace2 packets.

Platforms

All

packet

Syntax

[**no**] **packet**

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Context

[Tree] (debug>router>rpki-session packet)

Full Context

debug router rpki-session packet

Description

This command enables debugging for specific RPKI packets.

The **no** form of this command disables debugging for specific RPKI packets.

Platforms

All

packet

Syntax

packet [*packet-type*] [*ip-int-name* | *ip-address*] [**detail**]

Context

[Tree] (debug>router>isis packet)

Full Context

debug router isis packet

Description

This command enables debugging for IS-IS packets.

The **no** form of the command disables debugging.

Parameters

ip-address

When specified, only packets with the specified interface address are debugged.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ip-int-name

When specified, only packets with the specified interface name are debugged.

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packet-type

When specified, only packets of the specified type are debugged.

Values ptop-hello | l1-hello | l2-hello | l1-psnp | l2-psnp | l1-csnp | l2-csnp | l1-lsp | l2-lsp

detail

All output is displayed in the detailed format.

Platforms

All

packet

Syntax

packet [*packet-type*] [*interface-name*] [**ingress** | **egress**] [**detail**]

packet [*packet-type*] [*interface-name*] [**ingress** | **egress** | **drop**] [**detail**]

no packet

Context

[Tree] (debug>router>ospf3 packet)

[Tree] (debug>router>ospf packet)

Full Context

debug router ospf3 packet

debug router ospf packet

Description

This command enables debugging for OSPF packets.

Parameters

packet-type

Specifies the OSPF packet type to debug.

Values hello, dbdescr, lsrequest, lsupdate, lsack

interface-name

Specifies the interface to debug, up to 32 characters.

ingress

Specifies to display ingress packets.

egress

Specifies to display egress packets.

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drop

Specifies to display dropped packets.

Platforms

All

packet

Syntax

packet [**high-detail**] [**dropped-only**]

no packet

Context

[Tree] (debug>subscr-mgmt>pfcp packet)

Full Context

debug subscriber-mgmt pfcp packet

Description

This command debugs PFCP packets that are received or sent. The **no** form of this command disables any PFCP packet debugging.

Parameters

high-detail

Specifies to provide a full packet dump; without this parameter only basic packet information is provided.

dropped-only

Specifies to only debug dropped packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

packet

Syntax

packet *packet-type* [**detail**]

no packet *packet-type*

Context

[Tree] (debug>router>pcep>pcc packet)

[Tree] (debug>router>pcep>pcc>conn packet)

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Full Context

debug router pcep pcc packet

debug router pcep pcc connection packet

Description

This command enables debugging for PCEP PCC or connection packets.

The **no** form of this command disables debugging.

Parameters

packet-type

Specifies only packets of the specified type are debugged.

Values open | request | reply | notify | error | close | report | update | keepalive | pce-initiated

detail

Keyword used to specify detailed output.

Platforms

All

packet

Syntax

packet *packet-type* [**detail**]

no packet *packet-type*

Context

[Tree] (debug>router>pcep>pce>conn packet)

[Tree] (debug>router>pcep>pce packet)

Full Context

debug router pcep pce connection packet

debug router pcep pce packet

Description

This command enables debugging for PCEP PCE or connection packets.

The **no** form of this command disables debugging.

Parameters

packet-type

Specifies only packets of the specified type are debugged.

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Values open | request | reply | notify | error | close | report | update | keepalive | pce-initiated

detail

Keyword used to specify detailed output.

Platforms

VSR-NRC

33.21 packet-byte-offset

packet-byte-offset

Syntax

packet-byte-offset add *bytes*

packet-byte-offset subtract *sub-bytes*

no packet-byte-offset

Context

[Tree] (config>qos>sap-egress>dynamic-queue packet-byte-offset)

Full Context

configure qos sap-egress dynamic-queue packet-byte-offset

Description

This command configures the packet-byte offset the system uses to modify the size of the input packets handled by the queue, by adding or subtracting the specified number of bytes. This also applies to any charging statistics. The actual packet size is not modified, only the size used to determine the egress scheduling and profiling is changed.

Parameters

add *bytes*

Specifies the packet byte offset. The **add** keyword is mutually exclusive to the **subtract** keyword. Either **add** or **subtract** must be specified. When **add** is defined the corresponding bytes parameter specifies the number of bytes that is added to the size each packet.

Values 0 to 31

Default 0

subtract *bytes*

Specifies the packet byte offset. The **subtract** keyword is mutually exclusive to the **add** keyword. Either **add** or **subtract** must be specified. When defined, the corresponding

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bytes parameter specifies the number of bytes that is subtracted from the size of each packet.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

packet-byte-offset

Syntax

packet-byte-offset{**add** *bytes* | **subtract** *bytes*}

no packet-byte-offset

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>policer packet-byte-offset)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>policer packet-byte-offset)

Full Context

configure subscriber-mgmt sla-profile ingress qos policer packet-byte-offset

configure subscriber-mgmt sla-profile egress qos policer packet-byte-offset

Description

This command is used to modify the size of each packet handled by the policer by adding or subtracting a number of bytes. The actual packet size is not modified; only the size used to determine the bucket depth impact is changed. The **packet-byte-offset** command is meant to be an arbitrary mechanism the can be used to either add downstream frame encapsulation or remove portions of packet headers. Both the policing metering and profiling throughput is affected by the offset as well as the stats associated with the policer.

When child policers are adding to or subtracting from the size of each packet, the parent policer's **min-thresh-separation** value should also need to be modified by the same amount.

The policer's **packet-byte-offset** defined in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. Packet byte offset settings are not included in the applied rate when (queue) frame based accounting is configured and the policer is managed by HQoS, however the offsets are applied to the statistics.

The **no** form of this command removes the per packet size modifications from the policer.

Parameters

add *bytes*

Specifies the packet byte offset. The **add** keyword is mutually exclusive to the **subtract** keyword. Either **add** or **subtract** must be specified. When **add** is defined the corresponding bytes parameter specifies the number of bytes that is added to the size each packet associated with the policer for rate metering, profiling and accounting

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purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 0 to 31

subtract *bytes*

Specifies the packet byte offset. The **subtract** keyword is mutually exclusive to the **add** keyword. Either **add** or **subtract** must be specified. When b is defined the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet.

Note:
The minimum resulting packet size used by the system is 1 byte.

Values ingress 1 to 32
egress: 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>card>fp>ingress>network>qgrp>policer-over>plcr packet-byte-offset)

[Tree] (config>card>fp>ingress>access>qgrp>policer-over>plcr packet-byte-offset)

Full Context

configure card fp ingress network queue-group policer-override policer packet-byte-offset

configure card fp ingress access queue-group policer-override policer packet-byte-offset

Description

This command modifies the size of each packet handled by the policer by adding or subtracting a number of bytes. The actual packet size is not modified; only the size used to determine the bucket depth impact is changed. The **packet-byte-offset** command is meant to be an arbitrary mechanism the can be used to either add downstream frame encapsulation or remove portions of packet headers. Both the policing metering and profiling throughput is affected by the offset as well as the stats associated with the policer.

When child policers are adding to or subtracting from the size of each packet, the parent policer's **min-thresh-separation** value should also need to be modified by the same amount.

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The policer's **packet-byte-offset** defined in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command removes per packet size modifications from the policer.

Parameters

add-bytes

The **add** keyword is mutually exclusive to the **subtract** keyword. Either **add** or **subtract** must be specified. When **add** is defined the corresponding bytes parameter specifies the number of bytes that is added to the size each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 1 to 31

sub-bytes

The **subtract** keyword is mutually exclusive to the **add** keyword. Either **add** or **subtract** must be specified. When b is defined the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet. Note that the minimum resulting packet size used by the system is 1 byte.

Values 0 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>service>epipe>sap>egress>policer-over>plcr packet-byte-offset)

[Tree] (config>service>cpipe>sap>ingress>policer-over>plcr packet-byte-offset)

[Tree] (config>service>epipe>sap>ingress>policer-over>plcr packet-byte-offset)

[Tree] (config>service>cpipe>sap>egress>policer-over>plcr packet-byte-offset)

[Tree] (config>service>ipipe>sap>egress>policer-over>plcr packet-byte-offset)

[Tree] (config>service>ipipe>sap>ingress>policer-over>plcr packet-byte-offset)

Full Context

configure service epipe sap egress policer-override policer packet-byte-offset

configure service cpipe sap ingress policer-override policer packet-byte-offset

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configure service epipe sap ingress policer-override policer packet-byte-offset

configure service cpipe sap egress policer-override policer packet-byte-offset

configure service ipipe sap egress policer-override policer packet-byte-offset

configure service ipipe sap ingress policer-override policer packet-byte-offset

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured packet-byte-offset parameter for the specified policer-id. Packet byte offset settings are not included in the applied rate when (queue) frame based accounting is configured; however, the offsets are applied to the statistics.

The **no** packet-byte-offset command is used to restore the policer's packet-byte-offset setting to the policy defined value.

Default

no packet-byte-offset

Parameters

add-bytes

Specifies the number of bytes that are added to the size each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 1 to 31

sub-bytes

Specifies the number of bytes that are subtracted from the size of each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-override policer packet-byte-offset
- configure service epipe sap egress policer-override policer packet-byte-offset
- configure service ipipe sap egress policer-override policer packet-byte-offset
- configure service epipe sap ingress policer-override policer packet-byte-offset

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override policer packet-byte-offset
- configure service cpipe sap ingress policer-override policer packet-byte-offset

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packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>service>vpls>sap>egress>policer-override>plcr packet-byte-offset)

[Tree] (config>service>vpls>sap>ingress>policer-override>plcr packet-byte-offset)

Full Context

configure service vpls sap egress policer-override policer packet-byte-offset

configure service vpls sap ingress policer-override policer packet-byte-offset

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured packet-byte-offset parameter for the specified policer-id. Packet byte offset settings are not included in the applied rate when (queue) frame based accounting is configured, however the offsets are applied to the statistics.

The **no** form of this command restores the policer's packet-byte-offset setting to the policy defined value.

Default

no packet-byte-offset

Parameters

add-bytes

The add keyword is mutually exclusive to the subtract keyword. Either add or subtract must be specified. When add is defined the corresponding bytes parameter specifies the number of bytes that is added to the size each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 0 to 31

sub-bytes

The subtract keyword is mutually exclusive to the add keyword. Either add or subtract must be specified. When subtract is defined the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet.

Values 1 to 64

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>service>ies>if>sap>egress>policer-override>plcr packet-byte-offset)

[Tree] (config>service>ies>if>sap>ingress>policer-override>plcr packet-byte-offset)

Full Context

configure service ies interface sap egress policer-override policer packet-byte-offset

configure service ies interface sap ingress policer-override policer packet-byte-offset

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured packet-byte-offset parameter for the specified policer-id. Packet byte offset settings are not included in the applied rate when (queue) frame based accounting is configured, however the offsets are applied to the statistics.

The **no** form of this command restores the policer's packet-byte-offset setting to the policy defined value.

Default

no packet-byte-offset

Parameters

add *add-bytes*

The **add** keyword is mutually exclusive to the **subtract** keyword. Either **add** or **subtract** must be specified. When **add** is defined, the corresponding bytes parameter specifies the number of bytes that is added to the size each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 0 to 31

subtract *sub-bytes*

The **subtract** keyword is mutually exclusive to the **add** keyword. Either **add** or **subtract** must be specified. When **subtract** is defined, the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet.

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Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

packet-byte-offset

Syntax

packet-byte-offset add *add-bytes*

packet-byte-offset subtract *sub-bytes*

no packet-byte-offset

Context

[Tree] (config>service>vprn>if>sap>egress>policer-override>plcr packet-byte-offset)

[Tree] (config>service>vprn>if>sap>ingress>policer-override>plcr packet-byte-offset)

Full Context

configure service vprn interface sap egress policer-override policer packet-byte-offset

configure service vprn interface sap ingress policer-override policer packet-byte-offset

Description

This command, within the SAP ingress and egress policer-overrides contexts, is used to override the sap-ingress and sap-egress QoS policy configured packet-byte-offset parameter for the specified policer-id. Packet byte offset settings are not included in the applied rate when (queue) frame based accounting is configured, however the offsets are applied to the statistics.

The **no** form of this command restores the policer's packet-byte-offset setting to the policy defined value.

Default

no packet-byte-offset

Parameters

add *add-bytes*

The **add** keyword is mutually exclusive to the **subtract** keyword. Either **add** or **subtract** must be specified. When **add** is defined, the corresponding bytes parameter specifies the number of bytes that is added to the size each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 0 to 31

subtract *sub-bytes*

The **subtract** keyword is mutually exclusive to the **add** keyword. Either **add** or **subtract** must be specified. When **subtract** is defined, the corresponding bytes parameter specifies

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the number of bytes that is subtracted from the size of each packet associated with the policer for rate metering, profiling and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub- bytes*}

no packet-byte-offset

Context

[Tree] (config>qos>sap-ingress>policer packet-byte-offset)

[Tree] (config>qos>sap-ingress>dyn-policer packet-byte-offset)

[Tree] (config>qos>sap-egress>policer packet-byte-offset)

[Tree] (config>qos>sap-egress>dyn-policer packet-byte-offset)

Full Context

configure qos sap-ingress policer packet-byte-offset

configure qos sap-ingress dynamic-policer packet-byte-offset

configure qos sap-egress policer packet-byte-offset

configure qos sap-egress dynamic-policer packet-byte-offset

Description

This command is used to modify the size of each packet handled by the policer by adding or subtracting a number of bytes. The actual packet size is not modified; only the size used to determine the bucket depth impact is changed. The **packet-byte-offset** command is meant to be an arbitrary mechanism that can be used to either add downstream frame encapsulation or remove portions of packet headers. Both the policing metering and profiling throughput is affected by the offset as well as the stats associated with the policer.

When child policers are adding to or subtracting from the size of each packet, the parent policer's **min-thresh-separation** value should also need to be modified by the same amount.

The policer's **packet-byte-offset** defined in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. Packet byte offset settings are not included in the applied rate when (queue) frame-based accounting is configured and the policer is managed by HQoS; however, the offsets are applied to the statistics.

The **no** form of this command is used to remove per packet size modifications from the policer.

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Parameters

add *add-bytes*

The **add** keyword is mutually exclusive to the **subtract** keyword. Either **add** or **subtract** must be specified. When **add** is defined, the corresponding bytes parameter specifies the number of bytes that is added to the size of each packet associated with the policer for rate metering, profiling, and accounting purposes. From the policer's perspective, the maximum packet size is increased by the amount being added to the size of each packet.

Values 0 to 31

subtract *sub-bytes*

The **subtract** keyword is mutually exclusive to the **add** keyword. Either **add** or **subtract** must be specified. When **subtract** is defined, the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the policer for rate metering, profiling, and accounting purposes. From the policer's perspective, the maximum packet size is reduced by the amount being subtracted from the size of each packet. The minimum resulting packet size used by the system is 1 byte.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-egress policer packet-byte-offset
- configure qos sap-ingress policer packet-byte-offset

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure qos sap-egress dynamic-policer packet-byte-offset
- configure qos sap-ingress dynamic-policer packet-byte-offset

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>qos>sap-ingress>queue packet-byte-offset)

Full Context

configure qos sap-ingress queue packet-byte-offset

Description

This command modifies the size of each packet handled by the queue by adding or subtracting the specified number of bytes. The actual packet size is not modified, only the size used to determine the ingress scheduling and profiling is changed. The **packet-byte-offset** command is an arbitrary mechanism

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that can be used to either add downstream frame encapsulation or remove portions of packet headers. Both the scheduling and profiling throughput is affected by the offset as well as the statistics (accounting) associated with the queue. The **packet-byte-offset** does not apply to drop statistics, received valid statistics, or the offered managed and unmanaged statistics used by Ingress Multicast Path Management.

The **no** form of this command removes per-packet size modifications from the queue.

Parameters

add-bytes

Specifies the number of bytes added to the size of each packet associated with the queue for scheduling, profiling, and accounting purposes. From the queue's perspective, the packet size is increased by the amount specified.

Values 0 to 30, in increments of 2

sub-bytes

Specifies the number of bytes subtracted from the size of each packet associated with the queue for scheduling, profiling, and accounting purposes. From the queue's perspective, the packet size is reduced by the amount specified. The minimum resulting packet size used by the system is 1 byte.

Values 0 to 64, in increments of 2

Platforms

All

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>qos>sap-egress>queue packet-byte-offset)

Full Context

configure qos sap-egress queue packet-byte-offset

Description

This command is used to modify the size of each packet handled by the queue by adding or subtracting a number of bytes. The actual packet size is not modified; only the size used to determine the bucket depth impact is changed.

The packet-byte-offset command is meant to be an arbitrary mechanism the can be used to either add downstream frame encapsulation or remove portions of packet headers.

When a packet-byte-offset value is applied to a queue instance, it adjusts the immediate packet size. This means that the queue rates, in other words, operational PIR and CIR, and queue bucket updates use the

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adjusted packet size. In addition, the queue statistics also reflects the adjusted packet size. Scheduler policy rates, which are data rates, uses the adjusted packet size.

The port scheduler max-rate and the priority level rates and weights, if a Weighted Scheduler Group is used, are always on-the-wire rates and uses the actual frame size. The same applies for the agg-rate-limit on a SAP, a subscriber, or a multiservice Site (MSS) when the queue is port-parented.

When the user enables frame-based-accounting in a scheduler policy or queue-frame-based-accounting with agg-rate-limit in a port scheduler policy, the queue rate will be capped to a user-configured on-the-wire rate and the packet-byte-offset is not included. However, the offsets are applied to the statistics.

The **no** form of this command is used to remove per packet size modifications from the queue.

Parameters

add-bytes

The **add** keyword is mutually exclusive to the **subtract** keyword. Either parameter must be specified. When **add** is defined, the corresponding bytes parameter specifies the number of bytes that is added to the size of each packet associated with the queue for scheduling and accounting purposes.

Values 0 to 32

sub-bytes

The **subtract** keyword is mutually exclusive to the **add** keyword. Either parameter must be specified. When subtract is defined, the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the queue for scheduling and accounting purposes. The minimum resulting packet size used by the system is 1 byte.

Values 0 to 64

Platforms

All

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>qos>qgrps>ing>qgrp>policer packet-byte-offset)

Full Context

configure qos queue-group-templates ingress queue-group policer packet-byte-offset

Description

This command configures a packet byte offset for the QoS ingress queue-group policer.

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Default

no packet-byte-offset

Parameters

add-bytes

Specifies the number of bytes to add as the offset amount.

Values 0 to 31

sub-bytes

Specifies the number of bytes to add as the offset amount.

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

packet-byte-offset

Syntax

packet-byte-offset {**add** *add-bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>qos>qgrps>ing>qgrp>queue packet-byte-offset)

Full Context

configure qos queue-group-templates ingress queue-group queue packet-byte-offset

Description

This command is used to modify the size of each packet handled by the queue by adding or subtracting a number of bytes. The actual packet size is not modified; only the size used to determine the ingress scheduling and profiling is changed. The packet-byte-offset command is meant to be an arbitrary mechanism that can be used to either add downstream frame encapsulation or remove portions of packet headers. Both the scheduling and profiling throughput is affected by the offset as well as the stats (accounting) associated with the queue. The packet-byte-offset does not apply to drop statistics, received valid statistics, or the offered managed and unmanaged statistics used by Ingress Multicast Path Management.

The **no** form of this command is used to remove per packet size modifications from the queue.

Parameters

add-bytes

The add keyword is mutually exclusive to the subtract keyword. Either add or subtract must be specified. When add is defined, the corresponding bytes parameter specifies the number of bytes that is added to the size each packet associated with the queue for

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scheduling, profiling and accounting purposes. From the queue's perspective, the packet size is increased by the amount being added to the size of each packet.

Values 0 to 30, in steps of 2

sub-bytes

The subtract keyword is mutually exclusive to the add keyword. Either add or subtract must be specified. When subtract is defined, the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the queue for scheduling, profiling and accounting purposes. From the queue's perspective, the packet size is reduced by the amount being subtracted from the size of each packet. The minimum resulting packet size used by the system is 1 byte.

Values 0 to 64, in steps of 2

Platforms

All

packet-byte-offset

Syntax

packet-byte-offset {**add add-***bytes* | **subtract** *sub-bytes*}

no packet-byte-offset

Context

[Tree] (config>qos>qgrps>egr>qgrp>policer packet-byte-offset)

[Tree] (config>qos>qgrps>egr>qgrp>queue packet-byte-offset)

Full Context

configure qos queue-group-templates egress queue-group policer packet-byte-offset

configure qos queue-group-templates egress queue-group queue packet-byte-offset

Description

This command is used to modify the size of each packet handled by the queue by adding or subtracting a number of bytes. The actual packet size is not modified; only the size used to determine the bucket depth impact is changed.

The packet-byte-offset command is meant to be an arbitrary mechanism that can be used to either add downstream frame encapsulation or remove portions of packet headers.

When a packet-byte-offset value is applied to a queue or policer instance, it adjusts the immediate packet size. This means that the queue rates (in other words, operational PIR and CIR) and policer or queue bucket updates use the adjusted packet size. In addition, the statistics also reflect the adjusted packet size. Scheduler policy rates, which are data rates, will use the adjusted packet size.

The port scheduler **max-rate** and the priority level rates and weights, if a Weighted Scheduler Group is used, are always on-the-wire rates and uses the actual frame size. The same applies for the agg-rate-limit on a SAP, a subscriber, or a Multiservice Site (MSS) when the queue is port-parented.

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When the user enables **frame-based-accounting** in a scheduler policy or **queue-frame-based-accounting** with agg-rate-limit in a port scheduler policy, the policer or queue rate is capped to a user-configured on-the-wire rate and the packet-byte-offset is not included; however, the offsets are applied to the statistics.

The **no** form of this command is used to remove per packet size modifications from the queue.

Parameters

add-bytes

Specifies that the corresponding bytes parameter specifies the number of bytes that is added to the size of each packet associated with the queue for scheduling and accounting purposes.

Values 0 to 32

sub-bytes

Specifies that the corresponding bytes parameter specifies the number of bytes that is subtracted from the size of each packet associated with the queue for scheduling and accounting purposes. The minimum resulting packet size used by the system is 1 byte.

Values 0 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos queue-group-templates egress queue-group policer packet-byte-offset

All

- configure qos queue-group-templates egress queue-group queue packet-byte-offset

33.22 packet-length

packet-length

Syntax

packet-length {**lt** | **gt** | **eq**} *packet-length-value*

packet-length range *packet-length-value packet-length-value*

packet-length ip-packet-length-list *pkt-len-list-name*

no packet-length

Context

[Tree] (config>filter>ip-filter>entry>match packet-length)

Full Context

configure filter ip-filter entry match packet-length

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Description

This command configures the IPv4 packet length value match criterion. The IPv4 packet length represents the total packet length including the IPv4 header and the payload.

The **no** form of this command deletes the match criterion.

Default

no packet-length

Parameters

lt

Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt

Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq

Specifies "equal to”.

packet-length-value

Specifies the packet length value.

Values 0 to 65535

range

Specifies an inclusive range. When range is used, the beginning of the range must have a value less than the second value of the range.

pkt-len-list-name

Specifies the name of the packet length list.

Values Up to 32 characters

Platforms

All

packet-length

Syntax

packet-length {**lt** | **gt** | **eq**} *packet-length-value*

packet-length range *packet-length-value packet-length-value*

packet-length ip-packet-length-list *pkt-len-list-name*

no packet-length

Context

[Tree] (config>filter>ipv6-filter>entry>match packet-length)

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Full Context

configure filter ipv6-filter entry match packet-length

Description

This command configures the IPv6 packet length value match criterion. The IPv6 packet length represents the total packet length including the IPv6 header and the payload.

The **no** form of this command deletes the match criterion.

Default

no packet-length

Parameters

lt

Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt

Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq

Specifies "equal to”.

packet-length-value

Specifies the packet length value.

Values 40 to 65575

range

Specifies an inclusive range. When range is used, the beginning of the range must have a value less than the second value of the range.

pkt-len-list-name

Specifies the name of the packet length list.

Values Up to 32 characters

Platforms

All

packet-length

Syntax

[**no**] **packet-length** *packet-length-value*

[**no**] **packet-length range** *packet-length-value-lower-bound packet-length-value-upper-bound*

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Context

[Tree] (config>filter>match-list>ipv6-pkt-len-list packet-length)

[Tree] (config>filter>match-list>ip-pkt-len-list packet-length)

Full Context

configure filter match-list ipv6-packet-length-list packet-length

configure filter match-list ip-packet-length-list packet-length

Description

This command adds a length value or length range to the list.

The **no** form of this command deletes the length value or the length range from the list.

Parameters

packet-length-value-lower-bound

Specifies the lower bound of the packet length range.

packet-length-value-upper-bound

Specifies the upper bound of the packet length range.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.23 packet-rate-high-wmark

packet-rate-high-wmark

Syntax

packet-rate-high-wmark *high-watermark*

Context

[Tree] (config>app-assure packet-rate-high-wmark)

Full Context

configure application-assurance packet-rate-high-wmark

Description

This command configures the packet rate on the ISA-AA when a packet rate alarm will be raised by the agent.

Default

packet-rate-high-wmark max

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Parameters

high-watermark

Specifies the high watermark for packet rate alarms. The value must be larger than or equal to the **packet-rate-low-wmark** *low-watermark* value.

Values 1 to 14880952 packets/sec, **max** (disabled)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.24 packet-rate-low-wmark

packet-rate-low-wmark

Syntax

packet-rate-low-wmark *low-watermark*

no packet-rate-low-wmark

Context

[Tree] (config>app-assure packet-rate-low-wmark)

Full Context

configure application-assurance packet-rate-low-wmark

Description

This command configures the packet rate on the ISA-AA when a packet rate alarm will be cleared by the agent.

The **no** form of this command reverts to the default.

Default

packet-rate-low-wmark 0

Parameters

low-watermark

Specifies the low watermark for packet rate alarms. The value must be lower than or equal to the **packet-rate-high-wmark** *high-watermark* value.

Values 0 to 14880952 packets per second

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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33.25 packet-rx

packet-rx

Syntax

packet-rx [**client** *client-ip* [**source-port** *src-port*]] [**fcc-join**] [**fcc-leave**] [**ret-nack**]

no packet-rx

Context

[Tree] (debug>service>id>video-interface packet-rx)

Full Context

debug service id video-interface packet-rx

Description

This command enables debugging of received RTCP messages. The options for this command allow the user to filter only certain types of messages to appear in the debug traces.

Parameters

client *client-ip*

Specifies the client IP address.

source-port *src-port*

Specifies the source port.

fcc-join

Enables debugging for FCC joins.

fcc-leave

Enables debugging for FCC leaves.

ret-nack

Enables debugging for retransmission nack packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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33.26 packet-sanity

packet-sanity

Syntax

packet-sanity direction *direction* [**create**]

no packet-sanity direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>sctp-filter packet-sanity)

Full Context

configure application-assurance group statistics threshold-crossing-alert sctp-filter packet-sanity

Description

This command configures a TCA for the counter capturing packet sanity hits for the specified SCTP filter. A packet sanity TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.27 packet-size

packet-size

Syntax

packet-size *bytes*

no packet-size

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Context

[Tree] (config>system>snmp packet-size)

Full Context

configure system snmp packet-size

Description

This command configures the maximum SNMP packet size generated by this node.

The **no** form of this command restores the default value.

Default

packet-size 1500

Parameters

bytes

Specifies the SNMP packet size in bytes.

Values 484 to 9216

Platforms

All

33.28 packet-size-limit

packet-size-limit

Syntax

packet-size-limit *packet-size*

no packet-size-limit

Context

[Tree] (config>app-assure>group>dns-enrich packet-size-limit)

Full Context

configure application-assurance group dns-enrich packet-size-limit

Description

This command configures the maximum DNS packet size. If enrichment causes the size of the packet to exceed this configured maximum value, AA does not enrich the DNS packet.

The **no** form of this command removes the maximum DNS packet size.

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Default

1500 bytes

Parameters

packet-size

Specifies the maximum DNS packet size, up to 9212 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.29 packet-too-big

packet-too-big

Syntax

packet-too-big [*number seconds*]

no packet-too-big

Context

[Tree] (config>service>ies>if>ipv6>icmp6 packet-too-big)

Full Context

configure service ies interface ipv6 icmp6 packet-too-big

Description

This command specifies whether packet-too-big ICMP messages should be sent. When enabled, ICMPv6 packet-too-big messages are generated by this interface.

The **no** form of this command disables the sending of ICMPv6 packet-too-big messages.

Default

packet-too-big 100 10

Parameters

number

Specifies the number of ICMP messages that are too large to send in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

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seconds

Specifies the time frame, in seconds, that is used to limit the number of "packet-too-big" ICMP messages issued.

Values 1 to 60

Default 10

Platforms

All

packet-too-big

Syntax

packet-too-big [*number seconds*]

no packet-too-big

Context

[Tree] (config>service>vprn>if>ipv6>icmp6 packet-too-big)

Full Context

configure service vprn interface ipv6 icmp6 packet-too-big

Description

This command configures the rate for Internet Control Message Protocol version 6 (ICMPv6) packet-too-big messages.

Parameters

number

Specifies the number of packet-too-big messages to send in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

seconds

Specifies the time frame, in seconds, that is used to limit the number of packet-too-big messages issued.

Values 1 to 60

Default 10

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Platforms

All

packet-too-big

Syntax

packet-too-big

packet-too-big number [**10..1000**] **seconds** [**1..60**]

no packet-too-big

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel>icmp6-gen packet-too-big)

Full Context

configure service vprn interface sap ip-tunnel icmp6-generation packet-too-big

Description

This command enables the system to send ICMPv6 PTB (Packet Too Big) messages on the private side and optionally specifies the rate.

With this command configured, the system sends PTB back if it received an IPv6 packet on the private side that is bigger than 1280 bytes and also exceeds the private MTU of the tunnel.

The **ip-mtu** command (under **ipsec-tunnel** or **tunnel-template**) specifies the private MTU for the ipsec-tunnel or dynamic tunnel.

The **no** form of this command reverts **interval** and **message-count** values to their default values.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

packet-too-big

Syntax

packet-too-big [*number seconds*]

no packet-too-big

Context

[Tree] (config>router>if>ipv6>icmp6 packet-too-big)

Full Context

configure router interface ipv6 icmp6 packet-too-big

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Description

This command configures the rate for ICMPv6 packet-too-big messages.

Parameters

number

Limits the number of packet-too-big messages issued per time frame specified in the *seconds* parameter.

Values 10 to 1000

seconds

Determines the time frame, in seconds, that is used to limit the number of packet-too-big messages issued per time frame.

Values 1 to 60

Platforms

All

33.30 packet-type

packet-type

Syntax

packet-type [**authentication**] [**accounting**] [**coa**]

no packet-type

Context

[Tree] (debug>router>radius packet-type)

Full Context

debug router radius packet-type

Description

This command specifies the RADIUS packet type filter of command **debug router radius**.

Default

authentication accounting coa

Parameters

authentication

Specifies the RADIUS authentication packet.

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accounting

Specifies the RADIUS accounting packet.

coa

Specifies the RADIUS change of authorization packet.

Platforms

All

33.31 packets

packets

Syntax

[**no**] **packets** [**interface** *ip-int-name*]

Context

[Tree] (debug>router>srrp packets)

Full Context

debug router srrp packets

Description

This command enables debugging for SRRP packets.

The **no** form of this command disables debugging.

Platforms

All

packets

Syntax

[**no**] **packets**

[**no**] **packets interface** *ip-int-name* [**vrid** *virtual-router-id*]

[**no**] **packets interface** *ip-int-name* **vrid** *virtual-router-id* **ipv6**

Context

[Tree] (debug>router>vrrp packets)

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Full Context

debug router vrrp packets

Description

This command enables or disables debugging for VRRP packets.

Parameters

ip-int-name

Specifies the interface name, up to 32 characters.

virtual-router-id

Specifies the router ID.

Values 1 to 255

ipv6

Debugs the specified IPv6 VRRP interface.

Platforms

All

packets

Syntax

packets [**neighbor** *ip-address* | **group** *name*]

no packets

Context

[Tree] (debug>router>bgp packets)

Full Context

debug router bgp packets

Description

This command decodes and logs all sent and received BGP packets in the debug log.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

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- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group ***name***

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

packets

Syntax

packets [**station** *station-name*]

no packets

Context

[Tree] (debug>router>bmp packets)

Full Context

debug router bmp packets

Description

This command enables debugging for all BMP packets.

The **no** form of the command disables debugging for all BMP packets.

Parameters

station-name

Specifies the station name of the BMP monitoring station, up to 32 characters.

Platforms

All

packets

Syntax

[**no**] **packets** [**neighbor** *ip-int-name* | *ip-addr*]

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Context

[Tree] (debug>router>rip packets)

Full Context

debug router rip packets

Description

This command enables debugging for RIP packets.

Parameters

ip-int-name* | *ip-address

Debugs the RIP packets sent on the neighbor IP address or interface.

Platforms

All

packets

Syntax

[**no**] **packets** [**neighbor** *ip-int-name* | *ipv6-address*]

Context

[Tree] (debug>router>ripng packets)

Full Context

debug router ripng packets

Description

This command enables debugging for RIPng packets.

Parameters

ip-int-name*| *ipv6-address

Debugs the RIPng packets sent on the neighbor IP address or interface.

Platforms

All

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33.32 packets-admitted-count

packets-admitted-count

Syntax

[**no**] **packets-admitted-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr packets-admitted-count)

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr packets-admitted-count)

Full Context

configure log accounting-policy custom-record aa-specific from-aa-sub-counters packets-admitted-count

configure log accounting-policy custom-record aa-specific to-aa-sub-counters packets-admitted-count

Description

This command includes the admitted packet count in the AA subscriber's custom record and only applies to the 7750 SR.

The **no** form of this command excludes the admitted packet count.

Default

no packets-admitted-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.33 packets-denied-count

packets-denied-count

Syntax

[**no**] **packets-denied-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-from-sub-cntr packets-denied-count)

[Tree] (config>log>acct-policy>cr>aa>aa-to-sub-cntr packets-denied-count)

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Full Context

configure log accounting-policy custom-record aa-specific from-aa-sub-counters packets-denied-count

configure log accounting-policy custom-record aa-specific to-aa-sub-counters packets-denied-count

Description

This command includes the denied packet count in the AA subscriber's custom record and only applies to the 7750 SR.

The **no** form of this command excludes the denied packet count.

Default

no packets-denied-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.34 pad-size

pad-size

Syntax

pad-size *octets*

no pad-size

Context

[Tree] (config>oam-pm>session>ip>twamp-light pad-size)

Full Context

configure oam-pm session ip twamp-light pad-size

Description

This command defines the amount by which the TWAMP Light packet is padded. TWAMP session controller packets are 27 bytes smaller than TWAMP session reflector packets. If symmetrical packet sizes in the forward and backward direction are required, the pad size must be configured to a minimum of 27 bytes.

The **no** form of this command removes all padding.

Default

pad-size 0

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Parameters

octets

Specifies the value, in octets, to pad the TWAMP Light packet.

Values 0 to 2000

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.35 pad-tlv-size

pad-tlv-size

Syntax

pad-tlv-size *octets*

no pad-tlv-size

Context

[Tree] (config>oam-pm>session>mpls>dm pad-tlv-size)

Full Context

configure oam-pm session mpls dm pad-tlv-size

Description

This command allows the operator to add an optional Pad TLV to PDU and increase the frame on the wire by the specified amount. Note that this command only configures the size of the padding added to the PDU, and does not configure the total size of the frame on the wire. Since the bit count for the length is a maximum of 255 (8bits) the maximum pad per pad-tlv is between 0, 2 and 257 (type 1B, Length 1B, Length 255). Only a single pad-tlv can be added.

The **no** form of this command removes the optional TLV.

Parameters

octets

Specifies the overall length of the pad-tlv.

Values 0, 2 to 257

Default 0

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

pad-tlv-size

Syntax

pad-tlv-size *octets*

no pad-tlv size

Context

[Tree] (config>test-oam>link-meas>template>twl pad-tlv-size)

Full Context

configure test-oam link-measurement measurement-template twamp-light pad-tlv-size

Description

This command configures an optional pad TLV size that allows a STAMP PDU to include the PAD TLV. This increases the size of the STAMP PDU by the size of the added TLV. The PAD TLV includes an all-zeros pattern.

Note: This command only applies when the Session-Sender type is **stamp**. It has no effect when the Session-Sender type is **twamp-light**.

The **no** form of this command disables adding a PAD TLV to the STAMP PDU.

Default

no padding

Parameters

octets

Specifies the length of the PAD TLV.

Values 4 to 9714

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

pad-tlv-size

Syntax

pad-tlv-size *octets* [**create**]

no pad-tlv-size

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Context

[Tree] (config>oam-pm>session>ip>twamp-light pad-tlv-size)

Full Context

configure oam-pm session ip twamp-light pad-tlv-size

Description

This command configures the PAD TLV to be included in the STAMP test packet with a total byte count equivalent to the value of this leaf.

TWAMP Light does not support TLVs. To pad the size of the TWAMP Light test packet the user must configure the **pad-size** command. STAMP test packets (the standard form of TWAMP Light) introduces TLVs for padding. Therefore, STAMP test packets must use the pad-tlv-size value.

The **no** form of this command removes the TWAMP Light test function from the OAM-PM session.

Parameters

test-id

Specifies the value of the 4-byte local test identifier not sent in the TWAMP Light packets.

Values 0 to 2147483647

create

Creates the test.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.36 padding-size

padding-size

Syntax

padding-size *padding-size*

no padding-size

Context

[Tree] (config>service>vprn>static-route-entry>next-hop>cpe-check padding-size)

[Tree] (config>service>vprn>static-route-entry>indirect>cpe-check padding-size)

Full Context

configure service vprn static-route-entry next-hop cpe-check padding-size

configure service vprn static-route-entry indirect cpe-check padding-size

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Description

This optional parameter specifies the amount of padding to add to the ICMP packet in bytes. The parameter is only applicable when the **cpe-check** option is used with the associated static route.

Default

padding-size 56

Parameters

padding-size

An integer value.

Values 0 to 16384 bytes

Platforms

All

padding-size

Syntax

padding-size *padding-size*

no padding-size

Context

[Tree] (config>router>static-route-entry>indirect>cpe-check padding-size)

[Tree] (config>router>static-route-entry>next-hop>cpe-check padding-size)

Full Context

configure router static-route-entry indirect cpe-check padding-size

configure router static-route-entry next-hop cpe-check padding-size

Description

This command specifies the amount of padding to add to the ICMP packet in bytes. The parameter is only applicable when the **cpe-check** option is used with the associated static route.

Default

padding-size 56

Parameters

padding-size

Specifies the integer value.

Values 0 to 16384 bytes

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Platforms

All

padding-size

Syntax

padding-size *padding-size*

no padding-size

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check padding-size)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check padding-size)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check padding-size

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check padding-size

Description

This command configures the padding size for the ICMP ping test packet of the CPE connectivity check.

Default

padding-size 56

Parameters

padding-size

Specifies the padding size value.

Values 0 to 16384 bytes

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

padding-size

Syntax

padding-size *size*

no padding-size

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Context

[Tree] (config>vrrp>policy>priority-event>host-unreachable padding-size)

Full Context

configure vrrp policy priority-event host-unreachable padding-size

Description

This command allows the operator to increase the size of IP packet by padding the PDU.

The **no** form of the command reverts to the default.

Default

padding-size 0

Parameters

size

Specifies amount of increase to the ICMP PDU.

Values 0 to 16384

Platforms

All

33.37 padi-auth-policy

padi-auth-policy

Syntax

padi-auth-policy *policy-name*

no padi-auth-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host padi-auth-policy)

Full Context

configure subscriber-mgmt local-user-db ppp host padi-auth-policy

Description

This command configures the PADI authentication policy of this host.

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Parameters

policy-name

Specifies the authentication policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

33.38 pado-ac-name

pado-ac-name

Syntax

pado-ac-name *name*

no pado-ac-name

Context

[Tree] (config>subscr-mgmt>ppp-policy pado-ac-name)

Full Context

configure subscriber-mgmt ppp-policy pado-ac-name

Description

This command configures the Access Concentrator name that is used in the PPPoE PADO message.

By default, the system name or if not configured, the chassis Serial Number is used.

Parameters

name

Specifies the string up to 128 characters to be used as AC name in the PPPoE PADO message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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33.39 pado-delay

pado-delay

Syntax

pado-delay *deci-seconds*

no pado-delay

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host pado-delay)

Full Context

configure subscriber-mgmt local-user-db ppp host pado-delay

Description

This command configures the delay timeout before sending a PPPoE Active Discovery Offer (PADO).

Parameters

deci-seconds

Specifies the delay timeout before sending a PADO.

Values 1 to 30

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

pado-delay

Syntax

pado-delay *deci-seconds*

no pado-delay

Context

[Tree] (config>subscr-mgmt>ppp-policy pado-delay)

Full Context

configure subscriber-mgmt ppp-policy pado-delay

Description

This command configures the delay timeout before sending a PPP Active Discovery Offer (PADO) packet.

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Parameters

deci-seconds

Specifies the delay timeout before sending a PADO.

Values 1 to 30

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

33.40 parallel

parallel

Syntax

parallel [**no-advertise**]

no parallel

Context

[Tree] (config>router>ospf>segm-rtng>adjacency-set parallel)

[Tree] (config>router>isis>segm-rtng>adjacency-set parallel)

Full Context

configure router ospf segment-routing adjacency-set parallel

configure router isis segment-routing adjacency-set parallel

Description

This command indicates that all members of the adjacency set must terminate on the same neighboring node. The system raises a trap if a user attempts to add an adjacency terminating on a neighboring node that differs from the existing members of the adjacency set. In addition, the system stops advertising the adjacency set in IS-IS or OSPF and locally deprograms it.

By default, parallel adjacency sets are advertised in the IGP. The **no-advertise** option prevents an adjacency set from being advertised in the IGP. It is only allowed in CLI and SNMP if the **parallel** command is configured.

The **no** form of this command indicates that the adjacency set can include adjacencies to different next hop nodes.

Default

parallel

Platforms

All

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33.41 param-problem

param-problem

Syntax

param-problem [*number seconds*]

no param-problem

Context

[Tree] (config>service>ies>sub-if>grp-if>icmp param-problem)

[Tree] (config>service>ies>if>icmp param-problem)

[Tree] (config>service>ies>if>ipv6>icmp6 param-problem)

[Tree] (config>service>vprn>sub-if>grp-if>icmp param-problem)

Full Context

configure service ies subscriber-interface group-interface icmp param-problem

configure service ies interface icmp param-problem

configure service ies interface ipv6 icmp6 param-problem

configure service vprn subscriber-interface group-interface icmp param-problem

Description

This command specifies whether parameter-problem ICMP/ICMPv6 messages should be sent. When enabled, parameter-problem ICMP/ICMPv6 messages are generated by this interface.

The **no** form of this command disables the sending of parameter-problem ICMP/ICMPv6 messages.

Default

param-problem 100 10

Parameters

number

Specifies the number of parameter-problem ICMPv6 messages to send in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

seconds

Specifies the time frame, in seconds, that is used to limit the number of parameter-problem ICMPv6 messages issued.

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Values 1 to 60

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface icmp param-problem
- configure service ies subscriber-interface group-interface icmp param-problem

All

- configure service ies interface icmp param-problem
- configure service ies interface ipv6 icmp6 param-problem

param-problem

Syntax

param-problem [**number** *number*] [**seconds** *seconds*]

no param-problem

Context

[Tree] (config>subscr-mgmt>git>ipv4>icmp param-problem)

Full Context

configure subscriber-mgmt group-interface-template ipv4 icmp param-problem

Description

This command configures the parameter-problem ICMPv4 messages that are generated by this interface.

The **no** form of this command disables the sending of parameter-problem ICMPv4 messages.

Default

param-problem number 100 seconds 10

Parameters

number

Specifies the number of parameter-problem ICMPv4 messages sent in the time specified by the *seconds* parameter.

Values 10 to 1000

seconds

Specifies the time, in seconds, that is used to limit the number of parameter-problem ICMPv4 messages issued.

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Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

param-problem

Syntax

param-problem *number seconds*

no param-problem [*number seconds*]

Context

[Tree] (config>service>vprn>if>ipv6>icmp6 param-problem)

[Tree] (config>service>vprn>nw-if>icmp param-problem)

[Tree] (config>service>vprn>if>icmp param-problem)

Full Context

configure service vprn interface ipv6 icmp6 param-problem

configure service vprn network-interface icmp param-problem

configure service vprn interface icmp param-problem

Description

This command specifies whether parameter-problem ICMP messages should be sent. When enabled, parameter-problem ICMP messages are generated by this interface. The **no** form of this command disables the sending of parameter-problem ICMP messages.

Parameters

number

Specifies the number of parameter-problem ICMP messages to send in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

seconds

Specifies the time frame, in seconds, that is used to limit the number of parameter-problem ICMP messages issued.

Values 1 to 60

Default 10

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Platforms

All

param-problem

Syntax

param-problem [*number seconds*]

no param-problem

Context

[Tree] (config>router>if>icmp param-problem)

Full Context

configure router interface icmp param-problem

Description

This command specifies whether parameter-problem ICMP messages should be sent. When enabled, parameter-problem ICMP messages are generated by this interface.

The **no** form of this command disables the sending of parameter-problem ICMP messages.

Parameters

number

Specifies the number of parameter-problem ICMP messages to send in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

seconds

Specifies the time frame, in seconds, that is used to limit the number of parameter-problem ICMP messages issued.

Values 1 to 60

Default 10

Platforms

All

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param-problem

Syntax

param-problem [*number seconds*]

no param-problem

Context

[Tree] (config>router>if>ipv6>icmp6 param-problem)

Full Context

configure router interface ipv6 icmp6 param-problem

Description

This command specifies whether parameter-problem ICMPv6 messages should be sent. When enabled, parameter-problem ICMPv6 messages are generated by this interface.

The **no** form of this command disables the sending of parameter-problem ICMPv6 messages.

Parameters

number

Specifies the number of parameter-problem ICMPv6 messages to send in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

seconds

Specifies the time frame, in seconds, that is used to limit the number of parameter-problem ICMPv6 messages issued.

Values 1 to 60

Default 10

Platforms

All

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33.42 parent

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>port>ethernet>access>egr>qgrp>qover>q parent)

Full Context

configure port ethernet access egress queue-group queue-overrides queue parent

Description

This command, when used in the *queue-overrides* context for a queue group queue, defines an optional **weight** and **cir-weight** for the queue treatment by the parent scheduler that further governs the available bandwidth for the queue aside from the queue PIR setting. When multiple schedulers and or queues share a child status with the parent scheduler, the weight or level parameters define how this queue contends with the other children for the parent bandwidth.

Parameters

weight

Specifies the relative weight of this queue in comparison to other child schedulers and queues while vying for bandwidth on the parent scheduler-name. Any queues or schedulers defined as weighted receive no parental bandwidth until all strict queues and schedulers on the parent have reached their maximum bandwidth or are idle. In this manner, weighted children are considered to be the lowest priority.

Values 0 to 100

Default 1

cir-weight

Specifies the weight the queue uses at the within-cir port priority level. The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-cir pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

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Platforms

All

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>port>ethernet>access>egr>qgrp>sched-override>scheduler parent)

[Tree] (config>port>ethernet>access>ing>qgrp>sched-override>scheduler parent)

Full Context

configure port ethernet access egress queue-group scheduler-override scheduler parent

configure port ethernet access ingress queue-group scheduler-override scheduler parent

Description

This command can be used to override the scheduler's parent weight and CIR weight. The weights apply to the associated level/cir-level configured in the applied scheduler policy. The scheduler name must exist in the applied scheduler policy.

The override weights are ignored if the scheduler does not have a parent command configured in the scheduler policy - this allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the queue group overrides. If the parent scheduler does not exist, causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non-default weightings for fostered schedulers.

The **no** form of this command returns the scheduler's parent weight and cir-weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict level defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total distributes the available bandwidth at that level. A weight is considered to be active when the queue or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

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cir-weight

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same cir-level defined by the cir-level parameter in the applied scheduler policy. Within the strict cir-level, all cir-weight values from active children at that level are summed and the ratio of each active child's cir-weight to the total distributes the available bandwidth at that level. A cir-weight is considered to be active when the policer, queue, or scheduler that the cir-weight pertains to has not reached the CIR and still has packets to transmit.

A 0 (zero) cir-weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Platforms

All

parent

Syntax

parent *scheduler-name* [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no parent

Context

[Tree] (config>qos>sap-egress>dynamic-queue parent)

Full Context

configure qos sap-egress dynamic-queue parent

Description

This command configures the queue treatment by the parent scheduler that governs the available bandwidth for the queue. When multiple schedulers share a child status with the parent scheduler, the **weight** and **level** options define how this queue contends with the other children for the above-CIR parent bandwidth. The **cir-weight** and **cir-level** options specify the weight the queue uses at the within-CIR port priority level.

Parameters

scheduler-name

Specifies the name of the scheduler parent, up to 32 characters.

Values 1 to 100

weight

Specifies the relative weight of this queue in comparison to other child schedulers and queues while vying for above-CIR priority level bandwidth on the parent scheduler. Any queues or schedulers defined as weighted receive no parental bandwidth, until all strict

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queues and schedulers on the parent have reached their maximum bandwidth or are idle. In this manner, weighted children are considered to be the lowest priority.

Values 1 to 100

Default 1

level

Specifies the priority level of the queue (as compared to other competing schedulers and queues) used to feed to the parent, for above-CIR offered load bandwidth passes.

Values 1 to 8

Default 1

cir-weight

Specifies the weight the queue uses at the within-cir priority level. The weight is specified as an integer value from 0 to 100, with 100 being the highest weight. When the cir-weight parameter is set to 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-cir pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

cir-level

Specifies the priority level of the queue (as compared to other competing schedulers and queues) used to fed to the parent, for within-CIR offered load bandwidth passes.

Values 0 to 8

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

parent

Syntax

parent {[**weight** *weight*] [**cir-weight** *cir-weight*]}

no parent

Context

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue parent)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue parent)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue parent)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue parent)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue parent)

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[Tree] (config>service>epipe>sap>egress>queue-override>queue parent)

Full Context

configure service cpipe sap ingress queue-override queue parent

configure service cpipe sap egress queue-override queue parent

configure service ipipe sap egress queue-override queue parent

configure service ipipe sap ingress queue-override queue parent

configure service epipe sap ingress queue-override queue parent

configure service epipe sap egress queue-override queue parent

Description

This command defines an optional parent scheduler that further governs the available bandwidth given the queue aside from the queue's PIR setting. When multiple schedulers and/or queues share a child status with the parent scheduler, the **weight** or **level** parameters define how this queue contends with the other children for the parent's bandwidth.

Checks are not performed to see if a *scheduler-name* exists when the parent command is defined on the queue. Scheduler names are configured in the **config>qos>scheduler-policy>tier** *level* context. Multiple schedulers can exist with the *scheduler-name* and the association pertains to a scheduler that should exist on the egress SAP as the policy is applied and the queue created. When the queue is created on the egress SAP, the existence of the *scheduler-name* is dependent on a scheduler policy containing the *scheduler-name* being directly or indirectly applied (through a multi-service customer site) to the egress SAP. If the *scheduler-name* does not exist, the queue is placed in the orphaned operational state. The queue will accept packets but will not be bandwidth limited by a virtual scheduler or the scheduler hierarchy applied to the SAP. The orphaned state must generate a log entry and a trap message. The SAP which the queue belongs to must also depict an orphan queue status. The orphaned state of the queue is automatically cleared when the *scheduler-name* becomes available on the egress SAP.

The parent scheduler can be made unavailable due to the removal of a scheduler policy or scheduler. When an existing parent scheduler is removed or inoperative, the queue enters the orphaned state and automatically returns to normal operation when the parent scheduler is available again.

When a parent scheduler is defined without specifying weight or strict parameters, the default bandwidth access method is weight with a value of 1.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and returns without an error. Once a parent association has been removed, the former child queue attempts to operate based on its configured rate parameter. Removing the parent association on the queue within the policy takes effect immediately on all queues using the SAP egress QoS policy.

Parameters

weight

These optional keywords are mutually exclusive to the **level** keyword. Specifies the relative weight of this queue in comparison to other child schedulers, policers, and queues while vying for bandwidth on the parent *scheduler-name*. Any policers, queues, or schedulers defined as weighted receive no parental bandwidth until all policers, queues, and schedulers with a higher (numerically larger) priority on the parent have reached their maximum bandwidth or are idle.

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All **weight** values from all weighted active policers, queues, and schedulers with a common parent scheduler are added together. Then, each individual active weight is divided by the total, deriving the percentage of remaining bandwidth provided to the policer, queue, or scheduler. A weight is considered to be active when the pertaining policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit. All child policers, queues, and schedulers with a weight of 0 are considered to have the lowest priority level and are not serviced until all non-zero weighted policers, queues, and schedulers at that level are operating at the maximum bandwidth or are idle.

Values 0 to 100

Default 1

cir-weight

Specifies the weight the queue or scheduler will use at the within-cir port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0 (the default value), the policer, queue, or scheduler does not receive bandwidth during the port schedulers within-cir pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue parent
- configure service cpipe sap ingress queue-override queue parent

All

- configure service epipe sap egress queue-override queue parent
- configure service ipipe sap egress queue-override queue parent
- configure service ipipe sap ingress queue-override queue parent
- configure service epipe sap ingress queue-override queue parent

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>service>ipipe>sap>ingress>sched-override>scheduler parent)

[Tree] (config>service>cpipe>sap>ingress>sched-override>scheduler parent)

[Tree] (config>service>cpipe>sap>egress>sched-override>scheduler parent)

[Tree] (config>service>epipe>sap>egress>sched-override>scheduler parent)

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[Tree] (config>service>epipe>sap>ingress>sched-override>scheduler parent)

[Tree] (config>service>ipipe>sap>egress>sched-override>scheduler parent)

Full Context

configure service ipipe sap ingress scheduler-override scheduler parent

configure service cpipe sap ingress scheduler-override scheduler parent

configure service cpipe sap egress scheduler-override scheduler parent

configure service epipe sap egress scheduler-override scheduler parent

configure service epipe sap ingress scheduler-override scheduler parent

configure service ipipe sap egress scheduler-override scheduler parent

Description

This command can be used to override the scheduler's parent weight and cir-weight information. The weights apply to the associated level/cir-level configured in the applied scheduler policy. The scheduler name must exist in the scheduler policy applied to the ingress or egress of the SAP or multi-service site.

The override weights are ignored if the scheduler does not have a parent command configured in the scheduler policy – this allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the SAP/MSS overrides. If the parent scheduler does not exist causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non-default weightings for fostered schedulers.

The **no** form of this command returns the scheduler's parent weight and cir-weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight

Specifies the relative weight of this scheduler in comparison to other child schedulers, policers, and queues at the same strict **level** defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the policer, queue, or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

cir-weight

Specifies the relative weight of this scheduler in comparison to other child schedulers, policers, and queues at the same *cir-level* defined by the **cir-level** parameter in the applied scheduler policy. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that level. A **cir-weight** is considered to be active

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when the policer, queue, or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit.

A 0 (zero) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Platforms

All

- configure service epipe sap egress scheduler-override scheduler parent
- configure service ipipe sap egress scheduler-override scheduler parent
- configure service ipipe sap ingress scheduler-override scheduler parent
- configure service epipe sap ingress scheduler-override scheduler parent

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress scheduler-override scheduler parent
- configure service cpipe sap egress scheduler-override scheduler parent

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>service>vpls>sap>ingress>queue-override>queue parent)

[Tree] (config>service>vpls>sap>egress>queue-override>queue parent)

Full Context

configure service vpls sap ingress queue-override queue parent

configure service vpls sap egress queue-override queue parent

Description

This command defines an optional parent scheduler that further governs the available bandwidth given the queue aside from the queue's PIR setting. When multiple schedulers and/or queues share a child status with the parent scheduler, the **weight** or **level** parameters define how this queue contends with the other children for the parent's bandwidth.

Checks are not performed to see if a *scheduler-name* exists when the parent command is defined on the queue. Scheduler names are configured in the **config>qos>scheduler-policy>tier** *level* context. Multiple schedulers can exist with the *scheduler-name* and the association pertains to a scheduler that should exist on the egress SAP as the policy is applied and the queue created. When the queue is created on the egress SAP, the existence of the *scheduler-name* is dependent on a scheduler policy containing the *scheduler-name* being directly or indirectly applied (through a multi-service customer site) to the

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egress SAP. If the *scheduler-name* does not exist, the queue is placed in the orphaned operational state. The queue will accept packets but will not be bandwidth limited by a virtual scheduler or the scheduler hierarchy applied to the SAP. The orphaned state must generate a log entry and a trap message. The SAP which the queue belongs to must also depict an orphan queue status. The orphaned state of the queue is automatically cleared when the *scheduler-name* becomes available on the egress SAP.

The parent scheduler can be made unavailable due to the removal of a scheduler policy or scheduler. When an existing parent scheduler is removed or inoperative, the queue enters the orphaned state mentioned above and automatically return to normal operation when the parent scheduler is available again.

When a parent scheduler is defined without specifying weight or strict parameters, the default bandwidth access method is weight with a value of 1.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and returns without an error. Once a parent association has been removed, the former child queue attempts to operate based on its configured rate parameter. Removing the parent association on the queue within the policy takes effect immediately on all queues using the SAP egress QoS policy.

Parameters

weight

These optional keywords are mutually exclusive to the **level** keyword. The weight defines the relative weight of this queue in comparison to other child schedulers, policers, and queues while vying for bandwidth on the parent *scheduler-name*. Any policers, queues, or schedulers defined as weighted receive no parental bandwidth until all policers, queues, and schedulers with a higher (numerically larger) priority on the parent have reached their maximum bandwidth or are idle.

All **weight** values from all weighted active policers, queues, and schedulers with a common parent scheduler are added together. Then, each individual active weight is divided by the total, deriving the percentage of remaining bandwidth provided to the policer, queue, or scheduler. A weight is considered to be active when the pertaining policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit. All child policers, queues, and schedulers with a weight of 0 are considered to have the lowest priority level and are not serviced until all non-zero weighted policers, queues, and schedulers at that level are operating at the maximum bandwidth or are idle.

Values 0 to 100

Default 1

cir-weight

Specifies the weight the queue or scheduler will use at the within-cir port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0 (the default value), the policer, queue, or scheduler does not receive bandwidth during the port schedulers within-cir pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

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Platforms

All

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>service>vpls>sap>egress>sched-override>scheduler parent)

[Tree] (config>service>vpls>sap>ingress>sched-override>scheduler parent)

Full Context

configure service vpls sap egress scheduler-override scheduler parent

configure service vpls sap ingress scheduler-override scheduler parent

Description

This command can be used to override the scheduler's parent weight and cir-weight information. The weights apply to the associated level/cir-level configured in the applied scheduler policy. The scheduler name must exist in the scheduler policy applied to the ingress or egress of the SAP or multi-service site.

The override weights are ignored if the scheduler does not have a parent command configured in the scheduler policy – this allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the SAP/MSS overrides. If the parent scheduler does not exist causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non-default weightings for fostered schedulers.

The **no** form of this command returns the scheduler's parent weight and cir-weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict **level** defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the policer, queue, or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

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Values 0 to 100

cir-weight

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same *cir-level* defined by the **cir-level** parameter in the applied scheduler policy. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that level. A **cir-weight** is considered to be active when the policer, queue, or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit.

A 0 (zero) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Platforms

All

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue parent)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue parent)

[Tree] (config>service>ies>if>sap>ingress>sched-override>scheduler parent)

[Tree] (config>service>ies>if>sap>egress>sched-override>scheduler parent)

Full Context

configure service ies interface sap egress queue-override queue parent

configure service ies interface sap ingress queue-override queue parent

configure service ies interface sap ingress scheduler-override scheduler parent

configure service ies interface sap egress scheduler-override scheduler parent

Description

This command can be used to override the scheduler's parent weight and cir-weight information. The weights apply to the associated level/cir-level configured in the applied scheduler policy. The scheduler name must exist in the scheduler policy applied to the ingress or egress of the SAP or multi-service site.

The override weights are ignored if the scheduler does not have a parent command configured in the scheduler policy – this allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the SAP/MSS overrides. If the parent scheduler does not exist causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non default weightings for fostered schedulers.

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The **no** form of this command returns the scheduler's parent weight and cir-weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight *weight*

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict **level** defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the queue or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

cir-weight *cir-weight*

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same *cir-level* defined by the **cir-level** parameter in the applied scheduler policy. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that level. A **cir-weight** is considered to be active when the policer, queue, or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit.

A 0 (zero) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Platforms

All

parent

Syntax

parent [**weight** *weight*] [**cir-weight cir-***weight*]

no parent

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue parent)

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue parent)

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Full Context

configure service vprn interface sap egress queue-override queue parent

configure service vprn interface sap ingress queue-override queue parent

Description

This command can be used to override the scheduler's parent weight and cir-weight information. The weights apply to the associated level/cir-level configured in the applied scheduler policy. The scheduler name must exist in the scheduler policy applied to the ingress or egress of the SAP or multi-service site.

The override weights are ignored if the scheduler does not have a parent command configured in the scheduler policy – this allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the SAP/MSS overrides. If the parent scheduler does not exist causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non default weightings for fostered schedulers.

The **no** form of this command returns the scheduler's parent weight and cir-weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight *weight*

Specifes the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict **level** defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the queue or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

Default 1

cir-weight *cir-weight*

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same *cir-level* defined by the **cir-level** parameter in the applied scheduler policy. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that level. A **cir-weight** is considered to be active when the policer, queue, or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit.

A 0 (zero) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

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Default 1

Platforms

All

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>service>vprn>if>sap>egress>sched-override>scheduler parent)

[Tree] (config>service>vprn>if>sap>ingress>sched-override>scheduler parent)

Full Context

configure service vprn interface sap egress scheduler-override scheduler parent

configure service vprn interface sap ingress scheduler-override scheduler parent

Description

This command can be used to override the scheduler's parent weight and cir-weight information. The weights apply to the associated level/cir-level configured in the applied scheduler policy. The scheduler name must exist in the scheduler policy applied to the ingress or egress of the SAP or multi-service site.

The override weights are ignored if the scheduler does not have a parent command configured in the scheduler policy – this allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the SAP/MSS overrides. If the parent scheduler does not exist causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non default weightings for fostered schedulers.

The no form of this command returns the scheduler's parent weight and cir-weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight *weight*

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict **level** defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the policer, queue, or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

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A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

cir-weight ***cir-weight***

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same *cir-level* defined by the **cir-level** parameter in the applied scheduler policy. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that level. A **cir-weight** is considered to be active when the policer, queue, or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit.

A 0 (zero) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Platforms

All

parent

Syntax

parent {**root** | *arbiter-name*} [**level** *priority-level*] [**weight** *weight-within-level*]

no parent

Context

[Tree] (config>qos>plcr-ctrl-plcy>tier>arbiter parent)

Full Context

configure qos policer-control-policy tier arbiter parent

Description

This command is used to define from where the tiered arbiter receives bandwidth. Both tier 1 and tier 2 arbiters default to parenting to the root arbiter. Tier 2 arbiters may be modified to parent to a tier 1 arbiter. The tier 1 arbiter parent cannot be changed.

The **no** form of this command is used to return the tiered arbiter to the default parenting behavior.

Default

parent root level 1 weight 1

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Parameters

root

In tier 1, *arbiter-name* is not allowed and only **root** is accepted. When **root** is specified, the arbiter will receive all bandwidth directly from the root arbiter. This is the default parent for tiered arbiters.

arbiter-name

In tier 1, *arbiter-name* is not allowed and only **root** is accepted. The specified *arbiter-name* must exist within the policer-control-policy at tier 1 or the parent command will fail. When a tiered arbiter is acting as a parent for another tiered arbiter, the parent arbiter cannot be removed from the policy. The child arbiter will receive all bandwidth directly from its parent arbiter (that receives bandwidth from the root arbiter).

priority-level

Each child arbiter attaches to its parent on one of the parent's eight strict levels. Level 1 is the lowest and 8 is the highest. The level attribute is used to define which level the child arbiter uses on its parent. The parent distributes its available bandwidth based on strict priority starting with priority level 8 and proceeding towards level 1.

Values 1 to 8

Default 1

weight-within-level

The **weight** attribute is used to define how multiple children at the same parent strict level compete when insufficient bandwidth exists on the parent for that level. Each child's weight is divided by the sum of the active children's weights and the result is multiplied by the available bandwidth. If a child cannot receive its entire weighted fair share of bandwidth due to a defined child rate limit, the remainder of its bandwidth is distributed between the other children based on their weights.

Values 1 to 100

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

parent

Syntax

parent *arbiter-name* [**weight** *weight-within-level*] [**level** *level*]

no parent

Context

[Tree] (config>qos>sap-ingress>dyn-policer parent)

[Tree] (config>qos>sap-ingress>policer parent)

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[Tree] (config>qos>sap-egress>policer parent)

[Tree] (config>qos>sap-egress>dyn-policer parent)

Full Context

configure qos sap-ingress dynamic-policer parent

configure qos sap-ingress policer parent

configure qos sap-egress policer parent

configure qos sap-egress dynamic-policer parent

Description

This command is used to create a child-to-parent mapping between each instance of the policer and either the **root** arbiter or a specific tiered **arbiter** on the object where the policy is applied. Defining a parent association for the policer causes the policer to compete for the parent policer's available bandwidth with other child policers mapped to the policer control hierarchy.

Policer control hierarchies may be created on SAPs or on a subscriber or multiservice site context. To create a policer control hierarchy on an ingress or egress SAP context, a **policer-control-policy** must be applied to the SAP. When applied, the system will create a parent policer that is bandwidth limited by the policy's **max-rate** value under the root arbiter. The root arbiter in the policy also provides the information used to determine the various priority-level discard-unfair and discard-all thresholds. Besides the root arbiter, the policy may also contain user-defined tiered arbiters that provide arbitrary bandwidth control for subsets of child policers that are either directly or indirectly parented by the arbiter.

When the QoS policy containing the policer with a **parent** mapping to an arbiter name exists on the SAP, the system will scan the available arbiters on the SAP. If an arbiter exists with the appropriate name, the policer to arbiter association is created. If the specified arbiter does not exist either because a **policer-control-policy** is not currently applied to the SAP or the arbiter name does not exist within the applied policy, the policer is placed in an orphan state. Orphan policers operate as if they are not parented and are not subject to any bandwidth constraints other than their own PIR. When a policer enters the orphan state, it is flagged as operationally degraded due to the fact that it is not operating as intended and a trap is generated. Whenever a **policer-control-policy** is added to the SAP or the existing policy is modified, the SAP's policer's parenting configurations must be reevaluated. If an orphan policer becomes parented, the degraded flag is cleared, and a resulting trap is generated.

For subscribers, the policer control hierarchy is created through the **policer-control-policy** applied to the **sub-profile** used by the subscriber. A unique policer control hierarchy is created for each subscriber associated with the **sub-profile**. The QoS policy containing the policer with the parenting command comes into play through the subscriber **sla-profile**, which references the QoS policy. The combining of the **sub-profile** and the **sla-profile** at the subscriber level provides the system with the proper information to create the policer control hierarchy instance for the subscriber. This functionality is available only for the 7450 ESS and 7750 SR.

Executing the **parent** command will fail if:

- The policer's stat-mode in the QoS policy is set to no-stats
- A stat-mode no-stats override exists on an instance of the policer on a SAP or subscriber or multiservice site context

A policer with a **parent** command applied cannot be configured with **stat-mode no-stats** in either the QoS policy or as an override on an instance of the policer.

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When a policer is successfully parented to an arbiter, the **parent** commands **level** and **weight** parameters are used to determine at what priority level and at which weight in the priority level that the child policer competes with other children (policers or other arbiters) for bandwidth.

The **no** form of this command is used to remove the parent association from all instances of the policer.

Parameters

{root | *arbiter-name*}

When the **parent** command is executed, either the keyword **root** or an *arbiter-name* must be specified.

root

Specifies that the policer is intended to become a child to the **root** arbiter where an instance of the policer is created. If the **root** arbiter does not exist, the policer will be placed in the orphan state.

Default **root**

arbiter-name

Specifies that the policer is intended to become a child to one of the tiered arbiters with the given arbiter-name where an instance of the policer is created. If the specified *arbiter-name* does not exist, the policer will be placed in the orphan state.

weight *weight-within-level*

The **weight** *weight-within-level* keyword and parameter are optional when executing the **parent** command. When **weight** is not specified, a default level of 1 is used in the parent arbiter's priority level. When **weight** is specified, the *weight-within-level* parameter must be specified as an integer value from 1 through 100.

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure qos sap-egress dynamic-policer parent
- configure qos sap-ingress dynamic-policer parent

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-ingress policer parent
- configure qos sap-egress policer parent

parent

Syntax

parent *scheduler-name* [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no parent

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Context

[Tree] (config>qos>sap-ingress>queue parent)

[Tree] (config>qos>sap-egress>queue parent)

Full Context

configure qos sap-ingress queue parent

configure qos sap-egress queue parent

Description

This command defines an optional parent scheduler that further governs the available bandwidth given the queue aside from the queue's PIR setting. When multiple schedulers, policers (at egress only), and/or queues share a child status with the parent scheduler, the **weight** or **level** parameters define how this queue contends with the other children for the parent's bandwidth.

Checks are not performed to see if a *scheduler-name* exists when the parent command is defined on the queue. Scheduler names are configured in the **config>qos>scheduler-policy>tier** *level* context. Multiple schedulers can exist with the *scheduler-name* and the association pertains to a scheduler that should exist on the egress SAP as the policy is applied and the queue created. When the queue is created on the egress SAP, the existence of the *scheduler-name* is dependent on a scheduler policy containing the *scheduler-name* being directly or indirectly applied (through a multiservice customer site) to the egress SAP. If the *scheduler-name* does not exist, the queue is placed in the orphaned operational state. The queue will accept packets but will not be bandwidth limited by a virtual scheduler or the scheduler hierarchy applied to the SAP. The SAP that the queue belongs to also depicts an orphan queue status. The orphaned state of the queue is automatically cleared when the *scheduler-name* becomes available on the egress SAP.

The parent scheduler can be made unavailable due to the removal of a scheduler policy or scheduler. When an existing parent scheduler is removed or inoperative, the queue enters the orphaned state and automatically returns to normal operation when the parent scheduler is available again.

When a parent scheduler is defined without specifying the weight parameter, the default is a weight of 1.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and returns without an error. When a parent association has been removed, the former child queue attempts to operate based on its configured rate parameter. Removing the parent association on the queue within the policy takes effect immediately on all queues using the SAP egress QoS policy.

Parameters

scheduler-name

The defined *scheduler-name* conforms to the same input criteria as the schedulers defined within a scheduler policy. Scheduler names are configured in the config>qos>scheduler-policy>tier *level* context. There are no checks performed at the time of definition to ensure that the *scheduler-name* exists within an existing scheduler policy. For the queue to use the defined *scheduler-name*, the scheduler exists on each egress SAP that the queue is eventually created on. For the duration where *scheduler-name* does not exist on the egress SAP, the queue operates in an orphaned state.

Values Any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

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weight

Specifies the relative weight of this queue in comparison to other child schedulers, policers, and queues, while vying for bandwidth on the parent *scheduler-name*. Any queues, policers, or schedulers defined as weighted receive no parental bandwidth until all policers, queues, and schedulers with a higher (numerically larger) priority on the parent have reached their maximum bandwidth or are idle.

All **weight** values from all weighted active queues, policers, and schedulers with a common parent scheduler are added together. Then, each individual active weight is divided by the total, deriving the percentage of remaining bandwidth provided to the queue, policer, or scheduler. A weight is considered to be active when the pertaining queue, policer, or scheduler has not reached its maximum rate and still has packets to transmit. All child queues, policers, and schedulers with a weight of 0 are considered to have the lowest priority level and are not serviced until all non-zero weighted queues, policers, and schedulers at that level are operating at the maximum bandwidth or are idle.

Values 0 to 100

Default 1

level

The optional **level** parameter defines the level of hierarchy when compared to other schedulers and queues competing for bandwidth on the parent *scheduler-name*. Queues or schedulers will not receive parental bandwidth until all queues, policers, and schedulers with a higher (numerically larger) priority on the parent have reached their maximum bandwidth or are idle.

Children of the parent scheduler with a lower strict priority will not receive bandwidth until all children with a higher strict priority have either reached their maximum bandwidth or are idle. Children with the same strict level are serviced in relation to their relative weights.

Values 1 to 8

Default 1

cir-weight

Specifies the weight that the queue or scheduler uses at the within-CIR port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

Default 1

cir-level

Specifies the port priority that the queue or scheduler will use to receive bandwidth for its within-CIR offered-load. If the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

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Values	0 to 8 (8 is the highest priority)
Default	0

Platforms

All

parent

Syntax

parent {**root** | *arbiter-name*} [**level** *level*] [**weight** *weight-within-level*]

no parent

Context

[Tree] (config>qos>qgrps>ing>qgrp>policer parent)

[Tree] (config>qos>qgrps>egr>qgrp>policer parent)

Full Context

configure qos queue-group-templates ingress queue-group policer parent

configure qos queue-group-templates egress queue-group policer parent

Description

This command is used to create a child-to-parent mapping between each instance of the policer and either the **root** arbiter or a specific tiered **arbiter** on the object where the policy is applied. Defining a parent association for the policer causes the policer to compete for the parent policer's available bandwidth with other child policers mapped to the policer control hierarchy.

Policer control hierarchies may be created on SAPs or on a subscriber or multiservice site context. To create a policer control hierarchy on an ingress or egress SAP context, a **policer-control-policy** must be applied to the SAP. When applied, the system will create a parent policer that is bandwidth limited by the policy's **max-rate** value under the root arbiter. The root arbiter in the policy also provides the information used to determine the various priority level discard-unfair and discard-all thresholds. Besides the root arbiter, the policy may also contain user-defined tiered arbiters that provide arbitrary bandwidth control for subsets of child policers that are either directly or indirectly parented by the arbiter.

When the QoS policy containing the policer with a **parent** mapping to an arbiter name exists on the SAP, the system will scan the available arbiters on the SAP. If an arbiter exists with the appropriate name, the policer to arbiter association is created. If the specified arbiter does not exist either because a **policer-control-policy** is not currently applied to the SAP or the arbiter name does not exist within the applied policy, the policer is placed in an orphan state. Orphan policers operate as if they are not parented and are not subject to any bandwidth constraints other than their own PIR. When a policer enters the orphan state, it is flagged as operationally degraded due to the fact that it is not operating as intended and a trap is generated. Whenever a **policer-control-policy** is added to the SAP or the existing policy is modified, the SAP's policer's parenting configurations must be reevaluated. If an orphan policer becomes parented, the degraded flag is cleared and a resulting trap is generated.

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For subscribers, the policer control hierarchy is created through the **policer-control-policy** applied to the **sub-profile** used by the subscriber. A unique policer control hierarchy is created for each subscriber associated with the **sub-profile**. The QoS policy containing the policer with the parenting command comes into play through the subscriber **sla-profile** that references the QoS policy. The combining of the **sub-profile** and the **sla-profile** at the subscriber level provides the system with the proper information to create the policer control hierarchy instance for the subscriber. This functionality is available only for the 7450 ESS and 7750 SR.

Executing the **parent** command will fail if:

- The policer's stat-mode in the QoS policy is set to no-stats
- A stat-mode no-stats override exists on an instance of the policer on a SAP or subscriber or multiservice site context

A policer with a **parent** command applied cannot be configured with **stat-mode no-stats** in either the QoS policy or as an override on an instance of the policer.

When a policer is successfully parented to an arbiter, the **parent** commands **level** and **weight** parameters are used to determine at what priority level and at which weight in the priority level that the child policer competes with other children (policers or other arbiters) for bandwidth.

The **no** form of this command is used to remove the parent association from all instances of the policer.

Parameters

{root | *arbiter-name*}

When the **parent** command is executed, either the keyword **root** or an *arbiter-name* must be specified.

Default **root**

root

The **root** keyword specifies that the policer is intended to become a child to the **root** arbiter where an instance of the policer is created. If the **root** arbiter does not exist, the policer will be placed in the orphan state.

arbiter-name

The *arbiter-name* parameter specifies that the policer is intended to become a child to one of the tiered arbiters with the given arbiter-name where an instance of the policer is created. If the specified arbiter-name does not exist, the policer will be placed in the orphan state.

weight *weight-within-level*

The **weight** *weight-within-level* keyword and parameter are optional when executing the **parent** command. When **weight** is not specified, a default level of 1 is used in the parent arbiters priority level. When **weight** is specified, the *weight-within-level* parameter must be specified as an integer value from 1 through 100.

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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parent

Syntax

parent *scheduler-name* [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no parent

Context

[Tree] (config>qos>qgrps>ing>qgrp>queue parent)

[Tree] (config>qos>qgrps>egr>qgrp>queue parent)

Full Context

configure qos queue-group-templates ingress queue-group queue parent

configure qos queue-group-templates egress queue-group queue parent

Description

This command defines an optional parent scheduler that further governs the available bandwidth given the queue aside from the queue's PIR setting. When multiple schedulers, policers (at egress only), and/or queues share a child status with the parent scheduler, the **weight** or **level** parameters define how this queue contends with the other children for the parent's bandwidth.

Checks are not performed to see if a *scheduler-name* exists when the parent command is defined on the queue. Scheduler names are configured in the config>qos>scheduler-policy>tier *level* context. Multiple schedulers can exist with the *scheduler-name* and the association pertains to a scheduler that should exist on the egress SAP as the policy is applied and the queue created. When the queue is created on the egress SAP, the existence of the *scheduler-name* is dependent on a scheduler policy containing the *scheduler-name* being directly or indirectly applied (through a multiservice customer site) to the egress SAP. If the *scheduler-name* does not exist, the queue is placed in the orphaned operational state. The queue will accept packets but will not be bandwidth limited by a virtual scheduler or the scheduler hierarchy applied to the SAP. The SAP that the queue belongs to must also depict an orphan queue status. The orphaned state of the queue is automatically cleared when the *scheduler-name* becomes available on the egress SAP.

The parent scheduler can be made unavailable due to the removal of a scheduler policy or scheduler. When an existing parent scheduler is removed or inoperative, the queue enters the orphaned state and automatically returns to normal operation when the parent scheduler is available again.

When a parent scheduler is defined without specifying weight or strict parameters, the default bandwidth access method is weight with a value of 1.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and returns without an error. When a parent association has been removed, the former child queue attempts to operate based on its configured rate parameter. Removing the parent association on the queue within the policy takes effect immediately on all queues using the SAP egress QoS policy.

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Parameters

scheduler-name

The defined *scheduler-name* conforms to the same input criteria as the schedulers defined within a scheduler policy. Scheduler names are configured in the config>qos>scheduler-policy>tier *level* context. There are no checks performed at the time of definition to ensure that the *scheduler-name* exists within an existing scheduler policy. For the queue to use the defined *scheduler-name*, the scheduler exists on each egress SAP the queue is eventually created on. For the duration where *scheduler-name* does not exist on the egress SAP, the queue operates in an orphaned state.

Values Any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

weight *weight*

weight defines the relative weight of this queue in comparison to other child schedulers and queues while vying for bandwidth on the parent *scheduler-name*. Any queues or schedulers defined as weighted receive no parental bandwidth until all policers, queues, and schedulers with a higher (numerically larger) priority on the parent have reached their maximum bandwidth or are idle.

All **weight** values from all weighted active queues, policers, and schedulers with a common parent scheduler are added together. Then, each individual active weight is divided by the total, deriving the percentage of remaining bandwidth provided to the queue, policer, or scheduler. A weight is considered to be active when the pertaining queue or scheduler has not reached its maximum rate and still has packets to transmit. All child policers, queues, and schedulers with a weight of 0 are considered to have the lowest priority level and are not serviced until all non-zero weighted queues, policers, and schedulers at that level are operating at the maximum bandwidth or are idle.

Values 0 to 100

Default 1

level *level*

The optional **level** parameter defines the level of hierarchy when compared to other schedulers and queues when vying for bandwidth on the parent *scheduler-name*. Queues or schedulers will not receive parental bandwidth until all queues and schedulers with a higher (numerically larger) priority on the parent have reached their maximum bandwidth or are idle.

Children of the parent scheduler with a lower strict priority will not receive bandwidth until all children with a higher strict priority have either reached their maximum bandwidth or are idle. Children with the same strict level are serviced relative to their weights.

Values 1 to 8

Default 1

cir-weight *cir-weight*

Specifies the weight the queue or scheduler will use at the within-CIR port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to

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100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

Default 1

cir-level ***cir-level***

Specifies the port priority the queue or scheduler will use to receive bandwidth for its within-CIR offered-load. If the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

All

parent

Syntax

parent *scheduler-name* [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no parent

Context

[Tree] (config>qos>scheduler-policy>tier>scheduler parent)

Full Context

configure qos scheduler-policy tier scheduler parent

Description

This command defines an optional parent scheduler that is higher up the policy hierarchy. Only schedulers in tier levels 2 and 3 can have a parental association. When multiple schedulers, policers (at egress only), and/or queues share a child status with the scheduler on the parent, the weight or strict parameters define how this scheduler contends with the other children for the parent's bandwidth. The parent scheduler can be removed or changed at any time and is immediately reflected on the schedulers created by association of this scheduler policy.

When a parent scheduler is defined without specifying weight or strict parameters, the default bandwidth access method is weight with a value of 1.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and returns without an error. When a parent

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association has been removed, the former child scheduler attempts to operate based on its configured rate parameter. Removing the parent association on the scheduler within the policy will take effect immediately on all schedulers with *scheduler-name* that have been created using the *scheduler-policy-name*.

Parameters

scheduler-name

Specifies a scheduler name. The *scheduler-name* must already exist within the context of the scheduler policy in a tier that is higher (numerically lower).

Values Any valid *scheduler-name* existing on a higher tier within the scheduler policy.

weight *weight*

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict level defined by the **level** parameter. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the queue or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit.

A zero (0) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

Default 1

level *level*

Specifies the strict priority level of this scheduler in comparison to other child schedulers and queues vying for bandwidth on the parent scheduler-name during the above-CIR distribution phase of bandwidth allocation. During the above-CIR distribution phase, any queues or schedulers defined at a lower strict level receive no parental bandwidth until all queues and schedulers defined with a higher (numerically larger) strict level on the parent have reached their maximum bandwidth or have satisfied their offered load requirements.

When the similar **cir-level** parameter default (undefined) are retained for the child scheduler, bandwidth is only allocated to the scheduler during the above-CIR distribution phase.

Children of the parent scheduler with a lower strict priority level will not receive bandwidth until all children with a higher strict priority level have either reached their maximum bandwidth or are idle. Children with the same strict level are serviced in relation to their relative weights.

Values 1 to 8

Default 1

cir-weight *cir-weight*

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same **cir-level** defined by the **cir-level** parameter. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that

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level. A **cir-weight** is considered to be active when the queue or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit.

A zero (0) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Default 1

cir-level ***cir-level***

Specifies the strict priority CIR level of this scheduler in comparison to other child schedulers and queues vying for bandwidth on the parent *scheduler-name* during the within-CIR distribution phase of bandwidth allocation. During the within-CIR distribution phase, any queues or schedulers defined at a lower strict CIR level receive no parental bandwidth until all queues and schedulers defined with a higher (numerically larger) strict CIR level on the parent have reached their CIR bandwidth or have satisfied their offered load requirements.

If the scheduler's **cir-level** parameter retains the default (undefined) state, bandwidth is only allocated to the scheduler during the above-CIR distribution phase.

Children with the same strict cir-level are serviced according to their cir-weight.

Values 0 to 8

Default 0

Platforms

All

parent

Syntax

parent [**weight** *weight*] [**cir-weight** *cir-weight*]

no parent

Context

[Tree] (config>service>cust>multi-service-site>egress>sched-override>scheduler parent)

[Tree] (config>service>cust>multi-service-site>ingress>sched-override>scheduler parent)

Full Context

configure service customer multi-service-site egress scheduler-override scheduler parent

configure service customer multi-service-site ingress scheduler-override scheduler parent

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Description

This command overrides the scheduler's parent weight and CIR weight information. The weights apply to the associated level or cir-level configured in the applied scheduler policy. The scheduler name must exist in the scheduler policy applied to the ingress or egress of the SAP or multi-service site.

The override weights are ignored if the scheduler does not have a **parent** command configured in the scheduler policy. This allows the parent of the scheduler to be removed from the scheduler policy without having to remove all of the SAP/MSS overrides. If the parent scheduler does not exist causing the configured scheduler to be fostered on an egress port scheduler, the override weights will be ignored and the default values used; this avoids having non-default weightings for fostered schedulers.

The **no** form of the command returns the scheduler's parent weight and CIR weight to the value configured in the applied scheduler policy.

Default

no parent

Parameters

weight

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same strict **level** defined by the level parameter in the applied scheduler policy. Within the level, all weight values from active children at that level are summed and the ratio of each active child's weight to the total is used to distribute the available bandwidth at that level. A weight is considered to be active when the policer, queue or scheduler the weight pertains to has not reached its maximum rate and still has packets to transmit. A 0 (zero) weight value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict level.

Values 0 to 100

Default 1

cir-weight

Specifies the relative weight of this scheduler in comparison to other child schedulers and queues at the same *cir-level* defined by the **cir-level** parameter in the applied scheduler policy. Within the strict **cir-level**, all **cir-weight** values from active children at that level are summed and the ratio of each active child's **cir-weight** to the total is used to distribute the available bandwidth at that level. A **cir-weight** is considered to be active when the policer, queue or scheduler that the **cir-weight** pertains to has not reached the CIR and still has packets to transmit. A 0 (zero) **cir-weight** value signifies that the child scheduler will receive bandwidth only after bandwidth is distributed to all other non-zero weighted children in the strict cir-level.

Values 0 to 100

Default 0

Platforms

All

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33.43 parent-location

parent-location

Syntax

parent-location {**default** | **sla**}

no parent-location

Context

[Tree] (config>qos>sap-egress parent-location)

Full Context

configure qos sap-egress parent-location

Description

This command determines the expected location of the parent schedulers for queues configured with a parent command within the sap-egress policy. All parent schedulers must be configured within a scheduler-policy applied at the location corresponding to the parent-location parameter.

If a parent scheduler name does not exist at the specified location, the queue will not be parented and will be orphaned.

The **no** form of this command reverts to the default.

Default

parent-location default

Parameters

default

When the sap-egress policy is applied to an sla-profile for a subscriber, the parent schedulers of the queues need to be configured in the scheduler-policy applied to the subscriber's sub-profile.

When the sap-egress policy is applied to a SAP, the parent schedulers of the queues need to be configured in the scheduler-policy applied to the SAP or the multiservice site.

sla

When the sap-egress policy is applied to an sla-profile for a subscriber, the parent schedulers of the queues need to be configured in the scheduler-policy applied to the same sla-profile.

If this parameter is configured within a sap-egress policy that is applied to any object except of the egress of an sla-profile, the configured parent schedulers will not be found and so the queues will not be parented and will be orphaned. This parameter is not supported when **policers-hqos-manageable** is configured in the SAP egress QoS policy.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

parent-location

Syntax

parent-location {**none** | **sub** | **vport**}

no parent-location

Context

[Tree] (config>qos>scheduler-policy>tier parent-location)

Full Context

configure qos scheduler-policy tier parent-location

Description

This command determines the expected location of the parent schedulers for the tier 1 schedulers configured with a parent command within the scheduler-policy. The parent schedulers must be configured within a scheduler-policy applied at the location corresponding to the parent-location parameter.

If a parent scheduler name does not exist at the specified location, the schedulers will not be parented and will be orphaned.

The configuration of **parent-location** and **frame-based-accounting** in a scheduler policy is mutually exclusive in order to ensure consistency between the different scheduling levels.

The **no** form of this command reverts to the default.

Default

parent-location none

Parameters

none

This parameter indicates that the tier 1 schedulers do not have a parent scheduler and the configuration of the parent under a tier 1 scheduler is blocked. Conversely, this parameter is blocked when any tier 1 scheduler has a parent configured.

sub

When the scheduler-policy is applied to an sla-profile for a subscriber, the parent schedulers of the tier 1 schedulers need to be configured in the scheduler-policy applied to the subscriber's sub-profile.

If this parameter is configured within a scheduler-policy that is applied to any object except for the egress of an sla-profile, the configured parent schedulers will not be found and so the tier 1 schedulers will not be parented and will be orphaned.

vport

When the scheduler-policy is applied to an sla-profile, a sub-profile for a subscriber, or to the egress of a pseudowire SAP, the parent schedulers of the tier 1 schedulers need to

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be configured in the scheduler-policy applied to the Vport to which the subscriber will be assigned.

If this parameter is configured within a scheduler-policy that is applied to any object except for the egress of an sla-profile or sub-profile, or to the egress of a PW SAP, the configured parent schedulers will not be found and so the tier 1 schedulers will not be parented and will be orphaned.

Platforms

All

33.44 parent-mid-pool

parent-mid-pool

Syntax

parent-mid-pool *mid-pool-id*

no parent-mid-pool

Context

[Tree] (config>qos>hs-port-pool-policy>std-port-class-pools>class-pool parent-mid-pool)

[Tree] (config>qos>hs-port-pool-policy>alt-port-class-pools>class-pool parent-mid-pool)

Full Context

configure qos hs-port-pool-policy std-port-class-pools class-pool parent-mid-pool

configure qos hs-port-pool-policy alt-port-class-pools class-pool parent-mid-pool

Description

This command creates the buffer allocation mapping between the associated class pool and the specified mid-pool. Use care when selecting a mid-pool in an active state (properly mapped to a root-pool with a non-zero allocation percentage). If a port-class pool is parented by an inactive mid-pool, the queues using the port-class pool are forced into an operational MBS setting of 0, causing all packet to be discarded. A port-class pool can be made inactive (no available buffers) by executing **parent-mid-pool none** in the port-class pool context.

The **no** form of the command reverts to the class-pool parenting value. For the standard port-class pools, this default is 1. For alternate port-class pools the default is none.

Default

alt-port-class-pools: none

std-port-class-pools: 1

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Parameters

mid-pool-id

Specifies the mid-pool identifier in the HS pool policy. Either a valid mid-pool ID or **none** must be specified when executing the **parent-mid-pool** command. The *mid-pool-id* parameter defines the parent mid-pool to which the port-class is associated. The **none** keyword deactivates the port-class pool, causing the pool to have a zero size. A queue can still map to an inactive port-class pool although all packets are discarded by the queue.

Values 1 to 16, none

Platforms

7750 SR-7/12/12e

33.45 parent-root-pool

parent-root-pool

Syntax

parent-root-pool *root-pool-id*

no parent-root-pool

Context

[Tree] (config>qos>hs-pool-policy>mid-tier>mid-pool parent-root-pool)

Full Context

configure qos hs-pool-policy mid-tier mid-pool parent-root-pool

Description

This command creates a buffer allocation mapping between the associated **mid-pool** *mid-pool-id* and the specified **parent-root-pool** *root-pool-id*. The specified root pool ID must have a non-zero allocation-weight or the command fails. After a mid-pool is successfully associated with a root-pool, the parent root-pool's **allocation-weight** value cannot be set to zero.

When the *root-pool-id* is set to **none**, no buffers are assigned to the mid-tier pool.

The **no** form of the command reverts to the default.

Default

parent-root-pool 1

Parameters

root-pool-id

Specifies the parent root pool to which the mid-pool is associated. This parameter is required when executing the **parent-root-pool** command.

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Values 1 to 16, none

Platforms

7750 SR-7/12/12e

33.46 participant-id

participant-id

Syntax

participant-id *participant-id*

no participant-id

Context

[Tree] (config>app-assure>group>http-error-redirect participant-id)

Full Context

configure application-assurance group http-error-redirect participant-id

Description

This command specifies a 32-character string assigned to the operator by Barefruit. It is used by barefruit landing servers (applies to template # 1 only).

Default

no participant-id

Parameters

participant-id

Specifies the 32-character string supplied by Barefruit.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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33.47 participate

participate

Syntax

[**no**] **participate**

Context

[Tree] (config>router>isis>flex-algos>flex-algo participate)

Full Context

configure router isis flexible-algorithms flex-algo participate

Description

This command enables IS-IS participation in a specific flexible algorithm.

The router advertises its capability to participate in a specific flexible algorithm within the IS-IS router-capability TLV. Router participation in a flexible algorithm assumes that segment routing and, consequently the **advertise-router-capability area** is enabled. However, a router only advertises flexible algorithm participation when it can support the corresponding winning flexible algorithm definition. The flexible algorithm participation is not enabled by default.

The **no** form of this command disables participation for a particular flexible algorithm.

Default

no participate

Platforms

All

participate

Syntax

[**no**] **participate**

Context

[Tree] (config>router>ospf>flex-algos>flex-algo participate)

Full Context

configure router ospf flexible-algorithms flex-algo participate

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Description

This command enables OSPFv2 participation in a specific flexible algorithm.

The router advertises its capability to participate in a specific flexible algorithm within the OSPFv2 SR algorithm TLV of the router information opaque LSA. Router participation in a flexible algorithm assumes that segment routing and, consequently, the **advertise-router-capability area** is enabled. However, a router only advertises flexible algorithm participation when it can support the corresponding winning flexible algorithm definition. The flexible algorithm participation is not enabled by default.

The **no** form of this command disables participation for a specific flexible algorithm.

Default

no participate

Platforms

All

33.48 partner-down-delay

partner-down-delay

Syntax

partner-down-delay [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no partner-down-delay

Context

[Tree] (config>service>vprn>dhcp6>server>pool>failover partner-down-delay)

[Tree] (config>service>vprn>dhcp>server>failover partner-down-delay)

[Tree] (config>router>dhcp>server>pool>failover partner-down-delay)

[Tree] (config>service>vprn>dhcp6>server>failover partner-down-delay)

[Tree] (config>service>vprn>dhcp>server>pool>failover partner-down-delay)

[Tree] (config>router>dhcp6>server>failover partner-down-delay)

[Tree] (config>router>dhcp6>server>pool>failover partner-down-delay)

[Tree] (config>router>dhcp>server>failover partner-down-delay)

Full Context

configure service vprn dhcp6 local-dhcp-server pool failover partner-down-delay

configure service vprn dhcp local-dhcp-server failover partner-down-delay

configure router dhcp local-dhcp-server pool failover partner-down-delay

configure service vprn dhcp6 local-dhcp-server failover partner-down-delay

configure service vprn dhcp local-dhcp-server pool failover partner-down-delay

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configure router dhcp6 local-dhcp-server failover partner-down-delay

configure router dhcp6 local-dhcp-server pool failover partner-down-delay

configure router dhcp local-dhcp-server failover partner-down-delay

Description

This command configures the partner down delay time. Since the DHCP lease synchronization failure can be caused by the failure of the intercommunication link (and not necessary the entire node), there is a possibility the redundant DHCP servers become isolated in the network. In other words, they can serve DHCP clients but they cannot synchronize the lease. This can lead to duplicate assignment of IP addresses, since the servers have configured overlapping IP address ranges but they are not aware of each other's leases.

The purpose of the partner down delay is to prevent the IP lease duplication during the intercommunication link failure by not allowing new IP addresses to be assigned from the remote IP address range. This timer is intended to provide the operator with enough time to remedy the failed situation and to avoid duplication of IP addresses or prefixes during the failure.

During the partner-down-delay time, the prefix designated as remote is eligible only for renewals of the existing DHCP leases that have been synchronized by the peering node. Only after the sum of the partner-down-delay and the maximum-client-lead-time will the prefix designated as remote be eligible for delegation of the new DHCP leases. When this occurs, we say that the remote IP address range has been taken over.

It is possible to expedite the takeover of a remote IP address range so that the new IP leases can start being delegated from that range shortly after the intercommunication failure is detected. This can be achieved by configuring the partner-down-delay timer to 0 seconds, along with enabling the ignore-mclt-on-takeover CLI flag. Caution must be taken before enabling this functionality. It is safe to bypass safety timers (partner-down-delay + MCLT) only in cases where the operator is certain that the intercommunication between the nodes has failed due to the entire node failure and not due to the intercommunication (MCS) link failure. Failed intercommunication due to the nodal failure would ensure that only one node is present in the network for IP address delegation (as opposed to two isolated nodes with overlapping IP address ranges where address duplication can occur). For this reason, the operator must ensure that there are redundant paths between the nodes to ensure uninterrupted synchronization of DHCP leases.

In access-driven mode of operation, partner-down-delay has no effect.

The **no** form of this command reverts to the default.

Default

partner-down-delay hrs 23 min 59 sec 59

Parameters

partner-down-delay

Specifies the partner down delay time.

Values	**hrs** *hours*	1 to 23
	min *minutes*	1 to 59
	sec *seconds*	0 to 59

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

33.49 passive

passive

Syntax

[**no**] **passive**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy passive)

Full Context

configure subscriber-mgmt bgp-peering-policy passive

Description

This command enables the passive mode for the BGP neighbors.

The **no** form of this command disables the passive mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

passive

Syntax

[**no**] **passive**

Context

[Tree] (config>service>vprn>bgp>group passive)

[Tree] (config>service>vprn>bgp>group>neighbor passive)

Full Context

configure service vprn bgp group passive

configure service vprn bgp group neighbor passive

Description

This command enables passive mode for the BGP group or neighbor.

When in passive mode, BGP will not attempt to actively connect to the configured BGP peers but responds only when it receives a connect open request from the peer.

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The **no** form of this command used at the group level disables passive mode where BGP actively attempts to connect to its peers.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no passive — BGP will actively try to connect to all the configured peers.

Platforms

All

passive

Syntax

[**no**] **passive**

Context

[Tree] (config>service>vprn>isis>if passive)

[Tree] (config>service>vprn>isis>if>level passive)

Full Context

configure service vprn isis interface passive

configure service vprn isis interface level passive

Description

This command adds the passive attribute which causes the interface to be advertised as an IS-IS interface without running the IS-IS protocol. Normally, only interface addresses that are configured for IS-IS are advertised as IS-IS interfaces at the level that they are configured.

When the passive mode is enabled, the interface or the interface at the level ignores ingress IS-IS protocol PDUs and does not transmit IS-IS protocol PDUs.

The **no** form of this command removes the passive attribute.

Default

no passive

Platforms

All

passive

Syntax

[**no**] **passive**

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Context

[Tree] (config>service>vprn>ospf>area>if passive)

[Tree] (config>service>vprn>ospf3>area>if passive)

Full Context

configure service vprn ospf area interface passive

configure service vprn ospf3 area interface passive

Description

This command adds the passive property to the OSPF interface where passive interfaces are advertised as OSPF interfaces but do not run the OSPF protocol.

By default, only interface addresses that are configured for OSPF are advertised as OSPF interfaces. The **passive** parameter allows an interface to be advertised as an OSPF interface without running the OSPF protocol.

While in passive mode, the interface ignores ingress OSPF protocol packets and does not transmit any OSPF protocol packets.

The **no** form of this command removes the passive property from the OSPF interface.

Default

no passive

Platforms

All

passive

Syntax

[**no**] **passive**

Context

[Tree] (config>router>bgp>group>neighbor passive)

[Tree] (config>router>bgp>group passive)

Full Context

configure router bgp group neighbor passive

configure router bgp group passive

Description

Enables/disables passive mode for the BGP group or neighbor**.**

When in passive mode, BGP will not attempt to actively connect to the configured BGP peers but responds only when it receives a connect open request from the peer.

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The **no** form of this command used at the group level disables passive mode where BGP actively attempts to connect to its peers.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no passive

Platforms

All

passive

Syntax

[**no**] **passive**

Context

[Tree] (config>router>isis>if>level passive)

[Tree] (config>router>isis>if passive)

Full Context

configure router isis interface level passive

configure router isis interface passive

Description

This command adds the passive attribute which causes the interface to be advertised as an IS-IS interface without running the IS-IS protocol. Normally, only interface addresses that are configured for IS-IS are advertised as IS-IS interfaces at the level that they are configured.

When the passive mode is enabled, the interface or the interface at the level ignores ingress IS-IS protocol PDUs and does not transmit IS-IS protocol PDUs.

The **no** form of this command removes the passive attribute.

Default

no passive

Platforms

All

passive

Syntax

[**no**] **passive**

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Context

[Tree] (config>router>ospf3>area>interface passive)

[Tree] (config>router>ospf>area>interface passive)

Full Context

configure router ospf3 area interface passive

configure router ospf area interface passive

Description

This command adds the passive property to the OSPF interface where passive interfaces are advertised as OSPF interfaces but do not run the OSPF protocol.

By default, only interface addresses that are configured for OSPF will be advertised as OSPF interfaces. The **passive** parameter allows an interface to be advertised as an OSPF interface without running the OSPF protocol.

While in passive mode, the interface will ignore ingress OSPF protocol packets and not transmit any OSPF protocol packets.

The **no** form of this command removes the passive property from the OSPF interface.

Default

no passive

Platforms

All

33.50 passive-dns

passive-dns

Syntax

passive-dns

Context

[Tree] (config>app-assure>group>ip-id-asst passive-dns)

Full Context

configure application-assurance group ip-identification-assist passive-dns

Description

Commands in this context configure passive DNS monitoring for the IP identification assist feature.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.51 passive-mode

passive-mode

Syntax

[**no**] **passive-mode**

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ep passive-mode)

Full Context

configure redundancy multi-chassis peer mc-endpoint passive-mode

Description

This command configures the passive mode behavior for the MC-EP protocol. When in passive mode the MC-EP pair will be dormant until two of the pseudowires in a MC-EP will be signaled as active by the remote PEs, being assumed that the remote pair is configured with regular MC-EP. As soon as more than one pseudowire is active, dormant MC-EP pair will activate. It will use the regular exchange to select the best pseudowire between the active ones and it will block the Rx and Tx directions of the other pseudowires.

The **no** form of this command will disable the passive mode behavior.

Default

no passive-mode

Platforms

All

33.52 password

password

Syntax

password

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Context

[Tree] (password)

Full Context

password

Description

This operational command changes the local user password.

This command is automatically invoked when a user logs in after the administrator uses the **new-password-at-login** command to force a new password, or the password has expired (**aging**). At this time, the user is prompted to enter the old password, new password, and then the new password again to verify the input.

If the user fails to create a new password, CLI access is denied.

A user cannot configure a nonconforming password using the global **password** command. In this case, the CLI displays an error message and the password change fails. To configure a password value that does not conform to the minimum length or other password complexity rules, use the **config>system>security>user>password** command (for example, executed by an administrator).

Platforms

All

password

Syntax

password {**ignore** | **chap** *password* | **pap** *password*} [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host password)

Full Context

configure subscriber-mgmt local-user-db ppp host password

Description

This command specifies a password type or configures password string for **pap** or **chap**. The pap and chap passwords are stored in a hashed format in the config files. The **hash|hash2** optional keywords are used for config execution.

This command will only be interpreted if the local user database is connected directly to the PPPoE node under the VPRN/IES group interface. It is not used if the local user database is accessed by a local DHCP server.

The **no** form of this command reverts to the default.

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Parameters

ignore

Specifies that the password be ignored, in which case authentication is always succeed, independent of the password used by the PPPoE client. The client must still perform authentication.

chap *password*

Specifies that the password, up to 64 characters, for Challenge-Handshake Authentication Protocol) (CHAP) is used. Only a password received with the CHAP protocol is accepted.

pap *password*

Specifies that the Password Authentication Protocol (PAP) is used, up to 64 characters. Only a password received with the PAP protocol is accepted, even though the CHAP protocol is proposed to the client first because it is unknown at the time of the offer which password type is allowed to the client.

hash | hash2

Specifies hashing scheme.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

password

Syntax

password *password* [{**hash** | **hash2** | **custom**}]

no password

Context

[Tree] (config>service>vprn>l2tp>group>tunnel password)

[Tree] (config>service>vprn>l2tp>group password)

[Tree] (config>router>l2tp>group password)

[Tree] (config>service>vprn>l2tp password)

[Tree] (config>service>vprn>l2tp>group>l2tpv3 password)

[Tree] (config>router>l2tp password)

[Tree] (config>service>vprn>l2tp>l2tpv3 password)

[Tree] (config>router>l2tp>l2tpv3 password)

[Tree] (config>router>l2tp>group>tunnel password)

[Tree] (config>router>l2tp>group>l2tpv3 password)

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Full Context

configure service vprn l2tp group tunnel password

configure service vprn l2tp group password

configure router l2tp group password

configure service vprn l2tp password

configure service vprn l2tp group l2tpv3 password

configure router l2tp password

configure service vprn l2tp l2tpv3 password

configure router l2tp l2tpv3 password

configure router l2tp group tunnel password

configure router l2tp group l2tpv3 password

Description

This command configures the password between L2TP LAC and LNS

The **no** form of this command removes the password.

Default

no password

Parameters

password

Configures the password used for challenge/response calculation and AVP hiding. The maximum length is up to 20 characters if unhashed, 32 characters if hashed, 54 characters if the hash2 keyword is specified.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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password

Syntax

password *password* [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (config>service>dynsvc>plcy>auth password)

Full Context

configure service dynamic-services dynamic-services-policy authentication password

Description

This command configures the password to be used for RADIUS authentication of data-triggered dynamic services.

The **no** form of this command removes the password from the configuration.

Parameters

password

Specifies the password that is used in RADIUS authentication of a data-triggered dynamic service. The maximum length is 20 characters if unhashed, 32 characters if hashed, and 54 characters if the **hash2** keyword is specified.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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password

Syntax

password *password* [**hash** | **hash2**| **custom**]

no password

Context

[Tree] (config>subscr-mgmt>auth-policy password)

Full Context

configure subscriber-mgmt authentication-policy password

Description

This command sets a password that is sent with **user-name** in every RADIUS authentication request sent to the RADIUS server upon receipt of DHCP discover or request messages. If no password is configured, no password AVP is sent.

The **no** form of this command reverts to the default value.

Parameters

password

Specifies a text string containing the password. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

hash

Specifies that the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies that the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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password

Syntax

password *password* [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq password)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq password

Description

This command sets a password that is sent with **user-name** in every RADIUS authentication request sent to the RADIUS server upon receipt of DHCP discover or request messages. If no password is provided, an empty password is sent.

The **no** form of this command reverts to the default value.

Parameters

password

Specifies a text string containing the password. Allowed values are any string up to 64 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

hash

Specifies that the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies that the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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password

Syntax

password *password* [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (config>aaa>route-downloader password)

Full Context

configure aaa route-downloader password

Description

This command specifies the password that is used in the RADIUS access requests.

The **no** form of this command resets the password to the default which is an empty string.

Parameters

password

Specifies a password string up to 32 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

password

Syntax

password *password* [**hash** | **hash2**| **custom**]

no password

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Context

[Tree] (config>aaa>radius-srv-plcy>servers>health-check>test-account password)

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile>radius-authentication password)

Full Context

configure aaa radius-server-policy servers health-check test-account password

configure subscriber-mgmt vrgw brg brg-profile radius-authentication password

Description

This command specifies the password that the test account will use to send access requests to probe the RADIUS servers.

Parameters

password

Specifies the probing password up to 64 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

password

Syntax

password

Context

[Tree] (config>system>security password)

Full Context

configure system security password

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Description

Commands in this context configure password-related parameters.

Platforms

All

password

Syntax

password *password* [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (config>ipsec>rad-auth-plcy password)

Full Context

configure ipsec radius-authentication-policy password

Description

This command specifies the password that is used in the RADIUS access requests.

The **no** form of this command resets the password to its default of **ALU** and will be stored using hash/hash2 encryption.

Default

no password

Parameters

password

Specifies a password string up to 64characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

password

Syntax

password *password* [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (config>aaa>isa-radius-plcy password)

Full Context

configure aaa isa-radius-policy password

Description

This command specifies the password that is used in the RADIUS access requests. It shall be specified as a string of up to 32 characters in length.

The **no** form of the command resets the password to its default of **ALU** and will be stored using hash/hash2 encryption.

Default

no password

Parameters

password

Specifies a password string up to 32 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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password

Syntax

password *hex-string*

no password

Context

[Tree] (config>li>x-interfaces>lics>lic>authentication password)

Full Context

configure li x-interfaces lics lic authentication password

Description

This command configures the password for the X1 and X2 interfaces.

The **no** form of this command reverts to the default.

Parameters

hex-string

Specifies the password. Must contain exactly 32 hex nibbles.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

password

Syntax

password [*password*]

Context

[Tree] (config>system>security>user password)

Full Context

configure system security user password

Description

This command configures the user password for console and FTP access.

The password is stored in an encrypted format in the configuration file when specified. Passwords should be encased in double quotes (" ") at the time of the password creation. The double quote character (") is not accepted inside a password. It is interpreted as the start or stop delimiter of a string.

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The password can be entered as plain text or a hashed value. SR OS can distinguish between hashed passwords and plain text passwords and take the appropriate action to store the password correctly.

```
config>system>security>user# password testuser1
```

The password is hashed by default.

For example:

```
config>system>security# user testuser1
config>system>security>user$ password xyzabcd1
config>system>security>user# exit
```

```
config>system>security# info
----------------------------------
...
            user "testuser1"
                password "$2y$10$pFoehOg/tCbBMPDJ/
kqpu.8af0AoVGY2xsR7WFqyn5fVTnwRzGmOK"
            exit
...
----------------------------------
config>system>security#
```

The **password** command allows you also to enter the password as a hashed value.

For example:

```
config>system>security# user testuser1
config>system>security>user$ password "$2y$10$pFoehOg/tCbBMPDJ/
kqpu.8af0AoVGY2xsR7WFqyn5fVTnwRzGmOK"
config>system>security>user# exit
config>system>security# info
----------------------------------
...
user "testuser1"
password "$2y$10$pFoehOg/tCbBMPDJ/kqpu.8af0AoVGY2xsR7WFqyn5fVTnwRzGmOK"
exit
...
----------------------------------
config>system>security#
```

Parameters

password

This is the password for the user that must be entered by this user during the login procedure. The minimum length of the password is determined by the **minimum-length** command. The maximum length can be up to 20 chars if unhashed, 32 characters if hashed. The complexity requirements for the password is determined by the **complexity-rules** command and must be followed; otherwise, the password will not be accepted.

All password special characters (#, ?, space) must be enclosed within double quotes.

For example: config>system>security>user# password "south#bay?”

The question mark character (?) cannot be directly inserted as input during a telnet connection because the character is bound to the **help** command during a normal Telnet/ console connection.

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To insert a # or ? characters, they must be entered inside a notepad or clipboard program and then cut and pasted into the Telnet session in the password field that is encased in the double quotes as delimiters for the password.

If a **password** is entered without any parameters, a password length of zero is implied: (carriage return).

Platforms

All

password

Syntax

password *password* [**hash** | **hash2** | **custom**]

no password

Context

[Tree] (bof password)

Full Context

bof password

Description

This command configures the password to access the BOF interactive menu at startup.

If a password is configured, the BOF interactive menu is accessible only when the correct password is entered. If the correct password is not entered in 30 s, the node reboots.

The **no** form of this command removes the configured password.

Default

no password

Parameters

password

Specifies the password.

If the **hash**, **hash2**, or **custom** parameter is not configured, the password is entered in plaintext and the password length must be between 8 and 32 characters. A plaintext password cannot contain embedded nulls or end with " hash", " hash2", or " custom".

If the **hash**, **hash2**, or **custom** parameter is configured, the password is hashed and the password length must be between 1 and 64 characters.

hash

Keyword to specify that the password is entered in an encrypted form.

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hash2

Keyword to specify that the password is entered in a more complex encrypted form. The **hash2** encryption scheme is node-specific and the password cannot be transferred between nodes.

custom

Keyword to specify that the password uses custom encryption.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

33.53 password-history

password-history

Syntax

password-history {**user** *user-name* | **all**}

Context

[Tree] (admin>clear password-history)

Full Context

admin clear password-history

Description

This command is used to clear old passwords used by a specific user, or for all users.

Parameters

user-name

Clears the password history information about the specified user, up to 32 characters.

all

Clears the password history information for all users.

Platforms

All

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33.54 pat-repetition

pat-repetition

Syntax

pat-repetition [**tnc** *tnc-milli-seconds* **qos** *qos-milli-seconds* **poa** *poa-milli-seconds*]

no pat-repetition

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms pat-repetition)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms pat-repetition)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms pat-repetition)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms pat-repetition

configure mcast-management multicast-info-policy bundle video analyzer alarms pat-repetition

configure mcast-management multicast-info-policy bundle channel video analyzer alarms pat-repetition

Description

This command configures the analyzer to check for the program association table (PAT). It is expected that the PAT arrives periodically within a certain interval range. It is possible to configure the type of alarm that is raised when the PAT fails to arrive within the specified interval. As the delay increases between two consecutive PATs, the type of alarm raised becomes more critical, from TNC to POA.

Default

no pat-repetition

Parameters

tnc-milli-seconds

Specifies the time, in milliseconds, for which a TNC alarm is raised if the interval between two consecutive PATs is greater than or equal to this configured value.

Values 100 to 800 in multiples of 100 only

Default 100

qos-milli-seconds

Specifies the time, in milliseconds, for which a QoS alarm is raised if the interval between two consecutive PATs is greater than or equal to this configured value.

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Values 200 to 900 in multiples of 100 only and higher than the *tnc-milli-seconds* value

Default 200

poa-milli-seconds

Specifies the time, in milliseconds, for which a POA alarm is raised if the interval between two consecutive PATs is greater than or equal to this configured value.

Values 300 to 1000 in multiples of 100 only and higher than the *qos-milli-seconds* value

Default 500

Platforms

7450 ESS, 7750 SR, 7750 SR-s

33.55 pat-syntax

pat-syntax

Syntax

[**no**] **pat-syntax**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms pat-syntax)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms pat-syntax)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms pat-syntax)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms pat-syntax

configure mcast-management multicast-info-policy bundle video analyzer alarms pat-syntax

configure mcast-management multicast-info-policy bundle channel video analyzer alarms pat-syntax

Description

This command configures the analyzer to check for PAT syntax errors.

Default

no pat-syntax

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

33.56 path

path

Syntax

path xc-a *lag-id* **xc-b** *lag-id*

path pxc *pxc-id*

no path

Context

[Tree] (config>fwd-path-ext>fpe path)

Full Context

configure fwd-path-ext fpe path

Description

This command references a PXC (pair of PXC sub-ports) and consequently create an association between the PXC and the application which is referenced under the same FPE object. Each application will utilize the PXC in the form of an internal cross-connect. The exact use and internal provisioning of this cross-connect depends on the application itself.

The **no** form of this command removes the reference and association from the configuration.

Default

no path

Parameters

xc-a *lag-id*

Specifies the LAG identifier associated with one side of the cross-connect. The operator has the freedom to associate **xc-a** with LAG ID containing either sub-ports.a or sub-ports.b. In other words, the system does not perform automatic check that will ensure a match between **xc-a** and the LAG ID containing sub-ports.a.

Values 1 to 800

xc-b *lag-id*

Specifies the LAG identifier associated with one side of the cross-connect. The operator has the freedom to associate **xc-a** with LAG ID containing either sub-ports.a or sub-ports.b.

Values 1 to 800

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pxc-id

Specifies the PXC identifier, the PXC construct that contains a physical port in a loopback mode that provides the cross-connect capability. The system creates two paired sub-ports on top of this physical port and each of these two sub-ports forwards traffic in one direction over the loopback. One sub-port is associated with the transit side of the loopback, while the other sub-port is associated with the termination side (see PXC Configuration Guides for further explanation).

Values 1 to 64

Platforms

All

path

Syntax

path *path-id* **pxc** *pxc-id*

path *path-id* **xc-a** *lag-id* **xc-b** *lag-id*

no path *path-id*

Context

[Tree] (config>fwd-path-ext>fpe>multi-path-list path)

Full Context

configure fwd-path-ext fpe multi-path-list path

Description

This command configures a multipath FPE forwarding path. A single path in a multipath FPE can contain a single PXC port or LAG of PXC ports.

The PXC references a physical port in loopback mode that provides the cross-connect capability. The system creates two paired subports on top of the physical port, each of which forwards traffic in one direction over the loopback. One subport is associated with the transit side of the loopback, while the other is associated with the termination side.

The **no** form of the command removes the path.

Parameters

path-id

Specifies a path ID for the forwarding path.

Values 1 to 64

pxc-id

Specifies a dedicated PXC ID for the forwarding path.

Values 1 to 64

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xc-a lag-id

Specifies the LAG ID associated with one side (transit or termination) of the cross-connect. The operator can associate **xc-a** with the LAG containing either subports.a or subports.b. The system does not enforce a match between **xc-a** and the LAG ID containing subports.a.

Values lag-[1 to 800]

xc-b lag-id

Specifies the LAG ID associated with the other side of the cross-connect (not designated for **xc-a**). The operator can associate **xc-b** with the LAG containing either subports.a or subports.b. The system does not enforce a match between **xc-b** and the LAG ID containing subports.b.

Values lag-[1 to 800]

Platforms

All

path

Syntax

[**no**] **path** *path-index*

Context

[Tree] (config>eth-tunnel path)

Full Context

configure eth-tunnel path

Description

This command configures one of the two paths supported under the Ethernet tunnel.

The **no** form of this command removes the path from under the Ethernet tunnel. If this is the last path, the associated SAP need to be unconfigured before the path can be deleted.

Default

no path

Parameters

path-index

Specifies the identifier for the path.

Values 1 to 16

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

path

Syntax

path *name*

no path

Context

[Tree] (config>service>epipe>spoke-sdp-fec path)

Full Context

configure service epipe spoke-sdp-fec path

Description

This command specifies the explicit path, containing a list of S-PE hops, that should be used for this spoke SDP. The path-name should correspond to the name of an explicit path configured in the **config>service>pw-routing** context.

If no path is configured, then each next-hop of the MS-PW used by the spoke SDP will be chosen locally at each T-PE and S-PE.

Default

no path

Parameters

name

The name of the explicit path to be used, as configured under the **config>service>pw-routing** context.

Platforms

All

path

Syntax

path *path-index* **tag** *qtag*[. *qtag*]

no path *path-index*

Context

[Tree] (config>service>ipipe>sap>eth-tunnel path)

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[Tree] (config>service>epipe>sap>eth-tunnel path)

Full Context

configure service ipipe sap eth-tunnel path

configure service epipe sap eth-tunnel path

Description

This command configures Ethernet tunnel SAP path parameters.

The **no** form of this command removes the values from the configuration.

Parameters

path-index

Specifies the path index value.

Values 1 to 16

***qtag*[*.qtag*]**

Specifies the qtag value.

Values 0 to 4094 | *

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

path

Syntax

path *path-index* **tag** *qtag*[*. qtag*]

no path *path-index*

Context

[Tree] (config>service>vpls>sap>eth-tunnel path)

Full Context

configure service vpls sap eth-tunnel path

Description

This command configures Ethernet tunnel SAP path parameters.

The **no** form of this command removes the values from the configuration.

Parameters

path-index

Specifies the path index value.

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Values 1 to 16

tag *qtag*[.*qtag*]

Specifies the qtag value.

Values 0 to 4094, * (wildcard)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

path

Syntax

[**no**] **path** *path-name*

Context

[Tree] (config>router>mpls path)

Full Context

configure router mpls path

Description

This command creates the path to be used for an LSP. A path can be used by multiple LSPs. A path can specify some or all hops from ingress to egress and they can be either **strict** or **loose**. A path can also be empty (no *path-name* specified) in which case the LSP is set up based on IGP (best effort) calculated shortest path to the egress router. Paths are created in a **shutdown** state. A path must be shutdown before making any changes (adding or deleting hops) to the path. When a path is shutdown, any LSP using the path becomes operationally down.

To create a strict path from the ingress to the egress router, the ingress and the egress routers must be included in the path statement.

The **no** form of this command deletes the path and all its associated configuration information. All the LSPs that are currently using this path will be affected. Additionally all the services that are actively using these LSPs will be affected. A path must be **shutdown** and unbound from all LSPs using the path before it can be deleted. The **no path** *path-name* command will not result in any action except a warning message on the console indicating that the path may be in use.

Parameters

path-name

Specifies a unique case-sensitive alphanumeric name label for the LSP path up to 64 characters in length.

Platforms

All

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path

Syntax

path [**detail**]

no path

Context

[Tree] (debug>router>rsvp>event path)

Full Context

debug router rsvp event path

Description

This command debugs path-related events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about path-related events.

Platforms

All

path

Syntax

path [**detail**]

no path

Context

[Tree] (debug>router>rsvp>packet path)

Full Context

debug router rsvp packet path

Description

This command enables debugging for RSVP path packets.

The **no** form of the command disables the debugging.

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Parameters

detail

Displays detailed information about path-related events.

Platforms

All

path

Syntax

path *name* [**create**]

no path *name*

Context

[Tree] (config>service>pw-routing path)

Full Context

configure service pw-routing path

Description

This command configures an explicit path between this T-PE and a remote T-PE. For each path, one or more intermediate S-PE hops must be configured. A path can be used by multiple multi-segment pseudowires. Paths are used by a 7450 ESS, 7750 SR, or 7950 XRS T-PE to populate the list of Explicit Route TLVs included in the signaling of a dynamic MS-PW.

A path may specify all or only some of the hops along the route to reach a T-PE.

The **no** form of the command removes a specified explicit path from the configuration.

Parameters

path-name

Specifies a locally-unique case-sensitive alphanumeric name label for the MS-PW path of up to 32 characters in length.

Platforms

All

path

Syntax

path {**a** | **b**} [{*port-id* | *lag-id*} **raps-tag** *qtag1*[. *qtag2*]]

no path {**a** | **b**}

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Context

[Tree] (config>eth-ring path)

Full Context

configure eth-ring path

Description

This command assigns the ring (major or sub-ring) path to a port and defines the Ring APS tag. Rings typically have two paths: a and b.

The **no** form of this command removes the path a or b.

Default

no path

Parameters

port-id

Specifies the port ID.

Values *slot*/*mda*/*port*

lag-id

Specifies the LAG ID.

Values **lag** — Keyword.

id — Specifies the LAG ID number.

raps-tag

Specifies the member encapsulation.

qtag1

Specifies the top or outer VLAN ID.

Values 1 to 4094

qtag2

Specifies the bottom or inner VLAN ID.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

path

Syntax

path *string* [**create**]

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no path *string*

Context

[Tree] (config>system>telemetry>sensor-groups>sensor-group path)

Full Context

configure system telemetry sensor-groups sensor-group path

Description

This command configures a path for the specified sensor group. Multiple paths can be defined for a single sensor group. Streamed data includes all descendants of the tree indicated by the path. The path is defined in the form of an XML Path (XPath) syntax that refers to single or multiple objects within the YANG model. The path must be enclosed in quotation marks (") when it includes a list key, for example "/state/router[router-name=Base]".

The **no** form of the command removes the specified explicit path from the configuration.

Parameters

string

Specifies a path, up to 512 characters.

create

Keyword used to create the path.

Platforms

All

33.57 path-b

path-b

Syntax

[**no**] **path-b**

Context

[Tree] (config>redundancy>mc>peer>mcr>ring path-b)

Full Context

configure redundancy multi-chassis peer mc-ring ring path-b

Description

This command specifies the set of upper-VLAN IDs associated with the SAPs that belong to path B with respect to load-sharing. All other SAPs belong to path A.

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Default

If not specified, the default is an empty set.

Platforms

All

33.58 path-computation-method

path-computation-method

Syntax

path-computation-method *path-computation-method*

no path-computation-method

Context

[Tree] (config>router>mpls>lsp path-computation-method)

[Tree] (config>router>mpls>lsp-template path-computation-method)

Full Context

configure router mpls lsp path-computation-method

configure router mpls lsp-template path-computation-method

Description

This command configures the path computation method of a RSVP-TE or SR-TE LSP.

The user can select among the **hop-to-label** translation, the local CSPF or the PCE for a configured SR-TE LSP. For SR-TE LSP templates, the PCE option is supported with the SR-TE LSP template type **on-demand-p2p-srte** and not other template types.

The user can select among the IGP-based path, the local CSPF, or the PCE for a configured RSVP-TE LSP. The PCE option is not supported with the RSVP-TE LSP template.

By default, the IGP-based path is used for an RSVP-TE LSP and the **hop-to-label** path computation method is used for an SR-TE LSP.

The **no** form of this command returns to the default path computation method for the type of LSP.

Default

no path-computation-method

Parameters

path-computation-method

Specifies the path computation method for the LSP.

Values local-cspf — Selects the local router CSPF for path computation.

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pce — Selects the PCE for path computation.

Platforms

All

33.59 path-cost

path-cost

Syntax

path-cost *sap-path-cost*

no path-cost [*sap-path-cost*]

Context

[Tree] (config>service>vpls>spoke-sdp>stp path-cost)

[Tree] (config>service>vpls>sap>stp path-cost)

[Tree] (config>service>template>vpls-sap-template>stp path-cost)

Full Context

configure service vpls spoke-sdp stp path-cost

configure service vpls sap stp path-cost

configure service template vpls-sap-template stp path-cost

Description

This command configures the Spanning Tree Protocol (STP) path cost for the SAP or spoke-SDP.

The path cost is used by STP to calculate the path cost to the root bridge. The path cost in BPDUs received on the root port is incremented with the configured path cost for that SAP or spoke-SDP. When BPDUs are sent out of other egress SAPs or spoke-SDPs, the newly calculated root path cost is used. These are the values used for CIST when running MSTP.

STP suggests that the path cost is defined as a function of the link bandwidth. Since SAPs and spoke-SDPs are controlled by complex queuing dynamics, in the 7450 ESS, 7750 SR, and 7950 XRS the STP path cost is a purely static configuration.

The **no** form of this command returns the path cost to the default value.

Parameters

path-cost

The path cost for the SAP or spoke-SDP

Values 1 to 200000000 (1 is the lowest cost)

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Default 10

Platforms

All

path-cost

Syntax

path-cost *sap-path-cost*

no path-cost

Context

[Tree] (config>service>pw-template>stp path-cost)

Full Context

configure service pw-template stp path-cost

Description

This command configures the Spanning Tree Protocol (STP) path cost for the SAP or spoke SDP.

The path cost is used by STP to calculate the path cost to the root bridge. The path cost in BPDUs received on the root port is incremented with the configured path cost for that SAP or spoke SDP. When BPDUs are sent out other egress SAPs or spoke SDPs, the newly calculated root path cost is used. These are the values used for CIST when running MSTP.

STP suggests that the path cost is defined as a function of the link bandwidth. Since SAPs and spoke SDPs are controlled by complex queuing dynamics, the STP path cost is a purely static configuration.

The **no** form of this command returns the path cost to the default value.

Default

path-cost 10

Parameters

path-cost

Specifies the path cost for the SAP or spoke SDP.

Values 1 to 200000000 (1 is the lowest cost)

Default 10

Platforms

All

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33.60 path-destination

path-destination

Syntax

path-destination *ip-address* **interface** *if-name*

path-destination *ip-address* [**next-hop** *ip-address*]

no path-destination

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy path-destination)

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy path-destination)

Full Context

configure saa test type-multi-line lsp-ping sr-policy path-destination

configure saa test type-multi-line lsp-trace sr-policy path-destination

Description

This command configures the IP address of the path destination from the range 127/8. When the LDP FEC prefix is IPv6, the user must enter a 127/8 IPv4 mapped IPv6 address, that is, in the range ::ffff:127/104.

The **no** form of this command removes the configuration.

Parameters

ip-address

Specifies the IP address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

if-name

Specifies the name of an IP interface, up 32 characters, to send the MPLS echo request to. The name must already exist in the **config>router>interface** context.

Platforms

All

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33.61 path-discovery

path-discovery

Syntax

path-discovery

Context

[Tree] (config>test-oam>ldp-treetrace path-discovery)

Full Context

configure test-oam ldp-treetrace path-discovery

Description

This command creates the context to configure the LDP ECMP OAM path discovery.

The ingress LER builds the ECMP tree for a given FEC (egress LER) by sending LSP Trace messages and including the LDP IPv4 Prefix FEC TLV as well as the downstream mapping TLV. It inserts an IP address range drawn from the 127/8 space. When received by the downstream LSR, it uses this range to determine which ECMP path is exercised by any IP address or a sub-range of addresses within that range based on its internal hash routine. When the MPLS Echo reply is received by the ingress LER, it records this information and proceeds with the next echo request message targeted for a node downstream of the first LSR node along one of the ECMP paths. The sub-range of IP addresses indicated in the initial reply is used since the objective is to have the LSR downstream of the ingress LER pass this message to its downstream node along the first ECMP path.

The user configures the frequency of running the tree discovery using the command **config>test-oam>ldp-treetrace>path-discovery>interval**.

The ingress LER gets the list of FECs from the LDP FEC database. New FECs are added to the discovery list at the next tree discovery and not when they are learned and added into the FEC database. The maximum number of FECs to be discovered with the tree building feature is limited to 500. The user can configure FECs to include or exclude using a policy profile by applying the command **config>test-oam>ldp-treetrace>path-discovery>policy-statement**.

Platforms

All

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33.62 path-excl

path-excl

Syntax

[**no**] **path-excl**

Context

[Tree] (config>redundancy>mc>peer>mcr>ring path-excl)

Full Context

configure redundancy multi-chassis peer mc-ring ring path-excl

Description

This command specifies the set of upper-VLAN IDs associated with the SAPs that are to be excluded from control by the multi-chassis ring.

Default

If not specified, the default is an empty set.

Platforms

All

33.63 path-id

path-id

Syntax

path-id {**lsp-num** *lsp-num* | **working-path** | **protect-path** [**src-global-id** *src-global-id*] **src-node-id** *src-node-id* **src-tunnel-num** *src-tunnel-num* [**dest-global-id** *dest-global-id*] **dest-node-id** *dest-node-id* [**dest-tunnel-num** *dest-tunnel-num*]}

no path-id

Context

[Tree] (config>router>mpls>mpls-tp>transit-path path-id)

Full Context

configure router mpls mpls-tp transit-path path-id

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Description

This command configures path ID for an MPLS-TP transit path at an LSR. The path ID is equivalent to the MPLS-TP LSP ID and is used to generate the maintenance entity group intermediate point (MIP) identifier for the LSP at the LSR. A path-id must be configured for on-demand OAM to verify an LSP at the LSR.

The path-id must contain at least the following parameters: **lsp-num, src-node-id, src-global-id, src-tunnel-num, dest-node-id**.

The path-id must be unique on a node. It is recommended that his is also configured to be a globally unique value.

The **no** form of this command removes the path ID from the configuration.

Default

no path-id

Parameters

lsp-num

Specifies the LSP number.

Values 1 to 65535, or **working path**, or **protect-path**. A **working-path** is equivalent to an lsp-num of 1, and a **protect-path** is an lsp-num of 2.

src-global-id

Specifies the source global ID.

Values 0 to 4294967295

src-node-id

Specifies the source node ID.

Values a.b.c.d or 1 to 4294967295

src-tunnel-num

Specifies the source tunnel number.

Values 1 to 61440

dest-global-id

Specifies the destination global ID. If the destination global ID is not entered, then it is set to the same value as the source global ID.

Values 0 to 4294967295

dest-node-id

Specifies the destination node ID.

Values a.b.c.d or 1 to 4294967295

dest-tunnel-num

Specifies the destination tunnel number. If the destination tunnel number is not entered, then it is set to the same value as the source tunnel number.

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Values 1 to 61440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.64 path-instances

path-instances

Syntax

path-instances

Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy>candidate-path path-instances)

Full Context

configure router p2mp-sr-tree p2mp-policy candidate-path path-instances

Description

Commands in this context configure the instance entries of the candidate path.

Multiple path instances can exist in a candidate path for the P2MP SR tree. Each path instance is a P2MP LSP and has an instance ID. Path instances are used for global optimization of the active candidate path.

Platforms

All

33.65 path-mtu

path-mtu

Syntax

path-mtu [*bytes*]

no path-mtu *bytes*

Context

[Tree] (config>service>sdp path-mtu)

[Tree] (config>service>pw-template path-mtu)

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Full Context

configure service sdp path-mtu

configure service pw-template path-mtu

Description

This command configures the Maximum Transmission Unit (MTU) in bytes that the SDP can transmit to the far-end device router without packet dropping or IP fragmentation overriding the SDP-type default MTU.

The SDP-type default path-mtu can be overridden on a per SDP basis. Dynamic maintenance protocols on the SDP, like RSVP, may override this setting.

If the physical MTU on an egress interface indicates the next hop on an SDP path cannot support the current path-mtu, the system modifies the operational path-mtu on that SDP to a value that can be transmitted without fragmentation.

The **no** form of this command removes any path-mtu configured on the SDP, and the SDP uses the system default for the SDP type.

Default

the default **path-mtu** defined on the system for the type of SDP

Parameters

bytes

Specifies the bytes.

Values 576 to 9800

Platforms

All

33.66 path-mtu-discovery

path-mtu-discovery

Syntax

[**no**] **path-mtu-discovery**

Context

[Tree] (config>router>ldp>tcp-session-params>peer-transport path-mtu-discovery)

Full Context

configure router ldp tcp-session-parameters peer-transport path-mtu-discovery

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Description

This command enables Path MTU discovery for the associated TCP connections. When enabled, the MTU for the associated TCP session is initially set to the egress interface MTU. The DF bit is also set so that if a router along the path of the TCP connection cannot handle a packet of a particular size without fragmenting, it sends back an ICMP message to set the path MTU for the given session to a lower value that can be forwarded without fragmenting.

If one or more transport addresses used in the Hello adjacencies to the same peer LSR are different from the LSR-ID value, the user must add each of the transport addresses to the path MTU discovery configuration as a separate peer. This means when the TCP connection is bootstrapped by a given Hello adjacency, the path MTU discovery can operate over that specific TCP connection by using its specific transport address.

Default

no path-mtu-discovery

Platforms

All

path-mtu-discovery

Syntax

[**no**] **path-mtu-discovery**

Context

[Tree] (config>router>bgp>group>neighbor path-mtu-discovery)

[Tree] (config>router>bgp>group path-mtu-discovery)

[Tree] (config>router>bgp path-mtu-discovery)

Full Context

configure router bgp group neighbor path-mtu-discovery

configure router bgp group path-mtu-discovery

configure router bgp path-mtu-discovery

Description

This command enables Path MTU Discovery (PMTUD) for the associated TCP connections.

When enabled, PMTUD is activated toward an IPv4 BGP neighbor. The Don’t Fragment (DF) bit is set in the IP header of all IPv4 packets sent to the peer. If any device along the path toward the peer cannot forward the packet because the IP MTU of the interface is smaller than the IP packet size, the device drops the packet and sends an ICMP or ICMPv6 error message encoding the interface MTU. When the router receives the ICMP or ICMPv6 message, it lowers the TCP maximum segment size limit from the previous value to accomodate the IP MTU constraint.

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When PMTUD is disabled and there is no **tcp-mss** configuration to associate with a BGP neighbor (in either the BGP configuration or the first-hop IP interface configuration), the router advertises a TCP MSS option of only 1024 bytes, limiting received TCP segments to that size.

The **no** form of this command disables PMTUD.

Default

no path-mtu-discovery

Platforms

All

33.67 path-preference

path-preference

Syntax

path-preference *value*

no path-preference

Context

[Tree] (config>router>mpls>lsp>secondary path-preference)

Full Context

configure router mpls lsp secondary path-preference

Description

This command enables the use of path preference among configured standby secondary paths per LSP. If all standby secondary paths have a default path-preference value then a non-standby secondary path will remain the active path while a standby secondary is available. A standby secondary path configured with the highest priority (for example, the lowest path-preference value) is made the active path when the primary is not in use. If multiple standby secondary paths have the same, lowest, path-preference value then the system will select the path with the highest up-time. Path preference can only be configured on the standby secondary paths.

The **no** form of this command resets the path-preference to the default value.

Default

path-preference 255

Parameters

value

Specifies an alternate path for the LSP if the primary path is not available.

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Values 1 to 255

Platforms

All

33.68 path-probing

path-probing

Syntax

path-probing

Context

[Tree] (config>test-oam>ldp-treetrace path-probing)

Full Context

configure test-oam ldp-treetrace path-probing

Description

This command creates the context to configure the LDP tree trace path probing phase.

The periodic path exercising runs in the background to test the LDP ECMP paths discovered by the path discovery capability. The probe used is an LSP Ping message with an IP address drawn from the sub-range of 127/8 addresses indicated by the output of the tree discovery for this FEC.

The user configures the frequency of running the path probes using the **config>test-oam>ldp-treetrace>path-probing>interval** command. If an I/F is down on the ingress LER performing the LDP tree trace, then LSP Ping probes that normally go out this interface are not sent but the ingress LER node does not raise alarms.

The LSP Ping routine updates the content of the MPLS echo request message, specifically the IP address, as soon as the LDP ECMP path discovery phase has output the results of a new computation for the path in question.

Platforms

All

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33.69 path-profile

path-profile

Syntax

path-profile *profile-id* [**path-group** *group-id*]

no path-profile *profile-id*

Context

[Tree] (config>router>mpls>lsp-template path-profile)

[Tree] (config>router>mpls>lsp path-profile)

Full Context

configure router mpls lsp-template path-profile

configure router mpls lsp path-profile

Description

This command configures the PCE path profile and path group ID.

The PCE supports the computation of disjoint paths for two different LSPs originating and/or terminating on the same or different PE routers. To indicate this constraint to the PCE, the user must configure the PCE path profile ID and path group ID to which the PCE computed or PCE controlled LSP belongs to. These parameters are passed transparently by the PCC to the PCE and are thus opaque data to the router.

The association of the optional path-group ID is to allow the PCE to determine the profile ID that must be used with this path-group ID. One path-group ID is allowed per profile ID. The user can, however, enter the same path-group ID with multiple profile IDs by executing this command multiple times. A maximum of five **path-profile** [**path-group**] entries can be associated with the same LSP.

The **no** form of this command removes the path profile association with the LSP.

Parameters

profile-id

Specifies the profile ID.

Values 1 to 4294967295

path-group ***group-id***

Specifies the path group ID.

Values 0 to 4294967295

Platforms

All

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33.70 path-restoration-state

path-restoration-state

Syntax

path-restoration-state {**standby** | **auto**}

no path-restoration-state

Context

[Tree] (config>subscr-mgmt>up-resiliency>fsg-template path-restoration-state)

Full Context

configure subscriber-mgmt up-resiliency fate-sharing-group-template path-restoration-state

Description

This command configures how the BNG-UP manages active FSGs if the BNG-UP becomes headless (PFCP path is in restoration/headless). The BNG-UP can always move all active FSGs to standby, or it can decide whether to move them to standby based on a series of heuristic tests. If any test indicates that the BNG-UP cannot forward traffic for the FSG, or another BNG-UP becomes active, the BNG-UP moves the FSG to standby.

The **no** form of this command removes the path restoration state configuration.

Note: This only applies to active FSGs; the UP never makes a standby FSG active without CP intervention.

Default

path-restoration-state auto

Parameters

standby

Keyword that indicates any FSG becomes standby when the BNG-UP becomes headless.

auto

Keyword that indicates the BNG-UP determines whether to change the state of the FSGs to standby based on a series of heuristic tests.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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33.71 path-restoration-time

path-restoration-time

Syntax

path-restoration-time *minutes*

no path-restoration-time

Context

[Tree] (config>subscr-mgmt>pfcp-association path-restoration-time)

Full Context

configure subscriber-mgmt pfcp-association path-restoration-time

Description

This command configures the time sessions are kept after a PFCP path failure is detected. When the timer expires, or if it is not configured, all sessions associated with the path are removed. If the path recovers without a restart before the timer expires, the timer is canceled, and no sessions are removed.

The **no** form of this command removes the path restoration configuration.

Default

no path-restoration-time

Parameters

minutes

Specifies the time, in minutes, that sessions are kept after a PFCP path failure. This timer should be configured to a value that is at least twice the sum of the **heartbeat interval** plus the total heartbeat timeout (heartbeat retries x heartbeat timeout = N1 x T1).

Values 5 to 1440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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33.72 path-threshold

path-threshold

Syntax

path-threshold *num-paths*

no path-threshold

Context

[Tree] (config>eth-tunnel>lag-emulation path-threshold)

Full Context

configure eth-tunnel lag-emulation path-threshold

Description

This command configures the behavior for the eth-tunnel if the number of operational members is equal to or below a threshold level

Default

no path-threshold

Parameters

num-paths

Specifies the threshold for the Ethernet Tunnel group.

Values 0 to 15

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.73 path-type

path-type

Syntax

path-type {**ibgp** | **ebgp**}

no path-type

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Context

[Tree] (config>router>policy-options>policy-statement>entry>from path-type)

Full Context

configure router policy-options policy-statement entry from path-type

Description

This command matches BGP routes based on their path type (EBGP or IBGP). A route learned from an EBGP peer has path-type **ebgp**. A route learned from an IBGP or confed-EBGP peer has path-type **ibgp**.

A non-BGP route does not match a policy entry if it contains the **path-type** command.

Default

no path-type

Parameters

ibgp

Matches routes from internal BGP peers.

ebgp

Matches routes from external BGP peers.

Platforms

All

33.74 patherr

patherr

Syntax

patherr [**detail**]

no patherr

Context

[Tree] (debug>router>rsvp>packet patherr)

Full Context

debug router rsvp packet patherr

Description

This command debugs path error packets.

The **no** form of the command disables the debugging.

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Parameters

detail

Displays detailed information about path error packets.

Platforms

All

33.75 pathtear

pathtear

Syntax

pathtear [**detail**]

no pathtear

Context

[Tree] (debug>router>rsvp>packet pathtear)

Full Context

debug router rsvp packet pathtear

Description

This command debugs path tear packets.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about path tear packets.

Platforms

All

33.76 pattern

pattern

Syntax

pattern *pad-value*

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no pattern

Context

[Tree] (config>oam-pm>session>ip pattern)

Full Context

configure oam-pm session ip pattern

Description

This command configures the pattern value to be repeated in the padding portion of the TWAMP Light packet.

The **no** form of this command uses an incrementing byte pattern beginning with 00 and ending with FF, wrapping back to 00.

Default

pattern 0

Parameters

pad-value

Specifies the specific pattern to use.

Values 0 to 65535

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

pattern

Syntax

pattern *pad-value*

no pattern

Context

[Tree] (config>oam-pm>session>mpls pattern)

Full Context

configure oam-pm session mpls pattern

Description

This command configures the pattern value to be repeated in the padding portion of pad-tlv length field of the dm PDU.

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The **no** form of this command uses an incrementing byte pattern beginning with 00 and ending with FF, wrapping back to 00.

Parameters

pad-value

Specifies a two octet pattern to be repeated to fill the padding field of each echo request packet launched for each test belonging to the specified session. For example, if 255 is specified, the padding field is filled with the octet values 00, FF, 00, FF, ... (hexadecimal).

Values 0 to 65535

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.77 pbb

pbb

Syntax

pbb

Context

[Tree] (config>service pbb)

[Tree] (config>service>vpls pbb)

Full Context

configure service pbb

configure service vpls pbb

Description

Commands in this context configure the PBB parameters.

Platforms

All

pbb

Syntax

pbb

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Context

[Tree] (debug>oam>build-packet>packet>field-override>header pbb)

[Tree] (config>test-oam>build-packet>header pbb)

Full Context

debug oam build-packet packet field-override header pbb

configure test-oam build-packet header pbb

Description

This command configures a test Provider Backbone Bridge (PBB) packet header to be launched by the OAM **find-egress** tool.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

33.78 pbb-etype

pbb-etype

Syntax

pbb-etype [*ethertype-value*]

no pbb-etype

Context

[Tree] (config>port>ethernet pbb-etype)

Full Context

configure port ethernet pbb-etype

Description

This command configures the Ethertype used for PBB encapsulation.

Default

no pbb-etype

Parameters

ethertype-value

Specifies the Ethertype value in the form of 0x600 to 0xfff.

Values 1536 to 65535 (accepted in decimal or hex)

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Platforms

All

pbb-etype

Syntax

pbb-etype *type*

no pbb-etype [*type*]

Context

[Tree] (config>service>sdp pbb-etype)

Full Context

configure service sdp pbb-etype

Description

This command configures the Ethertype used for PBB.

Default

no pbb-etype

Parameters

type

Specifies the Ethertype.

Values 0x0600..0xffff or 1536 to 65535 (accepted in decimal or hex)

Platforms

All

33.79 pbr-down-action-override

pbr-down-action-override

Syntax

pbr-down-action-override *filter-action*

no pbr-down-action-override

Context

[Tree] (config>filter>mac-filter>entry pbr-down-action-override)

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[Tree] (config>filter>ip-filter>entry pbr-down-action-override)

[Tree] (config>filter>ipv6-filter>entry pbr-down-action-override)

Full Context

configure filter mac-filter entry pbr-down-action-override

configure filter ip-filter entry pbr-down-action-override

configure filter ipv6-filter entry pbr-down-action-override

Description

This command allows overriding the default action that is applied for entries with PBR/PBF action defined, when the PBR/PBF target is down.

The **no** form of the command preserves default behavior when PBR/PBF target is down.

Default

no pbr-down-action-override

Parameters

filter-action

Specifies the packets matching the entry.

drop — Specifies that packets matching the entry will be dropped if PBR/PBF target is down.

forward — Specifies that packets matching the entry will be forwarded if PBR/PBF target is down.

filter-default-action — Specifies that packets matching the entry will be processed as per **default-action** configuration for this filter if PBR/PBF target is down.

Platforms

All

33.80 pcap

pcap

Syntax

pcap *session-name* [**create**]

no pcap *session-name*

Context

[Tree] (config>mirror>mirror-dest pcap)

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Full Context

configure mirror mirror-dest pcap

Description

This command specifies a PCAP instance used for packet capture.

The **no** form of this command removes the PCAP instance and stops the packet capture and file transfer session.

Parameters

session-name

Specifies the session name, up to 32 characters.

Platforms

All

pcap

Syntax

pcap *session-name*

Context

[Tree] (debug pcap)

Full Context

debug pcap

Description

This command specifies the session for the packet capture process.

Parameters

session-name

Specifies the session name, up to 32 characters.

Platforms

All

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33.81 pcc

pcc

Syntax

[**no**] **pcc**

Context

[Tree] (debug>router>mpls>event pcc)

Full Context

debug router mpls event pcc

Description

This command debugs pcc events.

The **no** form of the command disables the debugging.

Platforms

All

pcc

Syntax

pcc

Context

[Tree] (config>router>pcep pcc)

Full Context

configure router pcep pcc

Description

Commands in this context configure PCC parameters.

Platforms

All

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pcc

Syntax

[**no**] **pcc**

Context

[Tree] (debug>router>pcep pcc)

Full Context

debug router pcep pcc

Description

This command enables debugging for the PCEP Path Computation Client (PCC).

The **no** form of this command disables PCEP PCC debugging.

Platforms

All

33.82 pce

pce

Syntax

pce

Context

[Tree] (config>router>pcep pce)

Full Context

configure router pcep pce

Description

Commands in this context configure PCE parameters.

Platforms

VSR-NRC

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pce

Syntax

[**no**] **pce**

Context

[Tree] (debug>router>pcep pce)

Full Context

debug router pcep pce

Description

This command enables debugging for the PCEP Path Computation Element (PCE).

The **no** form of this command disables PCEP PCE debugging.

Platforms

VSR-NRC

33.83 pce-associations

pce-associations

Syntax

pce-associations

Context

[Tree] (config>router>pcep>pcc pce-associations)

Full Context

configure router pcep pcc pce-associations

Description

Commands in this context configure PCE association groups.

Platforms

All

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pce-associations

Syntax

pce-associations

Context

[Tree] (config>router>mpls>lsp-template pce-associations)

[Tree] (config>router>mpls>lsp pce-associations)

Full Context

configure router mpls lsp-template pce-associations

configure router mpls lsp pce-associations

Description

Commands in this context configure LSP binding with one or more PCEP association groups.

Platforms

All

33.84 pce-control

pce-control

Syntax

[**no**] **pce-control**

Context

[Tree] (config>router>mpls>lsp pce-control)

[Tree] (config>router>mpls>lsp-template pce-control)

Full Context

configure router mpls lsp pce-control

configure router mpls lsp-template pce-control

Description

This command enables a PCE controlled LSP mode of operation. The **pce-control** option means the router delegates full control of the LSP to the PCE (PCE controlled). Enabling it means the PCE is acting in stateful-active mode for this LSP and the PCE will be able to reroute the path following a failure or re-optimize the path and update the router without a request from the router.

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The user can delegate CSPF and non-CSPF LSPs, or LSPs that have the **path-computation-method pce** option enabled or disabled. The LSP maintains its latest active path computed by PCE or the router at the time it is delegated. The PCE only makes an update to the path at the next network event or reoptimization.

When configured to no, the PCE controlled mode of operation for the LSP has not effect.

Default

no pce-control

Platforms

All

33.85 pce-initiated-lsp

pce-initiated-lsp

Syntax

[**no**] **pce-initiated-lsp**

Context

[Tree] (config>router>mpls pce-initiated-lsp)

Full Context

configure router mpls pce-initiated-lsp

Description

This command creates a context to configure support for PCE-initiated LSPs.

The **no** form of this command removes PCE-initiated LSP support. All PCE-initiated LSPs are deleted.

Platforms

All

33.86 pce-report

pce-report

Syntax

pce-report rsvp-te {**enable** | **disable**}

pce-report sr-te {**enable** | **disable**}

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Context

[Tree] (config>router>mpls pce-report)

Full Context

configure router mpls pce-report

Description

This command separately configures the reporting modes to a PCE for RSVP-TE or SR-TE LSPs. The PCC LSP database is synchronized with the PCE LSP database using the PCEP PCRpt (PCE Report) message for PCC-controlled, PCE-computed, and PCE-controlled LSPs.

The global MPLS level **pce-report** command can be used to enable or disable PCE reporting for all SR-TE LSPs or RSVP-TE LSPs during PCE LSP database synchronization. This configuration is inherited by all LSPs of the specified type. The PCC reports both CSPF and non-CSPF LSPs. The default value is disabled for both types of LSP. This default value is meant to control the introduction of the PCE into an existing network and to let the operator decide if all LSPs of a particular type need to be reported.

The LSP-level **pce-report** command overrides the global configuration for the reporting of LSPs to the PCE. The default value is to inherit the global MPLS level value. The **enable** or **disable** value allows for the override of the inherited value. The **inherit** value explicitly resets the LSP to inherit the global configuration for that LSP type.

If PCE reporting is disabled for the LSP, either due to inheritance or due to LSP-level configuration, then enabling the **pce-control** option for the LSP has no effect.

Default

pce-report rsvp-te disable

pce-report sr-te disable

Parameters

rsvp-te

Specifies the PCE reporting mode for all TE LSPs of RSVP-TE type.

Values **enable** — enables PCE reporting for all TE LSPs of RSVP-TE type

disable — disables PCE reporting for all TE LSPs of RSVP-TE type

sr-te

Specifies the PCE reporting mode for all TE LSPs of SR-TE type.

Values **enable** — enables PCE reporting for all TE LSPs of SR-TE type

disable — disables PCE reporting for all TE LSPs of SR-TE type

Platforms

All

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pce-report

Syntax

pce-report {**enable** | **disable** | **inherit**}

Context

[Tree] (config>router>mpls>lsp-template pce-report)

[Tree] (config>router>mpls>lsp pce-report)

Full Context

configure router mpls lsp-template pce-report

configure router mpls lsp pce-report

Description

This command separately configures the reporting modes to a PCE for RSVP-TE or SR-TE LSPs.

The PCC LSP database is synchronized with the PCE LSP database using the PCEP PCRpt (PCE Report) message for PCC-controlled, PCE-computed and PCE-controlled LSPs.

The global MPLS-level **pce-report** command can be used to enable or disable PCE reporting for all SR-TE LSPs or RSVP-TE LSPs during PCE LSP database synchronization. This configuration is inherited by all LSPs of the specified type. The PCC reports both CSPF and non-CSPF LSPs. The default value is disabled for both types of LSP. This default value is meant to control the introduction of the PCE into an existing network and to let the operator decide if all LSPs of a particular type need to be reported.

The LSP-level **pce-report** command overrides the global configuration for the reporting of LSP to the PCE. The default value is to inherit the global MPLS level value. The **enable** or **disable** value allows for the override of the inherited value. The **inherit** value explicitly resets the LSP to inherit the global configuration for that LSP type.

If PCE reporting is disabled for the LSP, either due to inheritance or due to LSP-level configuration, then enabling the **pce-control** option for the LSP has no effect.

Default

pce-report inherit

Parameters

enable

Enables PCE reporting.

disable

Disables PCE reporting.

inherit

Inherits the global configuration for PCE reporting.

Platforms

All

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pce-report

Syntax

[**no**] **pce-report**

Context

[Tree] (conf>router>segment-routing>sr-policies>policy pce-report)

Full Context

configure router segment-routing sr-policies static-policy pce-report

Description

This command configures the reporting of the SR policy candidate path to a PCE via PCEP.

The **no** form of this command does not report the SR policy candiate path.

Default

no pce-report

Platforms

All

33.87 pcep

pcep

Syntax

[**no**] **pcep**

Context

[Tree] (config>router pcep)

Full Context

configure router pcep

Description

This command enables Path Computation Element communications Protocol (PCEP), and enters the context to configure PCEP parameters.

The **no** form of the command disables PCEP.

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Platforms

All

pcep

Syntax

[**no**] **pcep**

Context

[Tree] (debug>router pcep)

Full Context

debug router pcep

Description

This command enables debugging for the Path Computation Element Protocol (PCEP).

The **no** form of this command disables PCEP debugging.

Platforms

All

33.88 pcm

pcm

Syntax

[**no**] **pcm** *pcm-slot* [**chassis** *chassis-id*]

Context

[Tree] (config>system>pwr-mgmt pcm)

Full Context

configure system power-management pcm

Description

This command sets the PCM slot number.

Parameters

pcm-slot

Identifies the PCM slot.

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Values 1 to 12

chassis-id

Specifies chassis ID for the router chassis.

Values 1, 2

Default 1

Platforms

7950 XRS-20e

33.89 pcm-type

pcm-type

Syntax

[**no**] **pcm-type** {**dual** | **quad**}

Context

[Tree] (cfg>sys>pwr-mgmt>pcm pcm-type)

Full Context

configure system power-management pcm pcm-type

Description

This command sets the PCM type.

Parameters

dual

Specifies the dual PCM type.

quad

Specifies the quad PCM type.

Platforms

7950 XRS-20e

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33.90 pcp

pcp

Syntax
pcp

Context
[Tree] (debug>router pcp)

Full Context
debug router pcp

Description
This command enables debugging for the PCP servers.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.91 pcp-server

pcp-server

Syntax
pcp-server

Context
[Tree] (config>router pcp-server)

Full Context
configure router pcp-server

Description
Commands in this context configure a Port Control Policy (PCP) server.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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pcp-server

Syntax

pcp-server *name*

Context

[Tree] (debug>router>pcp pcp-server)

Full Context

debug router pcp pcp-server

Description

This command enables debugging for the PCP servers.

Parameters

name

Debugs the PCP server associated with the specified name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.92 pcp-server-policy

pcp-server-policy

Syntax

pcp-server-policy *name* [**create**]

no pcp-server-policy *name*

Context

[Tree] (config>service>nat pcp-server-policy)

Full Context

configure service nat pcp-server-policy

Description

This command configures a PCP server policy name.

The **no** form of the command removes the name from the configuration.

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Parameters

name

Specifies a PCP server policy name up to 32 characters.

create

Keyword used to create the PCP server policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

pcp-server-policy

Syntax

pcp-server-policy *name*

no pcp-server-policy

Context

[Tree] (config>router>pcp-server>server pcp-server-policy)

Full Context

configure router pcp-server server pcp-server-policy

Description

This command configures the PCP server policy.

The **no** form of this command reverts to the default value.

Default

no pcp-server-policy

Parameters

name

Specifies the PCP server policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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33.93 pcr-repetition

pcr-repetition

Syntax

pcr-repetition [**tnc** *tnc-milli-seconds* **qos** *qos-milli-seconds* **poa** *poa-milli-seconds*]

no pcr-repetition

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms pcr-repetition)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms pcr-repetition)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms pcr-repetition)

Full Context

configure mcast-management multicast-info-policy bundle channel video analyzer alarms pcr-repetition

configure mcast-management multicast-info-policy bundle video analyzer alarms pcr-repetition

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms pcr-repetition

Description

This command configures the analyzer to check for the program clock reference (PCR). It is expected that the PCR arrives periodically within a certain interval range. It is possible to configure the type of alarm that is raised when the PCR fails to arrive within the specified interval. As the delay increases between two consecutive PCRs, the type of alarm raised becomes more critical, from TNC to POA.

Default

no pcr-repetition

Parameters

tnc-milli-seconds

Specifies the time, in milliseconds, for which a TNC alarm is raised if the interval between two consecutive PCRs is greater than or equal to this configured value.

Values 100 to 800 in multiples of 100 only

Default 100

qos-milli-seconds

Specifies the time, in milliseconds, for which a QoS alarm is raised if the interval between two consecutive PCRs is greater than or equal to this configured value.

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Values 200 to 900 in multiples of 100 only and higher than the *tnc-milli-seconds* value

Default 200

poa-milli-seconds

Specifies the time, in milliseconds, for which a POA alarm is raised if the interval between two consecutive PCRs is greater than or equal to this configured value.

Values 300 to 1000 in multiples of 100 only and higher than the *qos-milli-seconds* value

Default 500

Platforms

7450 ESS, 7750 SR, 7750 SR-s

33.94 pd-managed-route

pd-managed-route

Syntax

pd-managed-route [**next-hop** {**ipv4** | **ipv6**}]

no pd-managed-route

Context

[Tree] (config>service>ies>sub-if>ipv6>dhcp6 pd-managed-route)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 pd-managed-route)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6 pd-managed-route)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 pd-managed-route)

Full Context

configure service ies subscriber-interface ipv6 dhcp6 pd-managed-route

configure service vprn subscriber-interface group-interface ipv6 dhcp6 pd-managed-route

configure service vprn subscriber-interface ipv6 dhcp6 pd-managed-route

configure service ies subscriber-interface group-interface ipv6 dhcp6 pd-managed-route

Description

This command enables DHCP IA-PD (delegated prefix) to be modeled as managed (framed) route instead of as a subscriber-host. Antispoof filtering for the subscriber host associated with the IA-PD route must be set to **nh-mac**. The subscriber specific parameters (such as **sla-profile** or **sub-profile**) are ignored

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during the authentication phase because IA-PD is not modeled as a subscriber host. Other subscriber host-specific functions (for example, host overrides via CoA or host accounting) are not possible with a PD as the managed route.

By default, or when configured with the **next-hop ipv6** parameter, the next-hop for PD managed route is an IPv6 WAN sub-host (DHCP IA-NA or SLAAC) with the same mac address as the one in the DHCP lease state for the managed IA-PD. The DHCP IA-NA next-hop host will always override the SLAAC next-hop host if both are available. If the IPv6 next-hop is not present when the framed IA-PD is instantiated, the IA-PD is set up but the PD managed route will not be installed in the IPv6 route table and the DHCPv6 lease state for the IA-PD will have the managed route status (DHCP6 MRt Status) set to "noNextHop”.

When configured with the **next-hop ipv4** parameter the next-hop for PD managed route is a DHCPv4 sub-host that belongs to the same IPoE session or PPPoE session. For IPoE, **ipoe-session** must be enabled on the group-interface. If **ipoe-session** is disabled, an IPv4 next-hop will not be found. If the IPv4 next-hop is not found or not present at the time when the framed IA-PD is instantiated, the IA-PD is set up but the PD managed route is not installed in the IPv6 route table. In this case, the DHCPv6 lease state for the IA-PD will have the managed route status (DHCP6 MRt Status) set to noNextHop.

Note:
IPv6 filters, QoS IPv6 criteria, and IPv6 multicast are not supported for DHCPv6 IA-PD as managed route pointing to an IPv4 subscriber host as next-hop.

The DHCP IA-PD modeled as a route is displayed differently than regular subscriber hosts in **show** commands related to subscriber host state. The PD managed route is always shown directly below the host it is using as the next hop. The forwarding status of the PD managed route is also shown, where (N) indicate that the PD managed route is not forwarding. In addition, DHCP IA-PD route is displayed as a managed route for the corresponding IPv6 subscriber host (DHCP IA-NA or SLAAC) or DHCPv4 subscriber host.

DHCP IA-PD information for managed IA-PD route is still maintained in the DHCPv6 lease state.

The **no** form of this command reverts to the default.

Parameters

next-hop

Specifies the next-hop type for the DHCP IA-PD managed route

Values **ipv4** - The next-hop for PD managed route is a DHCPv4 sub-host that belongs to the same IPoE session (based on the IPoE session key which is **sap-mac** by default). IPoE session must be enabled on the group-interface.

ipv6 - The next-hop for PD managed route is an IPv6 WAN sub-host (DHCP IA-NA or SLAAC) with the same MAC address as the one in the DHCP lease state for the managed IA-PD. This is the default when no next-hop is specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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33.95 pdn-connection-id

pdn-connection-id

Syntax

[**no**] **pdn-connection-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp pdn-connection-id)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp pdn-connection-id

Description

This command enables the inclusion of the PDN-Connection-Id AVP, which contains the APN as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the AVP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.96 pdn-type

pdn-type

Syntax

pdn-type {**ipv4** | **ipv6** | **ipv4v6**}

no pdn-type

Context

[Tree] (config>service>vprn>gtp>uplink pdn-type)

[Tree] (config>router>gtp>uplink pdn-type)

Full Context

configure service vprn gtp uplink pdn-type

configure router gtp uplink pdn-type

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Description

This command configures the PDP type to be signaled in GTP, determining which addresses are requested from the P-GW/GGSN and which hosts are set up afterwards. This can be overridden by RADIUS. If the **ipv4v6** keyword is used, the P-GW/GGSN can fall back to either IPv4 or IPv6.

The **no** form of this command reverts to the default configuration.

Default

pdn-type ipv4

Parameters

ipv4

Specifies the GTP connection requests an IPv4 address.

ipv6

Specifies the GTP connection requests an IPv6 address.

ipv4v6

Specifies the GTP connection requests both an IPv4 and an IPv6 address.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

33.97 pdp-context-type

pdp-context-type

Syntax

[**no**] **pdp-context-type**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp pdp-context-type)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp pdp-context-type

Description

This command includes the [3GPP-1247] PDP-Context-Type AVP in Diameter DCCA CCR-Initial messages.

The **no** form of this command removes the PDP-Context-Type AVP from the Diameter DCCA CCR-Initial messages.

Default

pdp-context-type

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

33.98 pe-id-mac-flush-interop

pe-id-mac-flush-interop

Syntax

[**no**] **pe-id-mac-flush-interop**

Context

[Tree] (config>router>ldp>session-params>peer pe-id-mac-flush-interop)

Full Context

configure router ldp session-parameters peer pe-id-mac-flush-interop

Description

This command enables the addition of the PE-ID TLV in the LDP MAC withdrawal (mac-flush) message, under certain conditions, and modifies the mac-flush behavior for interoperability with other vendors that do not support the flush-all-from-me vendor-specific TLV. This flag can be enabled on a per LDP peer basis and allows the flush-all-from-me interoperability with other vendors. When the pe-id-mac-flush-interop flag is enabled for a given peer, the current mac-flush behavior is modified in terms of mac-flush generation, mac-flush propagation and behavior upon receiving a mac-flush.

The mac-flush generation will be changed depending on the type of event and according to the following rules:

- Any all-from-me mac-flush event will trigger a mac-flush all-but-mine message (RFC 4762 compliant format) with the addition of a PE-ID TLV. The PE-ID TLV contains the IP address of the sending PE.
- Any all-but-mine mac-flush event will trigger a mac-flush all-but-mine message WITHOUT the addition of the PE-ID TLV, as long as the source spoke SDP is not part of an end-point.
- Any all-but-mine mac-flush event will trigger a mac-flush all-but-mine message WITH the addition of the PE-ID TLV, if the source spoke SDP is part of an end-point and the spoke-sdp goes from down/standby state to active state. In this case, the PE-ID TLV will contain the IP address of the PE to which the previous active spoke-sdp was connected to.

Any other case will follow the existing mac-flush procedures.

When the pe-id-mac-flush-interop flag is enabled for a given LDP peer, the mac-flush ingress processing is modified according to the following rules:

- Any received all-from-me mac-flush will follow the existing mac-flush all-from-me rules regardless of the existence of the PE-ID.
- Any received all-but-mine mac-flush will take into account the received PE-ID, that is all the mac addresses associated to the PE-ID will be flushed. If the PE-ID is not included, the mac addresses associated to the sending PE will be flushed.
- Any other case will follow the existing mac-flush procedures.

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When a mac-flush message has to be propagated (for an ingress sdp-binding to an egress sdp-binding) and the pe-id-mac-flush-interop flag is enabled for the ingress and egress TLDP peers, the following behavior is observed:

- If the ingress and egress bindings are spoke SDP, the PE will propagate the mac-flush message with its own PE-ID.
- If the ingress binding is an spoke SDP and the egress binding a mesh SDP, the PE will propagate the mac-flush message without modifying the PE-ID included in the PE-ID TLV.
- If the ingress binding is a mesh SDP and the egress binding an spoke SDP, the PE will propagate the mac-flush message with its own PE-ID.
- When ingress and egress bindings are mesh-sdp, the mac-flush message is never propagated. This is the behavior regardless of the pe-id-mac-flush-interop flag configuration.

The PE-ID TLV is never added when generating a mac-flush message on a B-VPLS if the **send-bvpls-flush** command is enabled in the I-VPLS. In the same way, no PE-ID is added when propagating mac-flush from a B-VPLS to a I-VPLS when the **propagate-mac-flush-from-bvpls** command is enabled. Mac-flush messages for peers within the same I-VPLS or within the same B-VPLS domain follow the procedures described above.

Default

no pe-id-mac-flush-interop

Platforms

All

33.99 peak-rate

peak-rate

Syntax

peak-rate *rate*

no peak-rate

Context

[Tree] (config>router>policy-acct-template>policer peak-rate)

Full Context

configure router policy-acct-template policer peak-rate

Description

This command sets the peak rate (the fill or drain rate of the bucket).

Each policer has a peak information rate and a maximum burst size. The default **peak-rate** (when no value is configured or the configured value is max) is the line rate of the ingress port.

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The **no** form of this command reverts to the default value.

Default

peak-rate max

Parameters

rate

Specifies the peak rate in Kb/s

Values 1 to 6400000000, max

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

33.100 peer

peer

Syntax

peer *ip-address* **tag** *sync-tag*

no peer

Context

[Tree] (config>router>dhcp6>server>pool>failover peer)

[Tree] (config>service>vprn>dhcp6>server peer)

[Tree] (config>router>dhcp>server>failover peer)

[Tree] (config>service>vprn>dhcp>server peer)

[Tree] (config>service>vprn>dhcp>server>pool peer)

[Tree] (config>service>vprn>dhcp6>server>pool peer)

[Tree] (config>router>dhcp6>server>failover peer)

[Tree] (config>router>dhcp>server>pool>failover peer)

Full Context

configure router dhcp6 server pool failover peer

configure service vprn dhcp6 server peer

configure router dhcp local-dhcp-server failover peer

configure service vprn dhcp server peer

configure service vprn dhcp server pool peer

configure service vprn dhcp6 server pool peer

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configure router dhcp6 local-dhcp-server failover peer

configure router dhcp server pool failover peer

Description

This command creates a sync tag. DHCP leases can be synchronized per DHCP server or DHCP pool. The pair of synchronizing servers or pools is identified by a tag. The synchronization information is carried over the Multi-Chassis Synchronization (MCS) link between the two peers. MCS link is a logical link (IP, or MPLS).

MCS runs over TCP, port 45067 and it is using either data traffic or keepalives to detect failure on the communication link between the two nodes. In the absence of any MCS data traffic for more than 0.5sec, MCS will send its own keepalive to the peer. If a reply is **not** received within three sec, MCS will declare its operation state as DOWN and the DB Sync state as out-of-sync. MCS will consequently notify its clients (DHCP Server being one of them) of this. It can take up to three seconds before the DHCP client realizes that the inter-chassis communication link has failed.

The inter-chassis communication link failure does not necessarily assume the same failed fate for the access links. The two redundant nodes can become isolated from each other in the network. This occurs when only the intercommunication (MCS) link fails. It is important that this MCS link be highly redundant.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the IPv4 or IPv6 address of the peer.

Values			
	ipv4-address:	a.b.c.d	
	:	x:ipv6-addressx:x:x:x:x:x:x (eight 16-bit pieces)	
		x:x:x:x:x:x:d.d.d.d	
		x:	[0 to FFFF]H
		d:	[0 to 255]D

tag *sync-tag*

Specifies a tag, up to 32 characters, that identifies the synchronizing DHCP servers or pools.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer *ip-address* | *ipv6-address* [**create**]

no peer *ip-address* | *ipv6-address*

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Context

[Tree] (config>anysec>mpls>svc-enc>enc-grp peer)

Full Context

configure anysec mpls service-encryption encryption-group peer

Description

This command configures a peer address as part of the specified encryption group.

Note: Peers are identified by their unique tunnel attributes. A peer can only be part of a single encryption group and cannot participate in multiple encryption groups.

The **no** form of this command removes the peer address from the ANYsec configuration.

Parameters

ip-address | *ipv6-address*

Specifies the peer IP address.

Values w.x.y.z | a:b:c:d:e:f:g:h

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

peer

Syntax

[**no**] **peer router** *router-instance* **address** *ip-address* [**udp-port** *port*]

Context

[Tree] (debug>gtp peer)

Full Context

debug gtp peer

Description

This command restricts debugging to only data related to the specified GTP peer. This command can be repeated multiple times, where only data for any of the specified peers is debugged.

The **no** form of this command removes the restriction for the specified peer. When the last peer filter is removed, all data is debugged again, but may be restricted by other filters.

Parameters

router-instance

Specifies the ID of the VRF where the peer is connected.

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Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base"
vprn-svc-id	1 to 2147483647

ip-address

Specifies the IP address of the peer.

Values a.b.c.d

port

Specifies the GTP-C port used by the peer.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer *ip-address*

no peer

Context

[Tree] (config>router>l2tp>group>tunnel peer)

[Tree] (config>service>vprn>l2tp>group>tunnel peer)

Full Context

configure router l2tp group tunnel peer

configure service vprn l2tp group tunnel peer

Description

This command configures the peer address.

The **no** form of this command removes the IP address from the tunnel configuration.

Default

no peer

Parameters

ip-address

Sets the LNS IP address for the tunnel.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer *ip-address* [**udp-port** *port*] [**ip**]

Context

[Tree] (debug>router>l2tp peer)

Full Context

debug router l2tp peer

Description

This command enables and configures debugging for an L2TP peer.

Parameters

ip-address

Specifies the IP address of the L2TP peer.

port

Specifies the UDP port for the L2TP peer. This parameter is only supported with L2TPv2 peers.

ip

Displays debugging information for peers using IP transport.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer index *index* [*destination-host-string*][**create**]

no peer index *index*

Context

[Tree] (config>aaa>diam>node peer)

Full Context

configure aaa diameter node peer

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Description

This command creates context for diameter peer configuration within a Diameter client node in SR OS. Up to five Diameter peers can be configured within a given Diameter client node.

This command is not applicable to legacy Diameter base.

The **no** form of this command removes the peer index information from the configuration.

Parameters

index

Specifies the index of a peer. Index is used to break a tie if a Diameter route for a given host or realm destination points to multiple diameter peers with the same preference. In such scenario, the peer with the lowest index will be selected as next-hop in traffic forwarding.

Values 1 to 5

destination-host-string

Identifies the peer by its name, up to 80 characters (of type DiameterIdentity). This peer name must match the one in Origin-Host AVP received in Capability Exchange Answer message. In case of a mismatch, the TCP connection will be terminated.

create

Keyword used to create the peer index. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer *ip-address* [**create**]

no peer *ip-address*

Context

[Tree] (config>redundancy>multi-chassis peer)

Full Context

configure redundancy multi-chassis peer

Description

This command configures the IP address of the peer in a redundant multi-chassis setup, and enters the context for further, application-specific configuration options.

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Parameters

ip-address

Specifies a peer IP address. Multicast addresses are not allowed.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

All

peer

Syntax

[**no**] **peer** *destination-host*

Context

[Tree] (debug>diameter>node peer)

Full Context

debug diameter node peer

Description

This command debugs Diameter node peers. At this level, the forwarding/routing phase is completed and the peer is known. All messages flowing between this node and the peer are reported. Although the messages displayed can contain session-ids, this debugging level is session unaware (the session states are not maintained at this level).

Parameters

destination-host

Specifies the host name, up to 80 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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peer

Syntax

peer ip-address *ip-address*

no peer

Context

[Tree] (config>subscr-mgmt>pfcp-association peer)

Full Context

configure subscriber-mgmt pfcp-association peer

Description

This command configures PFCP peer IP address.

The **no** form of this command removes the PFCP IP address.

Default

no peer

Parameters

ip-address

Specifies the PFCP peer IP address.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer *ip-address* [**create**]

no peer *ip-address*

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Context

[Tree] (config>service>vprn>ptp peer)

Full Context

configure service vprn ptp peer

Description

This command configures a remote PTP peer and provides the context to configure parameters for this peer.

Up to 20 remote PTP peers may be configured.

If the **clock-type** is **ordinary slave** or **boundary**, and PTP is not shutdown, the last peer cannot be deleted. This prevents the case where the user has PTP enabled without any peer configured and enabled.

Peers are created within the routing instance associated with the context of this command. All configured PTP peers must use the same routing instance.

The **no** form of this command deletes the specified peer.

Parameters

ip-address

Specifies the IP address of the remote peer.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

create

Keyword used to create the peer.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer

Syntax

peer *ip-address* [**create**]

no peer *ip-address*

Context

[Tree] (config>system>ptp peer)

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Full Context

configure system ptp peer

Description

This command configures a remote PTP peer. It provides the context to configure parameters for the remote PTP peer.

Up to 20 remote PTP peers may be configured.

If the **clock-type** is **ordinary slave** or **boundary**, and PTP is not shutdown, the last peer cannot be deleted. This prevents the user from having PTP enabled without any peer configured and enabled.

Peers are created within the routing instance associated with the context of this command. All configured PTP peers must use the same routing instance.

The **no** form of the command deletes the specified peer. The specific address being deleted must be included.

Parameters

ip-address

Specifies the IP address of the remote peer.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

create

Creates the remote PTP peer.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer

Syntax

[**no**] **peer** *peer-address*

Context

[Tree] (config>service>vprn>msdp peer)

[Tree] (config>service>vprn>msdp>group peer)

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Full Context

configure service vprn msdp peer

configure service vprn msdp group peer

Description

This command configures peer parameters. Multicast Source Discovery Protocol (MSDP) must have at least one peer configured. A peer is defined by configuring a local-address that can be used by this node to set up a peering session and the address of a remote MSDP router, It is the address of this remote peer that is configured in this command and it identifies the remote MSDP router address.

After peer relationships are established, the MSDP peers exchange messages to advertise active multicast sources. It may be required to have multiple peering sessions in which case multiple peer statements should be included in the configurations.

By default, the options applied to a peer are inherited from the global or group-level. To override these inherited options, include peer-specific options within the peer statement.

If the peer address provided is already a configured peer, then this command only provides the context to configure the parameters pertaining to this peer.

If the peer address provided is not already a configured peer, then the peer instance must be created and the context to configure the parameters pertaining to this peer should be provided. In this case, the $ prompt to indicate that a new entity (peer) is being created should be used.

The peer address provided will be validated and, if valid, will be used as the remote address for an MSDP peering session.

When the **no** form of this command is entered, the existing peering address will be removed from the configuration and the existing session will be terminated. Whenever a session is terminated, all source active information pertaining to and learned from that peer will be removed. Whenever a new peering session is created or a peering session is lost, an event message should be generated.

At least one peer must be configured for MSDP to function.

Parameters

peer-address

The address configured in this statement must identify the remote MSDP router that the peering session must be established with.

Platforms

All

peer

Syntax

peer *ipv4-address*

no peer

Context

[Tree] (config>router>nat>inside>redundancy peer)

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[Tree] (config>service>vprn>nat>inside>redundancy peer)

Full Context

configure router nat inside redundancy peer

configure service vprn nat inside redundancy peer

Description

This command is used in LSN44 multi-chassis redundancy in conjunction with filters. The configured peer address is an IPv4 address that is configured under an interface on the peering LSN44 node (active or standby). This IPv4 interface address is advertised via routing on the inside in order to attract traffic from the standby to the active LSN44 node.

If configured, the steering-route is advertised only from the active LSN44 node. Consequently, upstream traffic for LSN44 is attracted to the active LSN44 node. The nat action in the ipv4-filter on the active LSN44 node forwards traffic to the local MS-ISA where LSN44 function is performed. However, in that case that upstream traffic somehow arrives on the standby LSN44 node, the nat action in the IPv4-filter forwards traffic to the peer address (active LSN44 node).

The **no** form of the command removes the peer ipv4-address from the configuration.

Parameters

ipv4-address

Specifies the IP address of the NAT redundancy peer.

Values ipv4-address: a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

[**no**] **peer** *ip-address*

Context

[Tree] (config>router>ldp>session-parameters peer)

Full Context

configure router ldp session-parameters peer

Description

This command configures parameters for an LDP peer.

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Parameters

ip-address

Specifies the IPv4 or IPv6 address of the LDP peer in dotted decimal notation.

Platforms

All

peer

Syntax

[**no**] **peer** *ip-address*

Context

[Tree] (config>router>ldp>targeted-session peer)

Full Context

configure router ldp targeted-session peer

Description

This command configures parameters for an LDP peer.

The **no** form of this command removes the LDP peer parameters.

Parameters

ip-address

Specifies a peer IP address.

Values ipv4-address: a.b.c.d; 0 to 255, decimal

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]; hexadecimal
- d: [0 to 255]; decimal

Platforms

All

peer

Syntax

[**no**] **peer** *ip-address*

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Context

[Tree] (debug>router>ldp peer)

Full Context

debug router ldp peer

Description

Use this command for debugging an LDP peer.

Parameters

ip-address

The IP address of the LDP peer.

Platforms

All

peer

Syntax

peer *ip-address* [**preference** *preference*]

no peer *ip-address*

Context

[Tree] (config>router>pcep>pcc peer)

Full Context

configure router pcep pcc peer

Description

This command configures the IP address of a peer PCEP speaker. The address is used as the destination address in the PCEP session messages to a PCEP peer.

The **preference** parameter allows the PCC to select the preferred PCE when both have their PCEP sessions successfully established. A maximum of two PCEP peers is supported.

The PCE peer that is not in overload is always selected by the PCC as the active PCE. However, if neither of the PCEs are signaling the overload state, the PCE with the higher numerical preference value is selected, and in case of a tie, the PCE with the lower IP address is selected.

Note:
The system does not support two or more simultaneously active PCEs.

The **no** form of the command removes the specified peer PCEP speaker.

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Parameters

ip-address

The IP address of the PCEP peer to be used as the destination address in the PCEP session.

preference

The preference value of the peer.

Values 0 to 100

Default 1

Platforms

All

peer

Syntax

peer *ip-address*

no peer

Context

[Tree] (config>app-assure>aarp peer)

Full Context

configure application-assurance aarp peer

Description

This command defines the IP address of the peer router which must be a routable system IP address.

If no peer is configured and the AARP is **no shutdown**, it is configured as a single node AARP instance.

The **no** form of this command removes the IP address from the AARP instance.

Default

no peer

Parameters

ip-address

Specifies the IP address in the a.b.c.d format.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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peer

Syntax

[**no**] **peer** *ip-address*

Context

[Tree] (config>router>msdp>group peer)

[Tree] (config>router>msdp peer)

Full Context

configure router msdp group peer

configure router msdp peer

Description

This command configures an MSDP peer. For MSDP to function, at least one peer with a local address must be configured.

After peer relationships are established, the MSDP peers exchange messages to advertise active multicast sources. Multiple peers can be individually configured if multiple peering sessions are required.

By default, the options applied to a peer are inherited from the global or group level. To override these inherited options, configure the peer-specific options within the **peer** context.

The specified peer address is validated and, if valid, used as the remote address for an MSDP peering session.

When a session is terminated, all source active information pertaining to and learned from that peer is removed. When a new peering session is created or a peering session is lost, an event message is generated.

The **no** form of this command removes the peer address from the configuration and terminates the existing session.

Parameters

ip-address

Specifies the peer IP address of the remote MSDP router for the peering session.

Platforms

All

peer

Syntax

peer *lic-name*

no peer

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Context

[Tree] (config>li>x-interfaces>x1 peer)

Full Context

configure li x-interfaces x1 peer

Description

This command configures the LIC name for X1 interface communication, which is configured under **config**> **li**>**x-interfaces**>**lics**>**lic**.

The **no** form of this command reverts to the default.

Parameters

lic-name

Specifies the LIC name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer

Syntax

peer *lic-name*

no peer

Context

[Tree] (config>li>x-interfaces>x2 peer)

Full Context

configure li x-interfaces x2 peer

Description

This command configures the LIC name for X2 interface communication, which is configured under **config**> **li**>**x-interfaces**>**lics**>**lic**.

The **no** form of this command reverts to the default.

Parameters

lic-name

Specifies the LIC name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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peer

Syntax

[**no**] **peer** *lic-name*

Context

[Tree] (config>li>x-interfaces>x3>peers peer)

Full Context

configure li x-interfaces x3 peers peer

Description

This command configures the LIC name for X3 interface communication, which is configured under **config**> **li**>**x-interfaces**>**lics**>**lic**.

The **no** form of this command removes the LIC name.

Parameters

lic-name

Specifies the name for the LIC peer, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer

Syntax

[**no**] **peer** {*ip-address* | *ipv6-address*}

Context

[Tree] (config>router>bfd>seamless-bfd peer)

Full Context

configure router bfd seamless-bfd peer

Description

This command specifies the context for the local mapping, used by an S-BFD initiator, between a discriminator for a far-end S-BFD reflector and its discriminator value.

The **no** form of this command removes the mapping for the peer.

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Parameters

ip-address

Specifies the IPv4 address of the peer.

Values a.b.c.d

ipv6-address

Specifies the IPv6 address of the peer.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

Platforms

All

peer

Syntax

peer [**router** *router-instance* | **service-name** *service-name*] {*ip-address* | *ipv6-address*} [**key-id** *key-id* | **authentication-keychain** *keychain-name*] [**version** *version*] [**prefer**]

no peer [**router** *router-instance* | **service-name** *service-name*] {*ip-address* | *ipv6-address*}

Context

[Tree] (config>system>time>ntp peer)

Full Context

configure system time ntp peer

Description

This command configures symmetric active mode for an NTP peer. It is recommended to configure authentication and to only configure known time servers as peers. Peers may exist within a VPRN service.

Note:
For symmetric peering to operate correctly with a peer accessible through a VPRN, local NTP server functionality must be enabled within the VPRN using the **configure service vprn ntp** command.

The **no** form of the command removes the configured peer.

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Parameters

router-instance

Specifies the routing context that contains the interface.

Values *router-name* — Base | Management

service-id — 1 to 2147483647

Default Base

service name

Specifies the service name for the VPRN, up to 64 characters. CPM routing instances are not supported.

ip-address

Configures the IPv4 address of the peer that requires a peering relationship to be set up.

Values a.b.c.d

ipv6-address

Configures the IPv6 address of the peer that requires a peering relationship to be set up.

Values
- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

key-id

Specifies the key ID. Successful authentication requires that both peers must have the same authentication key-id, type, and key value.

Specify the *key-id* that identifies the configured authentication key and authentication type used by this node to transmit NTP packets to an NTP peer. If an NTP packet is received by these nodes, the authentication key-id, type, and key value must be valid, otherwise the packet is rejected and an event or trap is generated.

Values 1 to 255

keychain-name

Identifies the keychain name, up to 32 characters.

version

Specifies the NTP version number that is generated by this node. This parameter does not need to be configured when in client mode, in which case all versions are accepted.

Values 2 to 4

Default 4

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prefer

When configuring more than one peer, one remote system can be configured as the preferred peer. When a second peer is configured as preferred, the new entry overrides the old entry.

Platforms

All

peer

Syntax

peer *ip-address* [**create**]

no peer *ip-address*

Context

[Tree] (config>service>vprn>ipsec>mc-shunt-profile peer)

[Tree] (config>router>ipsec>mc-shunt-profile peer)

Full Context

configure service vprn ipsec multi-chassis-shunting-profile peer

configure router ipsec multi-chassis-shunting-profile peer

Description

Commands in this context configure a multi-chassis IPsec peer IP address for the **multi-chassis-shunting-profile**.

The **no** form of this command removes the peer IP address from the configuration.

Default

no command

Parameters

ip-address

Specifies a peer IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

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create

Keyword used to create the command instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

peer

Syntax

peer *ip-address* [**create**]

no peer *ip-address*

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp peer)

Full Context

configure anysec mpls tunnel-encryption encryption-group peer

Description

This command configures the IPv4 or IPv6 address of the peer's node SID that are part of this encryption group.

This configuration identifies the peer's segment routing node SID and programs the egress label stack for matching on the FP5 for encrypting the LSP.

Note: When the label stack is downloaded, the encryption SID is also included at the bottom of the stack with the S bit set.

The **no** form of this command removes the peer node SID from the ANYsec configuration. Therefore, the LSP is not encrypted and all the traffic is transmitted in clear text.

Parameters

ip-address

Specifies a peer IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

create

Keyword used to create the peer.

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Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

peer

Syntax

peer *ip-address* [**detail**]

Context

[Tree] (debug>anysec peer)

Full Context

debug anysec peer

Description

This command debugs ANYsec peers.

Parameters

ip-address

Specifies a peer IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

detail

Keyword used to specify detailed information.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

33.101 peer-address-change-policy

peer-address-change-policy

Syntax

peer-address-change-policy {**accept** | **ignore** | **reject**}

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Context

[Tree] (config>service>vprn>l2tp peer-address-change-policy)

[Tree] (config>router>l2tp peer-address-change-policy)

Full Context

configure service vprn l2tp peer-address-change-policy

configure router l2tp peer-address-change-policy

Description

This command specifies what to do in case the system receives a L2TP response from another address than the one the request was sent to.

Default

peer-address-change-policy reject

Parameters

accept

Specifies that this system accepts any source IP address change of received L2TP control messages related to a locally originated tunnel in the state waitReply and rejects any peer address change for other tunnels; in case the new peer IP address is accepted, it is learned and used as destination address in subsequent L2TP messages.

ignore

Specifies that this system ignores any source IP address change of received L2TP control messages, does not learn any new peer IP address, and does not change the destination address in subsequent L2TP messages.

reject

Specifies that this system rejects any source IP address change of received L2TP control messages and drops those messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34 p Commands – Part II

34.1 peer-as

peer-as

Syntax

peer-as *as-number*

no peer-as

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy peer-as)

Full Context

configure subscriber-mgmt bgp-peering-policy peer-as

Description

This command configures the autonomous system number for the remote peer. The peer AS number must be configured for each configured peer.

The **no** form of this command removes the *as-number* from the configuration.

Parameters

as-number

Specifies the AS number for the remote peer.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

peer-as

Syntax

peer-as *as-number*

Context

[Tree] (config>service>vprn>bgp>group peer-as)

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[Tree] (config>service>vprn>bgp>group>neighbor peer-as)

Full Context

configure service vprn bgp group peer-as

configure service vprn bgp group neighbor peer-as

Description

This command configures the autonomous system number for the remote peer. The peer AS number must be configured for each configured peer.

For EBGP peers, the peer AS number configured must be different from the autonomous system number configured for this router under the global level since the peer will be in a different autonomous system than this router

For IBGP peers, the peer AS number must be the same as the autonomous system number of this router configured under the global level.

This is a required command for each configured peer. This may be configured under the group level for all neighbors in a particular group.

Default

No AS numbers are defined.

Parameters

as-number

The autonomous system number, expressed as a decimal integer.

Values 1 to 65535

Platforms

All

peer-as

Syntax

peer-as *as-number*

Context

[Tree] (config>router>bgp>group>neighbor peer-as)

[Tree] (config>router>bgp>group peer-as)

Full Context

configure router bgp group neighbor peer-as

configure router bgp group peer-as

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Description

This command configures the autonomous system number for the remote peer. The peer AS number must be configured for each configured peer.

For EBGP peers, the peer AS number configured must be different from the autonomous system number configured for this router under the global level since the peer will be in a different autonomous system than this router.

For IBGP peers, the peer AS number must be the same as the autonomous system number of this router configured under the global level.

This is required command for each configured peer. This may be configured under the group level for all neighbors in a particular group.

Parameters

as-number

Specifies the autonomous system number expressed as a decimal integer.

Values 1 to 4294967295

Platforms

All

34.2 peer-endpoint

peer-endpoint

Syntax

peer-endpoint sap *sap-id* **encap-type** {**dot1q** | **null** | **qinq**}

peer-endpoint spoke-sdp *sdp-id:vc-id*

no peer-endpoint

Context

[Tree] (config>app-assure>aarp peer-endpoint)

Full Context

configure application-assurance aarp peer-endpoint

Description

This command defines the peer endpoint ID of the SAP or spoke-SDP parent-aa-sub of the AARP peer.

The **no** form of this command removes the peer endpoint from the AARP instance.

Default

no peer-endpoint

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Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 32767
1 to 4294967295

dot1q | null | qinq

Specifies the encapsulation type.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.3 peer-group

peer-group

Syntax

peer-group *tunnel-group-id*

no peer-group

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec>tunnel-group peer-group)

Full Context

configure redundancy multi-chassis peer mc-ipsec tunnel-group peer-group

Description

This command specifies the corresponding tunnel-group ID on peer node. The peer tunnel-group ID does not necessary equals to local tunnel-group ID.

The **no** form of this command removes the tunnel-group ID from the configuration.

Parameters

tunnel-group-id

Specifies the tunnel-group identifier.

Values 1 to 16

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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34.4 peer-ip-prefix

peer-ip-prefix

Syntax

peer-ip-prefix *ip-prefix/ip-prefix-length*

peer-ip-prefix ipv4-any

peer-ip-prefix ipv6-any

no peer-ip-prefix

Context

[Tree] (config>ipsec>client-db>client>client-id peer-ip-prefix)

Full Context

configure ipsec client-db client client-identification peer-ip-prefix

Description

This command specifies match criteria that uses the peer's tunnel IP address as the input. Only one peer-ip-prefix criteria can be configured for a given client entry.

The **no** form of this command reverts to the default.

Default

no peer-ip-prefix

Parameters

ip-prefix/ip-prefix-length

Specifies an IPv4 or IPv6 prefix. It is considered a match if the peer's tunnel IP address is within the specified prefix.

ipv4-any

Matches any IPv4 address.

ipv6-any

Matches any IPv6 address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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peer-ip-prefix

Syntax

[**no**] **peer-ip-prefix**

Context

[Tree] (config>ipsec>client-db>match-list peer-ip-prefix)

Full Context

configure ipsec client-db match-list peer-ip-prefix

Description

This command enables the use of the peer's tunnel IP address as the match input.

The **no** form of this command disables the peer IP prefix matching process.

Default

no peer-ip-prefix

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.5 peer-limit

peer-limit

Syntax

peer-limit *limit*

no peer-limit

Context

[Tree] (config>service>vprn>ptp peer-limit)

Full Context

configure service vprn ptp peer-limit

Description

This command specifies an upper limit to the number of discovered peers permitted within the routing instance. This command can ensure that a routing instance does not consume all the possible discovered peers and blocking discovered peers in other routing instances.

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If it is desired to reserve a fixed number of discovered peers per router instance, then all router instances supporting PTP should have values specified with this command and the sum of all the peer-limit values must not exceed the maximum number of discovered peers supported by the system.

If the user attempts to specify a peer-limit, and there are already more discovered peers in the routing instance than the new limit being specified, the configuration is not accepted.

The **no** form of this command removes the limit from the configuration.

Default

no limit

Parameters

limit

Specifies the maximum number of discovered peers allowed in the routing instance.

Values 0 to 50

Default 0 (The maximum number of discovered peers supported by the system).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer-limit

Syntax

peer-limit *limit*

no peer-limit

Context

[Tree] (config>system>ptp peer-limit)

Full Context

configure system ptp peer-limit

Description

This command specifies an upper limit to the number of discovered peers permitted within the routing instance. This can be used to ensure that a routing instance does not consume all the possible discovered peers and blocking discovered peers in other routing instances.

If it is desired to reserve a fixed number of discovered peers per router instance, then all router instances supporting PTP should have values specified with this command and the sum of all the peer-limit values must not exceed the maximum number of discovered peers supported by the system.

If the user attempts to specify a peer-limit, and there are already more discovered peers in the routing instance than the new limit being specified, the configuration will not be accepted.

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Default

no peer-limit

Parameters

limit

Specifies the maximum number of discovered peers allowed in the routing instance.

Values 0 to 512

Default 1 (The maximum number of discovered peers supported by the system.)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

34.6 peer-name

peer-name

Syntax

peer-name *name*

no peer-name

Context

[Tree] (config>redundancy>multi-chassis>peer peer-name)

Full Context

configure redundancy multi-chassis peer peer-name

Description

This command specifies a peer name.

Default

no peer-name

Parameters

name

Specifies the string up to 32 characters. Any printable, seven-bit ASCII characters can be used within the string. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

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Platforms

All

34.7 peer-node-id

peer-node-id

Syntax

peer-node-id fqdn *fully-qualified-domain-name*

peer-node-id use-ip-address

Context

[Tree] (config>subscr-mgmt>pfcp-association peer-node-id)

Full Context

configure subscriber-mgmt pfcp-association peer-node-id

Description

This command configures the method used to identify the peer node ID used to match incoming PFCP messages to the configured PFCP association.

Default

peer-node-id use-ip-address

Parameters

fully-qualified-domain-name

Specifies the FQDN, up to 255 characters, that identifies the peer Node ID used to match incoming PFCP messages to the PFCP association.

use-ip-address

Keyword that specifies to use the configured peer IP address to identify the peer Node ID used to match incoming PFCP messages to the PFCP association. This configuration is ignored if only one association is configured.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34.8 peer-profile

peer-profile

Syntax

peer-profile *profile-name* [**create**]

no peer-profile *profile-name*

Context

[Tree] (config>subscr-mgmt>gtp peer-profile)

Full Context

configure subscriber-mgmt gtp peer-profile

Description

This command creates a new peer profile.

Parameters

profile-name

Specifies the profile name, up to 32 characters.

create

Creates an entry.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.9 peer-profile-map

peer-profile-map

Syntax

peer-profile-map

Context

[Tree] (config>service>vprn>gtp>uplink peer-profile-map)

[Tree] (config>router>gtp>uplink peer-profile-map)

[Tree] (config>router>gtp>s11 peer-profile-map)

[Tree] (config>service>vprn>gtp>s11 peer-profile-map)

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Full Context

configure service vprn gtp uplink peer-profile-map

configure router gtp uplink peer-profile-map

configure router gtp s11 peer-profile-map

configure service vprn gtp s11 peer-profile-map

Description

This command configures a mapping of addresses and subnets to GTP peer profiles.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.10 peer-rdi-rx

peer-rdi-rx

Syntax

peer-rdi-rx

Context

[Tree] (config>port>ethernet>efm-oam peer-rdi-rx)

Full Context

configure port ethernet efm-oam peer-rdi-rx

Description

This container allows an action to be configured for the various event conditions that can be received from a peer under the context of the EFM OAM protocol.

Platforms

All

34.11 peer-template

peer-template

Syntax

[**no**] **peer-template** *template-name*

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Context

[Tree] (config>router>ldp>targeted-session peer-template)

Full Context

configure router ldp targeted-session peer-template

Description

This command creates a targeted session peer parameter template that can be referenced in the automatic creation of targeted Hello adjacency and LDP session to a discovered peer.

The **no** form of this command deletes the peer template. A peer template cannot be deleted if it is bound to a peer prefix list.

Parameters

template-name

Specifies the template name to identify targeted peer template. It must be 32 characters maximum.

Platforms

All

34.12 peer-template-map

peer-template-map

Syntax

peer-template-map *template-name* **policy** *peer-prefix-policy1* [*peer-prefix-policy2..up to 5*]

no peer-template-map peer-template *template-name*

Context

[Tree] (config>router>ldp>targeted-session peer-template-map)

Full Context

configure router ldp targeted-session peer-template-map

Description

This command enables the automatic creation of a targeted Hello adjacency and LDP session to a discovered peer. The user configures a targeted session peer parameter template and binds it to a peer prefix policy.

Each application of a targeted session template to a given prefix in the prefix list will result in the establishment of a targeted Hello adjacency to an LDP peer using the template parameters as long as the prefix corresponds to a router-id for a node in the TE database. As a result of this, the user must enable

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the traffic-engineering option in ISIS or OSPF. The targeted Hello adjacency will either trigger a new LDP session or will be associated with an existing LDP session to that peer.

Up to 5 peer prefix policies can be associated with a single peer template at all times. Also, the user can associate multiple templates with the same or different peer prefix policies. Thus multiple templates can match with a given peer prefix. In all cases, the targeted session parameters applied to a given peer prefix are taken from the first created template by the user. This provides a more deterministic behavior regardless of the order in which the templates are associated with the prefix policies.

Each time the user executes the above command, with the same or different prefix policy associations, or the user changes a prefix policy associated with a targeted peer template, the system re-evaluates the prefix policy. The outcome of the re-evaluation will tell LDP if an existing targeted Hello adjacency needs to be torn down or if an existing targeted Hello adjacency needs to have its parameters updated on the fly.

If a /32 prefix is added to (removed from) or if a prefix range is expanded (shrunk) in a prefix list associated with a targeted peer template, the same prefix policy re-evaluation described above is performed.

The template comes up in the **no shutdown** state and as such it takes effect immediately. Once a template is in use, the user can change any of the parameters on the fly without shutting down the template. In this case, all targeted Hello adjacencies are updated.

The SR OS supports multiple ways of establishing a targeted Hello adjacency to a peer LSR:

- User configuration of the peer with the targeted session parameters inherited from the **config>router>ldp>targeted-session** in the top level context or explicitly configured for this peer in the **config>router>ldp>targ-session>peer** context and which overrides the top level parameters shared by all targeted peers. Let us refer to the top level configuration context as the global context. Some parameters only exist in the global context; their value will always be inherited by all targeted peers regardless of which event triggered it.
- User configuration of an SDP of any type to a peer with the signaling tldp option enabled (default configuration). In this case the targeted session parameter values are taken from the global context.
- User configuration of a (FEC 129) PW template binding in a BGP-VPLS service. In this case the targeted session parameter values are taken from the global context.
- User configuration of a (FEC 129 type II) PW template binding in a VLL service (dynamic multi-segment PW). In this case the target session parameter values are taken from the global context
- User configuration of a mapping of a targeted session peer parameter template to a prefix policy when the peer address exists in the TE database (this feature). In this case, the targeted session parameter values are taken from the template.

Since the above triggering events can occur simultaneously or in any arbitrary order, the LDP code implements a priority handling mechanism in order to decide which event overrides the active targeted session parameters. The overriding trigger will become the owner of the targeted adjacency to a given peer. The following is the priority order:

- Priority 1: manual configuration of session parameters
- Priority 2: mapping of targeted session template to prefix policy.
- Priority 3: auto-tx parameters
- Priority 4: auto-rx parameters
- Priority 5: manual configuration of SDP, PW template binding in BGP-AD VPLS and in FEC 129 VLL.

Any parameter value change to an active targeted Hello adjacency caused by any of the above triggering events is performed on the fly by having LDP immediately send a Hello message with the new parameters to the peer without waiting for the next scheduled time for the Hello message. This allows the peer to

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adjust its local state machine immediately and maintains both the Hello adjacency and the LDP session in UP state. The only exceptions are the following:

- The triggering event caused a change to the local-lsr-id parameter value. In this case, the Hello adjacency is brought down which will also cause the LDP session to be brought down if this is the last Hello adjacency associated with the session. A new Hello adjacency and LDP session will then get established to the peer using the new value of the local LSR ID.
- The triggering event caused the targeted peer shutdown option to be enabled. In this case, the Hello adjacency is brought down which will also cause the LDP session to be brought down if this is the last Hello adjacency associated with the session.

Finally, the value of any LDP parameter which is specific to the LDP/TCP session to a peer is inherited from the **config>router>ldp>session-params>peer** context. This includes MD5 authentication, LDP prefix per-peer policies, label distribution mode (DU or DOD), and so on.

The **no** form of this command deletes the binding of the template to the peer prefix list and brings down all Hello adjacencies to the discovered LDP peers.

Platforms

All

34.13 peer-to-peer

peer-to-peer

Syntax

[**no**] **peer-to-peer**

Context

[Tree] (debug>diameter>node>peer peer-to-peer)

Full Context

debug diameter node peer peer-to-peer

Description

This command reports only peer level message that are required for bringing up, maintaining and tearing down the peering connection (CER/A, DWR/A, and so on).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34.14 peer-tracking-policy

peer-tracking-policy

Syntax

peer-tracking-policy *policy-name*

no peer-tracking-policy

Context

[Tree] (config>service>vprn>bgp peer-tracking-policy)

Full Context

configure service vprn bgp peer-tracking-policy

Description

This command specifies the name of a policy statement to use with the BGP peer-tracking function on the BGP sessions where this is enabled. The policy controls which IP routes in RTM are eligible to indicate reachability of IPv4 and IPv6 BGP neighbor addresses. If the longest matching route in RTM for a BGP neighbor address is an IP route that is rejected by the policy, or it is a BGP route accepted by the policy, or if there is no matching route, the neighbor is considered unreachable and BGP tears down the peering session and holds it in the idle state until a valid route is once again available and accepted by the policy.

The default peer-tracking policy (when the **no peer-tracking-policy** command is configured) is to use the longest matching active route in RTM that is not an LDP shortcut route or an aggregate route.

Note:
When **peer-tracking** is configured, the peer-tracking policy should only permit one of **direct-interface** or **direct** routes to be advertised to a BGP peer. Advertising both routes will cause the best route to oscillate.

Default

no peer-tracking-policy

Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

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peer-tracking-policy

Syntax

peer-tracking-policy *policy-name*

no peer-tracking-policy

Context

[Tree] (config>router>bgp peer-tracking-policy)

Full Context

configure router bgp peer-tracking-policy

Description

This command specifies the name of a policy statement to use with the BGP peer-tracking function on the BGP sessions where this is enabled. The policy controls which IP routes in RTM are eligible to indicate reachability of IPv4 and IPv6 BGP neighbor addresses. If the longest matching route in RTM for a BGP neighbor address is an IP route that is rejected by the policy, or it is a BGP route accepted by the policy, or if there is no matching route, the neighbor is considered unreachable and BGP tears down the peering session and holds it in the idle state until a valid route is once again available and accepted by the policy.

The default peer-tracking policy (when the **no peer-tracking-policy** command is configured) is to use the longest matching active route in RTM that is not an LDP shortcut route or an aggregate route.

Note:
When **peer-tracking** is configured, the peer-tracking policy should only permit one of **direct-interface** or **direct** routes to be advertised to a BGP peer. Advertising both routes will cause the best route to oscillate.

Default

no peer-tracking-policy

Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

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34.15 peer-transport

peer-transport

Syntax

peer-transport *ip-address*

no peer transport

Context

[Tree] (config>router>ldp>tcp-session-parameters peer-transport)

Full Context

configure router ldp tcp-session-parameters peer-transport

Description

This command configures the peer transport address, that is, the destination address of the TCP connection, and not the address corresponding to the LDP LSR-ID of the peer.

Parameters

ip-address

Specifies the IPv4 or IPv6 address of the TCP connection to the LDP peer in dotted decimal notation.

Platforms

All

34.16 peer-tunnel-attributes

peer-tunnel-attributes

Syntax

peer-tunnel-attributes

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp peer-tunnel-attributes)

Full Context

configure anysec mpls tunnel-encryption encryption-group peer-tunnel-attributes

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Description

Commands in this context configure the peer tunnel attributes.

Tunnel attributes are used to match and identify the outgoing tunnels for encryption with ANYsec. A single tunnel attribute is used for multiple peers. Since an LSP is unidirectional, the outgoing tunnel can have different attributes than the incoming tunnel (for example, security termination policy).

Default

peer-tunnel-attributes

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

34.17 peer6

peer6

Syntax

peer6 *ipv6-address*

no peer6

Context

[Tree] (config>service>vprn>nat>inside>redundancy peer6)

[Tree] (config>router>nat>inside>redundancy peer6)

Full Context

configure service vprn nat inside redundancy peer6

configure router nat inside redundancy peer6

Description

This command is used in NAT64 multi-chassis redundancy in conjunction with filters. The configured peer6 address is an IPv6 address configured under an interface on the peering NAT64 node (active or standby). This IPv6 interface address is advertised via routing on the inside in order to attract traffic from the standby to the active NAT64 node.

Under normal circumstances, the NAT64 prefix is advertised only from the active NAT64 node. Consequently, upstream traffic for NAT64 is attracted to the active NAT64 node. The nat action in the ipv6-filter on the active NAT64 node forwards traffic to the local MS-ISA where NAT64 function is performed. However, if that upstream traffic arrives on the standby NAT64 node, the nat action in the IPv6-filter forwards traffic to the peer6 address (active NAT64 node).

The **no** form of the command removes the peer6 ip-address from the configuration.

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Parameters

ipv6-address

Specifies the IPv6 address of the NAT redundancy peer.

Values

ipv6-address:	ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.18 peers

peers

Syntax

peers

Context

[Tree] (config>li>x-interfaces>x3 peers)

Full Context

configure li x-interfaces x3 peers

Description

This command enables the configuration of X3 peer LICs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

34.19 pending-requests-limit

pending-requests-limit

Syntax

pending-request-limit *limit*

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no pending-request-limit

Context

[Tree] (config>router>radius-server>server pending-requests-limit)

[Tree] (config>service>vprn>radius-server>server pending-requests-limit)

Full Context

configure router radius-server server pending-requests-limit

configure service vprn radius-server server pending-requests-limit

Description

This command specifies the per-server maximum number of outstanding requests sent to the RADIUS server. If the maximum number is exceeded, the next RADIUS server in the pool is selected.

The **no** form of this command removes the limit value from the configuration.

Default

pending-requests-limit 4096

Parameters

limit

Specifies the maximum number of outstanding requests sent to the RADIUS server.

Values 1 to 4096

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.20 peq

peq

Syntax

[**no**] **peq** *peq-slot* [**chassis** *chassis-id*]

Context

[Tree] (config>system>pwr-mgmt peq)

Full Context

configure system power-management peq

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Description

This command sets the APEQ slot number.

Parameters

peq-slot

Identifies the APEQ slot.

Values 1 to 12

chassis-id

Specifies chassis ID for the router chassis.

Values 1, 2

Default 1

Platforms

7750 SR-12e, 7950 XRS

34.21 peq-type

peq-type

Syntax

peq-type *peq-type*

no peq-type

Context

[Tree] (cfg>sys>pwr-mgmt>peq peq-type)

Full Context

configure system power-management peq peq-type

Description

This command sets the type of APEQ for the designated APEQ slot.

The **no** form of this command moves the APEQ to an unprovisioned state.

Default

no peq-type

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Parameters

peq-type

Identifies the APEQ type.

Values apeq-ac-4400, apeq-ac-3000, apeq-dc-2000, apeq-dc-2200-2800, apeq-dc-4275, apeq-hvdc-3000

Platforms

7750 SR-12e, 7950 XRS

34.22 per-fp-egr-queuing

per-fp-egr-queuing

Syntax

[**no**] **per-fp-egr-queuing**

Context

[Tree] (config>lag>access per-fp-egr-queuing)

Full Context

configure lag access per-fp-egr-queuing

Description

This command specifies whether a more efficient method of queue allocation for LAG SAPs should be utilized.

The **no** form of this command disables the method of queue allocation for LAG SAPs.

Platforms

All

34.23 per-fp-ing-queuing

per-fp-ing-queuing

Syntax

[**no**] **per-fp-ing-queuing**

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Context

[Tree] (config>lag>access per-fp-ing-queuing)

Full Context

configure lag access per-fp-ing-queuing

Description

This command provides the ability to reduce the number of hardware queues assigned on each LAG SAP ingress. When the feature is enabled, the queue allocation for SAPs on a LAG will be optimized and only one set of queues per ingress forwarding path (FP) is allocated instead of one per port.

The **no** form of this command disables the method of queue allocation for LAG SAPs.

Platforms

All

per-fp-ing-queuing

Syntax

[**no**] **per-fp-ing-queuing**

Context

[Tree] (config>eth-tunnel>lag-emulation>access per-fp-ing-queuing)

Full Context

configure eth-tunnel lag-emulation access per-fp-ing-queuing

Description

This command provides the ability to reduce the number of hardware queues assigned on each LAG SAP ingress. When the feature is enabled, the queue allocation for SAPs on a LAG will be optimized and only one set of queues per ingress forwarding path (FP) is allocated instead of one per port.

The **no** form of this command reverts the default.

Default

no per-fp-ing-queuing

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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34.24 per-fp-sap-instance

per-fp-sap-instance

Syntax

[**no**] **per-fp-sap-instance**

Context

[Tree] (config>lag>access per-fp-sap-instance)

Full Context

configure lag access per-fp-sap-instance

Description

This command enables optimized SAP instance allocation on a LAG. When enabled, SAP instance is allocated per each FP the LAG links exits on instead of per each LAG port.

The **no** form of this command disables optimized SAP instance allocation.

Default

no per-fp-sap-instance

Platforms

All

34.25 per-host-authentication

per-host-authentication

Syntax

[**no**] **per-host-authentication**

Context

[Tree] (config>port>ethernet>dot1x per-host-authentication)

Full Context

configure port ethernet dot1x per-host-authentication

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Description

This command enables dot1x authenticating per host source mac or VLAN. The port does not allow traffic from any hosts or any MAC. When a host is authenticated via RADIUS policy, its source mac is then allowed through the port, while the port is closed for any other mac. Any traffic from the allowed host is forwarded on the port, including untagged and tagged traffic.

Default

no per-host-authentication

Platforms

All

34.26 per-host-replication

per-host-replication

Syntax

per-host-replication [**uni-mac** | **mcast-mac**]

no per-host-replication

Context

[Tree] (config>subscr-mgmt>igmp-policy per-host-replication)

Full Context

configure subscriber-mgmt igmp-policy per-host-replication

Description

This command enables per-host-replication in IPoE model. For PPPoX, per-host-replication is the only mode of operation. In the per-host-replication mode, multicast traffic is replicated per each host within the subscriber irrespective of the fact that some hosts may be subscribed to the same multicast stream. As a result, in case that multiple hosts within the subscriber are registered for the same multicast group, the multicast streams of that group is generated. The destination MAC address of multicast streams is changed to unicast so that each host receives its own copy of the stream. Multicast traffic in the per-host-replication mode can be classified via the existing QoS CLI structure. As such the multicast traffic will flow through the subscriber queues. HQoS Adjustment is not needed in this case.

The alternative behavior for multicast replication in IPoE environment is per-SAP- replication. In this model, only a single copy of the multicast stream is sent per SAP, irrespective of the number of hosts that are subscribed to the same multicast group. This behavior applies to 1:1 connectivity model as well as on 1:N connectivity model (SAP centric behavior as opposed to subscriber centric behavior).

In the per-SAP-replication model the destination MAC address is multicast (as opposed to unicast in the per-host-replication model). Multicast traffic is flowing via the SAP queue which is outside of the subscriber context. The consequence is that multicast traffic is not accounted in the subscriber HQoS. In addition, HQoS Adaptation is not supported in the per SAP replication model.

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Default

no per-host-replication — By default there is no per host replication and replication is done per SAP. This mode utilizes the SAP queues. With per-host-replication it will allow the use of the subscriber queues. Per-host-replication uses unicast MAC and multicast IP to deliver multicast content to end hosts. This is useful for multi host per SAP cases. To interoperate with end devices that do not support unicast MAC, there is an option to use per-host-replication with a multicast MAC. The traffic is the same as replication per SAP but the difference of using the subscriber queues.

Parameters

uni-mac

Specifies that multicast traffic is sent with a unicast MAC and multicast IP.

mcast-mac

Specifies that multicast traffic is sent with a multicast MAC and IP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

per-host-replication

Syntax

[**no**] **per-host-replication** [**uni-mac** | **mcast-mac**]

Context

[Tree] (config>subscr-mgmt>mld-policy per-host-replication)

Full Context

configure subscriber-mgmt mld-policy per-host-replication

Description

This command enables per-host-replication. In the per-host-replication mode, multicast traffic is replicated per each host within the subscriber irrespective of the fact that some hosts may be subscribed to the same multicast stream. As a result, in case that multiple hosts within the subscriber are registered for the same multicast group, the multicast streams of that group are generated. The destination MAC address of multicast streams is changed to unicast so that each host receives its own copy of the stream. Multicast traffic in the per-host-replication mode can be classified via the existing QoS CLI structure. As such the multicast traffic flows through the subscriber queues. HQoS Adjustment is not needed in this case.

The alternative behavior for multicast replication in IPoE environment is per-SAP- replication. In this model, only a single copy of the multicast stream is sent per SAP, irrespective of the number of hosts that are subscribed to the same multicast group. This behavior applies to 1:1 connectivity model as well as on 1:N connectivity model (SAP centric behavior as opposed to subscriber centric behavior).

In the per-SAP-replication model the destination MAC address is multicast (as opposed to unicast in the per-host-replication model). Multicast traffic is flowing via the SAP queue which is outside of the subscriber context. The consequence is that multicast traffic is not accounted in the subscriber HQoS. In addition, HQoS Adaptation is not supported in the per SAP replication model.

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The **no** form of this command reverts to the default.

Parameters

uni-mac

Specifies that multicast traffic s sent with a unicast MAC and multicast IP.

mcast-mac

Specifies the multicast traffic is sent with a multicast MAC and IP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.27 per-lag-hashing

per-lag-hashing

Syntax

[no] per-lag-hashing

Context

[Tree] (config>mirror>mirror-dest per-lag-hashing)

Full Context

configure mirror mirror-dest per-lag-hashing

Description

This command enables per-LAG hashing on the mirror destination.

When this command is enabled, the mirror destination SAP or SDP of type LAG uses all of the link members for flow hashing. Hashing to link members is based on IP flows.

The **no** form of this command disables per-LAG hashing. All mirrored packets sent to a SAP or SDP of type LAG, are sent to only one of the LAG link members. If the link member to which the mirrored packets are being sent fails, another link member takes over and provides mirrored packet forwarding. Although no hashing is performed, resiliency is still provided by this next link member.

Default

no per-lag-hashing

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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34.28 per-link-hash

per-link-hash

Syntax

per-link-hash

per-link-hash weighted [**auto-rebalance**] [**subscriber-hash-mode** *mode*]

no per-link-hash

Context

[Tree] (config>lag per-link-hash)

Full Context

configure lag per-link-hash

Description

This command configures per-link-hashing on a LAG. When enabled, SAPs/subscribers/interfaces are hashed on LAG egress to a single LAG link.

The **no** form of this command disables per-link-hashing on a LAG.

Default

no per-link-hash

Parameters

weighted

SAPs, subscribers, and interfaces are distributed amongst LAG links based on their preconfigured class and weight. As new links are added to a LAG, existing SAPs, subscribers, and interfaces are not impacted.

auto-rebalance

SAPs, subscribers, and interfaces are distributed amongst LAG links based on their preconfigured class and weight. As new links are added to a LAG, existing SAPs, subscribers, and interfaces are rebalanced automatically.

mode

Subscriber traffic can be load balanced over LAG member links in a weighted way. Traffic hashing can be performed based on SAPs or Vports.

SAP-based hashing supports weights configured at the subscriber level in a subscriber profile. SAP hashing mode supports only SAP and subscriber (1:1) deployment models.

Vport based load balancing supports SAP and subscriber (1:1) and SAP and service (N:1) deployment models.

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Platforms

All

34.29 per-mcast-plane-capacity

per-mcast-plane-capacity

Syntax

[**no**] **per-mcast-plane-capacity**

Context

[Tree] (config>mcast-mgmt>chassis-level per-mcast-plane-capacity)

Full Context

configure mcast-management chassis-level per-mcast-plane-capacity

Description

Commands in this context configure multicast plane bandwidth parameters. This CLI node contains the configuration of the overall multicast (primary plus secondary) and specific secondary rate limits for each switch fabric multicast plane.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

34.30 per-peer-queuing

per-peer-queuing

Syntax

[**no**] **per-peer-queuing**

Context

[Tree] (config>system>security per-peer-queuing)

Full Context

configure system security per-peer-queuing

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Description

This command enables CPM hardware queuing per peer. This means that when a peering session is established, the router will automatically allocate a separate CPM hardware queue for that peer.

The **no** form of this command disables CPM hardware queuing per peer.

Default

per-peer-queuing

Platforms

All

34.31 per-service-hashing

per-service-hashing

Syntax

[**no**] **per-service-hashing**

Context

[Tree] (config>service>epipe>load-balancing per-service-hashing)

Full Context

configure service epipe load-balancing per-service-hashing

Description

This command enables on a per service basis, consistent per-service hashing for Ethernet services over LAG, over Ethernet tunnel (eth-tunnel) using load sharing protection-type or over CCAG. Specifically, it enables the new hashing procedures for Epipe, VPLS, regular or PBB services.

The following algorithm describes the hash-key used for hashing when the new option is enabled:

- If the packet is PBB encapsulated (contains an I-TAG ethertype) at the ingress side, use the ISID value from the I-TAG
- If the packet is not PBB encapsulated at the ingress side
  - For regular (non-PBB) VPLS and Epipe services, use the related service ID
  - If the packet is originated from an ingress IVPLS or PBB Epipe SAP
  - If there is an ISID configured use the related ISID value
  - If there is no ISID yet configured use the related service ID
  - For BVPLS transit traffic use the related flood list id
  - Transit traffic is the traffic going between BVPLS endpoints
  - An example of non-PBB transit traffic in BVPLS is the OAM traffic

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- The preceding rules apply regardless of traffic type
- Unicast, BUM flooded without MMRP or with MMRP, IGMP snooped

The **no** form of this command implies the use of existing hashing options.

Default

no per-service-hashing

Platforms

All

per-service-hashing

Syntax

[**no**] **per-service-hashing**

Context

[Tree] (config>service>template>vpls-template>load-balancing per-service-hashing)

[Tree] (config>service>vpls>load-balancing per-service-hashing)

Full Context

configure service template vpls-template load-balancing per-service-hashing

configure service vpls load-balancing per-service-hashing

Description

This command enables on a per service basis, consistent per-service hashing for Ethernet services over LAG, over Ethernet tunnel (eth-tunnel) using load sharing protection-type or over CCAG. Specifically, it enables the new hashing procedures for Epipe, VPLS, regular or PBB services.

The following algorithm describes the hash-key used for hashing when the new option is enabled:

- If the packet is PBB encapsulated (contains an I-TAG ethertype) at the ingress side, use the ISID value from the I-TAG
- If the packet is not PBB encapsulated at the ingress side
  - For regular (non-PBB) VPLS and Epipe services, use the related service ID
  - If the packet is originated from an ingress IVPLS or PBB Epipe SAP
- If there is an ISID configured use the related ISID value
- If there is no ISID yet configured use the related service ID
  - For BVPLS transit traffic use the related flood list id
- Transit traffic is the traffic going between BVPLS endpoints
- An example of non-PBB transit traffic in BVPLS is the OAM traffic
- The above rules apply regardless of traffic type
  - Unicast, BUM flooded without MMRP or with MMRP, IGMP snooped

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The **no** form of this command implies the use of existing hashing options.

Default

no per-service-hashing

Platforms

All

34.32 per-source-rate

per-source-rate

Syntax

per-source-rate *packet-rate-limit*

no per-source-rate

Context

[Tree] (config>sys>security>cpu-protection>policy per-source-rate)

Full Context

configure system security cpu-protection policy per-source-rate

Description

This command configures a per-source packet arrival rate limit. Use this command to apply a packet arrival rate limit on a per source basis. A source is defined as a unique combination of SAP and MAC source address (mac-monitoring) or SAP and source IP address (ip-src-monitoring). The CPU will receive no more than the configured packet rate from each source (only certain protocols are rate limited for ip-src-monitoring as configured under **include-protocols** in the **cpu-protection** policy). The measurement is cleared each second.

This parameter is only applicable if the policy is assigned to an interface (some examples include saps, subscriber-interfaces, and spoke-sdps), and the **mac-monitor** or **ip-src-monitor** keyword is specified in the **cpu-protection** configuration of that interface.

The ip-src-monitoring is useful in subscriber management architectures that have routers between the subscriber and the BNG (router). In layer-3 aggregation scenarios, all packets from all subscribers behind the same aggregation router will arrive with the same source MAC address and as such the mac-monitoring functionality cannot differentiate traffic from different subscribers.

Default

per-source-rate max

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Parameters

packet-rate-limit

Specifies a per-source packet (per SAP/MAC source address or per SAP/IP source address) arrival rate limit in packets per second.

Values 1 to 65535, **max** (max indicates no limit)

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

34.33 per-spi-replication

per-spi-replication

Syntax

[**no**] **per-spi-replication**

Context

[Tree] (config>subscr-mgmt>igmp-policy per-spi-replication)

Full Context

configure subscriber-mgmt igmp-policy per-spi-replication

Description

This command enables per-SLA Profile Instance (SPI) replication. In this mode, a multicast stream is transmitted for the subscriber host SLA profile for each registered multicast group (channel). As a result, multiple copies of the same multicast stream are transmitted over the same SAP. The replication of the multicast packets depends on the number of SLA profile instances configured for the subscriber. For example, if the subscriber hosts use three SLA profiles, the (S,G) is replicated three times, but if the subscriber hosts use the same SLA profile, the (S,G) is only replicated once.

The **no** form of this command disables per-SPI replication.

Default

no per-spi-replication

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34.34 per-user

per-user

Syntax

per-user user-directory *dir-url* **file-name** *file-name*

no per-user

Context

[Tree] (config>system>login-control>login-scripts per-user)

Full Context

configure system login-control login-scripts per-user

Description

This command allows users to define their own login scripts that can be executed each time they first login to a CLI session. The command executes the script " *file-url* / *username* / *file-name*" when the user *username* logs into a CLI session (authenticated by any means including local user database, TACACS+, or RADIUS).

For example:

per-user user-directory "cf1:/local/users" file-name "login-script.txt"

would search for the following script when user "admin" logs in and authenticates via RADIUS:

cf1:/local/users/admin/login-script.txt

The per user login script is executed after any global script executes and before any login-exec script configured against a local user is executed. This allows users, for example, who are authenticated via TACACS+ or RADIUS to define their own login scripts.

This CLI script executes in the context of the user who opens the CLI session. Any commands in the script that the user is not authorized to execute will fail.

The **no** form of this command disables the execution of any per user login-scripts.

Default

no per-user

Parameters

dir-url

Specifies the path or directory name.

file-name

Specifies the name of the file (located in the *dir-url* directory) including the extension.

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Platforms

All

34.35 percent-rate

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

Context

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q percent-rate)

[Tree] (config>port>eth>access>egr>qgrp>qover>q percent-rate)

Full Context

configure port ethernet network egress queue-group queue-overrides queue percent-rate

configure port ethernet access egress queue-group queue-overrides queue percent-rate

Description

This command specifies percent rates (CIR and PIR).

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **percent-rate** is performed under the **hs-wrr-group** within the egress queue group template.

Parameters

pir-percent

Specifies the PIR as a percentage.

Values 0.01 to 100.00

cir-percent

Specifies the CIR as a percentage.

Values 0.00 to 100.00

Platforms

All

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percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

Context

[Tree] (config>service>ipipe>sap>ingress>policer-over>plcr percent-rate)

[Tree] (config>service>cpipe>sap>ingress>policer-over>plcr percent-rate)

[Tree] (config>service>ipipe>sap>egress>policer-over>plcr percent-rate)

[Tree] (config>service>epipe>sap>egress>policer-over>plcr percent-rate)

[Tree] (config>service>cpipe>sap>egress>policer-over>plcr percent-rate)

Full Context

configure service ipipe sap ingress policer-override policer percent-rate

configure service cpipe sap ingress policer-override policer percent-rate

configure service ipipe sap egress policer-override policer percent-rate

configure service epipe sap egress policer-override policer percent-rate

configure service cpipe sap egress policer-override policer percent-rate

Description

This command configures the percent rates (CIR and PIR) override.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the policers's parent arbiter rate.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the policer's CIR as a percentage of the policers's parent arbiter rate.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-override policer percent-rate
- configure service epipe sap egress policer-override policer percent-rate
- configure service ipipe sap egress policer-override policer percent-rate

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7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override policer percent-rate
- configure service cpipe sap ingress policer-override policer percent-rate

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

Context

[Tree] (config>service>ipipe>sap>egress>queue-override>queue percent-rate)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue percent-rate)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue percent-rate)

[Tree] (config>service>epipe>sap>egress>queue-override>queue percent-rate)

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue percent-rate)

Full Context

configure service ipipe sap egress queue-override queue percent-rate

configure service cpipe sap egress queue-override queue percent-rate

configure service ipipe sap ingress queue-override queue percent-rate

configure service epipe sap egress queue-override queue percent-rate

configure service cpipe sap ingress queue-override queue percent-rate

Description

The percent-rate command within the SAP ingress and egress QoS policy enables supports for a queue's PIR and CIR rate to be configured as a percentage of the egress port's line rate or of its parent scheduler's rate.

When the rates are expressed as a port-limit, the actual rates used per instance of the queue will vary based on the port speed. For example, when the same QoS policy is used on a 1-Gb and a 10-Gb Ethernet port, the queue's rates will be 10 times greater on the 10 Gb port due to the difference in port speeds. This enables the same QOS policy to be used on SAPs on different ports without needing to use SAP based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's PIR and CIR rates will be recalculated based on the defined percentage value.

When the rates are expressed as a local-limit, the actual rates used per instance of the queue are relative to the queue's parent scheduler rate. This enables the same QOS policy to be used on SAPs with different parent scheduler rates without needing to use SAP based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the parent scheduler rate changes after the queue is created, the queue's PIR and CIR rates will be recalculated based on the defined percentage value.

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Queue rate overrides can only be specified in the form as configured in the QoS policy (a SAP override can only be specified as a percent-rate if the associated QoS policy was also defined as percent-rate). Likewise, a SAP override can only be specified as a rate (kb/s) if the associated QoS policy was also defined as a rate. Queue-overrides are relative to the limit type specified in the QOS policy.

When no percent-rate is defined within a SAP ingress or egress queue-override, the queue reverts to the defined shaping and CIR rates within the SAP ingress and egress QOS policy associated with the queue.

Parameters

percent-of-line-rate

The percent-of-line-rate parameter is used to express the queue's shaping rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

pir-percent

Specifies the queue's PIR as a percentage dependent on the use of the port-limit or local-limit.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's CIR as a percentage dependent on the use of the port-limit or local-limit.

Values 0.00 to 100.00

Default 100.00

Platforms

All

- configure service epipe sap egress queue-override queue percent-rate
- configure service ipipe sap ingress queue-override queue percent-rate
- configure service ipipe sap egress queue-override queue percent-rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue percent-rate
- configure service cpipe sap ingress queue-override queue percent-rate

percent-rate

Syntax

percent-rate *percent*

no percent-rate

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Context

[Tree] (config>service>ipipe>sap>egress>queue-override>hs-wrr-group percent-rate)

[Tree] (config>service>epipe>sap>egress>queue-override>hs-wrr-group percent-rate)

Full Context

configure service ipipe sap egress queue-override hs-wrr-group percent-rate

configure service epipe sap egress queue-override hs-wrr-group percent-rate

Description

This command overrides the scheduling rate applied to the HS WRR group as a percentage of the port rate, including both the port's egress rate and port's HS scheduler policy maximum rate, if configured. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the percent rate override value from the configuration.

Parameters

percent

Specifies the percent rate of the HS WRR group.

Values 0.01 to 100.00

Platforms

7750 SR-7/12/12e

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

Context

[Tree] (config>service>vpls>sap>egress>policer-override>plcr percent-rate)

[Tree] (config>service>vpls>sap>ingress>policer-override>plcr percent-rate)

Full Context

configure service vpls sap egress policer-override policer percent-rate

configure service vpls sap ingress policer-override policer percent-rate

Description

This command configures the percent rates (CIR and PIR) override and can only be used when the rate for the associated policer in the applied SAP ingress QoS policy is also configured with the **percent-rate** command.

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The **no** form of this command removes the **percent-rate** override so that the **percent-rate** configured for the policer in the applied SAP egress QoS policy is used.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the policers' parent arbiter rate.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the policer's CIR as a percentage of the policers' parent arbiter rate.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

percent-rate

Syntax

percent-rate *percent*

no percent-rate

Context

[Tree] (config>service>vpls>sap>egress>queue-override>hs-wrr-group percent-rate)

Full Context

configure service vpls sap egress queue-override hs-wrr-group percent-rate

Description

This command overrides the scheduling rate applied to the HS WRR group as a percentage of the port rate, including both the port's egress rate and port's HS scheduler policy max-rate, if configured. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the percent rate override value from the configuration.

Parameters

percent

Specifies the percent rate of the HS WRR group.

Values 0.01 to 100.00

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Platforms

7750 SR-7/12/12e

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

Context

[Tree] (config>service>vpls>sap>ingress>queue-override>queue percent-rate)

[Tree] (config>service>vpls>sap>egress>queue-override>queue percent-rate)

Full Context

configure service vpls sap ingress queue-override queue percent-rate

configure service vpls sap egress queue-override queue percent-rate

Description

The **percent-rate** command supports a queue's shaping rate and CIR rate as a percentage of the egress port's line rate. When the rates are expressed as a percentage within the template, the actual rate used per instance of the queue group queue-id will vary based on the port speed. For example, when the same template is used to create a queue group on a 1-Gb and a 10-Gb Ethernet port, the queue's rates will be 10 times greater on the 10-Gb port due to the difference in port speeds. This enables the same template to be used on multiple ports without needing to use port based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's shaping and CIR rates will be recalculated based on the defined percentage value.

The **rate** and **percent-rate** commands override one another. If the current rate for a queue is defined using the percent-rate command and the **rate** command is executed, the percent-rate values are deleted. In a similar fashion, the **percent-rate** command causes any **rate** command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

An egress port queue group queue rate override may be expressed as either a percentage or an explicit rate independent on how the queue's template rate is expressed.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case the configuration of the **percent-rate** is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns the queue to its default shaping **rate** and **cir** rate. When **no percent-rate** is defined within a port egress queue group queue override, the queue reverts to the defined shaping and CIR rates within the egress queue group template associated with the queue.

Parameters

pir-percent

Specifies the queue's shaping rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

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Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's committed scheduling rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

Values 0.00 to 100.00

Default 100.00

Platforms

All

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

Context

[Tree] (config>service>ies>if>sap>ingress>policer-override>plcr percent-rate)

[Tree] (config>service>ies>if>sap>egress>policer-override>plcr percent-rate)

Full Context

configure service ies interface sap ingress policer-override policer percent-rate

configure service ies interface sap egress policer-override policer percent-rate

Description

This command configures the percent rates (CIR and PIR) override and can only be used when the rate for the associated policer in the applied SAP ingress QoS policy is also configured with the **percent-rate** command.

The **no** form of this command removes the **percent-rate** override so that the **percent-rate** configured for the policer in the applied SAP egress QoS policy is used.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the policers's parent arbiter rate.

Values 0.01 to 100.00

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Default 100.00

cir-percent

Specifies the policer's CIR as a percentage of the policers's parent arbiter rate.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

percent-rate

Syntax

percent-rate *percent*

no percent-rate

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>hs-wrr-group percent-rate)

Full Context

configure service ies interface sap egress queue-override hs-wrr-group percent-rate

Description

This command overrides the scheduling rate applied to the HS WRR group as a percentage of the port rate, including both the port's egress rate and port's HS scheduler policy max-rate, if configured. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the percent rate override value from the configuration.

Parameters

percent

Specifies the percent rate of the HS WRR group.

Values 0.01 to 100.00

Platforms

7750 SR-7/12/12e

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

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Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue percent-rate)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue percent-rate)

Full Context

configure service ies interface sap egress queue-override queue percent-rate

configure service ies interface sap ingress queue-override queue percent-rate

Description

The **percent-rate** command supports a queue's shaping rate and CIR rate as a percentage of the egress port's line rate. When the rates are expressed as a percentage within the template, the actual rate used per instance of the queue group queue-id will vary based on the port speed. For example, when the same template is used to create a queue group on a 1-Gigabit and a 10-Gigabit Ethernet port, the queue's rates will be 10 times greater on the 10 Gigabit port due to the difference in port speeds. This enables the same template to be used on multiple ports without needing to use port based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's shaping and CIR rates will be recalculated based on the defined percentage value.

The rate and percent-rate commands override one another. If the current rate for a queue is defined using the percent-rate command and the rate command is executed, the percent-rate values are deleted. In a similar fashion, the percent-rate command causes any rate command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at anytime.

An egress port queue group queue rate override may be expressed as either a percentage or an explicit rate independent on how the queue's template rate is expressed.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **percent-rate** is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns the queue to its default shaping rate and cir rate. When **no percent-rate** is defined within a port egress queue group queue override, the queue reverts to the defined shaping and CIR rates within the egress queue group template associated with the queue.

Parameters

pir-percent

Specifies the queue's shaping rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's committed scheduling rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

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Values 0.00 to 100.00

Default 100.00

Platforms

All

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

Context

[Tree] (config>service>vprn>if>sap>ingress>policer-override>plcr percent-rate)

[Tree] (config>service>vprn>if>sap>egress>policer-override>plcr percent-rate)

Full Context

configure service vprn interface sap ingress policer-override policer percent-rate

configure service vprn interface sap egress policer-override policer percent-rate

Description

This command configures the percent rates (CIR and PIR) override and can only be used when the rate for the associated policer in the applied SAP ingress QoS policy is also configured with the **percent-rate** command.

The **no** form of this command removes the **percent-rate** override so that the **percent-rate** configured for the policer in the applied SAP egress QoS policy is used.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the policers's parent arbiter rate.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the policer's CIR as a percentage of the policers's parent arbiter rate.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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percent-rate

Syntax

percent-rate *percent*

no percent-rate

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>hs-wrr-group percent-rate)

Full Context

configure service vprn interface sap egress queue-override hs-wrr-group percent-rate

Description

This command overrides the scheduling rate applied to the HS WRR group as a percentage of the port rate, including both the port's egress rate and port's HS scheduler policy max-rate, if configured. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the percent rate override value from the configuration.

Parameters

percent

Specifies the percent rate of the HS WRR group.

Values 0.01 to 100.00

Platforms

7750 SR-7/12/12e

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue percent-rate)

Full Context

configure service vprn interface sap egress queue-override queue percent-rate

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Description

The **percent-rate** command supports a queue's shaping rate and CIR rate as a percentage of the egress port's line rate. When the rates are expressed as a percentage within the template, the actual rate used per instance of the queue group queue-id will vary based on the port speed. For example, when the same template is used to create a queue group on a 1-Gigabit and a 10-Gigabit Ethernet port, the queue's rates will be 10 times greater on the 10 Gigabit port due to the difference in port speeds. This enables the same template to be used on multiple ports without needing to use port based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's shaping and CIR rates will be recalculated based on the defined percentage value.

The rate and percent-rate commands override one another. If the current rate for a queue is defined using the percent-rate command and the rate command is executed, the percent-rate values are deleted. In a similar fashion, the percent-rate command causes any rate command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at anytime.

An egress port queue group queue rate override may be expressed as either a percentage or an explicit rate independent on how the queue's template rate is expressed.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **percent-rate** is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns the queue to its default shaping rate and cir rate. When **no percent-rate** is defined within a port egress queue group queue override, the queue reverts to the defined shaping and CIR rates within the egress queue group template associated with the queue.

Parameters

pir-percent

Specifies the queue's shaping rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's committed scheduling rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation. The line rate may also be affected by an egress port scheduler defined max-rate.

Values 0.00 to 100.00

Default 100.00

Platforms

All

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percent-rate

Syntax

percent-rate *percentage* [**local-limit** | **reference-port-limit**]

no percent-rate

Context

[Tree] (config>qos>plcr-ctrl-plcy>tier>arbiter percent-rate)

Full Context

configure qos policer-control-policy tier arbiter percent-rate

Description

This command configures the percent rate of this contexts policer policy.

The **no** form of this command removes the configuration.

Parameters

percentage

Specifies the percentage.

Values 0.01 to 100.00

local-limit

Keyword used to specify the local limit.

reference-port-limit

Keyword used to specify the reference port limit.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*] [**local-limit** | **reference-port-limit**]

no percent-rate

Context

[Tree] (config>qos>sap-egress>policer percent-rate)

[Tree] (config>qos>sap-ingress>policer percent-rate)

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Full Context

configure qos sap-egress policer percent-rate

configure qos sap-ingress policer percent-rate

Description

The percent-rate command within the SAP ingress and egress QoS policies enables supports for a policer's PIR and CIR rate to be configured as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

This enables the same QoS policy to be used on SAPs on different FPs without needing to use SAP-based policer overrides to modify a policer's rate to get the same relative performance from the policer.

If the parent arbiter rate changes after the policer is created, the policer's PIR and CIR rates will be recalculated based on the defined percentage value.

The rate and percent-rate commands override one another. If the current rate for a policer is defined using the percent-rate command and the rate command is executed, the percent-rate values are deleted. In a similar fashion, the percent-rate command causes any rate command values to be deleted. A policer's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

The **no** form of this command returns the queue to its default shaping rate and CIR rate.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values Percentage ranging from 0.01 to 100.00

Default 100.00

cir-percent

The **cir** keyword is optional and, when defined, the required cir-percent CIR parameter expresses the policer's CIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values Percentage ranging from 0.00 to 100.00

Default 100.00

local-limit

Keyword used to specify the local limit.

reference-port-limit

Keyword used to specify the reference port limit.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*] [**fir** *fir-percent*] [{ **port-limit** | **local-limit** | **reference-port-limit**}]

percent-rate *pir-percent* **police** [{**port-limit** | **local-limit** | **reference-port-limit**}]

no percent-rate

Context

[Tree] (config>qos>sap-ingress>queue percent-rate)

Full Context

configure qos sap-ingress queue percent-rate

Description

This command configures a queue's PIR and CIR as a percentage of the ingress port line rate or as a percentage of its parent scheduler rate. When the rates are expressed as a **port-limit**, the actual rates used per instance of the queue will vary based on the port speed. For example, when the same QoS policy is used on a 1 Gb and a 10 Gb Ethernet port, the queue's rates will be 10 times greater on the 10 Gb port due to the difference in port speeds. This enables the same QoS policy to be used on SAPs on different ports without needing to use SAP-based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port’s speed changes after the queue is created, the queue’s PIR, CIR, and FIR rates will be recalculated based on the defined percentage value.

When the rates are expressed as a **local-limit**, the actual rates used per instance of the queue are relative to the queue's parent scheduler rate. This enables the same QoS policy to be used on SAPs with different parent scheduler rates without needing to use SAP-based queue overrides to modify a queue's rate to get the same relative performance from the queue. If the parent scheduler rate changes after the queue is created, the queue's PIR, CIR, and FIR will be recalculated based on the defined percentage value.

The **rate** and **percent-rate** commands override one another. If the current rate for a queue is defined using the **percent-rate** command and the **rate** command is executed, the **percent-rate** values are deleted. Similarly, the **percent-rate** command causes any **rate** command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

Queue rate overrides can only be specified in the form configured in the QoS policy (for example, a SAP override can only be specified as a **percent-rate** if the associated QoS policy was also defined as percent-rate). Likewise, a SAP override can only be specified as a **rate** (kb/s) if the associated QoS policy was also defined as a rate. Queue-overrides are relative to the limit type specified in the QoS policy.

When no **percent-rate** is defined within a SAP ingress queue-override, the queue uses the defined shaping rate, CIR, and FIR within the SAP ingress QoS policy associated with the queue.

The **no** form of this command returns the queue to its default shaping rate, CIR, and FIR.

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Parameters

pir-percent

Specifies the queue's PIR as a percentage dependent on the use of the **port-limit** or **local-limit**.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's CIR as a percentage dependent on the use of the **port-limit** or **local-limit**.

Values 0.00 to 100.00

Default 100.00

fir-percent

Specifies the queue's FIR as a percentage dependent on the use of the **port-limit** or **local-limit**. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

Values 0.00 to 100.00

Default 100.00

police

Keyword used to specify that traffic feeding into the physical queue instance above the specified PIR rate is dropped. When the **police** keyword is defined, only the PIR rate may be overridden. The **police** keyword is only applicable to SAP ingress.

port-limit

Keyword used to specify that the configured PIR, CIR, and FIR percentages are relative to the rate of the port (including the ingress-rate setting) to which the queue is attached. The **port-limit** is the default.

local-limit

Keyword used to specify that the configured PIR, CIR, and FIR percentages are relative to the queue's parent scheduler rate. If there is no parent scheduler rate, or its rate is **max**, the **port-limit** is used.

reference-port-limit

Keyword used to specify that the configured PIR, CIR, and FIR percentages are relative to the rate of the reference port (including the ingress-rate setting) to which the queue is attached.

Platforms

All

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percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*] [{**port-limit** | **local-limit** | **reference-port-limit**}]

no percent-rate

Context

[Tree] (config>qos>sap-egress>queue percent-rate)

Full Context

configure qos sap-egress queue percent-rate

Description

This command configures a queue's PIR and CIR as a percentage of the egress port line rate or as a percentage of its parent scheduler rate or **agg-rate** rate. When the rates are expressed as a **port-limit**, the actual rates used per instance of the queue will vary based on the port speed. For example, when the same QoS policy is used on a 1 Gb and a 10 Gb Ethernet port, the queue's rates will be 10 times greater on the 10 Gb port due to the difference in port speeds. This enables the same QoS policy to be used on SAPs on different ports without needing to use SAP-based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's PIR and CIR will be recalculated based on the defined percentage value.

When the rates are expressed as a **local-limit**, the actual rates used per instance of the queue are relative to the queue's parent scheduler rate or **agg-rate** rate. This enables the same QoS policy to be used on SAPs with different parent scheduler rates without needing to use SAP-based queue overrides to modify a queue's rate to get the same relative performance from the queue. If the parent scheduler rate changes after the queue is created, the queue's PIR and CIR will be recalculated based on the defined percentage value.

The **rate** and **percent-rate** commands override one another. If the current rate for a queue is defined using the **percent-rate** command and the **rate** command is executed, the **percent-rate** values are deleted. Similarly, the **percent-rate** command causes any **rate** command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

Queue rate overrides can only be specified in the form as configured in the QoS policy (a SAP override can only be specified as a **percent-rate** if the associated QoS policy was also defined as percent-rate). Likewise, a SAP override can only be specified as a rate (kb/s) if the associated QoS policy was also defined as a rate. Queue-overrides are relative to the limit type specified in the QoS policy.

When configured on an egress HSQ queue group queue, the **cir** keyword is ignored.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **percent-rate** is performed under the **hs-wrr-group** within the SAP egress QoS policy.

When no **percent-rate** is defined within a SAP egress queue-override, the queue uses the defined shaping rate and CIR within the SAP egress QoS policy associated with the queue.

The **no** form of this command returns the queue to its default shaping rate and CIR.

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Parameters

pir-percent

Specifies the queue's PIR as a percentage dependent on the use of the **port-limit** or **local-limit**.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's CIR as a percentage dependent on the use of the **port-limit** or **local-limit.**

Values 0.00 to 100.00

Default 100.00

port-limit

Keyword used to specify that the configure PIR and CIR percentages are relative to the rate of the port (including the **egress-rate** setting) to which this queue connects. The **port-limit** is the default.

local-limit

Keyword used to specify that the configure PIR and CIR percentages are relative to the rate of the queue's parent scheduler **rate** or **agg-rate** rate at egress. If there is no parent scheduler rate or **agg-rate** rate, or those rates are **max**, the **port-limit** is used.

reference-port-limit

Keyword used to specify that the configure PIR and CIR percentages are relative to the rate of the reference port (including the **egress-rate** setting) to which this queue connects.

Platforms

All

percent-rate

Syntax

percent-rate *percent*

no percent-rate

Context

[Tree] (config>qos>sap-egress>hs-wrr-group percent-rate)

Full Context

configure qos sap-egress hs-wrr-group percent-rate

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Description

This command specifies the scheduling rate applied to the HS WRR group as a percentage of the port rate, including both the port's egress rate and port's HS scheduler **policy** *max-rate*, if configured. The **percent-rate** and **rate** commands are mutually exclusive.

The **no** form of the command reverts to the rate **max**.

Parameters

percent

Specifies the percent rate of the HS WRR group.

Values 0.01 to 100.00

Platforms

7750 SR-7/12/12e

percent-rate

Syntax

percent-rate *percent*

no percent-rate

Context

[Tree] (config>qos>qgrps>egr>qgrp>hs-wrr-group percent-rate)

Full Context

configure qos queue-group-templates egress queue-group hs-wrr-group percent-rate

Description

This command specifies the scheduling rate applied to the HS WRR group as a percentage of the port rate, including both the port's **egress-rate** and port's HS scheduler policy **max-rate**, if configured. The **percent-rate** and **rate** commands are mutually exclusive.

The **no** form of the command reverts to the rate max.

Parameters

percent

Specifies the percent rate of the HS WRR group.

Values 0.01 to 100.00

Platforms

7750 SR-7/12/12e

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percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percentage*] [**local-limit** | **reference-port-limit**]

no percent-rate

Context

[Tree] (config>qos>qgrps>egr>qgrp>policer percent-rate)

Full Context

configure qos queue-group-templates egress queue-group policer percent-rate

Description

This command configures the percent rate for this contexts policer.

The **no** form of this command removes the configuration.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values 0.01 to 100.00

cir-percent

The **cir** keyword is optional and, when defined, the required cir-percent CIR parameter expresses the policer's CIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values 0.00 to 100.00, sum

local-limit

Keyword used to specify the local limit.

reference-port-limit

Keyword used to specify the reference port limit.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percentage*]

no percent-rate

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Context

[Tree] (config>qos>qgrps>ing>qgrp>policer percent-rate)

Full Context

configure qos queue-group-templates ingress queue-group policer percent-rate

Description

This command configures the percent rate for this contexts policer.

The **no** form of this command removes the configuration.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values 0.01 to 100.00

cir-percent

The **cir** keyword is optional and, when defined, the required cir-percent CIR parameter expresses the policer's CIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values 0.00 to 100.00, sum

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*] [**fir** *fir-percent*] [{ **port-limit** | **local-limit** | **reference-port-limit**}]

percent-rate *pir-percent* **police** [{**port-limit** | **local-limit** | **reference-port-limit**}]

no percent-rate

Context

[Tree] (config>qos>queue-group-templates>ingress>queue-group>queue percent-rate)

Full Context

configure qos queue-group-templates ingress queue-group queue percent-rate

Description

This command configures a queue's PIR and CIR as a percentage of the ingress port line rate or as a percentage of its parent scheduler rate. When the rates are expressed as a **port-limit**, the actual rates used per instance of the queue will vary based on the port speed. For example, when the same QoS policy

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is used on a 1 Gb and a 10 Gb Ethernet port, the queue's rates will be 10 times greater on the 10 Gb port due to the difference in port speeds. This enables the same QoS policy to be used on SAPs on different ports without needing to use SAP-based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's PIR, CIR, and FIR rates will be recalculated based on the defined percentage value.

When the rates are expressed as a **local-limit**, the actual rates used per instance of the queue are relative to the queue's parent scheduler rate. This enables the same QoS policy to be used on SAPs with different parent scheduler rates without needing to use SAP-based queue overrides to modify a queue's rate to get the same relative performance from the queue. If the parent scheduler rate changes after the queue is created, the queue's PIR, CIR, and FIR will be recalculated based on the defined percentage value.

The **rate** and **percent-rate** commands override one another. If the current rate for a queue is defined using the **percent-rate** command and the **rate** command is executed, the **percent-rate** values are deleted. Similarly, the **percent-rate** command causes any **rate** command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

Queue rate overrides can only be specified in the form configured in the QoS policy (for example, a SAP override can only be specified as a **percent-rate** if the associated QoS policy was also defined as percent-rate). Likewise, a SAP override can only be specified as a **rate** (kb/s) if the associated QoS policy was also defined as a rate. Queue-overrides are relative to the limit type specified in the QoS policy.

When no **percent-rate** is defined within a SAP ingress queue-override, the queue uses the defined shaping rate, CIR, and FIR within the SAP ingress QoS policy associated with the queue.

The **no** form of this command returns the queue to its default shaping rate, CIR, and FIR.

Parameters

pir-percent

Specifies the queue's PIR as a percentage dependent on the use of the **port-limit** or **local-limit**.

Values 0.01 to 100.00

Default 100.00

cir-percent

Specifies the queue's CIR as a percentage dependent on the use of the **port-limit** or **local-limit**.

Values 0.00 to 100.00

Default 100.00

fir-percent

Specifies the queue's FIR as a percentage dependent on the use of the **port-limit** or **local-limit**. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

Values 0.00 to 100.00

Default 100.00

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police

Keyword used to specify that traffic feeding into the physical queue instance above the specified PIR rate will be dropped. When the **police** keyword is defined, only the PIR rate may be overridden. The **police** keyword is only applicable to SAP ingress.

port-limit

Keyword used to specify that the configured PIR, CIR, and FIR percentages are relative to the rate of the port (including the ingress-rate setting) to which the queue is attached. The **port-limit** is the default.

local-limit

Keyword used to specify that the configured PIR, CIR, and FIR percentages are relative to the queue's parent scheduler rate. If there is no parent scheduler rate, or its rate is **max**, the **port-limit** is used.

reference-port-limit

Keyword used to specify that the configured PIR, CIR, and FIR percentages are relative to the rate of the reference port (including the ingress-rate setting) to which the queue is attached.

Platforms

All

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*] [{**port-limit** | **local-limit** | **reference-port-limit**}]

no percent-rate

Context

[Tree] (config>qos>qgrps>egr>queue-group>queue percent-rate)

Full Context

configure qos queue-group-templates egress queue-group queue percent-rate

Description

The **percent-rate** command within the egress queue group template enables support for a queue's PIR and CIR rate to be configured as a percentage of the egress port's line rate. When the rates are expressed as a percentage within the template, the actual rate used per instance of the queue group *queue-id* will vary based on the port speed. For example, when the same template is used to create a queue group on a 1-Gb and a 10-Gb Ethernet port, the queue's rates will be 10 times greater on the 10 Gb port due to the difference in port speeds. This enables the same template to be used on multiple ports without needing to use port-based queue overrides to modify a queue's rate to get the same relative performance from the queue.

If the port's speed changes after the queue is created, the queue's shaping and CIR rates will be recalculated based on the defined percentage value.

When configured on an egress HSQ queue group queue, the **cir** keyword is ignored.

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This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case the configuration of the rate is performed under the **hs-wrr-group** within the egress queue group template.

The **rate** and **percent-rate** commands override one another. If the current rate for a queue is defined using the **percent-rate** command and the **rate** command is executed, the **percent-rate** values are deleted. Similarly, the **percent-rate** command causes any **rate** command values to be deleted. A queue's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

The **no** form of this command returns the queue to its default shaping rate and CIR rate.

Parameters

pir-percent

Expresses the queue's shaping rate as a percentage of line rate. The line rate associated with the queue's port may dynamically change due to configuration or auto-negotiation and the egress rate setting.

Values 0.01 to 100.00 percent

Default 100.0

cir-percent

The **cir** keyword is optional and when defined, the required *pir-percent* parameter expresses the queue's committed scheduling rate as a percentage of line rate. The line rate associated with the queue's port may change dynamically due to configuration or auto-negotiation and the egress rate setting.

Values 0.01 to 100.00 percent

Default 100.0

port-limit

Keyword used to specify that the configure PIR and CIR percentages are relative to the rate of the port (including the **egress-rate** setting) to which this queue connects. The **port-limit** is the default.

local-limit

Keyword used to specify that the configure PIR and CIR percentages are relative to the rate of the queue's parent scheduler **rate** or **agg-rate** rate at egress. If there is no parent scheduler rate or **agg-rate** rate, or those rates are **max**, the **port-limit** is used.

reference-port-limit

Keyword used to specify that the configure PIR and CIR percentages are relative to the rate of the reference port (including the **egress-rate** setting) to which this queue connects.

Platforms

All

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percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percentage*] [**local-limit** | **reference-port-limit**]

no percent-rate

Context

[Tree] (config>qos>scheduler-policy>tier>scheduler percent-rate)

Full Context

configure qos scheduler-policy tier scheduler percent-rate

Description

This command configures the percentage rate for the scheduler policy.

The **no** form of this command removes the configuration.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values 0.01 to 100.00

cir-percent

The **cir** keyword is optional and, when defined, the required *cir-percent* CIR parameter expresses the policer's CIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values 0.00 to 100.00, sum

local-limit

Keyword used to specify the local limit.

reference-port-limit

Keyword used to specify the reference port limit.

Platforms

All

percent-rate

Syntax

percent-rate *pir-percent* [**cir** *cir-percent*]

no percent-rate

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Context

[Tree] (config>qos>port-scheduler-policy>group percent-rate)

Full Context

configure qos port-scheduler-policy group percent-rate

Description

The percent-rate command within the port scheduler policy group enables support for a policer's PIR and CIR rate to be configured as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

If the parent arbiter rate changes after the policer is created, the policer's PIR and CIR rates will be recalculated based on the defined percentage value.

The **rate** and **percent-rate** commands override one another. If the current rate for a policer is defined using the percent-rate command and the rate command is executed, the percent-rate values are deleted. In a similar fashion, the percent-rate command causes any rate command values to be deleted. A policer's rate may dynamically be changed back and forth from a percentage to an explicit rate at any time.

The **no** form of this command returns the queue to its default shaping rate and cir rate.

Parameters

pir-percent

Specifies the policer's PIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values Percentage ranging from 0.01 to 100.00.

Default 100.00

cir *cir-percent*

The **cir** keyword is optional and, when defined, the required cir-percent CIR parameter expresses the policer's CIR as a percentage of the immediate parent root policer/arbiter rate or the FP capacity.

Values Percentage ranging from 0.00 to 100.00.

Default 100.00

Platforms

All

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34.36 percent-reduction-from-mbs

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2>prim-path>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>mcast-mgmt>bw-plcy>t2>sec-path>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure mcast-management bandwidth-policy t2-paths primary-path queue-parameters drop-tail low percent-reduction-from-mbs

configure mcast-management bandwidth-policy t2-paths secondary-path queue-parameters drop-tail low percent-reduction-from-mbs

Description

This command overrides the default percentage value used to determine the low drop-tail value for the queue. By default, 10 percent of the queue depth is reserved for high congestion priority traffic. When specified, the **percent-reduction-from-mbs** percentage value is applied to the queues' MBS threshold. The resulting value is subtracted from the MBS to derive the low drop-tail threshold maintained by the queue. The low drop-tail threshold defines the point at which all low-congestion priority packets destined for the queue are discarded based on queue depth. Low- and high-congestion priority is derived from the multicast records preference value compared to the record's bundle priority threshold.

The **no** form of this command restores the default value.

Default

percent-reduction-from-mbs 10

Parameters

percent

Specifies the percent of queue depth reserved for high-congestion priority traffic.

Values 0 to 100, default

0 specifies that the MBS and low drop-tail thresholds be set to the same value resulting in high- and low-congestion priority packets being treated equally.

100 specifies that the low drop-tail threshold is set to 0, resulting in all low-congestion priority packets being discarded.

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Values between 0 and 100 result in a corresponding differential between the MBS and the low drop-tail threshold values.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>vpls>sap>egress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>vpls>sap>ingress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure service ies interface sap egress queue-override queue drop-tail low percent-reduction-from-mbs

configure service vpls sap egress queue-override queue drop-tail low percent-reduction-from-mbs

configure service ies interface sap ingress queue-override queue drop-tail low percent-reduction-from-mbs

configure service vpls sap ingress queue-override queue drop-tail low percent-reduction-from-mbs

Description

This command overrides the low queue drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and this percentage is configured to be 30% for the low drop tail, then the low drop tail is at 420 kbytes and out-of-profile packets are not accepted into the queue if its depth is greater than this value, and discarded.

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

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percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>port>ethernet>access>ing>qgrp>qover>q>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>port>ethernet>access>egr>qgrp>qover>q>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>port>ethernet>network>egr>qgrp>qover>q>drop-tail>low percent-reduction-from-mbs)

Full Context

configure port ethernet access ingress queue-group queue-overrides queue drop-tail low percent-reduction-from-mbs

configure port ethernet access egress queue-group queue-overrides queue drop-tail low percent-reduction-from-mbs

configure port ethernet network egress queue-group queue-overrides queue drop-tail low percent-reduction-from-mbs

Description

This command overrides the low queue drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and this percentage is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes and out-of-profile packets will not be accepted into the queue if its depth is greater than this value, and so will be discarded.

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

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Context

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>epipe>sap>egress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>ipipe>sap>egress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure service cpipe sap ingress queue-override queue drop-tail low percent-reduction-from-mbs

configure service epipe sap ingress queue-override queue drop-tail low percent-reduction-from-mbs

configure service epipe sap egress queue-override queue drop-tail low percent-reduction-from-mbs

configure service ipipe sap egress queue-override queue drop-tail low percent-reduction-from-mbs

configure service cpipe sap egress queue-override queue drop-tail low percent-reduction-from-mbs

configure service ipipe sap ingress queue-override queue drop-tail low percent-reduction-from-mbs

Description

This command overrides the low queue drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and the percentage reduction is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes. Any out-of-profile packets will not be accepted into the queue if its depth is greater than this value, and so will be discarded.

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress queue-override queue drop-tail low percent-reduction-from-mbs
- configure service cpipe sap egress queue-override queue drop-tail low percent-reduction-from-mbs

All

- configure service epipe sap ingress queue-override queue drop-tail low percent-reduction-from-mbs
- configure service ipipe sap ingress queue-override queue drop-tail low percent-reduction-from-mbs
- configure service epipe sap egress queue-override queue drop-tail low percent-reduction-from-mbs

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- configure service ipipe sap egress queue-override queue drop-tail low percent-reduction-from-mbs

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure service vprn interface sap egress queue-override queue drop-tail low percent-reduction-from-mbs

configure service vprn interface sap ingress queue-override queue drop-tail low percent-reduction-from-mbs

Description

This command overrides the low queue drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and the percentage reduction is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes and out-of-profile packets will not be accepted into the queue if its depth is greater than this value, and so will be discarded.

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

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Context

[Tree] (config>qos>sap-ingress>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure qos sap-ingress queue drop-tail low percent-reduction-from-mbs

Description

This command configures the ingress SAP low drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and this percentage is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes and out-of-profile packets will not be accepted into the queue if its depth is greater than this value and will be discarded.

Default

percent-reduction-from-mbs 10

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>qos>sap-egress>queue>drop-tail>exceed percent-reduction-from-mbs)

[Tree] (config>qos>sap-egress>queue>drop-tail>high percent-reduction-from-mbs)

[Tree] (config>qos>sap-egress>queue>drop-tail>highplus percent-reduction-from-mbs)

[Tree] (config>qos>sap-egress>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure qos sap-egress queue drop-tail exceed percent-reduction-from-mbs

configure qos sap-egress queue drop-tail high percent-reduction-from-mbs

configure qos sap-egress queue drop-tail highplus percent-reduction-from-mbs

configure qos sap-egress queue drop-tail low percent-reduction-from-mbs

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Description

This command configures the egress SAP queue drop tails as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and this percentage is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes and out-of-profile packets will not be accepted into the queue if its depth is greater than this value and will be discarded.

The drop tails apply to packets with the following profile state:

- Exceed drop tail: exceed-profile
- High drop tail: in-profile
- Highplus drop tail: inplus-profile
- Low drop tail: out-of-profile

Default

Exceed drop tail: 20%

Low drop tail: 10%

High drop tail: 0%

Highplus drop tail: 0%

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>qos>network-queue>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure qos network-queue queue drop-tail low percent-reduction-from-mbs

Description

This command configures the ingress and egress network queue low drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and **percent-reduction-from-mbs** is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes and

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out-of-profile packets will not be accepted into the queue if its depth is greater than this value and will be discarded.

The exceed drop tail is not configurable for network queues, however, it is set to a value of 10% in addition to low drop tail and capped by the MBS.

Default

percent-reduction-from-mbs 10

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>qos>qgrps>ing>qgrp>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure qos queue-group-templates ingress queue-group queue drop-tail low percent-reduction-from-mbs

Description

This command configures the ingress queue group queue low drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and the percentage reduction is configured to be 30% for the low drop tail, the low drop tail will be at 420 kbytes. Out-of-profile packets will not be accepted into the queue and will be discarded if the queue depth is greater than this value.

Default

10%

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, **default**

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Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue>drop-tail>high percent-reduction-from-mbs)

[Tree] (config>qos>qgrps>egr>qgrp>queue>drop-tail>exceed percent-reduction-from-mbs)

[Tree] (config>qos>qgrps>egr>qgrp>queue>drop-tail>low percent-reduction-from-mbs)

[Tree] (config>qos>qgrps>egr>qgrp>queue>drop-tail>highplus percent-reduction-from-mbs)

Full Context

configure qos queue-group-templates egress queue-group queue drop-tail high percent-reduction-from-mbs

configure qos queue-group-templates egress queue-group queue drop-tail exceed percent-reduction-from-mbs

configure qos queue-group-templates egress queue-group queue drop-tail low percent-reduction-from-mbs

configure qos queue-group-templates egress queue-group queue drop-tail highplus percent-reduction-from-mbs

Description

This command configures the egress queue group queue drop tails as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and the percentage reduction is configured to be 30% for the low drop tail, the low drop tail will be at 420 kbytes. Out-of-profile packets will not be accepted into the queue and will be discarded if the queue depth is greater than this value.

The drop tails apply to packets with the following profile states:

- exceed drop tail: exceed-profile
- high drop tail: in-profile
- highplus drop tail: inplus-profile
- low drop tail: out-of-profile

Default

exceed drop tail: 20%

low drop tail: 10%

high drop tail: 0%

highplus drop tail: 0%

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Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

percent-reduction-from-mbs

Syntax

percent-reduction-from-mbs *percent*

no percent-reduction-from-mbs

Context

[Tree] (config>qos>shared-queue>queue>drop-tail>low percent-reduction-from-mbs)

Full Context

configure qos shared-queue queue drop-tail low percent-reduction-from-mbs

Description

This command configures the ingress shared queue low drop tail as a percentage reduction from the MBS of the queue. For example, if a queue has an MBS of 600 kbytes and **percent-reduction-from-mbs** is configured to be 30% for the low drop tail, then the low drop tail will be at 420 kbytes and out-of-profile packets will not be accepted into the queue if its depth is greater than this value and will be discarded.

Default

percent-reduction-from-mbs 10

Parameters

percent

Specifies the percentage reduction from the MBS for a queue drop tail.

Values 0 to 100, default

Platforms

All

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34.37 perfect-stream

perfect-stream

Syntax

perfect-stream [<*zone-channel-name*>]

no perfect-stream

Context

[Tree] (debug>service>id>video-interface perfect-stream)

Full Context

debug service id video-interface perfect-stream

Description

This command enables debugging of the perfect-stream server.

The **no** form of this command disables debugging of the perfect-stream server.

Parameters

zone-channel-name

Specifies the channel name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

34.38 performance

performance

Syntax

performance

Context

[Tree] (config>isa>aa-grp>statistics performance)

Full Context

configure isa application-assurance-group statistics performance

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Description

This command configures the ISA group to enable the aa-performance statistic record. This record contains information on the traffic load and resource consumption for each ISA in the group, to allow tracking of ISA load for long term capacity planning and short term anomalies. The user can configure the accounting policy to be used, and enables the record using the **[no] collect-stats** command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

performance

Syntax

[**no**] **performance**

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>test-types performance)

Full Context

configure test-oam service-activation-testhead service-test service-stream test-types performance

Description

This command configures the performance test of the service stream.

The **no** form of this command removes the configured performance test.

Default

no performance

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

performance

Syntax

performance

Context

[Tree] (config>test-oam>service-activation-testhead>service-test>test-duration performance)

Full Context

configure test-oam service-activation-testhead service-test test-duration performance

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Description

Commands in this context configure the duration for the performance test type.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

34.39 period

period

Syntax

period *milli-seconds*

no period

Context

[Tree] (config>router>rsvp>msg-pacing period)

Full Context

configure router rsvp msg-pacing period

Description

This command specifies the time interval (in ms), when the router can send the specified number of RSVP messages which is specified in the **max-burst** command.

Default

period 100

Parameters

milli-seconds

Specifies the time interval in increments of 10 ms.

Values 100 to 1000

Platforms

All

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34.40 periodic

periodic

Syntax

periodic

Context

[Tree] (config>subscr-mgmt>shcv-policy periodic)

Full Context

configure subscriber-mgmt shcv-policy periodic

Description

Commands in this context configure periodic SHCV properties for the subscriber management group-interface. This tool periodically scans all known DHCP hosts only and perform unicast ARP/NS requests. The subscriber host connectivity verification maintains state (connected versus not-connected) for all hosts.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.41 periodic-sm

periodic-sm

Syntax

[**no**] **periodic-sm**

Context

[Tree] (debug>service>id>mrp periodic-sm)

Full Context

debug service id mrp periodic-sm

Description

This command enables debugging of the periodic state machine.

The **no** form of this command disables debugging of the periodic state machine.

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Platforms

All

34.42 periodic-time

periodic-time

Syntax

periodic-time *value*

no periodic-time

Context

[Tree] (config>service>vpls>spoke-sdp>mrp periodic-time)

[Tree] (config>service>vpls>sap>mrp periodic-time)

[Tree] (config>service>vpls>mesh-sdp>mrp periodic-time)

Full Context

configure service vpls spoke-sdp mrp periodic-time

configure service vpls sap mrp periodic-time

configure service vpls mesh-sdp mrp periodic-time

Description

This command controls the frequency the Periodic Transmission state machine generates periodic events if the Periodic Transmission Timer is enabled. The timer is required on a per-Port basis. The Periodic Transmission Timer is set to one second when it is started.

Default

periodic-time 10

Parameters

value

The frequency with which the Periodic Transmission state machine generates periodic events, in tenths of a second.

Values 10 to 100

Platforms

All

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34.43 periodic-timer

periodic-timer

Syntax

[**no**] **periodic-timer**

Context

[Tree] (config>service>vpls>mesh-sdp>mrp periodic-timer)

[Tree] (config>service>vpls>sap>mrp periodic-timer)

[Tree] (config>service>vpls>spoke-sdp>mrp periodic-timer)

Full Context

configure service vpls mesh-sdp mrp periodic-timer

configure service vpls sap mrp periodic-timer

configure service vpls spoke-sdp mrp periodic-timer

Description

This command enables or disables the Periodic Transmission Timer.

Default

no periodic-timer

Platforms

All

34.44 periodic-update

periodic-update

Syntax

periodic-update interval *hours* [**rate-limit** *rate*]

no periodic-update

Context

[Tree] (config>aaa>isa-radius-plcy periodic-update)

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Full Context

configure aaa isa-radius-policy periodic-update

Description

This command enables periodic RADIUS logging of currently allocated port blocks for a NAT subscriber (NAT binding).

Default

no periodic-update (no Interim Update messages are sent)

Parameters

interval *hours*

Specifies the interval at which RADIUS logging is refreshed. The log generation might delayed past the configured interval value if the message pacing (rate-limit) is enabled or when the number of un-acknowledged (pending) messages in SR OS has reached its upper limit. An increased number of pending Interim Update messages in SR OS is due to lack of adequate responsiveness of the RADIUS server.

Values 1 to 72

rate-limit *rate*

Specifies the pacing of the Interim Update messages related to refreshment of the currently allocated port blocks. By default, when this command is disabled, the messages are sent at a high rate determined by the processing capability of the SR OS. Such a high message rate can exceed the processing power of the logging server which can result in the loss of logging information. To overcome this, the Interim Update messages can be generated in a staggered manner at a configured interval that is accommodating toward the processing capabilities of the logging server.

Default 1 to 100000 messages per second

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

periodic-update

Syntax

periodic-update interval *minutes* [**rate-limit** *packets-per-second*]

no periodic-update

Context

[Tree] (config>isa>nat-group>log periodic-update)

[Tree] (config>isa>wlan-gw-group>nat>log periodic-update)

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Full Context

configure isa nat-group log periodic-update

configure isa wlan-gw-group nat log periodic-update

Description

This command configures period updates for NAT logs about the mapping between the IP address on the inside and the IP address and port blocks on the outside. These logs can be recorded in system memory, local files, SNMP, or syslog.

This command does not affect other types of NAT logging, such as RADIUS logging or flow logging (for example, IPFIX, or syslog).

Default

no periodic-update

Parameters

interval *minutes*

Specifies the interval, in minutes, at which periodic logs are generated for each NAT subscriber.

Values 10 to 1440

rate-limit *packets-per-second*

Specifies the maximum rate at which the ESA-VM sends NAT log messages to the CPM. The specified rate is applied per ISA group, ensuring that each ESA-VM receives a proportionate share of the rate based on the total number of ESA-VMs in the group.

Default 1 to 100000

Default 10000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure isa nat-group log periodic-update

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure isa wlan-gw-group nat log periodic-update

34.45 periodic-update-interval

periodic-update-interval

Syntax

periodic-update-interval [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

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Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update periodic-update-interval)

Full Context

configure system security pki ca-profile auto-crl-update periodic-update-interval

Description

This command specifies the interval for periodic updates. The minimal interval is 1 hour. The maximum interval is 366 days.

Default

periodic-update-interval days 1

Parameters

days *days*

Specifies the number of days for periodic updates.

Values 0 to 366

hours

Specifies the number of hours for periodic updates.

Values 0 to 23

minutes

Specifies the number of minutes for periodic updates.

Values 0 to 59

seconds

Specifies the number of seconds for periodic updates.

Values 0 to 59

Platforms

All

34.46 permit-empty-passwords

permit-empty-passwords

Syntax

[**no**] **configure system security ssh permit-empty-passwords**

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Context

[Tree] (config>system>security>ssh permit-empty-passwords)

Full Context

configure system security ssh permit-empty-passwords

Description

This command configures the permission of users with empty password strings to log in.

The **no** form of this command prevents users with empty password strings from logging in.

Default

permit-empty-passwords

Platforms

All

34.47 persist

persist

Syntax

persist {**on** | **off**}

Context

[Tree] (bof persist)

Full Context

bof persist

Description

This command specifies whether the system will preserve system indexes when a **save** command is executed in classic or mixed configuration mode. During a subsequent boot, the index file is read along with the configuration file. As a result, a number of system indexes are preserved between reboots, including the interface index, LSP IDs, path IDs, and so on. This reduces resynchronizations of the Network Management System (NMS) with the affected network element.

This command is ignored in model-driven configuration mode. In model-driven mode, system indices are always saved and they are embedded in the configuration file.

In the event that persist is **on** and the reboot with the appropriate index file fails in classic or mixed configuration mode, SNMP is operationally shut down to prevent the management system from accessing and possibly synchronizing with a partially booted or incomplete network element. To enable SNMP access, enter the **config>system>snmp>no shutdown** command.

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If **persist** is enabled and the **admin save** *url* command is executed with an FTP path used as the *url* parameter, two FTP sessions simultaneously open to the FTP server. The FTP server must be configured to allow multiple sessions from the same login, otherwise, the configuration and index files will not be saved correctly.

Note:

- In classic or mixed configuration mode, persistency files (.ndx) are saved on the same disk as the configuration files and the image files.
- When an operator sets the location for the persistency file in classic or mixed configuration mode, the system will check to ensure that the disk has enough free space. If there is not enough free space, the persistency will not become active and a trap will be generated. Then, it is up to the operator to free adequate disk space. In the meantime, the system will perform a space availability check every 30 seconds. As soon as the space is available the persistency will become active on the next (30 second) check.

Default

persist off

Parameters

on

Enables the system index saves between reboots.

off

Disables the system index saves between reboots.

Platforms

All

34.48 persistence

persistence

Syntax

persistence *seconds*

no persistence

Context

[Tree] (config>python>py-pol>cache>minimum-lifetimes persistence)

Full Context

configure python python-policy cache minimum-lifetimes persistence

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Description

This command configures the minimum lifetime for a cache entry to be made persistent.

The **no** form of this command reverts to the default.

Parameters

persistence

The minimum lifetime, in seconds.

Values 1 to 600

Platforms

All

persistence

Syntax

[**no**] **persistence**

Context

[Tree] (config>python>py-pol>cache persistence)

Full Context

configure python python-policy cache persistence

Description

This command enables persistency support for the cached entries of the python-policy.

The **no** form of this command reverts to the default.

Platforms

All

persistence

Syntax

persistence

Context

[Tree] (config>system persistence)

Full Context

configure system persistence

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Description

Commands in this context configure persistence parameters on the system.

The persistence feature enables state information learned through applications such as subscriber management, DHCP server, or application assurance to be retained across reboots.

Platforms

All

persistence

Syntax

persistence [*persistence-client*]

no persistence

Context

[Tree] (debug>system persistence)

Full Context

debug system persistence

Description

This command displays persistence debug information.

Parameters

persistence-client

Displays persistence debug information.

Values

ancp	ANCP
application-assurance	application-assurance
dhcp-server	local DHCP server
nat-fwds	NAT port forwarding
python-policy-cache	Python Cache
submgt	subscriber management

Platforms

All

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34.49 persistency-database

persistency-database

Syntax

[**no**] **persistency-**database

Context

[Tree] (config>service>vprn>gsmp>group persistency-database)

[Tree] (config>service>vpls>gsmp>group persistency-database)

Full Context

configure service vprn gsmp group persistency-database

configure service vpls gsmp group persistency-database

Description

This command enables the system to store DSL line information in memory. If the GSMP connection terminates, the DSL line information will remain in memory and accessible for RADIUS authentication and accounting.

The **no** form of this command reverts to the default.

Platforms

All

persistency-database

Syntax

[**no**] **persistency-database**

Context

[Tree] (config>service>vpls>gsmp persistency-database)

Full Context

configure service vpls gsmp persistency-database

Description

This command enables the system to store DSL line information in memory. If the GSMP connection terminates, the DSL line information will remain in memory and accessible for Radius authentication and accounting.

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Default

no persistency-database

Platforms

All

persistency-database

Syntax

[**no**] **persistency-database**

Context

[Tree] (config>service>vprn>gsmp persistency-database)

Full Context

configure service vprn gsmp persistency-database

Description

This command enables the system to store DSL line information in memory. If the GSMP connection terminates, the DSL line information remains in memory and accessible for RADIUS authentication and accounting.

The **no** form of this command reverts to the default.

Default

no persistency-database

Platforms

All

34.50 persistent-subscriptions

persistent-subscriptions

Syntax

persistent-subscriptions

Context

[Tree] (config>system>telemetry persistent-subscriptions)

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Full Context
configure system telemetry persistent-subscriptions

Description
Commands in this context configure persistent subscriptions.

Platforms
All

34.51 pfcp

pfcp

Syntax
pfcp

Context
[Tree] (config>service>vpls>sap pfcp)

Full Context
configure service vpls sap pfcp

Description
Commands in this context configure an active PFCP association for the VPLS capture SAP.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

pfcp

Syntax
pfcp

Context
[Tree] (debug>subscr-mgmt pfcp)

Full Context
debug subscriber-mgmt pfcp

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Description

Commands in this context use debug commands associated with the PFCP protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.52 pfcp-association

pfcp-association

Syntax

pfcp-association *name* [**create**]

no pfcp-association *name*

Context

[Tree] (config>subscr-mgmt pfcp-association)

Full Context

configure subscriber-mgmt pfcp-association

Description

This command creates a PFCP association towards a BNG CUPS CPF.

The **no** form of this command removes the association.

Parameters

name

Specifies the name of the PFCP association, up to 32 characters.

create

Keyword used to create the PFCP association.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34.53 pfcp-li-shared-key

pfcp-li-shared-key

Syntax

pfcp-li-shared-key *secret*
pfcp-li-shared-key *secret* **hash2**

no pfcp-li-shared-key

Context

[Tree] (config>li>sci pfcp-li-shared-key)

Full Context

configure li sci pfcp-li-shared-key

Description

This command configures the shared secret key that SR OS uses in its role as a user plane (UP) to the MAG-c. The SR OS UP uses the shared secret key to encrypt and decrypt the LI PFCP IEs it exchanges with the MAG-c. The SR OS UP and the MAG-c must use matching secret keys. The system only accepts a secret key configured as a printable string.

The **no** form of this command removes the configuration.

Parameters

secret

Specifies the name of the shared secret key, up to 128 characters. The system only accepts a secret key configured as a printable string.

hash2

Keyword used to apply hash2 to the shared key.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.54 pfcp-mappings

pfcp-mappings

Syntax

pfcp-mappings

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Context

[Tree] (config>subscr-mgmt>sla-prof pfcp-mappings)

Full Context

configure subscriber-mgmt sla-profile pfcp-mappings

Description

Commands in this context configure the mapping of PFCP QoS IEs (such as QER GBR/MBR IEs), to local QoS overrides (such as queue and policer rates).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.55 pfs

pfs

Syntax

pfs [**dh-group** {**1** | **2** | **5** | **14** | **15** | **19** | **20** | **21**}]

no pfs

Context

[Tree] (config>ipsec>ike-policy pfs)

Full Context

configure ipsec ike-policy pfs

Description

This command configures PFS on the IPsec tunnel using this policy. PFS provides for a new key exchange each time the SA key is renegotiated.

The **no** form of this command disables PFS. If this is turned off during an active SA, when the SA expires and it is time to rekey the session, the system uses the previous key result to generate the new keys.

Default

no pfs

Parameters

dh-group {1 | 2 | 5 | 14 | 15 | 19 | 20 | 21}

Specifies which Diffie-Hellman group to use for calculating session keys. More bits provide a higher level of security, but require more processing. Three groups are supported with IKE-v1:

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Group 1: 768 bits
Group 2: 1024 bits
Group 5: 1536 bits
Group 14: 2048 bits
Group 15: 3072 bits
Group 19: P-256 ECC Curve, 256 bits
Group 20: P-384 ECC Curve, 384 bits
Group 21: P-512 ECC Curve, 512 bits

Default dh-group 14

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.56 pfs-dh-group

pfs-dh-group

Syntax

pfs-dh-group {**1** | **2** | **5** | **14** | **15** | **19** | **20** | **21**}
pfs-dh-group inherit
no pfs-dh-group

Context

[Tree] (config>ipsec>transform pfs-dh-group)

Full Context

configure ipsec ipsec-transform pfs-dh-group

Description

This command specifies the Diffie-Hellman group used for PFS computation during CHILD_SA rekeying.

The **no** form of this command reverts to the default.

Default

pfs-dh-group inherit

Parameters

{1 | 2 | 5 | 14 | 15 | 19 | 20 | 21}

Specifies the Diffie-Hellman group to achieve PFS.

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inherit

Keyword to specify that the value of the DH group used by the system is inherited from the IPsec gateway or IPsec tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.57 pgw

pgw

Syntax

pgw

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile pgw)

Full Context

configure subscriber-mgmt gtp peer-profile pgw

Description

Commands in this context configure communication with a Packet Data Network Gateway.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.58 phone

phone

Syntax

[**no**] **phone** *phone-number*

Context

[Tree] (config>service>cust phone)

Full Context

configure service customer phone

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Description

This command adds telephone number information for a customer ID. The **no** form of this command removes the phone number value from the customer ID.

Parameters

string

Specifies the customer phone number entered as an ASCII string up to 80 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Any printable, seven bit ASCII characters may be used within the string.

Platforms

All

34.59 physical-access-id

physical-access-id

Syntax

[**no**] **physical-access-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp physical-access-id)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp physical-access-id

Description

This command includes the physical access ID.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34.60 pid-pmt-unref

pid-pmt-unref

Syntax

[**no**] **pat-syntax**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms pid-pmt-unref)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms pid-pmt-unref)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms pid-pmt-unref)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms pid-pmt-unref

configure mcast-management multicast-info-policy bundle video analyzer alarms pid-pmt-unref

configure mcast-management multicast-info-policy bundle channel video analyzer alarms pid-pmt-unref

Description

This command configures the analyzer to check for unreferenced PIDs that have not been referred in the PMT.

Default

no pid-pmt-unref

Platforms

7450 ESS, 7750 SR, 7750 SR-s

34.61 pim

pim

Syntax

pim {**asm** | **ssm**} *grp-ip-address*

no pim

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Context

[Tree] (config>service>vprn>mvpn>pt>inclusive pim)

Full Context

configure service vprn mvpn provider-tunnel inclusive pim

Description

This command specifies the PIM mode to use, ASM or SSM, for PIM-based inclusive provider tunnels and the multicast group address to use. Also enables the context for specifying parameters for PIM peering on the inclusive provider tunnel.

Auto-discovery must be enabled in order for SSM to operate.

The **no** form of this command removes the pim context including the statements under the context.

Default

no pim

Parameters

asm

Specifies to use PIM ASM for inclusive provider tunnels.

ssm

Specifies to u PIM SSM for inclusive provider tunnels.

group-address

Specifies the multicast group address to use.

Platforms

All

pim

Syntax

[**no**] **pim**

Context

[Tree] (config>service>vprn pim)

Full Context

configure service vprn pim

Description

This command configures a Protocol Independent Multicast (PIM) instance in the VPRN service. When an PIM instance is created, the protocol is enabled. PIM is used for multicast routing within the network.

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Devices in the network can receive the multicast feed requested and non-participating routers can be pruned. The router supports PIM sparse mode (PIM-SM).

The **no** form of this command deletes the PIM protocol instance removing all associated configuration parameters.

Platforms

All

pim

Syntax

[**no**] **pim**

Context

[Tree] (config>router pim)

Full Context

configure router pim

Description

This command enables a Protocol Independent Multicast (PIM) instance.

PIM is used for multicast routing within the network. Devices in the network can receive the multicast feed requested and non-participating routers can be pruned. The router OS supports PIM sparse mode (PIM-SM).

The **no** form of this command disables the PIM instance.

Default

no pim

Platforms

All

pim

Syntax

pim [*grp-address*]

no pim

Context

[Tree] (debug>router>msdp pim)

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Full Context

debug router msdp pim

Description

This command enables debugging for MSDP PIM.

The **no** form of this command disables MSDP PIM debugging.

Parameters

grp-address

Debugs the IP multicast group address for which this entry contains information.

Platforms

All

34.62 pim-asm

pim-asm

Syntax

pim-asm {*grp-ip-address/mask* | *grp-ip-address netmask*}

no pim-asm

Context

[Tree] (config>service>vprn>mvpn>pt>selective pim-asm)

Full Context

configure service vprn mvpn provider-tunnel selective pim-asm

Description

This command specifies the range of PIM-ASM groups to use on the sender PE to setup ASM multicast tree for draft Rosen based Data MDT.

Parameters

grp-ip-address

Specifies the multicast group address.

mask

Specifies the mask of the multicast-ip-address.

Values 4 to 32

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netmask

The subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

Platforms

All

34.63 pim-policy

pim-policy

Syntax

pim-policy *pim-policy-name* [**create**]

no pim-policy *pim-policy-name*

Context

[Tree] (config>subscr-mgmt pim-policy)

Full Context

configure subscriber-mgmt pim-policy

Description

This command creates a PIM policy or enters the context to configure a PIM policy.

The **no** form of this command deletes the specified PIM policy.

Parameters

pim-policy-name

Specifies the PIM policy name, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

Specifies the keyword used to create the PIM policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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pim-policy

Syntax

pim-policy *policy-name*

no pim-policy *policy-name*

Context

[Tree] (config>subscr-mgmt>sub-prof pim-policy)

Full Context

configure subscriber-mgmt sub-profile pim-policy

Description

This command adds an existing PIM policy to this subscriber profile.

The **no** form of this command removes the specified PIM policy from this subscriber profile.

Parameters

policy-name

Specifies the name of the PIM policy name, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.64 pim-snooping

pim-snooping

Syntax

pim-snooping [**saps**] [**spoke-sdps**]

no pim-snooping

Context

[Tree] (config>redundancy>multi-chassis>peer>sync pim-snooping)

Full Context

configure redundancy multi-chassis peer sync pim-snooping

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Description

This command specifies whether PIM snooping for IPv4 information should be synchronized with a multi-chassis peer. Entering **pim-snooping** without any parameters results in the synchronization being applied only to SAPs.

Specifying the **spoke-sdps** parameter results in the synchronization being applied to manually configured spoke SDPs. Specifying both the **saps** and **spoke-sdps** parameters results in the synchronization being applied to both SAPs and manually configured spoke SDPs.

The synchronization of PIM snooping is only supported for manually configured spoke SDPs but is not supported for spoke SDPs configured within an endpoint. See PIM Snooping for IPv4 Synchronization for service support.

Default

no pim-snooping

Parameters

saps

Specifies that SAPs are to be synchronized with the multi-chassis peer according to the synchronization tags configured on the port. This is the default when no parameters are specified.

spoke-sdps

Specifies that spoke SDPs are to be synchronized with the multi-chassis peer according to the synchronization tags configured on spoke SDPs.

Platforms

All

pim-snooping

Syntax

pim-snooping

Context

[Tree] (config>service>vpls pim-snooping)

[Tree] (config>service>vpls>sap pim-snooping)

[Tree] (config>service>vpls>spoke-sdp pim-snooping)

Full Context

configure service vpls pim-snooping

configure service vpls sap pim-snooping

configure service vpls spoke-sdp pim-snooping

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Description

This command enables PIM snooping for the VPLS service. When enabled, it is enabled for all SAPs except default SAPs. A default SAP is a SAP that has a wild card VLAN ID, such as sap 1/1/1:*.

The **no** form of this command removes the PIM snooping configuration.

Platforms

All

pim-snooping

Syntax

[**no**] **pim-snooping**

Context

[Tree] (debug>service>id pim-snooping)

Full Context

debug service id pim-snooping

Description

This command enables PIM-snooping debugging.

Platforms

All

34.65 pim-ssm

pim-ssm

Syntax

pim-ssm {*grp-ip-address/mask* | *grp-ip-address netmask*}

no pim-ssm

Context

[Tree] (config>service>vprn>mvpn>pt>selective pim-ssm)

Full Context

configure service vprn mvpn provider-tunnel selective pim-ssm

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Description

This command specifies the PIM SSM groups to use for the selective provider tunnel.

Parameters

group-address/mask

Specifies a multicast group address and netmask length.

Platforms

All

34.66 pim-ssm-scaling

pim-ssm-scaling

Syntax

[**no**] **pim-ssm-scaling**

Context

[Tree] (config>router>pim pim-ssm-scaling)

Full Context

configure router pim pim-ssm-scaling

Description

This command enables an increase of PIM SSM (S,G) scaling to a maximum of 256kper system. The per-complex (FP) multicast scaling limit is still in place, but multiple complexes can be used to achieve the 256k per-system (S,G) scaling.

The **no** form of this command disables the increase in PIM SSM scaling.

Default

no pim-ssm-scaling

Platforms

All

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34.67 ping

ping

Syntax

ping *ip-address* | *dns-name* [**bypass-routing** | {**interface** *interface-name*} | {**next-hop** *ip-address*}] [{**router** *router-or-service*} | {**router-instance** *router-instance*} | {**service-name** *service-name*}] [**source** *ip-address*] [**count** *requests*] [**detail** | **rapid**] [**do-not-fragment**] [**fc** *fc-name*] [**interval centisecs** | **secs**] [**pattern** *pattern*] [**size** *bytes*] [**timeout** *timeout*] [**tos** *type-of-service*] [**ttl** *time-to-live*]

ping *ipv4-address* **subscriber-id** *sub-ident-string* [{**router** *router-or-service*} | {**router-instance** *router-instance*} | {**service-name** *service-name*}] [**source** *ip-address*] [**count** *requests*] [**detail** | **rapid**] [**do-not-fragment**] [**fc** *fc-name*] [**interval centisecs** | **secs**] [**pattern** *pattern*] [**size** *bytes*] [**timeout** *timeout*] [**tos** *type-of-service*] [**ttl** *time-to-live*]

ping srv6-policy color *color* **endpoint** *ipv6-address* [**segment-list** *segment-list*] [**candidate-path protocol-owner static** | **bgp** [**preference** *preference*] [**distinguisher** *distinguisher*]] [**count** *requests*] [**detail** | **rapid**] [**do-not-fragment**] [**fc** *fc-name*] [**interval centisecs** | **secs**] [**pattern** *pattern*] [**size** *bytes*] [**timeout** *timeout*] [**tos** *type-of-service*] [**ttl** *time-to-live*]

Context

[Tree] (ping)

Full Context

ping

Description

This command sends a ping to a destination to verify IP reachability.

Use the **ping** {*ip-address* | *dns-name*} [{**bypass-routing** | {**interface** *interface-name*} | {**next-hop** *ip-address*}}] command syntax to send a generic ping. This is the basic TCP/IP utility to verify IP reachability.

Use the **ping** *ipv4-address* **subscriber-id** *sub-ident-string* command syntax to send a ping to verify L2-Aware remote host reachability.

The L2-Aware form of this command can be initiated from the gateway IPv4 address in the inside routing context or from any IPv4 address in the outside routing context. If the gateway IPv4 address is used as the source address, it must be explicitly specified in conjunction with the L2-Aware syntax.

Any source address can be used for the ping to test the relevant NAT policy. If the source address refers to a policy that is not configured on the router, the message "MINOR: OAM #2160 router ID is not an outside router for this subscriber” is displayed. The source address does not need to belong to the system.

If the outside routing context is not specified, by default, the Base router is selected. If the specified or default Base router instance is not the outside routing context for the subscriber, the L2-Aware form of this command fails to execute, and the message "MINOR: OAM #2160 router ID is not an outside router for this subscriber” is displayed.

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The NAT application shares query IDs between L2-Aware pings and ICMP or GRE traffic that has undergone NAT and is destined for a DMZ host. If there is query ID space exhaustion, ICMP or GRE flows destined for DMZ hosts are deleted, so their query IDs can be reused for the requested L2-Aware pings.

Use the **ping srv6-policy color** *color* **endpoint** *ipv6-address* command syntax to launch a ping for an SRv6 policy matching a specific color and endpoint. The ping probe may optionally be targeted at a specific segment list of the SRv6 policy. When the segment list is not specified, the ping probe is sent on the lowest available segment list.

Parameters

bypass-routing

Specifies whether to send the ping request to a host on a directly attached network, bypassing the routing table.

bytes

Specifies the request packet size in bytes, expressed as a decimal integer.

Values 0 to 16384

Default 56

candidate-path

Specifies a candidate path of the SRv6 policy to ping. The candidate path does not need to be the currently active candidate path.

centiseconds

Sets the interval in centiseconds.

Values 1 to 10000 centiseconds if **rapid** is selected.

Default 1 centisecond if **rapid** is selected.

detail

Displays detailed information.

distinguisher

Specifies the distinguisher of the SRv6 policy candidate path to send the ping probe on. This parameter must be configured if **protocol-owner** is configured to **bgp**.

Values 1 to 4294967295

do-not-fragment

Sets the DF (Do Not Fragment) bit in the ICMP ping packet (does not apply to ICMPv6).

dns-name

Specifies the DNS name of the far-end device on which to send the **svc-ping** request message, expressed as a character string.

fc-name

Specifies the forwarding class of the MPLS echo request packets.

Values be, l2, af, l1, h2, ef, h1, nc

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Default nc

interface-name

Specifies the name of an IP interface. The name must already exist in the **configure router interface** context.

ip-address

Specifies the far-end IP address, in dotted decimal notation, on which to send the **svc-ping** request message.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x[-*interface*]	
	x:x:x:x:x:x:d.d.d.d[-*interface*]	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
	interface:	up to 32 characters, mandatory for link local addresses

next-hop *ip-address*

Displays only static routes with the specified next hop IP address.

Values

ipv4-address:	a.b.c.d (host bits must be 0)	
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]

pattern

Specifies that the date portion in a ping packet that is filled with the pattern value specified. If not specified, position information is filled instead.

Values 0 to 65535

Default system-generated sequential pattern

preference

Specifies the preference of the SRv6 policy candidate path to send the ping probe on.

Values 0 to 4294967295

Default 100

protocol-owner

Specifies the protocol owner of the SRv6 policy candidate path to ping.

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Values bgp — Specifies a BGP SRv6 policy.

static — Specifies a locally configured static SRv6 policy.

rapid

Specifies that packets be generated as fast as possible instead of the default 1 per second. Changes the units for the **interval** command from seconds to centiseconds.

requests

Specifies the number of times to perform an OAM ping probe operation. Each OAM echo message request must either time out or receive a reply before the next message request is sent.

Values 1 to 100000

Default 5

router-instance

Specifies the preferred method for entering a service name. Stored as the service name. This is the only service-linking function allowed for both mixed-mode and model-driven configuration modes.

Values router-name: Base, management, *cpm-vr-name*, vpls-management

vprn-svc-name: The service name, up to 64 characters

cpm-vr-name: The CPM VR name, up to 32 characters

router-or-service

Specifies the routing instance or service, by number. The *router-instance* parameter is preferred for specifying the router or service.

Values router-name: Base, management, vpls-management

vprn-svc-id: 1 to 2147483647

Default Base

seconds

Overrides the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response is not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

Default 5

Values 1 to 10

secs

Sets the interval in seconds.

Values 1 to 1000 seconds if **secs** is selected.

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Default 1 second if **secs** is selected.

service-name

Specifies the alias function that allows the service-name to be used, converted, and stored as a service ID.

sub-ident-string

Specifies the L2-Aware NAT subscriber to which ICMP-ping is sent, up to 32 characters. The **subscriber-id** keyword serves as a differentiator between the subscribers with the same IP address in the same routing context (which is allowed in L2-Aware NAT). The **subscriber-id** keyword is mandatory for L2-Aware IPv4 ping, but optional in generic ping framework.

source *ip-address*

Specifies the IP address to be used.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

timeout

Specifies the time out, in seconds.

Values 1 to 10

Default 5

type-of-service

Specifies the service type.

Values 0 to 255

Default 0

time-to-live

Specifies the TTL value for the MPLS label, expressed as a decimal integer.

Values 1 to 128

Default 64

srv6-policy

Keyword to specify that the ping probe is applied to an SRv6 policy.

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color-id

Specifies the SRv6 policy color ID.

Values 0 to 4294967295

endpoint *ipv6-address*

Specifies an endpoint as the target of the ping.

Values

ipv6-address:	x:x:x:x:x:x:x:x	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

segment-list

Specifies the segment list to trace.

Values 1 to 32

Platforms

All

34.68 ping-reply

ping-reply

Syntax

[**no**] **ping-reply**

Context

[Tree] (config>service>ies>if>ipv6>vrrp ping-reply)

Full Context

configure service ies interface ipv6 vrrp ping-reply

Description

This command enables the non-owner master to reply to ICMP echo requests directed at the virtual router instances IP addresses. The ping request can be received on any routed interface.

Ping must not have been disabled at the management security level (either on the parental Ip interface or based on the ping source host address). when ping-reply is not enabled, icmp Echo Requests to non-owner master virtual IP addresses are silently discarded.

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Non-owner backup virtual routers never respond to ICMP echo requests regardless of the setting of ping-reply configuration.

The ping-reply command is only available in non-owner **vrrp** *virtual-router-id* nodal context. If the ping-reply command is not executed, ICMP echo requests to the virtual router instance IP addresses will be silently discarded.

The **no** form of this command restores the default operation of discarding all ICMP echo request messages destined to the non-owner virtual router instance IP addresses.

Default

no ping-reply

Platforms

All

ping-reply

Syntax

[**no**] **ping-reply**

Context

[Tree] (config>service>ies>if>vrrp ping-reply)

Full Context

configure service ies interface vrrp ping-reply

Description

This command enables the non-owner master to reply to ICMP Echo Requests directed at the virtual router instances IP addresses. The ping request can be received on any routed interface.

Ping must not have been disabled at the management security level (either on the parental IP interface or based on the Ping source host address). When ping-reply is not enabled, ICMP Echo Requests to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to ICMP Echo Requests regardless of the setting of ping-reply configuration.

The ping-reply command is only available in non-owner **vrrp** *virtual-router-id* nodal context. If the ping-reply command is not executed, ICMP Echo Requests to the virtual router instance IP addresses will be silently discarded.

The **no** form of this command restores the default operation of discarding all ICMP Echo Request messages destined to the non-owner virtual router instance IP addresses.

Default

no ping-reply

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Platforms

All

ping-reply

Syntax

[**no**] **ping-reply**

Context

[Tree] (config>service>vprn>if>vrrp ping-reply)

[Tree] (config>service>vprn>if>ipv6>vrrp ping-reply)

Full Context

configure service vprn interface vrrp ping-reply

configure service vprn interface ipv6 vrrp ping-reply

Description

This command enables the non-owner master to reply to ICMP Echo Requests directed at the virtual router instances IP addresses. The ping request can be received on any routed interface.

Ping must not have been disabled at the management security level (either on the parental IP interface or based on the Ping source host address). When ping-reply is not enabled, ICMP Echo Requests to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to ICMP Echo Requests regardless of the setting of ping-reply configuration.

The ping-reply command is only available in non-owner **vrrp** *virtual-router-id* nodal context. If the ping-reply command is not executed, ICMP Echo Requests to the virtual router instance IP addresses will be silently discarded.

The **no** form of this command restores the default operation of discarding all ICMP Echo Request messages destined to the non-owner virtual router instance IP addresses.

Default

no ping-reply

Platforms

All

ping-reply

Syntax

[**no**] **ping-reply**

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Context

[Tree] (config>router>if>ipv6>vrrp ping-reply)

[Tree] (config>router>if>vrrp ping-reply)

Full Context

configure router interface ipv6 vrrp ping-reply

configure router interface vrrp ping-reply

Description

This command enables the non-owner master to reply to ICMP echo requests directed at the virtual router instances IP addresses.

Non-owner virtual router instances are limited by the VRRP specifications to responding to ARP requests destined to the virtual router IP addresses and routing IP packets not addressed to the virtual router IP addresses. Many network administrators find this limitation frustrating when troubleshooting VRRP connectivity issues.

SR OS allows this access limitation to be selectively lifted for certain applications. Ping, Telnet and SSH can be individually enabled or disabled on a per-virtual-router-instance basis.

The **ping-reply** command enables the non-owner master to reply to ICMP echo requests directed at the virtual router instances IP addresses. The Ping request can be received on any routed interface. Ping must not have been disabled at the management security level (either on the parental IP interface or based on the Ping source host address).

When **ping-reply** is not enabled, ICMP echo requests to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to ICMP echo requests regardless of the **ping-reply** setting.

The **ping-reply** command is only available in non-owner **vrrp** nodal context.

By default, ICMP echo requests to the virtual router instance IP addresses are silently discarded.

The **no** form of the command configures discarding all ICMP echo request messages destined to the non-owner virtual router instance IP addresses.

Default

no ping-reply — ICMP echo requests to the virtual router instance IP addresses are discarded.

Platforms

All

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34.69 ping-template

ping-template

Syntax

ping-template *template-name* [**create**]

no ping-template *template-name*

Context

[Tree] (config>test-oam>icmp ping-template)

Full Context

configure test-oam icmp ping-template

Description

This command creates a ping-template that can be assigned to a VPRN or IES service IP interface.

The **no** form of this command removes the template name from the configuration.

Parameters

template-name

Specifies the name of the ping template, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ping-template

Syntax

ping-template *template-name*

no ping-template

Context

[Tree] (config>service>ies>if ping-template)

[Tree] (config>service>vprn>if ping-template)

Full Context

configure service ies interface ping-template

configure service vprn interface ping-template

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Description

This command maps a **ping-template** name to the service IP interface. The **ping-template** *template-name* is configured in the **config>test-oam>icmp** context and assigned to the service IP interface using this command.

The **config>service>ies|vprn**>if>ping-template must be shut down to remove or change the **destination-address** value.

The **no** form of this command removes the template name from the configuration.

Parameters

template-name

Specifies the name of the ping template to be assigned to the IP interface, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

34.70 ping-test

ping-test

Syntax

[**no**] **ping-test**

Context

[Tree] (config>filter>redirect-policy>dest ping-test)

Full Context

configure filter redirect-policy destination ping-test

Description

This command configures parameters to perform connectivity ping tests to validate the ability for the destination to receive redirected traffic.

Default

no ping-test

Platforms

All

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34.71 pip

pip

Syntax

pip

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if pip)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface pip

Description

Commands in this context configure within a video interface policy the properties relating to requests received by the video interface for Picture-in-Picture (PIP) channel requests.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

34.72 pir

pir

Syntax

pir *pir-value*

no pir

Context

[Tree] (config>filter>policer pir)

Full Context

configure filter policer pir

Description

This command configures the peak information rate (PIR) for the policer.

The **mbs** and **pir** command options and the **pps-pir** command option are mutually exclusive. That is, the **pps-pir** option cannot be configured when the **mbs** or **pir** options are configured.

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The **no** form of this command removes the configuration.

Parameters

pir-value

Specifies the PIR value in kilobits per second.

Value 0 to 2000000000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

pir

Syntax

pir *pir-rate*

pir max

no pir

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl pir)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level pir

Description

This command configures the PIR which is enforced for all queues pertaining to this category.

The **no** form of this command reverts to the default.

Parameters

pir-rate

Specifies the amount of bandwidth in kilobits per second.

Values 1 to 100000000

max

Specifies to use the maximum amount of bandwidth.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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pir

Syntax

pir *congested-pir*

no pir

Context

[Tree] (config>app-assure>group>policer>congestion-override pir)

Full Context

configure application-assurance group policer congestion-override pir

Description

This command provides a mechanism to configure the PIR for the congestion override policer. It is recommended that the PIR is configured larger than twice the maximum MTU for the traffic handled by the policer to allow for some burstiness of the traffic.

The **no** form of this command resets the PIR value to its default.

Default

pir max

Parameters

congested-pir

Specifies an integer value defining size, in kbytes, for the PIR of the policer.

Values 0 to 100000000, max

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

pir

Syntax

pir *pir-rate*

no pir

Context

[Tree] (config>app-assure>group>pol>cng-ovrd-stg2 pir)

Full Context

configure application-assurance group policer congestion-override-stage2 pir

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Description

This command provides a mechanism to configure the PIR for the congestion override policer. It is recommended that the PIR is configured larger than twice the maximum MTU for the traffic handled by the policer to allow for some burstiness of the traffic.

The **no** form of this command resets the PIR value to its default.

Default

pir max

Parameters

congested-pir

Specifies an integer value defining size, in kbytes, for the PIR of the policer.

Values 0 to 100000000, max

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.73 pir-threshold

pir-threshold

Syntax

pir-threshold *kbps*

no pir-threshold

Context

[Tree] (config>test-oam>sath>accept-crit-tmpl pir-threshold)

Full Context

configure test-oam service-activation-testhead acceptance-criteria-template pir-threshold

Description

This command configures a PIR value that is compared to the measured results for the **cir- pir**, **policing**, and **performance** test types. If the measured value is greater than or equal to the configured value, the test passes; otherwise, it fails. For more information, see the **m-factor** command.

The **no** form of this command disables the comparison of the parameter with the measured value; the threshold value is ignored while declaring the test result.

Default

no pir-threshold

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Parameters

kbps

Specifies the value, in kb/s, for comparison with the measured value.

Values 1 to 400,000,000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

34.74 pki

pki

Syntax

pki

Context

[Tree] (config>system>security pki)

Full Context

configure system security pki

Description

Commands in this context configure PKI related parameters.

Platforms

All

34.75 pkt-too-big

pkt-too-big

Syntax

[**no**] **pkt-too-big**

Context

[Tree] (config>router>if>ipsec-tunnel>icmp-gen pkt-too-big)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>icmp6-gen pkt-too-big)

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[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>icmp6-gen pkt-too-big)

[Tree] (config>ipsec>tnl-temp>icmp6-gen pkt-too-big)

[Tree] (config>service>vprn>if>sap>ipsec-tun>icmp6-gen pkt-too-big)

Full Context

configure router interface ipsec-tunnel icmp-gen pkt-too-big

configure service vprn interface ipsec ipsec-tunnel icmp6-generation pkt-too-big

configure service ies interface ipsec ipsec-tunnel icmp6-generation pkt-too-big

configure ipsec tunnel-template icmp6-generation pkt-too-big

configure service vprn interface sap ipsec-tunnel icmp6-generation pkt-too-big

Description

This command enables the system to send ICMPv6 PTB (Packet Too Big) messages on the private side and optionally specifies the rate.

With this command configured, the system sends PTB back if it received an IPv6 packet on the private side that is bigger than 1280 bytes and also exceeds the private MTU of the tunnel.

The **ip-mtu** command (under **ipsec-tunnel** or **tunnel-template**) specifies the private MTU for the ipsec-tunnel or dynamic tunnel.

The **no** form of this command reverts **interval** and **message-count** values to their default values.

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel icmp6-generation pkt-too-big
- configure service vprn interface ipsec ipsec-tunnel icmp6-generation pkt-too-big

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec tunnel-template icmp6-generation pkt-too-big
- configure service vprn interface sap ipsec-tunnel icmp6-generation pkt-too-big

34.76 platform-type

platform-type

Syntax

platform-type *type*

no platform type

Context

[Tree] (config>system>ned>profile platform-type)

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Full Context

configure system network-element-discovery profile platform-type

Description

This command configures the platform name and chassis type to be advertised.

The **no** form of this command removes any explicitly defined type and the default type of "chassis-name, chassis-type" is used.

Default

no platform-type

Parameters

type

Specifies the platform type to be associates with the profile, up to 255 characters.

Platforms

All

34.77 pm-tti

pm-tti

Syntax

pm-tti

Context

[Tree] (config>port>otu pm-tti)

Full Context

configure port otu pm-tti

Description

Commands in this context configure path monitoring trail trace identifier parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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34.78 pmt-repetition

pmt-repetition

Syntax

pcr-repetition [**tnc** *tnc-milli-seconds* **qos** *qos-milli-seconds* **poa** *poa-milli-seconds*]

no pcr-repetition

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms pmt-repetition)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms pmt-repetition)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms pmt-repetition)

Full Context

configure mcast-management multicast-info-policy bundle channel video analyzer alarms pmt-repetition

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms pmt-repetition

configure mcast-management multicast-info-policy bundle video analyzer alarms pmt-repetition

Description

This command configures the analyzer to check for the program map table (PMT). It is expected that the PMT arrives periodically within a certain interval range. It is possible to configure the type of alarm that is raised when the PMT fails to arrive within the specified interval. As the delay increases between two consecutive PMTs, the type of alarm raised becomes more critical, from TNC to POA.

Default

no pmt-repetition

Parameters

tnc-milli-seconds

Specifies the time, in milliseconds, for which a TNC alarm is raised if the interval between two consecutive PMTs is greater than or equal to this configured value.

Values 100 to 4800 in multiples of 100 only

Default 400

qos-milli-seconds

Specifies the time, in milliseconds, for which a QoS alarm is raised if the interval between two consecutive PMTs is greater than or equal to this configured value.

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Values 200 to 4900 in multiples of 100 only and higher than the *tnc-milli-seconds* value

Default 800

poa-milli-seconds

Specifies the time, in milliseconds, for which a POA alarm is raised if the interval between two consecutive PMTs is greater than or equal to this configured value.

Values 300 to 5000 in multiples of 100 only and higher than the *qos-milli-seconds* value

Default 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-s

34.79 pmt-syntax

pmt-syntax

Syntax

[**no**] **pat-syntax**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms pmt-syntax)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms pmt-syntax)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms pmt-syntax)

Full Context

configure mcast-management multicast-info-policy bundle channel video analyzer alarms pmt-syntax

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms pmt-syntax

configure mcast-management multicast-info-policy bundle video analyzer alarms pmt-syntax

Description

This command configures the analyzer to check for PMT syntax errors.

Default

no pmt-syntax

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

34.80 pmtu-discovery-aging

pmtu-discovery-aging

Syntax

pmtu-discovery-aging *seconds*

no pmtu-discovery-aging

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel pmtu-discovery-aging)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel pmtu-discovery-aging)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel pmtu-discovery-aging)

[Tree] (config>service>vprn>if>sap>ip-tunnel pmtu-discovery-aging)

[Tree] (config>ipsec>tnl-temp pmtu-discovery-aging)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel pmtu-discovery-aging)

[Tree] (config>service>ies>if>sap>ip-tunnel pmtu-discovery-aging)

Full Context

configure router interface ipsec ipsec-tunnel pmtu-discovery-aging

configure service vprn interface ipsec ipsec-tunnel pmtu-discovery-aging

configure service vprn interface sap ipsec-tunnel pmtu-discovery-aging

configure service vprn interface sap ip-tunnel pmtu-discovery-aging

configure ipsec tunnel-template pmtu-discovery-aging

configure service ies interface ipsec ipsec-tunnel pmtu-discovery-aging

configure service ies interface sap ip-tunnel pmtu-discovery-aging

Description

This command configures the time used to age out the learned temporary MTU which is from the public network. The temporary MTU is used for MTU propagation.

The **no** form of of this command reverts to the default value.

Default

pmtu-discovery-aging 900

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Parameters

seconds

specifies the time, in seconds, used to age out the learned MTU

Values 900 to 3600

Platforms

VSR

- configure service vprn interface ipsec ipsec-tunnel pmtu-discovery-aging
- configure router interface ipsec ipsec-tunnel pmtu-discovery-aging
- configure service ies interface ipsec ipsec-tunnel pmtu-discovery-aging

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel pmtu-discovery-aging
- configure ipsec tunnel-template pmtu-discovery-aging
- configure service vprn interface sap ip-tunnel pmtu-discovery-aging
- configure service ies interface sap ip-tunnel pmtu-discovery-aging

34.81 poi-tlv-enable

poi-tlv-enable

Syntax

[no] poi-tlv-enable

Context

[Tree] (config>service>vprn>isis poi-tlv-enable)

Full Context

configure service vprn isis poi-tlv-enable

Description

Enable use of Purge Originator Identification (POI) TLV for this IS-IS instance. The POI is added to purges and contains the system ID of the router that generated the purge, which simplifies troubleshooting and determining what caused the purge.

The **no** form of this command removes the POI functionality from the configuration.

Default

no poi-tlv-enable

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Platforms

All

poi-tlv-enable

Syntax

[no] poi-tlv-enable

Context

[Tree] (config>router>isis poi-tlv-enable)

Full Context

configure router isis poi-tlv-enable

Description

Enable use of Purge Originator Identification (POI) TLV for this IS-IS instance. The POI is added to purges and contains the system ID of the router that generated the purge, which simplifies troubleshooting and determining what caused the purge.

The **no** form of this command removes the POI functionality from the configuration.

Default

no poi-tlv-enable

Platforms

All

34.82 policer

policer

Syntax

policer *policer-name* [**create**]

no policer *policer-name*

Context

[Tree] (config>filter policer)

Full Context

configure filter policer

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Description

This command creates a policer object for use in a filter policy entry and enables the context to configure policer command options.

Parameters

policer-name

Specifies the policer name, up to 32 characters.

create

Mandatory keyword to create the policer.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* {**ingress-only** | **egress-only** | **ingress-egress**}

no policer *policer-id*

Context

[Tree] (config>subscr-mgmt>cat-map>category policer)

Full Context

configure subscriber-mgmt category-map category policer

Description

This command configures a policer in this category.

The **no** form of this command reverts to the default.

Parameters

policer-id

Specifies an existing policer identifier.

Values 1 to 63

ingress-only

Specifies that ingress policers are defined in this category.

egress-only

Specifies that egress policers are defined in this category.

ingress-egress

Specifies that ingress and egress policers are defined in this category.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer

Syntax

[**no**] **policer** *policer-id*

Context

[Tree] (config>subscr-mgmt>sla-prof>csg>egress>policers policer)

Full Context

configure subscriber-mgmt sla-profile custom-statistics-group egress policers policer

Description

This command configures the IDs of the static policers to include for custom statistics for the group.

The **no** form of this command removes the configuration of the policer ID for custom statistics.

Parameters

policer-id

Specifies the policer ID.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

policer

Syntax

[**no**] **policer** *policer-id*

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos policer)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos policer)

Full Context

configure subscriber-mgmt sla-profile ingress qos policer

configure subscriber-mgmt sla-profile egress qos policer

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Description

This command is used in the sap-ingress and sap-egress QoS policies to create, modify or delete a policer. Policers are created and used in a similar manner to queues. The policer ID space is separate from the queue ID space, allowing both a queue and a policer to share the same ID. The sap-ingress policy may have up to 32 policers (numbered 1 through 32) may be defined while the sap-egress QoS policy supports a maximum of 8 (numbered 1 through 8). While a policer may be defined within a QoS policy, it is not actually created on SAPs or subscribers associated with the policy until a forwarding class is mapped to the policer's ID.

All policers must be created within the QoS policies. A default policer is not created when a sap-ingress or sap-egress QoS policy is created.

Once a policer is created, the policer's metering rate and profiling rates may be defined as well as the policer's maximum and committed burst sizes (MBS and CBS respectively). Unlike queues which have dedicated counters, policers allow various stat-mode settings that define the counters that is associated with the policer. Another supported feature—packet-byte-offset—provides a policer with the ability to modify the size of each packet based on a defined number of bytes.

Once a policer is created, it cannot be deleted from the QoS policy unless any forwarding classes that are mapped to the policer are first moved to other policers or queues.

The system will allow a policer to be created on a SAP QoS policy regardless of the ability to support policers on objects where the policy is currently applied. The system only scans the current objects for policer support and sufficient resources to create the policer when a forwarding class is first mapped to the policer ID. If the policer cannot be created due to one or more instances of the policy not supporting policing or having insufficient resources to create the policer, the forwarding class mapping will fail.

The **no** form of this command is used to delete a policer from a sap-ingress or sap-egress QoS policy. The specified policer cannot currently have any forwarding class mappings for the removal of the policer to succeed. It is not necessary to actually delete the policer ID for the policer instances to be removed from SAPs or subscribers associated with the QoS policy once all forwarding classes have been moved away from the policer. It is automatically deleted from each policing instance although it still appears in the QoS policy.

Parameters

policer-id

Specifies the policer ID. The policer-id must be specified when executing the policer command. If the specified ID already exists, the system enters that policer's context to allow the policer's parameters to be modified. If the ID does not exist and is within the allowed range for the QoS policy type, a context for the policer ID is created (depending on the system's current create keyword requirements which may require the create keyword to actually add the new policer ID to the QoS policy) and the system will enter that new policer's context for possible parameter modification.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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policer

Syntax

policer *policer-name*

no policer

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>network policer)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>network policer)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext network policer

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext network policer

Description

This command configures an ISA policer for HLE network (such as DC) access facing connection traffic, per tunnel.

The **no** form of this command removes the policer name from the configuration.

Default

no policer

Parameters

policer-name

Specifies the name of the policer, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer

Syntax

policer *policer-name*

no policer

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>access policer)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>lanext>access policer)

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Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access policer

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw lanext access policer

Description

This command configures an ISA policer for HLE ingress (such as home) access facing connection traffic, per tunnel

The **no** form of this command removes the policer name from the configuration.

Default

no policer

Parameters

policer-name

Specifies the name of the policer, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer *policer-id*

Context

[Tree] (config>card>fp>ingress>network>qgrp>policer-over policer)

[Tree] (config>card>fp>ingress>access>qgrp>policer-over policer)

Full Context

configure card fp ingress network queue-group policer-override policer

configure card fp ingress access queue-group policer-override policer

Description

This command creates, modifies or deletes a policer. Policers are created and used in a similar manner to queues. The policer ID space is separate from the queue ID space, allowing both a queue and a policer to share the same ID. The sap-ingress policy may have up to 32 policers (numbered 1 through 32) may be defined while the sap-egress QoS policy supports a maximum of 8 (numbered 1 through 8). While a policer may be defined within a QoS policy, it is not actually created on SAPs or subscribers associated with the policy until a forwarding class is mapped to the policer's ID.

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All policers must be created within the QoS policies. A default policer is not created when a sap-ingress or sap-egress QoS policy is created.

Once a policer is created, the policer's metering rate and profiling rates may be defined as well as the policer's maximum and committed burst sizes (MBS and CBS respectively). Unlike queues which have dedicated counters, policers allow various stat-mode settings that define the counters that will be associated with the policer. Another supported feature—packet-byte-offset—provides a policer with the ability to modify the size of each packet based on a defined number of bytes.

Once a policer is created, it cannot be deleted from the QoS policy unless any forwarding classes that are mapped to the policer are first moved to other policers or queues.

The system will allow a policer to be created on a SAP QoS policy regardless of the ability to support policers on objects where the policy is currently applied. The system only scans the current objects for policer support and sufficient resources to create the policer when a forwarding class is first mapped to the policer ID. If the policer cannot be created due to one or more instances of the policy not supporting policing or having insufficient resources to create the policer, the forwarding class mapping fails.

The **no** form of this command deletes a policer from a sap-ingress or sap-egress QoS policy. The specified policer cannot currently have any forwarding class mappings for the removal of the policer to succeed. It is not necessary to actually delete the policer ID for the policer instances to be removed from SAPs or subscribers associated with the QoS policy once all forwarding classes have been moved away from the policer. It is automatically deleted from each policing instance although it still appears in the QoS policy.

Parameters

policer-id

Specifies that the *policer-id* must be specified when executing the policer command. If the specified ID already exists, the system enters that policer's context to allow the policer's parameters to be modified. If the ID does not exist and is within the allowed range for the QoS policy type, a context for the policer ID will be created (depending on the system's current create keyword requirements which may require the create keyword to actually add the new policer ID to the QoS policy) and the system will enter that new policer's context for possible parameter modification.

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer *policer-id*

Context

[Tree] (config>service>ipipe>sap>egress>policer-over policer)

[Tree] (config>service>ipipe>sap>ingress>policer-over policer)

[Tree] (config>service>epipe>sap>egress>policer-over policer)

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[Tree] (config>service>cpipe>sap>egress>policer-over policer)

[Tree] (config>service>cpipe>sap>ingress>policer-over policer)

Full Context

configure service ipipe sap egress policer-override policer

configure service ipipe sap ingress policer-override policer

configure service epipe sap egress policer-override policer

configure service cpipe sap egress policer-override policer

configure service cpipe sap ingress policer-override policer

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to a specific policer created on the SAP through a sap-ingress or sap-egress QoS policy.

The **no** form of this command is used to remove any existing overrides for the specified policer-id.

Parameters

policer-id

The *policer-id* parameter is required when executing the policer command within the policer-overrides context. The specified *policer-id* must exist within the sap-ingress or sap-egress QoS policy applied to the SAP. If the policer is not currently used by any forwarding class or forwarding type mappings, the policer will not actually exist on the SAP. This does not preclude creating an override context for the policer-id.

create

The create keyword is required when a **policer** policer-id override node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit confirmation, the create keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap egress policer-override policer
- configure service ipipe sap ingress policer-override policer
- configure service epipe sap egress policer-override policer

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override policer
- configure service cpipe sap ingress policer-override policer

policer

Syntax

policer *policer-id* [**create**]

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no policer *policer-id*

Context

[Tree] (config>service>vpls>sap>ingress>policer-override policer)

[Tree] (config>service>vpls>sap>egress>policer-override policer)

Full Context

configure service vpls sap ingress policer-override policer

configure service vpls sap egress policer-override policer

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to a specific policer created on the SAP through a sap-ingress or sap-egress QoS policy.

The **no** form of this command is used to remove any existing overrides for the specified policer-id.

Parameters

policer-id

The policer-id parameter is required when executing the policer command within the policer-overrides context. The specified policer-id must exist within the sap-ingress or sap-egress QoS policy applied to the SAP. If the policer is not currently used by any forwarding class or forwarding type mappings, the policer will not actually exist on the SAP. This does not preclude creating an override context for the policer-id.

create

The create keyword is required when a policer policer-id override node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit confirmation, the create keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer *policer-id*

Context

[Tree] (config>service>ies>if>sap>egress>policer-override policer)

[Tree] (config>service>ies>if>sap>ingress>policer-override policer)

Full Context

configure service ies interface sap egress policer-override policer

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configure service ies interface sap ingress policer-override policer

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to a specific policer created on the SAP through a sap-ingress or sap-egress QoS policy.

The **no** form of this command is used to remove any existing overrides for the specified policer-id.

Parameters

policer-id

This parameter is required when executing the policer command within the policer-override context. The specified *policer-id* must exist within the sap-ingress or sap-egress QoS policy applied to the SAP. If the policer is not currently used by any forwarding class or forwarding type mappings, the policer will not actually exist on the SAP. This does not preclude creating an override context for the *policer-id*.

create

The create keyword is required when a policer override node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit configuration, the **create** keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer *policer-id*

Context

[Tree] (config>service>vprn>if>sap>ingress>policer-override policer)

[Tree] (config>service>vprn>if>sap>egress>policer-override policer)

Full Context

configure service vprn interface sap ingress policer-override policer

configure service vprn interface sap egress policer-override policer

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to a specific policer created on the SAP through a sap-ingress or sap-egress QoS policy.

The **no** form of this command is used to remove any existing overrides for the specified policer-id.

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Parameters

policer-id

This parameter is required when executing the policer command within the policer-override context. The specified *policer-id* must exist within the sap-ingress or sap-egress QoS policy applied to the SAP. If the policer is not currently used by any forwarding class or forwarding type mappings, the policer will not actually exist on the SAP. This does not preclude creating an override context for the *policer-id*.

create

The create keyword is required when a policer override node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit configuration, the **create** keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-name* **type** *type* **granularity** *granularity* [**create**]

policer *policer-name*

no policer *policer-name*

Context

[Tree] (config>app-assure>group policer)

Full Context

configure application-assurance group policer

Description

This command creates application assurance policer profile of a specified type. Policers can be bandwidth or flow limiting and can have a system scope (limits traffic entering AA ISA for all or a subset of AA subscribers), subscriber scope or granularity (limits apply to each AA subscriber traffic).

The policer type and granularity can only be configured during creation. They cannot be modified. The policer profile must be removed from all AQPs in order to be removed. Changes to policer profile parameters take effect immediately for policers instantiated as result of AQP actions using this profile.

The **no** form of this command deletes the specified policer from the configuration.

Parameters

policer-name

Specifies a string of up to 32 characters that identifies the policer.

type

Specifies the policer type.

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Values **single-bucket-bandwidth** — Creates a profile for a single bucket (PIR) bandwidth limiting policer.

dual-bucket-bandwidth — Creates profile for a dual bucket (PIR, CIR) bandwidth limiting policer.

flow-rate-limit — Creates profile for a policer limiting rate of flow set-ups.

flow-count-limit — Creates profile for a policer limiting total flow count.

granularity

Specifies the granularity type.

Values **system** — Creates a system policer profile for a policer that limits the traffic in the scope of all or a subset of AA subscribers on a given AA ISA.

subscriber — Creates a policer profile for a policer for each AA subscriber that limits the traffic in the scope of that subscriber.

access-network-location — Creates a policer profile for a policer instance for each ANL that limits traffic bandwidth in the scope of that ANL. For ANL, only single-bucket bandwidth policers can be configured.

flow — Creates a policer profile for a policer instance for each IP flow that limits the traffic in the scope of an individual flow. Only single-bucket bandwidth policers with the permit-deny or monitor actions can be configured.

create

Keyword used to create the policer name and parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer

Syntax

policer *policer-name* **direction** *direction* [**create**]

no policer *policer-name* **direction** *direction*

Context

[Tree] (config>app-assure>group>statistics>tca policer)

Full Context

configure application-assurance group statistics threshold-crossing-alert policer

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Description

This command configures a TCA for the counter capturing drops or admit events due to the specified flow policer. A policer TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a policer TCA.

Parameters

policer-name

Specifies the name of the flow policer, up to 32 characters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer

Syntax

policer *policer-id* [**fp-redirect-group**]

no policer

Context

[Tree] (config>qos>sap-ingress>fc policer)

Full Context

configure qos sap-ingress fc policer

Description

Within a sap-ingress QoS policy forwarding class context, the **policer** command is used to map packets that match the forwarding class and are considered unicast in nature to the specified policer-id. The specified policer-id must already exist within the **sap-ingress** QoS policy. While the system is determining the forwarding class of a packet, it is also looking up its forwarding destination. If ingress forwarding logic has resolved a unicast destination (the packet does not need to be sent to multiple destinations), it is considered to be a unicast packet and will be mapped to either an ingress queue (using the **queue** *queue-id* or **queue** *queue-id* **group** *ingress-queue-group* commands) or an ingress policer (**policer** *policer-id*). The **queue** and **policer** commands within the forwarding class context are mutually exclusive. By default, the unicast forwarding type is mapped to the SAP ingress default queue (queue 1). If the **policer** *policer-id* command is executed, any previous policer mapping or queue mapping for the unicast forwarding type within the forwarding class is overridden if the policer mapping is successful.

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A policer defined within the **sap-ingress** policy is not actually created on an ingress SAP or a subscriber using an **sla-profile** where the policy is applied until at least one forwarding type (unicast, broadcast, unknown, or multicast) from one of the forwarding classes is mapped to the policer. If insufficient policer resources exist to create the policer for a SAP or subscriber or multiservice site or ingress policing is not supported on the port associated with the SAP or subscriber or multiservice site, the initial forwarding class forwarding type mapping will fail.

When the unicast forwarding type within a forwarding class is mapped to a policer, the unicast packets classified to the subclasses within the forwarding class are also mapped to the policer.

The **no** form of this command is used to restore the mapping of the unicast forwarding type within the forwarding class to the default queue. If all forwarding class forwarding types had been removed from the default queue, the queue will not exist on the SAPs or subscriber or multiservice sites associated with the QoS policy and the **no policer** command will cause the system to attempt to create the default queue on each object. If the system cannot create the default queue in each instance, the **no policer** command will fail and the unicast forwarding type within the forwarding class will continue its mapping to the existing *policer-id*. If the **no policer** command results in a policer without any current mappings, the policer will be removed from the SAPs and subscribers associated with the QoS policy. All statistics associated with the policer on each SAP and subscriber will be lost.

Parameters

policer-id

When the forwarding class **policer** command is executed, a valid *policer-id* must be specified. The parameter *policer-id* references a *policer-id* that has already been created within the **sap-ingress** QoS policy.

Values 1 to 63

fp-redirect-group

Redirects a forwarding class to a forwarding plane queue-group as specified in a SAP QoS policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer *policer-id*

Context

[Tree] (config>qos>sap-ingress policer)

Full Context

configure qos sap-ingress policer

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Description

This command is used in the sap-ingress and sap-egress QoS policies to create, modify, or delete a policer. Policers are created and used in a similar manner to queues. The policer ID space is separate from the queue ID space, allowing both a queue and a policer to share the same ID. The sap-ingress policy may be defined to have up to 63 policers (numbered 1 through 63) while the sap-egress QoS policy supports a maximum of 8 (numbered 1 through 8). While a policer may be defined within a QoS policy, it is not actually created on SAPs or subscribers or multiservice sites associated with the policy until a forwarding class is mapped to the policer's ID.

All policers must be created within the QoS policies. A default policer is not created when a sap-ingress or sap-egress QoS policy is created.

When a policer is created, the policer's metering rate and profiling rates may be defined as well as the policer's maximum and committed burst sizes (MBS and CBS, respectively). Unlike queues that have dedicated counters, policers allow various stat-mode settings that define the counters that will be associated with the policer. Another supported feature—packet-byte-offset—provides a policer with the ability to modify the size of each packet, based on a defined number of bytes.

When a policer is created, it cannot be deleted from the QoS policy unless any forwarding classes that are mapped to the policer are first moved to other policers or queues.

The system will allow a policer to be created on a SAP QoS policy regardless of the ability to support policers on objects where the policy is currently applied. The system only scans the current objects for policer support and sufficient resources to create the policer when a forwarding class is first mapped to the policer ID. If the policer cannot be created due to one or more instances of the policy not supporting policing or having insufficient resources to create the policer, the forwarding class mapping will fail.

The **no** form of this command is used to delete a policer from a sap-ingress or sap-egress QoS policy. The specified policer cannot currently have any forwarding class mappings for the removal of the policer to succeed. It is not necessary to actually delete the policer ID for the policer instances to be removed from SAPs or subscriber or multiservice sites associated with the QoS policy when all forwarding classes have been moved away from the policer. It is automatically deleted from each policing instance although it still appears in the QoS policy.

Parameters

policer-id

The *policer-id* must be specified when executing the policer command. If the specified ID already exists, the system enters that policer's context to allow the policer's parameters to be modified. If the ID does not exist and is within the allowed range for the QoS policy type, a context for the policer ID will be created (depending on the system's current create keyword requirements, which may require the create keyword to actually add the new policer ID to the QoS policy) and the system will enter that new policer's context for possible parameter modification.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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policer

Syntax

policer *policer-id* [{[**port-redirect-group-queue**] [**queue** *queue-id*] | **group** *group-name* [**instance** *instance-id*] [**queue** *queue-id*]}]

no policer

Context

[Tree] (config>qos>sap-egress>fc policer)

Full Context

configure qos sap-egress fc policer

Description

Within a sap-egress QoS policy forwarding class context, the policer command is used to map packets that match the forwarding class to the specified policer-id. The specified policer-id must already exist within the sap-egress QoS policy. The forwarding class of the packet is first discovered at ingress, based on the ingress classification rules. When the packet arrives at egress, the sap-egress QoS policy may match a forwarding class reclassification rule that overrides the ingress derived forwarding class. The forwarding class context within the sap-egress QoS policy is then used to map the packet to an egress queue (using the queue queue-id, or port-redirect-group queue queue-id, or group queue-group-name instance instance-id queue queue-id commands) or an egress policer (policer policer-id). The queue and policer commands within the forwarding class context are mutually exclusive. By default, the forwarding class is mapped to the SAP egress default queue (queue 1). If the **policer** *policer- id* command is executed, any previous policer mapping or queue mapping for the forwarding class is overridden if the policer mapping is successful.

A policer defined within the sap-egress policy is not actually created on an egress SAP, or a subscriber using an SLA profile where the policy is applied, until at least one forwarding class is mapped to the policer. If insufficient policer resources exist to create the policer for a SAP or subscriber, or egress policing is not supported on the port associated with the SAP or subscriber, the initial forwarding class mapping will fail.

Packets that are mapped to an egress policer that are not discarded by the policer must be placed into a default queue on the packet's destination port. The system uses egress port queue groups for this purpose. An egress queue group named policer-output-queues is automatically created on each port that supports egress policers. By default, the system uses the forwarding class mappings within this queue group to decide which queue within the group will receive each packet output from the policer. This default policer output queuing behavior may be overridden for non-subscriber packets by redirection to a queue group. The name and instance of the queue group to redirect to is either specified in the QoS policy, or the fact that a forwarding class must be redirected is identified in the QoS policy and the specific queue group instance is only identified at the time the QoS policy is applied:

- If the **policer** *policer-id* command is successfully executed, the default egress queuing is performed for the forwarding class using the policer-output-queues queue group and the *queue-id* within the group based on the forwarding class map from the group template.
- If the **policer** *policer-id* **queue** *queue-id* command is successfully executed, the specified SAP *queue-id* within the egress QoS policy is used instead of the default policer output queues.

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- If the **policer** *policer-id* **port-redirect-group-queue** keyword is successfully executed, the system will map the forwarding class to the queue within the egress queue group instance specified at the time the QoS policy is applied to the SAP, using the forwarding class map from the queue group template.
- If the **policer** *policer-id* **port-redirect-group queue** *queue-id* command is successfully executed, the system will map the forwarding class to the configured *queue-id* within the egress queue group instance that is specified at the time the QoS policy is applied to the SAP (ignoring using the forwarding class map from the queue group template).
- If the **policer** *policer-id* **group** *queue-group-name* **instance** *instance-id* command is successfully executed, the system will map the forwarding class to the queue within the specified egress queue group instance using the forwarding class map from the group template.
- If the **policer** *policer-id* **group** *queue-group-name* **instance** *instance-id* **queue** *queue-id* command is successfully executed, the system will map the forwarding class to the specified *queue-id* within the specified egress queue group instance (ignoring the forwarding class map in the group template).

If the specified **group** *group-name* is not defined as an egress queue-group-template, the **policer** command will fail. Also, if the specified group does not exist on the port for the SAPs or subscribers associated with the **sap-egress** QoS policy, the policer command will fail. While a group queue-group-name is specified in a **sap-egress** QoS policy, the groups corresponding egress template cannot be deleted. While a port egress queue group is associated with a policer instance, the port queue group cannot be deleted.

If the specified **queue** *queue-id* is not defined in the egress queue-group-template queue-group- name, the policer command will fail. While a *queue-id* within an egress queue group template is referenced by a **sap-egress** QoS policy forwarding class policer command, the queue cannot be deleted from the queue group template.

If an egress policed packet is discarded by the egress port queue group queue, the source policer discard stats are incremented. This means that the discard counters for the policer represent both the policer discard events and the destination queue drop tail events associated with the policer.

The **no** form of this command is used to restore the mapping of the forwarding class to the default queue. If all forwarding classes have been removed from the default queue, the queue will not exist on the SAPs or subscribers associated with the QoS policy and the **no policer** command will cause the system to attempt to create the default queue on each object. If the system cannot create the default queue in each instance, the **no policer** command will fail and the forwarding class will continue its mapping to the existing *policer-id*. If the **no policer** command results in a policer without any current mappings, the policer will be removed from the SAPs and subscribers associated with the QoS policy. All statistics associated with the policer on each SAP and subscribers will be lost.

Default

no policer

Parameters

policer-id

When the forwarding class **policer** command is executed, a valid *policer-id* must be specified. The parameter *policer-id* references a *policer-id* that has already been created within the **sap-egress** QoS policy.

Values 1 to 63

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port-redirect-group-queue

Used to override the forwarding class default egress queue destination to an egress port queue group. The specific egress queue group instance to use is specified at the time the QoS policy is applied to the SAP. Therefore, this parameter is only valid if SAP-based redirection is required.

queue *queue-id*

This parameter overrides the forwarding class default egress queue destination to a specified *queue-id*. If port-redirect-group is not configured, this will be a local SAP queue of that *queue-id*. A queue of ID *queue-id* must exist within the egress QoS policy. If **port-redirect-group-queue** is configured, the **queue** *queue-id* in the egress port queue group instance is used.

Values 1 to 8

Default Derived from forwarding class assignment in queue-group definition.

group *group-name*

The **group** *queue-group-name* is optional and is used to override the forwarding class's default egress queue destination. If the queue group-queue-id parameter is not specified, the forwarding class map within the specified group's template is used to derive which queue within the group will receive the forwarding class's packets. An egress queue group template must exist for the specified queue-group-name or the policer command will fail. The specified queue-group-name must also exist as an egress queue group on the ports where SAPs and subscribers associated with the sap-egress policy are applied or the policer command will fail.

Values Any qualifying egress queue group name

Default policer-output-queues

queue *queue-id*

The **queue** *group-queue-id* is optional when the group queue-group-name parameter is specified and is used to override the forwarding class mapping within the group's egress queue group template. The specified group-queue-id must exist within the group's egress queue group template or the policer command will fail.

Values 1 to 8

Default Derived from forwarding class assignment in queue-group definition

instance *instance-id*

This parameter is used to specify the specific instance of a queue group with template queue-group-name to which this queue should be redirected. This parameter is only valid for queue groups on egress ports where policy-based redirection is required.

Values 1 to 40960

Default 1

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer

Context

[Tree] (config>qos>sap-egress policer)

Full Context

configure qos sap-egress policer

Description

A policer defined within the sap-egress policy is not actually created on an egress SAP, or a subscriber using an SLA profile where the policy is applied, until at least one forwarding class is mapped to the policer. If insufficient policer resources exist to create the policer for a SAP or subscriber, or egress policing is not supported on the port associated with the SAP or subscriber, the initial forwarding class mapping will fail.

Packets that are mapped to an egress policer that are not discarded by the policer must be placed into a default queue on the packet's destination port. The system uses egress port queue groups for this purpose. An egress queue group named policer-output-queues is automatically created on each port that supports egress policers. By default, the system uses the forwarding class mappings within this queue group to decide which queue within the group will receive each packet output from the policer. This default policer output queuing behavior may be overridden for non-subscriber packets by redirection to a queue group. The name and instance of the queue group to redirect to is either specified in the QoS policy, or the fact that a forwarding class must be redirected is identified in the QoS policy and the specific queue group instance is only identified at the time the QoS policy is applied:

- If the **policer** *policer-id* command is successfully executed, the default egress queuing is performed for the forwarding class using the policer-output-queues queue group and the *queue-id* within the group based on the forwarding class map from the group template.
- If the **policer** *policer-id* **queue** *queue-id* command is successfully executed, the specified SAP *queue-id* within the egress QoS policy is used instead of the default policer output queues.
- If the **policer** *policer-id* **port-redirect-group-queue** keyword is successfully executed, the system will map the forwarding class to the queue within the egress queue group instance specified at the time the QoS policy is applied to the SAP, using the forwarding class map from the queue group template.
- If the **policer** *policer-id* **port-redirect-group queue** *queue-id* command is successfully executed, the system will map the forwarding class to the configured *queue-id* within the egress queue group instance that is specified at the time the QoS policy is applied to the SAP (ignoring using the forwarding class map from the queue group template).
- If the **policer** *policer-id* **group** *queue-group-name* **instance** *instance-id* command is successfully executed, the system will map the forwarding class to the queue within the specified egress queue group instance using the forwarding class map from the group template.

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- If the **policer** *policer-id* **group** *queue-group-name* **instance** *instance-id* **queue** *queue-id* command is successfully executed, the system will map the forwarding class to the specified *queue-id* within the specified egress queue group instance (ignoring the forwarding class map in the group template).

If the specified **group** *group-name* is not defined as an egress queue-group-template, the **policer** command will fail. Also, if the specified group does not exist on the port for the SAPs or subscribers associated with the **sap-egress** QoS policy, the policer command will fail. While a group queue-group-name is specified in a **sap-egress** QoS policy, the groups corresponding egress template cannot be deleted. While a port egress queue group is associated with a policer instance, the port queue group cannot be deleted.

If the specified **queue** *queue-id* is not defined in the egress queue-group-template queue-group- name, the policer command will fail. While a *queue-id* within an egress queue group template is referenced by a **sap-egress** QoS policy forwarding class policer command, the queue cannot be deleted from the queue group template.

If an egress policed packet is discarded by the egress port queue group queue, the source policer discard stats are incremented. This means that the discard counters for the policer represent both the policer discard events and the destination queue drop tail events associated with the policer.

The **no** form of this command is used to restore the mapping of the forwarding class to the default queue. If all forwarding classes have been removed from the default queue, the queue will not exist on the SAPs or subscribers associated with the QoS policy and the **no policer** command will cause the system to attempt to create the default queue on each object. If the system cannot create the default queue in each instance, the **no policer** command will fail and the forwarding class will continue its mapping to the existing *policer-id*. If the **no policer** command results in a policer without any current mappings, the policer will be removed from the SAPs and subscribers associated with the QoS policy. All statistics associated with the policer on each SAP and subscribers will be lost.

Default

no policer

Parameters

policer-id

When the forwarding class **policer** command is executed, a valid *policer-id* must be specified. The parameter *policer-id* references a *policer-id* that has already been created within the **sap-egress** QoS policy.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer

Syntax

policer *policer-id* [**create**]

no policer *policer-id*

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Context

[Tree] (cfg>qos>qgrps>egr>queue-group policer)

[Tree] (config>qos>qgrps>ing>queue-group policer)

Full Context

configure qos queue-group-templates egress queue-group policer

configure qos queue-group-templates ingress queue-group policer

Description

This command is used in ingress and egress queue-group templates to create, modify, or delete a policer.

Policers are created and used in a similar manner to queues. The policer ID space is separate from the queue ID space, allowing both a queue and a policer to share the same ID. While a policer may be defined in a queue-group template, it is not actually created until the queue-group template is instantiated on the ingress context of a forwarding plane or on the egress context of a port.

When a policer is created, the policer's metering rate and profiling rates may be defined, as well as the policer's maximum and committed burst sizes (MBS and CBS, respectively). Unlike queues that have dedicated counters, policers allow various stat-mode settings that define the counters that will be associated with the policer. Another supported feature—packet-byte-offset—provides a policer with the ability to modify the size of each packet based on a defined number of bytes.

When a policer is created, it cannot be deleted from the queue-group template unless any forwarding classes that are redirected to the policer are first removed.

The **no** version of this command deletes the policer.

Parameters

policer-id

The *policer-id* must be specified when executing the policer command. If the specified ID already exists, the system enters that policer's context to allow the policer's parameters to be modified. If the ID does not exist and is within the allowed range for the QoS policy type, a context for the policer ID will be created (depending on the system's current create keyword requirements, which may require the **create** keyword to actually add the new policer ID to the QoS policy) and the system enters that new policer's context for possible parameter modification.

Values

ingress	all platforms	1 to 32
egress	VSR	1 to 8
egress	all other platforms	1 to 16

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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policer

Syntax

[**no**] **policer** *policer-id*

Context

[Tree] (config>log>acct-policy>cr policer)

Full Context

configure log accounting-policy custom-record policer

Description

This command creates a policer context for which counters should be included in the custom-record.

The **no** form of this command deletes the policer and its counters from the custom-record.

Parameters

policer-id

Specifies the policer for which counters should be included in or deleted from the custom-record.

Values 1 to 63

Platforms

All

policer

Syntax

[**no**] **policer** *policer-id*

Context

[Tree] (config>router>policy-acct-template policer)

Full Context

configure router policy-acct-template policer

Description

Commands in this context configure policer index information. Each policy accounting template supports up to 63 policers.

Policing by action of a policy accounting template is only supported by FP4 cards and systems.

The **no** form of this command deletes the policer ID from the configuration.

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Parameters

policer-id

Specifies the policer index.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

policer

Syntax

policer *policer-id*

no policer *policer-id*

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress>policers policer)

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress>policers policer)

Full Context

configure subscriber-mgmt idle-timeout-policy ingress policers policer

configure subscriber-mgmt idle-timeout-policy egress policers policer

Description

This command configures egress or ingress policers to monitor idle time.

The **no** form of this command removes the specified policer from idle time monitoring.

Parameters

policer-id

Specifies the policer ID.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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34.83 policer-control-override

policer-control-override

Syntax

policer-control-override [**create**]

no policer-control-override

Context

[Tree] (config>card>fp>ingress>access>queue-group policer-control-override)

[Tree] (config>card>fp>ingress>network>queue-group policer-control-override)

Full Context

configure card fp ingress access queue-group policer-control-override

configure card fp ingress network queue-group policer-control-override

Description

This command configures policer control overrides.

Parameters

create

Keyword required to create a new policer control override instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-override

Syntax

policer-control-override [**create**]

no policer-control-override

Context

[Tree] (config>service>epipe>sap>ingress policer-control-override)

[Tree] (config>service>cpipe>sap>ingress policer-control-override)

[Tree] (config>service>cpipe>sap>egress policer-control-override)

[Tree] (config>service>epipe>sap>egress policer-control-override)

[Tree] (config>service>ipipe>sap>egress policer-control-override)

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[Tree] (config>service>ipipe>sap>ingress policer-control-override)

Full Context

configure service epipe sap ingress policer-control-override

configure service cpipe sap ingress policer-control-override

configure service cpipe sap egress policer-control-override

configure service epipe sap egress policer-control-override

configure service ipipe sap egress policer-control-override

configure service ipipe sap ingress policer-control-override

Description

This command, within the SAP ingress or egress contexts, creates a CLI node for specific overrides to the applied policer-control-policy. A policy must be applied for a policer-control-overrides node to be created. If the policer-control-policy is removed or changed, the policer-control-overrides node is automatically deleted from the SAP.

The **no** form of this command removes any existing policer-control-policy overrides and the policer-control-overrides node from the SAP.

Default

no policer-control-override

Parameters

create

The create keyword is required when the policer-control-overrides node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit confirmation, the create keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-control-override
- configure service epipe sap ingress policer-control-override
- configure service epipe sap egress policer-control-override
- configure service ipipe sap egress policer-control-override

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress policer-control-override
- configure service cpipe sap egress policer-control-override

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policer-control-override

Syntax

policer-control-override [**create**]

no policer-control-override

Context

[Tree] (config>service>vpls>sap>egress policer-control-override)

[Tree] (config>service>vpls>sap>ingress policer-control-override)

Full Context

configure service vpls sap egress policer-control-override

configure service vpls sap ingress policer-control-override

Description

This command, within the SAP ingress or egress contexts, creates a CLI node for specific overrides to the applied policer-control-policy. A policy must be applied for a policer-control-overrides node to be created. If the policer-control-policy is removed or changed, the policer-control-overrides node is automatically deleted from the SAP.

The **no** form of this command removes any existing policer-control-policy overrides and the policer-control-overrides node from the SAP.

Default

no policer-control-override

Parameters

create

The create keyword is required when the policer-control-overrides node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit confirmation, the create keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-override

Syntax

policer-control-override [**create**]

no policer-control-override

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Context

[Tree] (config>service>ies>if>sap>egress policer-control-override)

[Tree] (config>service>ies>if>sap>ingress policer-control-override)

Full Context

configure service ies interface sap egress policer-control-override

configure service ies interface sap ingress policer-control-override

Description

This command, within the SAP ingress or egress contexts, creates a CLI node for specific overrides to the applied policer-control-policy. A policy must be applied for a policer-control-overrides node to be created. If the policer-control-policy is removed or changed, the policer-control-overrides node is automatically deleted from the SAP.

The **no** form of this command removes any existing policer-control-policy overrides and the policer-control-overrides node from the SAP.

Default

no policer-control-override

Parameters

create

The create keyword is required when the policer-control-overrides node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit confirmation, the create keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-override

Syntax

policer-control-override [**create**]

no policer-control-override

Context

[Tree] (config>service>vprn>if>sap>egress policer-control-override)

[Tree] (config>service>vprn>if>sap>ingress policer-control-override)

Full Context

configure service vprn interface sap egress policer-control-override

configure service vprn interface sap ingress policer-control-override

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Description

This command, within the SAP ingress or egress contexts, creates a CLI node for specific overrides to the applied policer-control-policy. A policy must be applied for a policer-control-overrides node to be created. If the policer-control-policy is removed or changed, the policer-control-overrides node is automatically deleted from the SAP.

The **no** form of this command removes any existing policer-control-policy overrides and the policer-control-overrides node from the SAP.

Default

no policer-control-override

Parameters

create

The create keyword is required when the policer-control-overrides node is being created and the system is configured to expect explicit confirmation that a new object is being created. When the system is not configured to expect explicit confirmation, the create keyword is not required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

34.84 policer-control-policy

policer-control-policy

Syntax

policer-control-policy *policy-name* [**create**]

no policer-control-policy

Context

[Tree] (config>subscr-mgmt>sub-prof>egress policer-control-policy)

[Tree] (config>subscr-mgmt>sub-prof>ingress policer-control-policy)

Full Context

configure subscriber-mgmt sub-profile egress policer-control-policy

configure subscriber-mgmt sub-profile ingress policer-control-policy

Description

This command is used to create, delete, or modify policer control policies. The **policer-control-policy** controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs. The policy can also be applied to the ingress or egress context of a sub-profile.

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The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the policer control policy name. Each policer-control-policy must be created with a unique policy name. The name given as policy-name must adhere to the system policy ASCII naming requirements. If the defined policy-name already exists, the system will enter that policy's context for editing purposes. If policy-name does not exist, the system will attempt to create a policy with the specified name. Creating a policy may require use of the create parameter when the system is configured for explicit object creation mode.

create

The **create** keyword is required when a new policy is being created and the system is configured for explicit object creation mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>ingress policer-control-policy)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress policer-control-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress policer-control-policy)

Full Context

configure service ies subscriber-interface group-interface sap ingress policer-control-policy

configure service ies subscriber-interface group-interface sap egress policer-control-policy

configure service vprn subscriber-interface group-interface sap egress policer-control-policy

Description

This command is used to create, delete, or modify policer control policies. The **policer-control-policy** controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs. The policy can also be applied to the ingress or egress context of a sub-profile.

The **no** form of this command resets the command to the default setting.

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Parameters

policy-name

Specifies the policer control policy name. Each policer control policy name must be unique and adhere to the system policy ASCII naming requirements. If the defined policy name already exists, the system enters that policy's context for editing purposes. If policy-name does not exist, the system attempts to create a policy with the specified name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policer-control-policy

Syntax

policer-control-policy *policer-control-policy-name*

no policer-control-policy

Context

[Tree] (config>card>fp>ingress>network>queue-group policer-control-policy)

[Tree] (config>card>fp>ingress>access>queue-group policer-control-policy)

Full Context

configure card fp ingress network queue-group policer-control-policy

configure card fp ingress access queue-group policer-control-policy

Description

This command configures an policer-control policy that can apply to a queue-group on the forwarding plane.

The **no** form of this command removes the policer-control policy association from the queue-group.

Default

no policer-control-policy

Parameters

policer-control-policy-name

Specifies the name of the policer-control policy to use for the queue-group. The name can be up to 32 characters long.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

Context

[Tree] (config>port>ethernet>network>egress>queue-group>policer-control-policy policer-control-policy)

Full Context

configure port ethernet network egress queue-group policer-control-policy policer-control-policy

Description

This command configures the policer control policy for the QoS egress queue-group.

Parameters

policy-name

Specifies the name of the policer control policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

Context

[Tree] (config>service>epipe>sap>egress policer-control-policy)

[Tree] (config>service>cpipe>sap>ingress policer-control-policy)

[Tree] (config>service>ipipe>sap>egress policer-control-policy)

[Tree] (config>service>cpipe>sap>egress policer-control-policy)

[Tree] (config>service>epipe>sap>ingress policer-control-policy)

[Tree] (config>service>ipipe>sap>ingress policer-control-policy)

Full Context

configure service epipe sap egress policer-control-policy

configure service cpipe sap ingress policer-control-policy

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configure service ipipe sap egress policer-control-policy

configure service cpipe sap egress policer-control-policy

configure service epipe sap ingress policer-control-policy

configure service ipipe sap ingress policer-control-policy

Description

This command, within the QoS CLI node, is used to create, delete or modify policer control policies. A policer control policy is very similar to the scheduler-policy which is used to manage a set of queues by defining a hierarchy of virtual schedulers and specifying how the virtual schedulers interact to provide an aggregate SLA. In a similar fashion, the policer-control-policy controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs.

Policer Control Policy Instances

On the SAP side, an instance of a policy is created each time a policy is applied.

When applied to a sub-profile on a 7450 ESS and 7750 SR, an instance of the policy is created each time a subscriber successfully maps one or more hosts to the profile per ingress SAP.

Each instance of the policer-control-policy manages the policers associated with the object that owns the policy instance (SAP or subscriber). If a policer on the object is parented to an appropriate arbiter name that exists within the policy, the policer will be managed by the instance. If a policer is not parented or is parented to a non-existent arbiter, the policer will be orphaned and will not be subject to bandwidth control by the policy instance.

Maximum Rate and Root Arbiter

The policer-control-policy supports an overall maximum rate (max-rate) that defines the total amount of bandwidth that may be distributed to all associated child policers. By default, that rate is set to max which provides an unlimited amount of bandwidth to the policers. Once the policy is created, an actual rate should be configured in order for the policy instances to be effective. At the SAP level, the maximum rate may be overridden on a per instance basis.

For subscribers, the maximum rate may only be overridden on the subscriber profile which will then be applied to all instances associated with the profile.

The maximum rate is defined within the context of the root arbiter which is always present in a policer-control-policy. The system creates a parent policer which polices the output of all child policers attached to the policy instance to the configured rate. Child policers may be parented directly to the root arbiter (parent root) or parented to one of the tiered arbiters (parent arbiter-name). Since each tiered arbiter must be parented to either another tiered arbiter or the root arbiter (default), every parented child policer is associated with the root arbiter and therefore the root arbiter's parent policer.

Parent Policer PIR Leaky Bucket Operation

The parent policer is a single leaky bucket that monitors the aggregate throughput rate of the associated child policers. Forwarded packets increment the bucket by the size of each packet. The rate of the parent policer is implemented as a bucket decrement function which attempts to drain the bucket. If the rate of the packets flowing through the bucket is less than the decrement rate, the bucket does not accumulate depth. Each packet that flows through the bucket is accompanied by a derived discard threshold. If the current depth of the bucket is less than the discard threshold, the packet is allowed to pass through, retaining the colors derived from the packet's child policer. If the current depth is equal to or greater than the threshold value, the packet is colored red and the bucket depth is not incremented by the packet size. Also, any increased bucket depths in the child policer are canceled making any discard event an atomic function between the child and the parent.

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Due to the fact that multiple thresholds are supported by the parent policer, the policer control policy is able to protect the throughput of higher priority child policers from the throughput of the lower priority child policers within the aggregate rate.

Tier 1 and Tier 2 Arbiters

As previously stated, each child is attached either to the always available root arbiter or to an explicitly created tier 1 or tier 2 arbiter. Unlike the hardware parent policer based root arbiter, the arbiters at tier 1 and tier 2 are only represented in software and are meant to provide an arbitrary hierarchical bandwidth distribution capability. An arbiter created on tier 2 must parent to either to an arbiter on tier 1 or to the root arbiter. Arbiters created on tier 1 always parent to the root arbiter. In this manner, every arbiter ultimately is parented or grand-parented by the root arbiter.

Each tiered arbiter supports an optional rate parameter that defines a rate limit for all child arbiters or child policers associated with the arbiter. Child arbiters and policers attached to the arbiter have a level attribute that defines the strict level at which the child is given bandwidth by the arbiter. Level 8 is the highest and 1 is the lowest. Also a weight attribute defines each child's weight at that strict level in order to determine how bandwidth is distributed to multiple children at that level when insufficient bandwidth is available to meet each child's required bandwidth.

Fair and Unfair Bandwidth Control

Each child policer supports three leaky buckets. The PIR bucket manages the policer's peak rate and maximum burst size, the CIR leaky bucket manages the policer's committed rate and committed burst size. The third leaky bucket is used by the policer control policy instance to manage the child policer's fair rate (FIR). When multiple child policers are attached to the root arbiter at the same priority level, the policy instance uses each child's FIR bucket rate to control how much of the traffic forwarded by the policer is fair and how much is unfair.

In the simplest case where all the child policers in the same priority level are directly attached to the root arbiter, each child's FIR rate is set according to the child's weight divided by the sum of the active children's weights multiplied by the available bandwidth at the priority level. The result is that the FIR bucket will mark the appropriate amount of traffic for each child as fair-based on the weighted fair output of the policy instance.

The fair/unfair forwarding control in the root parent policer is accomplished by implementing two different discard thresholds for the priority. The first threshold is discard-unfair and the second is discard-all for packet associated with the priority level. As the parent policer PIR bucket fills (due the aggregate forwarded rate being greater than the parent policers PIR decrement rate) and the bucket depth reaches the first threshold, all unfair packets within the priority are discarded. This leaves room in the bucket for the fair packets to be forwarded.

In the more complex case where one or more tiered arbiters are attached at the priority level, the policer control policy instance must consider more than just the child policer weights associated with the attached arbiter. If the arbiter is configured with an aggregate rate limit that its children cannot exceed, the policer control policy instance will switch to calculating the rate each child serviced by the arbiter should receive and enforces that rate using each child policers PIR leaky bucket.

When the child policer PIR leaky bucket is used to limit the bandwidth for the child policer and the child's PIR bucket discard threshold is reached, packets associated with the child policer are discarded. The child policer's discarded packets do not consume depth in the child policer's CIR or FIR buckets. The child policers discarded packets are also prevented from impacting the parent policer and will not consume the aggregate bandwidth managed by the parent policer.

Parent Policer Priority Level Thresholds

As stated in the Tier 1 and Tier 2 Arbiter subsection, each child policer is attached either to the root arbiter or explicitly to one of the tier 1 or tier 2 arbiters. When attached directly to the root arbiter, its priority

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relative to all other child policers is indicated by the parenting level parameter. When attached through one of the tiered arbiters, the parenting hierarchy of the arbiters must be traced through to the ultimate attachment to the root arbiter. The parenting level parameter of the arbiter parented to the root arbiter defines the child policer's priority level within the parent policer.

The priority level is important since it defines the parent policer discard thresholds that will be applied at the parent policer. The parent policer has 8 levels of strict priority and each priority level has its own discard-unfair and discard-all thresholds. Each priority's thresholds are larger than the thresholds of the lower priority levels. This ensures that when the parent policer is discarding, it will be priority sensitive.

To visualize the behavior of the parent policer, picture that when the aggregate forwarding rate of all child policers is currently above the decrement rate of the parent PIR leaky bucket, the bucket depth will increase over time. As the bucket depth increases, it will eventually cross the lowest priority's discard-unfair threshold. If this amount of discard sufficiently lowers the remaining aggregate child policer rate, the parent PIR bucket will hover around this bucket depth. If however, the remaining aggregate child rate is still greater than the decrement rate, the bucket will continue to rise and eventually reach the lowest priority's discard-all threshold which will cause all packets associated with the priority level to be discarded (fair and unfair). Again, if the remaining aggregate child rate is less than or equal to the bucket decrement rate, the parent PIR bucket will hover around this higher bucket depth. If the remaining aggregate child rate is still higher than the decrement rate, the bucket will continue to rise through the remaining priority level discards until equilibrium is achieved.

Each child's rate feeding into the parent policer is governed by the child policer's PIR bucket decrement rate. The amount of bandwidth the child policer offers to the parent policer will not exceed the child policer's configured maximum rate.

Root Arbiter's Parent Policer's Priority Aggregate Thresholds

Each policer-control-policy root arbiter supports configurable aggregate priority thresholds which are used to control burst tolerance within each priority level. Two values are maintained per priority level; the shared-portion and the fair-portion. The shared-portion represents the amount of parent PIR bucket depth that is allowed to be consumed by both fair and unfair child packets at the priority level. The fair-portion represents the amount of parent PIR bucket depth that only the fair child policer packets may consume within the priority level. It should be noted that the fair and unfair child packets associated with a higher parent policer priority level may also consume the bucket depth set aside for this priority.

While the policy maintains a parent policer default or explicit configurable values for shared-portion and fair-portion within each priority level, it is possible that some priority levels will not be used within the parent policer. Most parent policer use cases require fewer than eight strict priority levels.

To derive the actual priority level discard-unfair and discard-all thresholds while only accounting for the actual in-use priority levels, the system maintains a child policer to parent policer association counter per priority level for each policer control policy instance. As a child policer is parented to either the root or a tiered arbiter, the system determines the parent policer priority level for the child policer and increments the association counter for that priority level on the parent policer instance.

The shared-portion for each priority level is affected by the parent policer global min-thresh-separation parameter that defines the minimum separation between any in-use discard thresholds. When more than one child policer is associated with a parent policer priority level, the shared-portion for that priority level will be the current value of min-thresh-separation. When only a single child policer is associated, the priority level's shared-portion is zero since all packets from the child will be marked fair and the discard-unfair threshold is meaningless. When the association counter is zero, both the shared-portion and the fair-portion for that priority level are zero since neither discard thresholds will be used. Whenever the association counter is greater than 0, the fair-portion for that priority level will be derived from the current value of the priority's mbs-contribution parameter and the global min-thresh-separation parameter.

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Each priority level's discard-unfair and discard-all thresholds are calculated based on an accumulation of lower priorities shared-portions and fair-portions and the priority level's own shared-portion and fair-portion. The base threshold value for each priority level is equal to the sum of all lower priority level's shared-portions and fair-portions. The discard-unfair threshold is the priority level's base threshold plus the priority level's shared-portion. The discard-all threshold for the priority level is the priority level's base threshold plus both the shared-portion and fair-portion values of the priority. As can be seen, an in-use priority level's thresholds are always greater than the thresholds of lower priority levels.

Policer Control Policy Application

A policer-control-policy may be applied on any Ethernet ingress or egress SAP that is associated with a port (or ports in the case of LAG).

The **no** form of this command removes a non-associated policer control policy from the system. The command will not execute when policer-name is currently associated with any SAP context.

Parameters

policy-name

Each policer-control-policy must be created with a unique policy name. The name given as policy-name must adhere to the system policy ASCII naming requirements. If the defined policy-name already exists, the system will enter that policy's context for editing purposes. If policy-name does not exist, the system will attempt to create a policy with the specified name. Creating a policy may require use of the create parameter when the system is configured for explicit object creation mode.

create

The keyword is required when a new policy is being created and the system is configured for explicit object creation mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe sap ingress policer-control-policy
- configure service ipipe sap egress policer-control-policy
- configure service epipe sap egress policer-control-policy
- configure service ipipe sap ingress policer-control-policy

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress policer-control-policy
- configure service cpipe sap egress policer-control-policy

policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

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Context

[Tree] (config>service>vpls>sap>egress policer-control-policy)

[Tree] (config>service>template>vpls-sap-template>egress policer-control-policy)

[Tree] (config>service>vpls>sap>ingress policer-control-policy)

[Tree] (config>service>template>vpls-sap-template>ingress policer-control-policy)

Full Context

configure service vpls sap egress policer-control-policy

configure service template vpls-sap-template egress policer-control-policy

configure service vpls sap ingress policer-control-policy

configure service template vpls-sap-template ingress policer-control-policy

Description

This command, within the qos CLI node, is used to create, delete or modify policer control policies. A policer control policy is very similar to the scheduler-policy which is used to manage a set of queues by defining a hierarchy of virtual schedulers and specifying how the virtual schedulers interact to provide an aggregate SLA. In a similar fashion, the policer-control-policy controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs. The policy may also be applied to the ingress or egress context of a sub-profile.

Policer Control Policy Instances

On the SAP side, an instance of a policy is created each time a policy is applied. When applied to a sub-profile, an instance of the policy is created each time a subscriber successfully maps one or more hosts to the profile per ingress SAP.

Each instance of the policer-control-policy manages the policers associated with the object that owns the policy instance (SAP or subscriber). If a policer on the object is parented to an appropriate arbiter name that exists within the policy, the policer will be managed by the instance. If a policer is not parented or is parented to a non-existent arbiter, the policer will be orphaned and will not be subject to bandwidth control by the policy instance.

Maximum Rate and Root Arbiter

The policer-control-policy supports an overall maximum rate (max-rate) that defines the total amount of bandwidth that may be distributed to all associated child policers. By default, that rate is set to max which provides an unlimited amount of bandwidth to the policers. Once the policy is created, an actual rate should be configured in order for the policy instances to be effective. At the SAP level, the maximum rate may be overridden on a per instance basis. For subscribers, the maximum rate may only be overridden on the subscriber profile which will then be applied to all instances associated with the profile.

The maximum rate is defined within the context of the root arbiter which is always present in a policer-control-policy. The system creates a parent policer which polices the output of all child policers attached to the policy instance to the configured rate. Child policers may be parented directly to the root arbiter (parent root) or parented to one of the tiered arbiters (parent arbiter-name). Since each tiered arbiter must be parented to either another tiered arbiter or the root arbiter (default), every parented child policer is associated with the root arbiter and therefore the root arbiter's parent policer.

Parent Policer PIR Leaky Bucket Operation

The parent policer is a single leaky bucket that monitors the aggregate throughput rate of the associated child policers. Forwarded packets increment the bucket by the size of each packet. The rate of the parent

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policer is implemented as a bucket decrement function which attempts to drain the bucket. If the rate of the packets flowing through the bucket is less than the decrement rate, the bucket does not accumulate depth. Each packet that flows through the bucket is accompanied by a derived discard threshold. If the current depth of the bucket is less than the discard threshold, the packet is allowed to pass through, retaining the colors derived from the packet's child policer. If the current depth is equal to or greater than the threshold value, the packet is colored red and the bucket depth is not incremented by the packet size. Also, any increased bucket depths in the child policer are canceled making any discard event an atomic function between the child and the parent.

Due to the fact that multiple thresholds are supported by the parent policer, the policer control policy is able to protect the throughput of higher priority child policers from the throughput of the lower priority child policers within the aggregate rate.

Tier 1 and Tier 2 Arbiters

As stated above, each child is attached either to the always available root arbiter or to an explicitly created tier 1 or tier 2 arbiter. Unlike the hardware parent policer based root arbiter, the arbiters at tier 1 and tier 2 are only represented in software and are meant to provide an arbitrary hierarchical bandwidth distribution capability. An arbiter created on tier 2 must parent to either to an arbiter on tier 1 or to the root arbiter. Arbiters created on tier 1 always parent to the root arbiter. In this manner, every arbiter ultimately is parented or grand-parented by the root arbiter.

Each tiered arbiter supports an optional rate parameter that defines a rate limit for all child arbiters or child policers associated with the arbiter. Child arbiters and policers attached to the arbiter have a level attribute that defines the strict level at which the child is given bandwidth by the arbiter. Level 8 is the highest and 1 is the lowest. Also a weight attribute defines each child's weight at that strict level in order to determine how bandwidth is distributed to multiple children at that level when insufficient bandwidth is available to meet each child's required bandwidth.

Fair and Unfair Bandwidth Control

Each child policer supports three leaky buckets. The PIR bucket manages the policer's peak rate and maximum burst size, the CIR leaky bucket manages the policer's committed rate and committed burst size. The third leaky bucket is used by the policer control policy instance to manage the child policer's fair rate (FIR). When multiple child policers are attached to the root arbiter at the same priority level, the policy instance uses each child's FIR bucket rate to control how much of the traffic forwarded by the policer is fair and how much is unfair.

In the simplest case where all the child policers in the same priority level are directly attached to the root arbiter, each child's FIR rate is set according to the child's weight divided by the sum of the active children's weights multiplied by the available bandwidth at the priority level. The result is that the FIR bucket will mark the appropriate amount of traffic for each child as fair-based on the weighted fair output of the policy instance.

The fair/unfair forwarding control in the root parent policer is accomplished by implementing two different discard thresholds for the priority. The first threshold is discard-unfair and the second is discard-all for packet associated with the priority level. As the parent policer PIR bucket fills (due the aggregate forwarded rate being greater than the parent policers PIR decrement rate) and the bucket depth reaches the first threshold, all unfair packets within the priority are discarded. This leaves room in the bucket for the fair packets to be forwarded.

In the more complex case where one or more tiered arbiters are attached at the priority level, the policer control policy instance must consider more than just the child policer weights associated with the attached arbiter. If the arbiter is configured with an aggregate rate limit that its children cannot exceed, the policer control policy instance will switch to calculating the rate each child serviced by the arbiter should receive and enforces that rate using each child policers PIR leaky bucket.

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When the child policer PIR leaky bucket is used to limit the bandwidth for the child policer and the child's PIR bucket discard threshold is reached, packets associated with the child policer are discarded. The child policer's discarded packets do not consume depth in the child policer's CIR or FIR buckets. The child policers discarded packets are also prevented from impacting the parent policer and will not consume the aggregate bandwidth managed by the parent policer.

Parent Policer Priority Level Thresholds

As stated above, each child policer is attached either to the root arbiter or explicitly to one of the tier 1 or tier 2 arbiters. When attached directly to the root arbiter, its priority relative to all other child policers is indicated by the parenting level parameter. When attached through one of the tiered arbiters, the parenting hierarchy of the arbiters must be traced through to the ultimate attachment to the root arbiter. The parenting level parameter of the arbiter parented to the root arbiter defines the child policer's priority level within the parent policer.

The priority level is important since it defines the parent policer discard thresholds that will be applied at the parent policer. The parent policer has 8 levels of strict priority and each priority level has its own discard-unfair and discard-all thresholds. Each priority's thresholds are larger than the thresholds of the lower priority levels. This ensures that when the parent policer is discarding, it will be priority sensitive.

To visualize the behavior of the parent policer, picture that when the aggregate forwarding rate of all child policers is currently above the decrement rate of the parent PIR leaky bucket, the bucket depth will increase over time. As the bucket depth increases, it will eventually cross the lowest priority's discard-unfair threshold. If this amount of discard sufficiently lowers the remaining aggregate child policer rate, the parent PIR bucket will hover around this bucket depth. If however, the remaining aggregate child rate is still greater than the decrement rate, the bucket will continue to rise and eventually reach the lowest priority's discard-all threshold which will cause all packets associated with the priority level to be discarded (fair and unfair). Again, if the remaining aggregate child rate is less than or equal to the bucket decrement rate, the parent PIR bucket will hover around this higher bucket depth. If the remaining aggregate child rate is still higher than the decrement rate, the bucket will continue to rise through the remaining priority level discards until equilibrium is achieved.

As noted above, each child's rate feeding into the parent policer is governed by the child policer's PIR bucket decrement rate. The amount of bandwidth the child policer offers to the parent policer will not exceed the child policer's configured maximum rate.

Root Arbiter's Parent Policer's Priority Aggregate Thresholds

Each policer-control-policy root arbiter supports configurable aggregate priority thresholds which are used to control burst tolerance within each priority level. Two values are maintained per priority level; the shared-portion and the fair-portion. The shared-portion represents the amount of parent PIR bucket depth that is allowed to be consumed by both fair and unfair child packets at the priority level. The fair-portion represents the amount of parent PIR bucket depth that only the fair child policer packets may consume within the priority level. It should be noted that the fair and unfair child packets associated with a higher parent policer priority level may also consume the bucket depth set aside for this priority.

While the policy maintains a parent policer default or explicit configurable values for shared-portion and fair-portion within each priority level, it is possible that some priority levels will not be used within the parent policer. Most parent policer use cases require fewer than eight strict priority levels.

To derive the actual priority level discard-unfair and discard-all thresholds while only accounting for the actual in-use priority levels, the system maintains a child policer to parent policer association counter per priority level for each policer control policy instance. As a child policer is parented to either the root or a tiered arbiter, the system determines the parent policer priority level for the child policer and increments the association counter for that priority level on the parent policer instance.

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The shared-portion for each priority level is affected by the parent policer global min-thresh-separation parameter that defines the minimum separation between any in-use discard thresholds. When more than one child policer is associated with a parent policer priority level, the shared-portion for that priority level will be the current value of min-thresh-separation. When only a single child policer is associated, the priority level's shared-portion is zero since all packets from the child will be marked fair and the discard-unfair threshold is meaningless. When the association counter is zero, both the shared-portion and the fair-portion for that priority level are zero since neither discard thresholds will be used. Whenever the association counter is greater than 0, the fair-portion for that priority level will be derived from the current value of the priority's mbs-contribution parameter and the global min-thresh-separation parameter.

Each priority level's discard-unfair and discard-all thresholds are calculated based on an accumulation of lower priorities shared-portions and fair-portions and the priority level's own shared-portion and fair-portion. The base threshold value for each priority level is equal to the sum of all lower priority level's shared-portions and fair-portions. The discard-unfair threshold is the priority level's base threshold plus the priority level's shared-portion. The discard-all threshold for the priority level is the priority level's base threshold plus both the shared-portion and fair-portion values of the priority. As can be seen, an in-use priority level's thresholds are always greater than the thresholds of lower priority levels.

Policer Control Policy Application

A policer-control-policy may be applied on any Ethernet ingress or egress SAP that is associated with a port (or ports in the case of LAG).

The **no** form of this command removes a non-associated policer control policy from the system. The command will not execute when policer-name is currently associated with any SAP or subscriber management sub-profile context.

Parameters

policy-name

Specifies the policy name. Each policer-control-policy must be created with a unique policy name. The name must be given as policy-name must adhere to the system policy ASCII naming requirements. If the defined policy-name already exists, the system will enter that policy's context for editing purposes. If policy-name does not exist, the system will attempt to create a policy with the specified name. Creating a policy may require use of the create parameter when the system is configured for explicit object creation mode.

create

The keyword is required when a new policy is being created and the system is configured for explicit object creation mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

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Context

[Tree] (config>service>ies>if>sap>egress policer-control-policy)

[Tree] (config>service>ies>if>sap>ingress policer-control-policy)

Full Context

configure service ies interface sap egress policer-control-policy

configure service ies interface sap ingress policer-control-policy

Description

This command, within the qos CLI node, is used to create, delete or modify policer control policies. A policer control policy is very similar to the scheduler-policy which is used to manage a set of queues by defining a hierarchy of virtual schedulers and specifying how the virtual schedulers interact to provide an aggregate SLA. In a similar fashion, the policer-control-policy controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs. The policy may also be applied to the ingress or egress context of a sub-profile.

Policer Control Policy Instances

On the SAP side, an instance of a policy is created each time a policy is applied. When applied to a sub-profile, an instance of the policy is created each time a subscriber successfully maps one or more hosts to the profile per ingress SAP.

Each instance of the policer-control-policy manages the policers associated with the object that owns the policy instance (SAP or subscriber). If a policer on the object is parented to an appropriate arbiter name that exists within the policy, the policer will be managed by the instance. If a policer is not parented or is parented to a non-existent arbiter, the policer will be orphaned and will not be subject to bandwidth control by the policy instance.

Maximum Rate and Root Arbiter

The policer-control-policy supports an overall maximum rate (max-rate) that defines the total amount of bandwidth that may be distributed to all associated child policers. By default, that rate is set to max which provides an unlimited amount of bandwidth to the policers. Once the policy is created, an actual rate should be configured in order for the policy instances to be effective. At the SAP level, the maximum rate may be overridden on a per instance basis. For subscribers, the maximum rate may only be overridden on the subscriber profile which will then be applied to all instances associated with the profile.

The maximum rate is defined within the context of the root arbiter which is always present in a policer-control-policy. The system creates a parent policer which polices the output of all child policers attached to the policy instance to the configured rate. Child policers may be parented directly to the root arbiter (parent root) or parented to one of the tiered arbiters (parent arbiter-name). Since each tiered arbiter must be parented to either another tiered arbiter or the root arbiter (default), every parented child policer is associated with the root arbiter and therefore the root arbiter's parent policer.

Parent Policer PIR Leaky Bucket Operation

The parent policer is a single leaky bucket that monitors the aggregate throughput rate of the associated child policers. Forwarded packets increment the bucket by the size of each packet. The rate of the parent policer is implemented as a bucket decrement function which attempts to drain the bucket. If the rate of the packets flowing through the bucket is less than the decrement rate, the bucket does not accumulate depth. Each packet that flows through the bucket is accompanied by a derived discard threshold. If the current depth of the bucket is less than the discard threshold, the packet is allowed to pass through, retaining the colors derived from the packet's child policer. If the current depth is equal to or greater than the threshold value, the packet is colored red and the bucket depth is not incremented by the packet size. Also, any

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increased bucket depths in the child policer are canceled making any discard event an atomic function between the child and the parent.

Due to the fact that multiple thresholds are supported by the parent policer, the policer control policy is able to protect the throughput of higher priority child policers from the throughput of the lower priority child policers within the aggregate rate.

Tier 1 and Tier 2 Arbiters

As stated above, each child is attached either to the always available root arbiter or to an explicitly created tier 1 or tier 2 arbiter. Unlike the hardware parent policer based root arbiter, the arbiters at tier 1 and tier 2 are only represented in software and are meant to provide an arbitrary hierarchical bandwidth distribution capability. An arbiter created on tier 2 must parent to either to an arbiter on tier 1 or to the root arbiter. Arbiters created on tier 1 always parent to the root arbiter. In this manner, every arbiter ultimately is parented or grand-parented by the root arbiter.

Each tiered arbiter supports an optional rate parameter that defines a rate limit for all child arbiters or child policers associated with the arbiter. Child arbiters and policers attached to the arbiter have a level attribute that defines the strict level at which the child is given bandwidth by the arbiter. Level 8 is the highest and 1 is the lowest. Also a weight attribute defines each child's weight at that strict level in order to determine how bandwidth is distributed to multiple children at that level when insufficient bandwidth is available to meet each child's required bandwidth.

Fair and Unfair Bandwidth Control

Each child policer supports three leaky buckets. The PIR bucket manages the policer's peak rate and maximum burst size, the CIR leaky bucket manages the policer's committed rate and committed burst size. The third leaky bucket is used by the policer control policy instance to manage the child policer's fair rate (FIR). When multiple child policers are attached to the root arbiter at the same priority level, the policy instance uses each child's FIR bucket rate to control how much of the traffic forwarded by the policer is fair and how much is unfair.

In the simplest case where all the child policers in the same priority level are directly attached to the root arbiter, each child's FIR rate is set according to the child's weight divided by the sum of the active children's weights multiplied by the available bandwidth at the priority level. The result is that the FIR bucket will mark the appropriate amount of traffic for each child as fair-based on the weighted fair output of the policy instance.

The fair/unfair forwarding control in the root parent policer is accomplished by implementing two different discard thresholds for the priority. The first threshold is discard-unfair and the second is discard-all for packet associated with the priority level. As the parent policer PIR bucket fills (due the aggregate forwarded rate being greater than the parent policers PIR decrement rate) and the bucket depth reaches the first threshold, all unfair packets within the priority are discarded. This leaves room in the bucket for the fair packets to be forwarded.

In the more complex case where one or more tiered arbiters are attached at the priority level, the policer control policy instance must consider more than just the child policer weights associated with the attached arbiter. If the arbiter is configured with an aggregate rate limit that its children cannot exceed, the policer control policy instance will switch to calculating the rate each child serviced by the arbiter should receive and enforces that rate using each child policers PIR leaky bucket.

When the child policer PIR leaky bucket is used to limit the bandwidth for the child policer and the child's PIR bucket discard threshold is reached, packets associated with the child policer are discarded. The child policer's discarded packets do not consume depth in the child policer's CIR or FIR buckets. The child policers discarded packets are also prevented from impacting the parent policer and will not consume the aggregate bandwidth managed by the parent policer.

Parent Policer Priority Level Thresholds

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As stated above, each child policer is attached either to the root arbiter or explicitly to one of the tier 1 or tier 2 arbiters. When attached directly to the root arbiter, its priority relative to all other child policers is indicated by the parenting level parameter. When attached through one of the tiered arbiters, the parenting hierarchy of the arbiters must be traced through to the ultimate attachment to the root arbiter. The parenting level parameter of the arbiter parented to the root arbiter defines the child policer's priority level within the parent policer.

The priority level is important since it defines the parent policer discard thresholds that will be applied at the parent policer. The parent policer has 8 levels of strict priority and each priority level has its own discard-unfair and discard-all thresholds. Each priority's thresholds are larger than the thresholds of the lower priority levels. This ensures that when the parent policer is discarding, it will be priority sensitive.

To visualize the behavior of the parent policer, picture that when the aggregate forwarding rate of all child policers is currently above the decrement rate of the parent PIR leaky bucket, the bucket depth will increase over time. As the bucket depth increases, it will eventually cross the lowest priority's discard-unfair threshold. If this amount of discard sufficiently lowers the remaining aggregate child policer rate, the parent PIR bucket will hover around this bucket depth. If however, the remaining aggregate child rate is still greater than the decrement rate, the bucket will continue to rise and eventually reach the lowest priority's discard-all threshold which will cause all packets associated with the priority level to be discarded (fair and unfair). Again, if the remaining aggregate child rate is less than or equal to the bucket decrement rate, the parent PIR bucket will hover around this higher bucket depth. If the remaining aggregate child rate is still higher than the decrement rate, the bucket will continue to rise through the remaining priority level discards until equilibrium is achieved.

As noted above, each child's rate feeding into the parent policer is governed by the child policer's PIR bucket decrement rate. The amount of bandwidth the child policer offers to the parent policer will not exceed the child policer's configured maximum rate.

Root Arbiter's Parent Policer's Priority Aggregate Thresholds

Each policer-control-policy root arbiter supports configurable aggregate priority thresholds which are used to control burst tolerance within each priority level. Two values are maintained per priority level; the shared-portion and the fair-portion. The shared-portion represents the amount of parent PIR bucket depth that is allowed to be consumed by both fair and unfair child packets at the priority level. The fair-portion represents the amount of parent PIR bucket depth that only the fair child policer packets may consume within the priority level. It should be noted that the fair and unfair child packets associated with a higher parent policer priority level may also consume the bucket depth set aside for this priority.

While the policy maintains a parent policer default or explicit configurable values for shared-portion and fair-portion within each priority level, it is possible that some priority levels will not be used within the parent policer. Most parent policer use cases require fewer than eight strict priority levels.

To derive the actual priority level discard-unfair and discard-all thresholds while only accounting for the actual in-use priority levels, the system maintains a child policer to parent policer association counter per priority level for each policer control policy instance. As a child policer is parented to either the root or a tiered arbiter, the system determines the parent policer priority level for the child policer and increments the association counter for that priority level on the parent policer instance.

The shared-portion for each priority level is affected by the parent policer global min-thresh-separation parameter that defines the minimum separation between any in-use discard thresholds. When more than one child policer is associated with a parent policer priority level, the shared-portion for that priority level will be the current value of min-thresh-separation. When only a single child policer is associated, the priority level's shared-portion is zero since all packets from the child will be marked fair and the discard-unfair threshold is meaningless. When the association counter is zero, both the shared-portion and the fair-portion for that priority level are zero since neither discard thresholds will be used. Whenever the

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association counter is greater than 0, the fair-portion for that priority level will be derived from the current value of the priority's mbs-contribution parameter and the global min-thresh-separation parameter.

Each priority level's discard-unfair and discard-all thresholds are calculated based on an accumulation of lower priorities shared-portions and fair-portions and the priority level's own shared-portion and fair-portion. The base threshold value for each priority level is equal to the sum of all lower priority level's shared-portions and fair-portions. The discard-unfair threshold is the priority level's base threshold plus the priority level's shared-portion. The discard-all threshold for the priority level is the priority level's base threshold plus both the shared-portion and fair-portion values of the priority. As can be seen, an in-use priority level's thresholds are always greater than the thresholds of lower priority levels.

Policer Control Policy Application

A policer-control-policy may be applied on any Ethernet ingress or egress SAP that is associated with a port (or ports in the case of LAG).

The **no** form of this command removes a non-associated policer control policy from the system. The command will not execute when policer-name is currently associated with any SAP or subscriber management sub-profile context.

Parameters

policy-name

Specifies the policy name. Each policer-control-policy must be created with a unique policy name. The name must be given as policy-name must adhere to the system policy ASCII naming requirements. If the defined policy-name already exists, the system will enter that policy's context for editing purposes. If policy-name does not exist, the system will attempt to create a policy with the specified name. Creating a policy may require use of the create parameter when the system is configured for explicit object creation mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

Context

[Tree] (config>service>vprn>if>sap>ingress policer-control-policy)

[Tree] (config>service>vprn>if>sap>egress policer-control-policy)

Full Context

configure service vprn interface sap ingress policer-control-policy

configure service vprn interface sap egress policer-control-policy

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Description

This command, within the qos CLI node, is used to create, delete or modify policer control policies. A policer control policy is very similar to the scheduler-policy which is used to manage a set of queues by defining a hierarchy of virtual schedulers and specifying how the virtual schedulers interact to provide an aggregate SLA. In a similar fashion, the policer-control-policy controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs. The policy may also be applied to the ingress or egress context of a sub-profile.

Policer Control Policy Instances

On the SAP side, an instance of a policy is created each time a policy is applied. When applied to a sub-profile, an instance of the policy is created each time a subscriber successfully maps one or more hosts to the profile per ingress SAP.

Each instance of the policer-control-policy manages the policers associated with the object that owns the policy instance (SAP or subscriber). If a policer on the object is parented to an appropriate arbiter name that exists within the policy, the policer will be managed by the instance. If a policer is not parented or is parented to a non-existent arbiter, the policer will be orphaned and will not be subject to bandwidth control by the policy instance.

Maximum Rate and Root Arbiter

The policer-control-policy supports an overall maximum rate (max-rate) that defines the total amount of bandwidth that may be distributed to all associated child policers. By default, that rate is set to max which provides an unlimited amount of bandwidth to the policers. Once the policy is created, an actual rate should be configured in order for the policy instances to be effective. At the SAP level, the maximum rate may be overridden on a per instance basis. For subscribers, the maximum rate may only be overridden on the subscriber profile which will then be applied to all instances associated with the profile.

The maximum rate is defined within the context of the root arbiter which is always present in a policer-control-policy. The system creates a parent policer which polices the output of all child policers attached to the policy instance to the configured rate. Child policers may be parented directly to the root arbiter (parent root) or parented to one of the tiered arbiters (parent arbiter-name). Since each tiered arbiter must be parented to either another tiered arbiter or the root arbiter (default), every parented child policer is associated with the root arbiter and therefore the root arbiter's parent policer.

Parent Policer PIR Leaky Bucket Operation

The parent policer is a single leaky bucket that monitors the aggregate throughput rate of the associated child policers. Forwarded packets increment the bucket by the size of each packet. The rate of the parent policer is implemented as a bucket decrement function which attempts to drain the bucket. If the rate of the packets flowing through the bucket is less than the decrement rate, the bucket does not accumulate depth. Each packet that flows through the bucket is accompanied by a derived discard threshold. If the current depth of the bucket is less than the discard threshold, the packet is allowed to pass through, retaining the colors derived from the packet's child policer. If the current depth is equal to or greater than the threshold value, the packet is colored red and the bucket depth is not incremented by the packet size. Also, any increased bucket depths in the child policer are canceled making any discard event an atomic function between the child and the parent.

Due to the fact that multiple thresholds are supported by the parent policer, the policer control policy is able to protect the throughput of higher priority child policers from the throughput of the lower priority child policers within the aggregate rate.

Tier 1 and Tier 2 Arbiters

As stated above, each child is attached either to the always available root arbiter or to an explicitly created tier 1 or tier 2 arbiter. Unlike the hardware parent policer based root arbiter, the arbiters at tier 1 and tier 2

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are only represented in software and are meant to provide an arbitrary hierarchical bandwidth distribution capability. An arbiter created on tier 2 must parent to either to an arbiter on tier 1 or to the root arbiter. Arbiters created on tier 1 always parent to the root arbiter. In this manner, every arbiter ultimately is parented or grand-parented by the root arbiter.

Each tiered arbiter supports an optional rate parameter that defines a rate limit for all child arbiters or child policers associated with the arbiter. Child arbiters and policers attached to the arbiter have a level attribute that defines the strict level at which the child is given bandwidth by the arbiter. Level 8 is the highest and 1 is the lowest. Also a weight attribute defines each child's weight at that strict level in order to determine how bandwidth is distributed to multiple children at that level when insufficient bandwidth is available to meet each child's required bandwidth.

Fair and Unfair Bandwidth Control

Each child policer supports three leaky buckets. The PIR bucket manages the policer's peak rate and maximum burst size, the CIR leaky bucket manages the policer's committed rate and committed burst size. The third leaky bucket is used by the policer control policy instance to manage the child policer's fair rate (FIR). When multiple child policers are attached to the root arbiter at the same priority level, the policy instance uses each child's FIR bucket rate to control how much of the traffic forwarded by the policer is fair and how much is unfair.

In the simplest case where all the child policers in the same priority level are directly attached to the root arbiter, each child's FIR rate is set according to the child's weight divided by the sum of the active children's weights multiplied by the available bandwidth at the priority level. The result is that the FIR bucket will mark the appropriate amount of traffic for each child as fair-based on the weighted fair output of the policy instance.

The fair/unfair forwarding control in the root parent policer is accomplished by implementing two different discard thresholds for the priority. The first threshold is discard-unfair and the second is discard-all for packet associated with the priority level. As the parent policer PIR bucket fills (due the aggregate forwarded rate being greater than the parent policers PIR decrement rate) and the bucket depth reaches the first threshold, all unfair packets within the priority are discarded. This leaves room in the bucket for the fair packets to be forwarded.

In the more complex case where one or more tiered arbiters are attached at the priority level, the policer control policy instance must consider more than just the child policer weights associated with the attached arbiter. If the arbiter is configured with an aggregate rate limit that its children cannot exceed, the policer control policy instance will switch to calculating the rate each child serviced by the arbiter should receive and enforces that rate using each child policers PIR leaky bucket.

When the child policer PIR leaky bucket is used to limit the bandwidth for the child policer and the child's PIR bucket discard threshold is reached, packets associated with the child policer are discarded. The child policer's discarded packets do not consume depth in the child policer's CIR or FIR buckets. The child policers discarded packets are also prevented from impacting the parent policer and will not consume the aggregate bandwidth managed by the parent policer.

Parent Policer Priority Level Thresholds

As stated above, each child policer is attached either to the root arbiter or explicitly to one of the tier 1 or tier 2 arbiters. When attached directly to the root arbiter, its priority relative to all other child policers is indicated by the parenting level parameter. When attached through one of the tiered arbiters, the parenting hierarchy of the arbiters must be traced through to the ultimate attachment to the root arbiter. The parenting level parameter of the arbiter parented to the root arbiter defines the child policer's priority level within the parent policer.

The priority level is important since it defines the parent policer discard thresholds that will be applied at the parent policer. The parent policer has 8 levels of strict priority and each priority level has its own discard-

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unfair and discard-all thresholds. Each priority's thresholds are larger than the thresholds of the lower priority levels. This ensures that when the parent policer is discarding, it will be priority sensitive.

To visualize the behavior of the parent policer, picture that when the aggregate forwarding rate of all child policers is currently above the decrement rate of the parent PIR leaky bucket, the bucket depth will increase over time. As the bucket depth increases, it will eventually cross the lowest priority's discard-unfair threshold. If this amount of discard sufficiently lowers the remaining aggregate child policer rate, the parent PIR bucket will hover around this bucket depth. If however, the remaining aggregate child rate is still greater than the decrement rate, the bucket will continue to rise and eventually reach the lowest priority's discard-all threshold which will cause all packets associated with the priority level to be discarded (fair and unfair). Again, if the remaining aggregate child rate is less than or equal to the bucket decrement rate, the parent PIR bucket will hover around this higher bucket depth. If the remaining aggregate child rate is still higher than the decrement rate, the bucket will continue to rise through the remaining priority level discards until equilibrium is achieved.

As noted above, each child's rate feeding into the parent policer is governed by the child policer's PIR bucket decrement rate. The amount of bandwidth the child policer offers to the parent policer will not exceed the child policer's configured maximum rate.

Root Arbiter's Parent Policer's Priority Aggregate Thresholds

Each policer-control-policy root arbiter supports configurable aggregate priority thresholds which are used to control burst tolerance within each priority level. Two values are maintained per priority level; the shared-portion and the fair-portion. The shared-portion represents the amount of parent PIR bucket depth that is allowed to be consumed by both fair and unfair child packets at the priority level. The fair-portion represents the amount of parent PIR bucket depth that only the fair child policer packets may consume within the priority level. It should be noted that the fair and unfair child packets associated with a higher parent policer priority level may also consume the bucket depth set aside for this priority.

While the policy maintains a parent policer default or explicit configurable values for shared-portion and fair-portion within each priority level, it is possible that some priority levels will not be used within the parent policer. Most parent policer use cases require fewer than eight strict priority levels.

To derive the actual priority level discard-unfair and discard-all thresholds while only accounting for the actual in-use priority levels, the system maintains a child policer to parent policer association counter per priority level for each policer control policy instance. As a child policer is parented to either the root or a tiered arbiter, the system determines the parent policer priority level for the child policer and increments the association counter for that priority level on the parent policer instance.

The shared-portion for each priority level is affected by the parent policer global min-thresh-separation parameter that defines the minimum separation between any in-use discard thresholds. When more than one child policer is associated with a parent policer priority level, the shared-portion for that priority level will be the current value of min-thresh-separation. When only a single child policer is associated, the priority level's shared-portion is zero since all packets from the child will be marked fair and the discard-unfair threshold is meaningless. When the association counter is zero, both the shared-portion and the fair-portion for that priority level are zero since neither discard thresholds will be used. Whenever the association counter is greater than 0, the fair-portion for that priority level will be derived from the current value of the priority's mbs-contribution parameter and the global min-thresh-separation parameter.

Each priority level's discard-unfair and discard-all thresholds are calculated based on an accumulation of lower priorities shared-portions and fair-portions and the priority level's own shared-portion and fair-portion. The base threshold value for each priority level is equal to the sum of all lower priority level's shared-portions and fair-portions. The discard-unfair threshold is the priority level's base threshold plus the priority level's shared-portion. The discard-all threshold for the priority level is the priority level's base threshold plus both the shared-portion and fair-portion values of the priority. As can be seen, an in-use priority level's thresholds are always greater than the thresholds of lower priority levels.

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Policer Control Policy Application

A policer-control-policy may be applied on any Ethernet ingress or egress SAP that is associated with a port (or ports in the case of LAG).

The **no** form of this command removes a non-associated policer control policy from the system. The command will not execute when policer-name is currently associated with any SAP or subscriber management sub-profile context.

Parameters

policy-name

Specifies the policy name. Each policer-control-policy must be created with a unique policy name. The name must be given as policy-name must adhere to the system policy ASCII naming requirements. If the defined policy-name already exists, the system will enter that policy's context for editing purposes. If policy-name does not exist, the system will attempt to create a policy with the specified name. Creating a policy may require use of the create parameter when the system is configured for explicit object creation mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-policy

Syntax

policer-control-policy *policy-name* [**create**]

no policer-control-policy *policy-name*

Context

[Tree] (config>qos policer-control-policy)

Full Context

configure qos policer-control-policy

Description

This command is used to create, delete, or modify policer control policies. The **policer-control-policy** controls the aggregate bandwidth available to a set of child policers. When created, the policy can be applied to ingress or egress SAPs. The policy can also be applied to the ingress or egress context of a sub-profile.

Parameters

policy-name

Each policer-control-policy must be created with a unique policy name. The *policy-name* must adhere to the system policy ASCII naming requirements. If the defined policy-name already exists, the system enters that policy's context for editing purposes. If policy-name does not exist, the system attempts to create a policy with the specified name. Creating a

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policy may require use of the create parameter when the system is configured for explicit object creation mode.

create

The **create** keyword is required when a new policy is being created and the system is configured for explicit object creation mode.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-control-policy

Syntax

policer-control-policy *policy-name*

no policer-control-policy

Context

[Tree] (config>service>cust>multi-service-site>ingress policer-control-policy)

[Tree] (config>service>cust>multi-service-site>egress policer-control-policy)

Full Context

configure service customer multi-service-site ingress policer-control-policy

configure service customer multi-service-site egress policer-control-policy

Description

This command, within the QoS CLI node, is used to create, delete or modify policer control policies. A policer control policy is very similar to the scheduler-policy which is used to manage a set of queues by defining a hierarchy of virtual schedulers and specifying how the virtual schedulers interact to provide an aggregate SLA. In a similar fashion, the policer-control-policy controls the aggregate bandwidth available to a set of child policers. Once created, the policy can be applied to ingress or egress SAPs.

Policer Control Policy Instances

On the SAP side, an instance of a policy is created each time a policy is applied. When applied to a 7750 SR or 7450 ESS sub-profile, an instance of the policy is created each time a subscriber successfully maps one or more hosts to the profile per ingress SAP.

Each instance of the policer-control-policy manages the policers associated with the object that owns the policy instance (SAP or subscriber). If a policer on the object is parented to an appropriate arbiter name that exists within the policy, the policer will be managed by the instance. If a policer is not parented or is parented to a non-existent arbiter, the policer will be orphaned and not subject to bandwidth control by the policy instance.

Maximum Rate and Root Arbiter

The policer-control-policy supports an overall maximum rate (max-rate) that defines the total amount of bandwidth that may be distributed to all associated child policers. By default, that rate is set to max which provides an unlimited amount of bandwidth to the policers. Once the policy is created, an actual rate should be configured in order for the policy instances to be effective. At the SAP level, the maximum rate

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may be overridden on a per instance basis. For 7750 SR or 7450 ESS subscribers, the maximum rate may only be overridden on the subscriber profile which will then be applied to all instances associated with the profile.

The maximum rate is defined within the context of the root arbiter which is always present in a policer-control-policy. The system creates a parent policer which polices the output of all child policers attached to the policy instance to the configured rate. Child policers may be parented directly to the root arbiter (parent root) or parented to one of the tiered arbiters (parent arbiter-name). Since each tiered arbiter must be parented to either another tiered arbiter or the root arbiter (default), every parented child policer is associated with the root arbiter and thus the root arbiter's parent policer.

Parent Policer PIR Leaky Bucket Operation

The parent policer is a single leaky bucket that monitors the aggregate throughput rate of the associated child policers. Forwarded packets increment the bucket by the size of each packet. The rate of the parent policer is implemented as a bucket decrement function which attempts to drain the bucket. If the rate of the packets flowing through the bucket is less than the decrement rate, the bucket does not accumulate depth. Each packet that flows through the bucket is accompanied by a derived discard threshold. If the current depth of the bucket is less than the discard threshold, the packet is allowed to pass through, retaining the colors derived from the packet's child policer. If the current depth is equal to or greater than the threshold value, the packet is colored red and the bucket depth is not incremented by the packet size. Also, any increased bucket depths in the child policer are canceled making any discard event an atomic function between the child and the parent.

Due to the fact that multiple thresholds are supported by the parent policer, the policer control policy is able to protect the throughput of higher priority child policers from the throughput of the lower priority child policers within the aggregate rate.

Tier 1 and Tier 2 Arbiters

As stated above, each child is attached either to the always available root arbiter or to an explicitly created tier 1 or tier 2 arbiter. Unlike the hardware parent policer based root arbiter, the arbiters at tier 1 and tier 2 are only represented in software and are meant to provide an arbitrary hierarchical bandwidth distribution capability. An arbiter created on tier 2 must parent to either to an arbiter on tier 1 or to the root arbiter. Arbiters created on tier 1 always parent to the root arbiter. In this manner, every arbiter ultimately is parented or grand-parented by the root arbiter.

Each tiered arbiter supports an optional rate parameter that defines a rate limit for all child arbiters or child policers associated with the arbiter. Child arbiters and policers attached to the arbiter have a level attribute that defines the strict level at which the child is given bandwidth by the arbiter. Level 8 is the highest and 1 is the lowest. Also a weight attribute defines each child's weight at that strict level in order to determine how bandwidth is distributed to multiple children at that level when insufficient bandwidth is available to meet each child's required bandwidth.

Fair and Unfair Bandwidth Control

Each child policer supports three leaky buckets. The PIR bucket manages the policer's peak rate and maximum burst size, the CIR leaky bucket manages the policer's committed rate and committed burst size. The third leaky bucket is used by the policer control policy instance to manage the child policer's fair rate (FIR). When multiple child policers are attached to the root arbiter at the same priority level, the policy instance uses each child's FIR bucket rate to control how much of the traffic forwarded by the policer is fair and how much is unfair.

In the simplest case where all the child policers in the same priority level are directly attached to the root arbiter, each child's FIR rate is set according to the child's weight divided by the sum of the active children's weights multiplied by the available bandwidth at the priority level. The result is that the FIR

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bucket will mark the appropriate amount of traffic for each child as fair based on the weighted fair output of the policy instance.

The fair/unfair forwarding control in the root parent policer is accomplished by implementing two different discard thresholds for the priority. The first threshold is discard-unfair and the second is discard-all for packet associated with the priority level. As the parent policer PIR bucket fills (due the aggregate forwarded rate being greater than the parent policers PIR decrement rate) and the bucket depth reaches the first threshold, all unfair packets within the priority are discarded. This leaves room in the bucket for the fair packets to be forwarded.

In the more complex case where one or more tiered arbiters are attached at the priority level, the policer control policy instance must consider more than just the child policer weights associated with the attached arbiter. If the arbiter is configured with an aggregate rate limit that its children cannot exceed, the policer control policy instance will switch to calculating the rate each child serviced by the arbiter should receive and enforces that rate using each child policers PIR leaky bucket.

When the child policer PIR leaky bucket is used to limit the bandwidth for the child policer and the child's PIR bucket discard threshold is reached, packets associated with the child policer are discarded. The child policer's discarded packets do not consume depth in the child policer's CIR or FIR buckets. The child policers discarded packets are also prevented from impacting the parent policer and will not consume the aggregate bandwidth managed by the parent policer.

Parent Policer Priority Level Thresholds

As stated above, each child policer is attached either to the root arbiter or explicitly to one of the tier 1 or tier 2 arbiters. When attached directly to the root arbiter, its priority relative to all other child policers is indicated by the parenting level parameter. When attached through one of the tiered arbiters, the parenting hierarchy of the arbiters must be traced through to the ultimate attachment to the root arbiter. The parenting level parameter of the arbiter parented to the root arbiter defines the child policer's priority level within the parent policer.

The priority level is important since it defines the parent policer discard thresholds that will be applied at the parent policer. The parent policer has 8 levels of strict priority and each priority level has its own discard-unfair and discard-all thresholds. Each priority's thresholds are larger than the thresholds of the lower priority levels. This ensures that when the parent policer is discarding, it will be priority sensitive.

To visualize the behavior of the parent policer, picture that when the aggregate forwarding rate of all child policers is currently above the decrement rate of the parent PIR leaky bucket, the bucket depth will increase over time. As the bucket depth increases, it will eventually cross the lowest priority's discard-unfair threshold. If this amount of discard sufficiently lowers the remaining aggregate child policer rate, the parent PIR bucket will hover around this bucket depth. If however, the remaining aggregate child rate is still greater than the decrement rate, the bucket will continue to rise and eventually reach the lowest priority's discard-all threshold which will cause all packets associated with the priority level to be discarded (fair and unfair). Again, if the remaining aggregate child rate is less than or equal to the bucket decrement rate, the parent PIR bucket will hover around this higher bucket depth. If the remaining aggregate child rate is still higher than the decrement rate, the bucket will continue to rise through the remaining priority level discards until equilibrium is achieved.

As noted above, each child's rate feeding into the parent policer is governed by the child policer's PIR bucket decrement rate. The amount of bandwidth the child policer offers to the parent policer will not exceed the child policer's configured maximum rate.

Root Arbiter's Parent Policer's Priority Aggregate Thresholds

Each policer-control-policy root arbiter supports configurable aggregate priority thresholds which are used to control burst tolerance within each priority level. Two values are maintained per priority level; the shared-portion and the fair-portion. The shared-portion represents the amount of parent PIR bucket depth

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that is allowed to be consumed by both fair and unfair child packets at the priority level. The fair-portion represents the amount of parent PIR bucket depth that only the fair child policer packets may consume within the priority level. It should be noted that the fair and unfair child packets associated with a higher parent policer priority level may also consume the bucket depth set aside for this priority.

While the policy maintains a parent policer default or explicit configurable values for shared-portion and fair-portion within each priority level, it is possible that some priority levels will not be used within the parent policer. Most parent policer use cases require fewer than eight strict priority levels.

In order to derive the actual priority level discard-unfair and discard-all thresholds while only accounting for the actual in-use priority levels, the system maintains a child policer to parent policer association counter per priority level for each policer control policy instance. As a child policer is parented to either the root or a tiered arbiter, the system determines the parent policer priority level for the child policer and increments the association counter for that priority level on the parent policer instance.

The shared-portion for each priority level is affected by the parent policer global min-thresh-separation parameter that defines the minimum separation between any in-use discard thresholds. When more than one child policer is associated with a parent policer priority level, the shared-portion for that priority level will be the current value of min-thresh-separation. When only a single child policer is associated, the priority level's shared-portion is zero since all packets from the child will be marked fair and the discard-unfair threshold is meaningless. When the association counter is zero, both the shared-portion and the fair-portion for that priority level are zero since neither discard thresholds will be used. Whenever the association counter is greater than 0, the fair-portion for that priority level will be derived from the current value of the priority's mbs-contribution parameter and the global min-thresh-separation parameter.

Each priority level's discard-unfair and discard-all thresholds are calculated based on an accumulation of lower priorities shared-portions and fair-portions and the priority level's own shared-portion and fair-portion. The base threshold value for each priority level is equal to the sum of all lower priority level's shared-portions and fair-portions. The discard-unfair threshold is the priority level's base threshold plus the priority level's shared-portion. The discard-all threshold for the priority level is the priority level's base threshold plus both the shared-portion and fair-portion values of the priority. As can be seen, an in-use priority level's thresholds are always greater than the thresholds of lower priority levels.

Policer Control Policy Application

A policer-control-policy may be applied on any Ethernet ingress or egress SAP that is associated with a port (or ports in the case of LAG).

The **no** form of the command removes a non-associated policer control policy from the system. The command will not execute when policer-name is currently associated with any SAP context.

Parameters

policy-name

Specifies the policy name up to 32 characters in length. Each policer-control-policy must be created with a unique policy name. The name must adhere to the system policy ASCII naming requirements. If the defined policy name already exists, the system will enter that policy's context for editing purposes. If policy name does not exist, the system will attempt to create a policy with the specified name.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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policer-control-policy

Syntax

policer-control-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy policer-control-policy)

Full Context

configure qos copy policer-control-policy

Description

This command copies an existing **policer-control-policy** to another **policer-control-policy**. The **copy** command is a configuration level maintenance tool used to create new entries using an existing profile ID. If **overwrite** is not specified, an error occurs if the destination policy exists.

Parameters

src-name

Specifies the existing source **policer-control-policy**, up to 32 characters, from which the **copy** command attempts to copy.

dst-name

Specifies the destination **policer-control-policy** *dst-name*, up to 32 characters, to which the copy command attempts to copy.

overwrite

Use this parameter when the **policer-control-policy** *dst-name* already exists. If it does, everything in the existing destination **policer-control-policy** *dst-name* is completely overwritten with the contents of the **policer-control-policy** *src-name*. The **overwrite** parameter must be specified or else the following error message is returned:

```
MINOR: CLI Destination "pcp-name2" exists - use {overwrite}.
```

If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make” manner and therefore should be handled with care.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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34.85 policer-override

policer-override

Syntax

[**no**] **policer-override**

Context

[Tree] (config>card>fp>ingress>network>queue-group policer-override)

[Tree] (config>card>fp>ingress>access>queue-group policer-override)

Full Context

configure card fp ingress network queue-group policer-override

configure card fp ingress access queue-group policer-override

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to one or more policers created on the SAP through the sap-ingress or sap-egress QoS policies.

The **no** form of this command removes any existing policer overrides.

Default

no policer-override

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-override

Syntax

[**no**] **policer-override**

Context

[Tree] (config>service>ipipe>sap>egress policer-override)

[Tree] (config>service>epipe>sap>egress policer-override)

[Tree] (config>service>cpipe>sap>egress policer-override)

[Tree] (config>service>cpipe>sap>ingress policer-override)

[Tree] (config>service>ipipe>sap>ingress policer-override)

[Tree] (config>service>epipe>sap>ingress policer-override)

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Full Context

configure service ipipe sap egress policer-override

configure service epipe sap egress policer-override

configure service cpipe sap egress policer-override

configure service cpipe sap ingress policer-override

configure service ipipe sap ingress policer-override

configure service epipe sap ingress policer-override

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to one or more policers created on the SAP through the sap-ingress or sap-egress QoS policies.

The **no** form of this command is used to remove any existing policer overrides.

Default

no policer-overrides

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe sap egress policer-override
- configure service epipe sap ingress policer-override
- configure service ipipe sap ingress policer-override
- configure service ipipe sap egress policer-override

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override
- configure service cpipe sap ingress policer-override

policer-override

Syntax

[**no**] **policer-override**

Context

[Tree] (config>service>vpls>sap>egress policer-override)

[Tree] (config>service>vpls>sap>ingress policer-override)

Full Context

configure service vpls sap egress policer-override

configure service vpls sap ingress policer-override

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Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to one or more policers created on the SAP through the sap-ingress or sap-egress QoS policies.

The **no** form of this command is used to remove any existing policer overrides.

Default

no policer-overrides

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-override

Syntax

[**no**] **policer-override**

Context

[Tree] (config>service>ies>if>sap>egress policer-override)

[Tree] (config>service>ies>if>sap>ingress policer-override)

Full Context

configure service ies interface sap egress policer-override

configure service ies interface sap ingress policer-override

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to one or more policers created on the SAP through the sap-ingress or sap-egress QoS policies.

The **no** form of this command is used to remove any existing policer overrides.

Default

no policer-override

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

policer-override

Syntax

[**no**] **policer-override**

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Context

[Tree] (config>service>vprn>if>sap>ingress policer-override)

[Tree] (config>service>vprn>if>sap>egress policer-override)

Full Context

configure service vprn interface sap ingress policer-override

configure service vprn interface sap egress policer-override

Description

This command, within the SAP ingress or egress contexts, is used to create a CLI node for specific overrides to one or more policers created on the SAP through the sap-ingress or sap-egress QoS policies.

The **no** form of this command is used to remove any existing policer overrides.

Default

no policer-override

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

34.86 policer-stats

policer-stats

Syntax

[**no**] **policer-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny policer-stats)

Full Context

configure application-assurance group statistics aa-admit-deny policer-stats

Description

This command configures whether to include or exclude system and subscriber-level flow count and flow-setup rate policer admit-deny statistics in accounting records.

Default

no policer-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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34.87 policer-stats-resources

policer-stats-resources

Syntax

[**no**] **policer-stats-resources**

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny policer-stats-resources)

Full Context

configure application-assurance group statistics aa-admit-deny policer-stats-resources

Description

This command allows the operator to allocate or deallocate AA partition resources for policer admit-deny statistics.

Default

no policer-stats-resources

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.88 policers

policers

Syntax

policers *policy-limit*

no policers

Context

[Tree] (config>card>fp>ingress>policy-accounting policers)

Full Context

configure card fp ingress policy-accounting policers

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Description

This command configures the number of policer resources for an policy accounting. Policy accounting can be used to collect statistics about the amount of traffic matching particular routes and, on FP4 cards and systems only, it can also be used to police traffic associated with certain routes as destinations of the traffic.

Using only statistics (policing is not performed) requires the reservation of policer statistics index resources on each FP receiving the traffic to be counted. Every **policy-accounting** interface on a card or FP uses one of these resources for every source and destination class index listed in the template referenced by the interface. The total reservation at the FP level is set using the **configure card** *slot-number* **fp** *fp-number* **policy-accounting** command.

Using FP4 policing requires the above resource, and in addition, policer index resources. Every **policy-accounting** interface on a card or FP uses one of these resources for every destination class associated with a policer in the template referenced by the interface. The total reservation of this second resource at the FP level is set using the **configure card** *slot-number* **fp** *fp-number* **ingress policy-accounting policers** command.

The total number of the above resources, per FP, must be less than or equal to 128000. In addition, the second resource pool size must be less than or equal to the size of the first resource pool.

It is possible to increase or decrease the size of either resource sub pool at any time. A decrease can cause some interfaces (randomly selected) to immediately lose their resources and stop counting or policing some traffic that was previously being counted or policed.

If the policy accounting is enabled on a spoke SDP or R-VPLS interface all FPs in the system should have a reservation for each of the above resources, otherwise the **show router interface policy-accounting** command output reports that statistics are possibly incomplete.

Default

no policers

Parameters

policy-limit

Specifies the number of policer resources for policy accounting.

Values 1 to 64000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

policers

Syntax

policers [**all-dynamic** | **all-static**]

Context

[Tree] (config>subscr-mgmt>sla-prof>aggregate-qos-stats>egress policers)

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Full Context

configure subscriber-mgmt sla-profile aggregate-qos-stats egress policers

Description

This command configures which types of policers are used to calculate the total egress aggregate statistics. This can include all static policers that are configured in a QoS SAP-egress policy, or all dynamic policers that are created on demand, according to the session needs.

Default

policers all-static

Parameters

all-dynamic

Keyword that specifies to select all dynamic policers for aggregate QoS egress statistics calculation.

all-static

Keyword that specifies to select all static policers for aggregate QoS egress statistics calculation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

policers

Syntax

[**no**] **policers**

Context

[Tree] (config>subscr-mgmt>sla-prof>csg>egress policers)

Full Context

configure subscriber-mgmt sla-profile custom-statistics-group egress policers

Description

Commands in this context configure policers for the aggregate custom statistics group.

The **no** form of this command disables custom statistics collection for all dynamic and static policers for the group.

Default

no policers

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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policers

Syntax

policers

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress policers)

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress policers)

Full Context

configure subscriber-mgmt idle-timeout-policy egress policers

configure subscriber-mgmt idle-timeout-policy ingress policers

Description

Commands in this context configure egress or ingress policers for the idle timeout policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.89 policers-hqos-manageable

policers-hqos-manageable

Syntax

[**no**] **policers-hqos-manageable**

Context

[Tree] (config>qos>sap-egress policers-hqos-manageable)

Full Context

configure qos sap-egress policers-hqos-manageable

Description

This command enables Hierarchical QoS (HQoS) management of the policiers within the SAP egress policy, when the policy is applied to either the egress SAP configuration or the egress SLA profile, with multiservice sites (MSS) supported for SAPs. When enabled, the system can manage egress policers and queues together in the same HQoS hierarchy.

To be managed by HQoS, egress policers within a SAP egress QoS policy must be configured with either a **scheduler-parent** or **port-parent** command or be orphaned to an egress port scheduler applied on a Vport or port.

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The **policers-hqos-manageable** command and **parent-location sla** or policers with **enable-exceed-pir** or **stat-mode no-stats** within a SAP egress QoS policy are mutually exclusive.

To prevent HQoS from measuring the traffic through both a policer managed by HQoS, then again through a post-policer access egress queue group queue, configure post-policer access egress queue groups with **no queues-hqos-manageable** so their queues are not managed by HQoS.

A post-policer local queue is not supported with HQoS managed policers, nor are those mapped by the **use-fc-mapped-queue** parameter in a criteria action statement. The **policers-hqos-manageable** command is not supported for SAP egress dynamic policers or on a 7950 XRS.

The **no** form of this command rdisables HQoS management of policers within the SAP QoS egress policy.

Default

no policers-hqos-manageable

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-1s, 7750 SR-1se, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, VSR

policers-hqos-manageable

Syntax

[**no**] **policers-hqos-manageable**

Context

[Tree] (config>qos>sap-ingress policers-hqos-manageable)

Full Context

configure qos sap-ingress policers-hqos-manageable

Description

This command specifies that the policers within this SAP ingress policy are to be managed by the Hierarchical QoS (HQoS) process when the policy is applied to either the ingress part of a SAP configuration or the ingress part of an SLA profile, with multiservice sites (MSS) supported for SAPs. When enabled, ingress policers and queues can be managed together in the same HQoS hierarchy.

To be managed by HQoS, ingress policers within a SAP ingress QoS policy must be configured with either a **scheduler-parent** or **parent** command or be orphaned to an ingress port scheduler applied on a Vport or port. The **scheduler-parent** and **parent** commands are mutually exclusive.

The **policers-hqos-manageable** command and the **stat-mode no-stats** command within a SAP ingress QoS policy are mutually exclusive.

The **no** form of this command results in policers within this SAP QoS ingress policy being non-HQoS-manageable.

Default

no policers-hqos-manageable

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-1s, 7750 SR-1se, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s

34.90 policing

policing

Syntax
[**no**] **policing**

Context
[Tree] (config>test-oam>sath>svc-test>svc-stream>test-types policing)

Full Context
configure test-oam service-activation-testhead service-test service-stream test-types policing

Description
This command configures the policing test on the service stream.

The **no** form of this command removes the configured policing test.

Default
no policing

Platforms
7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

policing

Syntax
policing

Context
[Tree] (config>test-oam>service-activation-testhead>service-test>test-duration policing)

Full Context
configure test-oam service-activation-testhead service-test test-duration policing

Description
Commands in this context configure the duration for the policing test type.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

34.91 policy

policy

Syntax

policy *msap-policy-name*

no policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>msap-defaults policy)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>msap-defaults policy)

Full Context

configure subscriber-mgmt local-user-db ipoe host msap-defaults policy

configure subscriber-mgmt local-user-db ppp host msap-defaults policy

Description

This command configures the MSAP policy.

The **no** form of this command removes the MSAP policy name from the configuration.

Parameters

msap-policy-name

Specifies the policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

policy

Syntax

policy *ppp-policy-name*

no policy

Context

[Tree] (config>service>vprn>sub-if>grp-if>pppoe policy)

[Tree] (config>service>ies>sub-if>grp-if>pppoe policy)

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Full Context

configure service vprn subscriber-interface group-interface pppoe policy

configure service ies subscriber-interface group-interface pppoe policy

Description

This command specifies the PPPoE policy on this interface.

The **no** form of this command reverts to the default.

Default

policy "default”

Parameters

ppp-policy-name

Specifies the PPP policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

policy

Syntax

policy *policy-name*

no policy

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac policy)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac policy

Description

This command configures the multicast CAC policy name.

The **no** form of this command reverts to the default.

Parameters

policy-name

The multicast CAC policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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policy

Syntax

policy *name1* [*name2*] [*name3*] [*name4*] [*name5*]

no policy

Context

[Tree] (config>subscr-mgmt>sub-prof>rad-acct policy)

Full Context

configure subscriber-mgmt sub-profile radius-accounting policy

Description

This command specifies the RADIUS accounting policy for the subscriber that is using this subscriber profile. This command allows the configuration of up to five RADIUS accounting policies. The RADIUS accounting policies function according to their respective configuration, including the individual accounting mode, their own included attributes, and the update interval.

Parameters

name1

Specifies the name of the RADIUS accounting policy, up to 32 characters, to be used for the subscriber profile.

name2

Specifies the name of the second RADIUS accounting policy, up to 32 characters, to be used for the subscriber profile.

name3

Specifies the name of the third RADIUS accounting policy, up to 32 characters, to be used for the subscriber profile.

name4

Specifies the name of the fourth RADIUS accounting policy, up to 32 characters, to be used for the subscriber profile.

name5

Specifies the name of the fifth RADIUS accounting policy, up to 32 characters, to be used for the subscriber profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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policy

Syntax

policy *vrrp-policy-id*

no policy[*vrrp-policy-id*]

Context

[Tree] (config>service>ies>sub-if>grp-if>srrp policy)

[Tree] (config>service>vprn>sub-if>grp-if>srrp policy)

Full Context

configure service ies subscriber-interface group-interface srrp policy

configure service vprn subscriber-interface group-interface srrp policy

Description

This command associates one or more VRRP policies with the SRRP instance. A VRRP policy is a collection of connectivity and verification tests used to manipulate the in-use priorities of VRRP and SRRP instances. A VRRP policy can test the link state of ports, ping IP hosts, discover the existence of routes in the routing table or the ability to reach Layer 2 hosts. When one or more of these tests fail, the VRRP policy has the option of decrementing or setting an explicit value for the in-use priority of an SRRP instance.

More than one VRRP policy may be associated with an SRRP instance. When more than one VRRP policy is associated with an SRRP instance the delta decrement of the in-use priority is cumulative unless one or more test fail that have explicit priority values. When one or more explicit tests fail, the lowest priority value event takes effect for the SRRP instance. When the highest delta-in-use-limit is used to manage the lowest delta derived in-use priority for the SRRP instance.

VRRP policy associations may be added and removed at any time. A maximum of two VRRP policies can be associated with a single SRRP instance.

The **no** form of this command removes the association with the *vrrp-policy-id* from the SRRP instance.

Parameters

vrrp-policy-id

Specifies one or more VRRP policies with the SRRP instance.

Values 1 to 9999

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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policy

Syntax

[**no**] **policy** *policy-name*

Context

[Tree] (debug>diam>application policy)

Full Context

debug diameter application policy

Description

This command debugs Diameter applications for a particular application policy.

Parameters

policy-name

Specifies the policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

policy

Syntax

policy *msap-policy-name*

no policy

Context

[Tree] (config>service>vpls>sap>msap-defaults policy)

Full Context

configure service vpls sap msap-defaults policy

Description

This command sets default msap-policy for all subscribers created based on trigger packets received on the specified capture-sap in case the corresponding VSA is not included in the RADIUS authentication response. This command is applicable to capture SAP only.

Default

no policy

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Platforms

All

policy

Syntax

policy *policy-name*

no policy

Context

[Tree] (config>service>pw-template>igmp-snooping>mcac policy)

[Tree] (config>service>vpls>sap>igmp-snooping>mcac policy)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping>mcac policy)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping>mcac policy)

[Tree] (config>service>vpls>sap>mld-snooping>mcac policy)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping>mcac policy)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping>mcac policy)

Full Context

configure service pw-template igmp-snooping mcac policy

configure service vpls sap igmp-snooping mcac policy

configure service vpls spoke-sdp igmp-snooping mcac policy

configure service vpls mesh-sdp mld-snooping mcac policy

configure service vpls sap mld-snooping mcac policy

configure service vpls mesh-sdp igmp-snooping mcac policy

configure service vpls spoke-sdp mld-snooping mcac policy

Description

This command configures the multicast CAC policy name. MCAC policy is not supported with MLD-snooping, therefore executing the command in the mld-snooping contexts will return an error.

Parameters

policy-name

Specifies the multicast CAC policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

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policy

Syntax

policy *vrrp-policy-id*

no policy

Context

[Tree] (config>service>ies>if>ipv6>vrrp policy)

Full Context

configure service ies interface ipv6 vrrp policy

Description

This command creates VRRP control policies. The VRRP policy ID must be created by the policy command prior to association with the virtual router instance.

The policy command provides the ability to associate a VRRP priority control policy to a virtual router instance. The policy may be associated with more than one virtual router instance. The priority events within the policy either override or diminish the base-priority dynamically affecting the in-use priority. As priority events clear in the policy, the in-use priority may eventually be restored to the base-priority value.

The policy command is only available in the non-owner **vrrp** *virtual-router-id* nodal context. The priority of owner virtual router instances is permanently set to 255 and cannot be changed by VRRP priority control policies. For non-owner virtual router instances, if the policy command is not executed, the base-priority will be used as the in-use priority.

The **no** form of this command removes any existing VRRP priority control policy association from the virtual router instance. All such associations must be removed prior to the policy being deleted from the system.

Parameters

vrrp-policy-id

The vrrp-policy-id parameter associated the corresponding VRRP priority control policy-id with the virtual router instance. The vrrp-policy-id must already exist in the system for the policy command to be successful.

Values 1 to 9999

Platforms

All

policy

Syntax

policy *vrrp-policy-id*

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no policy

Context

[Tree] (config>service>ies>if>vrrp policy)

Full Context

configure service ies interface vrrp policy

Description

This command creates VRRP control policies. The VRRP policy ID must be created by the policy command prior to association with the virtual router instance.

The policy command provides the ability to associate a VRRP priority control policy to a virtual router instance. The policy may be associated with more than one virtual router instance. The priority events within the policy either override or diminish the base-priority dynamically affecting the in-use priority. As priority events clear in the policy, the in-use priority may eventually be restored to the base-priority value.

The policy command is only available in the non-owner **vrrp** *virtual-router-id* nodal context. The priority of owner virtual router instances is permanently set to 255 and cannot be changed by VRRP priority control policies. For non-owner virtual router instances, if the policy command is not executed, the base-priority will be used as the in-use priority.

The **no** form of this command removes any existing VRRP priority control policy association from the virtual router instance. All such associations must be removed prior to the policy being deleted from the system.

Parameters

vrrp-policy-id

The vrrp-policy-id parameter associated the corresponding VRRP priority control policy-id with the virtual router instance. The vrrp-policy-id must already exist in the system for the policy command to be successful.

Values 1 to 9999

Platforms

All

policy

Syntax

policy *policy-name*

no policy

Context

[Tree] (config>service>vprn>bgp>next-hop-res policy)

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Full Context

configure service vprn bgp next-hop-resolution policy

Description

This command specifies the name of a policy statement to use with the BGP next-hop resolution process. The policy controls which IP routes in RTM are eligible to resolve the BGP next-hop addresses of IPv4 and IPv6 routes. The policy has no effect on the resolution of BGP next-hops to MPLS tunnels. If a BGP next-hop of an IPv4 or IPv6 route R is resolved in RTM and the longest matching route for the next-hop address is an IP route N that is rejected by the policy then route R is unresolved; if the route N is accepted by the policy then it becomes the resolving route for R.

The default next-hop resolution policy (when the **no policy** command is configured) is to use the longest matching active route in RTM that is not a BGP route (unless **use-bgp-routes** is configured), an aggregate route or a subscriber management route.

Default

no policy

Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

policy

Syntax

policy *policy-name*

no policy

Context

[Tree] (config>service>vprn>pim>if>mcac policy)

[Tree] (config>service>vprn>igmp>if>mcac policy)

[Tree] (config>service>vprn>igmp>grp-if>mcac policy)

[Tree] (config>service>vprn>mld>grp-if>mcac policy)

Full Context

configure service vprn pim interface mcac policy

configure service vprn igmp interface mcac policy

configure service vprn igmp group-interface mcac policy

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configure service vprn mld group-interface mcac policy

Description

This command references the global channel bandwidth definition policy that is used for HMCAC and HQoS Adjust.

HQoS Adjustment is supported with redirection enabled or per-host-replication disabled. In other words, the policy from the redirected interface is used for HQoS Adjustment.

Hierarchical MCAC (HMCAC) is supported with redirection enabled or per-host-replication disabled. In HMCAC, the subscriber is checked first against its bandwidth limits followed by the check on the redirected interface against the bandwidth limits defined under the redirected interface. In the HMCAC case, the channel definition policy must be referenced under the redirected interface level.

Parameters

policy-name

Specifies the name of the global MCAC channel definition policy defined under the hierarchy **config>router>mcac>policy**. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

Platforms

All

- configure service vprn igmp interface mcac policy
- configure service vprn pim interface mcac policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface mcac policy
- configure service vprn mld group-interface mcac policy

policy

Syntax

policy *vrrp-policy-id*

no policy

Context

[Tree] (config>service>vprn>if>ipv6>vrrp policy)

[Tree] (config>service>vprn>if>vrrp policy)

Full Context

configure service vprn interface ipv6 vrrp policy

configure service vprn interface vrrp policy

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Description

This command associates a VRRP priority control policy with the virtual router instance (non-owner context only).

Parameters

vrrp-policy-id

Specifies a VRRP priority control policy.

Values 1 to 9999

Platforms

All

policy

Syntax

policy

Context

[Tree] (config>app-assure>group policy)

Full Context

configure application-assurance group policy

Description

Commands in this context configure parameters for application assurance policy. To edit any policy content begin command must be executed first to enter editing mode. The editing mode is left when the abort or commit commands are issued.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policy

Syntax

policy aa-sub {**sap** *sap-id* | **spoke-sdp** *sdp-id:vc-id* | **transit** *transit-aasub-name*} [**create**]

no policy aa-sub {**sap** *sap-id* | **spoke-sdp** *sdp-id:vc-id* | **transit** *transit-aasub-name*}

Context

[Tree] (config>app-assure>group>policy-override policy)

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Full Context

configure application-assurance group policy-override policy

Description

This command specifies a given SAP or SDP to be used for a static policy override.

The **no** form of this command removes the policy override.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 32767
1 to 4294967295

transit-aasub-name

Specifies an existing transit subscriber name, up to 32 characters.

create

Keyword used to create the policy override.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

policy

Syntax

policy *policy-name*

no policy

Context

[Tree] (config>router>mld>group-interface policy)

[Tree] (config>router>mld>interface policy)

[Tree] (config>router>igmp>interface>mcac policy)

[Tree] (config>router>igmp>grp-if>mcac policy)

[Tree] (config>router>mcac policy)

[Tree] (config>router>pim>interface policy)

Full Context

configure router mld group-interface policy

configure router mld interface policy

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configure router igmp interface mcac policy

configure router igmp group-interface mcac policy

configure router mcac policy

configure router pim interface policy

Description

This command references the global channel bandwidth definition policy that is used for (H)MCAC and HQoS adjustment.

Within the scope of HQoS adjustment, the channel definition policy under the group-interface is used if redirection is disabled. In this case, the HQoS adjustment can be applied to IPoE subscribers in per-SAP replication mode.

If redirection is enabled, the channel bandwidth definition policy applied under the Layer 3 redirected interface is in effect.

Hierarchical MCAC (HMCAC) is supported on two levels simultaneously:

- subscriber level and redirected interface in case that redirection is enabled
- subscriber level and group-interface level in case that redirection is disabled

In HMCAC, the subscriber is first checked against its bandwidth limits followed by the check on the redirected interface (or group-interface) against the bandwidth limits there.

In the case that the redirection is enabled but the policy is referenced only under the group-interface, no admission control will be executed (HMCAC or MCAC).

Parameters

policy-name

Specifies the name of the global MCAC channel definition policy, up to 32 characters, defined under the hierarchy **config**>**router**>**mcac**>**policy**.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface policy
- configure router igmp group-interface mcac policy

All

- configure router pim interface policy
- configure router mcac policy
- configure router mld interface policy
- configure router igmp interface mcac policy

policy

Syntax

policy *vrrp-policy-id*

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no policy

Context

[Tree] (config>router>if>ipv6>vrrp policy)

[Tree] (config>router>if>vrrp policy)

Full Context

configure router interface ipv6 vrrp policy

configure router interface vrrp policy

Description

This command adds a VRRP priority control policy association with the virtual router instance.

To further augment the virtual router instance base priority, VRRP priority control policies can be used to override or adjust the base priority value depending on events or conditions within the chassis.

The policy can be associated with more than one virtual router instance. The priority events within the policy either override or diminish the base priority set with the **priority** command dynamically affecting the in-use priority. As priority events clear in the policy, the in-use priority can eventually be restored to the base **priority** value.

The **policy** command is only available in the non-owner **vrrp** nodal context. The priority of **owner** virtual router instances is permanently set to 255 and cannot be changed by VRRP priority control policies. For non-owner virtual router instances, if the **policy** command is not executed, the base **priority** is used as the in-use priority.

The **no** form of the command removes existing VRRP priority control policy associations from the virtual router instance. All associations must be removed prior to deleting the policy from the system.

Default

no policy — No VRRP priority control policy is associated with the virtual router instance.

Parameters

vrrp-policy-id

The policy ID of the VRRP priority control expressed as a decimal integer. The *vrrp-policy-id* must already exist for the command to function.

Values 1 to 9999

Platforms

All

policy

Syntax

policy *policy-id* **context** *context-value*

policy *policy-id* **context name** *name*

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no policy *policy-id*

Context

[Tree] (config>vrrp policy)

Full Context

configure vrrp policy

Description

This command creates the context to configure a VRRP priority control policy which is used to control the VRRP in-use priority based on priority control events. It is a parental node for the various VRRP priority control policy commands that define the policy parameters and priority event conditions.

The virtual router instance **priority** command defines the initial or base value to be used by non-owner virtual routers. This value can be modified by assigning a VRRP priority control policy to the virtual router instance. The VRRP priority control policy can override or diminish the base priority setting to establish the actual in-use priority of the virtual router instance.

The **policy** *policy-id* command must be created first, before it can be associated with a virtual router instance.

Because VRRP priority control policies define conditions and events that must be maintained, they can be resource intensive. The number of policies is limited to 1000.

The *policy-id* do not have to be consecutive integers. The range of available policy identifiers is from 1 to 9999.

The **no** form of the command deletes the specific *policy-id* from the system. The *policy-id* must be removed first from all virtual router instances before the **no policy** command can be issued. If the *policy-id* is associated with a virtual router instance, the command will fail.

Parameters

policy-id

The VRRP priority control ID expressed as a decimal integer that uniquely identifies this policy from any other VRRP priority control policy defined on the system. Up to 1000 policies can be defined.

Values 1 to 9999

context-value

Specifies the service ID to which this policy applies. A value of zero (0) means that this policy does not apply to a service but applies to the base router instance.

Values 1 to 2147483647

Platforms

All

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policy

Syntax

policy *cpu-protection-policy-id* [**create**]

no policy *cpu-protection-policy-id*

Context

[Tree] (config>sys>security>cpu-protection policy)

Full Context

configure system security cpu-protection policy

Description

This command configures CPU protection policies.

The **no** form of this command deletes the specified policy from the configuration.

Policies 254 and 255 are reserved as the default access and network interface policies, and cannot de deleted. The parameters within these policies can be modified. An event will be logged (warning) when the default policies are modified.

Default

Policy 254 (default access interface policy):

- per-source-rate: max (no limit)
- overall-rate: 6000
- out-profile–rate: 6000
- alarm

Policy 255 (default network interface policy):

- per-source-rate: max (no limit)
- overall-rate: max (no limit)
- out-profile-rate: 3000
- alarm

Parameters

cpu-protection-policy-id

Assigns a policy ID to the specific CPU protection policy.

Values 1 to 255

create

Keyword used to create CPU protection policy. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

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Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

policy

Syntax

policy *policy-name* [**create**] [**type** {**access-network | port**}]

no policy *policy-name*

Context

[Tree] (config>sys>security>dist-cpu-protection policy)

Full Context

configure system security dist-cpu-protection policy

Description

This command configures one of the maximum 18 Distributed CPU Protection (DCP) policies. These policies can be applied to objects such as SAPs, network interfaces or ports.

Parameters

policy-name

Specifies the name of the policy, up to 32 characters.

create

Keyword used to create a new policy.

type

Specifies the Distributed CPU protection type for the policy.

Values access-network — Specifies this is a distributed CPU protection policy for access or network interfaces.

port — Specifies this is a distributed CPU protection policy for ports.

Default access-network

Platforms

All

policy

Syntax

policy *policy-name*

no policy

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Context

[Tree] (config>router>bgp>next-hop-resolution policy)

Full Context

configure router bgp next-hop-resolution policy

Description

This command specifies the policy statement name to use with the BGP next-hop resolution process. The policy determines the eligibility of IP routes in the RTM to resolve the BGP next-hop addresses of IPv4 and IPv6 routes. The policy has no effect on the resolution of BGP next hops to MPLS tunnels.

For example, if a BGP next hop of an IPv4 or IPv6 route R is resolved in RTM and the longest matching route for the next-hop address is an IP route N that is rejected by the policy then route R is unresolved. If the route N is accepted by the policy, it becomes the resolving route for R.

The **no** form of this command reverts to the default next-hop resolution policy, which uses the longest matching active route in RTM that is not a BGP route (unless **use-bgp-routes** is configured), an aggregate route or a subscriber management route.

Default

no policy

Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

policy

Syntax

policy *plcy-or-long-expr*

no policy

Context

[Tree] (config>router>policy-options>policy-statement>entry>from policy)

Full Context

configure router policy-options policy-statement entry from policy

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Description

This command is used to call another policy by name and evaluate it as a subroutine, or to evaluate a logical expression of subroutine policies.

If the result of the subroutine evaluation is an 'accept', then the route is considered to match the entry in the parent policy that called the subroutine. If the result of the subroutine evaluation is a 'reject', then the route is considered a non-match of the entry in the parent policy that called the subroutine.

Up to 3 levels of subroutine calls are supported. If a subroutine at maximum depth has this command, it is automatically considered a non-match of all routes.

The **no** form of this command removes the policy statement as a match criterion.

Default

no policy

Parameters

plcy-or-long-expr

Specifies the name of a single **policy-statement** (up to 64 characters in length) or a policy logical expression (up to 255 characters in length) consisting of **policy-statement** names (enclosed in square brackets), logical operations ('and', 'or', 'not'), and parentheses for grouping.

Platforms

All

policy

Syntax

policy *plcy-or-long-expr*

no policy

Context

[Tree] (config>router>policy-options>policy-statement>entry>action policy)

Full Context

configure router policy-options policy-statement entry action policy

Description

This command configures a nested policy statement as a match criterion for the route policy entry.

Policy statements are configured at the global route policy level (**config>router>policy-options policy-statement**).

The command is used to call another policy by name and evaluate it as a subroutine. If the result of the subroutine evaluation is an 'accept', then the route is considered to match the entry in the parent policy that called the subroutine. If the result of the subroutine evaluation is a 'reject', then the route is considered a non-match of the entry in the parent policy that called the subroutine. Up to 3 levels of subroutine calls

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are supported. If a subroutine at maximum depth has this command, it is automatically considered a non-match of all routes.

The **no** form of this command removes the policy statement as a match criterion.

Default

no policy

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters long) or a policy logical expression (up to 255 characters). Allowed values are any string up to 255 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

policy

Syntax

[no] policy *association-name*

Context

[Tree] (config>router>pcep>pcc>pce-assoc policy)

Full Context

configure router pcep pcc pce-associations policy

Description

This command creates a named PCE policy association from which the parameters for specified policy association are configured.

The **no** form of the command deletes the specified policy association.

Parameters

association-name

Specifies the name of the policy association, up to 32 characters.

Platforms

All

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policy

Syntax

[no] policy *policy-assoc-name*

Context

[Tree] (config>router>mpls>lsp-template>pce-assoc policy)

[Tree] (config>router>mpls>lsp>pce-assoc policy)

Full Context

configure router mpls lsp-template pce-associations policy

configure router mpls lsp pce-associations policy

Description

This command binds the LSP to a named policy association. The policy association name must exist under the PCC. Up to five policy associations can be configured per LSP.

The **no** form of the command removes the LSP binding from the specified policy association.

Parameters

policy-assoc-name

Specifies the name of an existing policy association, up to 32 characters.

Platforms

All

policy

Syntax

policy *policy-name* [**create**]

no policy *policy-name*

Context

[Tree] (config>anysec>mpls>sec-term-pols policy)

Full Context

configure anysec mpls security-termination-policies policy

Description

Commands in this context configure ANYsec parameters for locally terminating tunnels.

The **no** form of this command removes the security termination policy.

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Default

no policy

Parameters

policy-name

Specifies the local security termination policy name, up to 32 characters.

create

Keyword to create the local security termination policy.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

34.92 policy-accounting

policy-accounting

Syntax

policy-accounting

Context

[Tree] (config>card>fp>ingress policy-accounting)

Full Context

configure card fp ingress policy-accounting

Description

Commands in this context configure policy accounting FP information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

policy-accounting

Syntax

policy-accounting *template-name*

no policy-accounting

Context

[Tree] (config>service>vprn>sub-if>grp-if>ingress policy-accounting)

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Full Context

configure service vprn subscriber-interface group-interface ingress policy-accounting

Description

This command configures the specified policy accounting template.

The **no** form of this command disables the policy accounting template.

Parameters

template-name

Specifies the template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

policy-accounting

Syntax

policy-accounting <*template-name*>

no policy-accounting

Context

[Tree] (config>service>vprn>if>ingress policy-accounting)

Full Context

configure service vprn interface ingress policy-accounting

Description

This command configures the service VPRN interface ingress policy accounting

Parameters

template-name

Specifies the template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

policy-accounting

Syntax

policy-accounting <*template-name*>

no policy-accounting

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Context

[Tree] (config>service>ies>if>ingress policy-accounting)

Full Context

configure service ies interface ingress policy-accounting

Description

This command configures the service IES interface ingress policy accounting

Parameters

template-name

Specifies the template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

policy-accounting

Syntax

policy-accounting *template-name*

no policy-accounting

Context

[Tree] (config>router>if>ingress policy-accounting)

Full Context

configure router interface ingress policy-accounting

Description

This command applies a policy accounting template to the associated interface.

The **no** form of this command removes the policy accounting template.

Parameters

template-name

Specifies the template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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34.93 policy-acct-template

policy-acct-template

Syntax

[**no**] **policy-acct-template** *template-name*

Context

[Tree] (config>router policy-acct-template)

Full Context

configure router policy-acct-template

Description

This command configures a policy accounting template.

The **no** form of this command deletes the specified policy accounting template.

Parameters

template-name

Specifies the template name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

34.94 policy-control

policy-control

Syntax

policy-control *diameter-policy-name*

no policy-control

Context

[Tree] (config>service>vprn>sub-if>grp-if policy-control)

[Tree] (config>service>ies>sub-if>grp-if policy-control)

Full Context

configure service vprn subscriber-interface group-interface policy-control

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configure service ies subscriber-interface group-interface policy-control

Description

This command configures a policy-control policy for the interface.

The **no** form of this command reverts to the default.

Parameters

diameter-policy-name

Specifies the name of an existing diameter policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

34.95 policy-options

policy-options

Syntax

[**no**] **policy-options**

Context

[Tree] (config>router policy-options)

Full Context

configure router policy-options

Description

Commands in this context configure route policies. Route policies are applied to the routing protocol.

The **no** form of this command deletes the route policy configuration.

Platforms

All

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34.96 policy-override

policy-override

Syntax

policy-override

Context

[Tree] (config>app-assure>group policy-override)

Full Context

configure application-assurance group policy-override

Description

Commands in this context configure policy override parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

34.97 policy-reference-checks

policy-reference-checks

Syntax

[**no**] **policy-reference-checks**

Context

[Tree] (config>router policy-reference-checks)

Full Context

configure router policy-reference-checks

Description

This command checks policy references to ensure that a policy exists and displays a CLI error if the policy does not exist. Enabling this option protects against accidentally referencing a missing or misspelled policy, that can lead to unexpected results when the policy is evaluated.

The **no** version of this command disables policy reference checks and allows policies that do not exist to be referenced.

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Default

no policy-reference-checks

Platforms

All

34.98 policy-statement

policy-statement

Syntax

policy-statement *policy-name* [*policy-name*]

no policy-statement

Context

[Tree] (config>test-oam>ldp-treetrace>path-discovery policy-statement)

Full Context

configure test-oam ldp-treetrace path-discovery policy-statement

Description

This command configures the FEC policy to determine which routes are imported from the LDP FEC database to discover its paths and probing them.

If no policy is specified, the ingress LER imports the full list of FECs from the LDP FEC database. New FECs are added to the discovery list at the next path discovery and not when they are learned and added into the FEC database. The maximum number of FECs to be discovered with path discovery is limited to 500.

The user can configure FECs to **include** or **exclude**.

Policies are configured in the **config>router>policy-options** context. A maximum of five policy names can be specified.

The **no** form of this command removes the policy from the configuration.

Default

no policy-statement

Parameters

policy-name

Specifies up to five route policy names to filter LDP imported address FECs. Allowed values are any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. The specified policy name(s) must already be defined.

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Platforms

All

policy-statement

Syntax

[**no**] **policy-statement** *name*

Context

[Tree] (config>router>policy-options policy-statement)

Full Context

configure router policy-options policy-statement

Description

This command creates the context to configure a route policy statement.

Route policy statements control the flow of routing information to and from a specific protocol, set of protocols, or to a specific BGP neighbor.

The **policy-statement** is a logical grouping of match and action criteria. A single **policy-statement** can affect routing in one or more protocols and/or one or more protocols peers/neighbors. A single **policy-statement** can also affect both the import and export of routing information.

The **no** form of this command deletes the policy statement.

Default

no policy-statement

Parameters

name

Specifies the route policy statement name. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

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34.99 policy-variables

policy-variables

Syntax

policy-variables

Context

[Tree] (config>router>policy-options>policy-statement>entry>from policy-variables)

Full Context

configure router policy-options policy-statement entry from policy-variables

Description

Commands in this context configure **policy-variables** parameters.

The **no** form of this command removes all policy variables.

Platforms

All

34.100 poll

poll

Syntax

poll ca *ca-profile-name*

Context

[Tree] (admin>certificate>cmpv2 poll)

Full Context

admin certificate cmpv2 poll

Description

This command polls the status of the pending CMPv2 request toward the specified CA.

If the response is ready, this command will resume the CMPv2 protocol exchange with server as the original command would do. The requests could be also still be pending as a result, then this command could be used again to poll the status.

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SR OS allows only one pending CMP request per CA, which means no new request is allowed when a pending request is present.

Parameters

ca-profile-name

Specifies a ca-profile name up to 32 characters.

Platforms

All

34.101 poll-interval

poll-interval

Syntax

poll-interval *seconds*

no poll-interval

Context

[Tree] (config>service>vprn>ospf>area>if poll-interval)

[Tree] (config>service>vprn>ospf3>area>if poll-interval)

Full Context

configure service vprn ospf area interface poll-interval

configure service vprn ospf3 area interface poll-interval

Description

This command configures the poll interval, in seconds. The poll interval is the time between two Hello packets to a dead (non-adjacent) OSPF NBMA neighbor. The default value of the poll interval timer is higher than the hello interval timer to avoid wasting bandwidth on non-broadcast networks, since OSPF messages are unicast to each configured neighbor. The poll interval timer is used only on **non-broadcast** interface types and has no effect if configured on other interface types.

The **no** form of this command removes the **poll-interval** configuration.

Default

120

Parameters

seconds

Specifies the poll interval, in seconds.

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Values 0 to 4294967295

Platforms

All

poll-interval

Syntax

poll-interval *seconds*

no poll-interval

Context

[Tree] (config>router>ospf>area>interface poll-interval)

[Tree] (config>router>ospf3>area>interface poll-interval)

Full Context

configure router ospf area interface poll-interval

configure router ospf3 area interface poll-interval

Description

This command configures the poll interval, in seconds. The poll interval is the time between two Hello packets to a dead (non-adjacent) OSPF NBMA neighbor. The default value of the poll interval timer is higher than the hello interval timer to avoid wasting bandwidth on non-broadcast networks, since OSPF messages are unicast to each configured neighbor. The poll interval timer is used only on **non-broadcast** interface types and has no effect if configured on other interface types.

The **no** form of this command removes the **poll-interval** configuration.

Default

120

Parameters

seconds

Specifies the poll interval, in seconds.

Values 0 to 4294967295

Platforms

All

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34.102 pool

pool

Syntax

pool *pool-name* [**create**]

no pool *pool-name*

Context

[Tree] (config>service>vprn>dhcp>server pool)

[Tree] (config>service>vprn>dhcp6>server pool)

[Tree] (config>router>dhcp6>server pool)

[Tree] (config>router>dhcp>server pool)

Full Context

configure service vprn dhcp local-dhcp-server pool

configure service vprn dhcp6 local-dhcp-server pool

configure router dhcp6 local-dhcp-server pool

configure router dhcp local-dhcp-server pool

Description

This command configures a DHCP address pool on the router.

The **no** form of this command removes the pool name from the configuration.

Parameters

pool name

Specifies the name of this IP address pool. Allowed values are any string, up to 32 characters.

create

Keyword used to create the pool. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

pool

Syntax

pool *pool-name* **router** *router-instance* [**create**]

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no pool *pool-name* **router** *router-instance*

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn>export>ip-advertise-routes pool)

Full Context

configure subscriber-mgmt isa-service-chaining evpn export ip-advertise-routes pool

Description

This command configures NAT pools that are advertised in EVPN type 5 routes to the peer participating in service chaining.

The **no** form of this command removes the parameters from the configuration.

Parameters

pool-name

Specifies the name of the NAT pool up, to 32 characters.

router-instance

Specifies the router instance belonging to the pool.

Values *router-name* | *vprn-svc-id*

router-name: Base, management, *cpm-vr-name,* vpls-management
Default - Base

vprn-svc-id: [1 to 2147483647]

cpm-vr-name: [up to 32 characters]

service-name: [up to 64 characters]

create

Keyword used to create a pool instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

pool

Syntax

pool [*name*]

Context

[Tree] (config>port>access>egress pool)

[Tree] (config>port>access>ingress pool)

[Tree] (config>port>network>egress pool)

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Full Context

configure port access egress pool

configure port access ingress pool

configure port network egress pool

Description

This command configures pool policies.

On the MDA level, access and network egress and access ingress pools are only allocated on channelized MDAs. Network ingress pools are allocated on the FP level for non-channelized MDAs.

Default

pool default

Parameters

name

If specified, the name must be **default**.

Platforms

All

pool

Syntax

pool [*name*]

Context

[Tree] (config>card>fp>ingress>network pool)

Full Context

configure card fp ingress network pool

Description

This command configures the per-FP network ingress pool.

Default

pool default

Parameters

name

If specified, the name must be **default**.

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Platforms

All

pool

Syntax

pool *nat-pool-name* [**nat-group** *nat-group-id* **type** *pool-type* [**applications** *applications*] [**create**]

no pool *nat-pool-name*

Context

[Tree] (config>service>vprn>nat>outside pool)

Full Context

configure service vprn nat outside pool

Description

This command configures a NAT pool.

Parameters

nat-pool-name

Specifies the NAT pool name.

Values 32 chars max

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

create

This parameter must be specified to create the instance.

pool-type

Specifies the pool type.

Values large-scale, l2-aware, wlan-gw-anchor

applications

Specifies the application.

Values agnostic

flexible-port-allocation

create

Keyword used to create the pool.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

pool

Syntax

pool *nat-pool-name* **nat-group** *nat-group-id* **type** *pool-type* [**applications** *applications*] [**create**]

no pool *nat-pool-name*

Context

[Tree] (config>router>nat>outside pool)

Full Context

configure router nat outside pool

Description

This command creates a NAT pool in the outside routing context. The NAT pool defines the parameters that will be used for IP address and port translation within the pool.

Parameters

nat-pool-name

Specifies the NAT pool name, up to 32 characters.

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

create

Creates the instance.

pool-type

Species the pool type.

Values large-scale, l2-aware, wlan-gw-anchor

applications

This creation-time parameter configures the NAT pool for protocol agnostic operation. The IP addresses are translated in 1:1 fashion regardless of the protocol. No ports are translated for TCP or UDP traffic. Traffic through the pool can be initiated from inside or outside. When nat-pool is configured in agnostic mode, certain parameters in the pool are pre-set and cannot be changed:

- mode one-to-one
- port-forwarding-range 0
- port-reservation blocks 1
- subscriber-limit 1

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- deterministic port-reservation 65536.

This pool is used to configure static 1:1 NAT, where the operator have the control of the mapping between the inside and outside IP addresses. The static IP address mapping is using CLI constructs used in deterministic NAT (prefix and map deterministic NAT commands in the inside routing context).

ALG for TCP/UDP is supported in the protocol agnostic pool.

Values agnostic

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

pool

Syntax

pool [*name*]

no pool

Context

[Tree] (config>isa>aa-grp>qos>egress>to-subscriber pool)

[Tree] (config>isa>aa-grp>qos>egress>from-subscriber pool)

Full Context

configure isa application-assurance-group qos egress to-subscriber pool

configure isa application-assurance-group qos egress from-subscriber pool

Description

Commands in this context configure an IOM pool as applicable to the specific application assurance group traffic. The user can configure resv-cbs (as percentage) values and slope-policy similarly to other IOM pool commands.

Default

pool default

Parameters

name

If specified, the name must be **default**.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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pool

Syntax

pool *nat-pool-name* **service-name** *service-name*

pool *nat-pool-name* **router** *router-instance*

no pool

Context

[Tree] (config>service>nat>nat-policy pool)

Full Context

configure service nat nat-policy pool

Description

This command configures the NAT pool of this policy.

Parameters

nat-pool-name

Specifies the name of the NAT pool, up to 32 characters.

router-instance

Specifies the router instance the pool belongs to, either by router name or service ID.

Values 1 to 2147483647 svc-name — a string up to 64 characters.

Values *router-name*: "Base" | "management"

Default Base

service-name

Specifies the name of the service, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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35 p Commands – Part III

35.1 pool-manager

pool-manager

Syntax

pool-manager

Context

[Tree] (config>service>vprn>sub-if>wlan-gw pool-manager)

[Tree] (config>service>ies>sub-if>wlan-gw pool-manager)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager

configure service ies subscriber-interface wlan-gw pool-manager

Description

Commands in this context configure pool manager data for a WLAN GW subscriber interface.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.2 pool-name

pool-name

Syntax

[**no**] **pool-name**

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option>vendor pool-name)

[Tree] (config>service>ies>if>dhcp>option>vendor pool-name)

[Tree] (config>service>vprn>if>dhcp>option>vendor pool-name)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option>vendor pool-name)

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Full Context

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option pool-name

configure service ies interface dhcp option vendor-specific-option pool-name

configure service vprn interface dhcp option vendor-specific-option pool-name

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option pool-name

Description

This command sends the pool name in the Nokia vendor specific sub-option of the DHCP relay packet.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option pool-name
- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option pool-name

All

- configure service ies interface dhcp option vendor-specific-option pool-name
- configure service vprn interface dhcp option vendor-specific-option pool-name

pool-name

Syntax

pool-name *name*

no pool-name

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>ia-na pool-name)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>dhcpv4-nat pool-name)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>slaac pool-name)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>ia-na pool-name)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>dhcpv4-nat pool-name)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>slaac pool-name)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na pool-name

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat pool-name

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client slaac pool-name

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na pool-name

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat pool-name

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configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client slaac pool-name

Description

This command specifies the pool name that should be sent in the DHCPv6 messages. This is reflected in the Nokia vendor specific pool option (vendor-id 6527, option-id 0x02).

The **no** form of this command removes pool-name and the option will not be sent in DHCPv6.

Parameters

name

Specifies the pool name up with 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

pool-name

Syntax

[**no**] **pool-name**

Context

[Tree] (config>router>if>dhcp>option>vendor-specific-option pool-name)

Full Context

configure router interface dhcp option vendor-specific-option pool-name

Description

This command enables the sending of the pool name in the Nokia vendor-specific suboption of the DHCP relay packet.

The **no** form of this command disables the feature.

Default

no pool-name

Platforms

All

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35.3 pool-type

pool-type

Syntax

pool-type *pool-type*

Context

[Tree] (config>test-oam>twamp>twl>src-udp-pools>port pool-type)

Full Context

configure test-oam twamp twamp-light source-udp-port-pools port pool-type

Description

This command maps the specified source UDP port to the TWAMP Light application allowed to configure the source UDP port. The OAM-PM IP family of tests can only configure the source UDP port when the port pool UDP source port is configured with a **pool-type oam-pm**. The **test-oam link-measurement measurement-template** can only configure the **src-udp-port** when the port pool UDP source port is configured with **pool-type link-measurement**.A pool type cannot be changed if its current application (either an **oam-pm** session or **link-measurement** template) is configured to use the specified port, regardless of the administrative or operational state. The configuration reference linking to the source UDP prevents the change.

Default

pool-type oam-pm

Parameters

pool-type

Specifies the port to an application pool.

Values oam-pm, link-measurement

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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35.4 pop

pop

Syntax

[**no**] **pop**

Context

[Tree] (config>router>mpls>if>label-map pop)

Full Context

configure router mpls interface label-map pop

Description

This command specifies that the incoming label must be popped (removed). No label stacking is supported for a static LSP. The service header follows the top label. Once the label is popped, the packet is forwarded based on the service header.

The **no** form of this command removes the **pop** action for the *in-label*.

Platforms

All

35.5 populate

populate

Syntax

populate {**static** | **dynamic** | **evpn** | **evpn-local-es**} [**route-tag** [*1..255*]]

no populate {**static** | **dynamic** | **evpn**}

Context

[Tree] (config>service>ies>if>arp-host-route populate)

[Tree] (config>service>vprn>if>ipv6>nd-host-route populate)

[Tree] (config>service>vprn>if>arp-host-route populate)

[Tree] (config>service>ies>if>ipv6>nd-host-route populate)

Full Context

configure service ies interface arp-host-route populate

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configure service vprn interface ipv6 nd-host-route populate

configure service vprn interface arp-host-route populate

configure service ies interface ipv6 nd-host-route populate

Description

This command enables the creation of ARP/ND host-route entries in the route-table out of a certain ARP/ND entry type.

The **no** form of this command reverts to the default.

Default

no populate

Parameters

static

Keyword that enables the creation of ARP-ND host routes in the route table out of configured static ARP/ND entries.

dynamic

Keyword that enables the creation of ARP-ND host routes in the route table out of dynamic ARP/ND entries (learned from received ARP/ND messages from the hosts).

evpn

Keyword that enables the creation of ARP-ND host routes in the route table out of EVPN ARP/ND entries (entries learned from EVPN MAC/IP routes).

evpn-local-es

Keyword that enables the creation of ARP-ND host routes in the route table out of configured evpn-local-es ARP/ND entries.

route-tag [*1..255*]

Keyword that specifies the route tag that is added in the route table for ARP-ND host routes of type **static**, **dynamic**, **evpn**, or **evpn-local-es**. This tag can be matched on BGP VRF export and BGP peer export policies.

Platforms

All

35.6 port

port

Syntax

port *port-id* [**sync-tag** *sync-tag*] [**create**]

no port *port-id*]

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Context

[Tree] (config>redundancy>multi-chassis>peer>sync port)

Full Context

configure redundancy multi-chassis peer sync port

Description

This command specifies the port to be synchronized with the multi-chassis peer and a synchronization tag to be used while synchronizing this port with the multi-chassis peer.

Parameters

port-id

Specifies the port to be synchronized with the multi-chassis peer.

Values

port-id	slot/mda/port	
lag-id	lag-id	
	lag	keyword
	id	1 to 200
pw-id	pw-*id*	
	pw	keyword
	id	1 to 10239

sync-tag

Specifies a synchronization tag, up to 32 characters in length, to be used while synchronizing this port with the multi-chassis peer.

create

Creates an entry; mandatory while creating an entry.

Platforms

All

port

Syntax

[**no**] **port** {*port-id* | *aps-id* | *connector-port-id*}

Context

[Tree] (config port)

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Full Context

configure port

Description

Commands in this context configure ports, multilink bundles, and bundle protection groups. Before a port can be configured, the chassis slot must be provisioned with a valid card type and the MDA parameter must be provisioned with a valid MDA type.

Default

No ports are configured. All ports must be explicitly configured and enabled.

Parameters

port-id

Specifies the physical port ID in the following format:

Values *slot*/*mda*/*port* [.*channel*]

for GNSS RF ports:

A/gnss or **B/gnss**

eth-sat-id

Specifies the Ethernet satellite ID to be associated with this IP interface. This parameter applies to the 7950 XRS only.

Values

eth-sat-id	esat-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
	u	Keyword to specify the uplink port

pxc-id

Specifies the PXC ID to be associated with this IP interface. This parameter applies to the 7950 XRS only.

Values

pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

aps-id

Configures APS on unbundled SONET/SDH ports. All SONET-SDH port parameters, with certain exceptions, for the working and protection circuit ports must be configured in

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the **configure port aps-id** context. The working and protection circuit ports inherit all the parameters configured. The exception is parameters for the working and protect circuits, which can be configured in the **configure port sonet-sdh** context. The exception list commands include:

- **clock-source**
- [**no**] **loopback**
- [**no**] **report-alarm**
- **section-trace**
- [**no**] **threshold**

When a **configure port aps-id** is created, all applicable parameters under the port CLI tree (including parameters under any submenus) assume **aps-id** defaults, or when those are not explicitly specified, default to SONET/SDH port defaults for any SONET port.

All but a few exception SONET/SDH parameters for the working channel port must be configured in the **configure port sonet-sdh** context. The protection channel inherits all the configured parameters. The exception parameters for the protection channel can be configured in the **configure port sonet-sdh** context.

Signal failure (SF) and signal degrade (SD) alarms are not enabled by default on POS interfaces. Nokia recommends users change the default alarm notification configuration for POS ports that belong to APS groups to be notified of SF/SD occurrences to be able to interpret the cause for an APS group to switch the active line.

For path alarms, modify the logical line APS ID in the **configure port aps-***id***sonet-sdh path report-alarm** context. For example: **configure port aps-1 sonet-sdh path report-alarm p-ais**

For line alarms, separately, modify the two physical ports that are members of the logical APS ID port (the working and protect lines). APS reacts only to line alarms, not path alarms. For example:

- **configure port 1/2/3 sonet-sdh report-alarm lb2er-sd**
- **configure port 4/5/6 sonet-sdh report-alarm lb2er-sd**

To modify the SD and SF threshold rates, the changes must be performed at the line level on both the working and protect APS port member.

The **no** form of this command deletes an **aps-***group-id* or **bundle-aps-group-id**. To delete an **aps-***group-id*, ensure the **aps-***group-id* is **shutdown**.

The same rules apply for physical ports. Bundles deletions apply to APS ports or bundle deletions (for example an **aps-group-id** must be **shutdown**, have no service configuration on it, and no path configuration on it). In addition, working and protection circuits must be removed before an **aps-group-id** may be removed.

Values **port aps**-*group-id* **aps**: keyword where *group-id*: 1 to 64

Example: **port aps**-64

connector-port-id

Specifies the physical port of a connector in the following format.

Values *slot*/*mda*/*connector*/*port*

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Platforms

All

port

Syntax

port *port-id*

no port

Context

[Tree] (config>port-xc>pxc port)

Full Context

configure port-xc pxc port

Description

This command configures the referenced Ethernet port as a loopback or a cross-connect port (PXC). When this command is executed, the system automatically creates two PXC subports under this Ethernet port.

The physical PXC port does not require any external connectivity or optical transceivers to function properly. Consequently, all optic-related alarms are disabled on the port.

The physical PXC port is automatically configured as a hybrid port. The MTU is preset to 9212 bytes, the encapsulation type is set to dot1q, and dot1x tunneling is turned on.

A single physical port can be associated with more than one PXC. In other words, multiple PXCs are supported per physical port. Because PXC subports use a single physical port to transmit traffic in both directions, the nominal port bandwidth is asymmetrically divided between the two directions. For example, a 10 Gb/s Ethernet port in PXC mode can accommodate 9 Gb/s of traffic in one direction and 1 Gb/s in the other. Any other ratio can be achieved as long as the sum of the bandwidth of the two PXC subports does not exceed the bandwidth capacity of the physical port (10 Gb/s in this case).

Since the PXC uses a single physical port to transmit traffic in both directions, the nominal port bandwidth is asymmetrically divided between the two directions. For example, a 10 Gb/s Ethernet port in PXC mode can accommodate 9 Gb/s of traffic in one direction and 1 Gb/s in the other. Any other ratio can be achieved as long as the sum of the bandwidth of the two PXC subports does not exceed the bandwidth capacity of the physical port (10 Gb/s in this case).

The following rules apply to PXC port configurations:

- Only unused physical ports (not associated with an interface or SAP) can be referenced inside of a PXC ID configuration.
- The physical port cannot be removed from a PXC ID configuration if the corresponding PXC subports are currently in use.
- A physical port cannot be used outside the configured PXC context. For example, a regular IP interface cannot use this physical port, or a SAP on that port cannot be associated with a service.

The **no** form of this command removes the port ID from the configuration.

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Parameters

port-id

Specifies the physical port in the *slot*/*mda*/*port* format.

Platforms

All

port

Syntax

port *port-id* [*port-id*] [**priority** *priority*] [**sub-group** *sub-group-id*] [**hash-weight** *weight*]

no port *port-id* [*port-id*]

Context

[Tree] (config>lag port)

Full Context

configure lag port

Description

This command adds ports to a link aggregation group (LAG).

The port configuration of the first port added to the LAG is used as a basis to compare to subsequently added ports. If a discrepancy is found with a newly added port, that port will not be added to the LAG.

Multiple (space separated) ports can be added or removed from the LAG link assuming the maximum number of ports is not exceeded.

Ports that are part of a LAG must be configured with the **autonegotiate** command either disabled or set to **limited**. By default, no ports are defined as members of a LAG.

The **no** form of this command removes ports from the LAG.

Parameters

port-id

Specifies the port ID.

The maximum number of ports in a LAG depends on the platform type, the hardware deployment, and the SR OS software release. Adding a port over the maximum allowed per specific router or switch is blocked. Some platforms support double port scale for specific port types on LAGs with a LAG ID in the range of 1 to 64 inclusive. Up to 16 ports can be specified in a single statement, up to 64 ports total.

Values

port-id | *connector-pid* | *eth-sat-id* | *pxc-id*	
connector-pid	slot/mda/c*connector*/connector-port
port-id	slot/mda/port

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eth-sat-id	esat-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 40
pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 256
	sub-port	a to b

priority

Specifies the port priority used by LACP. The port priority is also used to determine the primary port. The port with the lowest priority is the primary port. In the event of a tie, the smallest port ID becomes the primary port.

Values 1 to 65535

sub-group-id

Identifies a LAG subgroup. When using subgroups in a LAG, they should only be configured on one side of the LAG, not both. Only having one side perform the active/standby selection guarantees a consistent selection and fast convergence. The active or standby selection is signaled through LACP to the other side. The hold time should be configured when using subgroups to prevent the LAG going down when switching between active and standby subgroup since momentarily all ports are down in a LAG (break-before-make).

Values 1 to 8 identifies a LAG subgroup The **auto-iom** subgroup is defined based on the IOM (all ports of the same IOM are assigned to the same subgroup). The **auto-mda** subgroup is defined based on the MDA. (all ports of the same MDA are assigned to the same subgroup).

weight

Specifies the flow hashing distribution between LAG ports.

Values 1 to 100000, port-speed

Platforms

All

port

Syntax

port *port-id*

no port

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Context

[Tree] (config>service>system>bgp-evpn>eth-seg port)

Full Context

configure service system bgp-evpn ethernet-segment port

Description

This command configures a port-id associated with the Ethernet-Segment. If the Ethernet-Segment is configured as **all-active**, then only a lag or a PW port can be associated to the Ethernet-Segment. If the Ethernet-Segment is configured as **single-active**, then a lag, port or sdp can be associated to the Ethernet-Segment. In any case, only one of the four objects can be configured in the Ethernet-Segment. A specified port can be part of only one Ethernet-Segment. Only Ethernet ports can be added to an Ethernet-Segment.

Default

no port

Parameters

port-id

Specifies the port ID associated to the Ethernet-Segment.

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

Platforms

All

port

Syntax

port [*port-id* | *lag-id*]

no port

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Context

[Tree] (config>service>sdp>binding port)

Full Context

configure service sdp binding port

Description

This command specifies the port or lag identifier, to which the pseudowire ports associated with the underlying SDP are bound. If the underlying SDP is re-routed to a port or lag other than the specified one, the pseudowire ports on the SDP are operationally brought down.

The **no** form of the command removes the value from the configuration.

Default

no port

Parameters

port-id

Specifies the identifier of the port in the slot/mda/port format.

port-id	*slot*/*mda*/*port*[.*channel*]		
	pxc-id	psc-id.sub-port	
		pxc psc-id.sub-port	
		pxc: keyword	
		id: 1 to 64	
		sub-port: a, b	
	aps-id	aps-*group-id*[.*channel*]	
		aps keyword	
		group-id	1 to 64
		group-id	1 to 16
	ccag-id - ccag-<id>.<path-id>[cc-type]		
		ccag	keyword
		id	1 to 8
		path-id	a, b
		cc-type[.sap-net | .net-sap]	
	lag-id	lag-*id*	
		lag	keyword
		id	1 to 800

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lag-id

Specifies the LAG identifier.

Platforms

All

port

Syntax

port [**evpn-mpls** | **sap** *sap-id* | **sdp** *sdp-id:vc-id* | **vxlan vtep** *ip-address* **vni** *vni-id*] [**detail**]

no port

Context

[Tree] (debug>service>id>pim-snooping port)

Full Context

debug service id pim-snooping port

Description

This command enables or disables debugging for PIM ports.

Parameters

sap-id

Only debugs packets associated with the specified SAP

sdp-id:vc-id

Only debugs packets associated with the specified SDP

detail

Provides detailed debugging information

evpn-mpls

Debugs PIM snooping statistics for EVPN-MPLS destinations

Platforms

All

port

Syntax

[**no**] **port** *port-id*

Context

[Tree] (config>service>system>pw-port-list port)

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Full Context

configure service system pw-port-list port

Description

This command is only applicable for VSR configurations. This command is used to select ports eligible for use with Flex PW port. Physical ports used by Flex PW port can be shared with any other Layer 2 or Layer 3 service. In other words, a Layer 3 interface using a regular SAP can be associated with a VPRN service, while the port is used by a Flex PW port. Another regular SAP from the same port can be associated with a VPLS or Epipe service at the same time.

The following rules should be followed when populating a pw-port-list:

- A port must be in hybrid mode before it is added to a pw-port-list.
- Before a port is removed from or added to a pw-port-list, all PW ports must be dissociated from the corresponding Epipe services (PW ports must be unconfigured). This implies that all PW SAPs must be deleted.
- Network interfaces (configured in the Base routing context) can be configured only on ports that are in the pw-port-list.
- A port mode (access, network, or hybrid) cannot be changed while the port is in the pw-port-list.

From this, the operator can consider adding all ports that are in hybrid mode to a pw-port-list at the beginning of the system configuration. This ensures that those ports can be used by a Flex PW port at any later time, independently of their current use.

The **no** form of this command removes the port ID from the configuration.

Parameters

port-id

Specifies the IP of the port.

Values slot/mda/port: 1 to 16

Platforms

VSR

port

Syntax

port *port*

no port

Context

[Tree] (config>service>vprn>aaa>rmt-srv>radius port)

Full Context

configure service vprn aaa remote-servers radius port

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Description

This command configures the UDP port number to contact the RADIUS server.

The **no** form of this command reverts to the default value.

Default

port 1812 (as specified in RFC 2865, *Remote Authentication Dial In User Service* (*RADIUS*))

Parameters

port

Specifies the UDP port number to contact the RADIUS server.

Values 1 to 65535

Platforms

All

port

Syntax

port *value*

no port

Context

[Tree] (config>service>vprn>log>syslog port)

Full Context

configure service vprn log syslog port

Description

This command configures the UDP port that will be used to send syslog messages to the syslog target host.

The port configuration is needed if the syslog target host uses a port other than the standard UDP syslog port 514.

Only one port can be configured. If multiple **port** commands are entered, the last entered port overwrites the previously entered ports.

The **no** form of this command reverts to default value.

Default

no port

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Parameters

value

The value is the configured UDP port number used when sending syslog messages.

Values 1 to 65535

Platforms

All

port

Syntax

port *port*

Context

[Tree] (config>app-assure>group>event-log>syslog port)

Full Context

configure application-assurance group event-log syslog port

Description

This command specifies the UDP port used by application assurance to inject the syslog events inband.

Default

port 514

Parameters

port

Specifies the UDP port number.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port

Syntax

[**no**] **port** *port-number*

[**no**] **port range** *start-port-num end-port-num*

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Context

[Tree] (config>app-assure>group>port-list port)

Full Context

configure application-assurance group port-list port

Description

This command specifies the server TCP or UDP port number to use in the port list definition.

The **no** form of this command restores the default by removing port number from the port list.

Default

no port

Parameters

port-number

Specifies the port number.

Values 0 to 65535

start-port-number

Specifies the start port number.

Values 0 to 65535

end-port-number

Specifies the end port number.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port

Syntax

port {*port-id* | **lag** *lag-id*} [**egress**] [**ingress**]

no port {*port-id* | **lag** *lag-id*} {[**egress**] [**ingress**]}

Context

[Tree] (config>mirror>mirror-source port)

Full Context

configure mirror mirror-source port

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Description

This command enables mirroring of traffic ingressing or egressing a port (Ethernet port, SONET/SDH channel, TDM channel, or Link Aggregation Group (LAG)).

The **port** command associates a port or LAG to a mirror source. The port is identified by the *port-id*. The defined port may be Ethernet, Access or network, SONET/SDH, or TDM channel access. A network port may be a single port or a Link Aggregation Group (LAG) ID. When a LAG ID is given as the *port-id*, mirroring is enabled on all ports making up the LAG. If the port is a SONET/SDH interface, the *channel-id* must be specified to identify which channel is being mirrored (applies to the 7450 ESS and 7750 SR). Either a LAG port member *or* the LAG port can be mirrored.

The port is only referenced in the mirror source for mirroring purposes. The mirror source association does not need to be removed before deleting the card to which the port belongs. If the port is removed from the system, the mirroring association will be removed from the mirror source.

The same port may not be associated with multiple mirror source definitions with the **ingress** parameter defined. The same port may not be associated with multiple mirror source definitions with the **egress** parameter defined.

If a SAP is mirrored on an access port, the SAP mirroring will have precedence over the access port mirroring when a packet matches the SAP mirroring criteria. Filter and label mirroring destinations will also precedence over a port-mirroring destination.

If the port is not associated with a **mirror-source**, packets on that port will not be mirrored. Mirroring may still be defined for a SAP, label or filter entry, which will mirror based on a more specific criteria.

The encapsulation type on an access port or channel cannot be changed to Frame Relay if it is being mirrored (applies to the 7750 SR and 7450 ESS).

The **no port** command disables port mirroring for the specified port. Mirroring of packets on the port may continue due to more specific mirror criteria. If the **egress** or **ingress** parameter keywords are specified in the **no** command, only the ingress or egress mirroring condition will be removed.

Parameters

port-id

Specifies the port ID of the 7750 SR or 7950 XRS.

The following syntax applies to the 7750 SR:

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b
	bgrp-id	bpgrp-*type-bpgrp-num*	
		bgrp	keyword

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	type	ima, ppp
	bgrp-num	1 to 2000
ccag-id	ccag-*id*.*path-id cc-type*:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a, b
	cc-type	sap-net, .net-sap
	cc-id	0 to 4094

The following syntax applies to the 7950 XRS:

port-id	*slot*/*mda*/*port* [.*channel*]	
eth-sat-id	esat-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

lag-id

The LAG identifier, expressed as a decimal integer.

Note:
On the 7950 XRS, the XMA ID takes the place of the MDA.

Values 1 to 800

egress

Specifies that packets egressing the port should be mirrored. Egress packets are mirrored to the mirror destination after egress packet modification.

ingress

Specifies that packets ingressing the port should be mirrored. Ingress packets are mirrored to the mirror destination prior to ingress packet modification.

Platforms

All

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port

Syntax

port {*port-id* | **lag** *lag-id*} {[**egress**] [**ingress**]}

no port {**port-id** | **lag** *lag-id*} [**egress**] [**ingress**]

Context

[Tree] (config>li>li-source port)

Full Context

configure li li-source port

Description

This command specifies the port to perform lawful intercept. It is recommended when configuring **li-source>port** criteria, the li-source should only contain ports. All other criteria such as SAPs and subscribers should use a different li-source.

The **no** form of this command reverts to the default.

Parameters

port-id

Specifies the port ID to perform lawful intercept.

port-id *slot*/*mda*/*port* [.*channel*]

eth-sat-id	esat-<id>/<slot>/[u]<port>	
	esat	keyword
	id	1 to 20
	u	keyword for up-link port
pxc-id	pxc-<id>.<sub-port>	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

lag-id

The LAG identifier, expressed as a decimal integer.

Note:
On the 7950 XRS, the XMA ID takes the place of the MDA.

Values 1 to 800

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egress

Performs lawful intercept on egress traffic.

ingress

Performs lawful intercept on ingress traffic.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port *tcp-port*

no port

Context

[Tree] (config>li>x-interfaces>lics>lic port)

Full Context

configure li x-interfaces lics lic port

Description

This command configures the TCP port associated with this LIC.

The **no** form of this command reverts to the default.

Parameters

tcp-port

Specifies the TCP source port of the LIC.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port *tcp-port*

no port

Context

[Tree] (config>li>x-interfaces>x1 port)

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Full Context

configure li x-interfaces x1 port

Description

This command configures the TCP port for the X1 interface. The system listens to this port and uses it as the source TCP port.

The **no** form of this command reverts to the default.

Parameters

tcp-port

Specifies the TCP port.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port {*port-id* | **lag** *lag-id*} {[**egress**] [**ingress**]}

no port {*port-id* | **lag** *lag-id*} [**egress**] [**ingress**]

Context

[Tree] (debug>mirror-source port)

Full Context

debug mirror-source port

Description

This command enables mirroring of traffic ingressing or egressing a port (Ethernet port, SONET/SDH channel, TDM channel, or Link Aggregation Group (LAG)).

The **port** command associates a port or LAG to a mirror source. The port is identified by the *port-id*. The defined port may be Ethernet, Access or network, SONET/SDH, or TDM channel access. A network port may be a single port or a Link Aggregation Group (LAG) ID. When a LAG ID is given as the *port-id*, mirroring is enabled on all ports making up the LAG. If the port is a SONET/SDH interface, the *channel-id* must be specified to identify which channel is being mirrored (applies to the 7450 ESS and 7750 SR). Either a LAG port member *or* the LAG port can be mirrored.

The port is only referenced in the mirror source for mirroring purposes. The mirror source association does not need to be removed before deleting the card to which the port belongs. If the port is removed from the system, the mirroring association will be removed from the mirror source.

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The same port may not be associated with multiple mirror source definitions with the **ingress** parameter defined. The same port may not be associated with multiple mirror source definitions with the **egress** parameter defined.

If a SAP is mirrored on an access port, the SAP mirroring will have precedence over the access port mirroring when a packet matches the SAP mirroring criteria. Filter and label mirroring destinations will also precedence over a port-mirroring destination.

If the port is not associated with a **mirror-source**, packets on that port will not be mirrored. Mirroring may still be defined for a SAP, label or filter entry, which will mirror based on a more specific criteria.

The encapsulation type on an access port or channel cannot be changed to Frame Relay if it is being mirrored (applies to the 7750 SR and 7450 ESS).

The **no port** command disables port mirroring for the specified port. Mirroring of packets on the port may continue due to more specific mirror criteria. If the **egress** or **ingress** parameter keywords are specified in the **no** command, only the ingress or egress mirroring condition will be removed.

Parameters

port-id

Specifies the port ID of the 7750 SR or 7950 XRS.

The following syntax applies to the 7750 SR:

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b
	ccag-id	ccag-*id*.*path-id cc-type*:*cc-id*	
		ccag	keyword
		id	1 to 8
		path-id	a,b
		cc-type	sap-net, net-sap
		cc-id	0 to 4094

The following syntax applies to the 7950 XRS:

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	

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	esat	keyword
	id	1 to 20
pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

lag-id

Specifies the LAG identifier, expressed as a decimal integer.

Note:
On the 7950 XRS, the XMA ID takes the place of the MDA.

Values 1 to 800

egress

Specifies that packets egressing the port should be mirrored. Egress packets are mirrored to the mirror destination after egress packet modification.

ingress

Specifies that packets ingressing the port should be mirrored. Ingress packets are mirrored to the mirror destination prior to ingress packet modification.

Platforms

All

port

Syntax

port {**lt** | **gt** | **eq**} *port-number*

port port-list *port-list-name*

port range *port-number port-number*

no port

Context

[Tree] (config>filter>ip-filter>entry>match port)

[Tree] (config>filter>ipv6-exception>entry>match port)

[Tree] (config>filter>ipv6-filter>entry>match port)

Full Context

configure filter ip-filter entry match port

configure filter ipv6-exception entry match port

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configure filter ipv6-filter entry match port

Description

This command configures a TCP/UDP/SCTP source or destination port match criterion in IPv4 and IPv6 CPM (SCTP not supported) and/or ACL filter policies. A packet matches this criterion if the packet TCP/UDP/SCTP (as configured by protocol/next-header match) source OR destination port matches either the specified port value or a port in the specified port range or port-list.

Operational Note: This command is mutually exclusive with src-port and dst-port commands. Configuring "port eq 0", may match non-initial fragments where the source/destination port values are not present in a packet fragment if other match criteria are also met.

The **no** form of this command deletes the specified port match criterion.

Default

no port

Parameters

lt | gt | eq

Specifies the operator to use relative to *port-number* for specifying the port number match criteria.

lt

Specifies that all port numbers less than *port-number* match.

gt

Specifies that all port numbers greater than *port-number* match.

eq

Specifies that the *port-number* must be an exact match.

port-number

Specifies a source or destination port to be used as a match criterion. The port number can be expressed as a decimal integer, as well as in hexadecimal or binary format. The following value shows a decimal integer only.

Values 0 to 65535

port-list *port-list-name*

Specifies an inclusive range of source or destination port values to be used as match criteria.

range *port-number port-number*

Specifies an inclusive range of source or destination port values to be used as match criteria.

Platforms

All

- configure filter ip-filter entry match port
- configure filter ipv6-filter entry match port

VSR

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- configure filter ipv6-exception entry match port

port

Syntax

[**no**] **port** *port-number*

[**no**] **port range** *start end*

Context

[Tree] (config>filter>match-list>port-list port)

Full Context

configure filter match-list port-list port

Description

This command adds a port or a range of ports to an existing port match list. The **no** form of this command deletes the specified port or range of ports form the list.

Parameters

port-number

Specifies the port number to add to the list. The port number can be expressed as a decimal integer, as well as in hexadecimal or binary format. Below shows decimal integer only.

Values 0 to 65535

start end

Specifies an inclusive port range between two port numbers values. The *start* of the range and *end* of the range can be expressed as decimal integers, as well as in hexadecimal or binary format. The following value shows decimal integer only.

Values 0 to 65535

Platforms

All

port

Syntax

port *port-id*

no port

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Context

[Tree] (config>router>origin-validation>rpki-session port)

Full Context

configure router origin-validation rpki-session port

Description

This command configures the destination port number to use when contacting the cache server. The default port number is 323. The port cannot be changed without first shutting down the session.

Default

no port

Parameters

port-id

Specifies a port ID.

Values 0 to 65535

Platforms

All

port

Syntax

port *port-name*

no port

Context

[Tree] (config>router>if port)

Full Context

configure router interface port

Description

This command creates an association with a logical IP interface and a physical port.

An interface can also be associated with the system (loopback address).

The command returns an error if the interface is already associated with another port or the system. In this case, the association must be deleted before the command is re-attempted. The *port-id or port-id for* Ethernet ports can be in one of the following forms:

Ethernet interfaces

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If the card in the slot has MDAs/XMAs, *port-id* is in the *slot_number*/MDA or XMA *_number*/*port_number* format; for example, **1/1/3** specifies port 3 of the MDA/XMA installed in MDA/XMA slot 1 on the card installed in chassis slot 1.

SONET/SDH interfaces

When the *port-id* represents a POS interface, the *port-id* must include the *channel-id.* The POS interface must be configured as a **network** port.

The **no** form of this command deletes the association with the port. The **no** form of this command can only be performed when the interface is administratively down.

Default

no port

Parameters

port-name

The physical port identifier to associate with the IP interface.

Values The following values apply to the 7750 SR and 7450 ESS:

Table 98: Port Names

port-name	port-id[:encap-val]	
	encap-val	0 for null
		[0 to 4094] for dot1q
		[0 to 4094].* [1 to 4094].[0to 4094] for qinq
port-id	slot/mda/port[.channel]	
	aps-id	aps-<group-id>[.channel]
	aps	keyword
	group-id	1 to 128
	ccag-id	ccag-<id>.<path-id>[cc-type]
	ccag	keyword
	id	1 to 8
	path-id	a, b
	cc-type	[.sap-net| .net-sap]
	eth-tunnel-id	eth-tunnel-<id>
	eth-tunnel	keyword

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	id	1 to 1024
	lag-id	lag-<id>
	lag	keyword
	id	1 to 800
	id	1 to 1024
	eth-sat-id	esat-<id>/<slot>/[u]<port>
	esat	keyword
	id	1 to 20
	u	keyword for up-link port

Values The following values apply to the 7950 XRS:

Table 99: Port Names

port-name	<port-id>[:encap-val]	
	encap-val	0 for null
		0 to 4094 for dot1q
		0 to 4094.* [1..4094].[0..4094] for qinq
port-id	slot/mda/port[.channel]	
	eth-tunnel-id	eth-tunnel-<id>
	eth-tunnel	keyword
	id	1 to 1024
	lag-id	lag-<id>
	lag	keyword
	id	1 to 800
	id	1 to 1024
	eth-sat-id	esat-<id>/<slot>/[u]<port>
	esat	keyword
	id	1 to 20
	u	keyword for up-link port

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	pxc-id	pxc-<id>.<sub-port>
	pxc	keyword
	id	1 to 64
	sub-port	a to b

Platforms

All

port

Syntax

port *port-id* **to** *port-id* [**create**]

no port *port-id*

Context

[Tree] (config>system>port-topology port)

Full Context

configure system port-topology port

Description

This command is used for satellites. It identifies to the SR OS that there is an internal connection between two ports.

Permitted pairings of the two ports are:

First port	Second port
Router port	Satellite uplink port
Satellite uplink port	Router port

For satellites, this command configures the binding between a host port ID and the satellite uplink from the satellite chassis. The port topology can be configured with the host connected to a satellite uplink or the satellite uplink port connected to the specified host port. Both configurations are supported, as shown in the following examples:

```
*A:Dut-A# configure system port-topology port esat-1/1/u4 to 1/2/2 create
*A:Dut-A# configure system port-topology no port esat-1/1/u4
*A:Dut-A# configure system port-topology port 1/2/2 to esat-1/1/u4 create
*A:Dut-A# configure system port-topology no port 1/2/2
```

The **no** form of the command removes the internal connection.

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Default

no port port-id

Parameters

port-id

Specifies one port of an internal port connection. These ports can be router ports or Ethernet satellite uplink ports. Acceptable pairings are defined in the command description.

Values

(Router port)

slot/*mda*/*port*

slot	The slot number of the card in the chassis. The maximum slot number is platform dependent. Refer to the hardware installation guides for more information.
mda	[1 to 2]
port	[1 to 160] (depending on the MDA type)

(Ethernet satellite uplink port)

esat-id/slot/uport

esat	keyword
id	[1 to 20]
slot	[1]
u	keyword for up-link port
port	[1 to 4]

create

Specifies the keyword required to create the binding between the two ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port *port-id*

Context

[Tree] (config>system>satellite>port-template port)

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Full Context

configure system satellite port-template port

Description

This command specifies the satellite port to be reconfigured.

The **no** form of this command deletes the specified port configuration.

Parameters

port-id

Specifies the satellite physical port ID. This must use the format *slot*/*mda*/*port*. Currently, all satellites have a single slot and a single MDA, so these values will always be 1. For example, port 10 would be specified as 1/1/10.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port *port-id* [**create**]

no port *port-id*

Context

[Tree] (config>system>ptp port)

Full Context

configure system ptp port

Description

This command configures PTP over Ethernet on the physical port. The PTP process shall transmit and receive PTP messages through the port using Ethernet encapsulation (as opposed to UDP/IPv4 encapsulation).

The frames are transmitted with no VLAN tags even if the port is configured for dot1q or qinq modes for encap-type. In addition, the received frames from the external PTP clock must also be untagged.

There are two reserved multicast addresses allocated for PTP messages (see *Annex F IEEE Std 1588™-2008*). Either address can be configured for the PTP messages sent through this port.

A PTP port may not be created if the PTP profile is set g8265dot1-2010.

If the port specified in the port-id supports 1588 port based timestamping, then a side effect of enabling PTP over Ethernet on the port shall be the enabling of Synchronous Ethernet on that port.

De-provisioning of the card or MDA containing the specified port is not permitted while the port is configured within PTP.

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Changing the encapsulation or the port type of the Ethernet port is not permitted when PTP Ethernet Multicast operation is configured on the port.

To allocate an ethernet satellite client port as a PTP port, the ethernet satellite must first be enabled for the transparent clock function. For more information, see the **config**>**system**>**satellite**>**eth-sat ptp-tc** command.

The SyncE/1588 ports of the CPM and CCMs can be specified as a PTP port. These use the 'A/3' and 'B/3' designation and they both must be specified as two PTP ports if both are to be used. The active CPM sends and receives messages on both ports if they are specified and enabled.

Parameters

port-id

Specifies a specific physical port.

Values *slot/mda/port*

create

Creates the PTP port. This keyword is required when first creating the PTP port, if the system is configured to require it (enabled in the environment create command). Once the PTP port is created, it is possible to navigate into the context without the create keyword.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port *value*

no port

Context

[Tree] (config>log>syslog port)

Full Context

configure log syslog port

Description

This command configures the UDP port that will be used to send syslog messages to the syslog target host.

The port configuration is needed if the syslog target host uses a port other than the standard UDP syslog port 514.

Only one port can be configured. If multiple **port** commands are entered, the last entered port overwrites the previously entered ports.

The **no** form of this command removes the value from the configuration.

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Parameters

value

Specifies the value that is the configured UDP port number used when sending syslog messages.

Values 1 **to** 65535

Platforms

All

port

Syntax

port *port*

no port

Context

[Tree] (config>system>netconf>listen port)

Full Context

configure system netconf listen port

Description

This command specifies the port on which the SR OS NETCONF server listens for new connections. Only one port can be configured for NETCONF management.

The configured port applies to both non-VPRN and VPRN management. New NETCONF connections are able to use the configured port. The SR OS NETCONF server errors if a port, different from the configured port, is used to SSH to the SR OS NETCONF server. For NETCONF connections not using VPRN management, active NETCONF connections are not disconnected if the port used to establish the connections is changed. For NETCONF connections using VPRN management, active NETCONF connections are disconnected if the port used to establish the connections is changed.

The **no** form of this command resets the port on which the SR OS NETCONF server listens to the default port of 830.

Parameters

port

Specifies the port on which NETCONF listens for new connections.

Values 22, 830

Any port between 1024 and 49151 that is not in use

Default 830

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Platforms

All

port

Syntax

port *tcp/udp port-number* [*mask*]

port port-list *port-list-name*

port range *tcp/udp port-number tcp/udp port-number*

no port

Context

[Tree] (config>system>security>cpm-filter>ipv6-filter>entry>match port)

[Tree] (config>system>security>cpm-filter>ip-filter>entry>match port)

Full Context

configure system security cpm-filter ipv6-filter entry match port

configure system security cpm-filter ip-filter entry match port

Description

This command configures a TCP/UDP source or destination port match criterion in IPv4 and IPv6 CPM filter policies. A packet matches this criterion if packet's TCP/UDP (as configured by protocol/next-header match) source OR destination port matches either the specified port value or a port in the specified port range or port list.

This command is mutually exclusive with **src-port** and **dst-port** commands.

The **no** form of this command deletes the specified port match criterion.

Default

no port

Parameters

tcp/udp port-number

Specifies the source or destination port to be used as a match criterion specified as a decimal integer.

Values 0 to 65535

mask

Specifies the 16 bit mask to be applied when matching the port.

Values [0x0000 to 0xFFFF] | [0 to 65535] | [0b0000000000000000. to 0b1111111111111111]

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range tcp/udp port-number

Specifies an inclusive range of source or destination port values to be used as match criteria. *start* of the range and *end* of the range are expressed as decimal integers.

Values start, end, port-number: 1 to 65535

port-list port-list-name

Specifies a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

port

Syntax

port *port*

no port

Context

[Tree] (config>system>security>radius port)

Full Context

configure system security radius port

Description

This command configures the TCP port number to contact the RADIUS server.

The **no** form of this command reverts to the default value.

Default

port 1812 (as specified in RFC 2865, *Remote Authentication Dial In User Service* (*RADIUS*))

Parameters

port

Specifies the TCP port number to contact the RADIUS server.

Values 1 to 65535

Platforms

All

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port

Syntax

[**no**] **port** *port-number*

[**no**] **port range** *start end*

Context

[Tree] (config>qos>match-list>port-list port)

Full Context

configure qos match-list port-list port

Description

This command adds a port or a range of ports to an existing port match list.

The **no** form of this command deletes the specified port or range of ports form the list.

Parameters

port-number

Specifies the port number to add to the list. The port number can be expressed as a decimal integer, as well as in hexadecimal or binary format. Below shows decimal integer only.

Values 0 to 65535

range

Keyword specifying a range of port values.

start

Specifies the start of the port range, expressed as decimal integers, as well as in hexadecimal or binary format. The following value shows decimal integer only.

Values 0 to 65534

end

Specifies the end of the port range, expressed as decimal integers, as well as in hexadecimal or binary format. The following value shows decimal integer only.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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port

Syntax

port *port*

no port

Context

[Tree] (config>system>grpc-tunnel>tunnel>handler port)

Full Context

configure system grpc-tunnel tunnel handler port

Description

This command assigns the TCP port number that the handler listens to internally.

The **no** form of this command disables the handler from listening to a TCP port.

Default

no port

Parameters

port

Specifies the TCP port number.

Values 1 to 65535

Platforms

All

port

Syntax

port *port-number*

Context

[Tree] (config>test-oam>twamp>twl>src-udp-pools port)

Full Context

configure test-oam twamp twamp-light source-udp-port-pools port

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Description

This command configures the TWAMP Light reserved source UDP ports to be mapped to a specific TWAMP Light or STAMP application.

Parameters

port-number

Specifies the TWAMP Light reserved source UDP port number.

Values 64374 to 64383

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

35.7 port-block-extensions

port-block-extensions

Syntax

port-block-extensions ports *num-ports* **subscriber-limit** *number*

port-block-extension no ports

Context

[Tree] (config>service>vprn>nat>outside>pool port-block-extensions)

[Tree] (config>router>nat>outside>pool port-block-extensions)

Full Context

configure service vprn nat outside pool port-block-extensions

configure router nat outside pool port-block-extensions

Description

This command configures a port block reserved for a dynamic NAT traffic flow for each subscriber with a port forwarding entry.

The **no** form of this command removes the values from the configuration.

Parameters

num-ports

Specifies the size of extended port-block for L2-aware subscribers

Values 10 to 5000

number

Specifies the limit of L2-aware NAT subscribers per an outside IP address

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Values 2 to 2000

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-block-extensions

Syntax
port-block-extensions

Context
[Tree] (config>service>nat>up-nat-policy port-block-extensions)

Full Context
configure service nat up-nat-policy port-block-extensions

Description
Commands in this context configure the attributes for dynamic allocation of NAT port blocks beyond the initial port blocks.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.8 port-bw-oversub-factor

port-bw-oversub-factor

Syntax
port-bw-oversub-factor *oversubscription-factor*
no port-bw-oversub-factor

Context
[Tree] (config>qos>hs-pool-policy>mid-tier>mid-pool port-bw-oversub-factor)

Full Context
configure qos hs-pool-policy mid-tier mid-pool port-bw-oversub-factor

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Description

This command modifies the size of the mid-pool when calculating the port-class pool sizes based on port bandwidth ratios. The command does not actually change the size of the mid-pool, only the size reported to the port-class pool sizing function.

Port-class pools can be sized in one of two ways: dynamically (proportionate to the bandwidth of each port) or explicitly (based on a percentage of the parent mid-pool). Explicit percentages require careful determination of the amount to give each pool. The dynamic sizing function attempts to automatically size each pool based on the relative amount of bandwidth each port-class pool is supporting compared to other port's port-class pools. This is accomplished by determining a dynamic weight for each port with port-class pools mapped to a given mid-pool. As true with any weighted behavior, the mid-pool buffer allocation resource is distributed in a non-oversubscribed manner to its child port-class pools. The **port-bw-oversub-factor** *oversubscription-factor* allows this distribution mechanism to become proportionally oversubscribed based on the defined factor. An oversubscription-factor of 1.5 causes the port-class pool dynamic sizes to be 1.5 times bigger, allowing for a potentially more efficient utilization of the buffers represented by mid-pool.

The **port-bw-oversub-factor** *oversubscription-factor* for a mid-pool can be modified at any time, causing the corresponding port-class pool dynamic sizes to be recalculated.

A similar behavior can be obtained by increasing the mid-pool's allocation-percent of its parent root-pool. However, the major difference in using **port-bw-oversub-factor** is that it provides larger port-class pools without allowing the mid-pool to use a higher number of buffers in the root pool.

The **no** form of the command reverts to the default.

Default

port-bw-oversub-factor 1

Parameters

oversubscription-factor

Specifies the factor by which the dynamically-sized port-class pools associated with the mid-pool may oversubscribe the mid-pool. This parameter is required when the **port-bw-oversub-factor** command is executed.

Values 1 to 10

Platforms

7750 SR-7/12/12e

35.9 port-control

port-control

Syntax

port-control [**auto** | **force-auth** | **force-unauth**]

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Context

[Tree] (config>port>ethernet>dot1x port-control)

Full Context

configure port ethernet dot1x port-control

Description

This command configures the 802.1x authentication mode.

The **no** form of this command returns the value to the default.

Default

port-control force-auth

Parameters

force-auth

Disables 802.1x authentication and causes the port to transition to the authorized state without requiring any authentication exchange. The port transmits and receives normal traffic without requiring 802.1x-based host authentication.

force-unauth

Causes the port to remain in the unauthorized state, ignoring all attempts by the hosts to authenticate. The switch cannot provide authentication services to the host through the interface.

auto

Enables 802.1x authentication. The port starts in the unauthorized state, allowing only EAPoL frames to be sent and received through the port. Both the router and the host can initiate an authentication procedure. The port will remain in unauthorized state (no traffic except EAPoL frames is allowed) until the first client is authenticated successfully. After this, traffic is allowed on the port for all connected hosts.

Platforms

All

35.10 port-down

port-down

Syntax

[**no**] **port-down**

Context

[Tree] (config>subscr-mgmt>ancp>ancp-policy port-down)

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Full Context

configure subscriber-mgmt ancp ancp-policy port-down

Description

Commands in this context configure the actions taken on port-down.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

port-down

Syntax

[**no**] **port-down** *port-id*

Context

[Tree] (config>vrrp>policy>priority-event port-down)

Full Context

configure vrrp policy priority-event port-down

Description

This command configures a port down priority control event that monitors the operational state of a port or SONET/SDH channel. When the port or channel enters the operational down state, the event is considered set. When the port or channel enters the operational up state, the event is considered cleared.

Multiple unique **port-down** event nodes can be configured within the **priority-event** context up to the overall limit of 32 events. Up to 32 events can be defined in any combination of types.

The **port-down** command can reference an arbitrary port or channel. The port or channel does not need to be preprovisioned or populated within the system. The operational state of the **port-down** event is set as follows:

- Set – non-provisioned
- Set – not populated
- Set – down
- Cleared – up

When the port or channel is provisioned, populated, or enters the operationally up or down state, the event operational state is updated appropriately.

When the event enters the operationally down, non-provisioned, or non-populated state, the event is considered to be set. When an event transitions from clear to set, the set is processed immediately and must be reflected in the associated virtual router instances in-use priority value. As the event transitions from cleared to set, a hold-set timer is loaded with the value configured by the events **hold-set** command. This timer prevents the event from clearing until it expires, damping the effect of event flapping. If the event clears and becomes set again before the hold-set timer expires, the timer is reset to the **hold-set** value, extending the time before another clear can take effect.

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When the event enters the operationally up state, the event is considered to be cleared. Once the events **hold-set** expires, the effects of the events **priority** value are immediately removed from the in-use priority of all associated virtual router instances.

The actual effect on the virtual router instance in-use priority value depends on the defined event priority and its delta or explicit nature.

The **no** form of the command deletes the specific port or channel monitoring event. The event may be removed at anytime. When the event is removed, the in-use priority of all associated virtual router instances will be re-evaluated. The events **hold-set** timer has no effect on the removal procedure.

Default

no port-down — No port down priority control events are defined.

Parameters

port-id

The port ID of the port monitored by the VRRP priority control event.

The *port-id* can only be monitored by a single event in this policy. The port can be monitored by multiple VRRP priority control policies. A port and a specific channel on the port are considered to be separate entities. A port and a channel on the port can be monitored by separate events in the same policy.

Values The following values apply to the 7750 SR:

slot/*mda*/*port*[.*channel*]

eth-sat-id	esat-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b
aps-id	aps-*group-id*[.*channel*]	
	aps	keyword
	group-id	1 to 64
ccag-id	ccag-*id*. *path-id*[*cc-type*]	
	ccag	keyword
	id	1 to 8
	path-id	a, b

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		cc-type	.sap-net, .net-sap

Values The following values apply to the 7450 ESS:

port-id	*slot*/*mda*/*port*[.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b
	ccag-id	ccag-*id*. *path-id*[*cc-type*]	
		ccag	keyword
		id	1 to 8
		path-id	a, b
		cc-type	.sap-net, .net-sap

The POS channel on the port monitored by the VRRP priority control event. The *port-id***.** *channel-id* can only be monitored by a single event in this policy. The channel can be monitored by multiple VRRP priority control policies. A port and a specific channel on the port are considered to be separate entities. A port and a channel on the port can be monitored by separate events in the same policy.

If the port is provisioned, but the *channel* does not exist or the port has not been populated, the appropriate event operational state is Set – non-populated.

If the port is not provisioned, the event operational state is Set – non-provisioned.

If the POS interface is configured as a clear-channel, the *channel-id* is 1 and the channel bandwidth is the full bandwidth of the port.

Platforms

All

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35.11 port-format

port-format

Syntax

port-format *formatting*

no port-format

Context

[Tree] (config>service>vprn>wpp>portals>portal port-format)

[Tree] (config>router>wpp>portals>portal port-format)

Full Context

configure service vprn wpp portals portal port-format

configure router wpp portals portal port-format

Description

This command specifies the encoding format of WPP port attribute.

The standard format is as follows:

<0 to 20 character system-name><1 character separator><2-digit slot><1-digit mda><2-digit port><4-digit top><5-digit bottom>

As a general rule, if a value is not present or is too large to fit in the field, is the field set to all zeros. The following rules apply to standard formats.

- With a standard port, when the separator is a "-" character, the slot is the *slot-id*, mda is the *mda-id*, and the port is the *port-id*.
- With an ESAT port, when the separator is a ":" character, the slot is the *satellite-id*, MDA is satellite *slot-id*, and the port is satellite *port-id*.
- With a PXC port, when separator is a "#" character, the MDA is the PXC *subport-id*, and the port is the PXC *port-id*.
- With a LAG port, the port is the *lag-id*.
- With a connector port, the slot is the *slot-id*, the MDA is the *mda-id*, and the port is the *connector-id*.

The vendor-specific format is as follows:

With dot1q, append "%u" with the top *vlan-id*.

With qinq, append "%u.%u" with the top *vlan-id* and the bottom *vlan-id*.

As a general rule, there can be no trailing zeros. The string truncates if it becomes too long. 0 to 16 characters are allowed for the system name. The following rules apply to vendor-specific formats.

- With a standard port, append "%s-%u/%u/%" with the *system-name*, *slot-id*, *mda-id*, and *port-id*.
- With an ESAT port, append "%s-S%u/%u/%u" with the *system-name*, *satellite-id*, *satellite-slot-id*, and *satellite-port-id*.

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- With a PXC port, append "%s-P%u%c” with the *system-name*, PXC *port-id*, and PXC *subport-id* ? 'a' : 'b'.
- With a LAG port, append "%s-L%u” with the *system-name* and *lag-id*.
- With a connector port append "%s-%u%uc%u/%u” with the *system-name*, *slot-id*, *mda-id*, *connector-id*, and *connector-port-id*.

The **no** form of this command reverts to the default.

Default

port-format standard

Parameters

formatting

Specifies the encoding format of the WPP port attribute.

Values standard, vendor-specific

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.12 port-forward-logging

port-forward-logging

Syntax

[**no**] **port-forward-logging**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes port-forward-logging)

Full Context

configure aaa isa-radius-policy acct-include-attributes port-forward-logging

Description

This command enables static or PCP port-forward logging via RADIUS. Port-forward logging is supported only in conjunction with the logging of port blocks.

The **no** form of the command disables static or PCP port-forward logging.

Default

no port-forward-logging

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.13 port-forwarding

port-forwarding

Syntax
port-forwarding

Context
[Tree] (config>service>nat port-forwarding)

Full Context
configure service nat port-forwarding

Description
Commands in this context configure NAT port forwarding parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.14 port-forwarding-dyn-block-reservation

port-forwarding-dyn-block-reservation

Syntax
[**no**] **port-forwarding-dyn-block-reservation**

Context
[Tree] (config>service>vprn>nat>outside>pool port-forwarding-dyn-block-reservation)
[Tree] (config>router>nat>outside>pool port-forwarding-dyn-block-reservation)

Full Context
configure service vprn nat outside pool port-forwarding-dyn-block-reservation
configure router nat outside pool port-forwarding-dyn-block-reservation

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Description

This command will enable the reservation of the dynamic port blocks when the first port forward for the subscriber is created. The dynamic port bloc allocation is logged only if the block is being utilized (mapping are created). In other words, dynamic port block reservation due to the port forward creation but without any dynamic mapping, will not be logged.

The reserved port block will be released only when the last mapping in the block expires and there is not port forward associated with the subscriber. The de-allocation log (syslog or Radius) will be generated when the dynamic port block is completely released.

Dynamic port block reservation can be enabled only if the configured maximum number of subscriber per outside IP address is less or equal then the maximum number of configured port blocks per outside IP address.

Default

no port-forwarding-dyn-block-reservation

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.15 port-forwarding-range

port-forwarding-range

Syntax

port-forwarding-range [*range-start*] *range-end*

no port-forwarding-range

Context

[Tree] (config>router>nat>outside>pool port-forwarding-range)

[Tree] (config>service>vprn>nat>outside>pool port-forwarding-range)

Full Context

configure router nat outside pool port-forwarding-range

configure service vprn nat outside pool port-forwarding-range

Description

This command configures the lower and upper limit for port forwards in the ephemeral port space (wildcard port space) of all IP addresses in a NAT pool. A well-known port range (ports 1 to 1023) is always enabled for port forwards, and it cannot be disabled for pools in NAPT mode.

Pools in 1:1 mode do not support configured port forwards. These pools do not perform port translation and they automatically forward traffic initiated on the outside toward the inside.

Port 0 is always excluded from the port forwarding range.

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The upper bound of the wildcard port range is reserved for port forwards. If the value for the *range-start* is not provided, the wildcard port range implicitly starts at 1024.

range-start 0 cannot be configured by an operator because it is reserved for 1:1 pools that do not support configured port forwards.

If you configure *port-forwarding-range 3000*, configures ports 1 to 3000 as port forwards. This implies that the well-known ports and wildcard ports are contiguous. If you configure *port-forwarding-range 2000 3000*, the router implicitly includes ports 1 to 1023, plus enables the wildcard port range 2000 to 3000, which is now disjoined from the well-known ports.

The *range-start* parameter has additional values that are configurable in the CLI. 0 is reserved for pools that do not support configured port forwards (those are 1:1 pools).

range-start 1 means that well-known ports and wildcard port forwards are contiguous. This is configured by omitting the *range-start* parameter and only configuring the *range-end* parameter.

The **no** form of this command disables the port forwards capability in the wildcard port range of all IP addresses in a NAT pool.

Default ranges in the *range-start* and *range-end* parameters in the MIB for the NAT pools that support port forwarding ranges are set to include only well-known ports, *range-start 1* and *range-end 1023*.

Parameters

range-start

Specifies the lower boundary of the wildcard port range reserved for port forwards. When configured, the value must be less than the *range-end* value.

Values 0, 1, 1025 to 65535

Default 1

range-end

Specifies the upper boundary of the wildcard port range reserved for port forwards.

Values 0, 1023 to 65535

Default 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-forwarding-range

Syntax

port-forwarding-range *range-end*

no port-forwarding-range

Context

[Tree] (config>service>nat>firewall-policy port-forwarding-range)

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[Tree] (config>service>nat>nat-policy port-forwarding-range)

Full Context

configure service nat firewall-policy port-forwarding-range

configure service nat nat-policy port-forwarding-range

Description

This command configures the end of the port range available for port forwarding. The start of the range is always equal to one.

The number of ports that can be configured is half of the available block => 64512 : 2 = 32256

In combination with port-forwarding-range the formulas are:

"max port-reservation blocks" = 65535 - "port-forwarding-range"

"max port-reservation ports" = (65535 - "port-forwarding-range") / 2

with:

the default min value for "port-forwarding-range" = 1023

Also, the same applies for max port-forwarding-range if the port-reservation is already configured:

"max port-forwarding-range" = 65535 - "port-reservation blocks"

"max port-forwarding-range" = 65535 - ("port-reservation ports" * 2)

The **no** form of the command reverts to the default.

Default

port-forwarding-range 1023

Parameters

range-end

Specifies the end of the port range available for port forwarding.

Values 1023 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy port-forwarding-range

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy port-forwarding-range

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35.16 port-id

port-id

Syntax

[**no**] **port-id**

Context

[Tree] (config>router>if>dhcp>option>vendor-specific-option port-id)

Full Context

configure router interface dhcp option vendor-specific-option port-id

Description

This command enables sending of the port-id in the Nokia vendor specific suboption of the DHCP relay packet

The **no** form of this command disables the sending.

Default

no port-id

Platforms

All

35.17 port-id-subtype

port-id-subtype

Syntax

port-id-subtype {**tx-if-alias** | **tx-if-name** | **tx-local**}

Context

[Tree] (config>port>ethernet>lldp>dstmac port-id-subtype)

Full Context

configure port ethernet lldp dest-mac port-id-subtype

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Description

This command specifies how to encode the PortID TLV transmit to the peer. The default setting **tx-local** (ifindex value) is required by some versions of the NSP NSM-P to properly build the Layer 2 topology map using LLDP. Changing this value to transmit the ifname (**tx-if-name**) or ifAlias (**tx-if-alias**) in place of the ifindex (**tx-local**) may affect the ability of the NSP NFM-P to build the Layer 2 topology map using LLDP.

Default

port-id-subtype tx-local

Parameters

tx-if-alias

Transmits the ifAlias String (subtype 1) that describes the port as stored in the IF-MIB, either user configured or the default entry (i.e. 10/100/Gig Ethernet SFP).

tx-if-name

Transmits the ifName string (subtype 5) that describes the port as stored in the IF-MIB ifName info.

tx-local

The interface ifIndex value (subtype 7) as the PortID.

Platforms

All

port-id-subtype

Syntax

port-id-subtype {**tx-if-alias** | **tx-if-name** | **tx-local**}

Context

[Tree] (config>lag>lldp-member-template>dstmac port-id-subtype)

Full Context

configure lag lldp-member-template dest-mac port-id-subtype

Description

This command configures the encoding of the PortID TLV that is transmitted to the peer. Some versions of the NSP NFM-P require the default setting **tx-local** (ifIndex value) to properly build the Layer 2 topology map using LLDP. Changing this value to transmit the ifName (**tx-if-name**) or ifAlias (**tx-if-alias**) in place of the ifIndex (**tx-local**) may affect the ability of the NSP NFM-P to build the Layer 2 topology map using LLDP.

Default

port-id-subtype tx-local

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Parameters

tx-if-alias

Keyword to transmit the ifAlias String (subtype 1), which describes the port as stored in the IF-MIB, either user configured or the default entry (for example, 10/100/Gig Ethernet SFP).

tx-if-name

Keyword to transmit the ifName string (subtype 5), which describes the port as stored in the IF-MIB ifName information.

tx-local

Keyword to transmit the interface ifIndex value (subtype 7) as the port ID.

Platforms

All

35.18 port-limits

port-limits

Syntax

port-limits

Context

[Tree] (config>service>nat>nat-policy port-limits)

[Tree] (config>service>nat>up-nat-policy port-limits)

[Tree] (config>service>nat>firewall-policy port-limits)

Full Context

configure service nat nat-policy port-limits

configure service nat up-nat-policy port-limits

configure service nat firewall-policy port-limits

Description

This command configures the port limits of this policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy port-limits
- configure service nat up-nat-policy port-limits

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy port-limits

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35.19 port-list

port-list

Syntax

port-list *port-list-name* [**create**]

no port-list *port-list-name*

Context

[Tree] (config>app-assure>group port-list)

Full Context

configure application-assurance group port-list

Description

This command defines an AA group or partition named port-list, which contains a list of port numbers or port ranges. The port list is then referenced in AA policy app-filters, allowing increased flexibility in the use of server ports or HTTP proxy ports for application definition.

The **no** form of this command removes the list.

Parameters

port-list-name

Specifies the name of the port list.

Default default

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-list

Syntax

port-list *port-list-name* [**create**]

no port-list *port-list-name*

Context

[Tree] (config>filter>match-list port-list)

Full Context

configure filter match-list port-list

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Description

This command creates a list of TCP/UDP/SCTP port values or ranges for match criteria in IPv4 and IPv6 ACL and CPM filter policies.

The **no** form of this command deletes the specified list.

Operational notes:

SCTP port match is supported in ACL filter policies only.

A port-list must contain only TCP/UDP/SCTP port values or ranges.

A TCP/UDP/SCTP port match list cannot be deleted if it is referenced by a filter policy.

See general description related to match-list usage in filter policies.

Parameters

port-list-name

Specifies a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

All

port-list

Syntax

port-list *port-list-name* [**create**]

no port-list *port-list-name*

Context

[Tree] (config>qos>match-list port-list)

Full Context

configure qos match-list port-list

Description

This command creates a list of port values or ranges for match criteria in QoS policies.

The **no** form of this command deletes the specified list.

Parameters

port-list-name

Specifies a port list name, up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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35.20 port-map

port-map

Syntax

port-map *client-port-id* **primary** *primary-uplink-port-id* [**secondary** *secondary-uplink-port-id*]

port-map *client-port-id* **system-default**

Context

[Tree] (config>system>satellite>eth-sat port-map)

Full Context

configure system satellite eth-sat port-map

Description

This command configures the mapping between a satellite client port and its associated uplink. This command allows both a primary and an optional secondary uplink to be configured.

If a secondary uplink is configured, it is used to forward traffic if the primary uplink is down for any reason.

Before an uplink can be used as either a primary or secondary uplink, it must be configured using the **port-topology** configuration command.

To return the uplink association to its default the **port-map** *client-port-id* **system-default** command should be used.

Parameters

client-port-id

Specifies the satellite client port associated with the port mapping, in the format **esat**-*id*/*slot*/*port*.

primary-uplink-port-id

Specifies the primary satellite uplink to be associated with the associate client port, in the format **esat**-*id*/*slot*/*uport* where *id* is 1 to 20.

secondary-uplink-port-id

Specifies the secondary satellite uplink to be associated with the associate client port, in the format **esat**-*id*/*slot*/*uport* where *id* is 1 to 20.

system-default

Specifies to set the port map to the system default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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35.21 port-num

port-num

Syntax

port-num *virtual-port-number*

no port-num [*virtual-port-number*]

Context

[Tree] (config>service>vpls>spoke-sdp>stp port-num)

[Tree] (config>service>vpls>sap>stp port-num)

Full Context

configure service vpls spoke-sdp stp port-num

configure service vpls sap stp port-num

Description

This command configures the virtual port number which uniquely identifies a SAP within configuration bridge protocol data units (BPDUs). The internal representation of a SAP is unique to a system and has a reference space much bigger than the 12 bits definable in a configuration BPDU. STP takes the internal representation value of a SAP and identifies it with its own virtual port number that is unique to every other SAP defined on the TLS. The virtual port number is assigned at the time that the SAP is added to the TLS. Since the order that the SAP was added to the TLS is not preserved between reboots of the system, the virtual port number may change between restarts of the STP instance.

The virtual port number cannot be administratively modified.

Platforms

All

35.22 port-overall-rate

port-overall-rate

Syntax

port-overall-rate *packet-rate-limit* [**low-action-priority**]

no port-overall-rate

Context

[Tree] (config>sys>security>cpu-protection port-overall-rate)

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Full Context

configure system security cpu-protection port-overall-rate

Description

This command configures a per-port overall rate limit for CPU protection.

Default

port-overall-rate max

Parameters

packet-rate-limit

Specifies an overall per-port packet arrival rate limit in packets per second.

Values 1 to 65535, max (indicates no limit)

action-low-priority

Marks packets that exceed the rate as low-priority (for preferential discard later if there is congestion in the control plane) instead of discarding them immediately.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

35.23 port-parent

port-parent

Syntax

parent [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no parent

Context

[Tree] (config>qos>sap-egress>dynamic-queue port-parent)

Full Context

configure qos sap-egress dynamic-queue port-parent

Description

This command configures the queue treatment by the port parent that governs the available bandwidth for the queue. When multiple queues share a child status with the parent port, the **weight** and **level** options define how this queue contends with the other children for the above-CIR parent bandwidth. The **cir-weight** and **cir-level** options specify the weight the queue uses for the within-CIR port priority.

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Parameters

weight

Specifies the relative weight of this queue in comparison to other child queues while vying for above-CIR priority level bandwidth on the parent scheduler. Any queues defined as weighted receive no parental bandwidth, until all strict queues and schedulers on the parent have reached their maximum bandwidth or are idle. In this manner, weighted children are considered to be the lowest priority.

Values 1 to 100

Default 1

level

Specifies the priority level of the queue (as compared to other competing schedulers and queues) used to feed to the parent, for above-CIR offered load bandwidth passes.

Values 1 to 8

Default 1

cir-weight

Specifies the weight the queue uses at the within-CIR port priority level. This applies to any charging statistics also. The weight is specified as an integer value from 0 to 100, with 100 being the highest weight. When the **cir-weight** option is set to 0 (the default), the queue does not receive bandwidth during the port scheduler's within-CIR passes and the **cir-level** option is ignored. If the **cir-weight** is 1 or greater, the **cir-level** option comes into play.

Values 0 to 100

Default 0

cir-level

Specifies the priority level of the queue (as compared to other competing schedulers and queues) used to fed to the port parent, for within-CIR offered load bandwidth passes.

Values 0 to 8

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

port-parent

Syntax

port-parent [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no port-parent

Context

[Tree] (config>qos>sap-egress>policer port-parent)

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Full Context

configure qos sap-egress policer port-parent

Description

This command specifies whether this SAP egress policer feeds off a port-level scheduler. When configured, the policer is parented by a port-level scheduler. This requires that **policers-hqos-manageable** be configured in the SAP egress QoS policy. This command and the SAP egress policer **scheduler-parent** and the **parent** commands are mutually exclusive.

The **port-parent** command defines a child/parent association between an egress policer and a port-based scheduler or between an intermediate service scheduler and a port-based scheduler. The **port-parent** command allows for a set of within-CIR and above-CIR parameters that define the port priority levels and weights for the policer. If the **port-parent** command is executed without any parameters, the default parameters are used.

In this context, the **port-parent** command and the **scheduler-parent** command (used to create a parent/child association between a queue and an intermediate scheduler) are mutually exclusive. Executing a **port-parent** command when a **scheduler-parent** definition exists causes the current intermediate scheduler association to be removed and replaced by the defined port-parent association. Executing a **scheduler-parent** command when a **port-parent** definition exists causes the port scheduler association to be removed and replaced by the defined intermediate scheduler association.

Changing the parent context on a SAP egress policy policer may cause a SAP or subscriber or a multiservice site context of the policer (policy associated with a SAP or subscriber profile or a multiservice site) to enter an orphaned state. If an instance of a policer is created on a port or channel that does not have a port scheduler enabled, and the SAP egress policy creating the policer has a port parent association, the policer will be allowed to run according to its own rate parameters and will not be controlled by a virtual scheduling context. If an instance of a policer is on a port or channel that has a port scheduler configured and the SAP egress policy defines the policer as having a non-existent intermediate scheduler parent, the policer will be treated as an orphan and will be handled according to the current orphan behavior on the port scheduler.

The **no** form of this command removes a port scheduler parent association for the policer. When removed, if a port scheduler is defined on the port on which the policer instance exists, the policer will be treated as orphaned to the port scheduler.

Default

no port-parent

Parameters

weight *weight*

Specifies the weight that the policer will use at the above-CIR port priority level (defined by the **level** parameter).

All weight values from all weighted active policers, queues, and schedulers with a common port parent are added together. Then, each individual active weight is divided by the total to determine the percentage of remaining bandwidth provided to the policer, queue, or scheduler after the higher priority level children have been serviced. A weight is considered to be active when the applicable policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit.

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The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the **weight** parameter is set to a value of 0, the policer receives bandwidth only after other children with a non-zero weight at this level.

Values 0 to 100

Default 1

level ***level***

Specifies the port priority that the policer uses to receive bandwidth for its above-CIR offered load.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight ***cir-weight***

Specifies the weight that the policer uses at the within-CIR port priority level (defined by the **cir-level** parameter).

All **cir-weight** values from all weighted active policers, queues, and schedulers with a common port parent are added together. Then, each individual active weight is divided by the total to determine the percentage of remaining bandwidth provided to the policer, queue, or scheduler after the higher priority level children have been serviced. A weight is considered to be active when the applicable policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit.

The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the **cir-weight** parameter is set to a value of 0, the policer receives bandwidth only after the other children with a non-zero weight at this level.

Values 0 to 100

Default 0

cir-level ***cir-level***

Specifies the port priority that the policer will use to receive bandwidth for its within-CIR offered load. If the **cir-level** parameter is set to a value of 0 (the default value), the policer does not receive bandwidth during the port schedulers within-CIR pass and the **cir-weight** parameter is ignored. If the **cir-level** parameter is 1 or greater, the **cir- weight** parameter is used.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-1s, 7750 SR-1se, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, VSR

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port-parent

Syntax

port-parent [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no port-parent

Context

[Tree] (config>qos>sap-egress>queue port-parent)

Full Context

configure qos sap-egress queue port-parent

Description

This command specifies whether this queue feeds off a port-level scheduler. When configured, this SAP egress queue is parented by a port-level scheduler. This object is mutually exclusive with SAP egress queue parent. Only one kind of parent is allowed.

The **port-parent** command defines a child/parent association between an egress queue and a port-based scheduler or between an intermediate service scheduler and a port-based scheduler. The **port-parent** command allows for a set of within-CIR and above-CIR parameters that define the port priority levels and weights for the queue or scheduler. If the **port-parent** command is executed without any parameters, the default parameters are assumed.

In this context, the **port-parent** command is mutually exclusive to the **parent** command (used to create a parent/child association between a queue and an intermediate scheduler). Executing a **port-parent** command when a parent definition is in place causes the current intermediate scheduler association to be removed and replaced by the defined port-parent association. Executing a **parent** command when a port-parent definition exists causes the port scheduler association to be removed and replaced by the defined intermediate scheduler name.

Changing the parent context on a SAP egress policy queue may cause a SAP or subscriber or multiservice site context of the queue (policy associated with a SAP or subscriber profile or multiservice site) to enter an orphaned state. If an instance of a queue is created on a port or channel that does not have a port scheduler enabled and the sap-egress policy creating the queue has a port-parent association, the queue will be allowed to run according to its own rate parameters and will not be controlled by a virtual scheduling context. If an instance of a queue is on a port or channel that has a port scheduler configured and the sap-egress policy defines the queue as having a non-existent intermediate scheduler parent, the queue will be treated as an orphan and will be handled according to the current orphan behavior on the port scheduler.

The **no** form of this command removes a port scheduler parent association for the queue or scheduler. If a port scheduler is defined on the port on which the queue or scheduler instance exists, the queue or scheduler will become orphaned if an port scheduler is configured on the egress port of the queue or scheduler.

Default

no port-parent

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Parameters

weight *weight*

Specifies the weight the queue or scheduler will use at the above-CIR port priority level (defined by the level parameter).

Values 0 to 100

Default 1

level *level*

Specifies the port priority the queue or scheduler will use to receive bandwidth for its above-CIR offered-load.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight *cir-weight*

Specifies the weight the queue or scheduler will use at the within-CIR port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 100

Default 0

cir-level *cir-level*

Specifies the port priority the queue or scheduler will use to receive bandwidth for its within-CIR offered-load. If the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

All

port-parent

Syntax

port-parent [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no port-parent

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Context

[Tree] (config>qos>network-queue>queue port-parent)

Full Context

configure qos network-queue queue port-parent

Description

This command specifies whether this queue feeds off a port-level scheduler. For the network-queue policy context, only the port-parent command is supported. When a port scheduler exists on the port, network queues without a port-parent association will be treated as an orphan queue on the port scheduler and treated according to the current orphan behavior on the port scheduler. If the port-parent command is defined for a network queue on a port without a port scheduler defined, the network queue will operate as if a parent association does not exist. When a port scheduler policy is associated with the egress port, the port-parent command will come into effect.

When a network-queue policy is associated with an FP for ingress queue definition, the port-parent association of the queues is ignored.

The **no** form of this command removes a port scheduler parent association for the queue or scheduler. If a port scheduler is defined on the port then the queue or scheduler instance exists, the queue or scheduler will become orphaned.

Default

no port-parent

Parameters

weight *weight*

Specifies the weight the queue or scheduler will use at the above-CIR port priority level (defined by the level parameter).

Values 0 to 100

Default 1

level *level*

Specifies the port priority the queue or scheduler will use to receive bandwidth for its above-CIR offered-load.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight *cir-weight*

Specifies the weight the queue or scheduler will use at the within-CIR port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the cir-weight parameter is set to a value of 0, the queue or scheduler does not receive bandwidth during the port scheduler's within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter is used.

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Values 0 to 100

Default 0

cir-level ***cir-level***

Specifies the port priority the queue or scheduler will use to receive bandwidth for its within-CIR offered-load. If the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port scheduler's within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

All

port-parent

Syntax

port-parent [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no port-parent

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue port-parent)

Full Context

configure qos queue-group-templates egress queue-group queue port-parent

Description

This command defines the port scheduling parameters used to control the queue's behavior when a virtual egress port scheduling is enabled where the egress queue group template is applied. The **port-parent** command follows the same behavior and provisioning characteristics as the **parent** command in the SAP egress QoS policy. The **port-parent** command and the **parent** command are mutually exclusive.

The **no** form of this command removes the values from the configuration.

Parameters

weight ***weight***

Specifies the weight the queue or scheduler will use at the above-CIR port priority level (defined by the level parameter).

Values 0 to 100

Default 1

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level ***level***

Specifies the port priority the queue or scheduler will use to receive bandwidth for its above-CIR offered-load.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight ***cir-weight***

Specifies the weight the queue or scheduler will use at the within-CIR port priority level (defined by the **cir-level** parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the **cir-weight** parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the **cir-level** parameter is ignored. If the **cir-weight** parameter is 1 or greater, the **cir-level** parameter is used.

Values 0 to 100

Default 0

cir-level ***cir-level***

Specifies the port priority the queue or scheduler will use to receive bandwidth for its within-CIR offered-load. If the **cir-weight** parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port schedulers within-CIR pass and the **cir-level** parameter is ignored. If the **cir-weight** parameter is 1 or greater, the **cir-level** parameter is used.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

All

port-parent

Syntax

port-parent [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no port-parent

Context

[Tree] (config>qos>scheduler-policy>tier>scheduler port-parent)

Full Context

configure qos scheduler-policy tier scheduler port-parent

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Description

The **port-parent** command defines a child/parent association between an egress scheduler and a port-based scheduler, or between an intermediate service scheduler and a port-based scheduler. The **port-parent** command allows for a set of within-CIR and above-CIR parameters that define the port priority levels and weights for the scheduler. If the **port-parent** command is executed without any parameters, the default parameters are assumed.

In this context, the **port-parent** command and the **parent** command (used to create a parent/child association to an intermediate scheduler) are mutually exclusive. Executing a **port-parent** command when a parent definition is in place causes the current intermediate scheduler association to be removed and replaced by the defined port-parent association. Executing a **parent** command when a port-parent definition exists causes the port scheduler association to be removed and replaced by the defined intermediate scheduler name.

Changing the parent context on a SAP egress policy policer or queue may cause a SAP or subscriber context of the policer or queue (policy associated with a SAP or subscriber profile) to enter an orphaned state. If an instance of a policer or queue is created on a port or channel that does not have a port scheduler enabled and the sap-egress policy creating the policer queue has a port-parent association, the policer or queue will be allowed to run according to its own rate parameters and will not be controlled by a virtual scheduling context. If an instance of a policer or queue is on a port or channel that has a port scheduler configured and the sap-egress policy defines the policer or queue as having a non-existent intermediate scheduler parent, the policer or queue will be treated as an orphan and will be handled according to the current orphan behavior on the port scheduler.

The **no** form of this command removes a port scheduler parent association for the scheduler. If a port scheduler is defined on the port that the scheduler instance exists, the scheduler will become orphaned if an port scheduler is configured on the egress port of the queue or scheduler.

Default

no port-parent

Parameters

weight *weight*

Specifies the weight the queue or scheduler will use at the above-CIR port priority level (defined by the **level** parameter).

Values 0 to 100

Default 1

level *level*

Specifies the port priority the queue or scheduler will use to receive bandwidth for its above-CIR offered-load.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight *cir-weight*

Specifies the weight the queue or scheduler will use at the within-CIR port priority level (defined by the cir-level parameter). The weight is specified as an integer value from 0 to 100 with 100 being the highest weight. When the **cir-weight** parameter is set to a

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value of 0, the queue or scheduler does not receive bandwidth during the port scheduler's within-CIR pass and the **cir-level** parameter is ignored. If the **cir-weight** parameter is 1 or greater, the **cir-level** parameter comes into play.

Values 0 to 100

Default 0

cir-level ***cir-level***

Specifies the port priority the queue or scheduler will use to receive bandwidth for its within-CIR offered-load. If the cir-weight parameter is set to a value of 0 (the default value), the queue or scheduler does not receive bandwidth during the port scheduler's within-CIR pass and the cir-level parameter is ignored. If the cir-weight parameter is 1 or greater, the cir-level parameter comes into play.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

All

35.24 port-policy

port-policy

Syntax

port-policy [*port-policy*]

no port-policy

Context

[Tree] (config>isa>wlan-gw-group port-policy)

Full Context

configure isa wlan-gw-group port-policy

Description

This command configures the port policy of this WLAN Gateway ISA group. If a port policy is associated with a WLAN Gateway ISA group, ports created for this group can take applicable configuration from that port policy. This port policy is applicable to those ports that take part in the per-tunnel QoS processing.

The **no** form of the command removes the **port-policy** name from the configuration.

Default

no port-policy

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Parameters

port-policy

Specifies the port policy of this WLAN Gateway ISA group, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-policy

Syntax

port-policy *port-policy-name* [**create**]

no port-policy *port-policy-name*

Context

[Tree] (config port-policy)

Full Context

configure port-policy

Description

This command either creates a new port-policy with create parameter or enters the configuration context of an existing port-policy.

The **no** form of this command removes the port policy name from the configuration.

Parameters

port-policy-name

Specifies the name of *port-policy* up to 32 characters.

create

Creates the port-policy instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-policy

Syntax

port-policy *policy-name*

no port-policy

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Context

[Tree] (config>isa>lns-group port-policy)

Full Context

configure isa lns-group port-policy

Description

This command enables policies referenced in the **config>port-policy** context to be created under **ports**. These are the ports that link the carrier IOM to the ISA, and are hidden within the system (they cannot be created through the CLI). They are created automatically. Use the **show port** command to view information.

Currently only the port scheduler policy is supported. Each lns-esm port in the lns-group receives an independent port scheduler instance. The port schedulers are instantiated in the carrier IOM on the lns-esm ports that carry PPPoE traffic in the downstream direction towards the ISA before the PPPoE traffic is L2TP encapsulated.

The **no** form of the command removes the policy name from the configuration.

Default

no port-policy

Parameters

policy-name

Specifies the port policy of this LNS group, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.25 port-range-block

port-range-block

Syntax

[**no**] **port-range-block**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes port-range-block)

Full Context

configure aaa isa-radius-policy acct-include-attributes port-range-block

Description

This command enables the inclusion of the NAT port range block attributes.

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The **no** form of the command excludes NAT port range block attributes.

Default

no port-range-block

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.26 port-recorder

port-recorder

Syntax

[**no**] **port-recorder**

Context

[Tree] (debug>app-assure>group port-recorder)

Full Context

debug application-assurance group port-recorder

Description

This commands allows to stop or start the http-host-recorder. To reset the recorded values execute shutdown followed by **no** shutdown.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.27 port-redirect-group

port-redirect-group

Syntax

port-redirect-group {**queue** *queue-id* | **policer** *policer-id* [**queue** *queue-id*]}

no port-redirect-group

Context

[Tree] (config>qos>network>egress>fc port-redirect-group)

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Full Context

configure qos network egress fc port-redirect-group

Description

This command is used to redirect the FC of a packet of a pseudowire (PW) or network IP interface to an egress port queue group.

It defines the mapping of an FC to a queue ID or a policer ID and a queue ID and redirects the lookup of the queue or policer of the same ID in some egress port queue-group instance. However, the queue-group name and instance are explicitly provided only at the time the network QoS policy is applied to egress context of a spoke-sdp or a network IP interface.

The **no** version of this command removes the redirection of the FC.

Parameters

queue-id

This parameter must be specified when executing the **port-redirect-group** command. The specified *queue-id* must exist within the egress port queue group on each IP interface where the network QoS policy is applied.

Values 1 to 8

policer id

The specified policer-id must exist within the queue-group template applied to the ingress context of the forwarding plane.

Values 1 to 8

Platforms

All

35.28 port-reservation

port-reservation

Syntax

port-reservation blocks *num-blocks*

port-reservation ports *num-ports*

no port-reservation

Context

[Tree] (config>service>vprn>nat>outside>pool port-reservation)

[Tree] (config>router>nat>outside>pool port-reservation)

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Full Context

configure service vprn nat outside pool port-reservation

configure router nat outside pool port-reservation

Description

This command configures the size of the port block that will be assigned to a host that is served by this pool. The number of ports configured are available to UDP, TCP, and ICMP (as identifiers).

Parameters

num-blocks

Specifies the number of port blocks per IP address. Setting this parameter to one (1) for large scale NAT enables 1:1 NAT for IP addresses in this pool.

Values 1 to 64512

num-ports

Specifies the number of ports per block.

Values 0 to 64512 (for deterministic pools)

1 to 64512 (for non-deterministic pools)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-reservation

Syntax

port-reservation *num-ports*

no port-reservation

Context

[Tree] (config>router>nat>outside>pool>deterministic port-reservation)

[Tree] (config>service>vprn>nat>outside>pool>deterministic port-reservation)

Full Context

configure router nat outside pool deterministic port-reservation

configure service vprn nat outside pool deterministic port-reservation

Description

This command is applicable only to deterministic NAT. It configures the number of deterministic ports per subscriber (for example a subscriber is an inside IP address in LSN44 or IPv6 address or prefix in DS-Lite). Once this command is enabled, the pool will transition into deterministic mode of operation. This means that the subscribers can use dynamic port-blocks in the pool only as a mean to expand the range

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of originally assigned deterministic ports. A pool with such property is referred to as deterministic pool. However, deterministic NAT and non-deterministic NAT cannot use the same pool simultaneously.

All subscribers in deterministic pool are pre-mapped during the configuration phase to outside IP addresses and deterministic port-blocks. Because of this, the deterministic pool cannot be oversubscribed with subscribers (first-come, first-served).

Once the deterministic pool becomes operational (no shutdown) a log is created. The same applies if the pool is disabled (shutdown). As a result of this one-time logging, there will be no additional logging when a subscriber starts using ports from the pre-assigned deterministic port block. This drastically reduces the logging overhead. However, when a deterministic port block is expanded by a dynamic port block, a log will be created on any allocation/de-allocation of the dynamic port block. The logs are also created for static port forwards (including PCP).

The number of subscribers per outside IP address (subscriber-limit) multiplied by the number of deterministic ports per subscriber (port-reservation) will determine the port range of an outside IP address that will be dedicated to deterministic mappings. The number of subscribers per outside IP address in deterministic NAT must be power of 2 (2^n). Once the deterministic ports are allocated, the dynamic ports are carved out of the remaining port space of the same outside IP address according to the existing **port-reservation** command under the same hierarchy,

Parameters

num-ports

Specifies the number of ports in a deterministic port block that is allocated and dedicated to a single subscribers during the configuration phase.

Values 1 to 65536

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-reservation

Syntax

[**no**] **port-reservation**

Context

[Tree] (config>service>nat>pcp-server-policy>option port-reservation)

Full Context

configure service nat pcp-server-policy option port-reservation

Description

This command enables/disables support for the **port-reservation** option.

Default

no port-reservation

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.29 port-role

port-role

Syntax

[**no**] **port-role**

Context

[Tree] (debug>service>id>stp port-role)

Full Context

debug service id stp port-role

Description

This command enables STP debugging for changes in port roles.

Platforms

All

35.30 port-scheduler-policy

port-scheduler-policy

Syntax

port-scheduler-policy *port-scheduler-policy-name*

no port-scheduler-policy

Context

[Tree] (config>port>ethernet>access>egress>vport port-scheduler-policy)

Full Context

configure port ethernet access egress vport port-scheduler-policy

Description

This command specifies the destination and organization strings to be used for matching subscriber hosts with this Vport.

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The parent Vport of a subscriber host queue, which has the port-parent option enabled, is determined by matching the destination string dest string associated with the subscriber and the organization string org string associated with the subscriber host with the strings defined under a Vport on the port associated with the subscriber.

If a given subscriber host policers or queue does not have the port-parent option enabled, it is foster-parented to the Vport used by this subscriber and which is based on matching the dest string and org string. If the subscriber could not be matched with a Vport on the egress port, the host policer or queue will not be bandwidth controlled and competes for bandwidth directly based on its own PIR and CIR parameters.

By default, a subscriber host policer or queue with the port-parent option enabled is scheduled within the context of the port's port scheduler policy.

The **agg-rate rate**, **port-scheduler-policy** and **scheduler-policy** commands are mutually exclusive. Changing between the use of a scheduler policy and the use of an **agg-rate** or **port-scheduler-policy** involves removing the existing command and applying the new command. Applying a scheduler policy to a Vport is only applicable to Ethernet interfaces.

The **no** form of this command removes the *port-scheduler-policy-name* from the configuration.

The **agg-rate** *rate*, **port-scheduler-policy** and **scheduler-policy** commands are mutually exclusive. Changing between the use of a scheduler policy and the use of an **agg-rate**/**port-scheduler-policy** involves removing the existing command and applying the new command.

The **no** form of this command reverts to the default.

Parameters

port-scheduler-policy-name

Specifies an existing **port-scheduler-policy** configured in the **config>qos** context.

Platforms

All

port-scheduler-policy

Syntax

port-scheduler-policy *port-scheduler-policy-name*

no port-scheduler-policy

Context

[Tree] (config>isa>aa-grp>qos>egress>from-subscriber port-scheduler-policy)

[Tree] (config>isa>aa-grp>qos>egress>to-subscriber port-scheduler-policy)

Full Context

configure isa application-assurance-group qos egress from-subscriber port-scheduler-policy

configure isa application-assurance-group qos egress to-subscriber port-scheduler-policy

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Description

This command assigns an existing port scheduler policy as applicable to the specific application assurance group traffic.

Default

no port-scheduler-policy

Parameters

port-scheduler-policy-name

Specifies the name of an existing port scheduler policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

port-scheduler-policy

Syntax

port-scheduler-policy *port-scheduler-name* [**create**]

no port-scheduler-policy *port-scheduler-name*

Context

[Tree] (config>qos port-scheduler-policy)

Full Context

configure qos port-scheduler-policy

Description

When a port scheduler has been associated with an egress port, it is possible to override the following parameters:

- The max-rate allowed for the scheduler
- The maximum rate for each priority level (1 to 8)
- The cir associated with each priority level (1 to 8)

The orphan priority level (level 0) has no configuration parameters and cannot be overridden.

The **no** form of this command removes a port scheduler policy from the system. If the port scheduler policy is associated with an egress port or channel, the command will fail.

Parameters

port-scheduler-name

Specifies an existing port scheduler name. Each port scheduler must be uniquely named within the system and can be up to 32 ASCII characters.

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Platforms

All

port-scheduler-policy

Syntax

port-scheduler-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy port-scheduler-policy)

Full Context

configure qos copy port-scheduler-policy

Description

This command copies existing QoS policy entries for a QoS policy to another QoS policy.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

If **overwrite** is not specified, an error will occur if the destination policy exists.

Parameters

src-name dst-name

Indicates that the source policy and the destination policy are port scheduler policy IDs. Specify the source policy that the copy command will attempt to copy from and specify the destination policy name to which the command will copy a duplicate of the policy.

overwrite

Forces the destination policy name to be copied as specified. When forced, everything in the existing destination policy will be completely overwritten with the contents of the source policy.

Platforms

All

35.31 port-set

port-set

Syntax

[**no**] **port-set**

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Context

[Tree] (config>service>nat>pcp-server-policy>option port-set)

Full Context

configure service nat pcp-server-policy option port-set

Description

This command enables PORT_SET option support. When this command is disabled, the PCP uses a plain MAP option to allocate a single port at a time. This is default behavior. Instead of asking for each individual port in multiple requests through the MAP option, this **port-set** option allows individual ports to ask the SR OS for a set of ports at once in a single request.

The **no** form of this command disables PORT_SET option support.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.32 port-state

port-state

Syntax

[**no**] **port-state**

Context

[Tree] (debug>service>id>stp port-state)

Full Context

debug service id stp port-state

Description

This command enables STP debugging for port states.

The **no** form of the command disables debugging.

Platforms

All

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35.33 port-template

port-template

Syntax

port-template *template-name* **sat-type** *sat-type* [**create**]

no port-template *template-name*

Context

[Tree] (config>system>satellite port-template)

Full Context

configure system satellite port-template

Description

This command creates a new port template context to define the port usage for a specific satellite type. A port template is specific to the specified satellite type. Port templates must be configured separately using different template names for each different satellite chassis type.

The **no** form of this command deletes the specified port template.

Parameters

template-name

Specifies the name for the associated port template. This value must be unique in the network.

sat-type

Specifies the type of satellite chassis associated with the port-template.

Values es24-1gb-sfp, es24-1gb-tx, es24-sass-1gb-sfp, es48-1gb-sfp, es48-1gb-tx, es48-sass-1gb-sfp, es24-sasmxp-1gb-sfp

create

Creates a new port template.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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35.34 port-threshold

port-threshold

Syntax

port-threshold *value* [**action** { **dynamic-cost** | **static-cost** | **down**}] [**cost** *static-cost*]

no port-threshold

Context

[Tree] (config>lag port-threshold)

Full Context

configure lag port-threshold

Description

This command configures the behavior for the Link Aggregation Group (LAG) if the number of operational links is equal to or below a threshold level.

Nokia recommends that operators use the **weight-threshold** or **hash-weight-threshold** command instead of the **port-threshold** command to control LAG operational status. For example, when 10GE and 100GE ports are mixed in a LAG, each 10GE port will have a weight of 1, while each 100GE port will have a weight of 10.

The **weight-threshold** or **hash-weight-threshold** command can also be used for LAGs with all ports of equal speed to allow a common operational model. For example, each port has a weight of 1 to mimic **port-threshold** and its related configuration.

The **no** form of this command reverts to the default values.

Default

port-threshold 0 action down

Parameters

value

Specifies the decimal integer threshold number of operational links for the LAG at or below which the configured action is invoked. If the number of operational links exceeds the **port-threshold** value, any action taken for being below the threshold value will cease.

Values 0 to 63

action

Specifies the action to take if the number of active links in the LAG is at or below the threshold value.

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dynamic-cost

Specifies that dynamic costing is activated. As a result, the LAG remains operationally up with a cost relative to the number of operational links. The link is only regarded as operationally down when all links in the LAG are down.

static-cost

Specifies that static costing is activated. As a result, the LAG remains operationally up with the configured cost, regardless of the number of operational links. The link is only regarded as operationally down when all links in the LAG are down.

down

Specifies that LAG is brought operationally down if the number of operational links is equal to or less than the configured threshold value. The LAG is only regarded as up once the number of operational links exceeds the configured threshold value.

static-cost

Specifies decimal integer static cost of the LAG.

Values 1 to 16777215

Platforms

All

35.35 port-time

port-time

Syntax

[**no**] **port-time**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes port-time)

Full Context

configure aaa isa-radius-policy acct-include-attributes port-time

Description

This command enables the Alc-Nat-Port-Time RADIUS attribute, which is used to record the duration of a port-block or port-forward allocated for a NAT subscriber.

The **no** form of this command disables the Alc-Nat-Port-Time RADIUS attribute.

Default

no port-time

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.36 port-topology

port-topology

Syntax
port-topology

Context
[Tree] (config>system port-topology)

Full Context
configure system port-topology

Description
This parameter creates or edits the context to configure intra-node port connections.

Default
disabled

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

35.37 port-type

port-type

Syntax
port-type *lag-port-type*
no port-type

Context
[Tree] (config>lag port-type)

Full Context
configure lag port-type

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Description

This command configures the port type for the link aggregation group.

The **no** form of this command reverts to the default.

Default

port-type standard

Parameters

lag-port-type

Specifies the type of ports allowed in this LAG.

Values standard — Allows all non-HS type ports to be added to this LAG

hs — Limits the LAG members to be HSQ IOMs (iom4-e-hs) ports

Platforms

7750 SR-7/12/12e

35.38 port-xc

port-xc

Syntax

port-xc

Context

[Tree] (config port-xc)

Full Context

configure port-xc

Description

Commands in this context configure port-cross connect functionality.

Platforms

All

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35.39 port1

port1

Syntax

port1 {**eq** | **neq**} *port-num*

no port1

Context

[Tree] (debug>app-assure>group>traffic-capture>match port1)

Full Context

debug application-assurance group traffic-capture match port1

Description

This command configures debugging on port 1.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.40 port2

port2

Syntax

port2 {**eq** | **neq**} *port-num*

no port2

Context

[Tree] (debug>app-assure>group>traffic-capture>match port2)

Full Context

debug application-assurance group traffic-capture match port2

Description

This command configures debugging on port 2.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.41 portal

portal

Syntax

portal router *router-instance* **name** *wpp-portal-name*

no portal

Context

[Tree] (config>service>ies>sub-if>grp-if>wpp portal)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>wpp portal)

[Tree] (config>service>vprn>sub-if>grp-if>wpp portal)

Full Context

configure service ies subscriber-interface group-interface wpp portal

configure subscriber-mgmt local-user-db ipoe host wpp portal

configure service vprn subscriber-interface group-interface wpp portal

Description

This command specifies the web portal server that system talks to for the hosts on the group-interface. This command is mutually exclusive with the **portal-group** command.

The **no** form of this command removes the router instance or portal name from the configuration.

Parameters

router-instance

Specifies the virtual router instance.

Values

router-name:	Base, management
service-id:	1 to 2147483647
service-name:	Specifies the service name up to 64 characters

Default Base

wpp-portal-name

Specifies the name of the web portal server up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

portal

Syntax

[**no**] **portal router** *router-instance* **name** *wpp-portal-name*

Context

[Tree] (config>aaa>wpp>portal-groups>portal-group portal)

Full Context

configure aaa wpp portal-groups portal-group portal

Description

This command configures the portal for this portal group.

Parameters

router-instance

Specifies the virtual router instance.

Values

router-name:	Base, management
service-id:	1 to 2147483647
service-name:	Specifies the service name up to 64 characters

Default Base

wpp-portal-name

Specifies the name of the web portal server up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

portal

Syntax

[**no**] **portal** *wpp-portal-name*

Context

[Tree] (debug>router>wpp portal)

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Full Context

debug router wpp portal

Description

This command enables WPP debugging for the specified WPP portal.

Parameters

wpp-portal-name

Specifies the WPP portal name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

portal

Syntax

[**no**] **portal**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query>state portal)

Full Context

configure subscriber-mgmt wlan-gw ue-query state portal

Description

This command enables matching on UEs in a portal state.

The **no** form of this command disables matching on UEs in a portal state, unless all state matching is disabled.

Default

no portal

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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35.42 portal-group

portal-group

Syntax

portal-group *portal-group-name*

no portal-group

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>wpp portal-group)

Full Context

configure subscriber-mgmt local-user-db ipoe host wpp portal-group

Description

This command configures the WPP portal group name. This command is mutually exclusive with the **portal** command.

Parameters

portal-group-name

Specifies the WPP portal group name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

portal-group

Syntax

portal-group *portal-group-name* [**create**]

no portal-group *portal-group-name*

Context

[Tree] (config>aaa>wpp>portal-groups portal-group)

Full Context

configure aaa wpp portal-groups portal-group

Description

This command creates a new portal group or enters the configuration context of an existing port group.

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Parameters

portal-group-name

Specifies the portal group name up to 32 characters.

create

Keyword required to create the configuration context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

portal-group

Syntax

portal-group *portal-group-name*

no portal-group

Context

[Tree] (config>service>ies>sub-if>grp-if>wpp portal-group)

[Tree] (config>service>vprn>sub-if>grp-if>wpp portal-group)

Full Context

configure service ies subscriber-interface group-interface wpp portal-group

configure service vprn subscriber-interface group-interface wpp portal-group

Description

This command specifies the WPP portal group for the subscriber interface. This command is mutually exclusive with the **portal** command.

The **no** form of this command removes the name from the service configuration.

Parameters

portal-group-name

Specifies the portal group name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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35.43 portal-groups

portal-groups

Syntax

portal-groups

Context

[Tree] (config>aaa>wpp portal-groups)

Full Context

configure aaa wpp portal-groups

Description

Commands in this context configure portal group parameters for WPP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.44 portal-hold-time

portal-hold-time

Syntax

portal-hold-time *seconds*

no portal-hold-time

Context

[Tree] (config>subscr-mgmt>http-rdr-plcy portal-hold-time)

Full Context

configure subscriber-mgmt http-redirect-policy portal-hold-time

Description

This command configures the time for which the forwarding state applicable during redirect phase is held in the system, after the user has been authenticated on the portal. This allows the HTTP response from the portal to be forwarded back on the existing connection.

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Parameters

seconds

Specifies how long the system holds on to re-direct forwarding resources of a subscriber, after it has left the re-direct portal.

Values 1 to 60

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.45 portals

portals

Syntax

portals

Context

[Tree] (config>router>wpp portals)

[Tree] (config>service>vprn>wpp portals)

Full Context

configure router wpp portals

configure service vprn wpp portals

Description

Commands in this context configure WPP portal server parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.46 ports

ports

Syntax

ports

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Context

[Tree] (config>qos>fp-resource-policy ports)

Full Context

configure qos fp-resource-policy ports

Description

This command enters the ports context.

Platforms

7750 SR-1, 7750 SR-s

ports

Syntax

ports *num-ports*

no ports

Context

[Tree] (config>service>nat>up-nat-policy>port-block-extensions ports)

Full Context

configure service nat up-nat-policy port-block-extensions ports

Description

This command configures the number of ports in extended port blocks for the NAT subscriber.

Parameters

num-ports

Specifies the number of ports per extended port block.

Values 10 to 5000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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35.47 positive-app-id

positive-app-id

Syntax

positive-app-id

Context

[Tree] (config>app-assure>group>ip-id-asst positive-app-id)

Full Context

configure application-assurance group ip-identification-assist positive-app-id

Description

Commands in this context implement the positive application identification mechanism, which monitors the correlations between IP addresses and applications identified with a high degree of confidence independently of any IP identification assist mechanism.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.48 post-policer-mapping

post-policer-mapping

Syntax

post-policer-mapping *mapping-policy-name* [**create**]

no post-policer-mapping *mapping-policy-name*

Context

[Tree] (config>qos post-policer-mapping)

Full Context

configure qos post-policer-mapping

Description

This command configures a post-policer mapping policy which is used to remap a packet's forwarding class and profile state to another forwarding class and profile state for post-policer traffic.

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A post-policer mapping policy is created without any forwarding class or profile remapping statements. If an empty policy is applied to a SAP-egress QoS policy, no remapping occurs.

The **no** form of this command deletes the post-policer mapping policy. A post-policer mapping policy can only be deleted if there are no references to it.

Parameters

mapping-policy-name

Specifies the name of the post-policer mapping policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

post-policer-mapping

Syntax

post-policer-mapping *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy post-policer-mapping)

Full Context

configure qos copy post-policer-mapping

Description

This command copies an existing post-policer mapping policy to another policy name.

The copy command is used to create new policies using existing policies and also allows bulk modifications to an existing policy with the use of the overwrite keyword.

Parameters

src-name

Specifies the source policy name that the copy command attempts to copy from.

dst-name

Specifies the destination policy name to which the command copies a duplicate of the policy.

overwrite

Specifies that the existing destination policy is to be replaced. Everything in the existing destination policy is overwritten with the contents of the source policy. If overwrite is not specified, an error occurs if the destination policy name exists.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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post-policer-mapping

Syntax

post-policer-mapping *mapping-policy-name*

no post-policer-mapping

Context

[Tree] (config>qos>sap-egress post-policer-mapping)

Full Context

configure qos sap-egress post-policer-mapping

Description

This command applies a post-policer mapping policy in a SAP egress QoS policy. The policy contains forwarding class and profile remapping statements, which remap the forwarding class and profile state of an egress policed packet (the profile being the resulting profile after the packet has been processed by the egress policer) to another forwarding class and profile.

The remapping applies to all policers within the SAP egress QoS policy, including regular child policers and policers configured in an IP/IPv6 criteria action statement, except for dynamic policers.

Post-policer mapping is supported on FP3- and higher-based hardware, with the exception of the 7750 SR-a4/a8, which does not support egress policers resulting in the policy being ignored.

The **no** form of this command deletes the post-policer mapping policy from the SAP egress QoS policy.

Parameters

mapping-policy-name

Specifies the name of the post-policer mapping policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

35.49 power-priority-level

power-priority-level

Syntax

power-priority-level *priority*

no power-priority-level

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Context

[Tree] (config>card>xiom>mda power-priority-level)

[Tree] (config>card>mda power-priority-level)

Full Context

configure card xiom mda power-priority-level

configure card mda power-priority-level

Description

This command sets the power priority value for an XMA or MDA-s on platforms that support intelligent power management.

Default

power-priority-level 150

Parameters

priority

Specifies the power priority level. An operator must assign a priority value to each XMA or MDA-s using a range of number from 1 to 200. The lowest number has the highest priority. The priority number range from 1 to 100 should be used for modules considered essential for system operation. Lower priority values of 101 to 200 should be used for non-essential modules.

Values 1 to 200

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda power-priority-level

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

- configure card mda power-priority-level

35.50 power-safety-alert

power-safety-alert

Syntax

power-safety-alert *wattage*

Context

[Tree] (config>system>pwr-mgmt power-safety-alert)

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Full Context

configure system power-management power-safety-alert

Description

This command sets a value in watts for the Power Safety Alert. The Power Safety Alert minor alarm is generated when the system power capacity drops below the Power Safety Level (in watts) plus the Power Safety Alert. This is a critical level, which when breached the system starts shutting down IO cards based on card priority.

Parameters

wattage

Specifies the number of watts for the power safety alert level.

Values 0 to 102600

Default 0

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

35.51 power-safety-level

power-safety-level

Syntax

power-safety-level *percent*

Context

[Tree] (config>system>pwr-mgmt power-safety-level)

Full Context

configure system power-management power-safety-level

Description

This command sets the Power Safety Level, which is a percentage of the calculated worst case power draw value. Once a Power Safety Level is configured by the operator, both the Basic and Advanced modes use the Power Safety Level as a reference for calculating the power redundancy using N+1 algorithm during startup and recovery from power depression.

Default

power-safety-level 100

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Parameters

percent

Specifies the Power Safety Level as a percentage of the calculated worst case power draw value.

Values 0 to 100

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

35.52 power-save

power-save

Syntax

[**no**] **power-save**

Context

[Tree] (config>card power-save)

Full Context

configure card power-save

Description

This command enables low-power card mode on a card that is not in use.

The **no** form of this command disables low-power card mode.

Default

no power-save

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a8, 7750 SR-2e, 7750 SR-3e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

power-save

Syntax

power-save

Context

[Tree] (config>system>pwr-mgmt power-save)

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Full Context

configure system power-management power-save

Description

Commands in this context configure power save parameters.

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

power-save

Syntax

[**no**] **power-save**

Context

[Tree] (config>port>transceiver power-save)

Full Context

configure port transceiver power-save

Description

This command enables low-power optic mode to reduce optic and port power consumption when the port is populated with an optic and is administratively disabled.

The **no** form of this command disables low-power optic mode.

Default

no power-save

Platforms

7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

35.53 power-supply

power-supply

Syntax

power-supply *power-supply-id type*

Context

[Tree] (config>system power-supply)

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Full Context

configure system power-supply

Description

This command configures information about the type of power supply used for each power feed connection on the router chassis. The information is used to populate queries made using the **show**>**chassis detail** and **show**>**chassis power-supply** commands.

Parameters

power-supply-id

Specifies the power feed connection.

Values 1, 2

type

Specifies the type of power source that is connected to the power feed connection.

Values dc — Specifies that a single DC power source is connected to the power feed connector.

ac single — Specifies that a single AC power source is connected to the power feed connector.

ac multiple — Specifies that multiple AC power sources are connected to the power feed connector.

default — Reverts the configured information to the default power source type for the chassis.

none — Specifies that no power source is connected to the power feed connector.

Platforms

7450 ESS, 7750 SR-7/12

35.54 ppid

ppid

Syntax

ppid

Context

[Tree] (config>app-assure>group>statistics>tca>sctp-filter ppid)

Full Context

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid

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Description

This command configures a TCA for the counter capturing PPID hits for the specified SCTP filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ppid

Syntax

ppid

Context

[Tree] (config>app-assure>group>sctp-filter ppid)

Full Context

configure application-assurance group sctp-filter ppid

Description

Commands in this context configure actions for specific or default Payload Protocol Identifiers (PPIDs).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.55 ppid-range

ppid-range

Syntax

ppid-range direction *direction* [**create**]

no ppid-range direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>sctp-filter ppid-range)

Full Context

configure application-assurance group statistics threshold-crossing-alert sctp-filter ppid-range

Description

This command configures a TCA for the counter capturing hits for the specified SCTP filter PPID range command. An PPIPD range TCA can be created for traffic generated from the subscriber side of AA (**from-**

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sub) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ppid-range

Syntax

ppid-range min *min-ppid* **max** *max-ppid*

no ppid-range

Context

[Tree] (config>app-assure>group>sctp-filter ppid-range)

Full Context

configure application-assurance group sctp-filter ppid-range

Description

This command specifies the range of PPID values that are allowed by AA SCTP filter firewall.

The **no** form of this command removes this PPID range.

Default

no ppid-range

Parameters

min-ppid

Specifies the minimum SCTP Payload Protocol Identifier (PPID) to be permitted by the SCTP filter. The value must be less than or equal to the **max** *max-ppid* value.

Values 0 to 4294967295

max-ppid

Specifies the minimum SCTP Payload Protocol Identifier (PPID) to be permitted by the SCTP filter. The value must be greater or equal to the **min** *min-ppid* value.

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Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.56 ppk

ppk

Syntax

ppk list *ppk-list-name* **id** *ppk-id*

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn ppk)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>dyn ppk)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn ppk)

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn ppk)

[Tree] (config>ipsec>trans-mode-prof>dyn ppk)

Full Context

configure service vprn interface ipsec ipsec-tunnel dynamic-keying ppk

configure service vprn interface sap ipsec-tunnel dynamic-keying ppk

configure service ies interface ipsec ipsec-tunnel dynamic-keying ppk

configure router interface ipsec ipsec-tunnel dynamic-keying ppk

configure ipsec ipsec-transport-mode-profile dynamic-keying ppk

Description

This command specifies the PPK to use for dynamic keying of the IPsec tunnel.

The **no** form of this command removes the PPK.

Default

no ppk

Parameters

ppk-list-name

Specifies the name of the PPK list, up to 32 characters.

ppk-id

Specifies the ID of a PPK entry in the list, up to 64 characters.

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Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel dynamic-keying ppk
- configure router interface ipsec ipsec-tunnel dynamic-keying ppk
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying ppk

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel dynamic-keying ppk
- configure ipsec ipsec-transport-mode-profile dynamic-keying ppk

35.57 ppk-id

ppk-id

Syntax

ppk-id *ppk-id* **value** *value-string* **format** {**ascii** | **hex**} [**hash** | **hash2** | **custom**]

no ppk-id *ppk-id*

Context

[Tree] (config>ipsec>ppk-list ppk-id)

Full Context

configure ipsec ppk-list ppk-id

Description

This command configures the attributes for a PPK entry within the list.

The **no** form of this command deletes the PPK entry from the list.

Parameters

ppk-id

Specifies a unique ID for the PPK, up to 64 characters.

value-string

Specifies the PPK value.

ascii

Keyword to specify that the PPK value is formatted as an ASCII string, up to 64 characters.

hex

Keyword that specifies the PPK value is formatted as a hexadecimal string, up to 128 hex nibbles.

Values 0x0 to 0xFFFFFFFF...

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hash

Keyword that specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Keyword that specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Keyword that specifies the custom encryption to the management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.58 ppk-list

ppk-list

Syntax

ppk-list *ppk-list-name* [**create**]

no ppk-list *ppk-list-name*

Context

[Tree] (config>ipsec ppk-list)

Full Context

configure ipsec ppk-list

Description

Commands in this context configure a list of Post-quantum Preshared Keys (PPKs) to use for IKEv2 authentication, as described in RFC 8784.

The **no** form of this command deletes the PPK list.

Parameters

ppk-list-name

Specifies the name of the PPK list, up to 32 characters.

create

Keyword to create the PPK list.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ppk-list

Syntax

ppk-list *ppk-list-name*

no ppk-list

Context

[Tree] (config>ipsec>tnl-temp ppk-list)

Full Context

configure ipsec tunnel-template ppk-list

Description

This command specifies a PPK list to use in the tunnel template, which represents a list of PPKs available for the IPsec gateway. The actual PPK to use depends on the tunnel initiator.

The **no** form of this command removes the PPK list from the tunnel template.

Default

no ppk-list

Parameters

ppk-list-name

Specifies the name of the PPK list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.59 ppk-required

ppk-required

Syntax

[**no**] **ppk-required**

Context

[Tree] (config>ipsec>ike-policy ppk-required)

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Full Context

configure ipsec ike-policy ppk-required

Description

This command configures the mandatory use of PPKs for the IKEv2 key derivation process in the IKE policy.

The **no** form of this command configures the use of PPKs for IKEv2 as optional. The router can fall back to derive keys without PPK.

Default

no ppk-required

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.60 ppp

ppp

Syntax

ppp

Context

[Tree] (config>subscr-mgmt>loc-user-db ppp)

Full Context

configure subscriber-mgmt local-user-db ppp

Description

Commands in this context configure PPP host parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

ppp

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Context

[Tree] (config>service>vprn>l2tp>group ppp)

[Tree] (config>router>l2tp>group>tunnel ppp)

[Tree] (config>service>vprn>l2tp>group>tunnel ppp)

[Tree] (config>router>l2tp>group ppp)

Full Context

configure service vprn l2tp group ppp

configure router l2tp group tunnel ppp

configure service vprn l2tp group tunnel ppp

configure router l2tp group ppp

Description

This command configures PPP for the L2TP tunnel group.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

[**no**] **ppp** [**lcp**] [**pap**] [**chap**] [**ipcp**] [**ipv6cp**] [**other**]

Context

[Tree] (debug>router>l2tp>assignment-id>packet ppp)

[Tree] (debug>router>l2tp>peer>packet ppp)

[Tree] (debug>router>l2tp>packet ppp)

[Tree] (debug>router>l2tp>group>packet ppp)

Full Context

debug router l2tp assignment-id packet ppp

debug router l2tp peer packet ppp

debug router l2tp packet ppp

debug router l2tp group packet ppp

Description

This command selects protocol for PPP packet debugging.

The **no** form of this command disables the protocols selection for PPP packet debugging.

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Parameters

lcp
Specifies the LCP protocol.

pap
Specifies the PAP protocol.

chap
Specifies the CHAP protocol.

ipcp
Specifies the IPCP protocol.

ipv6cp
Specifies the IPv6CP protocol.

other
Specifies any other protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

[**no**] **ppp**

Context

[Tree] (debug>service>id ppp)

Full Context

debug service id ppp

Description

This command enables and configures PPP debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

ppp [**terminate-only**]

no ppp

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Context

[Tree] (debug>service>id>ppp>event ppp)

Full Context

debug service id ppp event ppp

Description

This command enables debugging for PPP events.

Parameters

terminate-only

Enables debugging for terminate-only PPP events.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

ppp [**lcp**] [**pap**] [**chap**] [**ipcp**]

no ppp

Context

[Tree] (debug>service>id>ppp>packet ppp)

Full Context

debug service id ppp packet ppp

Description

This command enables debugging for specific PPP packets

Parameters

lcp

Enables debugging for LCP packets.

pap

Enables debugging for PAP packets.

chap

Enables debugging for CHAP packets.

ipcp

Enables debugging for IPCP packets.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

ppp

Context

[Tree] (debug>call-trace ppp)

Full Context

debug call-trace ppp

Description

Commands in this context set up call trace debugging for Point-to-Point Protocol sessions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ppp

Syntax

ppp [**lcp**] [**pap**] [**chap**] [**ipcp**] [**ipv6cp**] [**ipv6**]

Context

[Tree] (debug>subscr-mgmt>vrgw>brg>pppoe-client>brg-id ppp)

Full Context

debug subscriber-mgmt vrgw brg pppoe-client brg-id ppp

Description

This command specifies which messages in PPP setup are tracked by debugging. If no messages are specified, they are all tracked. LCP Echo Request and Echo Response are never shown during debugging.

Parameters

lcp

Tracks lcp messages during debugging.

pap

Tracks pap messages during debugging.

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chap
Tracks chap messages during debugging.

ipcp
Tracks ipcp messages during debugging.

ipv6cp
Tracks ipv6cp messages during debugging.

ipv6
Tracks ipv6 messages during debugging.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.61 ppp-authentication

ppp-authentication

Syntax
ppp-authentication {**pap** | **chap** | **pref-chap** | **pref-pap**}
no ppp-authentication

Context
[Tree] (config>subscr-mgmt>ppp-policy ppp-authentication)

Full Context
configure subscriber-mgmt ppp-policy ppp-authentication

Description
This command configures the PPP protocol used to authenticate the PPP session.

Default
ppp-authentication pref-chap

Parameters
pap
Specifies to always use PAP to authenticate the sessions.

chap
Specifies to always use CHAP to authenticate the sessions.

pref-chap
Specifies to attempt to use CHAP and if it fails, use PAP.

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pref-pap

Specifies to attempt to use PAP and if it fails, use CHAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.62 ppp-chap-challenge-length

ppp-chap-challenge-length

Syntax

ppp-chap-challenge-length min *minimum-length* **max** *maximum-length*

no ppp-chap-challenge-length

Context

[Tree] (config>subscr-mgmt>ppp-policy ppp-chap-challenge-length)

Full Context

configure subscriber-mgmt ppp-policy ppp-chap-challenge-length

Description

This command configures the minimum and maximum length of a PPP Chap Challenge.

When the Chap Challenge is exactly 16 bytes, it is send in the [60] CHAP-Challenge RADIUS attribute and copied in the RADIUS Authenticator field from the RADIUS Access Request.

Default

ppp-chap-challenge-length min 32 max 64

Parameters

min *minimum-length*

Specifies the minimum PPP CHAP challenge length.

Values 8 to 64

max *maximum-length*

Specifies the maximum PPP CHAP challenge length.

Values 8 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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35.63 ppp-initial-delay

ppp-initial-delay

Syntax

[**no**] **ppp-initial-delay**

Context

[Tree] (config>subscr-mgmt>ppp-policy ppp-initial-delay)

Full Context

configure subscriber-mgmt ppp-policy ppp-initial-delay

Description

This command delays the sending of an LCP-configure request after the discovery phase by 40 – 60 milliseconds.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.64 ppp-mtu

ppp-mtu

Syntax

ppp-mtu *mtu-bytes*

no ppp-mtu

Context

[Tree] (config>subscr-mgmt>ppp-policy ppp-mtu)

Full Context

configure subscriber-mgmt ppp-policy ppp-mtu

Description

This command configures the maximum PPP MTU size.

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Parameters

mtu-bytes

Specifies the maximum PPP MTU size.

Values 512 to 9212

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.65 ppp-options

ppp-options

Syntax

ppp-options

Context

[Tree] (config>subscr-mgmt>ppp-policy ppp-options)

Full Context

configure subscriber-mgmt ppp-policy ppp-options

Description

Commands in this context configure PPP options.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.66 ppp-policy

ppp-policy

Syntax

ppp-policy *ppp-policy-name* [**create**]

no ppp-policy *ppp-policy-name*

Context

[Tree] (config>subscr-mgmt ppp-policy)

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Full Context

configure subscriber-mgmt ppp-policy

Description

This command configures a PPP policy. These policies are referenced from interfaces configured for PPP. Multiple PPP policies may be configured.

The default policy cannot be modified or deleted.

Default

ppp-policy default

Parameters

ppp-policy-name

Specifies the PPP policy name, up to 32 characters.

create

Keyword used to create the entity. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.67 ppp-policy-parameters

ppp-policy-parameters

Syntax

ppp-policy-parameters

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host ppp-policy-parameters)

Full Context

configure subscriber-mgmt local-user-db ppp host ppp-policy-parameters

Description

This command enables the context to configure PPP policy parameters to override the values from the host associated with the PPP policy.

The PPP host uses the values configured in the PPP policy under the group interface. It is possible to use this command to override the values from the host associated with the PPP policy. Matching a pattern on the subscriber MAC address to limit the number of sessions per MAC address is possible.

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When a value is configured, the system overrides that particular PPP policy parameter. The absence of specific parameters means no overriding is performed.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.68 ppp-sub-id-key

ppp-sub-id-key

Syntax

ppp-sub-id-key *sub-id-key* [*sub-id-key*]

no ppp-sub-id-key

Context

[Tree] (config>subscr-mgmt>auto-sub-id-key ppp-sub-id-key)

Full Context

configure subscriber-mgmt auto-sub-id-key ppp-sub-id-key

Description

This command enables certain fields to become the base for auto-generation of default sub-id name. The sub-id name is auto-generated if there is not a more specific method available. Examples of these specific methods would be a default sub-id name as a sap-id, a preconfigured static string or explicit mappings based on RADIUS/LUDB returned strings.

In case that a more specific sub-id name generation method is not available and the **auto-id** keyword is defined under the def-sub-id hierarchy, the sub-id name is generated by concatenating fields defined in this command separated by a "|" character.

The maximum length of the auto-generated sub-id name is 64 characters while the concatenation of subscriber identification fields can exceed 64 characters. Subscriber host instantiation fails if the sub-id name is based on subscriber identification fields whose concatenated length exceeds 64 characters. Failing the host creation rather than truncating the sub-id name on a 64 character boundary prevents collision of sub-ids (subscriber name duplication).

In case that a more specific sub-id name generation method is not available and the **auto-id** keyword is not defined under the def-sub-id hierarchy, the sub-id name is a random 10 character encoded string based on the fields defined under this command.

There is only one set of identification fields allowed per host type (IPoE or PPP) per chassis.

The **no** form of this command reverts to the default.

Default

ppp-sub-id-key mac sap-id session-id

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Parameters

sub-id-key

Specifies the auto-generated sub-id keys for PPP hosts.

Values **mac** — Specifies that the MAC address can be combined with other subscriber host identification fields (circuit-id, remote-id, session-id or sap-id) to form a sub-id name in a user readable format or as a random 10 character encoded value.

In case that the mac address is used as a concatenation field in the sub-id name, then its format becomes a string xx:xx:xx:xx:xx:xx with the length 17B.

The MAC address as the subscriber host identification field is not applicable to static hosts.

circuit-id — Specifies that the circuit-id can be combined with other subscriber host identification fields (mac, remote-id, session-id or sap-id) to form a sub-id name in a user readable format or as a random 10 character encoded value.

If the circuit-id is used as a concatenation field in the sub-id name, then its format becomes access-node-id eth slot/port:[vlan-id] or access-node-id atm slot/port:vpi.vci with a variable length.

Note:
If circuit-id contains any non-printable ASCII characters, the entire circuit-id string is formatted in hex in the sub-id name output. Otherwise all characters in circuit-id is converted to ASCII. ASCII printable characters contain bytes in range 0x20 to 0x7E.

If the circuit-id is used as the subscriber identification field is not applicable to ARP hosts or static hosts.

remote-id — Specifies that the remote-id can be combined with other subscriber host identification fields (mac, circuit-id, session-id or sap-id) to form a sub-id name in a user readable format or as a random 10 character encoded value.

If the remote-id is used as a concatenation field in the sub-id name, then its format becomes a remote-id string with a variable length.

Note:
If the remote ID contains any non-printable ASCII characters, the entire remote-id string is formatted in hex in the sub-id name output. Otherwise all characters in remote-id is converted to ASCII. ASCII printable characters contain bytes in range 0x20 to 0x7E.

The remote ID as the subscriber identification field is not applicable to ARP hosts or static hosts.

sap-id — The SAP ID can be combined with other subscriber host identification fields (mac, circuit-id, remote-id, or session-id) to form a

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sub-id name in a user readable format or as a random 10 character encoded value.

In case that the circuit-id is used as a concatenation field in the sub-id name, then its format becomes: slot/mda:[outer-vlan].[inner-vlan] with a variable length.

The SAP ID as the subscriber identification field is applicable to all hosts types with exception of static hosts.

session-id — The session ID can be combined with other subscriber host identification fields (mac, circuit-id, remote-id, or sap-id) to form a sub-id name in a user readable format or as a random 10 character encoded value.

In case that the circuit ID is used as a concatenation field in the sub-id name, then its format becomes a decimal number with variable length.

The session ID as the subscriber identification field is applicable only to PPPoE/PPPoEoA type hosts.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.69 ppp-user-db

ppp-user-db

Syntax

ppp-user-db *local-user-db-name*

no ppp-user-db

Context

[Tree] (config>service>vpls ppp-user-db)

Full Context

configure service vpls ppp-user-db

Description

This command enabled access to LUDB for PPPoE and PPPoEoA v4and v6 hosts under the capture SAP. The name of this local user database must match the name of local user database configured under the **config>service>vprn/ies>sub-if>grp-if>pppoe** hierarchy.

The **no** form of this command reverts to the default.

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Parameters

local-user-db

Specifies the name of the local-user-database, up to 256 characters.

Platforms

All

35.70 ppp-user-name

ppp-user-name

Syntax

ppp-user-name append *domain-name*

ppp-user-name default-domain *domain-name*

ppp-user-name replace *domain-name*

ppp-user-name strip

no ppp-user-name

Context

[Tree] (config>subscr-mgmt>auth-plcy ppp-user-name)

Full Context

configure subscriber-mgmt authentication-policy ppp-user-name

Description

This command specifies the domain name manipulation action to perform on the PAP/CHAP user name prior to authentication.

The **no** form of this command reverts to the default.

Default

The PAP/CHAP user name is not changed.

Parameters

append *domain-name*

Appends an "@" delimiter followed by the specified *domain-name* to the PAP/CHAP user name, independent if a domain name is already present.

default-domain *domain-name*

Appends an "@" delimiter followed by the specified *domain-name* to the PAP/CHAP user name only if a domain name is not already present.

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replace *domain-name*

Replaces the string after the "@” delimiter in the PAP/CHAP user name with the specified *domain-name*.

strip

Removes the "@” delimiter and all subsequent characters from the PAP/CHAP user name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.71 pppoe

pppoe

Syntax

[**no**] **pppoe**

Context

[Tree] (config>service>vprn>sub-if>grp-if pppoe)

[Tree] (config>service>ies>sub-if>grp-if pppoe)

Full Context

configure service vprn subscriber-interface group-interface pppoe

configure service ies subscriber-interface group-interface pppoe

Description

Commands in this context configure PPPoE parameters.

The **no** form of this command reverts all PPPoE parameters from the PPPoE context to their defaults.

Default

pppoe

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

pppoe

Syntax

pppoe *type* **direction** {**ingress** | **egress**} **script** *name*

no pppoe *type* **direction** {**ingress** | **egress**}

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Context

[Tree] (config>python>py-policy pppoe)

Full Context

configure python python-policy pppoe

Description

This command specifies the python-script for the specified PPPoE message type in the specified direction. Multiple **pppoe** command configuration are allowed in the same Python policy.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type.

Values session-lcp, session-pap, session-chap, session-ipcp, session-ip6cp, pado, padi, padr, pads, padt

direction {ingress | egress}

Specifies whether the event is incoming or outgoing. The system only invokes the configured script for the specified packet type in the specified direction.

script

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

pppoe

Syntax

pppoe *service-id*

no pppoe

Context

[Tree] (config>service>vprn>if>sap>fwd-wholesale pppoe)

[Tree] (config>service>vprn>sub-if>grp-if>sap>fwd-wholesale pppoe)

Full Context

configure service vprn interface sap fwd-wholesale pppoe

configure service vprn subscriber-interface group-interface sap fwd-wholesale pppoe

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Description

This command specifies that PPPoE packets on ingress on Ethertypes 0x8863 and 0x8864 are redirected to the specified service. The service referred to by *svc-id* must be an Epipe service. Redirection to VC-switching Epipe services is not supported.

The **no** form of this command removes the redirect.

Parameters

service-id

Specifies the service ID of the Epipe to which packets are redirected.

Values 1 to 2147483647 | *svc-name* up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

pppoe

Syntax

pppoe *service-id*

no pppoe

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>fwd-wholesale pppoe)

[Tree] (config>service>ies>if>sap>fwd-wholesale pppoe)

Full Context

configure service ies subscriber-interface group-interface sap fwd-wholesale pppoe

configure service ies interface sap fwd-wholesale pppoe

Description

This command specifies that PPPoE packets on ingress on Ethertypes 0x8863 and 0x8864 will be redirected to the specified service. The service referred to by *svc-id* must be an Epipe service. Redirection to VC-switching Epipe services is not supported.

The **no** form of this command removes the redirect.

Parameters

service-id

Specifies the service ID of the Epipe to which packets are redirected.

Values 1 to 2147483647 | *svc-name* up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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pppoe

Syntax

pppoe *origin*

Context

[Tree] (config>li>x-interfaces>correlation-id pppoe)

Full Context

configure li x-interfaces correlation-id pppoe

Description

This command specifies the type of RADIUS accounting session ID to use for PPPoE subscriber correlation.

Default

host

Parameters

origin

Specifies the correlation identifiers origin for PPPoE.

Values host, queue, session

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

pppoe

Syntax

[**no**] **pppoe**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>subscriber-mgmt pppoe)

Full Context

configure redundancy multi-chassis peer sync subscriber-mgmt pppoe

Description

This command configures the router to synchronize subscriber management PPPoE information with the multi-chassis peer.

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The **no** form of this command disables the router from synchronizing subscriber management PPPoE information with the multi-chassis peer.

Note: The configuration of this command must match on both nodes. Otherwise, the subscriber management synchronization fails.

Default

no pppoe

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

pppoe

Syntax

[**no**] **pppoe**

Context

[Tree] (config>service>vpls>sap pppoe)

Full Context

configure service vpls sap pppoe

Description

Commands in this context configure PPPoE parameters.

The **no** form of this command reverts all PPPoE parameters from the PPPoE context to their defaults.

Default

pppoe

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.72 pppoe-access-method

pppoe-access-method

Syntax

pppoe-access-method {**none** | **padi** | **pap-chap**}

no pppoe-access-method

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Context

[Tree] (config>subscr-mgmt>auth-plcy pppoe-access-method)

Full Context

configure subscriber-mgmt authentication-policy pppoe-access-method

Description

This command indicates the authentication method used towards the RADIUS server in case the policy is used for PPPoE.

The **no** form of this command reverts to the default.

Parameters

none

Indicates that the client is authenticated by the local user database defined under the group interface and not through RADIUS.

padi

Indicates that the client is authenticated by RADIUS as soon as the PADI packet comes in (there is no PPP authentication done in the session in this case).

pap-chap

Indicates that the RADIUS authentication of the client is delayed until the authentication protocol phase in the PPP session (PAP or CHAP) and authentication is performed with the user name and PAP password / CHAP response supplied by the client.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.73 pppoe-client

pppoe-client

Syntax

pppoe-client

Context

[Tree] (debug>subscr-mgmt>vrgw>brg pppoe-client)

Full Context

debug subscriber-mgmt vrgw brg pppoe-client

Description

Commands in this context debug pppoe-client information.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.74 pppoe-client-policy

pppoe-client-policy

Syntax

pppoe-client-policy *pppoe-client-policy-name* [**create**]

no pppoe-client-policy *pppoe-client-policy-name*

Context

[Tree] (config>subscr-mgmt pppoe-client-policy)

Full Context

configure subscriber-mgmt pppoe-client-policy

Description

This command provisions a policy containing a set of parameters to be used to configure a PPPoE client.

The **no** form of this command removes the policy from the system. The policy can only be removed when it is not in use.

Parameters

pppoe-client-policy-name

Specifies a unique name for the policy.

create

Mandatory keyword when creating a new policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.75 pppoe-lac

pppoe-lac

Syntax

pppoe-lac *max-nr-of-sessions*

no pppoe-lac

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Context

[Tree] (config>subscr-mgmt>sub-profile>session-limits pppoe-lac)

[Tree] (config>subscr-mgmt>sla-profile>session-limits pppoe-lac)

Full Context

configure subscriber-mgmt sub-profile session-limits pppoe-lac

configure subscriber-mgmt sla-profile session-limits pppoe-lac

Description

This command configures the maximum number of PPPoE L2TP LAC sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of PPPoE L2TP LAC sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of PPPoE L2TP LAC sessions.

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.76 pppoe-local

pppoe-local

Syntax

pppoe-local *max-nr-of-sessions*

no pppoe-local

Context

[Tree] (config>subscr-mgmt>sla-profile>session-limits pppoe-local)

[Tree] (config>subscr-mgmt>sub-profile>session-limits pppoe-local)

Full Context

configure subscriber-mgmt sla-profile session-limits pppoe-local

configure subscriber-mgmt sub-profile session-limits pppoe-local

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Description

This command configures the maximum number of PPPoE local-terminated sessions (PTA) per SLA profile instance or per subscriber.

The **no** form of this command removes maximum number of PPPoE local-terminated sessions (PTA) limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of PPPoE local-terminated sessions (PTA).

Values 0 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.77 pppoe-overall

pppoe-overall

Syntax

pppoe-overall *max-nr-of-sessions*

no pppoe-overall

Context

[Tree] (config>subscr-mgmt>sla-profile>session-limits pppoe-overall)

[Tree] (config>subscr-mgmt>sub-profile>session-limits pppoe-overall)

Full Context

configure subscriber-mgmt sla-profile session-limits pppoe-overall

configure subscriber-mgmt sub-profile session-limits pppoe-overall

Description

This command configures the maximum number of PPPoE sessions per SLA profile instance or per subscriber.

The **no** form of this command removes the maximum number of PPPoE sessions limit.

Parameters

max-nr-of-sessions

Specifies the maximum number of PPPoE sessions.

Values 0 to 131071

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.78 pppoe-policy

pppoe-policy

Syntax

pppoe-policy *pppoe-policy-name*

no pppoe-policy

Context

[Tree] (config>service>vpls>sap pppoe-policy)

Full Context

configure service vpls sap pppoe-policy

Description

This command references a pppoe-policy that defines session parameters (ppp-mtu, authentication options, and so on) during the session initiation phase. Normally, the PPPoE policy is referenced under the **group-interface** hierarchy. But with capture SAP is it not known at the session initiation phase to which group-interface the session belongs. This is why, with the capture SAP, the ppp-policy must be referenced directly under the capture SAP. The pppoe-policy referenced under the group-interface must be the same as the pppoe-policy referenced under the capture SAP. Otherwise the session will not come up.

The **no** form of this command reverts to the default.

Parameters

pppoe-policy-name

Specifies the pppoe-policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.79 pppoe-python-policy

pppoe-python-policy

Syntax

pppoe-python-policy *policy-name*

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no pppoe-python-policy

Context

[Tree] (config>service>vpls>sap pppoe-python-policy)

Full Context

configure service vpls sap pppoe-python-policy

Description

This command specified the Python policy for PPPoE packets sent/received on the capture SAP.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies an existing Python policy name, up to 32 characters.

Platforms

All

35.80 pppoe-service-name

pppoe-service-name

Syntax

[**no**] **pppoe-service-name**

Context

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute pppoe-service-name)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute pppoe-service-name

Description

This command enables the generation of the pppoe-service-name RADIUS attribute.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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35.81 pppoe-trace

pppoe-trace

Syntax

pppoe-trace [**sap** *sap-id*] [**mac** *ieee-address*] **circuit-id** *circuit-id* [**remote-id** *remote-id*] [**username** *user-name*] [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

pppoe-trace [**sap** *sap-id*] **mac** *ieee-address* [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**username** *user-name*] [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

pppoe-trace sap *sap-id* [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**username** *user-name*] [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

pppoe-trace [**sap** *sap-id*] [**mac** *ieee-address*] [**circuit-id** *circuit-id*] **remote-id** *remote-id* [**username** *user-name*] [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

pppoe-trace [**sap** *sap-id*] [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] **username** *user-name* [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

no pppoe-trace name *trace-name*

no pppoe-trace [**sap** *sap-id*] [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**username** *user-name*]

Context

[Tree] (debug>call-trace>ppp pppoe-trace)

Full Context

debug call-trace ppp pppoe-trace

Description

This command enables tracing locally terminated or LAC PPPoE sessions specified by the configured parameters. At least one filter rule must be provisioned. This command can trace a single session or multiple sessions, and can use wildcard characters.

This command can be executed multiple times to start multiple traces. When rules overlap, such as for a wildcard SAP and a specific SAP, the rule that a specific trace is associated with cannot be guaranteed.

The **no** form of this command prevents new traces from being configured and terminates all trace jobs that were previously started using the **trace** command.

Parameters

circuit-id

Specifies a circuit ID, up to 255 characters, that is used to filter sessions to trace.

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ieee-address

Specifies a MAC address that is used to identify a session to trace, in the format "ab:cd:ef:01:23:45”. A wildcard character can be used to match all remaining octets; for example, the format "ab:cd:ef:*” can be used to filter by OUI.

user-name

Specifies a username, up to 32 characters, that is used to filter sessions to trace. A wildcard character (*) can be used at the beginning and at the end of the filter.

num

Specifies the maximum number of jobs that may be started with this rule.

Values 1 to 50

Default 1

remote-id

Specifies a remote ID, up to 255 characters, that is used to filter sessions to trace.

sap-id

Specifies a SAP to trace. The following formats are accepted:

- *port*/*lag*/*pw-port*:*svlan*.*cvlan*
- *port*/*lag*/*pw-port*:*vlan*
- *port*/*lag*/*pw-port*
- *port*/*lag*/*pw-port*:*vlan*.*
- *port*/*lag*/*pw-port*:* (also matches *.*)

trace-existing-sessions

Specifies that existing PPPoE sessions are traced. If this parameter is not included, only new PPPoE sessions are traced.

trace-name

Specifies the name, up to 32 characters, by which the trace is referenced.

trace-profile-name

Specifies the name of the trace profile to be applied, up to 32 characters. The default parameters are used if a trace profile is not specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.82 pppoe-user-db

pppoe-user-db

Syntax

pppoe-user-db *local-user-db-name*

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no pppoe-user-db

Context

[Tree] (config>service>vpls pppoe-user-db)

Full Context

configure service vpls pppoe-user-db

Description

This command enabled access to LUDB for PPPoE and PPPoEoA v4and v6 hosts under the capture SAP. The name of this LUDB must match the name of the LUDB configured under the **config>service>vprn/ies>sub-if>grp-if>pppoe** hierarchy.

The **no** form of this command reverts to the default.

Parameters

local-user-db

Specifies the name of the local user database, up to 256 characters.

Platforms

All

pppoe-user-db

Syntax

pppoe-user-db *ludb-name*

no pppoe-user-db

Context

[Tree] (config>service>vpls>sap pppoe-user-db)

Full Context

configure service vpls sap pppoe-user-db

Description

This command enables LUDB authentication on capture SAPs for PPPoE(oA) clients. If this command is configured along with the **authentication-policy** command (RADIUS authentication), then the authentication-policy command takes precedence.

The **no** form of this command reverts to the default.

Parameters

ludb-name

Specifies the name of the local user database up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.83 pps-pir

pps-pir

Syntax

pps-pir *pps-pir-value*

no pps-pir

Context

[Tree] (config>filter>policer pps-pir)

Full Context

configure filter policer pps-pir

Description

This command configures the PIR for the policer in packets per second.

The **mbs** and **pir** command options and the **pps-pir** command option are mutually exclusive. That is, the **pps-pir** option cannot be configured when the **mbs** or **pir** options are configured.

The **no** form of this command removes the configuration.

Parameters

pps-pir-value

Specifies the PIR in packets per second.

Value 0 to 100000000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

35.84 pptp

pptp

Syntax

[**no**] **pptp**

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Context

[Tree] (config>service>nat>up-nat-policy>alg pptp)

[Tree] (config>service>nat>nat-policy>alg pptp)

Full Context

configure service nat up-nat-policy alg pptp

configure service nat nat-policy alg pptp

Description

This command enables PPTP ALG.

The call-id is captured in the outgoing call management messages and along with the source IP address and the source TCP, is translated by NAT. Once the PPTP call is established, the call-id in the associated GRE packet in the incoming direction (from outside to inside) is correspondingly translated so that it matches the call-id mapping established during the call establishment phase. The call IDs used in the mappings are selected randomly and they try to honor parity (odds/even).

A PPTP session can be initiated only from the inside of NAT.

GRE traffic is allowed through NAT only if the corresponding mapping exists. This mapping is created during the call negotiation phase.

There can be seven calls (GRE tunnels) per control session.

Default

no pptp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.85 pre-auth-policy

pre-auth-policy

Syntax

pre-auth-policy *policy-name*

no pre-auth-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host pre-auth-policy)

Full Context

configure subscriber-mgmt local-user-db ppp host pre-auth-policy

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Description

This command configures the RADIUS pre-authentication policy to use to authenticate the PPP host.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the pre-authentication policy of the host, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.86 pre-login-message

pre-login-message

Syntax

pre-login-message *login-text-string* [**name**]

no pre-login-message

Context

[Tree] (config>system>login-control pre-login-message)

Full Context

configure system login-control pre-login-message

Description

This command configures a message to display before logging in to the router using Telnet, SSH, or the console port.

Only one message can be configured. If a new pre-login message is configured, the new message overwrites the previous message.

Note: The pre-login message is displayed on both active and standby systems.

The **no** form of this command removes the pre-login message.

Default

no pre-login-message

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Parameters

login-text-string

Specifies the pre-login message text, up to 900 characters. Any printable, 7-bit ASCII characters can be used. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Some special characters can be used to format the message text. Use the newline (\n) character to create multiline messages. A newline (\n) character in the message moves to the beginning of the next line by sending ASCII/UTF-8 characters 0xA (LF) and 0xD (CR) to the client terminal. A carriage return (\r) character in the message sends the ASCII/UTF-8 character 0xD (CR) to the client terminal.

name

Displays the configured system name before the pre-login message. To remove the system name from the pre-login message, remove the current message and configure a new message without using the **name** parameter.

Platforms

All

35.87 pre-shared-key

pre-shared-key

Syntax

pre-shared-key *pre-shared-key-index* [**encryption-type** *encryption-type*] [**create**]

no pre-shared-key *pre-shared-key-index*

Context

[Tree] (config>macsec>conn-assoc>static-cak pre-shared-key)

Full Context

configure macsec connectivity-association static-cak pre-shared-key

Description

This command specifies the pre-shared key used to enable MACsec using static connectivity association key (CAK) security mode. This command also specifies the encryption algorithm used for encrypting the SAK.

A pre-shared key includes a connectivity association key name (CKN) and a connectivity association key (CAK). The pre-shared key-the CKN and CAK-must match on both ends of a link.

A pre-shared key is configured on both devices at each end of point-to-point link to enable MACsec using static CAK security mode. The MACsec Key Agreement (MKA) protocol is enabled after the successful MKA liveliness negotiation.

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The encryption-type is used for encrypting the SAK and authenticating the MKA packet. The symmetric encryption key SAK (Security Association Key) needs to be encrypted (wrapped) via the MKA protocols. The AES key is derived via pre-shared-key.

The **no** form of this command removes the index.

Parameters

pre-shared-key-index

Specifies the index of this pre-shared-key.

Values 1, 2

encryption-type

Specifies the type of encryption.

Values **aes-128-cmac**, **aes-256-cmac**

create

Mandatory to create an entry.

Platforms

All

pre-shared-key

Syntax

pre-shared-key *key* [**hash** | **hash2** | **custom**]

no pre-shared-key

Context

[Tree] (config>ipsec>client-db>client>credential pre-shared-key)

Full Context

configure ipsec client-db client credential pre-shared-key

Description

This command specifies a pre-shared key used to authenticate peers.

The **no** form of this command reverts to the default.

Default

no pre-shared-key

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Parameters

key

An ASCII string to use as the pre-shared key for dynamic keying. When the **hash** or **hash2** parameters are not used, the key is a clear text key; otherwise, the key text is encrypted.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

pre-shared-key

Syntax

pre-shared-key *key* [**hash** | **hash2** | **custom**]

no pre-shared-key

Context

[Tree] (config>ipsec>trans-mode-prof>dyn pre-shared-key)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn pre-shared-key)

[Tree] (config>service>ies>if>sap>ipsec-gw pre-shared-key)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn pre-shared-key)

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn pre-shared-key)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>dynamic-keying pre-shared-key)

[Tree] (config>service>vprn>if>sap>ipsec-gw pre-shared-key)

Full Context

configure ipsec ipsec-transport-mode-profile dynamic-keying pre-shared-key

configure service ies interface ipsec ipsec-tunnel dynamic-keying pre-shared-key

configure service ies interface sap ipsec-gw pre-shared-key

configure service vprn interface ipsec ipsec-tunnel dynamic-keying pre-shared-key

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configure router interface ipsec ipsec-tunnel dynamic-keying pre-shared-key

configure service vprn interface sap ipsec-tunnel dynamic-keying pre-shared-key

configure service vprn interface sap ipsec-gw pre-shared-key

Description

This command configures the pre-shared key for authentication.

The **no** form of this command reverts to the default.

Default

no pre-shared-key

Parameters

key

Specifies an ASCII string to use as the pre-shared key for dynamic keying. When the **hash** or **hash2** parameters are not used, the key is a clear text key; otherwise, the key text is encrypted.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ipsec-gw pre-shared-key
- configure service vprn interface sap ipsec-gw pre-shared-key
- configure service vprn interface sap ipsec-tunnel dynamic-keying pre-shared-key
- configure ipsec ipsec-transport-mode-profile dynamic-keying pre-shared-key

VSR

- configure service vprn interface ipsec ipsec-tunnel dynamic-keying pre-shared-key
- configure service ies interface ipsec ipsec-tunnel dynamic-keying pre-shared-key
- configure router interface ipsec ipsec-tunnel dynamic-keying pre-shared-key

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35.88 pre-update-time

pre-update-time

Syntax

pre-update-time [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update pre-update-time)

Full Context

configure system security pki ca-profile auto-crl-update pre-update-time

Description

This command specifies the pre-download time for next-update-based update.

Default

pre-update-time hrs 1

Parameters

days

Specifies the time period, in days, prior to the next update time of the current CRL.

Values 0 to 366

hours

Specifies the time period, in hours, prior to the next update time of the current CRL.

Values 0 to 23

minutes

Specifies the time period, in minutes, prior to the next update time of the current CRL.

Values 0 to 59

seconds

Specifies the time period, in seconds, prior to the next update time of the current CRL.

Values 0 to 59

Platforms

All

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35.89 prec

prec

Syntax

prec *ip-prec-value* [**fc** *fc-name*] [**priority** {**high** | **low**}]

no prec *ip-prec-value*

Context

[Tree] (config>qos>sap-ingress prec)

Full Context

configure qos sap-ingress prec

Description

This command explicitly sets the forwarding class or enqueuing priority when a packet is marked with an IP precedence value (*ip-prec-value)*. Adding an IP precedence rule on the policy forces packets that match the specified *ip-prec-value* to override the forwarding class and enqueuing priority based on the parameters included in the IP precedence rule.

When the forwarding class is not specified in the rule, a matching packet preserves (or inherits) the existing forwarding class derived from earlier matches in the classification hierarchy.

When the enqueuing priority is not specified in the rule, a matching packet preserves (or inherits) the existing enqueuing priority derived from earlier matches in the classification hierarchy.

The *ip-prec-value* is derived from the most significant three bits in the IP header ToS byte field (precedence bits). The three precedence bits define eight Class-of-Service (CoS) values commonly used to map packets to per-hop Quality of Service (QoS) behavior. The precedence bits are also part of the DiffServ Code Point (DSCP) method of mapping packets to QoS behavior. The DSCP uses the most significant six bits in the IP header ToS byte and so overlaps with the precedence bits. Both IP precedence and DSCP classification rules are supported. DSCP rules have a higher match priority than IP precedence rules and where a *dscp-name* DSCP value overlaps an *ip-prec-value*, the DSCP rule takes precedence.

The **no** form of this command removes the explicit IP precedence classification rule from the SAP ingress policy. Removing the rule on the policy immediately removes the rule on all ingress SAPs using the policy.

Parameters

ip-prec-value

The *ip-prec-value* is a required parameter that specifies the unique IP header ToS byte precedence bits value that will match the IP precedence rule. If the command is executed more than once with the same *ip-prec-value*, the previous forwarding class and enqueuing priority is completely overridden by the new parameters or defined to be inherited when a forwarding class or enqueuing priority parameter is missing.

A maximum of eight IP precedence rules are allowed on a single policy.

The precedence is evaluated from the lowest to highest value.

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Values 0 to 7

fc *fc-name*

The value given for the *fc-name* parameter must be one of the predefined forwarding classes in the system. Specifying the *fc-name* is optional. When a packet matches the rule, the forwarding class is only overridden when the **fc** *fc-name* parameter is defined on the rule. If the packet matches and the forwarding class is not explicitly defined in the rule, the forwarding class is inherited based on previous rule matches.

The *subclass-name* parameter is optional and used with the *fc-name* parameter to define a pre-existing subclass. The *fc-name* and *subclass-name* parameters must be separated by a period (.). If *subclass-name* does not exist in the context of *fc-name*, an error will occur. If *subclass-name* is removed using the **no fc** *fc-name.subclass-name* **force** command, the **default-fc** command will automatically drop the *subclass-name* and only use *fc-name* (the parent forwarding class for the subclass) as the forwarding class.

Values

fc: *class*[.*subclass*]

class: be, l2, af, l1, h2, ef, h1, nc

subclass: 29 characters max

Default Inherit (When **fc** is not defined, the rule preserves the previous forwarding class of the packet.)

priority

The priority parameter overrides the default enqueuing priority for all packets received on an ingress SAP using this policy that match this rule. Specifying the priority is optional. When a packet matches the rule, the enqueuing priority is only overridden when the priority parameter is defined on the rule. If the packet matches and priority is not explicitly defined in the rule, the enqueuing priority is inherited based on previous rule matches.

Values high, low

Default Inherits the priority defined by the default-priority statement.

high

This parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **high** for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

low

This parameter is used in conjunction with the **priority** parameter. Setting the enqueuing parameter to **low** for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. When the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

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Platforms

All

prec

Syntax

prec {*ip-prec-value* | **in-profile** *ip-prec-value* **out-profile** *ip-prec-value* [**exceed-profile** *ip-prec-value*]}

no prec

Context

[Tree] (config>qos>sap-egress>fc prec)

Full Context

configure qos sap-egress fc prec

Description

This command defines a value to be used for remarking packets for the specified FC. If the optional in/out/exceed-profile is specified, the command will remark different IP precedence values depending on whether the packet was classified to be in, exceed, or out-of-profile. All inplus-profile traffic is marked with the same value as in-profile traffic.

Parameters

ip-prec-value

This parameter specifies the IP precedence to be used to remark all traffic.

Values 0 to 7

exceed-profile *ip-prec-value*

This optional parameter specifies the IP precedence to be used to remark traffic that is exceed-profile. If not specified, this defaults to the same value configured for the **out-profile** parameter.

Values 0 to 7

in-profile *ip-prec-value*

This parameter specifies the IP precedence to be used to remark traffic that is in-profile.

Values 0 to 7

out-profile *ip-prec-value*

This parameter specifies the IP precedence to be used to remark traffic that is out-of-profile.

Values 0 to 7

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Platforms

All

prec

Syntax

prec *ip-prec-value* [**fc** *fc-name*] [**profile** {**in** | **out** | **exceed** | **inplus**}]

no prec *ip-prec-value*

Context

[Tree] (config>qos>sap-egress prec)

Full Context

configure qos sap-egress prec

Description

This command defines a specific IP precedence value that must be matched to perform the associated reclassification actions. If an egress packet on the SAP matches the specified IP precedence value, the forwarding class, or profile behavior may be overridden. By default, the forwarding class and profile of the packet is derived from ingress classification and profiling functions.

The IP precedence bits used to match against precedence reclassification rules come from the Type of Service (ToS) field within the IPv4 header. If the packet does not have an IPv4 header, precedence-based matching is not performed.

The reclassification actions from a precedence reclassification rule may be overridden by a DSCP or IP flow matching event.

The **fc** keyword is optional. When specified, the egress classification rule will overwrite the forwarding class derived from ingress. The new forwarding class is used for egress remarking and queue mapping decisions. If a DSCP, ipv6-criteria, or ip-criteria match occurs after the IP precedence match, the new forwarding class may be overridden by the higher priority match actions. If the higher priority match actions do not specify a new fc, the fc from the IP precedence match will be used.

The **profile** keyword is optional. When specified, the egress classification rule will overwrite the profile of the packet derived from ingress. The new profile value is used for egress remarking and queue congestion behavior. If a DSCP, IPv6 criteria, or IP criteria match occurs after the IP precedence match, the new profile may be overridden by the higher priority match actions. If the higher priority match actions do not specify a new profile, the profile from the IP precedence match will be used.

The **no** form of this command removes the reclassification rule from the SAP egress QoS policy.

Parameters

fc *fc-name*

This keyword is optional. When specified, packets matching the IP precedence value will be explicitly reclassified to the forwarding class specified as *fc-name* regardless of the ingress classification decision. The explicit forwarding class reclassification may be overwritten by a higher priority DSCP, IPv6 criteria, or IP criteria reclassification match. The FC name defined must be one of the eight forwarding classes supported by the system. To

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remove the forwarding class reclassification action for the specified precedence value, the **prec** command must be re-executed without the **fc** parameter defined.

Values be, l1, af, l2, h1, ef, h2 or nc

profile {in | out | exceed | inplus}

This keyword is optional. When specified, packets matching the IP precedence value will be explicitly reclassified to the specified profile regardless of the ingress profiling decision. The explicit profile reclassification may be overwritten by a higher priority DSCP, IPv6 criteria, or IP criteria reclassification match. To remove the profile reclassification action for the specified precedence value, the **prec** command must be re-executed without the **profile** parameter defined.

in

Specifies that any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out

Specifies that any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

exceed

Specifies that any packets matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus

Specifies that any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

Platforms

All

prec

Syntax

prec *ip-prec-value* **fc** *fc-name* **profile** {**in** | **out** | **exceed** | **inplus**}

no prec *ip-prec-value*

Context

[Tree] (config>qos>network>egress prec)

Full Context

configure qos network egress prec

Description

This command defines a specific IP precedence value that must be matched in order to perform the associated reclassification actions. If an egress packet on an IES/VPRN interface spoke SDP, on a CSC

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network interface in a VPRN, or network interface that the network QoS policy is applied to, matches the specified IP precedence value, the forwarding class and profile may be overridden.

By default, the forwarding class and profile of the packet is derived from ingress classification and profiling functions.

The IP precedence bits used to match against the reclassification rules come from the Type of Service (ToS) field within the IPv4 header or the Traffic Class field from the IPv6 header. If the packet does not have an IP header, IP precedence-based matching is not performed.

The configuration of egress prec classification and the configuration of an egress IP criteria or IPv6 criteria entry statement within a network QoS policy are mutually exclusive.

The IP precedence-based and DSCP-based reclassification are supported on a network interface, on a CSC network interface in a VPRN, and on a PW used in an IES or VPRN spoke interface.

This command will block the application of a network QoS policy with the egress reclassification commands to a spoke SDP part of a Layer 2 service. Conversely, this command will not allow the user to add the egress reclassification commands to a network QoS policy if it is being used by a Layer 2 spoke SDP.

The egress reclassification commands will only take effect if the redirection of the spoke SDP or CSC interface to use an egress port queue-group succeeds. For example, the following commands will succeed:

```
    -
 config>service>vprn>if>
spoke-sdp>egress>qos network-policy-id port-redirect-
group
queue-group-name instance instance-id
    - config>service>ies>if>spoke-
sdp>
egress>qos network-policy-id port-redirect-group queue-group-
name
instance instance-id
    - config>service>vprn>nw-if> qos network-policy-id port-redirect-
group
queue-group-name instance instance-id
```

When the redirection command fails in CLI, the PW will use the network QoS policy assigned to the network IP interface; however, any reclassification in the network QoS policy applied to the network interface will be ignored.

The **no** form of this command removes the egress reclassification rule.

Parameters

ip-prec-value

0 to 7

fc fc-name

be, l2, af, l1, h2, ef, h1, nc

profile {in | out | exceed | inplus}

The profile reclassification action is mandatory. When specified, packets matching the IP precedence value will be explicitly reclassified to the profile specified regardless of the ingress profiling decision. To remove the profile reclassification action for the specified IP precedence value, the **no prec** command must be executed.

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This value may be overwritten by an explicit profile action in an DSCP reclassification match.

in - Specifies that any packets matching the reclassification rule will be treated as in-profile by the egress forwarding plane.

out - Specifies that any packets matching the reclassification rule will be treated as out-of-profile by the egress forwarding plane.

exceed - Specifies that any packets matching the reclassification rule will be treated as exceed-profile by the egress forwarding plane.

inplus - Specifies that any packets matching the reclassification rule will be treated as inplus-profile by the egress forwarding plane.

Platforms

All

35.90 precedence

precedence

Syntax

precedence {**primary** | **secondary**}

no precedence

Context

[Tree] (config>eth-tunnel>path precedence)

Full Context

configure eth-tunnel path precedence

Description

This command specifies the precedence to be used for the path. Only two precedence options are supported: **primary** and **secondary**.

The **no** form of this command sets the precedence to the default value.

Default

precedence secondary

Parameters

primary | secondary

Specifies the path precedence as either primary or secondary.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

precedence

Syntax

precedence [*precedence-value* | **primary**]

no precedence

Context

[Tree] (config>service>ipipe>spoke-sdp precedence)

[Tree] (config>service>epipe>spoke-sdp precedence)

[Tree] (config>service>cpipe>spoke-sdp precedence)

Full Context

configure service ipipe spoke-sdp precedence

configure service epipe spoke-sdp precedence

configure service cpipe spoke-sdp precedence

Description

This command specifies the precedence of the SDP binding when there are multiple SDP bindings attached to one service endpoint. The value of zero can only be assigned to one SDP bind making it the primary SDP bind. When an SDP binding goes down, the next highest precedence SDP binding will begin to forward traffic.

The **no** form of this command returns the precedence value to the default.

Default

precedence 4

Parameters

precedence-value

Specifies the spoke SDP precedence.

Values 1 to 4

primary

Assigns primary precedence to the spoke SDP.

Platforms

All

- configure service epipe spoke-sdp precedence
- configure service ipipe spoke-sdp precedence

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7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp precedence

precedence

Syntax

precedence *prec-value*

precedence primary

no precedence

Context

[Tree] (config>service>epipe>spoke-sdp-fec precedence)

Full Context

configure service epipe spoke-sdp-fec precedence

Description

This command specifies the precedence of the SDP binding when there are multiple SDP bindings attached to one service endpoint. The value of zero can only be assigned to one SDP bind making it the primary SDP bind. When an SDP binding goes down, the next highest precedence SDP binding will begin to forward traffic.

The **no** form of this command returns the precedence value to the default.

Default

precedence 42

Parameters

prec-value

Specifies the spoke SDP precedence.

Values 1 to 4

primary

Assigns primary precedence to this spoke SDP.

Platforms

All

precedence

Syntax

precedence [*precedence-value* | **primary**]

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no precedence

Context

[Tree] (config>service>vpls>spoke-sdp precedence)

Full Context

configure service vpls spoke-sdp precedence

Description

This command configures the precedence of this SDP bind when there are multiple SDP binds attached to one service endpoint. When an SDP bind goes down, the next highest precedence SDP bind begins forwarding traffic.

Parameters

precedence-value

Specifies the precedence of this SDP bind

Values 1 to 4

primary

Assigns this as the primary spoke-SDP

Platforms

All

precedence

Syntax

precedence {*precedence-value* | **primary**}

no precedence

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp precedence)

Full Context

configure mirror mirror-dest spoke-sdp precedence

Description

This command indicates that the SDP is of type secondary with a specific precedence value or of type primary.

The mirror or LI service always uses the primary type as the active pseudowire and only switches to a secondary pseudowire when the primary is down. The mirror service switches the path back to the primary pseudowire when it is back up. The user can configure a timer to delay reverting back to primary or to never revert back.

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If the active pseudowire goes down, the mirror service switches the path to a secondary sdp with the lowest precedence value. That is, secondary SDPs which are operationally up are considered in the order of their precedence value, 1 being the lowest value and 4 being the highest value. If the precedence value is the same, then the SDP with the lowest SDP ID is selected.

An explicitly named endpoint can have a maximum of one SAP and one ICB. Once a SAP is added to the endpoint, only one more object of type ICB SDP is allowed. An explicitly named endpoint, which does not have a SAP object, can have a maximum of four SDPs, which can include any of the following: a single primary SDP, one or many secondary SDPs with precedence, and a single ICB SDP.

An SDP is created with type secondary and with the lowest precedence value of 4.

Parameters

precedence-value

Specifies the precedence of the SDP.

Values 1 to 4

primary

Specified that a special value of the precedence which assigns the SDP the lowest precedence and enables the revertive behavior.

Platforms

All

35.91 preempt

preempt

Syntax

[**no**] **preempt**

Context

[Tree] (config>service>ies>sub-if>grp-if>srrp preempt)

[Tree] (config>service>vprn>sub-if>grp-if>srrp preempt)

Full Context

configure service ies subscriber-interface group-interface srrp preempt

configure service vprn subscriber-interface group-interface srrp preempt

Description

When preempt is enabled, a newly initiated SRRP instance can overrides an existing Master SRRP instance if its priority value is higher than the priority of the current Master.

If preempt is disabled, an SRRP instance only becomes Master if the master down timer expires before an SRRP advertisement message is received from the adjacent SRRP enabled node.

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The **no** form of this command reverts to the default.

Default

preempt

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preempt

Syntax

[**no**] **preempt**

Context

[Tree] (config>service>ies>if>ipv6>vrrp preempt)

Full Context

configure service ies interface ipv6 vrrp preempt

Description

The preempt mode value controls whether a specific backup virtual router preempts a lower priority master.

When preempt is enabled, the virtual router instance overrides any non-owner master with an "in use" message priority value less than the virtual router instance in-use priority value. If preempt is disabled, the virtual router only becomes master if the master down timer expires before a VRRP advertisement message is received from another virtual router.

The IP address owner will always become master when available. Preempt mode cannot be disabled on the owner virtual router.

The **no** form of this command disables preempt mode.

Default

preempt

Platforms

All

preempt

Syntax

[**no**] **preempt**

Context

[Tree] (config>service>ies>if>vrrp preempt)

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Full Context

configure service ies interface vrrp preempt

Description

The preempt command provides the ability of overriding an existing non-owner master to the virtual router instance. Enabling preempt mode is almost required for proper operation of the base-priority and vrrp-policy-id definitions on the virtual router instance. If the virtual router cannot preempt an existing non-owner master, the effect of the dynamic changing of the in-use priority is greatly diminished.

The preempt command is only available in the non-owner vrrp virtual-router-id nodal context. The owner may not be preempted due to the fact that the priority of non-owners can never be higher than the owner. The owner will always preempt all other virtual routers when it is available.

Non-owner virtual router instances will only preempt when preempt is set and the current master has an in-use message priority value less than the virtual router instances in-use priority.

A master non-owner virtual router will only allow itself to be preempted when the incoming VRRP Advertisement message Priority field value is one of the following:

- Greater than the virtual router in-use priority value
- Equal to the in-use priority value and the source IP address (primary IP address) is greater than the virtual router instance primary IP address

The **no** form of this command prevents a non-owner virtual router instance from preempting another, less desirable virtual router. Use the preempt command to restore the default mode.

Default

preempt

Platforms

All

preempt

Syntax

[**no**] **preempt**

Context

[Tree] (config>service>vprn>if>ipv6>vrrp preempt)

[Tree] (config>service>vprn>if preempt)

Full Context

configure service vprn interface ipv6 vrrp preempt

configure service vprn interface preempt

Description

The preempt mode value controls whether a specific backup virtual router preempts a lower priority master.

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When preempt is enabled, the virtual router instance overrides any non-owner master with an "in use" message priority value less than the virtual router instance in-use priority value. If preempt is disabled, the virtual router only becomes master if the master down timer expires before a VRRP advertisement message is received from another virtual router.

The IP address owner will always become master when available. Preempt mode cannot be disabled on the owner virtual router.

The default value for preempt mode is enabled.

Default

preempt

Platforms

All

preempt

Syntax

[**no**] **preempt**

Context

[Tree] (config>router>if>ipv6>vrrp preempt)

[Tree] (config>router>if>vrrp preempt)

Full Context

configure router interface ipv6 vrrp preempt

configure router interface vrrp preempt

Description

The preempt mode value controls whether a specific backup virtual router preempts a lower priority master.

When preempt is enabled, the virtual router instance overrides any non-owner master with an "in use" message priority value less than the virtual router instance in-use priority value. If preempt is disabled, the virtual router only becomes master if the master down timer expires before a VRRP advertisement message is received from another virtual router.

The IP address owner will always become master when available. Preempt mode cannot be disabled on the owner virtual router.

The default value for preempt mode is enabled.

Default

preempt

Platforms

All

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35.92 preemption-timer

preemption-timer

Syntax

preemption-timer *seconds*

no preemption-timer

Context

[Tree] (config>router>rsvp preemption-timer)

Full Context

configure router rsvp preemption-timer

Description

This parameter configures the time in seconds a node holds to a reservation for which it triggered the soft preemption procedure.

The preempting node starts a separate preemption timer for each preempted LSP path. While this timer is on, the node should continue to refresh the Path and Resv for the preempted LSP paths. When the preemption timer expires, the node tears down the reservation if the head-end node has not already done so.

A value of zero means the LSP should be preempted immediately; hard preempted.

The **no** form of this command reverts to the default value.

Default

preemption-timer 300

Parameters

seconds

Specifies the time (in s), of the preemption timer.

Values 0 to 1800 seconds

Platforms

All

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35.93 prefer-failure

prefer-failure

Syntax

[**no**] **prefer-failure**

Context

[Tree] (config>service>nat>pcp-server-policy>option prefer-failure)

Full Context

configure service nat pcp-server-policy option prefer-failure

Description

This command enables/disables support for the **prefer-failure** option.

Default

no prefer-failure

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.94 prefer-local-time

prefer-local-time

Syntax

[**no**] **prefer-local-time**

Context

[Tree] (config>system>time prefer-local-time)

Full Context

configure system time prefer-local-time

Description

This command sets the preference to use local or UTC time in the system. This preference is applied to objects such as log file names, created and completed times reported in log files, NETCONF and gRPC date-and-time leafs, and rollback times displayed in **show** routines.

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Note:

- The operator may force the timezone used for **show** outputs during a CLI session using an environment variable in the **environment>time-display {utc | local}** command.
- The preference for CLI output is set with the **environment time-display** command.
- The format used for the date-time strings may change when the **prefer-local-time** option is enabled. For example, when enabled, all date-time strings include a suffix of three to five characters that indicates the timezone used for the presentation. This suffix may not be present if the option in not enabled.
- The time format for timestamps on log events is controlled on a per-log basis using the **config**> **log**>l**og-id**>**time-format {utc | local}** CLI command and not via **prefer-local-time**.

The **no** form of this command indicates preference for UTC time.

Default

no prefer-local-time

Platforms

All

35.95 prefer-mcast-tunnel-in-tunnel

prefer-mcast-tunnel-in-tunnel

Syntax

[**no**] **prefer-mcast-tunnel-in-tunnel**

Context

[Tree] (config>router>ldp prefer-mcast-tunnel-in-tunnel)

Full Context

configure router ldp prefer-mcast-tunnel-in-tunnel

Description

At a downstream router, this command specifies that for upstream FEC resolution a T-LDP session to the upstream peer is preferred over an l-LDP session.

At an upstream router, this command specifies that for downstream FEC resolution a T-LDP session to the downstream peer is preferred over an l-LDP session.

The **no** form of this command reverts to the default value.

Default

no prefer-mcast-tunnel-in-tunnel

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Platforms

All

35.96 prefer-protocol-stitching

prefer-protocol-stitching

Syntax

[**no**] **prefer-protocol-stitching**

Context

[Tree] (config>router>ldp prefer-protocol-stitching)

Full Context

configure router ldp prefer-protocol-stitching

Description

This command stitches an LDP ILM to an SR NHLFE rather than to an LDP NHLFE when both LDP and SR NHLFEs exist.

The **no** form of this command stitches an LDP ILM to an LDP NHLFE by preference over an SR NHLFE.

Default

no prefer-protocol-stitching

Platforms

All

35.97 prefer-tunnel-in-tunnel

prefer-tunnel-in-tunnel

Syntax

[**no**] **prefer-tunnel-in-tunnel**

Context

[Tree] (config>router>ldp prefer-tunnel-in-tunnel)

Full Context

configure router ldp prefer-tunnel-in-tunnel

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Description

This command specifies to use tunnel-in-tunnel over a simple LDP tunnel. Specifically, the user packets for LDP FECs learned over this targeted LDP session can be sent inside an RSVP LSP which terminates on the same egress router as the destination of the targeted LDP session. The user can specify an explicit list of RSVP LSP tunnels under the Targeted LDP session or LDP will perform a lookup in the Tunnel Table Manager (TTM) for the best RSVP LSP. In the former case, only the specified LSPs will be considered to tunnel LDP user packets. In the latter case, all LSPs available to the TTM and which terminate on the same egress router as this target ed LDP session will be considered. In both cases, the metric specified under the LSP configuration is used to control this selection.

The lookup in the TTM will prefer a LDP tunnel over an LDP-over-RSVP tunnel if both are available. Also, the tunneling operates on the dataplane only. Control packets of this targeted LDP session are sent over the IGP path.

Platforms

All

35.98 preference

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>service>vprn>l2tp>group>tunnel preference)

[Tree] (config>router>l2tp>group>tunnel preference)

Full Context

configure service vprn l2tp group tunnel preference

configure router l2tp group tunnel preference

Description

This command configures a preference number that indicates the relative preference assigned to a tunnel when using a weighted session assignment.

The **no** form of this command removes the preference value from the tunnel configuration.

Default

no preference

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Parameters

preference

Specifies the tunnel preference number with its group. The value 0 corresponds to the highest preference.

Values 0 to 16777215

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preference

Syntax

preference *preference-level*

no preference

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel preference)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override preference)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle preference)

Full Context

configure mcast-management multicast-info-policy bundle channel preference

configure mcast-management multicast-info-policy bundle channel source-override preference

configure mcast-management multicast-info-policy bundle preference

Description

This command sets the relative preference level for multicast channels. The preference of a channel specifies its relative importance over other multicast channels. Eight levels of preference are supported; 0 through 7. Preference value 7 indicates the highest preference level.

When the multicast ingress path manager is congested on one or more of the switch fabric multicast paths, it uses the preference values associated with each multicast record to determine which records are allowed on the path and which records be placed in a black-hole state.

The preference value is also compared to the bundles **cong-priority-threshold** setting to determine the congestion priority of the channel. The result also dictates the channels multicast CAC class level (high or low). When the channels preference value is less than the congestion priority threshold, it is considered to have a congestion priority and CAC class value equal to low. When the channels preference value is equal to or greater than the threshold, it is considered to have a congestion priority and a CAC class value equal to high.

The preference value is also compared to the bundles ecmp-opt-threshold setting to determine whether the channel is eligible for ECMP path dynamic optimization. If the preference value is equal to or less than the threshold, the channel may be optimized. If the preference value is greater than the threshold, the channel will not be dynamically optimized.

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The preference command may be executed in three contexts; bundle, channel and source-override. The bundle default preference value is 0. The channel and **source-override** preference settings are considered overrides to the bundle setting and have a default value of null (undefined).

The **no** form of this command restores the default preference value (0 or null depending on the context).

Parameters

preference-level

The preference-level parameter is required and defines the preference value of the channel.

Values 1 to 7

Bundle default:	0
Channel default:	Null (undefined)
Source-override default:	Null (undefined)

Override sequence — The channel setting overrides the bundle setting. The **source-override** setting overrides the channel and bundle settings.

Platforms

All

preference

Syntax

[**no**] **preference** *preference*

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy preference)

Full Context

configure subscriber-mgmt bgp-peering-policy preference

Description

This command configures the route preference for routes learned from the configured peer.

The lower the preference the higher the chance of the route being the active route. The OS assigns BGP routes highest default preference compared to routes that are direct, static or learned via MPLS or OSPF.

The **no** form of this command used at the global level reverts to default value.

Default

preference 170

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Parameters

preference

The route preference, expressed as a decimal integer.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>aaa>diam>node>peer preference)

Full Context

configure aaa diameter node peer preference

Description

This command configures the Diameter routing preference for a peer. All open peers are installed in the Diameter realm routing table but only the one with the lowest numerical value for preference is used as next-hop for a given destination realm. If multiple peers with the same preference are configured for the same realm, the peer index with the lowest value is used to break the tie.

The **no** form of this command reverts to the default.

Default

preference 50

Parameters

preference

Specifies the peer preference.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>aaa>diam>node>peer>route preference)

Full Context

configure aaa diameter node peer route preference

Description

This command configures the preference of the static route. The lower value is preferred during route selection.

The **no** form of this command reverts to the default.

Default

preference 50

Parameters

preference

Specifies the static route preference.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>subscr-mgmt>sub-prof preference)

Full Context

configure subscriber-mgmt sub-profile preference

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Description

This command sets the relative preference value for a subscriber profile. When multiple subscriber hosts/sessions of the same subscriber point to a different subscriber profile, the profile with the highest preference value is used. With equal preference, the subscriber profile of the last instantiated subscriber host/session is used.

Note:
Nokia recommends not to configure a subscriber profile preference value unless explicitly required for the targeted design.

The **no** form of this command reverts to the default value.

Default

preference 5

Parameters

preference

Specifies the preference value. A lower number means a lower preference.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preference

Syntax

preference [**create**] [**non-revertive**]

no preference

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-carving>manual preference)

Full Context

configure service system bgp-evpn ethernet-segment service-carving manual preference

Description

This command creates the preference context for the Ethernet Segment (ES) and determines whether the DF election for the ES is revertive or not. Creation of the **preference** context ensures that the PE will run the preference-based DF election algorithm.

Parameters

create

Mandatory keyword required to create the preference context in an ES.

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non-revertive

Configures a non-revertive ES, which ensures that when the Ethernet Segment comes back after a failure, it does not take over an existing active DF PE.

Platforms

All

preference

Syntax

[**no**] **preference** *preference*

Context

[Tree] (config>service>vprn>bgp preference)

[Tree] (config>service>vprn>bgp>group preference)

Full Context

configure service vprn bgp preference

configure service vprn bgp group preference

Description

This command configures the route preference for routes learned from the configured peer(s).

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The lower the preference the higher the chance of the route being the active route. The OS assigns BGP routes highest default preference compared to routes that are direct, static or learned via MPLS or OSPF.

The **no** form of this command, if used at the global level, reverts to default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

preference 170

Parameters

preference

Specifies the route preference, expressed as a decimal integer.

Values 1 to 255

Platforms

All

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preference

Syntax

preference *preference-value*

no preference

Context

[Tree] (config>service>vprn>static-route-entry>grt preference)

[Tree] (config>service>vprn>static-route-entry>indirect preference)

[Tree] (config>service>vprn>static-route-entry>follow preference)

[Tree] (config>service>vprn>static-route-entry>next-hop preference)

[Tree] (config>service>vprn>static-route-entry>black-hole preference)

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel preference)

Full Context

configure service vprn static-route-entry grt preference

configure service vprn static-route-entry indirect preference

configure service vprn static-route-entry follow preference

configure service vprn static-route-entry next-hop preference

configure service vprn static-route-entry black-hole preference

configure service vprn static-route-entry ipsec-tunnel preference

Description

This command configures the route preference to be assigned to the associated static route. The lower the preference value, the more preferred the route is considered.

The following table lists the default route preference based on the route source.

Table 100: Default Route Preference

Label	Preference	Configurable
Direct attached	0	No
Static route	5	Yes
OSPF Internal routes	10	Yes
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes

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Label	Preference	Configurable
Aggregate	130	No
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes
BGP	170	Yes

The **no** form of this command returns the returns the associated static route preference to its default value.

Default

preference 5

Parameters

preference-value

Specifies the route preference value.

Values 1 to 255

Platforms

All

- configure service vprn static-route-entry grt preference
- configure service vprn static-route-entry black-hole preference
- configure service vprn static-route-entry ipsec-tunnel preference
- configure service vprn static-route-entry next-hop preference
- configure service vprn static-route-entry indirect preference

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure service vprn static-route-entry follow preference

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>service>vprn>isis>level preference)

Full Context

configure service vprn isis level preference

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Description

This command configures the preference level of either IS-IS Level 1 or IS-IS Level 2 internal routes. By default, the preferences are listed in the table below.

A route can be learned by the router by different protocols, in which case, the costs are not comparable. When this occurs, the preference is used to decide to which route will be used.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is per the default preference table as defined in the table below. If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used. If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision what route to use is determined by the configuration of the **ecmp** in the config>router context.

Default

Default preferences are listed in Table 101: Default Preferences.

Table 101: Default Preferences

Route Type	Preference	Configurable
Direct attached	0	No
Static route	5	Yes
MPLS	7	—
OSPF internal routes	10	No
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
OSPF external	150	Yes
IS-IS level 1 external	160	Yes[5]
IS-IS level 2 external	165	Yes[5]
BGP	170	Yes

Parameters

preference

The preference for external routes at this level expressed as a decimal integer.

Values 1 to 255

Platforms

All

[5] External preferences are changed using the **external-preference** command in the **config>router>isis>level** *level-number* context.

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preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>service>vprn>ospf3 preference)

[Tree] (config>service>vprn>ospf preference)

Full Context

configure service vprn ospf3 preference

configure service vprn ospf preference

Description

This command configures the preference for OSPF internal routes.

A route can be learned by the router from different protocols in which case the costs are not comparable, when this occurs the preference is used to decide to which route will be used.

Different protocols should not be configured with the same preference. If the same preference is configured, the tiebreaker is per the default preference table as defined in Table 102: Default Route Preferences . If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used.

If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision of what route to use is determined by the configuration of the **ecmp** in the **config**>**router** context.

The **no** form of this command reverts to the default value.

Table 102: Default Route Preferences

Route Type	Preference	Configurable
Direct attached	0	No
Static routes	5	Yes
OSPF internal	10	Yes[6]
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes

6 Preference for OSPF internal routes is configured with the **preference** command.

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Route Type	Preference	Configurable
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes

Default

preference 10 — OSPF internal routes have a preference of 10.

Parameters

preference

The preference for internal routes expressed as a decimal integer. Defaults for different route types are listed in the following table.

Values 1 to 255

Platforms

All

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>service>vprn>rip>group preference)

[Tree] (config>service>vprn>rip preference)

[Tree] (config>service>vprn>ripng preference)

[Tree] (config>service>vprn>ripng>group preference)

[Tree] (config>service>vprn>rip>group>neighbor preference)

[Tree] (config>service>vprn>ripng>group>neighbor preference)

Full Context

configure service vprn rip group preference

configure service vprn rip preference

configure service vprn ripng preference

configure service vprn ripng group preference

configure service vprn rip group neighbor preference

configure service vprn ripng group neighbor preference

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Description

This command sets the route preference assigned to RIP routes. This value can be overridden by route policies.

The **no** form of this command resets the *preference* to the default.

Default

no preference

Parameters

preference

Specifies the preference value.

Values 1 to 255

Default 100

Platforms

All

preference

Syntax

preference *preference-value*

no preference

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy preference)

Full Context

configure router mpls forwarding-policies forwarding-policy preference

Description

This command configures the preference of an MPLS forwarding policy.

The **no** form of this command removes the preference parameter from the MPLS forwarding policy.

Default

preference 255

Parameters

preference-value

Specifies the preference value.

The *preference-value* parameter allows the user to configure multiple label-binding forwarding policies with the same binding label or multiple endpoint policies with the same

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endpoint address. This provides the capability to achieve a 1:N backup strategy for the forwarding policy. Only the most preferred, lowest numerically preference value, policy is activated in data path.

Values 1 to 255

Platforms

All

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy>candidate-path preference)

Full Context

configure router p2mp-sr-tree p2mp-policy candidate-path preference

Description

This command sets the candidate path preference for the P2MP SR tree. The candidate path with the highest preference is the active candidate path.

The **no** form of this command removes the candidate path preference.

Default

no preference

Parameters

preference

Specifies the preference of the candidate path.

Values 0 to 1024

Platforms

All

preference

Syntax

preference *preference*

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no preference

Context

[Tree] (config>router>static-route-entry>next-hop preference)

[Tree] (config>router>static-route-entry>indirect preference)

[Tree] (config>router>static-route-entry>black-hole preference)

Full Context

configure router static-route-entry next-hop preference

configure router static-route-entry indirect preference

configure router static-route-entry black-hole preference

Description

This command specifies the route preference to be assigned to the associated static route. The lower the preference value the more preferred the route is considered.

Table 103: Default Route Preference shows the default route preference based on the route source.

Table 103: Default Route Preference

Label	Preference	Configurable
Direct attached	0	No
Static route	5	Yes
OSPF Internal routes	10	Yes
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes
Aggregate	130	No
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes
BGP	170	Yes

The **no** form of this command returns the returns the associated static route preference to its default value.

Default

preference 5

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Parameters

preference

Specifies the route preference value.

Values 1 to 255

Platforms

All

preference

Syntax

[**no**] **preference** *preference*

Context

[Tree] (config>router>bgp preference)

[Tree] (config>router>bgp>group>neighbor preference)

[Tree] (config>router>bgp>group preference)

Full Context

configure router bgp preference

configure router bgp group neighbor preference

configure router bgp group preference

Description

This command configures the route preference for routes learned from the configured peers.

This configuration parameter can be set at three levels: global level (applies to all peers), group level (applies to all peers in peer-group) or neighbor level (only applies to specified peer). The most specific value is used.

The lower the preference the higher the chance of the route being the active route. The router assigns BGP routes highest default preference compared to routes that are direct, static or learned via MPLS or OSPF.

The **no** form of this command used at the global level reverts to default value.

The **no** form of this command used at the group level reverts to the value defined at the global level.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

preference 170

Parameters

preference

Specifies the route preference expressed as a decimal integer.

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Values 1 to 255

Platforms

All

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>router>isis>level preference)

Full Context

configure router isis level preference

Description

This command configures the preference level of either IS-IS Level 1 or IS-IS Level 2 internal routes. By default, the preferences are listed in the table below.

A route can be learned by the router by different protocols, in which case, the costs are not comparable. When this occurs, the preference is used to decide to which route will be used.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is per the default preference table as defined in the following table. If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used. If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision what route to use is determined by the configuration of the **ecmp** in the **config>router** context.

Default

preference (Level 1) — 15

preference (Level 2) — 18

Parameters

preference

Specifies the preference for external routes at this level expressed as a decimal integer. The default preferences are listed in Table 104: Default Internal Route Preferences .

Table 104: Default Internal Route Preferences

Route Type	Preference	Configurable
Direct attached	0	—
Static-route	5	Yes

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Route Type	Preference	Configurable
OSPF internal routes	10	—
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
OSPF external	150	Yes
IS-IS level 1 external	160	Yes[7]
IS-IS level 2 external	165	Yes[7]
BGP	170	Yes

Values 1 to 255

Platforms

All

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>router>ospf3 preference)

[Tree] (config>router>ospf preference)

Full Context

configure router ospf3 preference

configure router ospf preference

Description

This command configures the preference for OSPF internal routes.

A route can be learned by the router from different protocols, in which case, the costs are not comparable. When this occurs, the preference is used to decide which route will be used.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is per the default preference table as defined in Table 105: Route Preference Defaults by Route Type . If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used.

7 External preferences are changed using the external-preference command in the **config>router>isis>level** *level-number* context.

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If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision of what route to use is determined by the configuration of the **ecmp** in the **config>router** context.

The **no** form of this command reverts to the default value.

Default

preference 10

Parameters

preference

Specifies the preference for internal routes expressed as a decimal integer. Defaults for different route types are listed in Table 105: Route Preference Defaults by Route Type .

Table 105: Route Preference Defaults by Route Type

Route Type	Preference	Configurable
Direct attached	0	No
Static routes	5	Yes
OSPF internal	10	Yes[8]
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes
BGP	170	Yes

Values 1 to 255

Platforms

All

preference

Syntax

preference {**none** | **all**}

[8] Preference for OSPF internal routes is configured with the **preference** command.

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no preference

Context

[Tree] (config>router>isis>lfa>mhp preference)

[Tree] (config>router>ospf>lfa>mhp preference)

Full Context

configure router isis loopfree-alternates multi-homed-prefix preference

configure router ospf loopfree-alternates multi-homed-prefix preference

Description

This command configures the preference for the multihomed prefix LFA backup path. This knob can be enabled at a LFA computing node to force the programming of the multihomed prefix LFA backup path which, in some topologies, can avoid transiting using the best ABR or ASBR.

The **no** form of this command reverts to the default value.

Default

preference none

Parameters

none

Specifies the preference for an LFA, TI-LFA, or RLFA backup path over the multihomed prefix LFA backup path. The multihomed prefix LFA is only programmed in cases where the prefix is not protected by LFA, RLFA, or TI-LFA.

all

Specifies the forced programming of the multihomed prefix LFA backup path regardless of the outcome of the LFA, TI-LFA, or RLFA backup path computation.

Platforms

All

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>router>rip preference)

[Tree] (config>router>rip>group>neighbor preference)

[Tree] (config>router>ripng preference)

[Tree] (config>router>ripng>group>neighbor preference)

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[Tree] (config>router>ripng>group preference)

[Tree] (config>router>rip>group preference)

Full Context

configure router rip preference

configure router rip group neighbor preference

configure router ripng preference

configure router ripng group neighbor preference

configure router ripng group preference

configure router rip group preference

Description

This command configures the preference for RIP routes.

A route can be learned by the router from different protocols in which case the costs are not comparable. When this occurs, the preference is used to decide which route will be used.

Different protocols should not be configured with the same preference, if this occurs the tiebreaker is per the default preference table as defined in Table 106: Route Preference Defaults by Route Type . If multiple routes are learned with an identical preference using the same protocol, the lowest cost route is used.

If multiple routes are learned with an identical preference using the same protocol and the costs (metrics) are equal, then the decision of what route to use is determined by the configuration of the **ecmp** in the **config>router** context.

The **no** form of the command reverts to the default value.

Default

preference 100

Parameters

preference

Specifies the preference for RIP routes expressed as a decimal integer. Defaults for different route types are listed in Table 106: Route Preference Defaults by Route Type .

Table 106: Route Preference Defaults by Route Type

Route Type	Preference	Configurable
Direct attached	0	—
Static routes	5	Yes
OSPF internal	10	Yes
IS-IS level 1 internal	15	Yes
IS-IS level 2 internal	18	Yes
RIP	100	Yes

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Route Type	Preference	Configurable
OSPF external	150	Yes
IS-IS level 1 external	160	Yes
IS-IS level 2 external	165	Yes
BGP	170	Yes

Values 0 to 255

Platforms

All

preference

Syntax

preference *preference*

Context

[Tree] (conf>router>segment-routing>sr-policies>policy preference)

Full Context

configure router segment-routing sr-policies static-policy preference

Description

This command associates a preference value with a statically defined-segment routing policy. This is an optional parameter.

When there are multiple policies for the same (color, endpoint) combination that are targeted for local installation, only one is selected as the active path for the (color, endpoint). In this selection process (which considers both static local policies and BGP signaled policies), the policy with the highest preference value is preferred over all policies with a lower preference value.

The **no** form of this command reverts to the default value.

Default

preference 100

Parameters

preference

Specifies the preference ID.

Values 0 to 4294967295

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Platforms

All

preference

Syntax

preference *preference*

no preference

Context

[Tree] (config>router>policy-options>policy-statement>name>default-action preference)

[Tree] (config>router>policy-options>policy-statement>entry>action preference)

Full Context

configure router policy-options policy-statement name default-action preference

configure router policy-options policy-statement entry action preference

Description

This command assigns a route preference to routes matching the route policy statement entry.

If no preference is specified, the default Route Table Manager (RTM) preference for the protocol is used.

The **no** form of this command disables setting an RTM preference in the route policy entry.

Note:
This command is supported with the following protocols: RIP import, BGP import, VPRN VRF import (**vrf-import**), and VPRN GRT lookup export (**export-grt**).

Default

no preference

Parameters

preference

Specifies the route preference expressed as a decimal integer.

Values 1 to 255 (0 represents unset - MIB only)

name — The preference parameter variable name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

Platforms

All

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preference

Syntax

preference *value*

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry preference)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry preference)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry preference

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry preference

Description

This command associates a preference with the provisioned managed route.

Parameters

value

Specifies the preference value.

Values 0 to 255

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preference

Syntax

preference

Context

[Tree] (config>ipsec>tnl-temp>rev-route preference)

Full Context

configure ipsec tunnel-template reverse-route preference

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Description

This command configures the route preference assigned to the DL2L tunnel reverse routes. The system uses this preference when selecting a route to install in the route table.

Default

preference 0

Parameters

preference

Specifies the preference value for reverse routes.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.99 preference-option

preference-option

Syntax

[**no**] **preference-option**

Context

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>asel>srvr preference-option)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>asel>clnt-mac preference-option)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>asel preference-option)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>asel>srvr preference-option)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>asel>clnt-mac preference-option)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>asel preference-option)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>asel>srvr preference-option)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>asel>clnt-mac preference-option)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>asel preference-option)

Full Context

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection server preference-option

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac preference-option

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection preference-option

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configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server preference-option

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection client-mac preference-option

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection preference-option

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server preference-option

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac preference-option

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection preference-option

Description

This command enables the DHCPv6 preference option that is inserted in the DHCPv6 advertise message.

The **no** form of this command removes the preference option.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

35.100 preferred

preferred

Syntax

[**no**] **preferred**

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy preferred)

Full Context

configure isa nat-group inter-chassis-redundancy preferred

Description

This command sets the preference for activity of a **nat-group** in stateful inter-chassis redundancy configuration if both nodes have equal health. An example of where this can be useful is in a load balancing environment where the activity of NAT groups can be distributed between the two redundant nodes.

A **nat-group** with **preferred** command configured on a node that freshly became part of multi-chassis redundancy, takes over activity from an existing and traffic-serving node with equal health that does not have the **preferred** command configured. This causes a switchover and a brief interruption in traffic flow.

By default the preferred status is not set for the node.

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The **no** form of this command reverts to the default.

Default

no preferred

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

35.101 preferred-lifetime

preferred-lifetime

Syntax

preferred-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

preferred-lifetime infinite

no preferred-lifetime

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ipv6-lease-times preferred-lifetime)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ipv6-lease-times preferred-lifetime)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-lease-times preferred-lifetime

configure subscriber-mgmt local-user-db ppp host ipv6-lease-times preferred-lifetime

Description

This command specifies the preferred lifetime for the lease times. When the preferred lifetime expires, then any derived addresses are deprecated.

The **no** form of this command reverts to the default.

Parameters

infinite

Specifies that the valid lifetime is infinite.

preferred-lifetime

Specifies the preferred lifetime.

Values

days *days*	0 to 3650
hrs *hours*	0 to 23
min *minutes*	0 to 59

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sec *seconds*	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preferred-lifetime

Syntax

preferred-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no preferred-lifetime

Context

[Tree] (config>router>dhcp6>server>pool>prefix preferred-lifetime)

[Tree] (config>service>vprn>dhcp6>server>pool>prefix preferred-lifetime)

[Tree] (config>service>vprn>dhcp6>server>defaults preferred-lifetime)

[Tree] (config>router>dhcp6>server>defaults preferred-lifetime)

Full Context

configure router dhcp6 local-dhcp-server pool prefix preferred-lifetime

configure service vprn dhcp6 local-dhcp-server pool prefix preferred-lifetime

configure service vprn dhcp6 local-dhcp-server defaults preferred-lifetime

configure router dhcp6 local-dhcp-server defaults preferred-lifetime

Description

This command configures the preferred lifetime.

The **no** form of this command reverts to the default value.

Default

preferred-lifetime hrs 1

Parameters

preferred-lifetime

Specifies the preferred time for a prefix.

Values

days:	0 to 3650
hours:	0 to 23
minutes:	0 to 59
seconds	0 to 59

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server pool prefix preferred-lifetime
- configure service vprn dhcp6 local-dhcp-server pool prefix preferred-lifetime

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server defaults preferred-lifetime
- configure service vprn dhcp6 local-dhcp-server defaults preferred-lifetime

preferred-lifetime

Syntax

preferred-lifetime *seconds*

preferred-lifetime infinite

no preferred-lifetime

Context

[Tree] (config>service>vprn>if>ipv6>dhcp6>pfx-delegate>prefix preferred-lifetime)

[Tree] (config>service>ies>if>ipv6>dhcp6>pfx-delegate>prefix preferred-lifetime)

Full Context

configure service vprn interface ipv6 dhcp6-server prefix-delegation prefix preferred-lifetime

configure service ies interface ipv6 dhcp6-server prefix-delegation prefix preferred-lifetime

Description

This command configures the IPv6 prefix/mask preferred lifetime. The preferred-lifetime value cannot be bigger than the valid-lifetime value.

The **no** form of this command reverts to the default value.

Default

preferred-lifetime 604800 (7 days)

Parameters

seconds

Specifies the time, in seconds, that this prefix remains preferred.

Values 1 to 4294967294

infinite

Specifies that this prefix remains preferred infinitely.

Platforms

All

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preferred-lifetime

Syntax

preferred-lifetime *seconds*

preferred-lifetime infinite

no preferred-lifetime

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv>pfx-opt preferred-lifetime)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv>pfx-opt preferred-lifetime)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv>pfx-opt preferred-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv>pfx-opt preferred-lifetime)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements prefix-options preferred-lifetime

configure service ies subscriber-interface ipv6 router-advertisements prefix-options preferred-lifetime

configure service vprn subscriber-interface ipv6 router-advertisements prefix-options preferred-lifetime

configure service vprn subscriber-interface group-interface ipv6 router-advertisements prefix-options preferred-lifetime

Description

This command specifies the remaining time for this prefix to be preferred, thus time until deprecation.

The **no** form of this command reverts to the default.

Default

preferred-lifetime 3600

Parameters

seconds

Specifies the time for the prefix to remain preferred on this group-interface in seconds.

Values 0 to 4294967295

infinite

Specifies that the remaining time will never expire. The value 4294967295 is interpreted as infinite.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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preferred-lifetime

Syntax

preferred-lifetime *seconds*

preferred-lifetime infinite

no preferred-lifetime

Context

[Tree] (config>subscr-mgmt>rtr-adv>pfx-opt>stateful preferred-lifetime)

[Tree] (config>subscr-mgmt>rtr-adv>pfx-opt>stateless preferred-lifetime)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options stateful preferred-lifetime

configure subscriber-mgmt router-advertisement-policy prefix-options stateless preferred-lifetime

Description

This command specifies the remaining time for this prefix to be preferred.

The **no** form of this command reverts to the default.

Default

preferred-lifetime 3600

Parameters

seconds

Specifies the time, in seconds, for the prefix to remain preferred.

Values 0, 900 to 86400

infinite

Specifies that the remaining time never expires.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

preferred-lifetime

Syntax

preferred-lifetime infinite

preferred-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no preferred-lifetime

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Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy-server preferred-lifetime)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>proxy-server preferred-lifetime)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>proxy-server preferred-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy-server preferred-lifetime)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server preferred-lifetime

configure service vprn subscriber-interface ipv6 dhcp6 proxy-server preferred-lifetime

configure service ies subscriber-interface ipv6 dhcp6 proxy-server preferred-lifetime

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server preferred-lifetime

Description

This command configures the preferred lifetime. When the preferred lifetime expires, any derived addresses are deprecated.

Default

preferred-lifetime hrs 1

Parameters

infinite

Specifies that the preferred lifetime is infinite.

days days

Specifies the number of days of a preferred lifetime.

Values 0 to 49710

hrs hours

Specifies the number of hours of a preferred lifetime.

Values 0 to 23

min minutes

Specifies the number of minutes of a preferred lifetime.

Values 0 to 59

sec seconds

Specifies the number of seconds of a preferred lifetime.

Values 0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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preferred-lifetime

Syntax

[**no**] **preferred-lifetime** {*seconds* | **infinite**}

Context

[Tree] (config>router>router-advert>if>prefix preferred-lifetime)

[Tree] (config>service>vprn>router-advert>if>prefix preferred-lifetime)

Full Context

configure router router-advertisement interface prefix preferred-lifetime

configure service vprn router-advertisement interface prefix preferred-lifetime

Description

This command configures the remaining length of time in seconds that this prefix will continue to be preferred, such as, time until deprecation. The address generated from a deprecated prefix should not be used as a source address in new communications, but packets received on such an interface are processed as expected.

Default

preferred-lifetime 604800

Parameters

seconds

Specifies the remaining length of time in seconds that this prefix will continue to be preferred.

Values 0 to 4294967294

infinite

Specifies that the prefix will always be preferred. A value of 4,294,967,295 represents infinity.

Platforms

All

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35.102 prefix

prefix

Syntax

prefix *ipv6-addr/prefix-length* [**failover** {**local** | **remote** | **access-driven**}] [**pd**] [**wan-host**] [**create**]

no prefix *ipv6-addr/prefix-length*

Context

[Tree] (config>service>vprn>dhcp6>server>pool prefix)

[Tree] (config>router>dhcp6>server>pool prefix)

Full Context

configure service vprn dhcp6 local-dhcp-server pool prefix

configure router dhcp6 local-dhcp-server pool prefix

Description

This command allocates a prefix to a pool from which Prefix Delegation prefixes and or WAN addresses can be assigned for DHCP6.

The **no** form of this command removes the prefix parameters from the configuration.

Default

prefix failover local

Parameters

prefix ipv6-addr/prefix-length

Specifies the prefix.

Values

ipv6-address	x:x:x:x:x:x:x:x	(eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d	
	x	[0 to FFFF]H
	d	[0 to 255]D
prefix-length	1 to 128	

failover {local | remote | access-driven}

This command designates a prefix as local, remote, or access-driven. This is used when multi-chassis synchronization is enabled.

Values **local** — An IPv6 prefix designated as local is used for new lease grants or to renew the existing lease grants. Local prefix designation should

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be always paired with the remote designation of the same prefix on the peering node.

The IPv6 prefix configured as local on one node can only be configured as remote on the other node. No other combination is allowed between the two nodes for an IPv6 prefix that is configured as local.

The DHCPv6 relay could point to both IPv6 DHCP server addresses — the one hosting the local IPv6 prefix and the one hosting the corresponding remote IPv6 prefix. Under normal circumstances the new lease will always be allocated from the local IPv6 prefix while the leases can be renewed from either IPv6 prefix (local or remote). Under network failure, the remote IPv6 prefix can be taken over according to the intercommunication link state transitions and associated timers.

remote — A prefix designated as remote is used only to renew the existing DHCP leases. The new leases are assigned from it only after the **maximum-client-lead-time** and **partner-down-delay** *time* elapses.

To ensure faster takeover, the partner-down-delay can be set to 0 and the MCLT time can be ignored. Extra caution should be exercised when enabling this mode of operation, as described in the configuration guides.

The IPv6 prefix configured as remote on one node can only be configured as local on the other node. No other combination is allowed between the two nodes for an IP address ranges that is configured as remote.

access-driven — A prefix designated as access-driven is like local (a new prefix assignment as well as a renewal). However, as the prefix is shared between the redundant server pair, the following additional conditions should be met to avoid duplicate address allocations:

- A dual home access protection mechanism such as SRRP or MC-LAG must ensure a single active path from the

  DHCP client to the server.
- The DHCP relay should point to the local server only.

pd

Specifies that this aggregate is used by IPv6 ESM hosts for DHCPv6 prefix-delegation.

wan-host

Specifies that this aggregate is used by IPv6 ESM hosts for local addressing or by a routing gateway's WAN interface.

create

Keyword used to create the prefix configuration. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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prefix

Syntax

[**no**] **prefix** *ipv6-address/prefix-length*

Context

[Tree] (config>service>ies>if>ipv6>dhcp6-server>pfx-delegate prefix)

Full Context

configure service ies interface ipv6 dhcp6-server prefix-delegation prefix

Description

This command specifies the IPv6 prefix that is delegated by this system.

The **no** form of this command reverts to the default.

Parameters

ipv6-address/prefix-length

Specifies the IPv6 address on the interface

Values	ipv6-address/ prefix:	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
			x:x:x:x:x:x:d.d.d.d
			x [0 to FFFF]H
			d [0 to 255]D
	prefix-length		1 to 128

Platforms

All

prefix

Syntax

prefix *ipv6-address/prefix-length* [**pd**] [**wan-host**]

no prefix *ipv6-address/prefix-length*

Context

[Tree] (config>service>ies>sub-if>ipv6>sub-pfx prefix)

[Tree] (config>service>vprn>sub-if>ipv6>sub-pfx prefix)

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Full Context

configure service ies subscriber-interface ipv6 subscriber-prefixes prefix

configure service vprn subscriber-interface ipv6 subscriber-prefixes prefix

Description

This command allows a list of prefixes (using the prefix command multiple times) to be routed to hosts associated with this subscriber interface. Each prefix is represented in the associated FDB with a reference to the subscriber interface. Prefixes are defined as being for prefix delegation (pd) or use on a WAN interface or host (wan-host).

The **no** form of this command reverts to the default.

Parameters

ipv6-address

Specifies the 128-bit IPv6 address.

Values 128-bit hexadecimal IPv6 address in compressed form

prefix-length

Specifies the length of any associated aggregate prefix.

Values 32 to 63

pd

Specifies that this aggregate is used by IPv6 ESM hosts for DHCPv6 prefix-delegation.

wan-host

Specifies that this aggregate is used by IPv6 ESM hosts for local addressing or by a routing gateway's WAN interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *low-order-vsi-id*

no prefix

Context

[Tree] (config>service>vpls>bgp-ad>vsi-id prefix)

Full Context

configure service vpls bgp-ad vsi-id prefix

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Description

This command specifies the low-order 4 bytes used to compose the Virtual Switch Instance Identifier (VSI-ID) to use for NLRI in BGP auto-discovery in this VPLS service.

If no value is set, the system IP address will be used.

Default

no prefix

Parameters

low-order-vsi-id

Specifies a unique VSI ID

Values 0— 4294967295

Platforms

All

prefix

Syntax

[**no**] **prefix** *ip-prefix/prefix-length*

Context

[Tree] (config>service>vprn>bgp>group>dynamic-neighbor>match prefix)

Full Context

configure service vprn bgp group dynamic-neighbor match prefix

Description

This command configures a prefix to accept dynamic BGP sessions (sessions from source IP addresses not matching any configured neighbor addresses). A dynamic session is associated with the group having the longest match prefix entry for the source IP address of the peer. The group association determines local parameters that apply to the session, including the local AS, the local IP address, the MP-BGP families, the import and export policies, and so on.

The **no** form of this command removes a prefix entry.

Parameters

ip-prefix/prefix-length

Specifies a prefix from which to accept dynamic BGP sessions.

Values *ipv4-prefix* — a.b.c.d (host bits must be 0)

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

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x:x:x:x:x:x:d.d.d.d

x — [0 to FFFF]H

d — [0 to 255]D

ipv6-prefix-length — 0 to 128

Platforms

All

prefix

Syntax

[**no**] **prefix** *ipv6-prefix*/*prefix-length*

Context

[Tree] (config>service>vprn>router-advert>if prefix)

Full Context

configure service vprn router-advertisement interface prefix

Description

This command configures an IPv6 prefix in the router advertisement messages. To support multiple IPv6 prefixes, use multiple prefix statements. No prefix is advertised until explicitly configured using prefix statements.

Parameters

ipv6-prefix

Specifies the IP prefix for prefix list entry in dotted decimal notation.

Values

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length	0 to 128

prefix-length

Specifies a route must match the most significant bits and have a prefix length.

Values 1 to 128

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Platforms

All

prefix

Syntax

prefix *prefix-string*

no prefix

Context

[Tree] (config>app-assure>group>cflowd>export-override prefix)

Full Context

configure application-assurance group cflowd export-override prefix

Description

This command specifies the *prefix-string* associated with the **export-override**.

Parameters

prefix-string

Specifies a prefix string,up to eight characters. If the eight-character prefix is "ABCDEFG_" for a particular node, the cflowd export override would generate IPv4 interface names such as ABCDEFG_255.255.255.255 or IPv6 as ABCDEFG_2001:DB8:EF01:2345::/64. By default the prefix will be left blank.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *ip-prefix/ip-prefix-length* [**name** *prefix-name*]

no prefix *ip-prefix/ip-prefix-length*

Context

[Tree] (config>app-assure>group>ip-prefix-list prefix)

Full Context

configure application-assurance group ip-prefix-list prefix

Description

This command configures an IP prefix within the list.

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The **no** form of this command removes the IP prefix from the configuration.

Parameters

ip-prefix/ip-prefix-length

The IP address in dotted decimal notation.

Values

ipv4-prefix	*a.b.c.d* (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix	*x:x:x:x:x:x:x:x* (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
prefix-name	up to 32 characters	

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *ipv6-prefix/prefix-length*

no prefix

Context

[Tree] (config>router>nat>inside>nat64 prefix)

[Tree] (config>service>vprn>nat>inside>nat64 prefix)

Full Context

configure router nat inside nat64 prefix

configure service vprn nat inside nat64 prefix

Description

This command configures the IPv6 prefix used to derive the IPv6 address from the IPv4 address, and is same as the prefix used by DNS64 to generate AAAA record returned for IPv4 endpoint resolution. NAT64 node announces this prefix in routing to attract traffic from IPv6 hosts. If the prefix is not configured, then a well-known prefix, 64:FF9B::/96, is used.

The **no** form of the command removes the prefix from the NAT64 configuration.

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Parameters

ipv6-prefix/prefix-length

Specifies the NAT64 destination prefix.

Values

ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D
prefix-length	32, 40, 48, 56, 64, 96

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *ip-prefix/length* [**nat-policy** *nat-policy-name*]

no prefix *ip-prefix/length*

Context

[Tree] (config>service>nat>nat-prefix-list prefix)

Full Context

configure service nat nat-prefix-list prefix

Description

This command creates a prefix entry in the nat-prefix-list.

This prefix can be used to identify traffic with specific destination IP that needs to be associated with corresponding nat-policy (and implicitly the NAT pool) for L2-aware subscribers. In this fashion, a single L2-aware subscriber can direct traffic to multiple NAT pools, depending on the traffic destination.

Another use for a prefix is in DNAT-only application (DNAT without SNAPT). In this case the prefix identifies the inside source IP range that will be explicitly configured to ensure proper downstream routing in dNAT-only case.

The nat-prefix-list cannot reference the default nat-policy (the one that is referenced in the subscriber-profile).

The **no** form of the command reverts to the default.

Parameters

ip-prefix/length

Specifies the IP prefix for nat prefix list entry in dotted decimal notation.

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Values *ip-prefix:* a.b.c.d (host bits must be 0) *ipv4-prefix-length:* 0 to 32

nat-policy *nat-policy-name*

Specifies the NAT policy name. Allowed values are any string up to 32 characters composed of printable,7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes..

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *prefixIprefix-length* [**create**]

no prefix *prefixIprefix-length*

Context

[Tree] (config>router>firewall>domain prefix)

[Tree] (config>service>vprn>firewall>domain prefix)

Full Context

configure router firewall domain prefix

configure service vprn firewall domain prefix

Description

This command specifies a prefix for which firewall functionality will apply within the domain. Prefixes cannot be shared or duplicated across multiple domains in the same routing context. A domain can contain multiple prefixes.

The **no** form of the command removes the prefix from the domain.

Parameters

create

Mandatory keyword used when creating a prefix entry.

prefix/prefix-length

Specifies the prefix.

Values *prefix* — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (in hexadecimal)

d — 0 to 255 (in decimal)

prefix-length — 32 to 64

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *ipv6-prefix/prefix-length* [**create**]

no prefix *ipv6-prefix/prefix-length*

Context

[Tree] (config>service>vprn>nat>outside>domain prefix)

[Tree] (config>router>nat>outside>domain prefix)

Full Context

configure service vprn nat outside domain prefix

configure router nat outside domain prefix

Description

This command configures a source IPv6 prefix of the subscribers.

This command is required for large-scale stateful filtering scenarios where no address translation is involved.

The configured prefix represents the source IPv6 prefix for traffic originating from the inside network, where subscribers within this prefix are protected by the firewall.

This prefix serves two main purposes:

- to perform hashing of the ingress traffic on the inside. Subscribers can be grouped into subprefixes derived from the main configured prefix. The group size (or subprefix) is determined by the **hash-prefix-length** command under one of the following contexts: **configure service vprn nat inside large-scale-nat66** and **configure router nat inside large-scale-nat66**.
- to allow return (downstream) traffic to be routed to the correct ESA-VM, where the session state of the subscriber is maintained, the prefix or its subprefixes are also included in the outside routing context. The **route-limit** command sets the upper limit for the maximum number of subprefixes that can be installed in the routing table on the outside.

The **no** form of this command removes the IPv6 prefix from the domain.

Parameters

create

Mandatory keyword used when creating a prefix entry.

ipv6-prefix/prefix-length

Specifies the IPv6 prefix.

Values *ipv6-prefix* — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

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x — 0 to FFFF (in hexadecimal)

d — 0 to 255 (in decimal)

prefix-length — 48 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

prefix

Syntax

prefix *ip-address*

no prefix

Context

[Tree] (config>router>bier>template>sub-domain prefix)

Full Context

configure router bier template sub-domain prefix

Description

This command specifies the prefix used for BFR. The prefix should be an IPv4 /32 address. The prefix can be a loopback interface or system IP address.

The **no** form of this command removes the prefix.

Parameters

ip-address

Specifies the IP address to be used as the BFR prefix in dotted decimal format.

Platforms

All

prefix

Syntax

prefix *ip-prefix/prefix-length* [**create**]

no prefix *ip-prefix/prefix-length*

Context

[Tree] (config>test-oam>twamp>server prefix)

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Full Context

configure test-oam twamp server prefix

Description

This command configures an IP address prefix containing one or more TWAMP clients. For a TWAMP client to connect to the TWAMP server (and subsequently conduct tests) it must establish the control connection using an IP address that is part of a configured prefix.

Parameters

ip-prefix/prefix-length

Specifies an IPv4 or IPv6 address prefix.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)
ipv4-prefix-le:	0 to 32
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-le:	0 to 128

prefix length

Specifies the prefix length.

Values 0 to128

create

Creates a prefix instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

prefix

Syntax

prefix *ip-prefix/prefix-length* [**create**]

no prefix *ip-prefix/prefix-length*

Context

[Tree] (config>router>twamp-light>reflector prefix)

[Tree] (config>service>vprn>twamp-light>reflector prefix)

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Full Context

configure router twamp-light reflector prefix

configure service vprn twamp-light reflector prefix

Description

This command defines which TWAMP Light packet prefixes the reflector processes.

The **no** form of this command with the specific prefix removes the accepted source.

Parameters

ip-prefix/prefix-length

Specifies the IPv4 or IPv6 address and length.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)
ipv4-prefix-le:	0 to 32
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-le:	0 to 128

create

Creates a prefix instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

prefix

Syntax

[**no**] **prefix** *ip-prefix/prefix-length*

Context

[Tree] (config>qos>match-list>ip-prefix-list prefix)

Full Context

configure qos match-list ip-prefix-list prefix

Description

This command adds an IPv4 address prefix to an existing IPv4 address prefix match list.

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To add a set of unique prefixes, execute the command with all unique prefixes. The prefixes are allowed to overlap IPv4 address space.

An IPv4 prefix addition will be blocked, if resource exhaustion is detected anywhere in the system because of QoS Policies that use this IPv4 address prefix list.

The **no** form of this command deletes the specified prefix from the list.

Parameters

ip-prefix

A valid IPv4 address prefix in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (host bit must be 0)

prefix-length

Length of the entered IP prefix

Values 1 to 32

Platforms

All

prefix

Syntax

[**no**] **prefix** *ipv6-prefix/prefix-length*

Context

[Tree] (config>qos>match-list>ipv6-prefix-list prefix)

Full Context

configure qos match-list ipv6-prefix-list prefix

Description

This command adds an IPv6 address prefix to an existing IPv6 address prefix match list.

To add set of unique prefixes, execute the command with all unique prefixes. The prefixes are allowed to overlap IPv6 address space.

An IPv6 prefix addition will be blocked if resource exhaustion is detected anywhere in the system because of QoS Policies that use this IPv6 address prefix list.

The **no** form of this command deletes the specified prefix from the list.

Parameters

ipv6-prefix

Specifies the IPv6 prefix for the IP match criterion in hex digits.

Values ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

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x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

prefix-length

Specifies the IPv6 prefix length for the IPv6 address expressed as a decimal integer.

Values 1 to 128

Platforms

All

prefix

Syntax

[**no**] **prefix** *ip-prefix/prefix-length*

Context

[Tree] (config>filter>match-list>ip-prefix-list prefix)

Full Context

configure filter match-list ip-prefix-list prefix

Description

This command adds an IPv4 address prefix to an existing IPv4 address prefix match list.

The **no** form of this command deletes the specified prefix from the list.

Operational Notes:

To add set of unique prefixes, execute the command with all unique prefixes. The prefixes are allowed to overlap IPv4 address space.

An IPv4 prefix addition will be blocked, if resource exhaustion is detected anywhere in the system because of filter policies that use this IPv4 address prefix list.

Parameters

ip-prefix

Specifies a valid IPv4 address prefix in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (host bit must be 0)

prefix-length

Specifies the length of the entered IPv4 prefix.

Values 0 to 32

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Platforms

All

prefix

Syntax

[**no**] **prefix** *ipv6-prefix/prefix-length*

Context

[Tree] (config>filter>match-list>ipv6-prefix-list prefix)

Full Context

configure filter match-list ipv6-prefix-list prefix

Description

This command adds an IPv6 address prefix to an existing IPv6 address prefix match list.

The **no** form of this command deletes the specified prefix from the list.

Operational Notes:

To add set of different prefixes, execute the command with all unique prefixes. The prefixes are allowed to overlap IPv6 address space.

An IPv6 prefix addition will be blocked, if resource exhaustion is detected anywhere in the system because of filter policies that use this IPv6 address prefix list.

Parameters

ipv6-prefix/prefix-length

Specifies an IPv6 address prefix written as hexadecimal numbers separated by colons with host bits set to 0. One string of zeros can be omitted, so 2001:db8::700:0:217A is equivalent to 2001:db8:0:0:0:700:0:217A.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

prefix-length

Specifies the length of the entered IPv6 prefix.

Values 1 to 128

Platforms

All

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prefix

Syntax

[**no**] **prefix** *ipv6-prefix*|*prefix-length*

Context

[Tree] (config>router>router-advert>if prefix)

Full Context

configure router router-advertisement interface prefix

Description

This command configures an IPv6 prefix in the router advertisement messages. To support multiple IPv6 prefixes, use multiple prefix statements. No prefix is advertised until explicitly configured using prefix statements.

Parameters

ipv6-prefix

The IP prefix for prefix list entry in dotted decimal notation.

Values

ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
ipv6-prefix-length	0 to 128	

prefix-length

Specifies a route must match the most significant bits and have a prefix length.

Values 1 to 128

Platforms

All

prefix

Syntax

[**no**] **prefix** *ip-prefix/ip-prefix-length*

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Context

[Tree] (config>router>bgp>group>dynamic-neighbor>match prefix)

Full Context

configure router bgp group dynamic-neighbor match prefix

Description

This command configures a prefix to accept dynamic BGP sessions (sessions from source IP addresses not matching any configured neighbor addresses). A dynamic session is associated with the group having the longest match prefix entry for the source IP address of the peer. The group association determines local parameters that apply to the session, including the local AS, the local IP address, the MP-BGP families, the import and export policies, and so on.

The **no** form of this command removes a prefix entry.

Parameters

ip-prefix/ip-prefix-length

Specifies a prefix from which to accept dynamic BGP sessions.

Values *ipv4-prefix* — a.b.c.d (host bits must be 0)

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:d.d.d.d

x — [0 to FFFF]H

d — [0 to 255]D

ipv6-prefix-length — 0 to 128

Platforms

All

prefix

Syntax

[**no**] **prefix** *ip-prefix/prefix-length* [**exact** | **longer** | **through** *length* | **prefix-length-range** *length1-length2* | **to** *ip-prefix/prefix-length* | **address-mask** *mask-pattern*]

Context

[Tree] (config>router>policy-options>prefix-list prefix)

Full Context

configure router policy-options prefix-list prefix

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Description

This command creates a prefix entry in the route policy prefix list.

The **no** form of this command deletes the prefix entry from the prefix list.

Parameters

ip-prefix/prefix-length

Specifies the IP prefix and length for the prefix list entry in dotted decimal notation.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ipv6-prefix-length: [0 to 128]

exact

Specifies the prefix list entry only matches the route with the specified *ip-prefix* and prefix *mask* (length) values.

longer

Specifies the prefix list entry matches any route that matches the specified *ip-prefix* and prefix *mask* length values equal to or greater than the specified mask.

through *length*

Specifies the prefix list entry matches any route that matches the specified ip-prefix and has a prefix length between the specified *length* values inclusive.

Values 0 to 32

prefix-length-range *length1 - length2*

Specifies a route must match the most significant bits and have a prefix length with the given range. The range is inclusive of start and end values.

Values 0 to 32, *length2* > *length1*

to *ip-prefix/prefix-length*

Specifies a second IP prefix and length used in route policy prefix lists. A route matches prefix1 to prefix2 if it matches prefix1 and prefix2 according to their respective prefix lengths and if the route's own prefix length is between the prefix lengths of prefix1 and prefix2. It could take many individual 'exact' match prefix entries to reproduce the same logic.

mask-pattern

Specifies the address mask to use for matching entries to this prefix entry. A route matches a prefix and address mask combination if the bitwise logical AND of this prefix and the

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mask equals the bitwise logical AND of the route's address and the same mask and, additionally, the prefix length of the route matches the prefix length of the prefix entry.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

prefix

Syntax

prefix

Context

[Tree] (config>router>segment-routing>srv6>locator prefix)

Full Context

configure router segment-routing segment-routing-v6 locator prefix

Description

Commands in this context configure IPv6 prefix parameters for an SRv6 locator.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

prefix

Syntax

prefix

Context

[Tree] (conf>router>sr>srv6>ms>block prefix)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block prefix

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Description

Commands in this context configure IPv6 prefix parameters for an SRv6 micro-segment locator.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

prefix

Syntax

prefix *ip-prefix/prefix-length*

no prefix

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-ospf3 prefix)

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-isis prefix)

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-ospf prefix)

Full Context

configure oam-pm session ip tunnel mpls sr-ospf3 prefix

configure oam-pm session ip tunnel mpls sr-isis prefix

configure oam-pm session ip tunnel mpls sr-ospf prefix

Description

This command configures the IP prefix used with the IGP instance to tunnel IP packets for the session tests.

The **no** form of this command deletes the prefix from the configuration.

Default

no prefix

Parameters

ip-prefix/prefix-length

Specifies an IPv4 or IPv6 address prefix.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)
ipv4-prefix-le:	0 to 32
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H

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d: [0 to 255]D

ipv6-prefix-le: 0 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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36 p Commands – Part IV

36.1 prefix-attributes-tlv

prefix-attributes-tlv

Syntax

[**no**] **prefix-attributes-tlv**

Context

[Tree] (config>service>vprn>isis prefix-attributes-tlv)

Full Context

configure service vprn isis prefix-attributes-tlv

Description

This command enables IS-IS Prefix Attributes TLV support to exchange extended IPv4 and IPv6 reachability information. Extended reachability information is required for traffic engineering features using path computation element (PCE) or optimal route reflection.

The **no** form of this command removes the **prefix-attributes-tlv** configuration.

Default

no prefix-attributes-tlv

Platforms

All

prefix-attributes-tlv

Syntax

[**no**] **prefix-attributes-tlv**

Context

[Tree] (config>router>isis prefix-attributes-tlv)

Full Context

configure router isis prefix-attributes-tlv

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Description

This command enables IS-IS Prefix Attributes TLV support to exchange extended IPv4 and IPv6 reachability information. Extended reachability information is required for traffic engineering features using path computation element (PCE) or optimal route reflection.

The **no** form of this command removes the **prefix-attributes-tlv** configuration.

Default

no prefix-attributes-tlv

Platforms

All

36.2 prefix-delegation

prefix-delegation

Syntax

[**no**] **prefix-delegation**

Context

[Tree] (config>service>ies>if>ipv6>dhcp6-server prefix-delegation)

Full Context

configure service ies interface ipv6 dhcp6-server prefix-delegation

Description

This command enables the prefix delegation options for delegating a long-lived prefix from a delegating router to a requesting router, where the delegating router does not require knowledge about the topology of the links in the network to which the prefixes are assigned.

The **no** form of this command disables prefix-delegation.

Platforms

All

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36.3 prefix-exclude

prefix-exclude

Syntax

prefix-exclude *policy-name* [*policy-name*]

no prefix-exclude

Context

[Tree] (config>router>ldp>aggregate-prefix-match prefix-exclude)

Full Context

configure router ldp aggregate-prefix-match prefix-exclude

Description

This command specifies the policy name containing the prefixes to be excluded from the aggregate prefix match procedures. In this case, LDP will perform an exact match of a specific FEC element prefix as opposed to a longest match of one or more LDP FEC element prefixes, against this prefix when it receives a FEC-label binding or when a change to this prefix occurs in the routing table.

The **no** form of this command removes all policies from the configuration.

Default

no prefix-exclude

Parameters

policy-name

Specifies the route policy name, up to five. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified name(s) must already be defined.

Platforms

All

prefix-exclude

Syntax

[**no**] **prefix-exclude** *ip-prefix/prefix-length*

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Context

[Tree] (config>filter>match-list>ip-pfx-list prefix-exclude)

Full Context

configure filter match-list ip-prefix-list prefix-exclude

Description

This command excludes IPv4 prefix(es) from an **ip-prefix-list.** The **prefix-exclude** command is mutually exclusive with **apply-path**.

The **no** form of this command deletes the specified excluded prefixes from the **ip-prefix-list**.

Parameters

ip-prefix

Specifies a valid IPv4 address prefix in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (host bit must be 0)

prefix-length

Specifies the length of the entered IPv4 prefix.

Values 0 to 32

Platforms

All

prefix-exclude

Syntax

[**no**] **prefix** *ipv6-prefix/prefix-length*

Context

[Tree] (config>filter>match-list>ipv6-pfx-list prefix-exclude)

Full Context

configure filter match-list ipv6-prefix-list prefix-exclude

Description

This command excludes IPv6 prefix(es) from an **ipv6-prefix-list**.The **prefix-exclude** command is mutually exclusive with **apply-path**.

The **no** form of this command deletes the specified excluded prefixes from the **ipv6-prefix-list**.

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Parameters

ipv6-prefix/prefix-length

Specifies an IPv6 address prefix written as hexadecimal numbers separated by colons with host bits set to 0. One string of zeros can be omitted, so 2001:db8::700:0:217A is equivalent to 2001:db8:0:0:0:700:0:217A.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

prefix-length

Specifies the length of the entered IPv6 prefix.

Values 1 to 128

Platforms

All

36.4 prefix-ipv4

prefix-ipv4

Syntax

prefix-ipv4 {**enable** | **disable**}

Context

[Tree] (config>router>ldp>session-params>peer>fec-type-capability prefix-ipv4)

[Tree] (config>router>ldp>if-params>if>ipv4>fec-type-capability prefix-ipv4)

[Tree] (config>router>ldp>if-params>if>ipv6>fec-type-capability prefix-ipv4)

Full Context

configure router ldp session-parameters peer fec-type-capability prefix-ipv4

configure router ldp interface-parameters interface ipv4 fec-type-capability prefix-ipv4

configure router ldp interface-parameters interface ipv6 fec-type-capability prefix-ipv4

Description

This command enables or disables IPv4 prefix FEC capability on the session or interface.

The **config>router>ldp>if-params>if>ipv6>fec-type-capability>prefix-ipv4** command is not supported on the 7450 ESS.

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Platforms

All

36.5 prefix-ipv6

prefix-ipv6

Syntax

prefix-ipv6 {**enable** | **disable**}

Context

[Tree] (config>router>ldp>if-params>if>ipv4>fec-type-capability prefix-ipv6)

[Tree] (config>router>ldp>session-params>peer>fec-type-capability prefix-ipv6)

[Tree] (config>router>ldp>if-params>if>ipv6>fec-type-capability prefix-ipv6)

Full Context

configure router ldp interface-parameters interface ipv4 fec-type-capability prefix-ipv6

configure router ldp session-parameters peer fec-type-capability prefix-ipv6

configure router ldp interface-parameters interface ipv6 fec-type-capability prefix-ipv6

Description

This command enables or disables IPv6 prefix FEC capability on the session or interface.

This command is not supported on the 7450 ESS.

Platforms

All

36.6 prefix-limit

prefix-limit

Syntax

prefix-limit *family limit* [**threshold** *percentage*] [**idle-timeout** {*minutes* | **forever**} | **log-only** | **hold-excess** *percentage*] [**post-import**]

no prefix-limit *family*

Context

[Tree] (config>service>vprn>bgp>group>neighbor prefix-limit)

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[Tree] (config>service>vprn>bgp>group prefix-limit)

Full Context

configure service vprn bgp group neighbor prefix-limit

configure service vprn bgp group prefix-limit

Description

This command configures the maximum number of BGP routes received from a peer before administrative action is taken. The administrative action can include generating a log or taking the session down. If a session is taken down, configure the **idle-timeout** parameter to bring it back up automatically after a specific duration. Alternatively, it can be configured to stay down indefinitely, until the user performs a reset.

No prefix limits for any address family are configured by default.

This command allows the user to apply a separate limit to each address family. A set of address family limits can be applied to one neighbor or to all neighbors in a group.

The **no** form of this command removes the **prefix-limit**.

Parameters

threshold *percentage*

Specifies the threshold value (as a percentage) that triggers a warning message to be sent.

Values 1 to 100

family

Specifies the address family to which the limit applies.

Values ipv4, label-ipv4, ipv6, mcast-ipv4, flow-ipv4, flow-ipv6, mcast-ipv6

limit

Specifies the number of routes that can be learned from a peer expressed as a decimal integer.

Values 1 to 4294967295

idle-timeout *minutes*

Specifies the duration in minutes before automatically re-establishing a session.

Values 1 to 1024

idle-timeout forever

Specifies that the session is re-established only after the **clear router bgp** command is executed.

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is reached. However, the BGP session is not taken down.

post-import

Specifies that the limit should be applied only to the number of routes that are accepted by import policies.

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hold-excess ***percentage***

Specifies the percentage of maximum routes that are allowed to be installed in the route table. If a peer within scope of the configuration exceeds the limit, the overflow routes are held in the BGP RIB as inactive routes and are ineligible for forwarding or advertisement to other peers. If the **post-import** parameter is configured, only routes not rejected by import policies count toward the limit. A BGP route in the overflow state is reconsidered for activation and reinstallation when an UPDATE message is received for the route. This parameter is mutually exclusive with the **idle-timeout** and **log-only** parameters.

Platforms

All

prefix-limit

Syntax

prefix-limit *limit* [**log-only**] [**threshold** *percent*] [**overload-timeout** { *seconds* | **forever**}]

no prefix-limit

Context

[Tree] (config>service>vprn>isis prefix-limit)

Full Context

configure service vprn isis prefix-limit

Description

This command configures the maximum number of prefixes that IS-IS can learn, and use to protect the system from a router that has accidentally advertised a large number of prefixes. If the number of prefixes reaches the configured percentage of this limit, an SNMP trap is sent. If the limit is exceeded, IS-IS will go into overload.

The **overload-timeout** option controls the length of time that IS-IS is in the overload state when the prefix limit is reached. The system automatically attempts to restart IS-IS at the end of this duration. If the **overload-timeout forever** option is used, IS-IS is not restarted automatically and stays in overload until the condition is manually cleared by the administrator. This is also the default behavior when the **overload-timeout** option is not configured.

The **no** form of this command removes the **prefix-limit**.

Default

prefix-limit overload-timeout forever

Parameters

limit

Specifies the number of prefixes that can be learned, expressed as a decimal integer.

Values 1 to 4294967296

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log-only

Enables a warning message to be sent at the specified threshold percentage and also when the limit is exceeded. However, overload is not set when this parameter is configured.

percent

Specifies the threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

overload-timeout

Keyword used to control the length of time that IS-IS is in the overload state when the prefix limit is reached.

seconds

Specifies the time in minutes before IS-IS is restarted.

Values 1 to 1800

forever

Specifies that IS-IS should be restarted only after the execution of the **clear router isis overload prefix-limit** command.

Platforms

All

prefix-limit

Syntax

prefix-limit *family limit* [**threshold** *percentage*] [**idle-timeout** {*minutes* | **forever**} | **log-only** | **hold-excess** *percentage*] [**post-import**]

no prefix-limit *family*

Context

[Tree] (config>router>bgp>group>neighbor prefix-limit)

[Tree] (config>router>bgp>group prefix-limit)

Full Context

configure router bgp group neighbor prefix-limit

configure router bgp group prefix-limit

Description

This command configures the maximum number of BGP routes received from a peer before administrative action is taken. The administrative action can include generating a log or taking the session down. If a session is taken down, configure the **idle-timeout** parameter to bring it back up automatically after a specific duration. Alternatively, it can be configured to stay down indefinitely, until the user performs a reset.

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No prefix limits for any address family are configured by default.

This command allows the user to apply a separate limit to each address family. A set of address family limits can be applied to one neighbor or to all neighbors in a group.

The **no** form of this command removes the **prefix-limit**.

Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is reached. However, the BGP session is not taken down.

threshold *percentage*

Specifies the threshold value (as a percentage) that triggers a warning message to be sent.

Values 1 to 100

family

Specifies the address family to which the limit applies.

Values ipv4, label-ipv4, vpn-ipv4, ipv6, label-ipv6, vpn-ipv6, mcast-ipv4, l2-vpn, mvpn-ipv4, mdt-safi, ms-pw, flow-ipv4, route-target, mcast-vpn-ipv4, mvpn-ipv6, flow-ipv6, evpn, mcast-ipv6, bgp-ls, sr-policy-ipv4, sr-policy-ipv6, mcast-vpn-ipv6, flow-vpn-ipv4, flow-vpn-ipv6

limit

Specifies the number of routes that can be learned from a peer expressed as a decimal integer.

Values 1 to 4294967295

idle-timeout *minutes*

Specifies the duration in minutes before automatically re-establishing a session.

Values 1 to 1024

idle-timeout forever

Specifies that the session is re-established only after the **clear router bgp** command is executed.

post-import

Specifies that the limit applies only to the number of routes that are accepted by import policies.

hold-excess *percentage*

Specifies the percentage of maximum routes that are allowed to be installed in the route table. If a peer within scope of the configuration exceeds the limit, the overflow routes are held in the BGP RIB as inactive routes and are ineligible for forwarding or advertisement to other peers. If the **post-import** parameter is configured, only routes not rejected by import policies count toward the limit. A BGP route in the overflow state is reconsidered for activation and reinstallation when an UPDATE message is received for the route. This parameter is mutually exclusive with the **idle-timeout** and **log-only** parameters.

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Platforms

All

prefix-limit

Syntax

prefix-limit *limit* [**log-only**] [**threshold** *percent*] [**overload-timeout** { *seconds* | **forever**}]

no prefix-limit

Context

[Tree] (config>router>isis prefix-limit)

Full Context

configure router isis prefix-limit

Description

This command configures the maximum number of prefixes that IS-IS can learn, and use to protect the system from a router that has accidentally advertised a large number of prefixes. If the number of prefixes reaches the configured percentage of this limit, an SNMP trap is sent. If the limit is exceeded, IS-IS will go into overload.

The **overload-timeout** option controls the length of time that IS-IS is in the overload state when the **prefix-limit** is reached. The system automatically attempts to restart IS-IS at the end of this duration. If the **overload-timeout forever** option is used, IS-IS is not restarted automatically and stays in overload until the condition is manually cleared by the administrator. This is also the default behavior when the **overload-timeout** option is not configured.

The **no** form of this command removes the **prefix-limit**.

Default

no prefix-limit

Parameters

log-only

Enables a warning message to be sent at the specified threshold percentage and also when the limit is exceeded. However, overload is not set when this parameter is configured.

limit

Specifies the number of prefixes that can be learned expressed as a decimal integer.

Values 1 to 4294967296

percent

Specifies the threshold value (as a percentage) that triggers a warning message to be sent.

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Values 0 to 100

seconds

Specifies the time in minutes before IS-IS is restarted.

Values 1 to 1800

forever

Specifies that IS-IS should be restarted only after the execution of the **clear router isis overload prefix-limit** command.

Platforms

All

36.7 prefix-limits

prefix-limits

Syntax

prefix-limits *family limit* [**threshold** *percentage*] [**idle-timeout** *minutes*] [**log-only**] [**post-import**]

no prefix-limits *family*

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy prefix-limits)

Full Context

configure subscriber-mgmt bgp-peering-policy prefix-limits

Description

This command configures the maximum number of BGP routes per address family that can be received from an ESM dynamic BGP peer before an administrative action is taken. Administrative actions include the generation of a log event and taking down the session. If a session is taken down, it can be brought back up automatically after an idle-timeout period. With no idle timeout configured, the session stays down until the user performs a reset.

The **no** form of this command removes the prefix limits for the specified family.

Default

prefix-limits threshold 90

Parameters

family

Specifies the IP address family for prefix limits.

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Values ipv4, ipv6

limit

Specifies the prefix limit.

Values 1 to 4294967295

percentage

Specifies the percentage at which a warning log message is sent.

Values 1 to 100

minutes

Specifies the time, in minutes, before a BGP peer is automatically reestablished on reaching the prefix limit.

Values 1 to 1024

log-only

Keyword used to specify if the maximum limit is reached, only a log event is generated. This parameterdoes not disable the BGP session upon reaching the prefix limit.

post-import

Keyword used to specify that limits are only applied to the number of routes accepted by the import policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.8 prefix-list

prefix-list

Syntax

prefix-list *prefix-list-name* [{**all** | **none** | **any**}] [**router-instance** *router-instance-name*]

no prefix-list [*prefix-list-name*] [{**all** | **none** | **any**}] [**router-instance** *router-instance-name*]

Context

[Tree] (config>service>vprn>static-route-entry>next-hop prefix-list)

[Tree] (config>service>vprn>static-route-entry>black-hole prefix-list)

[Tree] (config>service>vprn>static-route-entry>indirect prefix-list)

Full Context

configure service vprn static-route-entry next-hop prefix-list

configure service vprn static-route-entry black-hole prefix-list

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configure service vprn static-route-entry indirect prefix-list

Description

This command associates a constraint to the associated static route such that the static route is only active if **any**, **none**, or **all** of the routes in the prefix list are present and active in the route table.

If the conditional static route is configured in a VPRN and the *router-instance-name* is configured as “Base”, the activation of the static route is dependent on the existence of routes in the Base router; the prefix-list and flag are evaluated in this context.

No router instance is specified by default, and the conditional static route is dependent on the existence of routes in the same router instance as the static route itself, subject to the details of the prefix list and the flag setting.

Entries in a referenced prefix list that are not match type ‘exact’ are interpreted as though they are ‘exact’.

The **no** form of this command disables these constraints on the static route.

Default

no prefix-list

Parameters

prefix-list-name

Specifies the name of a currently configured prefix list.

all

Specifies that the static route condition is met if all prefixes in the prefix list are present in the active static route.

none

Specifies that the static route condition is met if none of the prefixes in the named prefix-list are present in the active static route.

any

Specifies that the static route condition is met if any prefixes in the prefix list are present in the active static route.

router-instance-name

Specifies the name of the router instance. Must be "Base".

Platforms

All

prefix-list

Syntax

prefix-list *prefix-list-name* [{**all** | **none**}]

no prefix-list [*prefix-list-name*] [{**all** | **none**}]

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Context

[Tree] (config>router>static-route-entry>indirect prefix-list)

[Tree] (config>router>static-route-entry>black-hole prefix-list)

[Tree] (config>router>static-route-entry>next-hop prefix-list)

Full Context

configure router static-route-entry indirect prefix-list

configure router static-route-entry black-hole prefix-list

configure router static-route-entry next-hop prefix-list

Description

This command associates a new constraint to the associated static route such that the static route is only active if **none** or **all** of the routes in the prefix list are present and active in the route-table.

Default

no prefix-list

Parameters

prefix-list-name

Specifies the name of a currently configured prefix-list.

all

Specifies that the static route condition is met if all prefixes in the prefix-list must be present in the active route-table.

none

Specifies that the static route condition is met if none of the prefixes in the named prefix-list can be present in the active route-table.

Platforms

All

prefix-list

Syntax

[**no**] **prefix-list** *name*

Context

[Tree] (config>router>policy-options prefix-list)

Full Context

configure router policy-options prefix-list

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Description

This command creates a context to configure a prefix list to use in route policy entries.

The **no** form of this command deletes the named prefix list.

Parameters

name

Specifies the prefix list name. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end"," @variable@end", or "start@variable@".

An empty prefix list can be configured for pre-provisioning. This empty prefix list will not find a match when referred to by a policy. When removing member prefixes from a prefix list, the prefix list will not be automatically removed when the last member is removed. If required, an empty prefix list must be explicitly removed using the **no** form of this command.

Platforms

All

prefix-list

Syntax

prefix-list *name* [*name*]

no prefix-list

Context

[Tree] (config>router>policy-options>policy-statement>entry>to prefix-list)

[Tree] (config>router>policy-options>policy-statement>entry>from prefix-list)

Full Context

configure router policy-options policy-statement entry to prefix-list

configure router policy-options policy-statement entry from prefix-list

Description

This command configures a prefix list as a match criterion for a route policy statement entry.

If no prefix list is specified, any network prefix is considered a match.

An empty prefix list will evaluate as if 'no match' was found.

The prefix lists specify the network prefix (this includes the prefix and length) a specific policy entry applies.

A maximum of 28 prefix names can be specified.

The **no** form of this command removes the prefix list match criterion.

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Default

no prefix-list

Parameters

name

Specifies the prefix list name. Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must be enclosed by at-signs (@) and may be midstring; for example, "@variable@," "start@variable@end"," @variable@end", or "start@variable@".

Platforms

All

36.9 prefix-list-override

prefix-list-override

Syntax

no prefix-list-override

prefix-list-override *name* {**exact** | **longer**}

prefix-list-override *name* **prefix-length-range** *length1-length2*

prefix-list-override *name* **through** *length*

Context

[Tree] (config>router>policy-options>policy-statement>entry>from prefix-list-override)

Full Context

configure router policy-options policy-statement entry from prefix-list-override

Description

This command converts a prefix list to a specific match type. The routing policy uses the converted list as a match condition.

The prefix list to be converted can be specified by its name, as an expression containing the name of a global variable that holds the name of the prefix list, or as an expression containing the name of a subroutine variable that holds the name of the prefix list.

Parameters

name

Specifies the prefix list to be converted, up to 64 characters.

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exact

Keyword to convert all entries in the specified prefix list to the exact match type.

longer

Keyword to convert all entries in the specified prefix list to the longer match type.

length1-length2

Specifies the start and end length of the prefix range.

Values 0 to 128

Note: *length2* (end length) must be equal to or greater than *length1* (start length).

length

Specifies the through length of the prefix.

Values 0 to 128

Note: Configure the through length of the prefix to a value higher than the prefix length configured in the **configure router policy-options prefix-list prefix** command.

Platforms

All

36.10 prefix-map

prefix-map

Syntax

prefix-map *ip-prefix/length* **subscriber-type** *nat-sub-type* **nat-policy** *nat-policy-name* [**create**]

prefix-map *ip-prefix/length* **subscriber-type** *nat-sub-type*

no prefix-map *ip-prefix/length* **subscriber-type** *nat-sub-type*

Context

[Tree] (config>service>vprn>nat>inside>deterministic prefix-map)

[Tree] (config>router>nat>inside>deterministic prefix-map)

Full Context

configure service vprn nat inside deterministic prefix-map

configure router nat inside deterministic prefix-map

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Description

This command is applicable to deterministic NAT and static 1:1 NAT. It is used to configure source IP prefixes on the inside and their association with outside deterministic NAT pools via the NAT policy. Hosts within the source IP prefix are deterministically mapped to outside IP addresses and port ranges in the associated deterministic NAT pool.

Multiple source IP prefixes within an inside routing instance can be defined and they can reference different NAT policies (and therefore, outside deterministic NAT pools and routing instances). Source IP prefixes from multiple routing instances can share the same deterministic NAT pool.

With this command, multiple NAT policies based on a destination prefix or filter criteria can be used together with deterministic NAT.

Non-deterministic NAT can be used simultaneously with deterministic NAT within the same inside routing instance. However, they cannot share the same NAT pool.

Source IP prefixes can be added or removed as long as the associated deterministic NAT pool is in a **no shutdown** mode.

Removing a prefix or modifying the map statement under it requires that the source IP prefix be in a **shutdown** mode.

Parameters

ip-prefix/length

Specifies source IP prefix on the inside whose hosts is deterministically mapped to an outside IP address and port block in the corresponding deterministic NAT pool.

Values

<ip-prefix/ip-pref*>	<ipv4-prefix>/<ipv4-prefix-length>
	<ipv6-prefix>/<ipv6-prefix-length>
<ipv4-prefix>	a.b.c.d (host bits must be 0)
<ipv4-prefix-length>	0 to 32
<ipv6-prefix>	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D
<ipv6-prefix-length>	0 to 128

nat-sub-type

Specifies the subscriber type.

Values classic-lsn-sub: LSN44 subscriber

dslit-lsn-sub: DT-lite subscriber

nat-policy-name

Specifies a NAT policy, up to 32 characters, that points to an outside pool and outside routing instance.

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create

Keyword used to create the particular prefix instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.11 prefix-options

prefix-options

Syntax

[**no**] **prefix-options**

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy prefix-options)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv prefix-options)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv prefix-options)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 prefix-options)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv prefix-options)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 prefix-options)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv prefix-options)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options

configure service vprn subscriber-interface group-interface ipv6 router-advertisements prefix-options

configure service ies subscriber-interface ipv6 router-advertisements prefix-options

configure service ies subscriber-interface group-interface ipv6 prefix-options

configure service vprn subscriber-interface ipv6 router-advertisements prefix-options

configure service vprn subscriber-interface group-interface ipv6 prefix-options

configure service ies subscriber-interface group-interface ipv6 router-advertisements prefix-options

Description

This command configures Router Advertisement parameters for IPv6 prefixes returned via RADIUS Framed-IPv6-Prefix. All prefixes will inherit these configuration parameters.

The **no** form of this command unconfigures the Router Advertisement parameters for IPv6 prefixes returned via RADIUS Framed-IPv6-Prefix.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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36.12 prefix-policy

prefix-policy

Syntax

prefix-policy *prefix-policy* [*prefix-policy*]

no prefix-policy

Context

[Tree] (config>service>vprn>isis>loopfree-alternates>exclude prefix-policy)

Full Context

configure service vprn isis loopfree-alternates exclude prefix-policy

Description

This command specifies the name of the policy for the prefixes to exclude from the LFA SPF calculation in this ISIS instance.

The **no** form of this command deletes the exclude prefix policy.

Default

no prefix-policy

Parameters

prefix-policy prefix-policy

Specifies the name of the prefix policy, up to 32 characters. Up to five prefix policies can be specified. The specified name must have been already defined.

Platforms

All

prefix-policy

Syntax

[**no**] **prefix-policy** *prefix-policy* [*prefix-policy*]

Context

[Tree] (config>service>vprn>ospf>loopfree-alternates>exclude prefix-policy)

[Tree] (config>service>vprn>ospf3>loopfree-alternates>exclude prefix-policy)

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Full Context

configure service vprn ospf loopfree-alternates exclude prefix-policy

configure service vprn ospf3 loopfree-alternates exclude prefix-policy

Description

This command specifies the name of the policy for the prefixes to exclude from the LFA SPF calculation in this OSPF or OSPF3 instance.

The **no** form of this command deletes the exclude prefix policy.

Default

no prefix-policy

Parameters

prefix-policy prefix-policy

Specifies the name of the prefix policy, up to 32 characters. Up to five prefix policies can be specified. The specified name must have been already defined.

Platforms

All

prefix-policy

Syntax

prefix-policy *prefix-policy* [*prefix-policy*]

no prefix-policy

Context

[Tree] (config>router>isis>loopfree-alternates>exclude prefix-policy)

Full Context

configure router isis loopfree-alternates exclude prefix-policy

Description

This command excludes from LFA SPF calculation prefixes that match a prefix entry or a tag entry in a prefix policy.

The implementation already allows the user to exclude an interface in IS-IS or OSPF, an OSPF area, or an IS-IS level from the LFA SPF.

If a prefix is excluded from LFA, then it will not be included in LFA calculation regardless of its priority. The prefix tag will, however, be used in the main SPF.

This command specifies the name of the policy for the prefixes to exclude from the LFA SPF calculation in this IS-IS instance.

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Note:
Prefix tags are defined for the IS-IS protocol but not for the OSPF protocol.

The default action, when not explicitly specified by the user in the prefix policy, is a "reject". Thus, regardless if the user did or did not explicitly add the statement "default-action reject" to the prefix policy, a prefix that did not match any entry in the policy will be accepted into LFA SPF.

The **no** form of this command deletes the exclude prefix policy.

Default

no prefix-policy

Parameters

prefix-policy prefix-policy

Specifies the name of the prefix policy, up to 32 characters. Up to five prefix policies can be specified. The specified name must have been already defined.

Platforms

All

prefix-policy

Syntax

prefix-policy *prefix-policy* [*prefix-policy*]

no prefix-policy

Context

[Tree] (config>router>ospf>loopfree-alternates>exclude prefix-policy)

[Tree] (config>router>ospf3>loopfree-alternates>exclude prefix-policy)

Full Context

configure router ospf loopfree-alternates exclude prefix-policy

configure router ospf3 loopfree-alternates exclude prefix-policy

Description

This command excludes from LFA SPF calculation prefixes that match a prefix entry or a tag entry in a prefix policy.

The implementation already allows the user to exclude an interface in IS-IS or OSPF, an OSPF area, or an IS-IS level from the LFA SPF.

If a prefix is excluded from LFA, then it will not be included in LFA calculation regardless of its priority. The prefix tag will, however, be used in the main SPF.

This command specifies the name of the policy for the prefixes to exclude from the LFA SPF calculation in this OSPF or OSPF3 instance.

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Note:
Prefix tags are defined for the IS-IS protocol but not for the OSPF protocol.

The default action, when not explicitly specified by the user in the prefix policy, is a "reject". Thus, regardless if the user did or did not explicitly add the statement "default-action reject" to the prefix policy, a prefix that did not match any entry in the policy will be accepted into LFA SPF.

The **no** form of this command deletes the exclude prefix policy.

Default

no prefix-policy

Parameters

prefix-policy

Specifies the name of the prefix policy, up to 32 characters. Up to five prefix policies can be specified. The specified name must have been already defined.

Platforms

All

36.13 prefix-sid-range

prefix-sid-range

Syntax

prefix-sid-range global

prefix-sid-range start-label *start-label* **max-index** *max-index*

no prefix-sid-range

Context

[Tree] (config>router>bgp>segment-routing prefix-sid-range)

Full Context

configure router bgp segment-routing prefix-sid-range

Description

This command configures the label block that BGP segment routing is allowed to use.

The s**tart-label** and **max-index** parameters specify that BGP should be restricted to a subrange of the SRGB, with the subrange starting at **start-label** and ending at **max-index**.

It is not possible to enable segment routing (perform a **no shutdown**) unless the **prefix-sid-range** is configured using the **global** keyword or using the **start-label** and **max-index** parameters.

The **no** form of the command allocates no labels for BGP segment-routing.

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Default

no prefix-sid-range

Parameters

global

Specifies that BGP is allowed to allocate labels from the entire space of the SRGB, as defined under **config**>**router**>**mpls-labels**>**sr-labels**.

start-label

Specifies the first label value that is available to BGP in a contiguous range of labels.

Values 0 to 524287

max-index

Specifies the last label value that is available to BGP in a contiguous range of labels.

Values 1 to 524287

Platforms

All

prefix-sid-range

Syntax

prefix-sid-range {**global** | **start-label** *label-value* **max-index** *index-value*}

no prefix-sid-range

Context

[Tree] (config>router>isis>segment-routing prefix-sid-range)

Full Context

configure router isis segment-routing prefix-sid-range

Description

This command configures the prefix SID index range and offset label value for a given IGP instance.

The key parameter is the configuration of the prefix SID index range and the offset label value which this IGP instance will use. Since each prefix SID represents a network global IP address, the SID index for a prefix must be network-wide unique. Thus, all routers in the network are expected to configure and advertise the same prefix SID index range for a given IGP instance. However, the label value used by each router to represent this prefix; that is, the label programmed in the ILM can be local to that router by the use of an offset label, referred to as a start label:

Local Label (Prefix SID) = start-label + {SID index}

The label operation in the network becomes thus very similar to LDP when operating in the independent label distribution mode (RFC 5036, *LDP Specification*) with the difference that the label value used to

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forward a packet to each downstream router is computed by the upstream router based on advertised prefix SID index using the above formula.

There are two mutually exclusive modes of operation for the prefix SID range on the router. In the **global** mode of operation, the user configures the global value and this IGP instance will assume the start label value is the lowest label value in the SRGB and the prefix SID index range size equal to the range size of the SRGB. Once one IGP instance selected the global option for the prefix SID range, all IGP instances on the system will be restricted to do the same. The user must shutdown the segment routing context and delete the **prefix-sid-range** command in all IGP instances in order to change the SRGB. Once the SRGB is changed, the user must re-enter the **prefix-sid-range** command again. The SRGB range change will be failed if an already allocated SID index/label goes out of range.

In the per-instance mode of operation, the user partitions the SRGB into non-overlapping sub-ranges among the IGP instances. The user thus configures a subset of the SRGB by specifying the start label value and the prefix SID index range size. All resulting net label values (start-label + index} must be within the SRGB or the configuration will be failed. Furthermore, the code checks for overlaps of the resulting net label value range across IGP instances and will strictly enforce that these ranges do not overlap. The user must shutdown the segment routing context of an IGP instance in order to change the SID index/label range of that IGP instance using the **prefix-sid-range** command. In addition, any range change will be failed if an already allocated SID index/label goes out of range. The user can however change the SRGB on the fly as long as it does not reduce the current per IGP instance SID index/label range defined with the **prefix-sid-range**. Otherwise, the user must shutdown the segment routing context of the IGP instance and delete and re-configure the **prefix-sid-range** command.

Default

no prefix-sid-range

Parameters

label-value

Specifies the label offset for the SR label range of this IGP instance.

Values 0 to 524287

index-value

Specifies the maximum value of the prefix SID index range for this IGP instance.

Values 1 to 524287

Platforms

All

prefix-sid-range

Syntax

prefix-sid-range global

prefix-sid-range start-label *label-value* **max-index** *index-value*

no prefix-sid-range

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Context

[Tree] (config>router>ospf3>segm-rtng prefix-sid-range)

[Tree] (config>router>ospf>segm-rtng prefix-sid-range)

Full Context

configure router ospf3 segment-routing prefix-sid-range

configure router ospf segment-routing prefix-sid-range

Description

This command configures the prefix SID index range and offset label value for an IGP instance.

The key parameter is the configuration of the prefix SID index range and the offset label value that this IGP instance will use. Because each prefix SID represents a network global IP address, the SID index for a prefix must be unique network-wide. Therefore, all routers in the network are expected to configure and advertise the same prefix SID index range for an IGP instance. However, the label value used by each router to represent this prefix, that is, the label programmed in the ILM, can be local to that router by the use of an offset label, referred to as a start label:

Local Label (Prefix SID) = start-label + {SID index}

The label operation in the network is very similar to LDP when operating in independent label distribution mode (RFC 5036, *LDP Specification*), with the difference being that the label value used to forward a packet to each downstream router is computed by the upstream router based on the advertised prefix SID index using the above formula.

There are two mutually exclusive modes of operation for the prefix SID range on the router. In the **global** mode of operation, the user configures the global value and this IGP instance will assume the start label value is the lowest label value in the SRGB and the prefix SID index range size equal to the range size of the SRGB. After one IGP instance selected the global option for the prefix SID range, all IGP instances on the system will be restricted to do the same. The user must shutdown the segment routing context and delete the **prefix-sid-range** command in all IGP instances in order to change the SRGB. After the SRGB is changed, the user must re-enter the **prefix-sid-range** command again. The SRGB range change will be failed if an already allocated SID index/label goes out of range.

In per-instance mode, the user partitions the SRGB into non-overlapping sub-ranges among the IGP instances. The user configures a subset of the SRGB by specifying the start label value and the prefix SID index range size. All resulting net label values (start-label + index) must be within the SRGB or the configuration will fail. The 7750 SR checks for overlaps of the resulting net label value range across IGP instances and will strictly enforce no overlapping of these ranges. The user must shut down the segment routing context of an IGP instance in order to change the SID index/label range of that IGP instance using the **prefix-sid-range** command. A range change will fail if an already allocated SID index/label goes out of range. The user can change the SRGB without shutting down the segment routing context as long as it does not reduce the current per-IGP instance SID index/label range defined with the **prefix-sid-range** command. Otherwise, shut down the segment routing context of the IGP instance, and disable and re-enable the **prefix-sid-range** command.

Default

no prefix-sid-range

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Parameters

label-value

Specifies the label offset for the SR label range of this IGP instance.

Values 0 to 524287

index-value

Specifies the maximum value of the prefix SID index range for this IGP.

Values 1 to 524287

Platforms

All

36.14 prefix-sids

prefix-sids

Syntax

prefix-sids *ip-int-name*

no prefix-sids *ip-int-name*

Context

[Tree] (config>router>segment-routing>sr-mpls prefix-sids)

Full Context

configure router segment-routing sr-mpls prefix-sids

Description

This command configures the prefix SIDs for an interface.

The **no** form of this command removes the prefix SIDs list instance.

Default

no prefix-sids

Parameters

ip-int-name

Specifies the loopback or system interface name that owns the prefix to be advertised, up to 32 characters.

Platforms

All

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36.15 prefix-unreachable

prefix-unreachable

Syntax

prefix-unreachable

Context

[Tree] (config>router>isis prefix-unreachable)

Full Context

configure router isis prefix-unreachable

Description

Commands in this context configure the prefix-unreachable context.

Platforms

All

36.16 preserve-key

preserve-key

Syntax

[**no**] **preserve-key**

Context

[Tree] (config>system>security>ssh preserve-key)

Full Context

configure system security ssh preserve-key

Description

After enabling this command, private keys, public keys, and host key file are saved by the server. It is restored following a system reboot or the ssh server restart.

The **no** form of this command specifies that the keys are held in memory by an SSH server and is not restored following a system reboot.

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Default
no preserve-key

Platforms
All

36.17 primary

primary

Syntax
primary

Context
[Tree] (config>aaa>radius-scr-plcy primary)

Full Context
configure aaa radius-script-policy primary

Description
Commands in this context configure a primary script.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

primary

Syntax
primary

Context
[Tree] (config>subscr-mgmt>sub-ident-pol primary)

Full Context
configure subscriber-mgmt sub-ident-policy primary

Description
Commands in this context configure primary identification script parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

primary

Syntax

primary *path-name*

no primary

Context

[Tree] (config>router>mpls>lsp primary)

Full Context

configure router mpls lsp primary

Description

This command specifies a preferred path for the LSP. This command is optional only if the **secondary** *path-name* is included in the LSP definition. Only one primary path can be defined for an LSP.

Some of the attributes of the LSP such as the bandwidth, and hop-limit can be optionally specified as the attributes of the primary path. The attributes specified in the **primary path** *path-name* command, override the LSP attributes.

The **no** form of this command deletes the association of this *path-name* from the LSP *lsp-name*. All configurations specific to this primary path, such as record, bandwidth, and hop limit, are deleted. The primary path must be shutdown first in order to delete it. The **no primary** command will not result in any action except a warning message on the console indicating that the primary path is administratively up.

Parameters

path-name

Specifies the case-sensitive alphanumeric name label for the LSP path up to 64 characters in length.

Platforms

All

primary

Syntax

[**no**] **primary** [*mda-id* | *esa-vm-id*]

Context

[Tree] (config>isa>aa-grp primary)

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Full Context

configure isa application-assurance-group primary

Description

This command assigns an AA ISA or ESA-VM configured in the specified location to this application assurance group. Primary and backup ISAs have equal operational status and when both ISAs are coming up, the one that becomes operational first becomes the active ISA.

On an activity switch from the primary ISA, all configurations are already on the backup ISA but flow state information must be re-learned. Any statistics not yet spooled are lost. Auto-switching from the backup to primary, after the primary becomes available again, is not supported.

The user is notified through SNMP events when:

- When AA service goes down (all ISAs in the group are down) or comes back up (an ISA in the group becomes active)
- When AA redundancy fails (one of the ISAs in the group is down) or recovers (the failed MDA comes back up)
- When an AA activity switch occurred.

The **no** form of this command removes the specified ISA from the application assurance group.

Parameters

mda-id

Specifies the slot/mda or esa/vm, identifying a provisioned AA ISA.

Values

slot/*mda*	
slot	1 to 10, depending on chassis model
mda	1 to 2

esa-vm-id

Specifies the ESA and VM, identifying a provisioned ESA-VM. The value of the esa-vm-id for application assurance is used as the esa-id plus 128. For example, an ESA 1 with VM2 would be referred to as esa-129/2.

Values

esa-id+128/vm-id	
esa-id	1 to 16
vm-id	1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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primary

Syntax

primary *mda-id*

no primary

Context

[Tree] (config>isa>tunnel-grp primary)

Full Context

configure isa tunnel-group primary

Description

This command assigns an ISA IPsec module configured in the specified slot to this IPsec group. The backup ISA IPsec provides the IPsec group with warm redundancy when the primary ISA IPsec in the group is configured. Primary and backup ISA IPsec have equal operational status and when both MDAs are coming up, the one that becomes operational first becomes the active ISA IPsec.

All configuration information is pushed down to the backup MDA from the CPM once the CPM gets notice that the primary module has gone down. This allows multiple IPsec groups to use the same backup module. Any statistics not yet spooled will be lost. Auto-switching from the backup to primary, once the primary becomes available again, is supported.

The operator is notified through SNMP events when:

- When the ISA IPsec service goes down (all modules in the group are down) or comes back up (a module in the group becomes active).
- When ISA IPsec redundancy fails (one of the modules in the group is down) or recovers (the failed module comes back up).
- When an ISA IPsec activity switch took place.

The **no** form of this command removes the specified primary ID from the group's configuration.

Default

no primary

Parameters

mda-id

Specifies the card/slot identifying a provisioned IPsec ISA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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primary

Syntax

primary *primary* **secondary** *secondary*

Context

[Tree] (config>ipsec>trans-mode-prof>dyn>cert>status-verify primary)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn>cert>status-verify primary)

[Tree] (config>router>if>ipsec>ipsec-tun>dyn>cert>status-verify primary)

[Tree] (config>service>ies>if>sap>ipsec-gw>cert>status-verify primary)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn>cert>status-verify primary)

[Tree] (config>service>vprn>if>sap>ipsec-gw>cert>status-verify primary)

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn>cert>status-verify primary)

Full Context

configure ipsec ipsec-transport-mode-profile dynamic-keying cert primary

configure service ies interface ipsec ipsec-tunnel dynamic-keying cert status-verify primary

configure router interface ipsec ipsec-tunnel dynamic-keying cert status-verify primary

configure service ies interface sap ipsec-gw cert status-verify primary

configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert status-verify primary

configure service vprn interface sap ipsec-gw cert status-verify primary

configure service vprn interface sap ipsec-tunnel dynamic-keying cert status-verify primary

Description

This command specifies the primary and secondary CVS methods used to verify the revocation status of the peer’s certificate.

OCSP or CRL uses the corresponding configuration in the CA profile of the issuer of the certificate in question.

Default

primary crl

Parameters

primary

Specifies the primary CSV method used to verify the revocation status of the peer’s certificate.

Values **ocsp** — Specifies that the OCSP protocol should be used. The OCSP server is configured in the corresponding CA profile.

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crl — Specifies that the local CRL file should be used. The CRL file is configured in the corresponding CA profile.

Default crl

secondary

Specifies the secondary CSV method used to verify the revocation status of the peer's certificate.

Values **ocsp** — Specifies that the OCSP protocol should be used. The OCSP server is configured in the corresponding CA profile.

crl — Specifies that the local CRL file should be used. The CRL file is configured in the corresponding CA profile.

none — Specifies that no secondary method of CSV is used.

Default none

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-gw cert status-verify primary
- configure service vprn interface sap ipsec-tunnel dynamic-keying cert status-verify primary
- configure service ies interface sap ipsec-gw cert status-verify primary
- configure ipsec ipsec-transport-mode-profile dynamic-keying cert primary

VSR

- configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert status-verify primary
- configure service ies interface ipsec ipsec-tunnel dynamic-keying cert status-verify primary
- configure router interface ipsec ipsec-tunnel dynamic-keying cert status-verify primary

primary

Syntax

[**no**] **primary** *mda-id*

Context

[Tree] (config>isa>video-group primary)

Full Context

configure isa video-group primary

Description

This command configures the primary video group ISA. Only one primary can be configured per video group when ad insertion is enabled. The maximum number of primaries per video-group for FCC and RD is 4.

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Parameters

mda-id

Specifies the slot and MDA number for the primary video group ISA.

Values slot/mda

slot	1 to 10 (depending on the chassis model)
mda	1 to 2

Platforms

7450 ESS, 7750 SR, 7750 SR-s

36.18 primary-cf

primary-cf

Syntax

primary-cf *cflash-id*

Context

[Tree] (config>call-trace primary-cf)

Full Context

configure call-trace primary-cf

Description

This command specifies which compact-flash is used as the primary CF for call-trace operation.

Default

primary-cf cf1

Parameters

cflash-id

Specifies the compact flash card to be used as the primary local storage location to save the generated call trace log files.

Values cf1, cf2

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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36.19 primary-config

primary-config

Syntax

primary-config *file-url*

no primary-config

Context

[Tree] (bof primary-config)

Full Context

bof primary-config

Description

This command specifies the name and location of the primary configuration file.

The system attempts to use the configuration specified in **primary-config**. If the specified file cannot be located, the system automatically attempts to obtain the configuration from the location specified in **secondary-config** and then the **tertiary-config**.

If an error in the configuration file is encountered, the boot process aborts.

The **no** form of this command removes the **primary-config** configuration.

Parameters

file-url

Specifies the primary configuration file location, expressed as a file URL.

Values

file-url	{*local-url* | *remote-url*} (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]
remote-url	[{ftp://| tftp://} *login:pswd@remote-locn*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

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36.20 primary-dns

primary-dns

Syntax

primary-dns *ip-address*

no primary-dns

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp primary-dns)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp primary-dns)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp primary-dns

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp primary-dns

Description

This command configures the primary DNS address to be returned via DHCP on WLAN-GW ISA.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the primary DNS address.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

primary-dns

Syntax

primary-dns *ip-address*

no primary-dns

Context

[Tree] (config>service>vprn>dns primary-dns)

Full Context

configure service vprn dns primary-dns

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Description

This command configures the primary DNS server used for DNS name resolution. DNS name resolution can be used when executing ping, traceroute, and service-ping, and also when defining file URLs. DNS name resolution is not supported when DNS names are embedded in configuration files.

The **no** form of this command removes the primary DNS server from the configuration.

Default

no primary-dns — No primary DNS server is configured.

Parameters

ip-address

The IP or IPv6 address of the primary DNS server.

Values

ipv4-address -a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x: [0..FFFF]H

d: [0..255]D

interface - 32 characters max, for link local addresses.

Platforms

All

primary-dns

Syntax

primary-dns *ip-address*

no primary-dns [*ip-address*]

Context

[Tree] (bof primary-dns)

Full Context

bof primary-dns

Description

This command configures the primary DNS server used for DNS name resolution. DNS name resolution can be used when executing ping, traceroute, and service-ping, and also when defining file URLs. DNS name resolution is not supported when DNS names are embedded in configuration files.

The **no** form of this command removes the primary DNS server from the configuration.

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Default

no primary-dns

Parameters

ip-address

Specifies the IP or IPv6 address of the primary DNS server.

Values

ipv4-address	*a.b.c.d*
ipv6-address	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H
	d: [0 to 255]D
interface	32 chars max, for link local addresses

Note:
IPv6 is applicable to the 7750 SR and 7950 XRS only.

Platforms

All

36.21 primary-image

primary-image

Syntax

primary-image *file-url*

no primary image

Context

[Tree] (bof primary-image)

Full Context

bof primary-image

Description

This command specifies the primary directory location for runtime image file loading.

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The system attempts to load all runtime image files configured in the **primary-image** first. If this fails, the system attempts to load the runtime images from the location configured in the **secondary-image**. If the secondary image load fails, the tertiary image specified in **tertiary-image** is used.

All runtime image files (*.tim files) must be located in the same directory.

The **no** form of this command removes the **primary-image** configuration.

Parameters

file-url

Specifies the *file-url* can be either local (this CPM) or a remote FTP server.

Values

file-url	{*local-url* | *remote-url*} (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]
remote-url	[{ftp://| tftp://} *login:pswd@remote-locn*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

36.22 primary-ip-address

primary-ip-address

Syntax

primary-ip-address *ipv4-address*

no primary-ip-address

Context

[Tree] (config>router>bgp>orr>location primary-ip-address)

Full Context

configure router bgp optimal-route-reflection location primary-ip-address

Description

This command specifies the primary IP address of a reference location used for BGP optimal route reflection. Up to three IPv4 addresses and three IPv6 addresses can be specified per location.

If the TE DB is unable find a node in its topology database that matches a primary address of the location, then it tries to find a node matching a secondary address. If this attempt also fails, the TE DB tries to find a node matching a tertiary address.

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The IP addresses specified for a location should be topologically "close” to a set of clients that should all receive the same optimal path for that location.

The **no** form of this command removes the primary IP address information.

Default

no primary-ip-address

Parameters

ipv4-address

Specifies the primary IPv4 address of a location expressed in dotted decimal notation.

Values a.b.c.d

Platforms

All

36.23 primary-ipv6-address

primary-ipv6-address

Syntax

primary-ipv6-address *ipv6-address*

no primary-ipv6-address

Context

[Tree] (config>router>bgp>orr>location primary-ipv6-address)

Full Context

configure router bgp optimal-route-reflection location primary-ipv6-address

Description

This command specifies the primary IPv6 address of a reference location used for BGP optimal route reflection. Up to three IPv4 addresses and three IPv6 addresses can be specified per location.

If the TE DB is unable find a node in its topology database that matches a primary address of the location, then it tries to find a node matching a secondary address. If this attempt also fails, the TE DB tries to find a node matching a tertiary address.

The IP addresses specified for a location should be topologically "close” to a set of clients that should all receive the same optimal path for that location.

The **no** form of this command removes the primary IPv6 address information.

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Default

no primary-ipv6-address

Parameters

ipv6-address

Specifies the primary IPv6 address of a location expressed in dotted decimal notation.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

36.24 primary-keychain

primary-keychain

Syntax

primary-keychain *keychain-name*

no primary-keychain

Context

[Tree] (config>macsec>conn-assoc>static-cak primary-keychain)

Full Context

configure macsec connectivity-association static-cak primary-keychain

Description

This command configures the primary keychain.

The **no** form of this command disables the primary keychain.

Default

no primary-keychain

Parameters

keychain-name

Specifies the primary keychain name, up to 32 characters.

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Platforms

All

36.25 primary-location

primary-location

Syntax

primary-location *file-url*

no primary-location

Context

[Tree] (config>system>software-repository primary-location)

Full Context

configure system software-repository primary-location

Description

This command configures the primary location for the files in the software repository. See the **software-repository** command description for more information.

The **no** form of the command removes the primary location.

Parameters

file-url

Specifies the primary location to be used to access the files in the software repository.

Values

file url	*local-url* | *remote-url*	
local-url	[*cflash-id*/][*file-path*]	200 chars maximum, including cflash-id directory length 99 characters maximum each
remote-url	[{ftp://} *login:pswd@remote-locn*/][*file-path*]	
	243 characters maximum	
	directory length 99 characters maximum each	
	remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
		x:x:x:x:x:x:d.d.d.d[-*interface*]

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x - [0 to FFFF]H

d - [0 to 255]D

interface - 32 characters max, for link local addresses

cflash-id cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.26 primary-nbns

primary-nbns

Syntax

primary-nbns *ip-address*

no primary-nbns

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp primary-nbns)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp primary-nbns)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp primary-nbns

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp primary-nbns

Description

This command configures the primary NBNS address to be returned via DHCP on WLAN-GW ISA.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the primary NBNS address.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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36.27 primary-next-hop

primary-next-hop

Syntax

[**no**] **primary-next-hop**

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp primary-next-hop)

Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group primary-next-hop

Description

Commands in this context configure the primary next hop of an NHG entry in a forwarding policy.

The **no** form of this command removes the primary next-hop context from an NHG entry in a forwarding policy.

Platforms

All

36.28 primary-p2mp-instance

primary-p2mp-instance

Syntax

[**no**] **primary-p2mp-instance** *instance-name*

Context

[Tree] (config>router>mpls>lsp primary-p2mp-instance)

Full Context

configure router mpls lsp primary-p2mp-instance

Description

This command creates the primary instance of a P2MP LSP. The primary instance of a P2MP LSP is modeled as a set of root-to-leaf (S2L) sub-LSPs. The root, for example a head-end node triggers signaling using one path message per S2L path. The leaf sub-LSP paths are merged at branching points.

This command is not supported on the 7450 ESS.

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Parameters

instance-name

Specifies a name that identifies the P2MP LSP instance. The instance name can be up to 32 characters long and must be unique.

Platforms

All

36.29 primary-path

primary-path

Syntax

primary-path

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2-paths primary-path)

Full Context

configure mcast-management bandwidth-policy t2-paths primary-path

Description

Commands in this context configure primary path parameters.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

36.30 primary-ports

primary-ports

Syntax

primary-ports

Context

[Tree] (config>service>template>vpls-template>mac-move primary-ports)

[Tree] (config>service>vpls>mac-move primary-ports)

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Full Context

configure service template vpls-template mac-move primary-ports

configure service vpls mac-move primary-ports

Description

Commands in this context define primary VPLS ports. VPLS ports that were declared as secondary prior to the execution of this command will be moved from secondary port-level to primary port-level. Changing a port to the tertiary level can only be done by first removing it from the secondary port-level.

Platforms

All

36.31 primary-tunnel-interface

primary-tunnel-interface

Syntax

primary-tunnel-interface ldp-p2mp *p2mp-identifier* **sender** *ip-address*

primary-tunnel-interface rsvp-p2mp *lsp-name* **sender** *ip-address*

no primary-tunnel-interface

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override primary-tunnel-interface)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle primary-tunnel-interface)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel primary-tunnel-interface)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override primary-tunnel-interface

configure mcast-management multicast-info-policy bundle primary-tunnel-interface

configure mcast-management multicast-info-policy bundle channel primary-tunnel-interface

Description

This command allows the user to define a bundle in the multicast-info-policy and specify channels in the bundle that must be received from the primary tunnel interface associated with an RSVP P2MP LSP. The multicast info policy is applied to the base router instance.

The egress LER can accept multicast packets via two different methods. The regular RPF check on unlabeled IP multicast packets, which is based on routing table lookup. The static assignment which specifies the receiving of a multicast group <*,G> or a specific <S,G> from a primary tunnel-interface associated with an RSVP P2MP LSP.

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One or more primary tunnel interfaces in the base router instance can be configured. That is, the user can specify to receive different multicast groups, <*,G> or specific <S,G>, from different P2MP LSPs. This assumes that there are static joins configured for the same multicast groups at the ingress LER to forward over a tunnel interface associated with the same P2MP LSP.

At any given time, packets of the same multicast group can be accepted from either the primary tunnel interface associated with a P2MP LSP or from a PIM interface. These are mutually exclusive options. As soon as a multicast group is configured against a primary tunnel interface in the multicast info policy, it is blocked from other PIM interfaces.

A multicast packet received on a tunnel interface associated with a P2MP LSP can be forwarded over a PIM or IGMP interface which can be an IES interface, a spoke SDP terminated IES interface, or a network interface.

The **no** form of this command removes the static RPF check.

Parameters

lsp-name

Species a string of up to 32 characters identifying the LSP name as configured at the ingress LER.

ip-address

Specifies a string of 15 characters representing the IP address of the ingress LER for the LSP.

p2mp-id

Identifier used for signaling mLDP P2MP LSP (applies only to the 7750 SR).

Values 1 to 4294967296

Platforms

All

36.32 primary-url

primary-url

Syntax

primary-url *url*

no primary-url

Context

[Tree] (config>python>py-script primary-url)

Full Context

configure python python-script primary-url

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Description

This command specifies the location of the primary Python script. The system supports three locations for each Python script. Users can store the script file on either a local CF card or an FTP server.

The **no** form of this command removes the URL.

Parameters

url

Specifies the primary URL of the Python script up to 180 characters, either a local CF card url or a FTP server URL.

Platforms

All

36.33 prio-code-point

prio-code-point

Syntax

prio-code-point *priority-code-point*

no prio-code-point

Context

[Tree] (config>test-oam>build-packet>header>dot1q prio-code-point)

Full Context

configure test-oam build-packet header dot1q prio-code-point

Description

This command defines the priority code point to be used in the test Dot1Q header.

The **no** form of this command removes the priority code point value.

Default

prio-code-point 0 (BE)

Parameters

priority-code-point

Specifies the priority code point to be used in the test Dot1Q header.

Values 0 to 7

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

prio-code-point

Syntax

prio-code-point *priority-code-point*

no prio-code-point

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>dot1q prio-code-point)

Full Context

debug oam build-packet packet field-override header dot1q prio-code-point

Description

This command configures a Priority Code Point (PCP) for an IEEE 802.1Q packet header to be launched by the OAM **find-egress** tool.

The **no** form of this command removes the priority code point value.

Default

no override

Parameters

priority-code-point

Specifies the priority code point to be used in the test Dot1Q header.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.34 priority

priority

Syntax

priority *level*

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Context

[Tree] (config>subscr-mgmt>sub-prof>egress>policer-control-policy>priority-mbs-thresholds priority)

[Tree] (config>subscr-mgmt>sub-prof>ingress>policer-control-policy>priority-mbs-thresholds priority)

Full Context

configure subscriber-mgmt sub-profile egress policer-control-policy priority-mbs-thresholds priority

configure subscriber-mgmt sub-profile ingress policer-control-policy priority-mbs-thresholds priority

Description

The **priority** level command contains the **mbs-contribution** configuration command for a given strict priority level. Eight levels are supported numbered 1 through 8 with 8 being the highest strict priority.

Each of the eight priority CLI nodes always exists and do not need to be created. While parameters exist for each priority level, the parameters are only applied when the priority level within a parent policer instance is currently supporting child policers.

Parameters

level

Specifies the priority level override.

Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

priority

Syntax

priority *priority* **source {python | diameter-gx | ludb | radius | diameter-nasreq | gtp | dhcp | local-address-assignment}**

no priority *priority*

Context

[Tree] (config>subscr-mgmt>auth-orig priority)

Full Context

configure subscriber-mgmt authentication-origin priority

Description

This command allows the relative order of authentication priorities to be swapped between RADIUS and LUDB by configuring the RADIUS source priority to value 3. By moving RADIUS to the third position, LUDB, and all the origins below LUDB, are pushed down.The active order of priorities can be displayed in the output of the **show subscriber-mgmt authentication-origin** command.

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The **no** form of this command deletes the priority value. To restore defaults, the priority configuration must be deleted.

Parameters

priority

Specifies the authentication origin priority override.

Values 1 to 7

source

Specifies the source of authentication priority. Only **radius** can be configured. RADIUS as the authentication origin can be assigned priority 3 which places it above LUDB.

Values python, diameter-gx, ludb, radius, diameter-nasreq, gtp, dhcp, local-address-assignment

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>ies>sub-if>grp-if>srrp priority)

[Tree] (config>service>vprn>sub-if>grp-if>srrp priority)

Full Context

configure service ies subscriber-interface group-interface srrp priority

configure service vprn subscriber-interface group-interface srrp priority

Description

This command overrides the default base priority for the SRRP instance. The SRRP instance priority is advertised by the SRRP instance to its neighbor router and is compared to the priority received from the neighbor router. The router with the best (highest) priority enters the master state while the other router enters the backup state. If the priority of each router is the same, the router with the lowest source IP address in the SRRP advertisement message assumes the master state.

The base priority of an SRRP instance can be managed by VRRP policies. A VRRP policy defines a set of connectivity or verification tests which, when they fail, may lower an SRRP instances base priority (creating an in-use priority for the instance). Every time an SRRP instances in-use priority changes when in master state, it sends an SRRP advertisement message with the new priority. If the dynamic priority drops to zero or receives an SRRP Advertisement message with a better priority, the SRRP instance transitions to the *becoming backup* state.

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When the priority command is not specified, or the no priority command is executed, the system uses a default base priority of 100. The priority command may be executed at any time.

The **no** form of this command restores the default base priority to the SRRP instance. If a VRRP policy is associated with the SRRP instance, it will use the default base priority as the basis for any modifications to the SRRP instances in-use priority.

Default

priority 100

Parameters

priority

Specifies a base priority for the SRRP instance to override the default.

Values 1 to 254

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

priority

Syntax

[**no**] **priority** *level*

Context

[Tree] (config>card>fp>ingress>network>queue-group>policer-control-override>priority-mbs-thresholds priority)

[Tree] (config>card>fp>ingress>access>queue-group>policer-control-override>priority-mbs-thresholds priority)

Full Context

configure card fp ingress network queue-group policer-control-override priority-mbs-thresholds priority

configure card fp ingress access queue-group policer-control-override priority-mbs-thresholds priority

Description

The **priority** level command contains the **mbs-contribution** configuration command for a given strict priority level. Eight levels are supported numbered 1 through 8 with 8 being the highest strict priority.

Each of the eight priority CLI nodes always exists and do not need to be created. While parameters exist for each priority level, the parameters are only applied when the priority level within a parent policer instance is currently supporting child policers.

Parameters

level

Specifies the priority level.

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Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority

Syntax

priority *priority-value*

no priority

Context

[Tree] (config>lag>eth-cfm>mep>ais-enable priority)

[Tree] (config>port>ethernet>eth-cfm>mep>ais-enable priority)

Full Context

configure lag eth-cfm mep ais-enable priority

configure port ethernet eth-cfm mep ais-enable priority

Description

This command specifies the priority of the AIS messages generated by the node.

The **no** form of the command reverts to the default values.

Parameters

priority-value

Specifies the priority value of the AIS messages originated by the node.

Values 0 to 7

Default 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

priority *priority*

no priority

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Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>port>ethernet>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>lag>eth-cfm>mep>grace>eth-ed priority)

Full Context

configure eth-tunnel path eth-cfm mep grace eth-ed priority

configure eth-ring path eth-cfm mep grace eth-ed priority

configure port ethernet eth-cfm mep grace eth-ed priority

configure lag eth-cfm mep grace eth-ed priority

Description

This command sets the priority bits and determines the forwarding class based on the mapping of priority to FC.

The **no** form of this command disables the local priority configuration and sets the priority to the **ccm-ltm-priority** associated with this MEP.

Default

no priority

Parameters

priority

Specifies the priority bit.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

[**no**] **priority** *level*

Context

[Tree] (config>service>cpipe>sap>egress>policy-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>epipe>sap>ingress>policy-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>ipipe>sap>egress>policy-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>epipe>sap>egress>policy-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>cpipe>sap>ingress>policy-ctrl-over>mbs-thrshlds priority)

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[Tree] (config>service>ipipe>sap>ingress>policy-ctrl-over>mbs-thrshlds priority)

Full Context

configure service cpipe sap egress policer-control-override priority-mbs-thresholds priority

configure service epipe sap ingress policer-control-override priority-mbs-thresholds priority

configure service ipipe sap egress policer-control-override priority-mbs-thresholds priority

configure service epipe sap egress policer-control-override priority-mbs-thresholds priority

configure service cpipe sap ingress policer-control-override priority-mbs-thresholds priority

configure service ipipe sap ingress policer-control-override priority-mbs-thresholds priority

Description

The priority-level level override CLI node contains the specified priority level's mbs-contribution override value.

This node does not need to be created and will not be output in show or save configurations unless an mbs-contribution override exist for level.

Parameters

level

The level parameter is required when specifying priority-level and identifies which of the parent policer instances priority level's the mbs-contribution is overriding.

Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-control-override priority-mbs-thresholds priority
- configure service cpipe sap ingress policer-control-override priority-mbs-thresholds priority

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-control-override priority-mbs-thresholds priority
- configure service epipe sap ingress policer-control-override priority-mbs-thresholds priority
- configure service ipipe sap egress policer-control-override priority-mbs-thresholds priority
- configure service epipe sap egress policer-control-override priority-mbs-thresholds priority

priority

Syntax

priority *priority-value*

no priority

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>ais-enable priority)

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[Tree] (config>service>epipe>sap>eth-cfm>mep priority)

Full Context

configure service epipe spoke-sdp eth-cfm mep ais-enable priority

configure service epipe sap eth-cfm mep priority

Description

This command specifies the priority of AIS messages originated by the node.

Parameters

priority-value

Specifies the priority value of the AIS messages originated by the node.

Values 0 to 7

Default 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace>eth-ed priority)

Full Context

configure service ipipe sap eth-cfm mep grace eth-ed priority

configure service epipe sap eth-cfm mep grace eth-ed priority

configure service epipe spoke-sdp eth-cfm mep grace eth-ed priority

Description

This command sets the priority bits and determines the forwarding class based on the mapping of priority to FC.

The **no** form of this command disables the local priority configuration and sets the priority to the **ccm-ltm-priority** associated with this MEP.

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Default

no priority

Parameters

priority

Specifies the priority bit.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

priority *stp-priority*

no priority [*stp-priority*]

Context

[Tree] (config>service>vpls>stp priority)

[Tree] (config>service>template>vpls-template>stp priority)

[Tree] (config>service>template>vpls-sap-template>stp priority)

Full Context

configure service vpls stp priority

configure service template vpls-template stp priority

configure service template vpls-sap-template stp priority

Description

The bridge-priority command is used to populate the priority portion of the bridge ID field within outbound BPDUs (the most significant 4 bits of the bridge ID). It is also used as part of the decision process when determining the best BPDU between messages received and sent. All values are truncated to multiples of 4096, conforming with IEEE 802.1t and 802.1D-2004.

The **no** form of this command returns the bridge priority to the default value.

Default

priority 4096

Parameters

bridge-priority

Specifies the bridge priority for the STP instance

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Values Allowed values are integers in the range of 4096 to 65535 with 4096 being the highest priority. The actual bridge priority value stored/used is the number entered with the lowest 12 bits masked off which means the actual range of values is 4096 to 61440 in increments of 4096.

Platforms

All

priority

Syntax

priority *stp-priority*

no priority

Context

[Tree] (config>service>vpls>spoke-sdp priority)

[Tree] (config>service>vpls>sap>stp priority)

[Tree] (config>service>vpls>spoke-sdp>stp priority)

Full Context

configure service vpls spoke-sdp priority

configure service vpls sap stp priority

configure service vpls spoke-sdp stp priority

Description

This command configures the Nokia Spanning Tree Protocol (STP) priority for the SAP or spoke SDP.

STP priority is a configurable parameter associated with a SAP or spoke SDP. When configuration BPDUs are received, the priority is used in some circumstances as a tie breaking mechanism to determine whether the SAP or spoke SDP be designated or blocked.

In traditional STP implementations (802.1D-1998), this field is called the port priority and has a value of 0 to 255. This field is coupled with the port number (0 to 255 also) to create a 16 bit value. In the latest STP standard (802.1D-2004) only the upper 4 bits of the port priority field are used to encode the SAP or spoke SDP priority. The remaining 4 bits are used to extend the port ID field into a 12 bit virtual port number field. The virtual port number uniquely references a SAP or spoke SDP within the STP instance.

STP computes the actual priority by taking the input value and masking out the lower four bits. The result is the value that is stored in the SDP priority parameter. For instance, if a value of 0 is entered, masking out the lower 4 bits results in a parameter value of 0. If a value of 255 is entered, the result is 240.

The **no** form of this command returns the STP priority to the default value.

Default

priority 128

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Parameters

stp-priority

Specifies the STP priority value for the SAP or spoke SDP. 0 is the highest priority. The actual value used for STP priority (and stored in the configuration) is the result of masking out the lower 4 bits, therefore the actual value range is 0 to 240 in increments of 16.

Values 0 to 255

Platforms

All

priority

Syntax

priority *priority-value*

no priority

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>ais-enable priority)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>ais-enable priority)

Full Context

configure service vpls mesh-sdp eth-cfm mep ais-enable priority

configure service vpls spoke-sdp eth-cfm mep ais-enable priority

Description

This command specifies the priority of AIS messages originated by the node.

Parameters

priority-value

Specifies the priority value of the AIS messages originated by the node

Values 0 to 7

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>vpls>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace>eth-ed priority)

Full Context

configure service vpls eth-cfm mep grace eth-ed priority

configure service vpls mesh-sdp eth-cfm mep grace eth-ed priority

configure service vpls spoke-sdp eth-cfm mep grace eth-ed priority

configure service vpls sap eth-cfm mep grace eth-ed priority

Description

This command sets the priority bits and determines the forwarding class based on the mapping of priority to FC.

The **no** form of this command disables the local priority configuration and sets the priority to the **ccm-ltm-priority** associated with this MEP.

Default

no priority

Parameters

priority

Specifies the priority bit.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

[**no**] **priority** *level*

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Context

[Tree] (config>service>vpls>sap>egress>policy-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>vpls>sap>ingress>policy-ctrl-over>mbs-thrshlds priority)

Full Context

configure service vpls sap egress policer-control-override priority-mbs-thresholds priority

configure service vpls sap ingress policer-control-override priority-mbs-thresholds priority

Description

The priority-level level override CLI node contains the specified priority level's mbs-contribution override value.

This node does not need to be created and will not be output in show or save configurations unless an mbs-contribution override exist for level.

The **no** form of this command sets the MBS contribution for the associated priority to its default value.

Parameters

level

Specifies that the level parameter is required when specifying priority-level and identifies which of the parent policer instances priority level's the mbs-contribution is overriding

Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority

Syntax

priority *base-priority*

no priority

Context

[Tree] (config>service>ies>if>ipv6>vrrp priority)

Full Context

configure service ies interface ipv6 vrrp priority

Description

This command provides the ability to configure a specific priority value to the virtual router instance. In conjunction with an optional policy command, the base-priority is used to derive the in-use priority of the virtual router instance.

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This command is only available in the non-owner vrrp virtual-router-id nodal context. The priority of owner virtual router instances is permanently set to 255 and cannot be changed. For non-owner virtual router instances, if the priority command is not executed, the base-priority will be set to 100.

The **no** form of this command restores the default value of 100 to base-priority.

Default

priority 100

Parameters

base-priority

The base-priority parameter configures the base priority used by the virtual router instance. If a VRRP Priority Control policy is not also defined, the base-priority will be the in-use priority for the virtual router instance.

Values 1 to 254

Default 100

Platforms

All

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace>eth-ed priority)

Full Context

configure service ies interface spoke-sdp eth-cfm mep grace eth-ed priority

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed priority

configure service ies interface sap eth-cfm mep grace eth-ed priority

Description

This command sets the priority bits and determines the forwarding class based on the mapping of priority to FC.

The **no** form of this command disables the local priority configuration and sets the priority to the **ccm-ltm-priority** associated with this MEP.

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Default

no priority

Parameters

priority

Specifies the priority bit.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep grace eth-ed priority
- configure service ies interface spoke-sdp eth-cfm mep grace eth-ed priority

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed priority

priority

Syntax

[**no**] **priority** *level*

Context

[Tree] (config>service>ies>if>sap>egress>policer-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>ies>if>sap>ingress>policer-ctrl-over>mbs-thrshlds priority)

Full Context

configure service ies interface sap egress policer-control-override priority-mbs-thresholds priority

configure service ies interface sap ingress policer-control-override priority-mbs-thresholds priority

Description

The priority-level level override CLI node contains the specified priority level's mbs-contribution override value.

This node does not need to be created and will not be output in show or save configurations unless an mbs-contribution override exist for level.

The **no** form of this command sets the MBS contribution for the associated priority to its default value.

Parameters

level

Specifies that the level parameter is required when specifying priority-level and identifies which of the parent policer instances priority level's the mbs-contribution is overriding.

Values 1 to 8

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority

Syntax

priority *base-priority*

no priority

Context

[Tree] (config>service>ies>if>vrrp priority)

Full Context

configure service ies interface vrrp priority

Description

The priority command provides the ability to configure a specific priority value to the virtual router instance. In conjunction with an optional policy command, the base-priority is used to derive the in-use priority of the virtual router instance.

The priority command is only available in the non-owner vrrp virtual-router-id nodal context. The priority of owner virtual router instances is permanently set to 255 and cannot be changed. For non-owner virtual router instances, if the priority command is not executed, the base-priority will be set to 100.

The **no** form of this command restores the default value of 100 to base-priority.

Parameters

base-priority

The base-priority parameter configures the base priority used by the virtual router instance. If a VRRP Priority Control policy is not also defined, the base-priority will be the in-use priority for the virtual router instance.

Values 1 to 254

Default 100

Platforms

All

priority

Syntax

priority {**low** | **high**}

no priority [{**low** | **high**}]

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Context

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel>forwarding-class priority)

[Tree] (config>service>vprn>static-route-entry>indirect>forwarding-class priority)

[Tree] (config>service>vprn>static-route-entry>next-hop>forwarding-class priority)

Full Context

configure service vprn static-route-entry ipsec-tunnel forwarding-class priority

configure service vprn static-route-entry indirect forwarding-class priority

configure service vprn static-route-entry next-hop forwarding-class priority

Description

This optional command associates an enqueuing priority with the static route. The options are either high or low, with low being the default. This parameter has the ability to affect the likelihood that a packet will be enqueued at SAP ingress in the face of ingress congestion.

Once a packet is enqueued into an ingress buffer, the significance of this parameter is lost.

Default

priority low

Parameters

low

Setting the enqueuing parameter for a packet to **low** decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. Once the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

high

Setting the enqueuing parameter for a packet to **high** increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. Once the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace>eth-ed priority)

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[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace>eth-ed priority)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed priority)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed priority

configure service vprn interface sap eth-cfm mep grace eth-ed priority

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed priority

Description

This command sets the priority bits and determines the forwarding class based on the mapping of priority to FC.

The **no** form of this command disables the local priority configuration and sets the priority to the **ccm-ltm-priority** associated with this MEP.

Default

no priority

Parameters

priority

Specifies the priority bit.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed priority
- configure service vprn interface sap eth-cfm mep grace eth-ed priority

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed priority

priority

Syntax

[**no**] **priority** *level*

Context

[Tree] (config>service>vprn>if>sap>egress>policer-ctrl-over>mbs-thrshlds priority)

[Tree] (config>service>vprn>if>sap>ingress>policer-ctrl-over>mbs-thrshlds priority)

Full Context

configure service vprn interface sap egress policer-control-override priority-mbs-thresholds priority

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configure service vprn interface sap ingress policer-control-override priority-mbs-thresholds priority

Description

The priority-level level override CLI node contains the specified priority level's mbs-contribution override value.

This node does not need to be created and will not be output in show or save configurations unless an mbs-contribution override exist for level.

The **no** form of this command sets the MBS contribution for the associated priority to its default value.

Parameters

level

Specifies that the level parameter is required when specifying priority-level and identifies which of the parent policer instances priority level's the mbs-contribution is overriding.

Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>vprn>if>vrrp priority)

[Tree] (config>service>vprn>if>ipv6>vrrp priority)

Full Context

configure service vprn interface vrrp priority

configure service vprn interface ipv6 vrrp priority

Description

The priority command provides the ability to configure a specific priority value to the virtual router instance. In conjunction with an optional policy command, the base-priority is used to derive the in-use priority of the virtual router instance.

The priority command is only available in the non-owner **vrrp** *virtual-router-id* nodal context. The priority of owner virtual router instances is permanently set to 255 and cannot be changed. For non-owner virtual router instances, if the priority command is not executed, the base-priority will be set to 100.

The **no** form of this command restores the default value of 100 to base-priority.

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Parameters

base-priority

The base-priority parameter configures the base priority used by the virtual router instance. If a VRRP priority control policy is not also defined, the base-priority will be the in-use priority for the virtual router instance.

Values 1 to 254

Default 100

Platforms

All

priority

Syntax

priority *number*

no priority

Context

[Tree] (config>service>vprn>isis>if>level priority)

Full Context

configure service vprn isis interface level priority

Description

This command configures the priority of the IS-IS router interface for designated router election on a multi-access network.

This priority is included in hello PDUs transmitted by the interface on a multi-access network. The router with the highest priority is the preferred designated router. The designated router is responsible for sending LSPs with regard to this network and the routers that are attached to it.

The **no** form of this command reverts to the default value.

Default

priority 64

Parameters

number

Specifies the priority for this interface at this level.

Values 0 to 127

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Platforms

All

priority

Syntax

priority *number*

no priority

Context

[Tree] (config>service>vprn>ospf3>area>if priority)

[Tree] (config>service>vprn>ospf>area>if priority)

Full Context

configure service vprn ospf3 area interface priority

configure service vprn ospf area interface priority

Description

This command configures the priority of the OSPF interface that is used to elect the designated router (DR) on the subnet.

This parameter is only used if the interface is of type **broadcast**. The router with the highest priority interface becomes the DR. A router with priority 0 is not eligible to be the designated router or backup designated router.

The **no** form of this command resets the interface priority to the default value.

Default

priority 1

Parameters

number

The interface priority expressed as a decimal integer. A value of 0 indicates the router is not eligible to be the Designated Router of Backup Designated Router on the interface subnet.

Values 0 to 255

Platforms

All

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priority

Syntax

priority *bootstrap-priority*

Context

[Tree] (config>service>vprn>pim>rp>ipv6>bsr-candidate priority)

[Tree] (config>service>vprn>pim>rp>bsr-candidate priority)

Full Context

configure service vprn pim rp ipv6 bsr-candidate priority

configure service vprn pim rp bsr-candidate priority

Description

This command defines the priority used to become the rendezvous point (RP). The higher the priority value the more likely that this router becomes the RP. If there is a tie, the router with the highest IP address is elected.

Parameters

bootstrap-priority

The priority to become the bootstrap router.

Values 0 to 255

Default 0 (the router is not eligible to be the bootstrap router)

Platforms

All

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>service>vprn>pim>rp>rp-candidate priority)

Full Context

configure service vprn pim rp rp-candidate priority

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Description

This command defines the priority used to become the rendezvous point (RP). The higher the priority value, the more likely that this router will become the RP.

Use the **no** form of this command to revert to the default value.

Default

priority 192

Parameters

priority

Specifies the priority to become the designated router. The higher the value the more likely the router will become the RP.

Values 0 to 255

Platforms

All

priority

Syntax

priority *priority-level*

no priority

Context

[Tree] (config>router>ldp>lsp-bfd priority)

Full Context

configure router ldp lsp-bfd priority

Description

This command configures a priority value that is used to order prefix list processing if multiple prefix lists are configured.

The **no** form of this command restores the default priority value.

Default

priority 1

Parameters

priority-level

Specifies the priority value of the prefix list.

Values 1 to 16

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Platforms

All

priority

Syntax

priority *setup-priority hold-priority*

no priority

Context

[Tree] (config>router>mpls>lsp>secondary priority)

[Tree] (config>router>mpls>lsp-template priority)

[Tree] (config>router>mpls>lsp>primary priority)

Full Context

configure router mpls lsp secondary priority

configure router mpls lsp-template priority

configure router mpls lsp primary priority

Description

This command enables the soft preemption procedures for this LSP path. The operator enables the soft preemption mechanism on a specific LSP name by explicitly configuring the setup and holding priorities for the primary path at the head-end node. The operator can similarly configure priority values for a secondary path for this LSP name. Different values could be used for the primary and for any of the secondary paths. In the absence of explicit user configuration, the setup priority is internally set to the default value of 7 and the holding priority is set to the default value of 0.

Note:
Valid user-entered values for these two parameters require that the holding priority be numerically lower than or equal to the setup priority, otherwise preemption loops can occur.

Preemption is effected when a router preempting node processes a new RSVP session reservation and there is not enough available bandwidth on the RSVP interface, or the Class Type (CT) when Diff-Serv is enabled, to satisfy the bandwidth in the FlowSpec object while there exist other session reservations for LSP paths with a strictly lower holding priority (numerically higher holding priority value) than the setup priority of the new LSP reservation. If enough available bandwidth is freed on the link or CT to accommodate the new reservation by preempting one or more lower priority LSP paths, the preempting node allows temporary overbooking of the RSVP interface and honors the new reservation.

The preempting node will immediately set the 'Preemption pending' flag (0x10) in the IPv4 Sub-Object in the RRO object in the Resv refresh for each of the preempted LSP paths. The IPv4 Sub-Object corresponds to the outgoing interface being used by the preempting and preempted LSP paths; however, the bandwidth value in the FlowSpec object is not changed. The Resv flag must also be set if the preempting node is a merge point for the primary LSP path and the backup bypass LSP or detour LSP and the backup LSP is activated.

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When evaluating if enough available bandwidth will be freed, the preempting node considers the reservations in order from the lowest holding priority (numerically higher holding priority value) to the holding priority just below the setup priority of the new reservation. A new reservation cannot preempt a reservation which has a value of the holding priority equal to the new reservation setup priority.

When Diff-Serv is enabled on the preempting node and the MAM bandwidth allocation model is used, a new reservation can only preempt a reservation in the same Class Type (CT).

LSP paths which were not flagged at the head-end for soft preemption will be hard preempted. LSP paths with the default holding priority of 0 cannot be preempted. LSP paths with zero bandwidth do not preempt other LSP paths regardless of the values of the path setup priority and the path holding priority. They can also not be preempted.

When evaluating if enough available bandwidth will be freed, the preempting node considers the reservations in order from the lowest holding priority (numerically higher holding priority) to the holding priority just below the setup priority of the new reservation. There is no specific order in which the reservations in the same holding priority are considered.

The preempting node starts a preemption timer for each of the preempted LSP paths. While this timer is on, the node should continue to refresh the Path and Resv for the preempted LSP paths. When the preemption timer expires, the node tears down the reservation if the head-end node has not already done so.

A head-end node upon receipt of the Resv refresh message with the 'Preemption pending' flag must immediately perform a make-before-break on the affected adaptive CSPF LSP. Both IGP metric and TE metric based CSPF LSPs are included. If an alternative path that excludes the flagged interface is not found, then the LSP is put on a retry in a similar way to the Global Revertive procedure at a head-end node. However, the number of retries and the retry timer are governed by the values of the **retry-limit** and **retry-timer** parameters: **config>router>mpls>lsp>retry-limit**; **config>router>mpls>lsp>retry-timer**.

MPLS will keep the address list of flagged interfaces for a maximum of 60 s (not user-configurable) from the time the first Resv message with the 'Preemption pending' flag is received. This actually means that MPLS will request CSPF to find a path that excludes the flagged interfaces in the first few retries until success or until 60 s have elapsed. Subsequent retries after the 60 s will not exclude the flagged interfaces as it is assumed IGP has converged by then and the Unreserved Bandwidth sub-TLV for that priority, or TE Class, in the TE database will show the updated value taking into account the preempting LSP path reservation or a value of zero if overbooked.

If the LSP has a configured secondary standby which is operationally UP, the router will switch the path of the LSP to it and then start the MBB. If no standby path is available and a secondary non-standby is configured, the router will start the MBB and signal the path of the secondary. The LSP path will be switched to either the secondary or the new primary, whichever comes up first.

The **no** form of this command reverts the LSP path priority to the default values and results in setting the setup priority to 7, in setting the hold priority to 0, and in clearing the 'soft preemption desired' flag in the RRO in the Resv refresh message.

Default

no priority

Parameters

setup-priority

Specifies the priority of the reservation for this session at setup time.

Values 0 to 7 (0 is the highest priority and 7 is the lowest priority.)

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Default 7 — This session does not preempt any other session.

holding-priority

Specifies the priority of the reservation for this session at preemption action.

Values 0 to 7 (0 is the highest priority and 7 is the lowest priority.)

Default 0 — This session does not get preempted by any other session.

Platforms

All

priority

Syntax

priority *value*

no priority

Context

[Tree] (config>app-assure>aarp priority)

Full Context

configure application-assurance aarp priority

Description

This command defines the priority for the AARP instance. The priority value is used to determine the master/backup upon initialization or re-balance.

The **no** form of this command reverts to the default value.

Default

priority 100

Parameters

value

Specifies an integer that defines the priority of an AARP instance.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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priority

Syntax

priority *priority-level*

no priority

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action>remark priority)

Full Context

configure application-assurance group policy app-qos-policy entry action remark priority

Description

This command configures remark discard priority action on flows matching this AQP entry. When enabled, all packets for all flows matching this AQP entry will be remarked to the configured discard priority.

Default

no priority

Parameters

priority-level

Specifies the priority to apply to a packet.

Values high, low

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec>tunnel-group priority)

Full Context

configure redundancy multi-chassis peer mc-ipsec tunnel-group priority

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Description

This command configures the 1:1 MC-IPsec local priority for the tunnel group. The priority configuration is one of the factors used to select the active node between MC peers for the tunnel group. The node that has the tunnel group with the higher priority value is more likely to be elected as the active node.

See "Election logic" under "1:1 Multichassis IPsec redundancy" in the *7450 ESS and 7750 SR Multiservice ISA and ESA Advanced Configuration Guide for Classic CLI* for more information.

The **no** form of this command removes the priority value from the tunnel-group configuration.

Default

priority 100

Parameters

priority

Specifies the priority of this tunnel group.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

priority

Syntax

priority *dr-priority*

no priority

Context

[Tree] (config>router>pim>interface priority)

[Tree] (config>service>vprn>pim>if priority)

Full Context

configure router pim interface priority

configure service vprn pim interface priority

Description

This command configures the priority value to elect the router as the designated router (DR). The DR election priority is a 32-bit unsigned number and the numerically larger priority is always preferred.

The **no** form of this command reverts to the default value.

Default

priority 1

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Parameters

priority

Specifies the priority that determines the likelihood of becoming the designated router. The higher the value, the higher the priority.

Values 1 to 4294967295

Platforms

All

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>router>pim>rp>ipv6>rp-candidate priority)

[Tree] (config>router>pim>rp>rp-candidate priority)

Full Context

configure router pim rp ipv6 rp-candidate priority

configure router pim rp rp-candidate priority

Description

This command configures the Candidate-RP priority for becoming a rendezvous point (RP). This value is used to elect RP for a group range.

The **no** form of this command reverts to the default value.

Default

priority 192

Parameters

priority

Specifies the priority to become a rendezvous point (RP). A value of 0 is considered as the highest priority.

Values 0 to 255

Platforms

All

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priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>oam-pm>session>ethernet priority)

Full Context

configure oam-pm session ethernet priority

Description

This command defines the CoS priority across all tests configured under this session. This CoS value is exposed to the various QoS policies the frame passes through and does not necessarily map directly to the CoS value on the wire.

The **no** form of this command removes changes the priority to the default value.

Default

priority 0

Parameters

priority

Specifies the CoS value.

Values 0 to 7

Default 0

Platforms

All

priority

Syntax

priority *level*

Context

[Tree] (config>qos>plcr-ctrl-plcy>root>priority-mbs-thresholds priority)

Full Context

configure qos policer-control-policy root priority-mbs-thresholds priority

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Description

The **priority** level command contains the **mbs-contribution** configuration command for a given strict priority level. Eight levels are supported numbered 1 through 8 with 8 being the highest strict priority.

Each of the eight priority CLI nodes always exists and do not need to be created. While parameters exist for each priority level, the parameters are only applied when the priority level within a parent policer instance is currently supporting child policers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority

Syntax

priority [*priority*]

no priority

Context

[Tree] (config>filter>redirect-policy>dest priority)

Full Context

configure filter redirect-policy destination priority

Description

Redirect policies can contain multiple destinations. Each destination is assigned an initial or base **priority** which describes its relative importance within the policy.

Default

priority 100

Parameters

priority

Specifies the priority, expressed as a decimal integer, used to weigh the destination's relative importance within the policy.

Values 1 to 255

Platforms

All

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priority

Syntax

priority {**low** | **high**}

no priority [{**low** | **high**}]

Context

[Tree] (config>router>static-route-entry>next-hop>forwarding-class priority)

[Tree] (config>router>static-route-entry>indirect>forwarding-class priority)

Full Context

configure router static-route-entry next-hop forwarding-class priority

configure router static-route-entry indirect forwarding-class priority

Description

This optional command associates an enqueuing priority with the static route. The options are either high or low, with low being the default. This parameter has the ability to affect the likelihood that a packet will be enqueued at SAP ingress in the face of ingress congestion.

Once a packet is enqueued into an ingress buffer, the significance of this parameter is lost.

Default

priority low

Parameters

low

Setting the enqueuing parameter for a packet to **low** decreases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. Once the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

high

Setting the enqueuing parameter for a packet to **high** increases the likelihood of enqueuing the packet when the ingress queue is congested. Ingress enqueuing priority only affects ingress SAP queuing. Once the packet is placed in a buffer on the ingress queue, the significance of the enqueuing priority is lost.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>router>if>eth-cfm>mep>grace>eth-ed priority)

Full Context

configure router interface eth-cfm mep grace eth-ed priority

Description

This command sets the priority bits and determines the forwarding class based on the mapping of priority to FC.

The **no** form of this command disables the local priority configuration and sets the priority to the **ccm-ltm-priority** associated with this MEP.

Default

no priority

Parameters

priority

Specifies the priority bit.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>router>fad>flex-algo priority)

Full Context

configure router flexible-algorithm-definitions flex-algo priority

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Description

This command configures the priority of the FAD. This priority is used as a tie-breaker when the router has received multiple FADs for the same flexible algorithm.

Every router that is configured to participate in a particular flexible algorithm uses the same tie-breaker logic to select the winning FAD. This allows for consistent FAD definition selection in cases where routers advertise different definitions for a specific flexible algorithm. The following rules apply to the breaker mechanism.

- From the advertisements of the FAD in the area (including both locally generated advertisements and received advertisements), select the one with the highest priority value.
- If there are multiple advertisements of the FAD with the same highest priority, select the one that is originated from the router with either the highest system ID or router ID.

The **no** form of this command sets the priority to the default value.

Default

priority 100

Parameters

priority

Configures the priority of this FAD.

Values 0 to 255

Default 100

Platforms

All

priority

Syntax

priority *priority*

no priority

Context

[Tree] (config>router>if>vrrp priority)

[Tree] (config>router>if>ipv6>vrrp priority)

Full Context

configure router interface vrrp priority

configure router interface ipv6 vrrp priority

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Description

This command configures the base router priority for the virtual router instance used in the master election process.

The priority is the most important parameter set on a non-owner virtual router instance. The priority defines a virtual router's selection order in the master election process. Together, the priority value and the **preempt** mode allow the virtual router with the best priority to become the master virtual router.

The *base-priority* is used to derive the in-use priority of the virtual router instance as modified by any optional VRRP priority control policy. VRRP priority control policies can be used to either override or adjust the base priority value depending on events or conditions within the chassis.

The **priority** command is only available in the non-owner **vrrp** nodal context. The priority of **owner** virtual router instances is permanently set to 255 and cannot be changed.

For non-owner virtual router instances, the default base priority value is 100.

The **no** form of the command reverts to the default value.

Default

priority 100

Parameters

priority

The base priority used by the virtual router instance expressed as a decimal integer. If no VRRP priority control policy is defined, the *base-priority* is the in-use priority for the virtual router instance.

Values 1 to 254

Platforms

All

priority

Syntax

priority *priority-level* [{**delta** | **explicit**}]

no priority

Context

[Tree] (config>vrrp>policy>priority-event>route-unknown priority)

[Tree] (config>vrrp>policy>priority-event>lag-port-down>weight-down priority)

[Tree] (config>vrrp>policy>priority-event>host-unreachable priority)

[Tree] (config>vrrp>policy>priority-event>port-down priority)

[Tree] (config>vrrp>policy>priority-event>lag-port-down>number-down priority)

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Full Context

configure vrrp policy priority-event route-unknown priority

configure vrrp policy priority-event lag-port-down weight-down priority

configure vrrp policy priority-event host-unreachable priority

configure vrrp policy priority-event port-down priority

configure vrrp policy priority-event lag-port-down number-down priority

Description

This command controls the effect the set event has on the virtual router instance in-use priority.

When the event is set, the *priority-level* is either subtracted from the base priority of each virtual router instance or it defines the explicit in-use priority value of the virtual router instance depending on whether the **delta** or **explicit** keywords are specified.

Multiple set events in the same policy have interaction constraints:

- If any set events have an explicit **priority** value, all the delta **priority** values are ignored.
- The set event with the lowest explicit **priority** value defines the in-use priority that are used by all virtual router instances associated with the policy.
- If no set events have an explicit **priority** value, all the set events delta **priority** values are added and subtracted from the base priority value defined on each virtual router instance associated with the policy.
- If the delta priorities sum exceeds the **delta-in-use-limit** parameter, then the **delta-in-use-limit** parameter is used as the value subtracted from the base priority value defined on each virtual router instance associated with the policy.

If the **priority** command is not configured on the priority event, the *priority-value* defaults to 0 and the qualifier keyword defaults to **delta**, therefore, there is no impact on the in-use priority.

The **no** form of the command configures the set event to subtract 0 from the base priority (no effect).

Default

no priority

Parameters

priority-level

The priority level adjustment value expressed as a decimal integer.

Values 0 to 254

delta

Configures what effect the *priority-level* will have on the base priority value. The default base priority value is **delta**.

When **delta** is specified, the *priority-level* value is subtracted from the associated virtual router instance's base priority when the event is set and no explicit events are set. The sum of the priority event *priority-level* values on all set delta priority events are subtracted from the virtual router base priority to derive the virtual router instance in-use priority value. If the **delta** priority event is cleared, the *priority-level* is no longer used in the in-use priority calculation.

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explicit

Configures what effect the *priority-level* will have on the base priority value.

When **explicit** is specified, the *priority-level* value is used to override the base priority of the virtual router instance if the priority event is set and no other **explicit** priority event is set with a lower *priority-level*. The set **explicit** priority value with the lowest *priority-level* determines the actual in-use protocol value for all virtual router instances associated with the policy.

Platforms

All

priority

Syntax

priority *priority-level* **explicit**

no priority

Context

[Tree] (config>vrrp>policy>priority-event>mc-ipsec-non-forwarding priority)

Full Context

configure vrrp policy priority-event mc-ipsec-non-forwarding priority

Description

This command controls the effect the set event has on the virtual router instance in-use priority.

When the event is set, the *priority-level* is either subtracted from the base priority of each virtual router instance or it defines the explicit in-use priority value of the virtual router instance depending on whether the **delta** or **explicit** keywords are specified.

Multiple set events in the same policy have interaction constraints:

- If any set events have an explicit **priority** value, all the delta **priority** values are ignored.
- The set event with the lowest explicit **priority** value defines the in-use priority that are used by all virtual router instances associated with the policy.
- If no set events have an explicit **priority** value, all the set events delta **priority** values are added and subtracted from the base priority value defined on each virtual router instance associated with the policy.
- If the delta priorities sum exceeds the **delta-in-use-limit** parameter, then the **delta-in-use-limit** parameter is used as the value subtracted from the base priority value defined on each virtual router instance associated with the policy.

If the **priority** command is not configured on the priority event, the *priority-value* defaults to 0 and the qualifier keyword defaults to **delta**, therefore, there is no impact on the in-use priority.

The **no** form of the command configures the set event to subtract 0 from the base priority (no effect).

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Default

no priority

Parameters

priority-level

The priority level adjustment value expressed as a decimal integer.

Values 0 to 254

explicit

When **explicit** is specified, the *priority-level* value is used to override the base priority of the virtual router instance if the priority event is set and no other **explicit** priority event is set with a lower *priority-level*. The set **explicit** priority value with the lowest *priority-level* determines the actual in-use protocol value for all virtual router instances associated with the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

priority

Syntax

priority *bridge-priority*

no priority

Context

[Tree] (config>service>pw-template>stp priority)

Full Context

configure service pw-template stp priority

Description

The **bridge-priority** command is used to populate the priority portion of the bridge ID field within outbound BPDUs (the most significant 4 bits of the bridge ID). It is also used as part of the decision process when determining the best BPDU between messages received and sent. All values will be truncated to multiples of 4096, conforming with IEEE 802.1t and 802.1D-2004.

The **no** form of this command returns the bridge priority to the default value.

Default

priority 4096

Parameters

bridge-priority

Specifies the bridge priority for the STP instance.

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Values Allowed values are integers in the range of 4096 to 65535 with 4096 being the highest priority. The actual bridge priority value stored/used is the number entered with the lowest 12 bits masked off which means the actual range of values is 4096 to 61440 in increments of 4096.

Platforms

All

priority

Syntax

priority *number*

no priority

Context

[Tree] (config>router>isis>if>level priority)

Full Context

configure router isis interface level priority

Description

This command configures the priority of the IS-IS router interface for designated router election on a multi-access network.

This priority is included in hello PDUs transmitted by the interface on a multi-access network. The router with the highest priority is the preferred designated router. The designated router is responsible for sending LSPs with regard to this network and the routers that are attached to it.

The **no** form of this command reverts to the default value.

Default

priority 64

Parameters

number

Specifies the priority for this interface at this level.

Values 0 to 127

Platforms

All

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priority

Syntax

priority *number*

no priority

Context

[Tree] (config>router>ospf>area>interface priority)

[Tree] (config>router>ospf3>area>interface priority)

Full Context

configure router ospf area interface priority

configure router ospf3 area interface priority

Description

This command configures the priority of the OSPF interface that is used in an election of the designated router on the subnet.

This parameter is only used if the interface is of type broadcast. The router with the highest priority interface becomes the designated router. A router with priority 0 is not eligible to be Designated Router or Backup Designated Router.

The **no** form of this command reverts the interface priority to the default value.

Default

priority 1

Parameters

number

Specifies the interface priority expressed as a decimal integer. A value of 0 indicates the router is not eligible to be the Designated Router or Backup Designated Router on the interface subnet.

Values 0 to 255

Platforms

All

priority

Syntax

priority [*value*]

no priority

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Context

[Tree] (config>redundancy>multi-chassis>ipsec-domain priority)

Full Context

configure redundancy multi-chassis ipsec-domain priority

Description

This command configures the priority for the tunnel group in the IPsec domain. The node with the higher priority is more likely to be elected as active within the domain.

The **no** form of this command reverts to the default value.

Default

priority 100

Parameters

value

Specifies the IPsec domain tunnel group priority.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.35 priority-event

priority-event

Syntax

[**no**] **priority-event**

Context

[Tree] (config>vrrp>policy priority-event)

Full Context

configure vrrp policy priority-event

Description

This command creates the context to configure VRRP priority control events used to define criteria to modify the VRRP in-use priority.

A priority control event specifies an object to monitor and the effect on the in-use priority level for an associated virtual router instance.

Up to 32 priority control events can be configured within the **priority-event** node.

The **no** form of the command clears any configured priority events.

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Platforms

All

36.36 priority-marking

priority-marking

Syntax

priority-marking dscp *dscp-name*

priority-marking prec *ip-prec-value*

no priority-marking

Context

[Tree] (config>service>vpls>gsmp>group>neighbor priority-marking)

[Tree] (config>service>vprn>gsmp>group>neighbor priority-marking)

Full Context

configure service vpls gsmp group neighbor priority-marking

configure service vprn gsmp group neighbor priority-marking

Description

This command configures the type of priority marking to be used.

The **no** form of this command reverts to the default.

Parameters

dscp-name

Specifies the DSCP code-point to be used.

Values be, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cs1, cp9, af11, cp11, af12, cp13, af13, cp15, cs2, cp17, af21, cp19, af22, cp21, af23, cp23, cs3, cp25, af31, cp27, af32, cp29, af33, cp31, cs4, cp33, af41, cp35, af42, cp37, af43, cp39, cs5, cp41, cp42, cp43, cp44, cp45, ef, cp47, nc1, cp49, cp50, cp51, cp52, cp53, cp54, cp55, nc2, cp57, cp58, cp59, cp60, cp61, cp62, cp63

ip-prec-value

Specifies the precedence value to be used.

Values 0 to 7

Platforms

All

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36.37 priority-mbs-thresholds

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>subscr-mgmt>sub-prof>egress>policer-control-policy priority-mbs-thresholds)

[Tree] (config>subscr-mgmt>sub-prof>ingress>policer-control-policy priority-mbs-thresholds)

Full Context

configure subscriber-mgmt sub-profile egress policer-control-policy priority-mbs-thresholds

configure subscriber-mgmt sub-profile ingress policer-control-policy priority-mbs-thresholds

Description

The **priority-mbs-thresholds** command contains the root arbiter parent policer's **min-thresh-separation** command and each priority level's **mbs-contribution** command that is used to internally derive each priority level's shared-portion and fair-portion values. The system uses each priority level's shared-portion and fair-portion value to calculate each priority level's discard-unfair and discard-all MBS thresholds that enforce priority sensitive rate-based discards within the root arbiter's parent policer.

The **priority-mbs-thresholds** CLI node always exists and does not need to be created.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>card>fp>ingress>network>queue-group>policer-control-override priority-mbs-thresholds)

[Tree] (config>card>fp>ingress>access>queue-group>policer-control-override priority-mbs-thresholds)

Full Context

configure card fp ingress network queue-group policer-control-override priority-mbs-thresholds

configure card fp ingress access queue-group policer-control-override priority-mbs-thresholds

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Description

This command contains the root arbiter parent policer's **min-thresh-separation** command and each priority level's **mbs-contribution** command that is used to internally derive each priority level's shared-portion and fair-portion values. The system uses each priority level's shared-portion and fair-portion value to calculate each priority level's discard-unfair and discard-all MBS thresholds that enforce priority sensitive rate-based discards within the root arbiter's parent policer.

The **priority-mbs-thresholds** CLI node always exists and does not need to be created.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>service>cpipe>sap>ingress>policer-control-override priority-mbs-thresholds)

[Tree] (config>service>ipipe>sap>ingress>policer-control-override priority-mbs-thresholds)

[Tree] (config>service>ipipe>sap>egress>policer-control-override priority-mbs-thresholds)

[Tree] (config>service>cpipe>sap>egress>policer-control-override priority-mbs-thresholds)

[Tree] (config>service>epipe>sap>ingress>policer-control-override priority-mbs-thresholds)

[Tree] (config>service>epipe>sap>egress>policer-control-override priority-mbs-thresholds)

Full Context

configure service cpipe sap ingress policer-control-override priority-mbs-thresholds

configure service ipipe sap ingress policer-control-override priority-mbs-thresholds

configure service ipipe sap egress policer-control-override priority-mbs-thresholds

configure service cpipe sap egress policer-control-override priority-mbs-thresholds

configure service epipe sap ingress policer-control-override priority-mbs-thresholds

configure service epipe sap egress policer-control-override priority-mbs-thresholds

Description

This command overrides the CLI node contains the configured min-thresh-separation and the various priority level mbs-contribution override commands.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-control-override priority-mbs-thresholds
- configure service cpipe sap ingress policer-control-override priority-mbs-thresholds

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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- configure service ipipe sap ingress policer-control-override priority-mbs-thresholds
- configure service epipe sap egress policer-control-override priority-mbs-thresholds
- configure service ipipe sap egress policer-control-override priority-mbs-thresholds
- configure service epipe sap ingress policer-control-override priority-mbs-thresholds

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>service>vpls>sap>egress>policer-ctrl-over priority-mbs-thresholds)

[Tree] (config>service>vpls>sap>ingress>policer-ctrl-over priority-mbs-thresholds)

Full Context

configure service vpls sap egress policer-control-override priority-mbs-thresholds

configure service vpls sap ingress policer-control-override priority-mbs-thresholds

Description

This command overrides the CLI node contains the configured min-thresh-separation and the various priority level mbs-contribution override commands.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>service>ies>if>sap>ingress>policer-ctrl-over priority-mbs-thresholds)

[Tree] (config>service>ies>if>sap>egress>policer-ctrl-over priority-mbs-thresholds)

Full Context

configure service ies interface sap ingress policer-control-override priority-mbs-thresholds

configure service ies interface sap egress policer-control-override priority-mbs-thresholds

Description

This command overrides the CLI node contains the configured min-thresh-separation and the various priority level mbs-contribution override commands.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>service>vprn>if>sap>ingress>policer-ctrl-over priority-mbs-thresholds)

[Tree] (config>service>vprn>if>sap>egress>policer-ctrl-over priority-mbs-thresholds)

Full Context

configure service vprn interface sap ingress policer-control-override priority-mbs-thresholds

configure service vprn interface sap egress policer-control-override priority-mbs-thresholds

Description

This command overrides the CLI node contains the configured min-thresh-separation and the various priority level mbs-contribution override commands.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

priority-mbs-thresholds

Syntax

priority-mbs-thresholds

Context

[Tree] (config>qos>plcr-ctrl-plcy>root priority-mbs-thresholds)

Full Context

configure qos policer-control-policy root priority-mbs-thresholds

Description

The **priority-mbs-thresholds** command contains the root arbiter parent policer's **min-thresh-separation** command and each priority level's **mbs-contribution** command that is used to internally derive each priority level's shared-portion and fair-portion values. The system uses each priority level's shared-portion and fair-portion value to calculate each priority level's discard-unfair and discard-all MBS thresholds that enforce priority-sensitive rate-based discards within the root arbiter's parent policer.

The **priority-mbs-thresholds** CLI node always exists and does not need to be created.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

36.38 priority-sessions

priority-sessions

Syntax

[**no**] **priority-sessions**

Context

[Tree] (config>service>nat>nat-policy priority-sessions)

[Tree] (config>service>nat>up-nat-policy priority-sessions)

[Tree] (config>service>nat>firewall-policy priority-sessions)

Full Context

configure service nat nat-policy priority-sessions

configure service nat up-nat-policy priority-sessions

configure service nat firewall-policy priority-sessions

Description

This command configures the prioritized sessions of this NAT or residential firewall policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy priority-sessions
- configure service nat nat-policy priority-sessions

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy priority-sessions

36.39 priority1

priority1

Syntax

priority1 *priority-value*

no priority1

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Context

[Tree] (config>system>ptp priority1)

Full Context

configure system ptp priority1

Description

This command configures the priority1 value of the local clock. This parameter is only used when the profile is set to ieee1588-2008. This value is used by the Best Master Clock Algorithm to determine which clock should provide timing for the network.

This value is used for the value to advertise in the Announce messages and for the local clock value in data set comparisons.

The **no** form of the command reverts to the default configuration.

Default

priority1 128

Parameters

priority-value

Specifies the value of the priority1 field.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.40 priority2

priority2

Syntax

priority2 *priority-value*

no priority2

Context

[Tree] (config>system>ptp priority2)

Full Context

configure system ptp priority2

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Description

This command configures the priority2 value of the local clock. This parameter is only used when the **profile** is set to **ieee1588-2008**, **g8275dot1-2014**, or **g8275dot2-2016**. The parameter is ignored when any other profile is selected.

This value is used by the Best timeTransmitter Clock algorithm to determine which clock should provide timing for the network.

Note:
This value is used for the value to advertise in the Announce messages and for local clock value in data set comparisons.

The **no** form of the command reverts to the default configuration.

Default

priority2 128

Parameters

priority-value

Specifies the value of the priority2 field.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.41 priv-lvl

priv-lvl

Syntax

priv-lvl *priv-lvl user-profile-name*

no priv-lvl *priv-lvl*

Context

[Tree] (config>system>security>tacplus>priv-lvl-map priv-lvl)

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus>priv-lvl-map priv-lvl)

Full Context

configure system security tacplus priv-lvl-map priv-lvl

configure service vprn aaa remote-servers tacplus priv-lvl-map priv-lvl

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Description

This command maps a specific TACACS+ priv-lvl to a locally configured profile for authorization. This mapping is used when the **use-priv-lvl** option is specified for TACPLUS authorization.

Parameters

priv-lvl

Specifies the privilege level used when sending a TACACS+ ENABLE request.

Values 0 to 15

user-profile-name

Specifies the user profile for this mapping.

Platforms

All

36.42 priv-lvl-map

priv-lvl-map

Syntax

[**no**] **priv-lvl-map**

Context

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus priv-lvl-map)

[Tree] (config>system>security>tacplus priv-lvl-map)

Full Context

configure service vprn aaa remote-servers tacplus priv-lvl-map

configure system security tacplus priv-lvl-map

Description

Commands in this context specify a series of mappings between TACACS+ priv-lvl and locally configured profiles for authorization. These mappings are used when the use-priv-lvl option is specified for tacplus authorization.

The **no** form of this command reverts to the default.

Default

priv-lvl-map

Platforms

All

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36.43 private-interface

private-interface

Syntax

private-interface *ip-int-name*

no private-interface

Context

[Tree] (config>ipsec>client-db>client private-interface)

Full Context

configure ipsec client-db client private-interface

Description

This command specifies the private interface name that is used for tunnel setup.

The **no** form of this command reverts to the default.

Default

no private-interface

Parameters

ip-int-name

Specifies the name of the private interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.44 private-ki

private-ki

Syntax

private-ki *hex-string*

no private-ki

Context

[Tree] (config>li>x-interfaces>lics>lic>authentication private-ki)

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Full Context

configure li x-interfaces lics lic authentication private-ki

Description

This command configures the private key for the X1 and X2 interfaces.

The **no** form of this command reverts to the default.

Parameters

hex-string

Specifies the password. Must contain exactly 32 hex nibbles.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.45 private-retail-subnets

private-retail-subnets

Syntax

[**no**] **private-retail-subnets**

Context

[Tree] (config>service>vprn>sub-if private-retail-subnets)

Full Context

configure service vprn subscriber-interface private-retail-subnets

Description

This command controls the export of retail subnets and prefixes to the wholesale forwarding service. When this attribute is configured, subnets and prefixes configured on the retail subscriber interface are no longer exported to the associated wholesale VPRN and remain private to the retail VPRN. This is useful in a IPoE or PPPoE business service context, as it allows retail services to use overlapping IP address spaces even if those services are associated with the same wholesale service. IPoE and PPPoE sessions are actually terminated in the retail service although their traffic transits on a SAP belonging to the wholesale service.

Configuring private retail subnets is not supported for IPv4 static hosts and ARP hosts. If PPPoE sessions need to coexist with IPv4 static hosts or ARP hosts, then this attribute should not be configured on the retail subscriber interface.

This command fails if the subscriber interface is not associated with a wholesale service.

If the retail VPRN is of the type **hub**, this attribute is mandatory. In this case, private retail subnets are enabled by default and cannot be unconfigured.

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The **no** form of this command disables overlapping IP addresses between different retailers referring to this interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.46 private-service

private-service

Syntax

private-service *service-id*

private-service name *service-name*

no private-service

Context

[Tree] (config>ipsec>client-db>client private-service)

Full Context

configure ipsec client-db client private-service

Description

This command specifies the private service ID that is used for tunnel setup.

The **no** form of this command reverts to the default.

Default

no private-service

Parameters

service-id

Specifies the service ID of the tunnel delivery service.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **private-service name** *service-name* variant can be used in all configuration modes.

Values {*id* | *svc-name*}

id: 1 to 2147483647

svc-name: up to 64 characters (*svc-name* is an alias for input only. The *svc-name* gets replaced with an id automatically by SR OS in the configuration).

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name service-name

Identifies the service, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.47 private-tcp-mss-adjust

private-tcp-mss-adjust

Syntax

private-tcp-mss-adjust *octets*

private-tcp-mss-adjust default

no private-tcp-mss-adjust

Context

[Tree] (config>service>vprn>l2tp>l2tpv3 private-tcp-mss-adjust)

[Tree] (config>router>l2tp>group>l2tpv3 private-tcp-mss-adjust)

[Tree] (config>router>l2tp>group>tunnel>l2tpv3 private-tcp-mss-adjust)

[Tree] (config>service>vprn>l2tp>group>tunnel>l2tpv3 private-tcp-mss-adjust)

[Tree] (config>service>vprn>l2tp>group>l2tpv3 private-tcp-mss-adjust)

Full Context

configure service vprn l2tp l2tpv3 private-tcp-mss-adjust

configure router l2tp group l2tpv3 private-tcp-mss-adjust

configure router l2tp group tunnel l2tpv3 private-tcp-mss-adjust

configure service vprn l2tp group tunnel l2tpv3 private-tcp-mss-adjust

configure service vprn l2tp group l2tpv3 private-tcp-mss-adjust

Description

This command enables TCP MSS adjust for L2TPv3 tunnels on the private side of the group or tunnel level. When this command is configured, the system updates the TCP MSS option value of the received TCP SYN packet on the private side.

Note that this command can be overridden by the corresponding configuration on the group or tunnel level.

With the **default** parameter, the system uses the upper-level configuration. With the non-default parameter, the system uses this configuration instead of the upper level configuration.

The **no** form of this command disables TCP MSS adjust on the private side.

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Default

no private-tcp-mss-adjust

Parameters

octets

Specifies the new TCP MSS value in octets.

Values 512 to 9000

default

Specifies to use the upper-level configuration

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

private-tcp-mss-adjust

Syntax

private-tcp-mss-adjust *bytes*

private-tcp-mss-adjust *octets*

no private-tcp-mss-adjust

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel private-tcp-mss-adjust)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel private-tcp-mss-adjust)

[Tree] (config>router>if>ipsec>ipsec-tunnel private-tcp-mss-adjust)

[Tree] (config>service>ies>if>sap>ip-tunnel private-tcp-mss-adjust)

[Tree] (config>service>vprn>if>sap>ipsec-tun private-tcp-mss-adjust)

[Tree] (config>ipsec>tnl-temp private-tcp-mss-adjust)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel private-tcp-mss-adjust)

Full Context

configure service vprn interface sap ip-tunnel private-tcp-mss-adjust

configure service vprn interface ipsec ipsec-tunnel private-tcp-mss-adjust

configure router interface ipsec ipsec-tunnel private-tcp-mss-adjust

configure service ies interface sap ip-tunnel private-tcp-mss-adjust

configure service vprn interface sap ipsec-tunnel private-tcp-mss-adjust

configure ipsec tunnel-template private-tcp-mss-adjust

configure service ies interface ipsec ipsec-tunnel private-tcp-mss-adjust

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Description

This command enables TCP MSS to adjust for L2TPv3 tunnels, IPsec, or IP tunnels on the private side. When the command is configured, the system updates the TCP MSS option to the value of the received TCP SYN packet on the private side.

The **no** form of this command disables TCP MSS adjust on the private side.

Default

no private-tcp-mcc-adjust

Parameters

bytes

Specifies the new TCP MSS value in bytes.

Values 512 to 9000

octets

Specifies the new TCP MSS value in octets.

Values 512 to 9000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ip-tunnel private-tcp-mss-adjust
- configure service vprn interface sap ipsec-tunnel private-tcp-mss-adjust
- configure ipsec tunnel-template private-tcp-mss-adjust
- configure service vprn interface sap ip-tunnel private-tcp-mss-adjust

VSR

- configure service vprn interface ipsec ipsec-tunnel private-tcp-mss-adjust
- configure service ies interface ipsec ipsec-tunnel private-tcp-mss-adjust
- configure router interface ipsec ipsec-tunnel private-tcp-mss-adjust

36.48 probe-count

probe-count

Syntax

probe-count *probes-per-hop*

no probe-count

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy probe-count)

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Full Context

configure saa test type-multi-line lsp-trace sr-policy probe-count

Description

This command configures the number of probes per hop.

The **no** form of this command reverts to the default value.

Default

probe-count 1

Parameters

probes-per-hop

Specifies the probes-per-hop count, expressed as number of packets.

Values 1 to 10

Default 1

Platforms

All

36.49 probe-fail-enable

probe-fail-enable

Syntax

[**no**] **probe-fail-enable**

Context

[Tree] (config>saa>test>trap-gen probe-fail-enable)

Full Context

configure saa test trap-gen probe-fail-enable

Description

This command enables the generation of an SNMP trap when the consecutive probe failure threshold (configured using the **probe-fail-threshold** command) is reached during the execution of the SAA ping test. This command is not applicable to SAA trace route tests.

The **no** form of this command disables the generation of an SNMP trap.

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Platforms

All

36.50 probe-fail-threshold

probe-fail-threshold

Syntax

probe-fail-threshold *threshold*

no probe-fail-threshold

Context

[Tree] (config>saa>test>trap-gen probe-fail-threshold)

Full Context

configure saa test trap-gen probe-fail-threshold

Description

This command configures the threshold for trap generation after ping probe failure.

This command has no effect when **probe-fail-enable** is disabled. This command is not applicable to SAA trace route tests.

The **no** form of this command returns the threshold value to the default.

Default

probe-fail-threshold 1

Parameters

threshold

Specifies the number of consecutive ping probe failures required to generate a trap.

Values 0 to 15

Platforms

All

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36.51 probe-history

probe-history

Syntax

probe-history {**keep** | **drop** | **auto**}

Context

[Tree] (config>saa>test probe-history)

Full Context

configure saa test probe-history

Description

Specifies history probe behavior. Defaults are associated with various configured parameters within the SAA test. Auto (keep) is used for test with probe counts of 100 or less, and intervals of 1 second and above. Auto (drop) only maintains summary information for tests marked as continuous with file functions, probe counts more than 100 and intervals of less than 1 second. SAA tests that are not continuous with a write to file defaults to Auto (keep). The operator is free to change the default behaviors for each type. Each test that maintains per probe history consumes more system memory. When per probe entries are required, the probe history is available at the completion of the test.

Default

probe-history auto

Parameters

auto

An auto selector that determines the storage of the history information.

drop

Stores summarized min/max/avg data not per probe information for test runs. This may be configured for all tests to conserve memory.

keep

Stores per probe information for tests. This consumes significantly more memory than summary information and should only be used if necessary.

Platforms

All

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36.52 process-arp-probes

process-arp-probes

Syntax

[**no**] **process-arp-probes**

Context

[Tree] (config>service>vpls>proxy-arp process-arp-probes)

Full Context

configure service vpls proxy-arp process-arp-probes

Description

This command enables router proxy ARP function replies to Duplicate Address Detection (DAD) ARP probes upon a successful proxy ARP table lookup.

The **no** form of this command disables the router from replying to DAD ARP probes.

Default

process-arp-probes

Platforms

All

36.53 process-cpm-traffic-on-sap-down

process-cpm-traffic-on-sap-down

Syntax

[**no**] **process-cpm-traffic-on-sap-down**

Context

[Tree] (config>service>vpls>sap process-cpm-traffic-on-sap-down)

Full Context

configure service vpls sap process-cpm-traffic-on-sap-down

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Description

This command is applicable to simple SAPs configured on LAGs that are not part of any "endpoint" configurations or complicated resiliency schemes like MC-LAG with inter-chassis-backup (ICB) configurations. When configured, a simple LAG SAP is not removed from the forwarding plane and flooded traffic (unknown unicast, broadcast and multicast) is dropped on egress. This allows applicable control traffic that is extracted at the egress interface to be processed by the CPM. This command will not prevent a VPLS service from entering an operationally down state if it is the last active connection to enter a nonoperational state. By default, without this command, when a SAP on a LAG enters a nonoperational state, it is removed from the forwarding plane and no forwarding occurs to the egress.

The **no** form of this command removes a SAP over a LAG that is not operational from the forwarding process.

Default

no process-cpm-traffic-on-sap-down

Platforms

All

36.54 process-dad-neighbor-solicitations

process-dad-neighbor-solicitations

Syntax

[**no**] **process-dad-neighbor-solicitations**

Context

[Tree] (config>service>vpls>proxy-nd process-dad-neighbor-solicitations)

Full Context

configure service vpls proxy-nd process-dad-neighbor-solicitations

Description

This command enables the router proxy ND replies to Duplicate Address Detection (DAD) neighbor solicitations upon a successful proxy ND table lookup.

The **no** form of this command disables the router from replying to DAD neighbor solicitations.

Default

process-dad-neighbor-solicitations

Platforms

All

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36.55 process-received-upa

process-received-upa

Syntax

[**no**] **process-received-upa**

Context

[Tree] (config>router>isis>upa process-received-upa)

Full Context

configure router isis prefix-unreachable process-received-upa

Description

This command enables processing of UPAs received from other routers. When configured, received UPAs are inserted into the unicast routing table as unreachable prefixes. When configured on an Area Boundary Router (ABR), received UPAs are inserted into the unreachable prefix table and redistributed into the other areas.

The **no** form of this command disables the processing of UPAs received from other routers. When disabled, received UPAs are ignored by the router.

Default

no process-received-upa

Platforms

All

36.56 profile

profile

Syntax

profile *profile-name* [**create**]

no profile *profile-name*

Context

[Tree] (config>app-assure>group>url-filter>web-service profile)

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Full Context

configure application-assurance group url-filter web-service profile

Description

This command configures the category profiles of the web service.

The **no** form of this command removes the category profiles configuration.

Parameters

profile-name

Specifies the name of the category profile, up to 256 characters.

create

Keyword that specifies to create a category profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

profile

Syntax

[**no**] **profile** *user-profile-name*

Context

[Tree] (config>system>security profile)

Full Context

configure system security profile

Description

This command creates a context to create user profiles for command authorization and other functions associated with a user.

Profiles can be used to deny or permit user access to entire command branches or to specific commands.

Once the profiles are created, the **user** command assigns users to one or more profiles. You can define up to 16 user profiles but a maximum of 8 profiles can be assigned to a user.

The **no** form of this command deletes a user profile.

Parameters

user-profile-name

Specifies the user profile name entered as a character string. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

Platforms

All

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profile

Syntax

profile {**in** | **out**}

no profile

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping profile)

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy profile)

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy profile)

Full Context

configure saa test type-multi-line lsp-ping profile

configure saa test type-multi-line lsp-trace sr-policy profile

configure saa test type-multi-line lsp-ping sr-policy profile

Description

This command configures the profile state of the MPLS echo request packet.

The **no** form of this command reverts to the default value.

Default

profile out

Parameters

in

Specifies "in” as the profile state of the MPLS echo request packet.

out

Specifies "out” as the profile state of the MPLS echo request packet.

Platforms

All

profile

Syntax

profile {**in** | **out**}

no profile

Context

[Tree] (config>oam-pm>session>ip profile)

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Full Context

configure oam-pm session ip profile

Description

This command defines whether the TWAMP Light PDU packet should be treated as in-profile or out-of-profile. The default has been selected because the forwarding class defaults to best effort.

The **no** form of this command restores the default value.

Default

profile out

Parameters

in

Specifies that the TWAMP Light PDU packet is sent as in-profile.

out

Specifies that the TWAMP Light PDU packet is sent as out-of-profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

profile

Syntax

profile {**in** | **out**}

no profile

Context

[Tree] (config>oam-pm>session>mpls profile)

Full Context

configure oam-pm session mpls profile

Description

This command defines whether the DM PDU packet should be treated as in profile or out-of-profile.

The **no** form of this command reverts the default value.

Default

profile out

Parameters

in

Marks the PDU in profile.

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out

Marks the PDU out of profile.

Default out

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

profile

Syntax

profile {**in** | **out**}

no profile

Context

[Tree] (config>qos>sap-ingress>fc profile)

Full Context

configure qos sap-ingress fc profile

Description

This command places a forwarding class or subclass into a color aware profile mode. Normally, packets associated with a class are considered in-profile or out-of-profile solely based on the dynamic rate of the ingress queue relative to its CIR. Explicitly defining a class as in-profile or out-of-profile overrides this function by handling each packet with the defined profile state.

The profile command may only be executed when the forwarding class or the parent forwarding class (for a subclass) is mapped to a queue that has been enabled to support color aware profile packets. The queue may only be configured for profile-mode at the time the queue is created in the SAP ingress QoS policy.

A queue operating in profile-mode may support in-profile, out-of-profile, and non-profiled packets simultaneously. However, the high- and low-priority classification actions are ignored when the queue is in profile-mode.

The **no** form of this command removes an explicit in-profile or out-of-profile configuration on a forwarding class or subclass.

Default

no profile — The default profile state of a forwarding class or subclass is not to treat ingress packets as color aware. An explicit definition for in-profile or out-of-profile must be specified on the forwarding class or subclass.

Parameters

in

The **in** keyword is mutually exclusive to the **out** keyword. When the profile in command is executed, all packets associated with the class will be handled as in-profile. Packets explicitly handled as in-profile or out-of-profile still flow through the ingress service queue

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associated with the class to preserve order within flows. In-profile packets will count against the CIR of the queue, diminishing the amount of CIR available to other classes using the queue that are not configured with an explicit profile.

out

The **out** keyword is mutually exclusive to the **in** keyword. When the profile out command is executed, all packets associated with the class will be handled as out-of-profile. Packets explicitly handled as in-profile or out-of-profile still flow through the ingress service queue associated with the class to preserve order within flows. Out-of-profile packets will not count against the CIR of the queue, allowing other classes using the queue that are not configured with an explicit profile to be measured against the full CIR.

Platforms

All

profile

Syntax

profile {**g8265dot1-2010** | **ieee1588-2008** | **g8275dot1-2014** | **g8275dot2-2016**}

Context

[Tree] (config>system>ptp profile)

Full Context

configure system ptp profile

Description

This command configures the profile for the internal PTP clock, which defines the Best timeTransmitter Clock Algorithm (BTCA) behavior.

The profile setting for the clock cannot be changed unless PTP is shutdown.

The **clock-type** is restricted based on the PTP profile setting.

- If the profile is **ieee1588-2008**, the **clock-type** is not restricted.
- If the profile is **g8265dot1-2010**, the **clock type** may only be **ordinary slave** or **ordinary master**; boundary clock is not allowed.
- If the profile is **g8275dot1-2014** or **g8275dot2-2016**, the **clock-type** may only be boundary clock or **ordinary slave**; **ordinary master** is not allowed.

When the profile is changed, the domain changes to the default value for the new profile. Any command parameters that are set to default for the original profile are changed to the default for the new profile. This applies to the following:

- **log-anno-interval** set for the clock
- **log-sync-interval** set for a peer or a port
- **log-delay-interval** set for a port

Non-default parameter values for the original profile remain unchanged.

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Default

profile g8265dot1-2010

Parameters

g8265dot1-2010

Conforms to the ITU-T G.8265.1 specification.

ieee1588-2008

Conforms to the 2008 version of the IEEE1588 standard.

g8275dot1-2014

Conforms to the ITU-T G.8275.1 specification.

g8275dot2-2016

Conforms to the ITU-T G.8275.2 specification.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

profile

Syntax

profile {**g8265dot1-2010** | **g8275dot1-2014** | **g8275dot2-2016** | **ieee1588-2008**}

Context

[Tree] (config>system>ptp>alternate-profile profile)

Full Context

configure system ptp alternate-profile profile

Description

This command configures the standard profile that is used as the basis for the alternate profile.

The profile setting controls the content of PTP messages sent on ports and peers using this alternate profile.

Modification of this setting is allowed only when the alternate profile is shut down.

Default

profile g8275dot1-2014

Parameters

g8265dot1-2010

Keyword to conform to the ITU-T G.8265.1 specification.

g8275dot1-2014

Keyword to conform to the ITU-T G.8275.1 specification.

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g8275dot2-2016

Keyword to conform to the ITU-T G.8275.2 specification.

ieee1588-2008

Keyword to conform to the 2008 version of the IEEE1588 standard.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

profile

Syntax

profile *name* [**create**]

no profile *name*

Context

[Tree] (config>system>network-element-discovery profile)

Full Context

configure system network-element-discovery profile

Description

This command configures a profile to be used by IGP to advertise the network element information to its neighbors.

The **no** form of this command deletes the specified profile.

Parameters

name

Specifies the name of the profile, up to 32 characters.

Platforms

All

profile

Syntax

profile *user-profile-name*

no profile

Context

[Tree] (config>system>security>user-template profile)

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Full Context

configure system security user-template profile

Description

This command configures the command authorization profile to associate with a user template. See the **user-template** command for more details.

Parameters

user-profile-name

The user profile name entered as a character string. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

Platforms

All

profile

Syntax

profile *quality-of-service-profile*

Context

[Tree] (config>test-oam>link-meas>template>twl profile)

Full Context

configure test-oam link-measurement measurement-template twamp-light profile

Description

This command configures the QoS profile. The profile indicator determines if the packet is treated as in or out of profile as it moves through the local node.

Default

profile in

Parameters

quality-of-service-profile

Specifies the QoS profile used when launching the link measurement test belonging to the specified template.

Values in, out

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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profile

Syntax

profile *cert-update-profile*

Context

[Tree] (config>system>security>pki>cert-auto-upd>cert profile)

Full Context

configure system security pki certificate-auto-update cert profile

Description

This command configures a **certificate-update-profile** to reference the update behavior.

Parameters

cert-update-profile

Specifies the certificate profile name, up to 32 characters.

Platforms

All

profile

Syntax

profile *quality-of-service-profile*

Context

[Tree] (config>test-oam>lag-meas>template>twl profile)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light profile

Description

This command configures the QoS profile used to launch each TWAMP Light packet.

Default

profile in

Parameters

quality-of-service-profile

Specifies the QoS profile.

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Values in, out

Default in

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.57 profile-capped

profile-capped

Syntax

[**no**] **profile-capped**

Context

[Tree] (config>qos>sap-ingress>policer profile-capped)

[Tree] (config>qos>qgrps>egr>queue-group profile-capped)

[Tree] (config>qos>sap-egress>policer profile-capped)

[Tree] (config>qos>qgrps>ingress>queue-group profile-capped)

Full Context

configure qos sap-ingress policer profile-capped

configure qos queue-group-templates egress queue-group profile-capped

configure qos sap-egress policer profile-capped

configure qos queue-group-templates ingress queue-group profile-capped

Description

Profile-capped mode enforces an overall in-profile burst limit to the CIR bucket for ingress undefined, ingress explicit in-profile, egress soft-in-profile, and egress explicit in-profile packets. The default behavior when profile-capped mode is not enabled is to ignore the CIR output state when an explicit in-profile packet is handled by an ingress or egress policer.

The profile-capped mode makes two changes:

- At egress, soft-in-profile packets (packets received from ingress as in-profile) are treated the same as explicit in-profile (unless explicitly reclassified as out-of-profile) and have an initial policer state of in-profile.
- At both ingress and egress, any packet output from the policer with a non-conforming CIR state are treated as out-of-profile (out-of-profile state is ignored for initial in-profile packets when profile-capped mode is not enabled).

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Default

no profile-capped

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-egress policer profile-capped
- configure qos sap-ingress policer profile-capped

All

- configure qos queue-group-templates egress queue-group profile-capped
- configure qos queue-group-templates ingress queue-group profile-capped

profile-capped

Syntax

[**no**] **profile-capped**

Context

[Tree] (config>qos>qgrps>egr>qgrp>policer profile-capped)

[Tree] (config>qos>qgrps>ing>qgrp>policer profile-capped)

Full Context

configure qos queue-group-templates egress queue-group policer profile-capped

configure qos queue-group-templates ingress queue-group policer profile-capped

Description

This command enables a limit on the profile.

Default

no profile-capped

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

36.58 profile-out-preserve

profile-out-preserve

Syntax

[**no**] **profile-out-preserve**

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Context

[Tree] (config>qos>sap-egress>policer profile-out-preserve)

Full Context

configure qos sap-egress policer profile-out-preserve

Description

This command specifies whether to preserve the color of offered out-of-profile traffic at sap-egress policer (profile of the packet can change based on egress CIR state).

When enabled, traffic determined as out-of-profile at ingress policer will be treated as out-of-profile at sap-egress policer.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

36.59 profile-preferred

profile-preferred

Syntax

profile-preferred

no profile-preferred

Context

[Tree] (config>qos>plcr-ctrl-plcy>root profile-preferred)

Full Context

configure qos policer-control-policy root profile-preferred

Description

The **profile-preferred** command ensures that the root policer provides a preference to consume its PIR bucket tokens at a given priority level to packets that have their profile state set to in-profile by the output of the child policer CIR bucket.

Default

no profile-preferred

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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36.60 profiled-traffic-only

profiled-traffic-only

Syntax

[**no**] **profiled-traffic-only**

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt>single-sub profiled-traffic-only)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt single-sub-parameters profiled-traffic-only

Description

This command specifies whether only profiled traffic is applicable for an MSAP. When enabled, all queues are deleted.

The **no** form of this command reverts to the default setting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

profiled-traffic-only

Syntax

[**no**] **profiled-traffic-only**

Context

[Tree] (config>service>vpls>sap>sub-sla-mgmt>single-sub-parameters profiled-traffic-only)

[Tree] (config>service>vprn>if>sap>sub-sla-mgmt>single-sub profiled-traffic-only)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt>single-sub profiled-traffic-only)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt>single-sub profiled-traffic-only)

[Tree] (config>service>ies>if>sap>sub-sla-mgmt>single-sub profiled-traffic-only)

Full Context

configure service vpls sap sub-sla-mgmt single-sub-parameters profiled-traffic-only

configure service vprn interface sap sub-sla-mgmt single-sub profiled-traffic-only

configure service ies subscriber-interface group-interface sap sub-sla-mgmt single-sub-parameters profiled-traffic-only

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configure service vprn subscriber-interface group-interface sap sub-sla-mgmt single-sub-parameters profiled-traffic-only

configure service ies interface sap sub-sla-mgmt single-sub profiled-traffic-only

Description

This command specifies whether only profiled traffic is applicable for this SAP. The profiled traffic refers to single subscriber traffic on a dedicated SAP (in the VLAN-per-subscriber model). When enabled, subscriber queues are instantiated through the QOS policy defined in the sla-profile and the associated SAP queues are deleted. This can increase subscriber scaling by reducing the number of queues instantiated per subscriber (in the VLAN-per-subscriber model). In order for this to be achieved, any configured multi-sub-sap limit must be removed (leaving the default of 1).

The **no** form of this command disables the command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.61 progress-indicator

progress-indicator

Syntax

progress-indicator

Context

[Tree] (config>system>management-interface>cli>md-cli>environment progress-indicator)

Full Context

configure system management-interface cli md-cli environment progress-indicator

Description

Commands in this context configure progress indicator parameters.

Platforms

All

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36.62 promiscuous-mode

promiscuous-mode

Syntax

[**no**] **promiscuous-mode**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw promiscuous-mode)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw promiscuous-mode)

Full Context

configure service ies subscriber-interface group-interface wlan-gw promiscuous-mode

configure service vprn subscriber-interface group-interface wlan-gw promiscuous-mode

Description

When promiscuous mode is enabled, the router accepts all traffic, including traffic that is not destined for a WLAN gateway group interface MAC or virtual MAC address for ESM processing.

The **no** form of this command causes the router to only accept traffic that is destined for a WLAN gateway group interface MAC or virtual MAC address for ESM processing.

Default

no promiscuous-mode

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.63 prompt

prompt

Syntax

prompt

Context

[Tree] (config>system>management-interface>cli>md-cli>environment prompt)

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Full Context

configure system management-interface cli md-cli environment prompt

Description

Commands in this context configure prompt parameters.

Platforms

All

36.64 propagate-admin-group

propagate-admin-group

Syntax

[**no**] **propagate-admin-group**

Context

[Tree] (config>router>mpls>lsp-template>fast-reroute propagate-admin-group)

[Tree] (config>router>mpls>lsp>fast-reroute propagate-admin-group)

Full Context

configure router mpls lsp-template fast-reroute propagate-admin-group

configure router mpls lsp fast-reroute propagate-admin-group

Description

The command enables the signaling of the primary LSP path admin-group constraints in the FRR object at the ingress.

When this command is executed, the admin-group constraints configured in the context of the P2P LSP primary path, or the ones configured in the context of the LSP and inherited by the primary path, are copied into the FAST_REROUTE object. The admin-group constraints are copied into the 'include-any' or 'exclude-any' fields.

The ingress LER thus propagates these constraints to the downstream nodes during the signaling of the LSP to allow them to include the admin-group constraints in the selection of the FRR backup LSP for protecting the LSP primary path.

The ingress LER inserts the FAST_REROUTE object by default in a primary LSP path message. If the user disables the object using the following command, the admin-group constraints will not be propagated: **config>router>mpls>no frr-object**.

Note that the same admin-group constraints can be copied into the Session Attribute object. They are intended for the use of an LSR, typically an ABR, to expand the ERO of an inter-area LSP path. They are also used by any LSR node in the path of a CSPF or non-CSPF LSP to check the admin-group constraints against the ERO regardless if the hop is strict or loose. These are governed strictly by the command:

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config>router>mpls>lsp>propagate-admin-group

In other words, the user may decide to copy the primary path admin-group constraints into the FAST_REROUTE object only, or into the Session Attribute object only, or into both. Note, however, that the PLR rules for processing the admin-group constraints can make use of either of the two object admin-group constraints.

This feature is supported with the following LSP types and in both intra-area and inter-area TE where applicable:

- Primary path of a RSVP P2P LSP.
- S2L path of an RSVP P2MP LSP instance
- LSP template for an S2L path of an RSVP P2MP LSP instance.

The **no** form of this command disables the signaling of administrative group constraints in the FRR object.

Default

no propagate-admin-group

Platforms

All

propagate-admin-group

Syntax

[**no**] **propagate-admin-group**

Context

[Tree] (config>router>mpls>lsp-template propagate-admin-group)

[Tree] (config>router>mpls>lsp propagate-admin-group)

Full Context

configure router mpls lsp-template propagate-admin-group

configure router mpls lsp propagate-admin-group

Description

This command enables propagation of session attribute object with resource affinity (C-type 1) in PATH message. If an LSR receives a session attribute with resource affinity, then it will check the compatibility of admin-groups received in PATH message against configured admin-groups on the egress interface of LSP.

To support admin-group for inter-area LSP, the ingress node must configure propagating admin-groups within the session attribute object. If a PATH message is received by an LSR node that has the **cspf-on-loose-hop** option enabled and the message includes admin-groups, then the ERO expansion by CSPF to calculate the path to the next loose hop includes the admin-group constraints received from ingress node.

If this option is disabled, then the session attribute object without resource affinity (C-Type 7) is propagated in PATH message and CSPF at the LSR node does not include admin-group constraints.

This admin group propagation is supported with a P2P LSP, a P2MP LSP instance, and an LSP template.

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The user can change the value of the **propagate-admin-group** option on the fly. A RSVP P2P LSP performs a Make-Before-Break (MBB) on changing the configuration. A S2L path of an RSVP P2MP LSP performs a Break-Before-Make on changing the configuration.

The **no** form of this command reverts to the default value.

Default

no propagate-admin-group

Platforms

All

36.65 propagate-hold-time

propagate-hold-time

Syntax

propagate-hold-time *seconds*

no propagate-hold-time

Context

[Tree] (config>eth-cfm>redundancy>mc-lag propagate-hold-time)

Full Context

configure eth-cfm redundancy mc-lag propagate-hold-time

Description

This command configures the delay, in seconds, that fault propagation is delayed because of port or MC-LAG state changes. This provides the amount of time for system stabilization during a port state changes that may be protected by MC-LAG. This command requires the standby-mep-shutdown command in order to take effect.

The **no** form of the command reverts to the default.

Default

propagate-hold-time 1

Parameters

seconds

Specifies the amount of time in seconds. Zero means no delay.

Values 0 to 60

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.66 propagate-mac-flush

propagate-mac-flush

Syntax

[**no**] **propagate-mac-flush**

Context

[Tree] (config>service>vpls propagate-mac-flush)

Full Context

configure service vpls propagate-mac-flush

Description

This command enabled propagation of mac-flush messages received from the specified T-LDP on all spoke and mesh-SDPs within the context of the VPLS service. The propagation will follow split-horizon principles and any data-path blocking in order to avoid looping of these messages.

Default

no propagate-mac-flush

Platforms

All

36.67 propagate-mac-flush-from-bvpls

propagate-mac-flush-from-bvpls

Syntax

[**no**] **propagate-mac-flush-from-bvpls**

Context

[Tree] (config>service>vpls>pbb propagate-mac-flush-from-bvpls)

Full Context

configure service vpls pbb propagate-mac-flush-from-bvpls

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Description

This command enables the propagation in the local PBB of any regular LDP MAC Flush received in the related B-VPLS. If an LDP MAC flush-all-but-mine is received in the B-VPLS context, the command controls also whether a flush is performed for all the customer MACs in the associated FDB. The command does not have any effect on a PBB MAC Flush (LDP MAC flush with PBB TLV) received in the related B-VPLS context.

The **no** form of this command disables the propagation of LDP MAC Flush i from the related B-VPLS.

Default

no propagate-mac-flush-from-bvpls

Platforms

All

36.68 propagate-metric

propagate-metric

Syntax

[**no**] **propagate-metric**

Context

[Tree] (config>service>vprn>rip propagate-metric)

Full Context

configure service vprn rip propagate-metric

Description

This command enables the BGP MED to be used to configure the RIP metric at the BGP to RIP transition on egress routers. BGP always configures the BGP MED to the RIP metric at the ingress router. When **propagate-metric** is configured, the RIP metric at egress routers is configured as the BGP MED attribute added to the optional value configured with the **metric-out** command.

The **no** version of this command sets the RIP metric to the optional value configured with the **metric-out** command plus 1.

Default

no propagate-metric

Platforms

All

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36.69 propagate-pmtu-v4

propagate-pmtu-v4

Syntax

[**no**] **propagate-pmtu-v4**

Context

[Tree] (config>ipsec>tnl-temp propagate-pmtu-v4)

[Tree] (config>router>if>ipsec>ipsec-tunnel propagate-pmtu-v4)

[Tree] (config>service>ies>if>sap>ip-tunnel propagate-pmtu-v4)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel propagate-pmtu-v4)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel propagate-pmtu-v4)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel propagate-pmtu-v4)

[Tree] (config>service>vprn>if>sap>ip-tunnel propagate-pmtu-v4)

Full Context

configure ipsec tunnel-template propagate-pmtu-v4

configure router interface ipsec ipsec-tunnel propagate-pmtu-v4

configure service ies interface sap ip-tunnel propagate-pmtu-v4

configure service vprn interface sap ipsec-tunnel propagate-pmtu-v4

configure service vprn interface ipsec ipsec-tunnel propagate-pmtu-v4

configure service ies interface ipsec ipsec-tunnel propagate-pmtu-v4

configure service vprn interface sap ip-tunnel propagate-pmtu-v4

Description

This command enables the system to propagate the path MTU learned from public side to private side (IPv4 hosts).

The **no** form of this command prevents the learned path MTU propagation.

Default

propagate-pmtu-v4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel propagate-pmtu-v4
- configure ipsec tunnel-template propagate-pmtu-v4
- configure service vprn interface sap ip-tunnel propagate-pmtu-v4

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- configure service ies interface sap ip-tunnel propagate-pmtu-v4

VSR

- configure service vprn interface ipsec ipsec-tunnel propagate-pmtu-v4
- configure service ies interface ipsec ipsec-tunnel propagate-pmtu-v4
- configure router interface ipsec ipsec-tunnel propagate-pmtu-v4

36.70 propagate-pmtu-v6

propagate-pmtu-v6

Syntax

[**no**] **propagate-pmtu-v6**

Context

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel propagate-pmtu-v6)

[Tree] (config>service>vprn>if>sap>ip-tunnel propagate-pmtu-v6)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel propagate-pmtu-v6)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel propagate-pmtu-v6)

[Tree] (config>service>ies>if>sap>ip-tunnel propagate-pmtu-v6)

[Tree] (config>router>if>ipsec>ipsec-tunnel propagate-pmtu-v6)

[Tree] (config>ipsec>tnl-temp propagate-pmtu-v6)

Full Context

configure service ies interface ipsec ipsec-tunnel propagate-pmtu-v6

configure service vprn interface sap ip-tunnel propagate-pmtu-v6

configure service vprn interface sap ipsec-tunnel propagate-pmtu-v6

configure service vprn interface ipsec ipsec-tunnel propagate-pmtu-v6

configure service ies interface sap ip-tunnel propagate-pmtu-v6

configure router interface ipsec ipsec-tunnel propagate-pmtu-v6

configure ipsec tunnel-template propagate-pmtu-v6

Description

This command enables the system to propagate the path MTU learned from public side to private side (IPv6 hosts).

The **no** form of this command prevents the learned path MTU propagation.

Default

propagate-pmtu-v6

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Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel propagate-pmtu-v6
- configure service vprn interface ipsec ipsec-tunnel propagate-pmtu-v6
- configure router interface ipsec ipsec-tunnel propagate-pmtu-v6

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ip-tunnel propagate-pmtu-v6
- configure service vprn interface sap ip-tunnel propagate-pmtu-v6
- configure ipsec tunnel-template propagate-pmtu-v6
- configure service vprn interface sap ipsec-tunnel propagate-pmtu-v6

36.71 propagate-topology-change

propagate-topology-change

Syntax

[**no**] **propagate-topology-change**

Context

[Tree] (config>eth-ring>sub-ring>interconnect propagate-topology-change)

Full Context

configure eth-ring sub-ring interconnect propagate-topology-change

Description

This command configures the G.8032 sub-ring to propagate topology changes. From the sub-ring to the major ring as specified in the G.8032 interconnection flush logic. This command is only valid on the sub-ring and on the interconnection node. Since this command is only valid on a Sub-ring, a virtual link or non-virtual link must be specified to configure this command. The command is blocked on major rings (when both path a and b are specified on a ring).

The **no** form of this command reverts propagate to the default value.

Default

no propagate-topology-change

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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36.72 protect-nexthop-id

protect-nexthop-id

Syntax

protect-nexthop-id *next-hop-index*

no protect-nexthop-id

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls>downstream-nodes protect-nexthop-id)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls downstream-nodes protect-nexthop-id

Description

This command provides the ID of the protection next hop used for FRR.

The protection next hop outgoing SID is pushed on top of the next hop SID list.

The **no** form of this command removes the protection next hop.

Default

no protect-nexthop-id

Parameters

next-hop-index

Specifies the ID of the protection next hop.

Values 1 to 4096

Platforms

All

36.73 protect-tp-path

protect-tp-path

Syntax

[**no**] **protect-tp-path**

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Context

[Tree] (config>router>mpls>lsp protect-tp-path)

Full Context

configure router mpls lsp protect-tp-path

Description

This command creates or edits the protect path for an MPLS-TP LSP. At least one working path must exist before a protect path can be created for an MPLS-TP LSP. If MPLS-TP linear protection is also configured, then this is the path that is used as the default protect path for the LSP. The protect path must be deleted before the working path. Only one protect path can be created for each MPLS-TP LSP.

The following commands are applicable to the working-tp-path: **lsp-num, in-label, out-label, mep, shutdown**.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.74 protection

protection

Syntax

protection none

protection hmac-sha256 key *key* [**hash** | **hash2** | **custom**]

no protection

Context

[Tree] (config>python>py-script protection)

Full Context

configure python python-script protection

Description

This command specifies the format of the Python script file(s) in this python-script. Unintentional changing of Python script file could be prevented by using protected format.

The **no** form of this command equals to **protection none**.

Parameters

none

Indicates the Python script is stored in plain text, without any mechanism in place to ensure the integrity nor the confidentiality of the content of the Python script.

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hmac-sha256

Indicates the first line of the Python script must consist of the hash value obtained by hashing the rest of the Python script using the **hmac-sha256** hashing algorithm.

key

The specified key along with original Python script file content are used to compute the hash. The computed hash will be compared to the hash in the Python script file. If there is no match, then system will fail to load the script.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the key entered is a customized hashing scheme.

Platforms

All

protection

Syntax

protection *protection*

no protection

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func>ua protection)

[Tree] (config>router>segment-routing>srv6>inst>loc>func>end-x protection)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function ua protection

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-x protection

Description

This command configures the protection type of the SID.

The **no** form of this command reverts to the default value of **protected**.

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Default

protection protected

Parameters

protection

Specifies whether the adjacency SID is protected.

Values protected, unprotected

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

36.75 protection-template

protection-template

Syntax

protection-template *name*

no protection-template

Context

[Tree] (config>router>mpls>mpls-tp protection-template)

Full Context

configure router mpls mpls-tp protection-template

Description

Protection templates are used to define generally applicable protection parameters for MPLS-TP tunnels. Only linear protection is supported, and so the application of a named template to an MPLS-TP LSP implies that linear protection is used. A protection template is applied under the MEP context of the protect-path of an MPLS-TP LSP.

The protection-template command creates or edits a named protection template.

Default

no protection-template

Parameters

name

Specifies the protection template name as a text string of up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

protection-template

Syntax

protection-template *name*

no protection-template

Context

[Tree] (config>router>mpls>lsp>protect-tp-path>mep protection-template)

Full Context

configure router mpls lsp protect-tp-path mep protection-template

Description

This command applies a protection template name to an MPLS-TP LSP that the protect path is configured under. If the template is applied, then MPLS-TP 1:1 linear protection is enabled on the LSP, using the parameters specified in the named template.

A named protection template can only be applied to the protect path context of an MPLS-TP LSP.

The no form of this command removes the template and thus disables mpls-tp linear protection on the LSP.

Default

no protection-template

Parameters

name

Specifies at text string for the template up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.76 protection-type

protection-type

Syntax

protection-type {**g8031-1to1** | **loadsharing**}

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Context

[Tree] (config>eth-tunnel protection-type)

Full Context

configure eth-tunnel protection-type

Description

This command configures the model used for determining which members are actively receiving and transmitting data.

When the value is set to "g8031-1to1 (1)", as per the G.8031 specification, only two members are allowed, and only one of them can be active at one point in time.

When the value is set to "loadsharing (2)", multiple members can be active at one point in time.

Default

protection-type g8031-1to1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

protection-type

Syntax

protection-type {**link** | **node**}

no protection-type

Context

[Tree] (config>router>route-next-hop-policy>template protection-type)

Full Context

configure router route-next-hop-policy template protection-type

Description

This command configures the protection type constraint into the route next-hop policy template.

The user can select if link protection or node protection is preferred in the selection of an LFA next-hop for all IP prefixes and LDP FEC prefixes to which a route next-hop policy template is applied. The default in SR OS implementation is node protection. The implementation will fall back to the other type if no LFA next-hop of the preferred type is found.

When the route next-hop policy template is applied to an IP interface, all prefixes using this interface as a primary next-hop will follow the protection type preference specified in the template.

The **no** form deletes the protection type constraint from the route next-hop policy template.

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Default

protection-type node

Parameters

{link | node}

Specifies the two possible values for the protection type.

Default node

Platforms

All

36.77 proto-version

proto-version

Syntax

proto-version {v070 | latest}

Context

[Tree] (config>system>grpc>gnmi proto-version)

Full Context

configure system grpc gnmi proto-version

Description

This command sets the gnmi.proto version that the GRPC server should use for all gNMI RPCs.

Default

proto-version latest

Parameters

v070

Specifies to use v0.7.0 for gNMI RPCs. Only use this option for backward compatibility with legacy collectors.

latest

Specifies to use the latest gnmi.proto version for gNMI RPCs. The latest version is v0.8.0.

Platforms

All

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36.78 protocol

protocol

Syntax

protocol *protocol* **profile-name** *profile-name*

Context

[Tree] (config>system>security>pki>cert-upd-prof protocol)

Full Context

configure system security pki certificate-update-profile protocol

Description

This command configures the protocol to update the certificate.

Default

protocol cmpv2

Parameters

protocol

Specifies the protocol type.

Values cmpv2, est

profile-name

Specifies the name of the CA or EST profile to be used for the certificate update.

Platforms

All

protocol

Syntax

protocol *protocol-id*

no protocol

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>match protocol)

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Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry match protocol

Description

This command configures the protocol ID to be matched in this entry of the VAS filter.

The **no** form of this command removes the protocol ID from the match criterium in the entry.

Parameters

protocol-id

Specifies the protocol to match.

Values protocol-id: *protocol-number* | *protocol-name*
protocol-number: 1, 6, 17]D
[0x1,0x6,0x11]H [0b1,0b110,0b10001]B
protocol-name: none, icmp, tcp, udp
* udp/tcp wildcard

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

protocol

Syntax

protocol *protocol-name*

Context

[Tree] (config>app-assure protocol)

Full Context

configure application-assurance protocol

Description

This command configures the shutdown of protocols system-wide.

Parameters

protocol-name

A string of up to 32 characters identifying a predefined protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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protocol

Syntax

protocol {**eq** | **neq**} *protocol-name*

no protocol

Context

[Tree] (config>app-assure>group>policy>app-filter>entry protocol)

Full Context

configure application-assurance group policy app-filter entry protocol

Description

This command configures protocol signature in the application definition.

The **no** form of this command restores the default (removes protocol from match application defined by this app-filter entry).

Default

no protocol

Parameters

eq

Specifies that the value configured and the value in the flow are equal.

neq

Specifies that the value configured differs from the value in the flow.

protocol-name

A string of up to 32 characters identifying a predefined protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

protocol

Syntax

protocol *protocol-name* **export-using** *export-method*

no protocol *protocol-name*

Context

[Tree] (config>app-assure>group>statistics>aa-sub protocol)

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Full Context

configure application-assurance group statistics aa-sub protocol

Description

This command configures aa-sub accounting statistics for export of protocols of a given AA ISA group/partition.

The no form of this command removes the protocol name.

Parameters

protocol-name

Specifies an existing protocol name up to 32 characters in length.

export-using *export-method*

Specifies that the method of stats export to be used. Accounting-policy is the only option for protocol statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

protocol

Syntax

protocol

Context

[Tree] (config>app-assure>group>statistics protocol)

Full Context

configure application-assurance group statistics protocol

Description

Commands in this context configure accounting and statistics collection parameters per-system for protocols of application assurance for a given AA ISA group/partition.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

protocol

Syntax

protocol *ipsec-protocol*

no protocol

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Context

[Tree] (config>ipsec>static-sa protocol)

Full Context

configure ipsec static-sa protocol

Description

This command configures the security protocol to use for an IPsec manual SA. The **no** statement resets to the default value.

Default

protocol esp

Parameters

ipsec-protocol

Identifies the IPsec protocol used with this static SA.

Values **ah** — Specifies the Authentication Header protocol.**esp** — Specifies the Encapsulation Security Payload protocol.

Platforms

All

protocol

Syntax

protocol any

protocol *protocol-id* **port opaque**

protocol *protocol-id* **port any**

protocol *protocol-id* **port from** *begin-port-id* **to** *end-port-id*

no protocol

Context

[Tree] (config>ipsec>ts-list>remote>entry protocol)

[Tree] (config>ipsec>ts-list>local>entry protocol)

Full Context

configure ipsec ts-list remote entry protocol

configure ipsec ts-list local entry protocol

Description

This command specifies the protocol and port range in the IKEv2 traffic selector.

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The SR OS supports OPAQUE ports and port ranges for the following protocols:

- TCP
- UDP
- SCTP
- ICMP
- ICMPv6
- MIPv6

For ICMP and ICMPv6, the *port* value takes the form *icmp-type*/*icmp-code*. For MIPv6, the *port* value is the mobility header type. For other protocols, only the **port any** configuration can be used.

Default

no protocol

Parameters

protocol-id

Specifies the protocol ID. The value can be a number, a protocol name, or **any**.

begin-port-id

Specifies the beginning of the port range.

Values For TCP, UDP, and SCTP, the value is the port number.

For ICMP and ICMPv6, the value takes the form *icmp-type*/*icmp-code*; for example, 0/0.

For MIPv6, the value is the mobility header type.

end-port-id

Specifies the end of the port range

Values For TCP, UDP, and SCTP, the value is the port number.

For ICMP and ICMPv6, the value takes the form *icmp-type*/*icmp-code*; for example, 0/0.

For MIPv6, the value is the mobility header type.

opaque

Specifies OPAQUE ports.

any

Specifies any port.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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protocol

Syntax

[**no**] **protocol** {*number* | **any**}

Context

[Tree] (config>service>nat>firewall-policy>unknown-protocols protocol)

Full Context

configure service nat firewall-policy unknown-protocols protocol

Description

This command configures the protocol numbers that are allowed to create unknown flows.

Protocol or IPv6 extension header values that are explicitly supported by SR OS can be configured but will not be treated as unknown protocols.

The **no** form of the command removes the allowance for the specified protocol to create unknown flows.

Parameters

any

Specifies that unknown flows can be created by any protocol.

number

Specifies the IANA number of a protocol that needs to be allowed to create unknown flows.

Values 0 to 255

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

protocol

Syntax

[**no**] **protocol** *protocol-id*

Context

[Tree] (config>filter>match-list>protocol-list protocol)

Full Context

configure filter match-list protocol-list protocol

Description

This command adds a protocol to the match protocol list.

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The **no** form of this command removes the protocol from the **protocol-list**.

Parameters

protocol-id

protocol-number, *protocol-name*

protocol-number

Specifies the protocol number value to be added or removed from the protocol list. The value can be expressed as a decimal integer, or in hexadecimal or binary format.

Values [0 to 255]D

[0x0 to 0xFF]H

[0b0 to 0b11111111]B

protocol-name

Specifies the protocol name to be added or removed from the protocol list.

Values icmp, igmp, ip, tcp, egp, igp, udp, rdp, ipv6, ipv6-route, ipv6-frag, idrp, rsvp, gre, ipv6-icmp, ipv6-no-nxt, ipv6-opts, iso-ip, eigrp, ospf-igp, ether-ip, encap, pnni, pim, vrrp, l2tp, stp, ptp, isis, crtp, crudp, sctp.

Platforms

All

protocol

Syntax

protocol *protocol*

no protocol [*protocol*]

Context

[Tree] (config>vrrp>policy>priority-event>route-unknown protocol)

Full Context

configure vrrp policy priority-event route-unknown protocol

Description

This command adds one or more route sources to match the route unknown IP route prefix for a route unknown priority control event.

If the route source does not match one of the defined protocols, the match is considered unsuccessful and the **route-unknown** event transitions to the set state.

The **protocol** command is optional. If the **protocol** command is not executed, the comparison between the RTM prefix return and the **route-unknown** IP route prefix will not include the source of the prefix. The **protocol** command cannot be executed without at least one associated route source parameter.

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All parameters are reset each time the **protocol** command is executed and only the explicitly defined protocols are allowed to match.

The **no** form of the command removes protocol route source as a match criteria for returned RTM route prefixes.

To remove specific existing route source match criteria, execute the **protocol** command and include only the specific route source criteria. Any unspecified route source criteria is removed.

Default

no protocol — No route source for the route unknown priority event is defined.

Parameters

protocol

Explicitly defined protocols

Values **bgp** - This parameter defines BGP as an eligible route source for a returned route prefix from the RTM when looking up the **route-unknown** route prefix. The **bgp** parameter is not exclusive from the other available **protocol** parameters. If **protocol** is executed without the **bgp** parameter, a returned route prefix with a source of BGP will not be considered a match and will cause the event to enter the set state. This parameter only applies to the 7750 SR and 7950 XRS.

bgp-vpn - This parameter defines **bgp-vpn** as an eligible route source for a returned route prefix from the RTM when looking up the **route-unknown** route prefix. The **bgp-vpn** parameter is not exclusive from the other available **protocol** parameters. If **protocol** is executed without the **bgp-vpn** parameter, a returned route prefix with a source of **bgp-vpn** will not be considered a match and will cause the event to enter the set state. This parameter only applies to the 7750 SR and 7950 XRS.

ospf - This parameter defines OSPF as an eligible route source for a returned route prefix from the RTM when looking up the **route-unknown** route prefix. The **ospf** parameter is not exclusive from the other available **protocol** parameters. If **protocol** is executed without the **ospf** parameter, a returned route prefix with a source of OSPF will not be considered a match and will cause the event to enter the set state.

is-is - This parameter defines IS-IS as an eligible route source for a returned route prefix from the RTM when looking up the **route-unknown** route prefix. The **is-is** parameter is not exclusive from the other available **protocol** parameters. If **protocol** is executed without the **is-is** parameter, a returned route prefix with a source of IS-IS will not be considered a match and will cause the event to enter the set state.

rip - This parameter defines RIP as an eligible route source for a returned route prefix from the RTM when looking up the **route-unknown** route prefix. The **rip** parameter is not exclusive from the other available **protocol** parameters. If **protocol** is executed without

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the **rip** parameter, a returned route prefix with a source of RIP will not be considered a match and will cause the event to enter the set state.

static - This parameter defines a static route as an eligible route source for a returned route prefix from the RTM when looking up the **route-unknown** route prefix. The **static** parameter is not exclusive from the other available **protocol** parameters. If **protocol** is executed without the **static** parameter, a returned route prefix with a source of static route will not be considered a match and will cause the event to enter the set state.

Platforms

All

protocol

Syntax

protocol *protocol-id*

no protocol

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry protocol)

Full Context

configure system security management-access-filter ip-filter entry protocol

Description

This command configures an IP protocol type to be used as a management access filter match criterion.

The protocol type, such as TCP, UDP, and OSPF, is identified by its respective protocol number. Well-known protocol numbers include ICMP (1), TCP (6), and UDP (17).

The **no** form the command removes the protocol from the match criteria.

Parameters

protocol

Specifies the protocol number for the match criterion.

Values 1 to 255 (decimal)

Platforms

All

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protocol

Syntax

[**no**] **protocol** *name* [**create**]

Context

[Tree] (config>sys>security>dist-cpu-protection>policy protocol)

Full Context

configure system security dist-cpu-protection policy protocol

Description

This command creates the control protocol for the policy.

The **no** form of this command means packets of the specified protocol are not monitored or enforced (although they count in the FP protocol queue) on the objects to which this DCP policy is assigned. The packets are treated as part of the **all-unspecified** protocol if the protocol is created in the policy.

Parameters

names

Signifies the protocol name.

The following explanatory notes for specific protocols apply:

- bfd-cpm - includes all BFD handled on the CPM, including the cpm-np type, single hop and multi hop, and MPLS-TP CC and CV BFD
- dhcp - includes DHCP for IPv4 and IPv6
- eth-cfm - 802.1ag and includes Y.1731. ETH-CFM packets on port and LAG-based facility MEPs are not included (but packets on tunnel MEPs are)
- icmp - includes IPv4 and IPv6 ICMP (including RS/RA/Redirect), except NS/NA Neighbor Discovery packets that are classified as a separate NDIS protocol
- icmp-ping-check - includes packets associated with ping-template functions
- isis - includes IS-IS used for SPBM
- ldp - includes LDP and T-LDP
- mpls-ttl - includes MPLS packets that are extracted because of an expired MPLS-TTL field
- ndis - includes IPv6 NS/NA Neighbor Discovery (not including RS/RA/Redirect which are classified as part of the ICMP protocol)
- ospf - includes all OSPFv2 and OSPFv3 packets
- pppoe-pppoa - includes PADx, LCP, PAP/CHAP, and NCPs
- ssh - includes TCP port 22 or a user-configured SSH server port
- vrrp - includes VRRP and SRRP packets
- multi-chassis - includes SR OS Multi-Chassis UDP port 1025 packets

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- multi-chassis-sync - includes SR OS Multi-Chassis Sync TCP port 45067 packets
- all-unspecified - a special aggregate entry for protocols that are not explicitly specified. When configured, this option treats all extracted control packets that are not explicitly configured in the DCP policy as a single aggregate flow (or virtual protocol). It lumps together remaining control traffic to allow it to be rate limited as one flow. It includes all control traffic of all protocols that are extracted and sent to the CPM (including protocols that cannot be explicitly configured with the distributed CPU protection feature). Control packets that are both forwarded and copied for extraction are not included. If a user later explicitly configures a protocol, that protocol is suddenly no longer part of the **all-unspecified** flow. This protocol must be explicitly configured to operate.

  Values all-unspecified, arp, bfd-cpm, bgp, dhcp, eth-cfm, http-redirect, icmp, icmp-ping-check, igmp, isis, ldp, mld, mpls-ttl, multi-chassis, multi-chassis-sync, ndis, ospf, pim, pppoe-pppoa, radius, rsvp, ssh, vrrp

create

Mandatory keyword to create the protocol.

Platforms

All

protocol

Syntax

protocol *protocol* [**all** | { **instance** *instance*}]

protocol *protocol2* [*protocol2* (up to 5 max)]

no protocol

Context

[Tree] (config>router>policy-options>policy-statement>entry>from protocol)

Full Context

configure router policy-options policy-statement entry from protocol

Description

This command configures a routing protocol as a match criterion for a route policy statement entry. This command is used for both import and export policies depending how it is used.

The **protocol direct-interface** route type matches the specific direct interface host IPv4 /32 and IPv6 /128 routes. The **protocol direct** route type matches direct routes and does not match the specific /32 or /128 interface route itself.

Note:
The **instance** command cannot be used if multiple protocol names are specified for the *protocol2* parameter.

The **no** form of this command removes the protocol match criterion.

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Default

no protocol

Parameters

protocol

Specifies the protocol name for the match criterion.

Values direct, static, bgp, isis, ospf, rip, aggregate, bgp-vpn, igmp, pim, ospf3, ldp, sub-mgmt, mld, managed, vpn-leak, nat, periodic, ipsec, dhcpv6-pd, dhcpv6-na, dhcpv6-ta, dhcpv6-pd-excl, ripng, bgp-label, direct-interface, arp-nd, rib-api, evpn-ifl, evpn-iff, srv6

instance

Specifies the OSPF, OSPFv3, or IS-IS protocol instance.

Values isis-inst — 0 to 127

ospf-inst — 0 to 31

ospf3-inst — 0 to 31, 64 to 95

protocol2

Specifies up to five protocol names to match on.

Values direct, static, isis, aggregate, bgp, bgp-label, direct-interface

all

Keyword that specifies to match on any OSPF, OSPFv3, or IS-IS protocol instance.

Platforms

All

protocol

Syntax

protocol *protocol* [**all** | **instance** *instance*]

protocol bgp bgp-label

no protocol

Context

[Tree] (config>router>policy-options>policy-statement>entry>to protocol)

Full Context

configure router policy-options policy-statement entry to protocol

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Description

This command configures a routing protocol as a match criterion for a route policy statement entry. This command is used for both import and export policies depending how it is used.

The **no** form of this command removes the protocol match criterion.

Default

no protocol

Parameters

protocol

Specifies the protocol name to match on.

Values bgp, isis, ospf, rip, bgp-vpn, ospf3, vpn-leak, ldp, ripng, bgp-label

instance

Specifies the OSPF, OSPFv3, or IS-IS instance.

Values isis-inst — 0 to 127
ospf-inst — 0 to 31
ospf3-inst — 0 to 31, 64 to 95

all

Keyword that specifies to match on any OSPF, OSPFv3, or IS-IS protocol instance.

Platforms

All

protocol

Syntax

protocol *protocol*

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp>peer-tnl-attrs protocol)

Full Context

configure anysec mpls tunnel-encryption encryption-group peer-tunnel-attributes protocol

Description

This command configures a routing protocol as a match criterion for the outgoing tunnel.

Note: Because the LSP is unidirectional, the incoming tunnel protocol may be different from the outgoing tunnel protocol.

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Default

protocol sr-isis

Parameters

protocol

Specifies the protocol name.

Values sr-isis, sr-ospf, sr-ospf3

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

protocol

Syntax

protocol *protocol*

Context

[Tree] (config>anysec>mpls>sec-term-pols>policy protocol)

Full Context

configure anysec mpls security-termination-policies policy protocol

Description

This command configures a routing protocol that is used to advertise the node SID of the incoming tunnel.

Default

protocol sr-isis

Parameters

protocol

Specifies the protocol name to match on.

Values sr-isis, sr-ospf, sr-ospf3

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

protocol

Syntax

protocol [**standard** [**lls-restart-signaling**]

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no protocol

Context

[Tree] (config>service>vprn>ospf>graceful-restart protocol)

[Tree] (config>router>ospf>graceful-restart protocol)

Full Context

configure service vprn ospf graceful-restart protocol

configure router ospf graceful-restart protocol

Description

This command configures the Graceful Restart protocol to use for OSPF graceful restart signaling. If both protocols are enabled, the OSPF interface automatically uses the method indicated by the first received graceful restart signaling packet on that interface

The **no** form of this command removes the configured signaling method, and reverts to default behavior.

Default

no protocol

Parameters

standard

Keyword that enables support for RFC 3623.

lls-restart-signaling

Keyword that enables support for RFC 4811 and RFC 4812.

Platforms

All

36.79 protocol-configuration-options

protocol-configuration-options

Syntax

protocol-configuration-options {**apco** | **pco**}

no protocol-configuration-options

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile protocol-configuration-options)

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Full Context

configure subscriber-mgmt gtp peer-profile protocol-configuration-options

Description

This command configures the Information Element to use for the Protocol Configuration Options.

The **no** form of this command reverts to the default value.

Default

protocol-configuration-options pco

Parameters

apco

Specifies that the system uses the Protocol Configuration Options Information Element.

pco

Specifies that the system uses the Additional Protocol Configuration Options Information Element.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.80 protocol-list

protocol-list

Syntax

protocol-list *protocol-list-name* [**create**]

no protocol-list *protocol-list-name*

Context

[Tree] (config>filter>match-list protocol-list)

Full Context

configure filter match-list protocol-list

Description

This command creates a list of IP protocols that can be used in line card IP and IPv6 filters.

The **no** form of this command removes the IP protocol list.

Default

no protocol-list

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Parameters

protocol-list-name

Specifies the name of the protocol list.

create

This keyword is required to create the protocol list. After it is created, the protocol list can be enabled with or without the **create** keyword.

Platforms

All

36.81 protocol-port

protocol-port

Syntax

[**no**] **protocol-port**

Context

[Tree] (config>cflowd>collector>aggregation protocol-port)

Full Context

configure cflowd collector aggregation protocol-port

Description

This command specifies that flows be aggregated based on the IP protocol, source port number, and destination port number.

The **no** form of this command removes this type of aggregation from the collector configuration.

Platforms

All

36.82 protocol-protection

protocol-protection

Syntax

protocol-protection [**allow-sham-links**] [**block-pim-tunneled**]

no protocol-protection

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Context

[Tree] (config>sys>security>cpu-protection protocol-protection)

Full Context

configure system security cpu-protection protocol-protection

Description

This command causes the network processor on the CPM to discard all packets received for protocols that are not configured on the particular interface. This helps mitigate DoS attacks by filtering invalid control traffic before it hits the CPU. For example, if an interface does not have IS-IS configured, then protocol protection will discard any IS-IS packets received on that interface.

Default

no protocol-protection

Parameters

allow-sham-links

Allows sham links. As OSPF sham links form an adjacency over the MPLS-VPRN backbone network, when protocol-protection is enabled, the tunneled OSPF packets to be received over the backbone network must be explicitly allowed.

block-pim-tunneled

Blocks extraction and processing of PIM packets arriving at the SR OS node inside a tunnel (for example, MPLS or GRE) on a network interface. With protocol-protection enabled and tunneled pim blocked, PIM in an mVPN on the egress DR will not switch traffic from the (*,G) to the (S,G) tree.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

36.83 protocol-version

protocol-version

Syntax

protocol-version *TLS version*

no protocol-version

Context

[Tree] (config>system>security>tls>client-tls-profile protocol-version)

Full Context

configure system security tls client-tls-profile protocol-version

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Description

This command configures the TLS version to be negotiated between the client and server.

When configured, the client adds the specified version as a supported version in its Hello message to the server. If **tls-version-all** is specified, the client adds both TLS 1.2 and TLS 1.3 as supported versions in its Hello message.

The **no** form of this command reverts to the default TLS version.

Default

protocol-version tls-version12

Parameters

TLS version

Specifies the TLS version to include in the client Hello message.

Values tls-version12, tls-version13, tls-version-all

Platforms

All

protocol-version

Syntax

protocol-version *TLS version*

no protocol-version

Context

[Tree] (config>system>security>tls>server-tls-profile protocol-version)

Full Context

configure system security tls server-tls-profile protocol-version

Description

This command configures the TLS version to be negotiated between the server and client.

When configured, the server adds the specified version as a supported version in its Hello message to the client. If **tls-version-all** is specified, the server adds both TLS 1.2 and TLS 1.3 as supported versions in its Hello message.

The **no** form of this command reverts to the default TLS version.

Default

protocol-version tls-version12

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Parameters

TLS version

Specifies the TLS version to include in the server Hello message.

Values tls-version12, tls-version13, tls-version-all

Platforms

All

36.84 provider-tunnel

provider-tunnel

Syntax

[**no**] **provider-tunnel**

Context

[Tree] (config>service>vpls provider-tunnel)

Full Context

configure service vpls provider-tunnel

Description

Commands in this context configure the use of a P2MP LSP to forward Broadcast, Unknown unicast, and Multicast (BUM) packets of a VPLS or B-VPLS instance. The P2MP LSP is referred to as the Provider Multicast Service Interface (PMSI).

Platforms

All

provider-tunnel

Syntax

provider-tunnel

Context

[Tree] (config>service>vprn>mvpn provider-tunnel)

Full Context

configure service vprn mvpn provider-tunnel

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Description
This command enables context to configure tunnel parameters for the MVPN.

Platforms
All

provider-tunnel

Syntax
provider-tunnel

Context
[Tree] (config>router>gtm provider-tunnel)

Full Context
configure router gtm provider-tunnel

Description
This command enables context to configure tunnel parameters for the GTM.

Platforms
All

36.85 proxy-arp

proxy-arp

Syntax
[**no**] **proxy-arp**

Context
[Tree] (config>service>vpls proxy-arp)

Full Context
configure service vpls proxy-arp

Description
Commands in this context configure the proxy-ARP parameters in a VPLS service.

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Default

no proxy-arp

Platforms

All

proxy-arp

Syntax

[**no**] **proxy-arp** [**mac** [*ieee-address*]] [**ip** [*ipaddr*] **all**]]

Context

[Tree] (debug>service>id proxy-arp)

Full Context

debug service id proxy-arp

Description

This command enables the debug of the proxy-arp function for a specified service. Alternatively, the debug can be enabled only for certain entries given by their IP or MAC addresses.

Platforms

All

36.86 proxy-arp-nd

proxy-arp-nd

Syntax

proxy-arp-nd

Context

[Tree] (config>service proxy-arp-nd)

Full Context

configure service proxy-arp-nd

Description

Commands in this context configure the service-level **proxy-arp-nd** commands.

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Platforms

All

36.87 proxy-arp-policy

proxy-arp-policy

Syntax

[**no**] **proxy-arp-policy** *policy-name* [*policy-name*]

Context

[Tree] (config>service>vprn>if proxy-arp-policy)

[Tree] (config>service>ies>if proxy-arp-policy)

[Tree] (config>service>ies>sub-if>grp-if proxy-arp-policy)

[Tree] (config>service>vprn>sub-if>grp-if proxy-arp-policy)

Full Context

configure service vprn interface proxy-arp-policy

configure service ies interface proxy-arp-policy

configure service ies subscriber-interface group-interface proxy-arp-policy

configure service vprn subscriber-interface group-interface proxy-arp-policy

Description

This command specifies an existing policy-statement to analyze match and action criteria that controls the flow of routing information to and from a given protocol, set of protocols, or a neighbor.

The **no** form of this command disables the proxy ARP capability.

Parameters

policy-name

Specifies the export route policy name. Allowed values are any string, up to 32 characters, composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified name must already be defined.

Platforms

All

- configure service vprn interface proxy-arp-policy
- configure service ies interface proxy-arp-policy

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7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface proxy-arp-policy
- configure service ies subscriber-interface group-interface proxy-arp-policy

proxy-arp-policy

Syntax

proxy-arp-policy *policy-name* [*policy-name*]

no proxy-arp-policy

Context

[Tree] (config>subscr-mgmt>git>ipv4 proxy-arp-policy)

Full Context

configure subscriber-mgmt group-interface-template ipv4 proxy-arp-policy

Description

This command configures a proxy ARP policy for the interface.

The **no** form of this command disables the proxy ARP capability.

Default

no proxy-arp-policy

Parameters

policy-name

Specifies the export route policy name. Allowed values are any string, up to 32 characters, composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. A maximum of five policy names can be specified.

Note:
The specified policy name must already be defined.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

proxy-arp-policy

Syntax

proxy-arp-policy *policy-name* [*policy-name*]

no proxy-arp-policy

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Context

[Tree] (config>router>if proxy-arp-policy)

Full Context

configure router interface proxy-arp-policy

Description

This command enables and configure proxy ARP on the interface and specifies an existing policy-statement to analyze match and action criteria that controls the flow of routing information to and from a given protocol, set of protocols, or a specific neighbor. The policy-name is configured in the **config>router>policy-options** context.

Use proxy ARP so the router responds to ARP requests on behalf of another device. Static ARP is used when a router needs to know about a device on an interface that cannot or does not respond to ARP requests. Therefore, the router configuration can state that if it has a packet that has a certain IP address to send it to the corresponding ARP address.

Default

no proxy-arp-policy

Parameters

policy-name

Specifies the export route policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. A maximum of five policy names can be specified in a single statement. The specified policy names must already be defined.

Platforms

All

36.88 proxy-authentication

proxy-authentication

Syntax

[**no**] **proxy-authentication**

Context

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp proxy-authentication)

[Tree] (config>router>l2tp>group>tunnel>ppp proxy-authentication)

[Tree] (config>service>vprn>l2tp>group>ppp proxy-authentication)

[Tree] (config>router>l2tp>group>ppp proxy-authentication)

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Full Context

configure service vprn l2tp group tunnel ppp proxy-authentication

configure router l2tp group tunnel ppp proxy-authentication

configure service vprn l2tp group ppp proxy-authentication

configure router l2tp group ppp proxy-authentication

Description

This command configures the use of the authentication AVPs received from the LAC.

Default

no proxy-authentication

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.89 proxy-lcp

proxy-lcp

Syntax

[**no**] **proxy-lcp**

Context

[Tree] (config>router>l2tp>group>tunnel>ppp proxy-lcp)

[Tree] (config>service>vprn>l2tp>group>ppp proxy-lcp)

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp proxy-lcp)

[Tree] (config>router>l2tp>group>ppp proxy-lcp)

Full Context

configure router l2tp group tunnel ppp proxy-lcp

configure service vprn l2tp group ppp proxy-lcp

configure service vprn l2tp group tunnel ppp proxy-lcp

configure router l2tp group ppp proxy-lcp

Description

This command configures the use of the proxy LCP AVPs received from the LAC.

Default

no proxy-lcp

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.90 proxy-nd

proxy-nd

Syntax

[**no**] **proxy-nd**

Context

[Tree] (config>service>vpls proxy-nd)

Full Context

configure service vpls proxy-nd

Description

Commands in this context configure the proxy-ND parameters in a VPLS service.

Default

no proxy-nd

Platforms

All

proxy-nd

Syntax

[**no**] **proxy-nd** [**mac** [*ieee-address*]] [**ip** [*ipaddr*] **all**]]

Context

[Tree] (debug>service>id proxy-nd)

Full Context

debug service id proxy-nd

Description

This command enables the debug of the proxy-nd function for a specified service. Alternatively, the debug can be enabled only for certain entries given by their IPv6 or MAC addresses.

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Platforms

All

36.91 proxy-nd-policy

proxy-nd-policy

Syntax

proxy-nd-policy *policy-name* [*policy-name*]

no proxy-nd-policy

Context

[Tree] (config>service>ies>if>ipv6 proxy-nd-policy)

Full Context

configure service ies interface ipv6 proxy-nd-policy

Description

This command configures a proxy neighbor discovery policy for the interface. This policy determines networks and sources for which proxy ND is attempted, when local proxy neighbor discovery is enabled.

The **no** form of this command reverts to the default value.

Parameters

policy-name

Specifies up to five the export route policy names. Allowed values are any string, up to 32 characters, composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

The specified name(s) must already be defined.

Up to 5 policy-names can be specified in a single statement.

Platforms

All

proxy-nd-policy

Syntax

proxy-nd-policy *policy-name* [*policy-name*]

no proxy-nd-policy

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Context

[Tree] (config>service>vprn>if>ipv6 proxy-nd-policy)

Full Context

configure service vprn interface ipv6 proxy-nd-policy

Description

This command configures a proxy neighbor discovery policy for the interface.

Parameters

policy-name

Specifies up to five existing policy names.

Platforms

All

proxy-nd-policy

Syntax

proxy-nd-policy *policy-name* [*policy-name*]

no proxy-nd-policy

Context

[Tree] (config>router>if>ipv6 proxy-nd-policy)

Full Context

configure router interface ipv6 proxy-nd-policy

Description

This command configure a proxy neighbor discovery policy for the interface.

Parameters

policy-name

The neighbor discovery policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. A maximum of five policy names can be specified in a single statement. The specified policy names must already be defined.

Platforms

All

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36.92 proxy-server

proxy-server

Syntax

proxy-server

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp proxy-server)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp proxy-server)

[Tree] (config>service>ies>if>dhcp proxy-server)

[Tree] (config>service>vpls>sap>dhcp proxy-server)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp proxy-server)

Full Context

configure service ies subscriber-interface group-interface dhcp proxy-server

configure service vprn subscriber-interface group-interface dhcp proxy-server

configure service ies interface dhcp proxy-server

configure service vpls sap dhcp proxy-server

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp proxy-server

Description

Commands in this context configure DHCP proxy server parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp proxy-server
- configure service vprn subscriber-interface group-interface dhcp proxy-server
- configure service ies subscriber-interface group-interface dhcp proxy-server

All

- configure service ies interface dhcp proxy-server
- configure service vpls sap dhcp proxy-server

proxy-server

Syntax

[**no**] **proxy-server**

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Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 proxy-server)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server

Description

This command allows access to the DHCP6 proxy server context. Within this context, DHCP6 proxy server parameters of the group interface can be configured.

Default

no proxy-server

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

proxy-server

Syntax

[**no**] **proxy-server**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 proxy-server)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server

Description

This command allows access to the DHCP6 proxy server context. Within this context, DHCP6 proxy server parameters of the group interface can be configured

Default

no proxy-server

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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36.93 proxy-source-ip-address

proxy-source-ip-address

Syntax

[**no**] **proxy-source-ip-address**

Context

[Tree] (config>router>radius-proxy>server>wlan-gw>add-attributes proxy-source-ip-address)

[Tree] (config>service>vprn>radius-proxy>server>wlan-gw>add-attributes proxy-source-ip-address)

Full Context

configure router radius-proxy server wlan-gw add-attributes proxy-source-ip-address

configure service vprn radius-proxy server wlan-gw add-attributes proxy-source-ip-address

Description

This command configures proxied RADIUS messages with the Alc-Proxy-Source-IP-Address VSA, the Alc-Proxy-Source-IPv6-Address VSA, or both.

The **no** form of this command removes the configuration.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

36.94 ps-information

ps-information

Syntax

[**no**] **ps-information**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>avp ps-information)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp ps-information

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Description

This command includes the following AVPs in Diameter DCCA CCR messages encapsulated in [3GPP-873] Service-Information or [3GPP-874] PS-Information grouped AVPs:

- [8] Framed-IP-Address
- [30] Called-Station-Id
- [97] Framed-IPv6-Prefix
- [123] Delegated-IPv6-Prefix
- [6527-99] Alc-IPv6-Address
- [10415-1] 3GPP-IMSI
- [10415-2] 3GPP-Charging-Id
- [10415-5] 3GPP-GPRS-Negotiated-QoS-Profile
- [10415-7] 3GPP-GGSN-Address
- [10415-10] GGSN-NSAPI
- [10415-11] 3GPP-Session-Stop-Indicator
- [10415-12] 3GPP-Selection-Mode
- [10415-13] 3GPP-Charging-Characteristics
- [10415-16] 3GPP-GGSN-IPv6-Address
- [10415-21] 3GPP-RAT-Type
- [10415-847] GGSN-Address
- [10415-1004] Charging-Rule-Base-Name
- [10415-1247] PDP-Context-Type

The AVPs are included when configured in the **include-avp** context.

By default, these AVPs are included at the command level.

The **no** form of this command resets to the default setting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.95 psi-payload

psi-payload

Syntax

psi-payload

Context

[Tree] (config>port>otu psi-payload)

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Full Context

configure port otu psi-payload

Description

Commands in this context configure payload structure identifier payload parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.96 psid-offset

psid-offset

Syntax

psid-offset *psid-offset-length*

no psid-offset

Context

[Tree] (config>service>nat>map-domain>mapping-rule psid-offset)

Full Context

configure service nat map-domain mapping-rule psid-offset

Description

This command configures the length of the high order bits in the protocol port field whose aggregate value should always be greater than 0. This automatically excludes certain ports (such as well-known ports) from the translation.

It is a function of the CE to make sure that the psid-offset bits are always greater than 0. The VSR does not check whether those bits are 0.

Default

psid-offset 6

Parameters

psid-offset-length

Specifies the length of the psid-offset bits in the protocol port field.

Values 0 to 16

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

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36.97 psnp-authentication

psnp-authentication

Syntax

[**no**] **psnp-authentication**

Context

[Tree] (config>service>vprn>isis psnp-authentication)

[Tree] (config>service>vprn>isis>level psnp-authentication)

Full Context

configure service vprn isis psnp-authentication

configure service vprn isis level psnp-authentication

Description

This command enables authentication of individual ISIS packets of partial sequence number PDU (PSNP) type.

The **no** form of this command suppresses authentication of PSNP packets.

Platforms

All

psnp-authentication

Syntax

[**no**] **psnp-authentication**

Context

[Tree] (config>router>isis psnp-authentication)

[Tree] (config>router>isis>level psnp-authentication)

Full Context

configure router isis psnp-authentication

configure router isis level psnp-authentication

Description

This command enables authentication of individual IS-IS packets of partial sequence number PDU (PSNP) type.

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The **no** form of this command suppresses authentication of PSNP packets.

Default

psnp-authentication

Platforms

All

36.98 pta-label-in-msb

pta-label-in-msb

Syntax

[**no**] **pta-label-in-msb**

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>bier pta-label-in-msb)

Full Context

configure service vprn mvpn provider-tunnel inclusive bier pta-label-in-msb

Description

This command configures the router to program the MVPN service label in the MSB of the PTA three-octet field, in accordance with RFC 6514. This command configuration applies to both I-PMSI and S-PMSI BIER provider tunnels.

Note: When this functionality is enabled, it is not backward-compatible with routers that do not also have the functionality enabled. Nokia recommends enabling this on all SR OS BIER routers on a network to ensure interoperability between routers.

The **no** form of this command configures the router to program the service label in the LSB of the PTA three-octet field.

Default

no pta-label-in-msb

Platforms

All

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36.99 ptp

ptp

Syntax

[**no**] **ptp**

Context

[Tree] (config>service>vprn ptp)

Full Context

configure service vprn ptp

Description

Commands in this context configure PTP parameters for the VPRN service.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ptp

Syntax

ptp

Context

[Tree] (config>system ptp)

Full Context

configure system ptp

Description

Commands in this context configure parameters for IEEE 1588-2008, *Precision Time Protocol.*

This command is only available on the control assemblies that support 1588.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ptp

Syntax

ptp

Context

[Tree] (config>system>sync-if-timing ptp)

Full Context

configure system sync-if-timing ptp

Description

Commands in this context configure parameters for system timing via IEEE 1588-2008, Precision Time Protocol.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.100 ptp-asymmetry

ptp-asymmetry

Syntax

ptp-asymmetry *nanoseconds*

no ptp-asymmetry

Context

[Tree] (config>port>ethernet ptp-asymmetry)

Full Context

configure port ethernet ptp-asymmetry

Description

This command configures the PTP asymmetry delay on an Ethernet port. The command is used to correct for known asymmetry as part of time of day or phase recovery using PTP packets on both local and downstream PTP clocks.

Default

no ptp-asymmetry

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Parameters

nanoseconds

Specifies the value, in nanoseconds, that the forward path delay varies from the mean path delay; the value can be a negative number.

Values -2147483648 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.101 ptp-hw-assist

ptp-hw-assist

Syntax

[**no**] **ptp-hw-assist**

Context

[Tree] (config>service>ies>if ptp-hw-assist)

Full Context

configure service ies interface ptp-hw-assist

Description

This command configures the 1588 port based timestamping assist feature for the interface. This feature is supported on a specific set of hardware. The command may be blocked if not all hardware has the required level of support.

Only one interface per physical port can have ptp-hw-assist enabled.

The **no** form of this command disables the feature for the interface.

Default

no ptp-hw-assist

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ptp-hw-assist

Syntax

[**no**] **ptp-hw-assist**

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Context

[Tree] (config>service>vprn>if ptp-hw-assist)

Full Context

configure service vprn interface ptp-hw-assist

Description

This command configures the 1588 port based timestamping assist feature for the interface. This feature is supported on a specific set of hardware. The command may be blocked if not all hardware has the required level of support.

If the SAP configuration of the interface is removed, the ptp-hw-assist configuration will be removed.

If the IPv4 address configuration of the interface is removed, the ptp-hw-assist configuration will be removed.

Only one interface per physical port can have **ptp-hw-assist** enabled.

The **no** form of this command disables the feature for the interface.

Default

no ptp-hw-assist

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ptp-hw-assist

Syntax

[**no**] **ptp-hw-assist**

Context

[Tree] (config>router>if ptp-hw-assist)

Full Context

configure router interface ptp-hw-assist

Description

This command configures the 1588 port based timestamping assist feature for the interface. Various checks are performed to ensure that this feature can be enabled. If a check fails:

- The command is blocked/rejected with an appropriate error message.
- If the SAP configuration of the interface is removed, the ptp-hw-assist configuration will be removed.
- If the IPv4 address configuration of the interface is removed, the ptp-hw-assist configuration will be removed.

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The port validates the destination IP address on received 1588 messages. If the 1588 messages are sent to a loopback address within the node rather than the address of the interface, the loopback address must be configured in the **configure system security source-address application ptp** context.

The **no** form of this command disables the feature for the interface.

Default

no ptp-hw-assist

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.102 ptp-ip

ptp-ip

Syntax

[**no**] **ptp-ip**

Context

[Tree] (config>system>sat>eth-sat ptp-ip)

Full Context

configure system satellite eth-sat ptp-ip

Description

Commands in this context configure the Precision Time Protocol over IP (PTP over IP) transparent clock functionality.

Enable the **configure system satellite eth-sat feature ptp-tc** command to allow PTP over IP to function.

The **no** form of this command disables the PTP over IP transparent clock functionality.

Default

no ptp-ip

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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36.103 ptp-tc

ptp-tc

Syntax

[**no**] **ptp-tc**

Context

[Tree] (config>system>satellite>eth-sat ptp-tc)

Full Context

configure system satellite eth-sat ptp-tc

Description

This command enables the ethernet satellite IEEE1588 transparent clock function. This function works with the SR OS host router configured as a PTP ordinary clock or boundary clock. This provides increased accuracy on the PTP event messages transiting the satellite. When a IEEE1588 event message transits the ethernet satellite, the correction field of the message is updated with the residence time of that message. This is used in PTP time calculations. All ports of the satellite are enabled for this capability with the one setting. This feature must be enabled to allow the assignment of one of the satellite's client ports as a PTP port under **config>system>ptp>port**. This feature is only valid when using PTP over Ethernet encapsulation; it is not valid for PTP over IP encapsulation.

To enable this command, the satellite must have first been configured to support the feature using the **config>system>satellite>eth-sat>feature transparent-clock-eth** and must have been enabled for synchronous ethernet with **config>system>satellite>eth-sat>sync-e**.

All host ports connecting to this satellite must support 1588 port-based timestamping.

The **no** version of this command disables the specific satellite functionality.

Default

no ptp-tc

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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36.104 ptp-timestamping

ptp-timestamping

Syntax

[**no**] **ptp-timestamping**

Context

[Tree] (config>lag ptp-timestamping)

[Tree] (config>port>ethernet ptp-timestamping)

Full Context

configure lag ptp-timestamping

configure port ethernet ptp-timestamping

Description

Commands in this context configure the filtering for the ingress 1588 timestamping of PTP messages to match multiple PTP flows.

The **no** form of this command removes the filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

36.105 ptp-tunnel

ptp-tunnel

Syntax

[no] ptp-tunnel

Context

[Tree] (config>port>ethernet ptp-tunnel)

Full Context

configure port ethernet ptp-tunnel

Description

This command configures the tunneling of PTP Ethernet frames on the port.

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The **no** form of this command disables the tunneling of PTP Ethernet frames.

Default
no ptp-tunnel

Platforms
All

36.106 ptsf

ptsf

Syntax
ptsf

Context
[Tree] (config>system>ptp ptsf)

Full Context
configure system ptp ptsf

Description
Commands in this context configure PTSF-unusable configuration.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.107 public-key-authentication

public-key-authentication

Syntax
[**no**] **public-key-authentication**

Context
[Tree] (config>system>security>ldap public-key-authentication)

Full Context
configure system security ldap public-key-authentication

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Description

This command enables public key retrieval from the LDAP server. If disabled (**no public-key-authentication**), password authentication is attempted via LDAP.

Default

no public-key-authentication

Platforms

All

36.108 public-key-min-bits

public-key-min-bits

Syntax

public-key-min-bits *bits*

no public-key-min-bits

Context

[Tree] (config>service>ies>if>ipv6>secure-nd public-key-min-bits)

Full Context

configure service ies interface ipv6 secure-nd public-key-min-bits

Description

This command configures the minimum acceptable key length for public keys used in the generation of a Cryptographically Generated Address (CGA).

Parameters

bits

Specifies the number of bits.

Values 512 to 1024

Platforms

All

public-key-min-bits

Syntax

public-key-min-bits *bits*

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[**no**] **public-key-min-bits**

Context

[Tree] (config>service>vprn>if>send public-key-min-bits)

Full Context

configure service vprn interface ipv6 secure-nd public-key-min-bits

Description

This command configures the minimum acceptable key length for public keys used in the generation of a Cryptographically Generated Address (CGA).

Parameters

bits

Specifies the number of bits.

Values 512 to 1024

Platforms

All

public-key-min-bits

Syntax

public-key-min-bits *bits*

no public-key-min-bits

Context

[Tree] (config>router>if>ipv6>secure-nd public-key-min-bits)

Full Context

configure router interface ipv6 secure-nd public-key-min-bits

Description

This command configures the minimum acceptable key length for public keys used in the generation of a Cryptographically Generated Address (CGA).

Parameters

bits

Specifies the number of bits.

Values 512 to 1024

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Platforms

All

36.109 public-key-only

public-key-only

Syntax

[**no**] **public-key-only**

Context

[Tree] (config>system>security>ssh>auth-method>server public-key-only)

Full Context

configure system security ssh authentication-method server public-key-only

Description

This command configures the SSH server to accept only the public-key authentication method.

The **no** form of this command configures the SSH server to accept public-key or password client authentication. If **interactive-authentication** is enabled in the **configure system security aaa remote-servers radius** or **configure system security aaa remote-servers tacplus** contexts, the SSH server also accepts interactive keyboard authentication.

Default

no public-key-only

Platforms

All

public-key-only

Syntax

public-key-only {**false**|**true**|**system**}

Context

[Tree] (config>system>security>user>ssh-auth-method>server public-key-only)

Full Context

configure system security user ssh-authentication-method server public-key-only

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Description

This command configures the accepted SSH authentication method for the user connection.

Default

system

Parameters

false

Specifies the use of public-key only, or public-key and password for client authentication. If **interactive-authentication** is enabled in the **configure system security aaa remote-servers radius** or **configure system security aaa remote-servers tacplus** contexts, the SSH server also accepts interactive keyboard authentication.

true

Specifies the use of public-key authentication only.

system

Specifies the use of the SSH authentication method configured at the system level.

Platforms

All

36.110 public-keys

public-keys

Syntax

public-keys

Context

[Tree] (config>system>security>user public-keys)

Full Context

configure system security user public-keys

Description

This command allows the user to enter the context to configure public keys for SSH.

Platforms

All

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36.111 public-tcp-mss-adjust

public-tcp-mss-adjust

Syntax

public-tcp-mss-adjust *octets*

public-tcp-mss-adjust default

no public-tcp-mss-adjust

Context

[Tree] (config>service>vprn>l2tp>group>tunnel>l2tpv3 public-tcp-mss-adjust)

[Tree] (config>router>l2tp>group>l2tpv3 public-tcp-mss-adjust)

[Tree] (config>service>vprn>l2tp>group>l2tpv3 public-tcp-mss-adjust)

[Tree] (config>service>vprn>l2tp>l2tpv3 public-tcp-mss-adjust)

Full Context

configure service vprn l2tp group tunnel l2tpv3 public-tcp-mss-adjust

configure router l2tp group l2tpv3 public-tcp-mss-adjust

configure service vprn l2tp group l2tpv3 public-tcp-mss-adjust

configure service vprn l2tp l2tpv3 public-tcp-mss-adjust

Description

This command enables TCP MSS adjust for L2TPv3 tunnels on the public side on the group or tunnel level. When the command is configured, the system updates the TCP MSS option value of the received TCP SYN packet on the public side that is encapsulated in the L2TPv3 tunnel.

Note that this command can be overridden by the corresponding configuration on the group or tunnel level.

With the **default** parameter, the system uses the upper level configuration. With the non-default parameter, the system uses this configuration instead of the upper level configuration.

The **no** form of this command disables TCP MSS adjust on the public side.

Default

no public-tcp-mss-adjust

Parameters

octets

Specifies the new TCP MSS value in octets

Values 512 to 9000

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default

Specifies to use the upper-level configuration

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

public-tcp-mss-adjust

Syntax

public-tcp-mss-adjust *bytes*

public-tcp-mss-adjust *octets*

public-tcp-mss-adjust auto

no public-tcp-mss-adjust

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel public-tcp-mss-adjust)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel public-tcp-mss-adjust)

[Tree] (config>ipsec>tnl-temp public-tcp-mss-adjust)

[Tree] (config>service>ies>if>sap>ip-tunnel public-tcp-mss-adjust)

[Tree] (config>service>vprn>if>ip-tunnel public-tcp-mss-adjust)

[Tree] (config>service>vprn>if>sap>ipsec-tun public-tcp-mss-adjust)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel public-tcp-mss-adjust)

Full Context

configure router interface ipsec ipsec-tunnel public-tcp-mss-adjust

configure service ies interface ipsec ipsec-tunnel public-tcp-mss-adjust

configure ipsec tunnel-template public-tcp-mss-adjust

configure service ies interface sap ip-tunnel public-tcp-mss-adjust

configure service vprn interface ip-tunnel public-tcp-mss-adjust

configure service vprn interface sap ipsec-tunnel public-tcp-mss-adjust

configure service vprn interface ipsec ipsec-tunnel public-tcp-mss-adjust

Description

This command enables the Maximum Segment Size (MSS) for the TCP traffic in an IPsec tunnel which is sent from the public network to the private network. The system may use this value to adjust or insert the MSS option in TCP SYN packet.

If the **auto** parameter is specified, the system derives the new MSS value based on the public MTU and IPsec overhead.

The **no** form of this command disables TCP MSS adjust on the public side.

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Default

no public-tcp-mss-adjust

Parameters

auto

Derive the new MSS value based on the public MTU and IPsec overhead.

bytes

Specifies the new TCP MSS value in bytes.

Values 512 to 9000

octets

Specifies the new TCP MSS value in octets

Values 512 to 9000

Platforms

VSR

- configure service vprn interface ipsec ipsec-tunnel public-tcp-mss-adjust
- configure router interface ipsec ipsec-tunnel public-tcp-mss-adjust
- configure service ies interface ipsec ipsec-tunnel public-tcp-mss-adjust

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ip-tunnel public-tcp-mss-adjust
- configure service vprn interface sap ipsec-tunnel public-tcp-mss-adjust
- configure ipsec tunnel-template public-tcp-mss-adjust

36.112 purge-timeout

purge-timeout

Syntax

purge-timeout *seconds*

no purge-timeout

Context

[Tree] (config>system>grpc>rib-api purge-timeout)

Full Context

configure system grpc rib-api purge-timeout

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Description

This command configures the purge timeout associated with the RibApi gRPC service.

If a gRPC client used the RibApi gRPC service to program RIB entries into the router, and then the TCP connection drops for any reason, the associated RIB entries are immediately marked as stale and a timer with the **purge-timeout** value is started. Upon timer expiration, all of the stale entries are removed. While the timer is running, the stale entries remain valid and usable for forwarding but are less preferred than any non-stale entry. The **purge-timeout** gives an opportunity for the disconnected client, or some other client, to re-program the necessary RIB entries so that forwarding can continue uninterrupted.

The **no** form of this command resets to the default value of 0. Entries are immediately deleted when the TCP connection drops.

Default

no purge-timeout

Parameters

seconds

Specifies the number of seconds until the stale entries are purged.

Values 1 to 100 000

Default 0

Platforms

All

36.113 purge-timer

purge-timer

Syntax

purge-timer *minutes*

no purge-timer

Context

[Tree] (config>router>bgp purge-timer)

Full Context

configure router bgp purge-timer

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Description

When the system sends a VPN-IP Route-Refresh to a peer it sets all the VPN-IP routes received from that peer (in the RIB-IN) to stale and starts the purge-timer. If the routes are not updated (refreshed) before the purge-timer has expired then the routes are removed.

The BGP purge timer configures the time before stale routes are purged.

The **no** form of this command reverts to the default.

Default

purge-timer 10

Parameters

minutes

Specifies the maximum time before stale routes are purged.

Values 1 to 60

Platforms

All

36.114 push

push

Syntax

push {*label* | **implicit-null-label**} **nexthop** *ip-address*

no push {*out-label* | **implicit-null-label**}

Context

[Tree] (config>router>mpls>static-lsp push)

Full Context

configure router mpls static-lsp push

Description

This command specifies the label to be pushed on the label stack and the next hop IP address for the static LSP.

The **no** form of this command removes the association of the label to push for the static LSP.

Parameters

implicit-null-label

Specifies the use of the implicit label value for the push operation.

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label

The label to push on the label stack. Label values 16 through 1,048,575 are defined as follows:

- label values 16 through 31 are reserved
- label values 32 through 1,023 are available for static assignment
- label values 1,024 through 2,047 are reserved for future use
- label values 2,048 through 18,431 are statically assigned for services
- label values 28,672 through 131,071 are dynamically assigned for both MPLS and services
- label values 131,072 through 1,048,575 are reserved for future use

Values 16 to 1048575

nexthop *ip-address*

Specifies the IP address of the next hop towards the LSP egress router. If an ARP entry for the next hop exists, then the static LSP is marked operational. If ARP entry does not exist, software sets the operational status of the static LSP to down and continues to ARP for the configured nexthop. Software continuously tries to ARP for the configured nexthop at a fixed interval.

Platforms

All

36.115 pushed-labels

pushed-labels

Syntax

pushed-labels *label* [*label*]

no pushed-labels

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp>pri pushed-labels)

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp>bkup pushed-labels)

Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group primary-next-hop pushed-labels

configure router mpls forwarding-policies forwarding-policy next-hop-group backup-next-hop pushed-labels

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Description

This command configures the pushed label stack for the primary or backup next hop of a next-hop group of an MPLS forwarding policy.

The **no** form of this command removes the pushed label stack.

Parameters

label

Specifies the label value; up to a maximum of 10 labels.

Values 0 to 1048575

Platforms

All

36.116 pw-cap-list

pw-cap-list

Syntax

pw-cap-list {**ethernet** | **ethernet-vlan**} [{ **ethernet** | **ethernet-vlan**}]

no pw-cap-list

Context

[Tree] (config>service>vprn>l2tp>group>l2tpv3 pw-cap-list)

Full Context

configure service vprn l2tp group l2tpv3 pw-cap-list

Description

This command configures the allowable pseudowire capability list that is advertised to the far end. An empty list results in both pseudowire capabilities being advertised. Up to two capabilities are allowed to be advertised.

The **no** form of this command removes the list and advertises both pseudowire capabilities to the far end.

Default

no pw-cap-list

Parameters

ethernet

Specifies that the Ethernet pseudo-wire type is advertised.

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ethernet-vlan

Specifies that the Ethernet-VLAN pseudo-wire type is advertised.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

36.117 pw-path-id

pw-path-id

Syntax

[**no**] **pw-path-id**

Context

[Tree] (config>service>vprn>red-if>spoke-sdp pw-path-id)

[Tree] (config>service>cpipe>spoke-sdp pw-path-id)

[Tree] (config>service>epipe>spoke-sdp pw-path-id)

[Tree] (config>service>ies>if>spoke-sdp pw-path-id)

[Tree] (config>service>vprn>if>spoke-sdp pw-path-id)

[Tree] (config>service>vpls>spoke-sdp pw-path-id)

Full Context

configure service vprn redundant-interface spoke-sdp pw-path-id

configure service cpipe spoke-sdp pw-path-id

configure service epipe spoke-sdp pw-path-id

configure service ies interface spoke-sdp pw-path-id

configure service vprn interface spoke-sdp pw-path-id

configure service vpls spoke-sdp pw-path-id

Description

Commands in this context configure an MPLS-TP Pseudowire Path Identifier for a spoke-sdp. All elements of the PW path ID must be configured in order to enable a spoke-sdp with a PW path ID.

For an IES or VPRN spoke-sdp, the pw-path-id is only valid for ethernet spoke-sdps.

The **pw-path-id** is only configurable if all of the following is true:

- SDP signaling is off
- control-word is enabled (control-word is disabled by default)
- the service type is Epipe, VPLS, Cpipe, or IES/VPRN interface
- mate SDP signaling is off for vc-switched services

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The **no** form of this command deletes the PW path ID.

Default

no pw-path-id

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn redundant-interface spoke-sdp pw-path-id

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp pw-path-id
- configure service cpipe spoke-sdp pw-path-id
- configure service ies interface spoke-sdp pw-path-id
- configure service vpls spoke-sdp pw-path-id
- configure service epipe spoke-sdp pw-path-id

pw-path-id

Syntax

[**no**] **pw-path-id**

Context

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp pw-path-id)

[Tree] (config>mirror>mirror-dest>spoke-sdp pw-path-id)

Full Context

configure mirror mirror-dest remote-source spoke-sdp pw-path-id

configure mirror mirror-dest spoke-sdp pw-path-id

Description

Commands in this context configure an MPLS-TP Pseudowire Path Identifier for a spoke SDP. All elements of the PW path ID must be configured in order to enable a spoke SDP with a PW path ID.

For an IES or VPRN spoke SDP, the *pw-path-id* is only valid for Ethernet spoke SDPs.

The **pw-path-id** is only configurable if all of the following is true:

- SDP signaling is off
- control-word is enabled (control-word is disabled by default)
- the service type is Epipe, Cpipe, Apipe, IES, VPLS, or VPRN interface
- mate SDP signaling is off for VC-switched services

The **no** form of this command deletes the PW path ID.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.118 pw-port

pw-port

Syntax

pw-port *pw-port-id* [**pw-headend**]

no pw-port

Context

[Tree] (config>service>system>bgp-evpn>eth-seg pw-port)

Full Context

configure service system bgp-evpn ethernet-segment pw-port

Description

This command configures a PW port associated to the Ethernet Segment. When the Ethernet Segment is configured as **all-active**, only a LAG or a PW port can be associated to the Ethernet Segment. When the Ethernet Segment is configured as **single-active**, then a LAG, port or SDP can be associated to the Ethernet Segment, but not a PW port unless the **pw-headend** parameter is configured. In either case, only one of the four objects can be configured in the Ethernet Segment. A specified PW port can be part of only one Ethernet Segment.

The **no** version of this command removes the PW port from the Ethernet Segment.

Default

no pw-port

Parameters

pw-port-id

Specifies the PW port identifier.

Values 1 to 32767

pw-headend

Keyword used to specify multihoming procedures are run in the PW port stitching Epipe and the routes advertised in the context of the stitching Epipe contain the ESI of the Ethernet Segment.

Platforms

All

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pw-port

Syntax

pw-port *id* [**create**]

no pw-port *id*

Context

[Tree] (config pw-port)

Full Context

configure pw-port

Description

This command creates a PW port that can be bound to a physical port or associated with an FPE (anchored PW port). A PW port's purpose is to provide, through a PW SAP, access level (or SAP level) capability to customer traffic that is tunneled to the SR OS node through an IP/MPLS network.

The **no** form of this command removes the **pw-port** ID.

Default

no pw-port

Parameters

id

Specifies the ID of the PW port.

Values 1 to 32767

create

Keyword required to create the configuration context.

Platforms

All

pw-port

Syntax

pw-port *pw-port-id* [**vc-id** *vc-id*] [**create**]

no pw-port *pw-port-id*

Context

[Tree] (config>service>sdp>binding pw-port)

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Full Context

configure service sdp binding pw-port

Description

This command creates a pseudowire port.

The **no** form of the command removes the pseudowire port ID from the configuration.

Parameters

pw-port-id

Specifies a unique identifier of the pseudowire port.

Values 1 to 10239

vc-id

Specifies a virtual circuit identifier signaled to the peer.

Values 1 to 4294967295

create

This keyword is required when a new pseudowire is being created.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

pw-port

Syntax

pw-port *pw-port-id* [**fpe** *fpe-id*] [**create**]

no pw-port

Context

[Tree] (config>service>epipe pw-port)

Full Context

configure service epipe pw-port

Description

This command configures the association of the PW-port with the PXC ports or PXC based LAGs referenced in the FPE. That is, the PW-port becomes anchored by the PXC. This enables an external PW that is mapped to the anchored PW-port to be seamlessly rerouted between the I/O ports without interruption of service on the PW-port. This mapping between the external PW (spoke SDP) and the PXC based PXC-port is performed via an Epipe operating in vc-switching mode (creation time parameter).

Default

no pw-port

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Parameters

pw-port-id

Specifies the PW-port associated with this service.

Values 1 to 10239

fpe *fpe-id*

Specifies the FPE object which contains the PXC-based ports or PXC-based LAGs.

Values 1 to 64

Platforms

All

36.119 pw-port-extension

pw-port-extension

Syntax

[**no**] **pw-port-extension**

Context

[Tree] (config>fwd-path-ext>fpe pw-port-extension)

Full Context

configure fwd-path-ext fpe pw-port-extension

Description

Commands in this context configure the type of the cross-connect required to terminate an external tunnel to an anchored PW port. The system automatically builds the internal infrastructure required to perform the tunnel termination on a PW port.

PW ports support the following types of tunnels:

- GRE/MPLS PW with SDP of type MPLS or GRE
- L2oGRE bridged Ethernet over GRE, where GRE protocol number is 0x6558

The **no** form of this command removes the cross-connect type from the configuration.

Default

no pw-port-extension

Platforms

All

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36.120 pw-port-list

pw-port-list

Syntax

pw-port-list

Context

[Tree] (config>service>system pw-port-list)

Full Context

configure service system pw-port-list

Description

Commands in this context configure a port list to bind to Flex PW ports.

Platforms

VSR

36.121 pw-routing

pw-routing

Syntax

pw-routing

Context

[Tree] (config>service pw-routing)

Full Context

configure service pw-routing

Description

Commands in this context configure dynamic multi-segment pseudowire (MS-PW) routing. Pseudowire routing must be configured on each node that will be a T-PE or an S-PE.

Platforms

All

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36.122 pw-sap-secondary-shaper

pw-sap-secondary-shaper

Syntax

pw-sap-secondary-shaper *pw-sap-sec-shaper-name*

no pw-sap-secondary-shaper

Context

[Tree] (config>service>sdp>binding>pw-port>egress>shaper pw-sap-secondary-shaper)

Full Context

configure service sdp binding pw-port egress shaper pw-sap-secondary-shaper

Description

This command configures a default secondary shaper applicable to pw-saps under normal interfaces.

The **no** form of the command removes the shaper name from the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

36.123 pw-status-signaling

pw-status-signaling

Syntax

[**no**] **pw-status-signaling**

Context

[Tree] (config>service>epipe>spoke-sdp pw-status-signaling)

Full Context

configure service epipe spoke-sdp pw-status-signaling

Description

This command enables pseudowire status signaling for this spoke SDP binding.

The **no** form of this command disables the status signaling.

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Default

pw-status-signaling

Platforms

All

pw-status-signaling

Syntax

[**no**] **pw-status-signaling**

Context

[Tree] (config>service>vpls>spoke-sdp pw-status-signaling)

Full Context

configure service vpls spoke-sdp pw-status-signaling

Description

This command specifies the type of signaling used by this multi-segment pseudowire provider-edge for this service.

When no pw-status-signaling is enabled, a 7450 ESS, 7750 SR, and 7950 XRS will not include the pseudowire status TLV in the initial label mapping message of the pseudowire used for a spoke-SDP. This will force both 7450 ESS, 7750 SR, and 7950 XRS PEs to use the pseudowire label withdrawal method for signaling pseudowire status.

If pw-status-signaling is configured, the node will include the use of the pseudowire status TLV in the initial label mapping message for the pseudowire.

Platforms

All

36.124 pw-template

pw-template

Syntax

pw-template *policy-id* [**use-provisioned-sdp** | [**prefer-provisioned-sdp**] [**auto-gre-sdp**]][**create**] [**name** *name*]

no **pw-template** *policy-id*

Context

[Tree] (config>service pw-template)

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Full Context

configure service pw-template

Description

This command configures an SDP template.

Parameters

policy-id

Specifies a number that uniquely identifies a template for the creation of an SDP.

Values *policy-id*: 1 to 2147483647

use-provisioned-sdp

Specifies whether to use an already provisioned SDP. When specified, the tunnel manager is consulted for an existing active SDP (with a matching far-end address), and the SDP with the lowest metric is chosen. If there are multiple SDPs with the same metric, then the highest SDP identifier that is oper-up is chosen. The choice of SDP can be configured by applying **sdp-include/exclude** in the PW template together with an sdp-group in the provisioned SDPs. This option, and the **auto-gre-sdp** option, are mutually exclusive.

prefer-provisioned-sdp

Specifies that if an existing matching SDP that conforms to any restrictions defined in the **pw-template** is found (for example, **sdp-include**/**exclude** *group*), then it will be used, following the same logic as for the **use-provisioned-sdp** parameter. Otherwise, the command will automatically create an SDP in the same manner as if the user did not specify any option. This option and the **use-provisioned-sdp** option are mutually exclusive.

auto-gre-sdp

Specifies that an SDP should automatically be created using a GRE tunnel. This option and the **use-provisioned-sdp** option are mutually exclusive. The PW template parameters **hash-label**, **entropy-label** and **sdp-include/exclude** are ignored when an GRE SDP is auto-created.

auto-mpls-sdp

Specifies that an SDP should automatically be created using an MPLS tunnel. This is the default.

create

This keyword is required when first creating the configuration context. Once the context is created, it is possible to navigate into the context without the **create** keyword.

name name

A name of the operator’s choice, up to 64 characters. The name is saved as part of the configuration.

If a name is not specified at creation time, then SR OS assigns a string version of the policy-id as the name.

Values *name*: 64 characters maximum

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Platforms

All

36.125 pw-template-bind

pw-template-bind

Syntax

pw-template-bind *policy-id*

no pw-template-bind

Context

[Tree] (config>service>epipe>spoke-sdp-fec pw-template-bind)

Full Context

configure service epipe spoke-sdp-fec pw-template-bind

Description

This command binds includes the parameters included in a specific PW template to a spoke SDP.

The **no** form of this command removes the values from the configuration.

Parameters

policy-id

Specifies the existing policy ID.

Values 1 to 2147483647

Platforms

All

36.126 pw-template-binding

pw-template-binding

Syntax

pw-template-binding *policy-id* [**import-rt** { *ext-community* [*ext-community*]}] [**endpoint** *endpoint-name*]

no pw-template-binding *policy-id*

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Context

[Tree] (config>service>epipe>bgp pw-template-binding)

Full Context

configure service epipe bgp pw-template-binding

Description

This command binds the advertisements received with the route targets (RT) that match the configured list (either the generic or the specified import) to a specific pw-template. If the RT list is not present, or if multiple matches are found, the numerically lowest pw-template is used.

The pw-template-binding applies to BGP-VPWS when enabled in the Epipe.

For BGP VPWS, the following additional rules govern the use of pseudowire-template:

- On transmission, the settings for the L2-Info extended community in the BGP updates are derived from the pseudowire template attributes. If multiple pseudowire template bindings (with or without import-rt) are specified for the same VPWS instance the first pw-template entry will be used for the information in the BGP update sent.
- On reception, the values of the parameters in the L2-Info extended community of the BGP updates are compared with the settings from the corresponding pseudowire template bindings. The following steps are used to determine the local pw-template:
  - The RT values are matched to determine the pw-template. The route targets configured for each pw-template-binding are compared to the route targets within the BGP update. The PW template corresponding to **pw-template-binding** with the first matching route target is used to for the SDP. The matching is performed from the lowest PW template binding identifier to the highest.
  - If no pw-template-binding matches are found from the previous step, the first (numerically lowest) configured pw-template entry without any route-target configured will be used.

If the value used for Layer 2 MTU (unless the value zero is received), or control word does not match, the pseudowire is created but with the operationally down state.

If the value used for the S (sequenced delivery) flags is not zero the pseudowire is not created.

The **tools perform** commands can be used to control the application of changes in pw-template for BGP-VPWS.

The **no** form of this command removes the values from the configuration.

Parameters

policy-id

Specifies an existing policy ID.

Values 1 to 2147483647

import-rt ext-comm

Specifies the communities, up to five, allowed to be accepted from remote PE neighbors. An extended BGP community in the type:x:y format. The value x can be an integer or IP address. The type can be the target or origin.

Values target:{*ip-addr*:*comm-val* | *2byte-asnumber*:*ext-comm-val*| *4byte-snumber*:*comm-val*}

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ip-addr	a.b.c.d
comm-val	0 to 65535
2byte-asnumber	0 to 65535
ext-comm-val	0 to 4294967295
4byte-asnumber	0 to 4294967295

endpoint-name

Specifies the name of the endpoint the BGP PW template is associated with, up to 32 characters. When the configured endpoint is associated to the **pw-template-binding** of a BGP VPWS service, EVPN MPLS can also be configured and associated to the same endpoint in the same Epipe service. Modifying this element causes the parent element to be recreated automatically in order for the new value to take effect.

Platforms

All

pw-template-binding

Syntax

pw-template-binding *policy-id* [**split-horizon-group** *group-name*] [**import-rt** {*ext-community*}]

no pw-template-bind *policy-id*

Context

[Tree] (config>service>vpls>bgp pw-template-binding)

[Tree] (config>service>vpls>bgp-ad pw-template-binding)

Full Context

configure service vpls bgp pw-template-binding

configure service vpls bgp-ad pw-template-binding

Description

This command binds the advertisements received with the route target (RT) that matches the configured list (either the generic or the specified import) to a specific PW template. If the RT list is not present the pw-template is used for all of them.

The **pw-template-binding** applies to both BGP-AD and BGP-VPLS if these features are enabled in the VPLS.

For BGP VPLS the following additional rules govern the use of pseudowire-template.

- On transmission, the settings for the L2-Info extended community in the BGP update are derived from the pseudowire template attributes. If multiple pseudowire template bindings (with or without import-rt) are specified, the first pw-template entry will be used for the information in the BGP update sent.

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- On reception, the values of the parameters in the L2-Info extended community of the BGP update are compared with the settings from the corresponding pw-template. The following steps are used to determine the local pw-template.
  - The RT values are matched to determine the pw-template. The route targets configured for each pw-template-binding are compared to the route targets within the BGP update. The PW template corresponding to pw-template-binding with the first matching route target is used to for the SDP. The matching is performed from the lowest PW template binding identifier to the highest
  - If no pw-templates matches are found from the previous step, the first (numerically lowest) configured pw-template entry without any route-target configured will be used.

If the values used for Layer 2 MTU (unless the value zero is received) or control word flag do not match, the pseudowire is created but with the operationally down state.

If the value used for the S (sequenced delivery) flags is not zero, the pseudowire is not created.

The tools perform commands can be used to control the application of changes in pw-template for both BGP-AD and BGP-VPLS.

The **no** form of this command removes the values from the configuration.

Parameters

policy-id

Specifies an existing policy ID

Values 1 to 2147483647

group-name

The specified group-name overrides the split horizon group template settings

import-rt ext-comm

Specifies communities allowed to be accepted from remote PE neighbors. An extended BGP community in the **type**:**x**:**y** format. The value **x** can be an integer or IP address. The **type** can be the target or origin. **x** and **y** are 16-bit integers. A maximum of five *import-rt ext-com* can be specified.

Values target:{*ip-addr:comm-val*| *2byte-asnumber:ext-comm-val*| *4byte-asnumber:comm-val*}

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-as-number: [0 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [0 to 4294967295]

Platforms

All

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36.127 pw-template-id-range

pw-template-id-range

Syntax

pw-template-id-range start *pw-template-id* **end** *pw-template-id*

no pw-template-id-range

Context

[Tree] (config>service>md-auto-id pw-template-id-range)

Full Context

configure service md-auto-id pw-template-id-range

Description

This command specifies the range of IDs used by SR OS to automatically assign an ID to PW templates that are created in model-driven interfaces without an ID explicitly specified by the user or client.

A PW template created with an explicitly-specified ID cannot use an ID in this range. In the classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD-CLI interfaces, the range can be changed, which causes any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **config>service md-auto-id** command for further details.

Default

no pw-template-id-range

Parameters

start *pw-template-id*

Specifies the lower value of the ID range. The value must be less than or equal to the **end** value.

Values 1 to 2147483647

end *pw-template-id*

Specifies the upper value of the ID range. The value must be greater than or equal to the **start** value.

Values 1 to 2147483647

Platforms

All

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36.128 pw-type

pw-type

Syntax

pw-type ethernet-vlan *vlan-id*

pw-type ethernet

no pw-type

Context

[Tree] (config>service>epipe>sap>l2tpv3-session pw-type)

[Tree] (config>service>vpls>sap>l2tpv3-session pw-type)

Full Context

configure service epipe sap l2tpv3-session pw-type

configure service vpls sap l2tpv3-session pw-type

Description

This command specifies the PW-type for the associated L2TPv3 session.

The support types are either Ethernet or Ethernet-VLAN. If Ethernet-VLAN is configured, a VLAN value must be specified as well.

The **no** form of this command deletes the PW-type configuration.

Parameters

vlan-id

Specifies the VLAN-ID.

Platforms

All

36.129 pwc

pwc

Syntax

pwc [**previous**]

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Context

[Tree] (pwc)

Full Context

pwc

Description

This command displays the present or previous working context of the CLI session. The **pwc** command provides a user who is in the process of dynamically configuring a chassis a way to display the current or previous working context of the CLI session. The **pwc** command displays a list of the CLI nodes that hierarchically define the current context of the CLI instance of the user.

The following example is from a 7750 SR:

```
A:ALA-1>config>router>bgp>group# pwc
------------------------------------------------
Present Working Context :
------------------------------------------------
<root>
  configure
  router Base
  bgp
  group test
  ospf
  area 1
------------------------------------------------
A:ALA-1>config>router>bgp>group#
```

When the **previous** keyword is specified, the previous context displays. This is the context entered by the CLI parser upon execution of the **exit** command. The current context of the CLI is not affected by the **pwc** command.

The following example is from a 7450 ESS:

```
*A:ALA-1>config>router>ospf>area>if# pwc previous
------------------------------------------------------------
Previous Working Context :
------------------------------------------------------------
 <root>
  configure
  router "Base"
  ospf
  area "0.0.0.0"
------------------------------------------------------------
*A:ALA-1config>router>ospf>area>if#
```

Parameters

previous

Displays the previous present working context.

Platforms

All

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36.130 pxc

pxc

Syntax

pxc *pxc-id* [**create**]

no pxc *pxc-id*

Context

[Tree] (config>port-xc pxc)

Full Context

configure port-xc pxc

Description

This command creates a port cross-connect (PXC) object. Referencing an Ethernet port within the PXC object will automatically configure this Ethernet port as a loopback port. The node will automatically create two PXC sub-ports under this Ethernet port. The configuration of PXC sub-ports can be accessed through the CLI.

Parameters

pxc-id

Specifies the port cross-connect identifier.

Values 1 to 64

Platforms

All

36.131 pxc-pxc-id.sub-port-id

pxc-pxc-id.sub-port-id

Syntax

pxc-*pxc-id.sub-port-id*

Context

[Tree] (config>port pxc-pxc-id.sub-port-id)

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Full Context

configure port pxc-pxc-id.sub-port-id

Description

This command enables access to PXC sub-port level parameters. The PXC sub-ports are automatically created once the external Ethernet port is configured inside of an PXC object. The PXC sub-ports are by default administratively disabled (shutdown). In order for PXC sub-ports to became operational, both, the underlying external Ethernet port and the PXC object must be operationally up.

Parameters

pxc-id

Specifies the unique identifier of this PXC.

Values 1 to 64

sub-port-id

When this the *pxc-id* is configured, two logical sub-ports are automatically created. These logical sub-ports are used to create two paths within the loop; one upstream path, and one downstream path. These sub-ports are destroyed when either this PXC row is destroyed, this object is de-provisioned.

Values a, b

Platforms

All

36.132 python

python

Syntax

python

Context

[Tree] (config python)

Full Context

configure python

Description

Commands in this context configure Python parameters.

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Platforms

All

python

Syntax

[**no**] **python**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync python)

Full Context

configure redundancy multi-chassis peer sync python

Description

This command enables syncing of python-policy cached entries to the peer.

Use the **mcs-peer** command in the Python policy to enable syncing for a specific Python policy.

The **no** form of this command reverts to the default.

Default

no python

Platforms

All

36.133 python-policy

python-policy

Syntax

python-policy *python-name*

no python-policy

Context

[Tree] (config>service>ies>if>dhcp python-policy)

[Tree] (config>service>vprn>sub-if python-policy)

[Tree] (config>service>ies>sub-if>dhcp python-policy)

[Tree] (config>service>ies>if>ipv6>dhcp6-relay python-policy)

[Tree] (config>service>vprn>if>dhcp python-policy)

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[Tree] (config>service>vprn>sub-if>dhcp python-policy)

[Tree] (config>service>vprn>if>ipv6>dhcp6-relay python-policy)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6 python-policy)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6 python-policy)

Full Context

configure service ies interface dhcp python-policy

configure service vprn subscriber-interface python-policy

configure service ies subscriber-interface dhcp python-policy

configure service ies interface ipv6 dhcp6-relay python-policy

configure service vprn interface dhcp python-policy

configure service vprn subscriber-interface dhcp python-policy

configure service vprn interface ipv6 dhcp6-relay python-policy

configure service vprn subscriber-interface ipv6 dhcp6 python-policy

configure service ies subscriber-interface ipv6 dhcp6 python-policy

Description

This command specifies the Python policy to be used for DHCPv6 relay.

The **no** form of this command reverts to the default.

Parameters

python-name

Specifies the name of an existing python script, up to 32 characters.

Platforms

All

- configure service ies interface dhcp python-policy
- configure service ies interface ipv6 dhcp6-relay python-policy
- configure service vprn interface ipv6 dhcp6-relay python-policy
- configure service vprn interface dhcp python-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface python-policy
- configure service ies subscriber-interface ipv6 dhcp6 python-policy
- configure service vprn subscriber-interface dhcp python-policy
- configure service ies subscriber-interface dhcp python-policy
- configure service vprn subscriber-interface ipv6 dhcp6 python-policy

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python-policy

Syntax

python-policy *name*

no python-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>dhcp python-policy)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp python-policy)

Full Context

configure service ies subscriber-interface group-interface dhcp python-policy

configure service vprn subscriber-interface group-interface dhcp python-policy

Description

This command specified the Python policy for DHCPv4 packets sent/received on the group interface.

The **no** form of this command removes the policy name from the configuration.

Parameters

name

Specifies an existing Python policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *policy-name*

no python-policy

Context

[Tree] (config>service>vprn>sub-if>grp-if>pppoe python-policy)

[Tree] (config>service>ies>sub-if>grp-if>pppoe python-policy)

Full Context

configure service vprn subscriber-interface group-interface pppoe python-policy

configure service ies subscriber-interface group-interface pppoe python-policy

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Description

This command specifies the Python policy for PPPoE packets sent/received on the group interface.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies an existing Python policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *name*

no python-policy

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile python-policy)

Full Context

configure subscriber-mgmt gtp peer-profile python-policy

Description

This command specifies the Python policy for MGW profile packets sent/received on the group interface.

The **no** form of this command removes the policy name from the configuration.

Default

no python-policy

Parameters

name

Specifies an existing Python policy name up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy [*policy-name*]

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no python-policy

Context

[Tree] (config>aaa>diam>node python-policy)

Full Context

configure aaa diameter node python-policy

Description

This command specified the python-policy for Diameter messages received or transmitted.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the name of the Python policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *name* [**create**] [**wlan-gw-group** *wlan-gw-group-id*] [**nat-group** *nat-group-id*]

no python-policy *name*

Context

[Tree] (config>python python-policy)

Full Context

configure python python-policy

Description

This command creates a new Python policy or enables an existing Python policy configuration context.

There are two types of Python policies: centralized and distributed. A centralized Python policy runs on a CPM, while a distributed Python policy runs on an ISA. With the distributed Python policy, a **wlan-gw-group** *wlan-gw-group-id* or a **nat-group** *nat-group-id* command must specified.

The **no** form of this command removes the Python policy from the configuration.

Parameters

name

Specifies the Python policy name up to 32 characters.

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create

This keyword is required when first creating the Python policy. Once the context is created, it is possible to navigate into the context without the **create** keyword.

wlan-gw-group ***wlan-gw-group-id***

Specifies the ID of the WLAN GW group that the distributed python-policy installs.

nat-group ***nat-group-id***

Specifies the ID of the NAT group that the distributed python-policy installs.

Platforms

All

python-policy

Syntax

python-policy *policy-name*

no python-policy

Context

[Tree] (config>aaa>isa-radius-policy python-policy)

Full Context

configure aaa isa-radius-policy python-policy

Description

This command specifies the Python policy for the ISA RADIUS proxy server. This is the python policy for RADIUS packets to/from the client.

The **no** form of this command removes the Python policy from the configuration.

Parameters

name

Specifies the Python policy name, up to 32 characters

create

This keyword is required when first creating the Python policy. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

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python-policy

Syntax

python-policy *name*

no python-policy

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 python-policy)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 python-policy)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 python-policy

configure service ies subscriber-interface group-interface ipv6 dhcp6 python-policy

Description

This command specified the Python policy for DHCPv6 packets sent/received on the group interface.

The **no** form of this command removes the policy name from the configuration.

Parameters

name

Specifies an existing Python policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *name*

no python-policy

Context

[Tree] (config>aaa>radius-srv-plcy python-policy)

Full Context

configure aaa radius-server-policy python-policy

Description

This command specifies the Python policy for RADIUS packets to/from the RADIUS servers defined in the specified **radius-server-policy**.

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The **no** form of this command removes the policy name from the configuration.

Parameters

name

Specifies the name of the Python policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *name*

no python-policy

Context

[Tree] (config>router>radius-proxy>server python-policy)

[Tree] (config>service>vprn>radius-proxy>server python-policy)

Full Context

configure router radius-proxy server python-policy

configure service vprn radius-proxy server python-policy

Description

This command specifies the Python policy for RADIUS packets sent/received on the client side of the RADIUS proxy server.

This command supports RADIUS proxy on both CPMs and ISAs.

The **no** form of this command removes the policy name from the configuration.

Parameters

name

Specifies the name of the Python policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *name*

no python-policy

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Context

[Tree] (config>subscr-mgmt>pppoe-client-policy python-policy)

Full Context

configure subscriber-mgmt pppoe-client-policy python-policy

Description

This command applies a Python policy to all messages sent and received by the PPPoE client.

The **no** form of this command removes the associated Python policy from the PPPoE client.

Parameters

name

The name of a preconfigured Python policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

python-policy

Syntax

python-policy *name*

no python-policy

Context

[Tree] (config>service>vprn>if>ipv6 python-policy)

Full Context

configure service vprn interface ipv6 python-policy

Description

This command specifies a python policy. Python policies are configured in the **config>python> python-policy** *name* context.

Parameters

name

Specifies the name of an existing python script, up to 32 characters in length.

Platforms

All

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python-policy

Syntax

python-policy *python-policy-name*

no python-policy

Context

[Tree] (config>router>if>dhcp python-policy)

Full Context

configure router interface dhcp python-policy

Description

This command specifies a python policy. Python policies are configured in the **config>python>python-policy** *name* context.

Default

no python-policy

Parameters

python-policy-name

Specifies the name of an existing python script, up to 32 characters in length.

Platforms

All

python-policy

Syntax

python-policy *policy-name*

no python-policy

Context

[Tree] (config>log>log-id python-policy)

Full Context

configure log log-id python-policy

Description

This command associates the Python script with the events sent to this log ID. The Python policy can be associated with the log only if the destination in the log ID is set **to syslog**.

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For information about Python policy configuration, refer to the Python Script Support for ESM in the *7450 ESS, 7750 SR, and VSR Triple Play Service Delivery Architecture Guide*.

The **no** form of this command disables Python processing of the events in this log ID.

Default

no python-policy

Parameters

policy-name

Specifies a Python policy name, up to 32 characters.

Platforms

All

36.134 python-policy-cache

python-policy-cache

Syntax

python-policy-cache

Context

[Tree] (config>system>persistence python-policy-cache)

Full Context

configure system persistence python-policy-cache

Description

This command configures Python policy cache persistency parameters.

Platforms

All

36.135 python-script

python-script

Syntax

python-script *name* [**create**]

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no python-script *name*

Context

[Tree] (config>python python-script)

Full Context

configure python python-script

Description

Commands in this context configure Python scripts to modify messages of different protocols.

The **no** form of this command removes the Python script name from the configuration.

Parameters

name

Specifies the name of this Python script policy.

create

This keyword is required when first creating the Python script. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

All

python-script

Syntax

python-script *script-name*

Context

[Tree] (debug>python python-script)

Full Context

debug python python-script

Description

Commands in this context debug the specified Python script.

Parameters

policy-name

Specifies the Python script name, up to 32 characters.

Platforms

All

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37 q Commands

37.1 q-tag-range

q-tag-range

Syntax

q-tag-range *qtag1* [**to** *qtag1*]

no q-tag-range *qtag1*

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>dot1q q-tag-range)

Full Context

configure service system bgp-evpn ethernet-segment dot1q q-tag-range

Description

This command determines the VIDs associated with the virtual Ethernet Segment on a specific dot1q port or LAG based on the following considerations:

- Values *, 0 to 4094 are allowed.
- Any SAP for which the service-delimiting qtag matches the range is associated with the virtual ES, and only those, for example, SAP 1/1/1:0 will not match port 1/1/1, qtag-range 100.
- Maximum 8 ranges are allowed in the dot1q context.
- A range can be comprised of a single qtag.
- Shutting down the ES is not required prior to changing the q-tag-range.

The **no** form of the command removes the configured range. Only the first qtag1 value is required to remove the range.

Parameters

qtag1

Specifies the VID. When configuring a range of qtags (and not a single value), the second qtag1 value must be greater than the first qtag1.

Values *, 0 to 4094

Platforms

All

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37.2 qci

qci

Syntax

qci *qci-value*

no qci

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>mme>qos qci)

[Tree] (config>subscr-mgmt>gtp>peer-profile>pgw>qos qci)

Full Context

configure subscriber-mgmt gtp peer-profile mme qos qci

configure subscriber-mgmt gtp peer-profile pgw qos qci

Description

This command configures the QoS Class Identifier (QCI) to send in the Bearer Level QoS IE in GTPv2 messages.

The **no** form of this command reverts to the default.

Default

qci 8

Parameters

qci-value

Specifies the QCI value to send.

Values 1 to 9

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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37.3 qinq

qinq

Syntax

qinq

Context

[Tree] (config>service>system>bgp-evpn>eth-seg qinq)

Full Context

configure service system bgp-evpn ethernet-segment qinq

Description

Commands in this context configure q-tag and s-tag additions to the port or LAG virtual Ethernet Segments.

Platforms

All

37.4 qinq-etype

qinq-etype

Syntax

qinq-etype *qinq-etype-value*

no qinq-etype

Context

[Tree] (config>port>ethernet qinq-etype)

Full Context

configure port ethernet qinq-etype

Description

This command configures the Ethertype used for Q-in-Q encapsulation.

The **no** form of this command reverts the qinq-etype value to the default.

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Default

no qinq-etype

Parameters

qinq-etype-value

Specifies the qinq-etype to expect in the form of 0x600 to 0xfff.

Values 1536 to 65535 in decimal or hex formats

Platforms

All

qinq-etype

Syntax

qinq-etype *qinq-etype*

no qinq-etype

Context

[Tree] (config>pw-port qinq-etype)

Full Context

configure pw-port qinq-etype

Description

This command configures the QinQ Ethertype on the PW port. The PW port is used to extract a customer's Ethernet traffic that is transported in a tunnel over an IP/MPLS network. The **qinq-etype** represents the first two bytes (TPID) in the outer 801.1Q header of the double-tagged Ethernet frame inside the tunnel.

The **no** form of this command removes the configuration.

Parameters

qinq-etype

The value for the **qinq-etype** field, in hexadecimal format.

Values 0x0600..0xFFFF

Default 0x8100

Platforms

All

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37.5 qinq-mark-top-only

qinq-mark-top-only

Syntax

[**no**] **qinq-mark-top-only**

Context

[Tree] (config>service>vprn>if>sap>egress qinq-mark-top-only)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress qinq-mark-top-only)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress qinq-mark-top-only)

Full Context

configure service vprn interface sap egress qinq-mark-top-only

configure service vprn subscriber-interface group-interface sap egress qinq-mark-top-only

configure service ies subscriber-interface group-interface sap egress qinq-mark-top-only

Description

When the encapsulation type is qinq for the access port for the specified SAP, enabling this command specifies which P-bits or DEI bit to mark during packet egress. Only the P-bits or DEI bit in the top Q tag are marked. When this command is disabled, both sets of P-bits and the DEI bit are marked.

Default

no qinq-mark-top-only

Platforms

All

- configure service vprn interface sap egress qinq-mark-top-only

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress qinq-mark-top-only
- configure service vprn subscriber-interface group-interface sap egress qinq-mark-top-only

qinq-mark-top-only

Syntax

[**no**] **qinq-mark-top-only**

Context

[Tree] (config>service>ipipe>sap>egress qinq-mark-top-only)

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[Tree] (config>service>epipe>sap>egress qinq-mark-top-only)

Full Context

configure service ipipe sap egress qinq-mark-top-only

configure service epipe sap egress qinq-mark-top-only

Description

When enabled (the encapsulation type of the access port where this SAP is defined as qinq), the **qinq-mark-top-only** command specifies which P-bits/DEI bit to mark during packet egress. When disabled, both set of P-bits/DEI bit are marked. When the enabled, only the P-bits/DEI bit in the top Q-tag are marked.

Default

no qinq-mark-top-only

Platforms

All

qinq-mark-top-only

Syntax

[**no**] **qinq-mark-top-only**

Context

[Tree] (config>service>vpls>sap>egress qinq-mark-top-only)

Full Context

configure service vpls sap egress qinq-mark-top-only

Description

When enabled (the encapsulation type of the access port where this SAP is defined as qinq), the **qinq-mark-top-only** command specifies which P-bits/DEI bit to mark during packet egress. When disabled, both set of P-bits/DEI bit are marked. When enabled, only the P-bits/DEI bit in the top Q-tag are marked.

The **no** form of this command disables the command.

Default

no qinq-mark-top-only

Platforms

All

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qinq-mark-top-only

Syntax

[**no**] **qinq-mark-top-only**

Context

[Tree] (config>service>ies>if>sap>egress qinq-mark-top-only)

Full Context

configure service ies interface sap egress qinq-mark-top-only

Description

When enabled (the encapsulation type of the access port where this SAP is defined as qinq), the **qinq-mark-top-only** command specifies which P-bits/DEI bit to mark during packet egress. When disabled, both set of P-bits/DEI bit are marked. When the enabled, only the P-bits/DEI bit in the top Q-tag are marked.

Default

no qinq-mark-top-only

Platforms

All

37.6 qinq-vlan-translation

qinq-vlan-translation

Syntax

qinq-vlan-translation *s-tag.c-tag*

no qinq-vlan-translation

Context

[Tree] (config>service>epipe>sap>ingress qinq-vlan-translation)

[Tree] (config>service>vpls>sap>ingress qinq-vlan-translation)

Full Context

configure service epipe sap ingress qinq-vlan-translation

configure service vpls sap ingress qinq-vlan-translation

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Description

This command configures ingress VLAN translation for two service-delimiting VLAN values, as opposed to the **vlan-translation** command that provides translation for only one service-delimiting VLAN value. This command is used with the **force-qinq-vc-forwarding** command so that the VLAN values that are pushed on SDP bindings or EVPN-MPLS can be normalized (translated).

The **no** form of this command disables QinQ VLAN translation.

Default

no qinq-vlan-translation

Parameters

s-tag.c-tag

Specifies that the VLAN tag values are pushed on SDP bindings and EVPN-MPLS destinations when **force-qinq-vc-forwarding s-tag-c-tag** is configured. When **force-qinq-vc-forwarding c-tag-c-tag** is configured, only the C-tag value in **qinq-vlan-translation** *s-tag.c-tag* is pushed. When the asterisk (*) value is used for the C-tag, no translation is made on the C-tag.

Values *s-tag*: 0 to 4094

c-tag: 0 to 4094, *

Platforms

All

37.7 ql-minimum

ql-minimum

Syntax

ql-minimum {**prs** | **stu** | **st2** | **tnc** | **st3e** | **st3** | **prc** | **ssua** | **ssub** | **sec** | **eec1** | **eec2** | **eprtc** | **prtc** | **eprc** | **eeec**}

no ql-minimum

Context

[Tree] (config>system>sync-if-timing>bits>output ql-minimum)

Full Context

configure system sync-if-timing bits output ql-minimum

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Description

This command configures the minimum acceptable QL value for a signal to be selected as the BITSout port. This ensures that the signal has traceability to a source with at least this quality level, so that attached equipment can function properly.

The **no** form of this command disables this check.

Default

no ql-minimum

Parameters

prs

Specifies the SONET Primary Reference Source.

stu

Specifies the SONET Synchronous Traceability Unknown.

st2

Specifies the SONET Stratum 2.

tnc

Specifies the SONET Transit Node Clock.

st3e

Specifies the SONET Stratum 3E.

st3

Specifies the SONET Stratum 3.

prc

Specifies the SDH Primary Reference Clock.

ssua

Specifies the SDH Primary Level Synchronization Supply Unit.

ssub

Specifies the SDH Second Level Synchronization Supply Unit.

sec

Specifies the SDH Synchronous Equipment Clock.

eec1

Specifies the Ethernet Equipment Clock Option 1 (sdh).

eec2

Specifies the Ethernet Equipment Clock Option 2 (sonet).

eprtc

Specifies the Enhanced Primary Reference Time Clock.

prtc

Specifies the Primary Reference Time Clock.

eprc

Specifies the Enhanced Primary Reference Clock.

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eeec

Specifies the Enhanced Ethernet Equipment Clock.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ql-minimum

Syntax

ql-minimum {**prs** | **stu** | **st2** | **tnc** | **st3e** | **st3** | **prc** | **ssua** | **ssub** | **sec** | **eec1** | **eec2** | **eprtc** | **prtc** | **eprc** | **eeec**}

no ql-minimum

Context

[Tree] (config>system>sync-if-timing ql-minimum)

Full Context

configure system sync-if-timing ql-minimum

Description

This command configures the minimum acceptable QL value for a signal to be considered for selection by the system timing module.

The **no** form of this command disables this check.

Default

no ql-minimum

Parameters

prs

Specifies the SONET Primary Reference Source.

stu

Specifies the SONET Synchronous Traceability Unknown.

st2

Specifies the SONET Stratum 2.

tnc

Specifies the SONET Transit Node Clock.

st3e

Specifies the SONET Stratum 3E.

st3

Specifies the SONET Stratum 3.

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prc
Specifies the SDH Primary Reference Clock.

ssua
Specifies the SDH Primary Level Synchronization Supply Unit.

ssub
Specifies the SDH Second Level Synchronization Supply Unit.

sec
Specifies the SDH Synchronous Equipment Clock.

eec1
Specifies the Ethernet Equipment Clock Option 1 (sdh).

eec2
Specifies the Ethernet Equipment Clock Option 2 (sonet).

eprtc
Specifies the Enhanced Primary Reference Time Clock.

prtc
Specifies the Primary Reference Time Clock.

eprc
Specifies the Enhanced Primary Reference Clock.

eeec
Specifies the Enhanced Ethernet Equipment Clock.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

37.8 ql-override

ql-override

Syntax

ql-override {**prs** | **stu** | **st2** | **tnc** | **st3e** | **st3** | **prc** | **ssua** | **ssub** | **sec** | **eprtc** | **prtc** | **eprc** | **eeec**}

no ql-override

Context

[Tree] (config>system>sync-if-timing>bits ql-override)

[Tree] (config>system>sync-if-timing>synce ql-override)

[Tree] (config>system>sync-if-timing>ptp ql-override)

[Tree] (config>system>sync-if-timing>gnss ql-override)

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Full Context

configure system sync-if-timing bits ql-override

configure system sync-if-timing synce ql-override

configure system sync-if-timing ptp ql-override

configure system sync-if-timing gnss ql-override

Description

This command configures the QL value used as reference for SETS input selection and BITS output selection. This overrides any value received from the SSM process for that reference.

The **no** form of this command disables use of the QL value.

Default

no ql-override

Parameters

prs

Specifies the SONET Primary Reference Source Traceable.

stu

Specifies the SONET Synchronous Traceability Unknown.

st2

Specifies the SONET Stratum 2 Traceable.

tnc

Specifies the SONET Transit Node Clock Traceable.

st3e

Specifies the SONET Stratum 3E Traceable.

st3

Specifies the SONET Stratum 3 Traceable.

prc

Specifies the SDH Primary Reference Clock Traceable.

ssua

Specifies the SDH Primary Level Synchronization Supply Unit Traceable.

ssub

Specifies the SDH Second Level Synchronization Supply Unit Traceable.

sec

Specifies the SDH Synchronous Equipment Clock Traceable.

eprtc

Specifies the Enhanced Primary Reference Time Clock.

prtc

Specifies the Primary Reference Time Clock.

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eprc

Specifies the Enhanced Primary Reference Clock.

eeec

Specifies the Enhanced Ethernet Equipment Clock.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure system sync-if-timing ptp ql-override
- configure system sync-if-timing synce ql-override
- configure system sync-if-timing bits ql-override

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

- configure system sync-if-timing gnss ql-override

ql-override

Syntax

ql-override {**prs** | **stu** | **st2** | **tnc** | **st3e** | **st3** | **prc** | **ssua** | **ssub** | **sec** | **eec1** | **eec2** | **eprtc** | **prtc** | **eprc** | **eeec**}

no ql-override

Context

[Tree] (config>system>sync-if-timing>ref1 ql-override)

[Tree] (config>system>sync-if-timing>ref2 ql-override)

Full Context

configure system sync-if-timing ref1 ql-override

configure system sync-if-timing ref2 ql-override

Description

This command configures the QL value used as reference for SETS input selection and BITS output. This overrides any value received from the SSM process for that reference.

The **no** form of this command disables use of the QL value.

Default

no ql-override

Parameters

prs

Specifies the SONET Primary Reference Source Traceable.

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stu
Specifies the SONET Synchronous Traceability Unknown.

st2
Specifies the SONET Stratum 2 Traceable.

tnc
Specifies the SONET Transit Node Clock Traceable.

st3e
Specifies the SONET Stratum 3E Traceable.

st3
Specifies the SONET Stratum 3 Traceable.

prc
Specifies the SDH Primary Reference Clock Traceable.

ssua
Specifies the SDH Primary Level Synchronization Supply Unit Traceable.

ssub
Specifies the SDH Second Level Synchronization Supply Unit Traceable.

sec
Specifies the SDH Synchronous Equipment Clock Traceable.

eec1
Specifies the Ethernet Equipment Clock Option 1 Traceable (sdh).

eec2
Specifies the Ethernet Equipment Clock Option 2 Traceable (sonet).

eeec
Specifies the Enhanced Ethernet Equipment Clock.

eprtc
Specifies the Enhanced Primary Reference Time Clock.

prtc
Specifies the Primary Reference Time Clock.

eprc
Specifies the Enhanced Primary Reference Clock.

eeec
Specifies the Enhanced Ethernet Equipment Clock.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ql-override

Syntax

ql-override {**prs** | **stu** | **st2** | **tnc** | **st3e** | **st3** | **prc** | **ssua** | **ssub** | **sec** | **eec1** | **eec2** | **eprtc** | **prtc** | **eprc** | **eeec**}

no ql-override

Context

[Tree] (conf>sys>sat>eth-sat>sync-if>ref1 ql-override)

[Tree] (conf>sys>sat>eth-sat>sync-if>ref2 ql-override)

Full Context

configure system satellite eth-sat sync-if-timing ref1 ql-override

configure system satellite eth-sat sync-if-timing ref2 ql-override

Description

This command configures the QL value used for the reference.

The **no** form of this command disables use of the QL value.

Default

no ql-override

Parameters

prs

Specifies the SONET Primary Reference Source Traceable (Stratum 1).

stu

Specifies the SONET Synchronous Traceability Unknown.

st2

Specifies the SONET Stratum 2 Traceable.

tnc

Specifies the SONET Transit Node Clock Traceable.

st3e

Specifies the SONET Stratum 3E Traceable.

st3

Specifies the SONET Stratum 3 Traceable.

prc

Specifies the SDH Primary Reference Clock Traceable.

ssua

Specifies the SDH Primary Level Synchronization Supply Unit Traceable.

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ssub
Specifies the SDH Second Level Synchronization Supply Unit Traceable.

sec
Specifies the SDH Synchronous Equipment Clock Traceable.

eec1
Specifies the Ethernet Equipment Clock Option 1 Traceable (sdh).

eec2
Specifies the Ethernet Equipment Clock Option 2 Traceable (SONET).

eprtc
Specifies the Enhanced Primary Reference Time Clock.

prtc
Specifies the Primary Reference Time Clock.

eprc
Specifies the Enhanced Primary Reference Clock.

eeec
Specifies the Enhanced Ethernet Equipment Clock.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

37.9 ql-selection

ql-selection

Syntax
[**no**] **ql-selection**

Context
[Tree] (config>system>sync-if-timing ql-selection)

Full Context
configure system sync-if-timing ql-selection

Description
When enabled, the selection of system timing reference and BITS output timing reference takes into account quality level. Quality level is conveyed via the SSM or forced using the **ql-override** command.

Default
no ql-selection

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

37.10 qos

qos

Syntax

qos

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>mme qos)

[Tree] (config>subscr-mgmt>gtp>peer-profile>ggsn qos)

[Tree] (config>subscr-mgmt>gtp>peer-profile>pgw qos)

Full Context

configure subscriber-mgmt gtp peer-profile mme qos

configure subscriber-mgmt gtp peer-profile ggsn qos

configure subscriber-mgmt gtp peer-profile pgw qos

Description

Commands in this context configure QoS for a GGSN Mobile Gateway.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos *policy-id*

qos *policy-id* [**multipoint-shared** | **service-queuing**]

qos *policy-id* [**shared-queuing** | **service-queuing**]

no qos

Context

[Tree] (config>subscr-mgmt>msap-policy>ies-vprn>ingress qos)

[Tree] (config>subscr-mgmt>msap-policy>ies-vprn>egress qos)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>ingress qos)

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[Tree] (config>subscr-mgmt>msap-policy>vpls-only>egress qos)

Full Context

configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters ingress qos

configure subscriber-mgmt msap-policy ies-vprn-only-sap-parameters egress qos

configure subscriber-mgmt msap-policy vpls-only-sap-parameters ingress qos

configure subscriber-mgmt msap-policy vpls-only-sap-parameters egress qos

Description

This command specifies the ingress or egress Quality of Service (QoS) policy that is associated with a Managed SAP (MSAP). Only QoS policies with scope template can be associated with MSAPs.

The **no** form of this command resets the default value. The system default QoS policy is used in that case.

Default

qos 1 — For egress parameters.

qos 1 multipoint-shared — For ingress vpls-only-sap-parameters.

qos 1 shared-queuing — For ingress ies-vprn-only-sap-parameters.

Parameters

policy-id

Specifies the QoS policy ID or name to associate with the MSAPs. The policy ID or name must already exist.

Values id: 1 to 65535

name: policy name up to 64 characters.

multipoint-shared

Ingress unicast MSAP queues are mapped one-for-one with hardware queues. Multipoint MSAP queues are not instantiated. Unicast and BUM packets traverse the ingress forwarding plane twice: in the first pass, both unicast and BUM traffic use the unicast MSAP queues, while in the second pass shared unicast and multipoint queues are used towards the egress line card. Multipoint-shared queuing greatly reduces ingress queue consumption. This keyword can only be specified for ingress **vpls-only-sap-parameters**.

shared-queuing

Ingress unicast MSAP queues are mapped one-for-one with hardware queues. Unicast packets traverse the ingress forwarding plane twice: in the first pass the MSAP queues are used, while in the second pass shared queues are used towards the egress line card. Shared-queuing greatly reduces ingress queue consumption. This keyword can only be specified for ingress **ies-vprn-only-sap-parameters**.

service-queuing

Ingress MSAP queues are mapped to multiple hardware queues, per egress line card destination. For scaled environments such as in subscriber management, this could lead to a high number of queue resources being used. Therefore, service-queuing for MSAPs should only be enabled for specific use cases. This keyword can only be specified for ingress parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos *policy-id* [**vport-scheduler** | **port-scheduler**] [**force**]

no qos

Context

[Tree] (config>subscr-mgmt>sla-prof>egress qos)

Full Context

configure subscriber-mgmt sla-profile egress qos

Description

This command specifies the egress QoS policy applicable to this SLA profile. The policy must already be defined in the **config>qos>sap-egress** context.

The **no** form of this command reverts to the default.

Default

qos 1 port-scheduler

Parameters

policy-id

Specifies the egress policy to be applied to the egress SLA profile.

Values 1 to 65535

vport-scheduler | port-scheduler

Specifies if a host queue with the port-parent option enabled should be scheduled within the context of a Vport port scheduler policy or at the port's port scheduler policy.

force

Forces a policy change

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos *policy-id* [**shared-queuing** | **multipoint-shared** | **service-queuing**] [**force**]

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no qos

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress qos)

Full Context

configure subscriber-mgmt sla-profile ingress qos

Description

This command specifies the ingress QoS policy applicable to this SLA profile. The policy must already be defined in the **config>qos>sap-ingress** context.

The **no** form of this command reverts to the default.

Default

qos 1

Parameters

policy-id

Specifies the policy to be applied to the ingress SLA profile.

Values 1 to 65535

shared-queuing

Specifies the policy used by this SAP. When the value of this object is null it means that the SAP will use individual ingress QoS queues, instead of the shared ones.

multipoint-shared

This keyword is mutually exclusive with the **shared-queuing** and **service-queuing** keywords. When multipoint-shared is specified, the ingress forwarding plane will conserve hardware queues by performing two tier queuing on ingress unicast and multipoint packets through the SAP. Unicast service queues defined in the SAP ingress QoS policy are created for the SAP on the ingress forwarding plane without regard for the switch fabric destinations to which the SAP may need to forward (other destinations in the VPLS context). The multipoint queues defined in the SAP ingress QoS policy are not created for the SAP. Instead, all multipoint traffic is mapped to the unicast queues based on forwarding class in the first pass. In the second pass the unicast packets is mapped to the unicast shared queues while the multipoint traffic is mapped to the multipoint shared queues.

service-queuing

This keyword is mutually exclusive with the **multipoint-shared** and **shared-queuing** keywords to state that service queuing is needed.

force

Forces a policy change.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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qos

Syntax

qos *policy-id*

no qos [policy-id]

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress qos)

[Tree] (config>service>vprn>sub-if>grp-if>sap>ingress qos)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress qos)

Full Context

configure service vprn subscriber-interface group-interface sap egress qos

configure service vprn subscriber-interface group-interface sap ingress qos

configure service ies subscriber-interface group-interface sap egress qos

Description

Associates a Quality of Service (QoS) policy with an egress Service Access Point (SAP) or IP interface.

QoS egress policies are important for the enforcement of SLA agreements. The policy ID must be defined prior to associating the policy with a SAP or IP interface. If the *policy-id* does not exist, an error are returned.

The **qos** command is used to associate egress QoS policies. The **qos** command only allows egress policies on SAP or IP interface egress. Attempts to associate a QoS policy of the wrong type returns an error.

Only one ingress QoS policy can be associated with a SAP or IP interface at one time. Attempts to associate a second QoS policy of a given type returns an error.

By default, no specific QoS policy is associated with the SAP or IP interface for egress, so the default QoS policy is used.

The normal behavior is for queues to be created per destination.

The **no** form of this command removes the QoS policy association from the SAP or IP interface, and the QoS policy reverts to the default.

Parameters

policy-id

The egress policy ID to associate with SAP or IP interface on egress. The policy ID must already exist.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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qos

Syntax

qos *policy-id*

qos *policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

no qos [**policy-id**]

Context

[Tree] (config>service>ies>if>sap>egress qos)

[Tree] (config>service>vpls>sap>egress qos)

[Tree] (config>service>vprn>if>sap>egress qos)

Full Context

configure service ies interface sap egress qos

configure service vpls sap egress qos

configure service vprn interface sap egress qos

Description

This command associates a Quality of Service (QoS) policy with an egress Service Access Point (SAP) or IP interface.

QoS egress policies are important for the enforcement of SLA agreements. The policy ID must be defined prior to associating the policy with a SAP or IP interface. If the policy ID does not exist, an error is returned.

The **qos** command associates both ingress and egress QoS policies. The **qos** command only allows ingress policies to be associated on SAP or IP interface ingress and egress policies on SAP or IP interface egress. Attempts to associate a QoS policy of the wrong type returns an error.

Only one ingress and one egress QoS policy can be associated with a SAP or IP interface at one time. Attempts to associate a second QoS policy of a given type returns an error.

By default, no specific QoS policy is associated with the SAP or IP interface for ingress or egress, so the default QoS policy is used.

The **no** form of this command removes the QoS policy association from the SAP or IP interface, and the QoS policy reverts to the default.

Parameters

policy-id

The ingress/egress policy ID to associate with SAP or IP interface on ingress/egress. The policy ID must already exist.

Values 1 to 65535

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port-redirect-group

This keyword associates a SAP egress with an instance of a named queue group template on the egress port of a given IOM/IMM/XMA. The queue-group-name and instance instance-id are mandatory parameters when executing the command.

queue-group-name

Specifies the name of the egress port queue group of the IOM/IMM/XMA, up to 32 characters in length. The queue-group-name must correspond to a valid egress queue group, created under config>port>ethernet>access>egress.

instance *instance-id*

Specifies the instance of the named egress port queue group on the IOM/IMM/XMA.

Values 1 to 40960

Default 1

Platforms

All

qos

Syntax

qos *policy-id* [**shared-queuing** | **multipoint-shared**] [**fp-redirect-group** *queue-group-name* **instance** *instance-id*]

qos *policy-id* [**shared-queuing** | **multipoint-shared**]

no qos [*policy-id*]

Context

[Tree] (config>service>vprn>if>sap>ingress qos)

[Tree] (config>service>ies>if>sap>ingress qos)

Full Context

configure service vprn interface sap ingress qos

configure service ies interface sap ingress qos

Description

This command associates a Quality of Service (QoS) policy with an ingress Service Access Point (SAP).

QoS ingress and egress policies are important for the enforcement of SLA agreements. The policy ID must be defined prior to associating the policy with a SAP. If the policy ID does not exist, an error is returned.

The **qos** command is used to associate both ingress and egress QoS policies. The qos command only allows ingress policies to be associated on SAP ingress and egress policies on SAP egress. Attempts to associate a QoS policy of the wrong type returns an error.

Only one ingress and one egress QoS policy can be associated with a SAP or IP interface at one time. Attempts to associate a second QoS policy of a given type returns an error.

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By default, no specific QoS policy is associated with the SAP for ingress or egress, so the default QoS policy is used.

The no form of this command removes the QoS policy association from the SAP, and the QoS policy reverts to the default.

The **no** form of this command removes the QoS policy association from the SAP or IP interface, and the QoS policy reverts to the default.

Parameters

policy-id

The ingress/egress policy ID to associate with SAP or IP interface on ingress/egress. The policy ID must already exist.

1 to 65535

shared-queuing

Specifies the ingress shared queue policy used by this SAP. When the value of this object is null it means that the SAP uses individual ingress QoS queues instead of the shared ones.

multipoint-shared

Specifies that this queue-id is for multipoint forwarded traffic only. This queue-id can only be explicitly mapped to the forwarding class multicast, broadcast, or unknown unicast ingress traffic. Attempting to map forwarding class unicast traffic to a multipoint queue generates an error; no changes are made to the current unicast traffic queue mapping.

A queue must be created as multipoint. The multipoint designator cannot be defined after the queue is created. If an attempt is made to modify the command to include the multipoint keyword, an error is generated and the command is not executed.

The multipoint keyword can be entered in the command line on a preexisting multipoint queue to edit queue ID parameters.

Default Present (the queue is created as non-multipoint).

Values **Multipoint** or not present.

fp-redirect-group

Creates an instance of a named queue group template on the ingress forwarding plane of a given IOM/IMM/XMA. The queue-group-name and instance instance-id are mandatory parameters when executing the command. The named queue group template can contain only policers. If it contains queues, then the command fails.

queue-group-name

Specifies the name of the queue group template to be instantiated on the forwarding plane of the IOM/IMM/XMA, up to 32 characters. The queue-group-name must correspond to a valid ingress queue group template name, configured in the **config>qos>queue-group-templates** context.

instance-id

Specifies the instance of the named queue group to be created on the IOM/IMM/XMA ingress forwarding plane.

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Platforms

All

qos

Syntax

qos *policy-id*

no qos

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>egress qos)

Full Context

configure service ies subscriber-interface group-interface wlan-gw egress qos

Description

This command configures the identifier of the egress QoS policy associated with each wlan-gw tunnel of this interface.

The **no** form of this command removes the policy ID from the configuration.

Default

qos 1

Parameters

policy-id

Specifies to apply the specified sap-*egress-policy-id*.

Values 1 to 65535

name: A string up to 64 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos *policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

qos *policy-id*

no qos [*policy-id*]

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Context

[Tree] (config>service>ipipe>sap>egress qos)

[Tree] (config>service>epipe>sap>egress qos)

[Tree] (config>service>cpipe>sap>egress qos)

Full Context

configure service ipipe sap egress qos

configure service epipe sap egress qos

configure service cpipe sap egress qos

Description

This command associates a Quality of Service (QoS) policy with an egress Service Access Point (SAP).

QoS ingress and egress policies are important for the enforcement of SLA agreements. The policy ID must be defined prior to associating the policy with a SAP. If the *policy-id* does not exist, an error will be returned.

The **qos** command, when used under the egress context, is used to associate egress QoS policies.

The **qos** command only allows ingress policies to be associated on SAP ingress and egress policies on SAP egress. Attempts to associate a QoS policy of the wrong type returns an error.

Only one ingress and one egress QoS policy can be associated with a SAP at one time. Attempts to associate a second QoS policy of a specified type will return an error.

By default, if no specific QoS policy is associated with the SAP for ingress or egress, so the default QoS policy is used.

The **no** form of this command removes the QoS policy association from the SAP, and the QoS policy reverts to the default.

Parameters

policy-id

The egress policy ID to associate with SAP on egress. The policy ID must already exist.

Values 1 to 65535

queue-group-name

Specifies the name of the egress port queue group of the IOM/IMM/XMA, up to 32 characters in length. The queue-group-name must correspond to a valid egress queue group, created under *config>port>ethernet>access>egress*.

instance-id

Specifies the instance of the named egress port queue group on the IOM/IMM/XMA.

Values 1 to 40960

Default 1

Platforms

All

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- configure service epipe sap egress qos
- configure service ipipe sap egress qos

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress qos

qos

Syntax

qos *policy-id* [**shared-queuing**] [**fp-redirect-group** *queue-group-name* **instance** *instance-id*]

no qos

Context

[Tree] (config>service>cpipe>sap>ingress qos)

[Tree] (config>service>epipe>sap>ingress qos)

[Tree] (config>service>ipipe>sap>ingress qos)

Full Context

configure service cpipe sap ingress qos

configure service epipe sap ingress qos

configure service ipipe sap ingress qos

Description

This command associates a Quality of Service (QoS) policy with an ingress Service Access Point (SAP).

QoS ingress and egress policies are important for the enforcement of SLA agreements. The policy ID must be defined prior to associating the policy with a SAP. If the policy-id does not exist, an error will be returned.

The **qos** command, when used under the ingress context, is used to associate ingress QoS policies. The **qos** command only allows ingress policies to be associated on SAP ingress and egress policies on SAP egress. Attempts to associate a QoS policy of the wrong type returns an error.

Only one ingress and one egress QoS policy can be associated with a SAP at one time. Attempts to associate a second QoS policy of a specified type will return an error.

By default, if no specific QoS policy is associated with the SAP for ingress or egress, so the default QoS policy is used.

The **no** form of this command removes the QoS policy association from the SAP, and the QoS policy reverts to the default.

Parameters

policy-id

The ingress policy ID to associate with SAP or IP interface on ingress. The policy ID must already exist.

Values 1 to 65535

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shared-queuing

This keyword can only be specified on SAP ingress. The shared-queuing keyword specifies the shared queue policy will be used by this SAP. When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

fp-redirect-group

This keyword can only be used on SAP ingress and associates a SAP ingress with an instance of a named queue group template on the ingress forwarding plane of a specified IOM/IMM/XMA. The queue-group-name and **instance** *instance-id* are mandatory parameters when executing the command.

queue-group-name

Specifies the name of the queue group to be instance on the forwarding plane of the IOM/IMM/XMA, up to 32 characters in length. The *queue-group-name* must correspond to a valid ingress forwarding plane queue group, created under **config**>**card**>**fp**>**ingress**>**access**.

instance-id

Specifies the instance of the named queue group on the IOM/IMM/XMA ingress forwarding plane.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress qos

All

- configure service ipipe sap ingress qos
- configure service epipe sap ingress qos

qos

Syntax

qos *network-policy-id* **port-redirect-group** *queue-group-name* [**instance** *instance-id*]

no qos

Context

[Tree] (config>service>vpls>mesh-sdp>egress qos)

[Tree] (config>service>cpipe>spoke-sdp>egress qos)

[Tree] (config>service>epipe>spoke-sdp>egress qos)

[Tree] (config>service>ipipe>spoke-sdp>egress qos)

[Tree] (config>service>vpls>spoke-sdp>egress qos)

Full Context

configure service vpls mesh-sdp egress qos

configure service cpipe spoke-sdp egress qos

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configure service epipe spoke-sdp egress qos

configure service ipipe spoke-sdp egress qos

configure service vpls spoke-sdp egress qos

Description

This command is used to redirect pseudowire (PW) packets to an egress port queue-group for the purpose of shaping.

The egress PW shaping provisioning model allows the mapping of one or more PWs to the same instance of queues, or policers and queues, that are defined in the queue-group template.

Operationally, the provisioning model consists of the following steps:

1. Create an egress queue-group template and configure queues only, or policers and queues for each FC that needs to be redirected.
2. Apply the queue-group template to the network egress context of all ports where there exists a network IP interface that the PW packets can be forwarded on. This creates one instance of the template on the egress of the port. One or more instances of the same template can be created.
3. Configure FC-to-policer or FC-to-queue mappings together with the redirect to a queue-group in the egress context of a network QoS policy. No queue-group name is specified in this step, which means the same network QoS policy can redirect different PWs to different queue-group templates.
4. Apply this network QoS policy to the egress context of a spoke-sdp inside a service, or to the egress context of a PW template and specify the redirect queue-group name.

One or more spoke-sdps can have their FCs redirected to use queues only, or queues and policers in the same queue-group instance.

The following are the constraints and rules of this provisioning model:

1. When a PW FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name does not exist, the association is failed at the time the user associates the egress context of a spoke-sdp to the named queue-group. In such a case, the PW packet will be fed directly to the corresponding egress queue for that FC used by the IP network interface the PW packet is forwarded on. This queue can be a queue-group queue or the egress shared queue for that FC defined in the network-queue policy applied to the egress of this port. This is the existing implementation and default behavior for a PW packet.
2. When a PW FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name exists but the policer-id and/or the queue-id is not defined in the queue-group template, the association is failed at the time the user associates the egress context of a spoke-sdp to the named queue-group. In such a case, the PW packet will be fed directly to the corresponding egress queue for that FC used by the IP network interface the PW packet is forwarded on.
3. When a PW FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name exists and the policer-id or policer-id plus queue-id exist, it is not required to check that an instance of that queue-group exists in all egress network ports that have network IP interfaces. The handling of this is dealt with in the data path as follows:
   - When a PW packet for that FC is forwarded and an instance of the referenced queue-group name exists on that egress port, the packet is processed by the queue-group policer and will then be fed to the queue-group queue.
   - When a PW packet for that FC is forwarded and an instance of the referenced queue-group name does not exist on that egress port, the PW packet will be fed directly to the corresponding egress shared queue for that FC defined in the network-queue policy applied to the egress of this port.

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4. If a network QoS policy is applied to the egress context of a PW, any PW FC that is not explicitly redirected in the network QoS policy will have the corresponding packets feed directly the corresponding the egress shared queue for that FC defined in the network-queue policy applied to the egress of this port.

When the queue-group name the PW is redirected to exists and the redirection succeeds, the marking of the packet's DEI/dot1p/DSCP and the tunnel's DEI/dot1p/DSCP/EXP is performed according to the relevant mappings of the {FC, profile} in the egress context of the network QoS policy applied to the PW. This is true regardless of whether an instance of the queue-group exists or not on the egress port the PW packet is forwarded to. If the packet's profile value changed due to egress child policer CIR profiling, the new profile value is used to mark the packet's DEI/dot1p and the tunnel's DEI/dot1p/EXP, and the DSCP/prec will be remarked if **enable-dscp-prec-marking** is enabled under the policer.

When the queue-group name the PW is redirected does not exist, the redirection command is failed. In this case, the marking of the packet's DEI/dot1p/DSCP and the tunnel's DEI/dot1p/DSCP/EXP fields is performed according to the relevant commands in the egress context of the network QoS policy applied to the network IP interface to which the PW packet is forwarded.

The **no** version of this command removes the redirection of the PW to the queue-group.

Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

queue-group-name

Specifies the name of the queue group template up to 32 characters in length.

instance-id

Specifies the optional identification of a specific instance of the queue-group.

Values 1 to 65535

Platforms

All

- configure service vpls mesh-sdp egress qos
- configure service epipe spoke-sdp egress qos
- configure service ipipe spoke-sdp egress qos
- configure service vpls spoke-sdp egress qos

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp egress qos

qos

Syntax

qos *network-policy-id* **port-redirect-group** *queue-group-name* [**instance** *instance-id*]

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no qos [*network-policy-id*]

Context

[Tree] (config>service>ies>if>spoke-sdp>egress qos)

[Tree] (config>service>vprn>if>spoke-sdp>egress qos)

Full Context

configure service ies interface spoke-sdp egress qos

configure service vprn interface spoke-sdp egress qos

Description

This command is used to redirect pseudowire packets to an egress port queue-group for the purpose of shaping.

The egress pseudowire shaping provisioning model allows the mapping of one or more pseudowires to the same instance of queues, or policers and queues, which are defined in the queue-group template.

Operationally, the provisioning model consists of the following steps:

1. Create an egress queue-group template and configure queues only or policers and queues for each FC that needs to be redirected.
2. Apply the queue-group template to the network egress context of all ports where there exists a network IP interface on which the pseudowire packets can be forwarded. This creates one instance of the template on the egress of the port. One or more instances of the same template can be created.
3. Configure FC-to-policer or FC-to-queue mappings together with the redirect to a queue-group in the egress context of a network QoS policy. No queue-group name is specified in this step, which means the same network QoS policy can redirect different pseudowires to different queue-group templates.
4. Apply this network QoS policy to the egress context of a spoke-SDP inside a service or to the egress context of a pseudowire template and specify the redirect queue-group name.

One or more spoke-SDPs can have their FCs redirected to use queues only or queues and policers in the same queue-group instance.

The following are the constraints and rules of this provisioning model:

1. When a pseudowire FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name does not exist, the association is failed at the time the user associates the egress context of a spoke-SDP to the named queue-group. In such a case, the pseudowire packet will be fed directly to the corresponding egress queue for that FC used by the IP network interface on which the pseudowire packet is forwarded. This queue can be a queue-group queue, or the egress shared queue for that FC defined in the network-queue policy applied to the egress of this port. This is the existing implementation and default behavior for a pseudowire packet.
2. When a pseudowire FC is redirected to use a queue or a policer, and a queue in a queue-group and the queue-group name exists, but the policer-id and/or the queue-id is not defined in the queue-group template, the association is failed at the time the user associates the egress context of a spoke-SDP to the named queue-group. In such a case, the pseudowire packet will be fed directly to the corresponding egress queue for that FC used by the IP network interface the pseudowire packet is forwarded on.
3. When a pseudowire FC is redirected to use a queue, or a policer and a queue in a queue-group, and the queue-group name exists and the policer-id or policer-id plus queue-id exist, it is not required to

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check that an instance of that queue-group exists in all egress network ports which have network IP interfaces. The handling of this is dealt with in the data path as follows:

a. When a pseudowire packet for that FC is forwarded and an instance of the referenced queue-group name exists on that egress port, the packet is processed by the queue-group policer and will then be fed to the queue-group queue.

b. When a pseudowire packet for that FC is forwarded and an instance of the referenced queue-group name does not exist on that egress port, the pseudowire packet will be fed directly to the corresponding egress shared queue for that FC defined in the network-queue policy applied to the egress of this port.

4. If a network QoS policy is applied to the egress context of a pseudowire, any pseudowire FC, which is not explicitly redirected in the network QoS policy, will have the corresponding packets feed directly the corresponding the egress shared queue for that FC defined in the network-queue policy applied to the egress of this port.

When the queue-group name the pseudowire is redirected to exists and the redirection succeeds, the marking of the packet DEI/dot1p/DSCP and the tunnel DEI/dot1p/DSCP/EXP is performed; according to the relevant mappings of the (FC, profile) in the egress context of the network QoS policy applied to the pseudowire. This is true regardless, whether an instance of the queue-group exists or not on the egress port to which the pseudowire packet is forwarded. If the packet profile value changed due to egress child policer CIR profiling, the new profile value is used to mark the packet DEI/dot1p and the tunnel DEI/dot1p/EXP, and the DSCP/prec will be remarked if e**nable-dscp-prec-marking** is enabled under the policer.

When the queue-group name the pseudowire is redirected does not exist, the redirection command is failed. In this case, the marking of the packet DEI/dot1p/DSCP and the tunnel DEI/dot1p/DSCP/EXP fields is performed according to the relevant commands in the egress context of the network QoS policy applied to the network IP interface to which the pseudowire packet is forwarded.

The **no** version of this command removes the redirection of the pseudowire to the queue-group.

Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

port-redirect-group *queue-group-name*

This optional parameter specifies that the *queue-group-name* will be used for all egress forwarding class redirections within the network QoS policy ID. The specified *queue-group-name* must exist as a port egress queue group on the port associated with the IP interface.

egress-instance *instance-id*

Specifies the identification of a specific instance of the queue-group.

Values 1 to 16384

Platforms

All

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qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*

no qos [*network-policy-id*]

Context

[Tree] (config>service>vprn>if>spoke-sdp>ingress qos)

[Tree] (config>service>ies>if>spoke-sdp>ingress qos)

Full Context

configure service vprn interface spoke-sdp ingress qos

configure service ies interface spoke-sdp ingress qos

Description

This command is used to redirect pseudowire packets to an ingress forwarding plane queue-group for the purpose of rate-limiting.

The ingress pseudowire rate-limiting feature uses a policer in queue-group provisioning model. This model allows the mapping of one or more pseudowires to the same instance of policers, which are defined in a queue-group template.

Operationally, the provisioning model in the case of the ingress pseudowire shaping feature consists of the following steps:

1. Create an ingress queue-group template and configure policers for each FC that needs to be redirected and optionally, for each traffic type (unicast, broadcast, unknown, or multicast).
2. Apply the queue-group template to the network ingress forwarding plane where there exists a network IP interface to which the pseudowire packets can be received. This creates one instance of the template on the ingress of the FP. One or more instances of the same template can be created.
3. Configure FC-to-policer mappings together with the policer redirect to a queue-group in the ingress context of a network QoS policy. No queue-group name is specified in this step, which means the same network QoS policy can redirect different pseudowires to different queue-group templates.
4. Apply this network QoS policy to the ingress context of a spoke-SDP inside a service, or to the ingress context of a pseudowire template, and specify the redirect queue-group name.
5. One or more spoke-SDPs can have their FCs redirected to use policers in the same policer queue-group instance.

The following are the constraints and rules of this provisioning model when used in the ingress pseudowire rate-limiting feature:

1. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name does not exist, the association is failed at the time the user associates the ingress context of a spoke-SDP to the named queue-group. In such a case, the pseudowire packet will feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.

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2. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name exists but the policer-id is not defined in the queue-group template, the association is failed at the time the user associates the ingress context of a spoke-SDP to the named queue-group. In such a case, the pseudowire packet will feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
3. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name exists and the policer-id is defined in the queue-group template, it is not required to check that an instance of that queue-group exists in all ingress FPs which have network IP interfaces. The handling of this is dealt with in the data path as follows:

When a pseudowire packet for that FC is received and an instance of the referenced queue-group name exists on that FP, the packet is processed by the policer and will then feed the per-FP ingress shared queues referred to as *policer-output-queues*.

When a pseudowire packet for that FC is received and an instance of the referenced queue-group name does not exist on that FP, the pseudowire packets will be fed directly into the corresponding ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.

- If a network QoS policy is applied to the ingress context of a pseudowire, any pseudowire FC which is not explicitly redirected in the network QoS policy will have the corresponding packets feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
- If no network QoS policy is applied to the ingress context of the pseudowire, then all packets of the pseudowire will feed:

the ingress network shared queue for the packet FC defined in the network-queue policy applied to the ingress of the FP. This is the default behavior.

a queue-group policer followed by the per-FP ingress shared queues referred to as *policer-output-queues* if the ingress context of the network IP interface from which the packet is received is redirected to a queue-group (csc-policing). The only exceptions to this behavior are for packets received from a IES/VPRN spoke interface and from an R-VPLS spoke-SDP, which is forwarded to the R-VPLS IP interface. In these two cases, the ingress network shared queue for the packet FC defined in the network-queue policy applied to the ingress of the FP is used.

When a pseudowire is redirected to use a policer queue-group, the classification of the packet for the purpose of FC and profile determination is performed according to default classification rule or the QoS filters defined in the ingress context of the network QoS policy applied to the pseudowire. This is true regardless of whether an instance of the named policer queue-group exists on the ingress FP on which the pseudowire packet is received. The user can apply a QoS filter matching the dot1.p in the VLAN tag corresponding to the Ethernet port encapsulation, the EXP in the outer label when the tunnel is an LSP, the DSCP in the IP header if the tunnel encapsulation is GRE, and the DSCP in the payload IP header if the user enabled the **ler-use-dscp** option and the pseudowire terminates in IES or VPRN service (spoke-interface).

When the policer queue-group name the pseudowire is redirected does not exist, the redirection command is failed. In this case, the packet classification is performed according to default classification rule or the QoS filters defined in the ingress context of the network QoS policy applied to the network IP interface on which the pseudowire packet is received.

The **no** version of this command removes the redirection of the pseudowire to the queue-group.

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Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

fp- redirect-group *queue-group-name*

Specifies the name of the queue group template up to 32 characters in length.

ingress-instance *instance-id*

Specifies the identification of a specific instance of the queue-group.

Values 1 to 16384

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

qos

Syntax

qos *network-policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

qos name *network-policy-name* **port-redirect-group** *queue-group-name* **instance** *instance-id*

no qos [*network-policy-id*]

Context

[Tree] (config>service>pw-template>egress qos)

Full Context

configure service pw-template egress qos

Description

This command is used to redirect PW packets to an egress port queue-group for the purpose of shaping.

The egress PW shaping provisioning model allows the mapping of one or more PWs to the same instance of queues, or policers and queues, that are defined in the queue-group template.

Operationally, the provisioning model consists of the following steps:

1. Create an egress queue-group template and configure queues only, or policers and queues for each FC that needs to be redirected.
2. Apply the queue-group template to the network egress context of all ports where there exists a network IP interface that the PW packets can be forwarded on. This creates one instance of the template on the egress of the port. One or more instances of the same template can be created.
3. Configure FC-to-policer or FC-to-queue mappings together with the redirect to a queue- group in the egress context of a network QoS policy. No queue-group name is specified in this step, which means the same network QoS policy can redirect different PWs to different queue-group templates.

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4. Apply this network QoS policy to the egress context of a spoke-SDP inside a service, or to the egress context of a PW template and specify the redirect queue-group name.

One or more spoke-SDPs can have their FCs redirected to use queues only, or queues and policers in the same queue-group instance.

The following are the constraints and rules of this provisioning model.

1. When a PW FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name does not exist, the association is failed at the time the user associates the egress context of a spoke-SDP to the named queue-group. In such a case, the PW packet will be fed directly to the corresponding egress queue for that FC used by the IP network interface the PW packet is forwarded on. This queue can be a queue-group queue or the egress shared queue for that FC defined in the network-queue policy applied to the egress of this port. This is the existing implementation and default behavior for a PW packet.
2. When a PW FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name exists but the policer-id and/or the queue-id is not defined in the queue-group template, the association is failed at the time the user associates the egress context of a spoke-SDP to the named queue-group. In such a case, the PW packet will be fed directly to the corresponding egress queue for that FC used by the IP network interface the PW packet is forwarded on.
3. When a PW FC is redirected to use a queue or a policer and a queue in a queue-group and the queue-group name exists and the policer-id or policer-id plus queue-id exist, it is not required to check that an instance of that queue-group exists in all egress network ports that have network IP interfaces. The handling of this is dealt with in the data path as follows:
   - When a PW packet for that FC is forwarded and an instance of the referenced queue-group name exists on that egress port, the packet is processed by the queue-group policer and will then be fed to the queue-group queue.
   - When a PW packet for that FC is forwarded and an instance of the referenced queue-group name does not exist on that egress port, the PW packet will be fed directly to the corresponding egress shared queue for that FC defined in the network-queue policy applied to the egress of this port.
4. If a network QoS policy is applied to the egress context of a PW, any PW FC that is not explicitly redirected in the network QoS policy will have the corresponding packets feed directly the corresponding the egress shared queue for that FC defined in the network-queue policy applied to the egress of this port.

When the queue-group name the PW is redirected to exists and the redirection succeeds, the marking of the packet's DEI/dot1p/DSCP and the tunnel's DEI/dot1p/DSCP/EXP is performed according to the relevant mappings of the {FC, profile} in the egress context of the network QoS policy applied to the PW. This is true regardless of whether an instance of the queue-group exists or not on the egress port the PW packet is forwarded to. If the packet's profile value changed due to egress child policer CIR profiling, the new profile value is used to mark the packet's DEI/dot1p and the tunnel's DEI/dot1p/EXP, and the DSCP/prec will be remarked if **enable-dscp-prec-marking** is enabled under the policer.

When the queue-group name the PW is redirected does not exist, the redirection command is failed. In this case, the marking of the packet's DEI/dot1p/DSCP and the tunnel's DEI/ dot1p/DSCP/EXP fields is performed according to the relevant commands in the egress context of the network QoS policy applied to the network IP interface the PW packet is forwarded to.

The **no** version of this command removes the redirection of the PW to the queue-group.

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Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **qos name** *network-policy-name* variant can be used in all configuration modes.

Values 1 to 65535

queue-group-name

Specifies the name of the queue group template up to 32 characters in length.

instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

name network-policy-name

Specifies the network policy name. The value uniquely identifies the policy on the system, up to 64 characters.

Platforms

All

qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*]

no qos

Context

[Tree] (config>service>vpls>spoke-sdp>ingress qos)

[Tree] (config>service>ipipe>spoke-sdp>ingress qos)

[Tree] (config>service>vpls>mesh-sdp>ingress qos)

[Tree] (config>service>epipe>spoke-sdp>ingress qos)

[Tree] (config>service>cpipe>spoke-sdp>ingress qos)

Full Context

configure service vpls spoke-sdp ingress qos

configure service ipipe spoke-sdp ingress qos

configure service vpls mesh-sdp ingress qos

configure service epipe spoke-sdp ingress qos

configure service cpipe spoke-sdp ingress qos

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Description

This command is used to redirect pseudowire packets to an ingress forwarding plane queue-group for the purpose of rate-limiting.

The ingress pseudowire rate-limiting feature uses a policer in queue-group provisioning model. This model allows the mapping of one or more pseudowires to the same instance of policers, which are defined in a queue-group template.

Operationally, the provisioning model in the case of the ingress pseudowire shaping feature consists of the following steps:

1. Create an ingress queue-group template and configure policers for each FC that needs to be redirected and optionally, for each traffic type (unicast or multicast).
2. Apply the queue-group template to the network ingress forwarding plane where there exists a network IP interface to which the pseudowire packets can be received. This creates one instance of the template on the ingress of the FP. One or more instances of the same template can be created.
3. Configure FC-to-policer mappings together with the policer redirect to a queue-group in the ingress context of a network QoS policy. No queue-group name is specified in this step, which means the same network QoS policy can redirect different pseudowires to different queue-group templates.
4. Apply this network QoS policy to the ingress context of a spoke-SDP inside a service, or to the ingress context of a pseudowire template, and specify the redirect queue-group name.
5. One or more spoke-SDPs can have their FCs redirected to use policers in the same policer queue-group instance.

The following are the constraints and rules of this provisioning model when used in the ingress pseudowire rate-limiting feature:

1. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name does not exist, the association is failed at the time the user associates the ingress context of a spoke-SDP to the named queue-group. In such a case, the pseudowire packet will feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
2. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name exists but the policer-id is not defined in the queue-group template, the association is failed at the time the user associates the ingress context of a spoke-SDP to the named queue-group. In such a case, the pseudowire packet will feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
3. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name exists and the policer-id is defined in the queue-group template, it is not required to check that an instance of that queue-group exists in all ingress FPs which have network IP interfaces. The handling of this is dealt with in the data path as follows:

When a pseudowire packet for that FC is received and an instance of the referenced queue-group name exists on that FP, the packet is processed by the policer and will then feed the per-FP ingress shared queues referred to as *policer-output-queues*.

When a pseudowire packet for that FC is received and an instance of the referenced queue-group name does not exist on that FP, the pseudowire packets will be fed directly into the corresponding ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.

- If a network QoS policy is applied to the ingress context of a pseudowire, any pseudowire FC which is not explicitly redirected in the network QoS policy will have the corresponding packets feed directly the

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ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.

- If no network QoS policy is applied to the ingress context of the pseudowire, then all packets of the pseudowire will feed:
  - the ingress network shared queue for the packet FC defined in the network-queue policy applied to the ingress of the FP. This is the default behavior.
  - a queue-group policer followed by the per-FP ingress shared queues referred to as *policer-output-queues* if the ingress context of the network IP interface from which the packet is received is redirected to a queue-group. The only exceptions to this behavior are for packets received from a IES/VPRN spoke interface and from an R-VPLS spoke-SDP, which is forwarded to the R-VPLS IP interface. In these two cases, the ingress network shared queue for the packet FC defined in the network-queue policy applied to the ingress of the FP is used.

When a pseudowire is redirected to use a policer queue-group, the classification of the packet for the purpose of FC and profile determination is performed according to default classification rule or the QoS filters defined in the ingress context of the network QoS policy applied to the pseudowire. This is true regardless of whether an instance of the named policer queue-group exists on the ingress FP on which the pseudowire packet is received. The user can apply a QoS filter matching the dot1-p in the VLAN tag corresponding to the Ethernet port encapsulation, the EXP in the outer label when the tunnel is an LSP, the DSCP in the IP header if the tunnel encapsulation is GRE, and the DSCP in the payload IP header if the user enabled the **ler-use-dscp** option and the pseudowire terminates in IES or VPRN service (spoke-interface).

When the policer queue-group name the pseudowire is redirected does not exist, the redirection command is failed. In this case, the packet classification is performed according to default classification rule or the QoS filters defined in the ingress context of the network QoS policy applied to the network IP interface on which the pseudowire packet is received.

The **no** version of this command removes the redirection of the pseudowire to the queue-group.

Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

queue-group-name

Specifies the name of the queue group template up to 32 characters in length

instance-id

Specifies the identification of a specific instance of the queue-group

Values 1 to 16384

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe spoke-sdp ingress qos
- configure service vpls spoke-sdp ingress qos
- configure service ipipe spoke-sdp ingress qos

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- configure service vpls mesh-sdp ingress qos

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp ingress qos

qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*

qos name *network-policy-name* **fp-redirect-group** *queue-group-name* **instance** *instance-id*

no qos [*network-policy-id*]

Context

[Tree] (config>service>pw-template>ingress qos)

Full Context

configure service pw-template ingress qos

Description

This command is used to redirect pseudowire packets to an ingress forwarding plane queue-group for the purpose of rate-limiting.

The ingress pseudowire rate-limiting feature uses a policer in queue-group provisioning model. This model allows the mapping of one or more pseudowires to the same instance of policers which are defined in a queue-group template.

Operationally, the provisioning model in the case of the ingress pseudowire shaping feature consists of the following steps:

1. Create an ingress queue-group template and configure policers for each FC which needs to be redirected and optionally for each traffic type (unicast or multicast).
2. Apply the queue-group template to the network ingress forwarding plane where there exists a network IP interface which the pseudowire packets can be received on. This creates one instance of the template on the ingress of the FP. One or more instances of the same template can be created.
3. Configure FC-to-policer mappings together with the policer redirect to a queue-group in the ingress context of a network QoS policy. No queue-group name is specified in this step which means the same network QoS policy can redirect different pseudowires to different queue-group templates.
4. Apply this network QoS policy to the ingress context of a spoke-sdp inside a service or to the ingress context of a pseudowire template and specify the redirect queue-group name.

One or more spoke-sdps can have their FCs redirected to use policers in the same policer queue-group instance.

The following are the constraints and rules of this provisioning model when used in the ingress pseudowire rate-limiting feature:

1. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name does not exist, the association is failed at the time the user associates the ingress context of a spoke-sdp to the named queue-group. In such a case, the pseudowire packet will feed directly the

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ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.

2. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name exists but the policer-id is not defined in the queue-group template, the association is failed at the time the user associates the ingress context of a spoke-sdp to the named queue-group. In such a case, the pseudowire packet will feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
3. When a pseudowire FC is redirected to use a policer in a named policer queue-group and the queue-group name exists and the policer-id is defined in the queue-group template, it is not required to check that an instance of that queue-group exists in all ingress FPs which have network IP interfaces. The handling of this is dealt with in the data path as follows:
   - When a pseudowire packet for that FC is received and an instance of the referenced queue-group name exists on that FP, the packet is processed by the policer and will then feed the per-FP ingress shared queues referred to as "policer-output-queues".
   - When a pseudowire packet for that FC is received and an instance of the referenced queue-group name does not exist on that FP, the pseudowire packets will be fed directly into the corresponding ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
4. If a network QoS policy is applied to the ingress context of a pseudowire, any pseudowire FC which is not explicitly redirected in the network QoS policy will have the corresponding packets feed directly the ingress network shared queue for that FC defined in the network-queue policy applied to the ingress of the FP.
5. If no network QoS policy is applied to the ingress context of the pseudowire, then all packets of the pseudowire will feed:
   - the ingress network shared queue for the packet's FC defined in the network-queue policy applied to the ingress of the FP. This is the default behavior.
   - a queue-group policer followed by the per-FP ingress shared queues referred to as "policer-output-queues" Good received is redirected to a queue-group. The only exceptions to this behavior are for packets received from a IES/VPRN spoke interface and from a R-VPLS spoke-sdp which is forwarded to the R-VPLS IP interface. In these two cases, the ingress network shared queue for the packet's FC defined in the network-queue policy applied to the ingress of the FP is used. When a pseudowire is redirected to use a policer queue-group, the classification of the packet for the purpose of FC and profile determination is performed according to default classification rule or the QoS filters defined in the ingress context of the network QoS policy applied to the pseudowire. This is true regardless if an instance of the named policer queue-group exists on the ingress FP the pseudowire packet is received on. The user can apply a QoS filter matching the dot1p in the VLAN tag corresponding to the Ethernet port encapsulation, the EXP in the outer label when the tunnel is an LSP, the DSCP in the IP header if the tunnel encapsulation is GRE, and the DSCP in the payload's IP header if the user enabled the ler-use-dscp option and the pseudowire terminates in IES or VPRN service (spoke-interface).

When the policer queue-group name the pseudowire is redirected does not exist, the redirection command is failed. In this case, the packet classification is performed according to default classification rule or the QoS filters defined in the ingress context of the network QoS policy applied to the network IP interface the pseudowire packet is received on.

The no version of this command removes the redirection of the pseudowire to the queue-group.

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Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **qos name** *network-policy-name* variant can be used in all configuration modes.

Values 1 to 65535

queue-group-name

Specifies the name of the queue group template up to 32 characters in length.

instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

name network-policy-name

Specifies the network policy name. The value uniquely identifies the policy on the system, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

qos

Syntax

qos *policy-id*

qos name *sap-egress-policy-name*

no qos

Context

[Tree] (config>service>template>epipe-sap-template>egress qos)

Full Context

configure service template epipe-sap-template egress qos

Description

This command associates an existing QoS policy with the template.

Parameters

policy-id

The egress policy ID to associate with SAP or IP interface on egress. The policy ID must already exist.

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This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **qos name** *sap-egress-policy-name* variant can be used in all configuration modes.

Values 1 to 65535

sap-egress-policy-name

The SAP egress QoS policy name to associate with the SAP on egress, up to 64 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos name *sap-ingress-policy-name* [**shared-queuing**]

qos *policy-id* [**shared-queuing**]

no qos

Context

[Tree] (config>service>template>epipe-sap-template>ingress qos)

Full Context

configure service template epipe-sap-template ingress qos

Description

This command associates a Quality of Service (QoS) policy with an ingress Service Access Point (SAP) for the Epipe SAP template.

Parameters

sap-ingress-policy-name

The SAP ingress QoS policy name to associate with the SAP on ingress.

policy-id

The ingress policy ID to associate with SAP or IP interface on ingress. The policy ID must already exist.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **qos name** *sap-ingress-policy-name* variant can be used in all configuration modes.

Values 1 to 65535

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shared-queuing

This keyword can only be specified on SAP ingress. Specify the ingress shared queue policy used by this SAP. When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*

no qos

Context

[Tree] (config>service>vpls>vxlan>network>ingress qos)

Full Context

configure service vpls vxlan network ingress qos

Description

This command is used to redirect traffic arriving on VXLAN tunnels in an EVPN VXLAN service as a single entity (per forwarding class) to policers in an ingress forwarding plane queue group for the purpose of rate-limiting.

For the policer to be used, the following must be true:

- The configured queue group template name must be applied to the forwarding plane on which the ingress traffic arrives using the instance id specified.
- The policer referenced in the FC-to-policer mappings in the ingress context of a network QoS policy must be present in the specified queue group template.

The command will fail if the queue group template name does not exist or if the policer specified in the network QoS policy does not exist in the queue group template. If the queue group template name with the specified instance is not applied to the forwarding plane on which the VXLAN traffic arrives, then this traffic will use the ingress network queues related to the network interface; however, the ingress classification is still based on the applied network QoS policy.

The unicast traffic can be redirected to a policer under the forwarding class **fp-redirect-group** command in the ingress section of a network QoS policy. Similarly, broadcast, unknown and multicast traffic can be redirected to a **broadcast-policer**, **unknown-policer** or **mcast-policer**, respectively, also under the forwarding class **fp-redirect-group** command in the ingress section of a network QoS policy.

Ingress classification is based on the configuration of the ingress section of the specified network QoS policy, noting that the dot1p and DSCP classification is based on the outer Ethernet header and IP header, and the use of **ler-use-dscp**, **ip-criteria** and **ipv6-criteria** statements are ignored.

When this command is applied, it overrides the QoS applied to the related network interfaces for traffic arriving on VXLAN tunnels in that service but does not affect traffic received on a spoke-SDP in the same service.

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The **no** version of this command removes the redirection of VXLAN tunnel traffic from the queue group policers.

Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

queue-group-name

Specifies the name of the queue group template up to 32 characters in length

instance-id

Specifies the identification of a specific instance of the queue-group

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*

no qos [*network-policy-id*]

Context

[Tree] (config>service>vpls>sap>egress>encap-defined-qos>encap-group qos)

Full Context

configure service vpls sap egress encap-defined-qos encap-group qos

Description

This command configures the QoS ID.

Platforms

All

qos

Syntax

qos *policy-id* [**shared-queuing** | **multipoint-shared**]

qos name *sap-ingress-policy-name* [**shared-queuing** | **multipoint-shared**]

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no qos [*policy-id*]

Context

[Tree] (config>service>template>vpls-sap-template>ingress qos)

Full Context

configure service template vpls-sap-template ingress qos

Description

This command associates a Quality of Service (QoS) policy with an ingress Service Access Point (SAP) for the Epipe SAP template.

Parameters

policy-id

The ingress policy ID to associate with SAP or IP interface on ingress. The policy ID must already exist.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **qos name** *sap-ingress-policy-name* variant can be used in all configuration modes.

Values 1 to 65535

shared-queuing

This keyword can only be specified on SAP ingress. Specify the ingress shared queue policy used by this SAP. When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

multipoint-shared

This keyword can only be specified on SAP ingress. Multipoint shared queuing is a superset of shared queuing. When multipoint shared queuing keyword is set, as well as the unicast packets, multipoint packets also used shared queues.

Ingress unicast service queues are mapped one-for-one with hardware queues and unicast packets traverse the ingress forwarding plane twice, similar to the shared-queuing option. In addition, the multipoint queues defined in the ingress SAP QoS policy are not created. Instead, multipoint packets (broadcast, multicast and unknown unicast destined) are treated to the same dual pass ingress forwarding plane processing as unicast packets.

When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

Values Multipoint or not present

Default Present (the queue is created as non-multipoint)

sap-ingress-policy-name

The SAP ingress QoS policy name to associate with the SAP on ingress, up to 64 characters.

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Platforms

All

qos

Syntax

qos *sap-egress-policy-id*

qos name *sap-egress-policy-name*

no qos

Context

[Tree] (config>service>template>vpls-sap-template>egress qos)

Full Context

configure service template vpls-sap-template egress qos

Description

This command associates an existing QoS policy with the template.

Parameters

sap-egress-policy-id

The egress policy ID to associate with SAP or IP interface on egress. The policy ID must already exist.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **qos name** *sap-egress-policy-name* variant can be used in all configuration modes.

Values 1 to 65535

sap-egress-policy-name

The SAP egress QoS policy name to associate with the SAP on egress, up to 64 characters.

Platforms

All

qos

Syntax

qos *policy-id* [**shared-queuing** | **multipoint-shared**] [**fp-redirect-group** *queue-group-name* **instance** *instance-id*]

no qos

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Context

[Tree] (config>service>vpls>sap>ingress qos)

Full Context

configure service vpls sap ingress qos

Description

This command associates a Quality of Service (QoS) policy with an ingress Service Access Point (SAP).

QoS ingress and egress policies are important for the enforcement of SLA agreements. The policy ID must be defined prior to associating the policy with a SAP or IP interface. If the policy-id does not exist, an error will be returned.

The qos command is used to associate both ingress and egress QoS policies. The qos command only allows ingress policies to be associated on SAP ingress and egress policies on SAP egress. Attempts to associate a QoS policy of the wrong type returns an error.

Only one ingress and one egress QoS policy can be associated with a SAP at one time. Attempts to associate a second QoS policy of a specified type will return an error.

When an ingress QoS policy is defined on IES ingress IP interface that is bound to a VPLS, the policy becomes associated with every SAP on the VPLS and augments the QoS policy that is defined on each SAP. Packets that are bridged will be processed using the policy defined on the VPLS SAP; packets that are routed will be processed using the policy defined in the IES IP interface-binding context.

By default, if no specific QoS policy is associated with the SAP for ingress or egress, the default QoS policy is used.

The no form of this command removes the QoS policy association from the SAP, and the QoS policy reverts to the default.

Parameters

policy-id

The ingress policy ID to associate with SAP or IP interface on ingress. The policy ID must already exist.

Values 1 to 65535

shared-queuing

This keyword can only be specified on SAP ingress. Specify the ingress shared queue policy used by this SAP. When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

multipoint-shared

This keyword can only be specified on SAP ingress. Multipoint shared queuing is a superset of shared queuing. When multipoint shared queuing keyword is set, as well as the unicast packets, multipoint packets also used shared queues.

Ingress unicast service queues are mapped one-for-one with hardware queues and unicast packets traverse the ingress forwarding plane twice, similar to the shared-queuing option. In addition, the multipoint queues defined in the ingress SAP QoS policy are not created. Instead, multipoint packets (broadcast, multicast and unknown unicast destined) are treated to the same dual pass ingress forwarding plane processing as unicast packets.

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When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

When the value of this object is null, the SAP will use individual ingress QoS queues, instead of the shared ones.

Values Multipoint or not present

Default Present (the queue is created as non-multipoint)

fp-redirect-group

Creates an instance of a named queue group template on the ingress forwarding plane of a specified IOM/IMM/XMA. The queue-group-name and instance instance-id are mandatory parameters when executing the command. The named queue group template can contain only policers. If it contains queues, then the command will fail.

queue-group-name

Specifies the name of the queue group template to be instantiated on the forwarding plane of the IOM/IMM/XMA, up to 32 characters in length. The queue-group-name must correspond to a valid ingress queue group template name, configured under the **configure qos queue-group-templates** context.

instance-id

Specifies the instance of the named queue group to be created on the IOM/IMM/XMA ingress forwarding plane.

Platforms

All

qos

Syntax

qos *network-policy-id*

qos *network-policy-id* **egress-port-redirect-group** *queue-group-name* **egress-instance** *instance-id* **ingress-fp-redirect-group** *queue-group-name* **ingress-instance** *instance-id*

qos *network-policy-id* **egress-port-redirect-group** *queue-group-name* **egress-instance** *instance-id*

qos *network-policy-id* **ingress-fp-redirect-group** *queue-group-name* **ingress-instance** *instance-id*

no qos

Context

[Tree] (config>service>vprn>nw-if qos)

Full Context

configure service vprn network-interface qos

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Description

This command associates a network Quality of Service (QoS) policy with a network IP interface. Only one network QoS policy can be associated with an IP interface at one time. Attempts to associate a second QoS policy return an error.

Associating a network QoS policy with a network interface is useful for the following purposes:

- To apply classification rules for determining the forwarding-class and profile of ingress packets on the interface.
- To associate ingress packets on the interface with a queue-group instance applied to the ingress context of the interface's forwarding plane (FP). (This is only applicable to interfaces on IOM4 and later cards.) The referenced ingress queue-group instance may have policers defined in order to rate limit ingress traffic on a per-forwarding class (and forwarding type: unicast vs. multicast) basis.
- To perform 802.1p, DSCP, IP precedence and/or MPLS EXP re-marking of egress packets on the interface.
- To associate egress packets on the interface with a queue-group instance applied to the egress context of the interface's port. The referenced egress queue-group instance may have policers and/or queues defined in order to rate limit egress traffic on a per-forwarding class basis.

The **no** form of this command removes the network QoS policy association from the network IP interface, and the QoS policy reverts to the default.

Default

no qos

Parameters

network-policy-id

An existing network policy ID to associate with the IP interface.

Values 1 to 65535

port-redirect-group *queue-group-name*

This optional parameter specifies the egress queue-group used for all egress forwarding-class redirections specified within the network QoS policy ID. The specified *queue-group-name* must exist as an egress queue group applied to the egress context of the port associated with the IP interface.

egress-instance *instance-id*

Since multiple instances of the same egress queue-group can be applied to the same port this optional parameter is used to specify which particular instance to associate with this particular network IP interface.

Values 1 to 16384

fp- redirect-group *queue-group-name*

This optional parameter specifies the ingress queue-group used for all ingress forwarding-class redirections specified within the network QoS policy ID. The specified queue-group-name must exist as an ingress queue group applied to the ingress context of the forwarding plane associated with the IP interface.

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ingress-instance ***instance-id***

Since multiple instances of the same ingress queue-group can be applied to the same forwarding plane this parameter is required to specify which particular instance to associate with this particular network IP interface.

Values 1 to 16384

Platforms

All

qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name instance instance-id*

no qos

Context

[Tree] (config>service>vprn>network>ingress qos)

Full Context

configure service vprn network ingress qos

Description

This command is used to redirect unicast packets arriving on an automatically (using the **auto-bind-tunnel** command) or manually configured (using a **spoke-sdp** command, but not the **spoke-sdp** command under the VPRN IP interface) binding in a VPRN to a policer in an ingress forwarding plane queue-group for the purpose of rate-limiting.

For the policer to be used, the following must be true:

1. The configured queue group template name must be applied to the forwarding plane on which the ingress traffic arrives using the instance id specified.
2. The policer referenced in the FC-to-policer mappings in the ingress context of a network QoS policy must be present in the specified queue group template.

The command fails if the queue group template name does not exist or if the policer specified in the network QoS policy does not exist in the queue group template. If the queue group template name with the specified instance is not applied to the forwarding plane on which the VPRN binding unicast traffic arrives then this traffic uses the ingress network queues related to the network interface, however, the ingress classification is still based on the applied network QoS policy.

The unicast traffic can be redirected to a policer under the forwarding class **fp-redirect-group** command in the ingress section of a network QoS policy; any **fp-redirect-group multicast-policer, broadcast-policer** or **unknown-policer** commands are ignored for this traffic. Multicast traffic would use the ingress network queues or queue group related to the network interface.

Ingress classification is based on the configuration of the ingress section of the specified network QoS policy, noting that the dot1p and exp classification is based on the outer Ethernet header and MPLS label whereas the DSCP applies to the outer IP header if the tunnel encapsulation is GRE, or the DSCP in the

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first IP header in the payload if **ler-use-dscp** is enabled in the ingress section of the referenced network QoS policy.

When this command is applied, it overrides the QoS applied to the related network interfaces for unicast traffic arriving on bindings in that VPRN.

The **no** version of this command removes the redirection of VPRN binding traffic to the queue-group policers.

Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

fp-redirect-group *queue-group-name*

Specifies the name of the queue group template up to 32 characters in length.

instance *instance-id*

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

qos

Syntax

qos *policy-id*

no qos [*policy-id*]

Context

[Tree] (config>service>ies>aa-if>sap>ingress qos)

[Tree] (config>service>ies>aa-if>sap>egress qos)

[Tree] (config>service>vprn>aa-if>sap>ingress qos)

[Tree] (config>service>vprn>aa-if>sap>egress qos)

Full Context

configure service ies aa-interface sap ingress qos

configure service ies aa-interface sap egress qos

configure service vprn aa-interface sap ingress qos

configure service vprn aa-interface sap egress qos

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Description

This command applies an QoS policy to the SAP.

Default

qos 1

Parameters

policy-id

Specifies an existing QoS policy ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos

Context

[Tree] (config>isa>aa-grp qos)

Full Context

configure isa application-assurance-group qos

Description

Commands in this context configure Quality of Service for this application assurance group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

qos

Syntax

qos *policy-id*

no qos

Context

[Tree] (config>service>ies>video-interface>video-sap>ingress qos)

[Tree] (config>service>ies>video-interface>video-sap>egress qos)

[Tree] (config>service>vprn>video-interface>video-sap>egress qos)

[Tree] (config>service>vprn>video-interface>video-sap>ingress qos)

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Full Context

configure service ies video-interface video-sap ingress qos

configure service ies video-interface video-sap egress qos

configure service vprn video-interface video-sap egress qos

configure service vprn video-interface video-sap ingress qos

Description

This command associates an existing egress or ingress QoS policy to a video interface. If the policy-id does not exist, an error will be returned. Attempts to associate a QoS policy of the wrong type returns an error. Only one QoS policy can be associated with a video interface at one time in the ingress and egress contexts. Attempts to associate a second QoS policy of a given type will return an error.

The **no** form of the command removes the QoS policy association from the video interface, and the QoS policy reverts to the default.

Default

default QoS policy

Parameters

policy-id

The sap-egress or sap-ingress policy ID to associate with the video interface on ingress or egress. The policy ID must already exist.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

qos

Syntax

qos *policy-id*

qos *policy-id* **port-redirect-group** *queue-group-name* **instance** *instance-id*

no qos

Context

[Tree] (config>mirror>mirror-dest>sap>egress qos)

Full Context

configure mirror mirror-dest sap egress qos

Description

This command associates a QoS policy with an egress SAP for a mirrored service.

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By default, no specific QoS policy is associated with the SAP for egress, so the default QoS policy is used.

The **no** form of this command removes the QoS policy association from the SAP, and the QoS policy reverts to the default.

Default

qos 1

Parameters

policy-id

Specifies the QoS policy ID to associate with SAP for the mirrored service. The policy ID must already exist.

Values 1 to 65535

queue-group-name

Specifies the queue group redirect list policy name.

instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

Platforms

All

qos

Syntax

qos *network-policy-id*

qos *network-policy-id* **egress-port-redirect-group** *queue-group-name* **egress-instance** *instance-id* **ingress-fp-redirect-group** *queue-group-name* **ingress-instance** *instance-id*

qos *network-policy-id* **egress-port-redirect-group** *queue-group-name* **egress-instance** *instance-id*

qos *network-policy-id* **ingress-fp-redirect-group** *queue-group-name* **ingress-instance** *instance-id*

no qos

Context

[Tree] (config>router>if qos)

Full Context

configure router interface qos

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Description

This command associates a network Quality of Service (QoS) policy with a network IP interface. Only one network QoS policy can be associated with an IP interface at one time. Attempts to associate a second QoS policy return an error.

Associating a network QoS policy with a network interface is useful for the following purposes:

- To apply classification rules for determining the forwarding-class and profile of ingress packets on the interface.
- To associate ingress packets on the interface with a queue-group instance applied to the ingress context of the interface's forwarding plane (FP). The referenced ingress queue-group instance may have policers defined in order to rate limit ingress traffic on a per-forwarding class (and forwarding type: unicast vs. multicast) basis.
- To perform 802.1p, DSCP, IP precedence and/or MPLS EXP re-marking of egress packets on the interface.
- To associate egress packets on the interface with a queue-group instance applied to the egress context of the interface's port. The referenced egress queue-group instance may have policers and/or queues defined in order to rate limit egress traffic on a per-forwarding class basis.

The **no** form of this command removes the network QoS policy association from the network IP interface, and the QoS policy reverts to the default.

Default

no qos

Parameters

network-policy-id

Specifies an existing network policy ID to associate with the IP interface.

Values 1 to 65535

egress-port-redirect-group *queue-group-name*

This optional parameter specifies the egress queue-group used for all egress forwarding-class redirections specified within the network QoS policy ID. The specified *queue-group-name* must exist as an egress queue group applied to the egress context of the port associated with the IP interface.

egress-instance *instance-id*

Since multiple instances of the same egress queue-group can be applied to the same port this optional parameter is used to specify which instance to associate with this specific network IP interface.

Values 1 to 16384

ingress-fp- redirect-group *queue-group-name*

This optional parameter specifies the ingress queue-group used for all ingress forwarding-class redirections specified within the network QoS policy ID. The specified queue-group-name must exist as an ingress queue group applied to the ingress context of the forwarding plane associated with the IP interface.

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ingress-instance *instance-id*

Since multiple instances of the same ingress queue-group can be applied to the same forwarding plane this parameter is required to specify which instance to associate with this specific network IP interface.

Values 1 to 16384

Platforms

All

qos

Syntax

qos *network-policy-id*

no qos

Context

[Tree] (config>fwd-path-ext>fpe>pw-port-extension>interface-a qos)

[Tree] (config>fwd-path-ext>fpe>srv6>interface-b qos)

[Tree] (config>fwd-path-ext>fpe>srv6>interface-a qos)

[Tree] (config>fwd-path-ext>fpe>pw-port-extension>interface-b qos)

Full Context

configure fwd-path-ext fpe pw-port-extension interface-a qos

configure fwd-path-ext fpe srv6 interface-b qos

configure fwd-path-ext fpe srv6 interface-a qos

configure fwd-path-ext fpe pw-port-extension interface-b qos

Description

This command configures the network QoS policy that is applied to the SRv6 FPE network interface-a or interface-b.

Default

no qos

Parameters

network-policy-id

Specifies the network policy identification. The value uniquely identifies the policy on the system.

Values 1 to 65535

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Platforms

All

- configure fwd-path-ext fpe pw-port-extension interface-b qos
- configure fwd-path-ext fpe pw-port-extension interface-a qos

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure fwd-path-ext fpe srv6 interface-a qos
- configure fwd-path-ext fpe srv6 interface-b qos

qos

Syntax

qos *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*

no qos

Context

[Tree] (cfg>service>vprn>vxlan>inst>network>ingress qos)

Full Context

configure service vprn vxlan instance network ingress qos

Description

This command associates a network Quality of Service (QoS) policy with a FP redirect group instance.

The **no** form of this command removes the network QoS policy association.

Default

no qos

Parameters

network-policy-id

Specifies an existing network policy ID to associate with the IP interface.

Values 1 to 65539 | name (up to 64 characters)

queue-group-name

Specifies the queue group name, up to 32 characters.

instance-id

Specifies the instance to associate with this specific network IP interface.

Values 1 to 65535

Platforms

7750 SR-1, 7750 SR-s

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37.11 qos-marking-from-sap

qos-marking-from-sap

Syntax

[**no**] **qos-marking-from-sap**

Context

[Tree] (config>subscr-mgmt>sla-profile>egress qos-marking-from-sap)

Full Context

configure subscriber-mgmt sla-profile egress qos-marking-from-sap

Description

This command sets the QoS policy from which the egress QoS marking rules are applied.

Note:
If applied to a managed SAP, the default s-egress qos-policy (sap-egress 1) cannot be changed.

The **no** form of this command reverts to the egress QoS marking defined in SAP-egress policy defined at sla-profile level.

Default

qos-marking-from-sap

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

37.12 qos-policy-id-range

qos-policy-id-range

Syntax

qos-policy-id-range start *policy-id* **end** *policy-id*

no qos-policy-id-range

Context

[Tree] (config>qos>md-auto-id qos-policy-id-range)

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Full Context

configure qos md-auto-id qos-policy-id-range

Description

This command specifies the range of IDs used by SR OS to automatically assign an ID to QoS policies that are created in model-driven interfaces without an ID explicitly specified by the user or client.

A QoS policy created with an explicitly-specified ID cannot use an ID in this range. In classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD interfaces, the range can be changed which will cause any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **config>eth-cfm md-auto-id** command for further details.

Default

no qos-policy-id-range

Parameters

start *policy-id*

Specifies the lower value of the ID range. The value must be less than or equal to the **end** value.

Values 1 to 65535

end *policy-id*

Specifies the upper value of the ID range. The value must be greater than or equal to the **start** value.

Values 1 to 65535

Platforms

All

37.13 qos-route-lookup

qos-route-lookup

Syntax

qos-route-lookup [**source** | **destination**]

no qos-route-lookup

Context

[Tree] (config>service>ies>sub-if>grp-if qos-route-lookup)

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[Tree] (config>service>ies>sub-if>grp-if>ipv6 qos-route-lookup)

[Tree] (config>service>vprn>sub-if>grp-if qos-route-lookup)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 qos-route-lookup)

Full Context

configure service ies subscriber-interface group-interface qos-route-lookup

configure service ies subscriber-interface group-interface ipv6 qos-route-lookup

configure service vprn subscriber-interface group-interface qos-route-lookup

configure service vprn subscriber-interface group-interface ipv6 qos-route-lookup

Description

This command enables QoS classification of the ingress IP packets on an interface based on the QoS information associated with routes in the forwarding table.

If the optional **destination** parameter is specified and the destination address of an incoming IP packet matches a route with QoS information the packet is classified to the fc and priority associated with that route, overriding the fc and priority/profile determined from the sap-ingress or network qos policy associated with the IP interface. If the destination address of the incoming packet matches a route with no QoS information the fc and priority of the packet remain as determined by the sap-ingress or network QoS policy.

If the optional **source** parameter is specified and the source address of an incoming IP packet matches a route with QoS information the packet is classified to the fc and priority associated with that route, overriding the fc and priority/profile determined from the sap-ingress or network qos policy associated with the IP interface. If the source address of the incoming packet matches a route with no QoS information the fc and priority of the packet remain as determined by the sap-ingress or network QoS policy.

If neither the optional **source** or **destination** parameter is present, then the default is **destination** address matching.

The functionality enabled by the qos-route-lookup command can be applied to IPv4 packets or IPv6 packets on an interface, depending on whether it is present at the interface context (applies to IPv4) or the interface>ipv6 context (applies to IPv6). The ability to specify source address based QoS lookup is not supported for IPv6. For the 7740 ESS, subscriber management group interfaces also do not support the source QPPB option.

The **no** form of this command reverts to the default.

Default

destination

Parameters

source

Enables QoS classification of incoming IP packets based on the source address matching a route with QoS information.

destination

Enables QoS classification of incoming IP packets based on the destination address matching a route with QoS information.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

qos-route-lookup

Syntax

qos-route-lookup [**source** | **destination** | **source-and-dest**]

no qos-route-lookup

Context

[Tree] (config>service>ies>if>ipv6 qos-route-lookup)

[Tree] (config>service>vprn>if>ipv6 qos-route-lookup)

[Tree] (config>router>if qos-route-lookup)

[Tree] (config>service>ies>if qos-route-lookup)

[Tree] (config>router>if>ipv6 qos-route-lookup)

[Tree] (config>service>vprn>if qos-route-lookup)

Full Context

configure service ies interface ipv6 qos-route-lookup

configure service vprn interface ipv6 qos-route-lookup

configure router interface qos-route-lookup

configure service ies interface qos-route-lookup

configure router interface ipv6 qos-route-lookup

configure service vprn interface qos-route-lookup

Description

This command specifies the IP address type used for QPPB-enabled per-packet QoS handling (in terms of FC and priority). When using QPPB, routes are associated with a QoS treatment (FC and optionally priority) through either explicit configuration or the route policy. If an IPv4 or IPv6 packet arrives on an interface where the configuration of this command applies to the packet, the QoS treatment of the packet is based on the route that matched the destination IP address or the route that matched the source IP address.

See "Enabling QPPB on an interface" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide* for more information about QPPB.

The **no** form of this command configures the router to use the default destination address matching mode.

Default

no qos-route-lookup

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Parameters

source

Keyword to enable QoS classification of incoming IP packets based on the source address. If the route matching the source address does not have QPPB information, the QoS classification of the packet remains as determined by the SAP ingress or network QoS policy.

destination

Keyword to enable QoS classification of incoming IP packets based on the destination address. If the route matching the destination address does not have QPPB information, the QoS classification of the packet remains as determined by the SAP ingress or network QoS policy.

source-and-dest

Keyword to enable QoS classification of incoming IP packets based on the destination address. If the route matching the destination address does not have QPPB information, QoS classification of incoming IP packets is based on the lookup of the source IP address. If neither the destination nor the source lookups find a route with QPPB information, the QoS classification of the packet remains as determined by the SAP ingress or network QoS policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

37.14 query-interval

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>service>vpls>mld-snooping query-interval)

[Tree] (config>service>vpls>igmp-snooping query-interval)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping query-interval)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping query-interval)

[Tree] (config>service>vpls>sap>igmp-snooping query-interval)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping query-interval)

[Tree] (config>service>vpls>sap>mld-snooping query-interval)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping query-interval)

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Full Context

configure service vpls mld-snooping query-interval

configure service vpls igmp-snooping query-interval

configure service vpls spoke-sdp igmp-snooping query-interval

configure service vpls mesh-sdp mld-snooping query-interval

configure service vpls sap igmp-snooping query-interval

configure service vpls spoke-sdp mld-snooping query-interval

configure service vpls sap mld-snooping query-interval

configure service vpls mesh-sdp igmp-snooping query-interval

Description

This command configures the IGMP query interval. If the **send-queries** command is enabled, this parameter specifies the interval between two consecutive general queries sent by the system on this SAP or SDP.

The configured query-interval must be greater than the configured query-response-interval.

If send-queries is not enabled on this SAP or SDP, the configured query-interval value is ignored.

Default

query-interval 125

Parameters

seconds

Specifies the time interval, in seconds, that the router transmits general host-query messages

Values 2 to 1024

Values **config>service>vpls>igmp-snooping**: 1 - 65535
config>service>vpls>sap>igmp-snooping: 2 - 1024

Platforms

All

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>router>igmp>group-interface query-interval)

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[Tree] (config>service>vprn>igmp>group-interface query-interval)

[Tree] (config>service>vprn>mld>group-interface query-interval)

[Tree] (config>router>mld>group-interface query-interval)

Full Context

configure router igmp group-interface query-interval

configure service vprn igmp group-interface query-interval

configure service vprn mld group-interface query-interval

configure router mld group-interface query-interval

Description

This command configures the query interval when the group interface is configured with **no sub-hosts-only**. If nothing is configured, by default, the **query-interval** takes the value defined in the **config>router>igmp** (or **mld**) context or in the **config>service>vprn>igmp** (or **mld**) context.

The **no** form of this command reverts to the default value.

Default

query-interval 125

Parameters

seconds

Specifies the frequency, in seconds, at which the router transmits general host-query messages.

Values 2 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>router>mld query-interval)

[Tree] (config>router>mld>if query-interval)

Full Context

configure router mld query-interval

configure router mld interface query-interval

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Description

This command specifies the frequency that the querier router transmits general host-query messages. The host-query messages solicit group membership information and are sent to the all-systems multicast group address, 224.0.0.1.

The **no** form of this command reverts to the default value.

Default

query-interval 125

Parameters

seconds

The time frequency, in seconds, that the router transmits general host-query messages.

Values 2 to 1024

Platforms

All

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>subscr-mgmt>igmp-policy query-interval)

Full Context

configure subscriber-mgmt igmp-policy query-interval

Description

This command specifies the frequency at which the querier router transmits general host-query messages. Host-query messages solicit group membership information and are sent to the all-systems multicast group address, 224.0.0.1. If nothing is configured, by default, the **query-interval** takes the value defined in the **config>router>igmp** context or in the **config>service>vprn>igmp** context. It is highly recommended that all three query intervals be configured together on each IGMP policy.

The **no** form of this command reverts to the default value.

Parameters

seconds

Specifies the frequency, in seconds, at which the router transmits general host-query messages.

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Values 2 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp query-interval)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping query-interval

Description

This command configures the IGMP query interval. If the **send-queries** command is enabled, this parameter specifies the interval between two consecutive general queries sent by the system on an MSAP or SDP.

The configured query interval must be greater than the configured **query-response** interval.

If **send-queries** is not enabled on an MSAP or SDP, the configured query interval value is ignored.

Default

query-interval 125

Parameters

seconds

Specifies the time interval, in seconds, that the router transmits general host-query messages.

Values 2 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-interval

Syntax

query-interval *seconds*

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no query-interval

Context

[Tree] (config>subscr-mgmt>mld-policy query-interval)

Full Context

configure subscriber-mgmt mld-policy query-interval

Description

This command specifies the frequency at which the querier router transmits general host-query messages. Host-query messages solicit group membership information and are sent to the link-scope all-node address, FF02::1. If nothing is configured, by default, the **query-interval** takes the value defined in the **config>router>mld** context or in the **config> service>vprn>mld** context. It is highly recommended that all three query intervals be configured together on each MLD policy.

The **no** form of this command reverts to the default.

Parameters

seconds

Specifies the frequency, in seconds, at which the router transmits general host-query messages.

Values 2 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>service>vprn>igmp query-interval)

Full Context

configure service vprn igmp query-interval

Description

This command specifies the frequency that the querier router transmits general host-query messages. The host-query messages solicit group membership information and are sent to the all-systems multicast group address, 224.0.0.1.

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Default

query-interval 125

Parameters

seconds

The time frequency, in seconds, that the router transmits general host-query messages.

Values 2 to 1024

Platforms

All

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>service>vprn>mld query-interval)

[Tree] (config>service>vprn>mld>if query-interval)

Full Context

configure service vprn mld query-interval

configure service vprn mld interface query-interval

Description

This command specifies the frequency that the querier router transmits general host-query messages. The host-query messages solicit group membership information and are sent to the all-systems multicast group address, 224.0.0.1.

Default

query-interval 125

Parameters

seconds

The time frequency, in seconds, that the router transmits general host-query messages.

Values 2 to 1024

Platforms

All

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query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>router>igmp>if query-interval)

Full Context

configure router igmp interface query-interval

Description

This command specifies the frequency that the querier router transmits general host-query messages. The host-query messages solicit group membership information and are sent to the all-systems multicast group address, 224.0.0.1.

Default

query-interval 125

Parameters

seconds

Specifies the frequency, in seconds, that the router transmits general host-query messages.

Values 2 to 1024

Platforms

All

query-interval

Syntax

query-interval *seconds*

no query-interval

Context

[Tree] (config>service>pw-template>igmp-snooping query-interval)

Full Context

configure service pw-template igmp-snooping query-interval

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Description

This command configures the IGMP query interval. If the **send-queries** command is enabled, this parameter specifies the interval between two consecutive general queries sent by the system on this SAP or SDP.

The configured query-interval must be greater than the configured query-response-interval.

If send-queries is not enabled on this SAP or SDP, the configured query-interval value is ignored.

Default

query-interval 125

Parameters

seconds

Specifies the time interval, in seconds, that the router transmits general host-query messages.

Values 2 to 1024

Platforms

All

37.15 query-last-listener-interval

query-last-listener-interval

Syntax

query-last-listener-interval *seconds*

no query-last-listener-interval

Context

[Tree] (config>router>mld>group-interface query-last-listener-interval)

[Tree] (config>router>mld>if query-last-listener-interval)

[Tree] (config>service>vprn>mld>group-interface query-last-listener-interval)

Full Context

configure router mld group-interface query-last-listener-interval

configure router mld interface query-last-listener-interval

configure service vprn mld group-interface query-last-listener-interval

Description

This command configures the frequency at which the querier router sends a group-specific query messages, including the messages sent in response to leave-group messages and is only applicable

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when the group interface is configured with the **no sub-hosts-only** command. The shorter the interval, the faster the loss of the last listener of a group can be detected. If nothing is configured, by default, the **query-last-listener-interval** takes the value defined in the **config>router>mld** context or in the **config>service>vprn>mld** context.

The **no** form of this command reverts to the default value.

Default

query-last-listener-interval 1

Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn mld group-interface query-last-listener-interval
- configure router mld group-interface query-last-listener-interval

All

- configure router mld interface query-last-listener-interval

query-last-listener-interval

Syntax

query-last-listener-interval *seconds*

no query-last-listener-interval

Context

[Tree] (config>subscr-mgmt>mld-policy query-last-listener-interval)

Full Context

configure subscriber-mgmt mld-policy query-last-listener-interval

Description

This command configures the frequency at which the querier router sends a group-specific query messages, including the messages sent in response to leave-group messages. The shorter the interval, the faster the loss of the last member of a group can be detected. If nothing is configured, by default, the **query-last-listener-interval** takes the value defined in the **config>router>mld** context or in the **config>service>vprn>mld** context. It is highly recommended that all three query intervals be configured together on each MLD policy.

The **no** form of this command reverts to the default.

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Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-last-listener-interval

Syntax

query-last-listener-interval *seconds*

no query-last-listener-interval

Context

[Tree] (config>service>vprn>mld>if query-last-listener-interval)

[Tree] (config>service>vprn>mld query-last-listener-interval)

Full Context

configure service vprn mld interface query-last-listener-interval

configure service vprn mld query-last-listener-interval

Description

This command specifies the Max Response Time inserted into Group-Specific Queries sent in response to Leave Group messages, and is also the amount of time between Group-Specific Query messages. This value may be tuned to modify the leave latency of the network. A reduced value results in reduced time to detect the loss of the last member of a group.

The **no** form of this command reverts to the default value.

Default

query-last-listener-interval 1

Parameters

seconds

Specifies the frequency, in seconds, at which Group-Specific-Query packets are transmitted.

Values 1 to 1023

Platforms

All

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37.16 query-last-member-interval

query-last-member-interval

Syntax

query-last-member-interval *seconds*

no query-last-member-interval

Context

[Tree] (config>router>igmp>group-interface query-last-member-interval)

Full Context

configure router igmp group-interface query-last-member-interval

Description

This command configures the frequency at which the querier router sends group-specific query messages, including the messages sent in response to leave-group messages and is only applicable when the group interface is configured with **no sub-hosts-only**. The shorter the interval, the faster the loss of the last member of a group can be detected. If nothing is configured, by default, the **query-last-member-interval** takes the value defined in the **config>router>igmp** context.

The **no** form of this command reverts to the default value.

Default

query-last-member-interval 1

Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-last-member-interval

Syntax

query-last-member-interval *seconds*

no query-last-member-interval

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Context

[Tree] (config>router>igmp query-last-member-interval)

[Tree] (config>router>igmp>if query-last-member-interval)

Full Context

configure router igmp query-last-member-interval

configure router igmp interface query-last-member-interval

Description

This command configures the frequency at which the querier sends group-specific query messages including messages sent in response to leave-group messages. The lower the interval, the faster the detection of the loss of the last member of a group.

Default

query-last-member-interval 1

Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1023

Platforms

All

query-last-member-interval

Syntax

query-last-member-interval *seconds*

no query-last-member-interval

Context

[Tree] (config>subscr-mgmt>igmp-policy query-last-member-interval)

Full Context

configure subscriber-mgmt igmp-policy query-last-member-interval

Description

This command configures the frequency at which the querier router sends group-specific query messages, including the messages sent in response to leave-group messages. The shorter the interval, the faster a loss of the last member of a group can be detected. If nothing is configured, by default, the **query-last-member-interval** takes the value defined in the **config>router>igmp** context or the

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config>service>vprn>igmp context. It is highly recommended that all three query intervals be configured together on each IGMP policy.

The **no** form of this command reverts to the default value.

Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-last-member-interval

Syntax

query-last-member-interval *seconds*

Context

[Tree] (config>service>vprn>igmp query-last-member-interval)

[Tree] (config>service>vprn>igmp>grp-if query-last-member-interval)

Full Context

configure service vprn igmp query-last-member-interval

configure service vprn igmp group-interface query-last-member-interval

Description

This command configures the frequency at which the querier sends group-specific query messages including messages sent in response to leave-group messages. The lower the interval, the faster the detection of the loss of the last member of a group.

Default

query-last-member-interval 1

Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1023

Platforms

All

- configure service vprn igmp query-last-member-interval

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7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface query-last-member-interval

query-last-member-interval

Syntax

query-last-member-interval *seconds*

Context

[Tree] (config>service>vprn>mld>if query-last-member-interval)

[Tree] (config>service>vprn>mld query-last-member-interval)

Full Context

configure service vprn mld interface query-last-member-interval

configure service vprn mld query-last-member-interval

Description

This command configures the frequency at which the querier sends group-specific query messages including messages sent in response to leave-group messages. The lower the interval, the faster the detection of the loss of the last member of a group.

Default

query-last-member-interval 1

Parameters

seconds

Specifies the frequency, in seconds, at which query messages are sent.

Values 1 to 1024

Platforms

All

37.17 query-response-interval

query-response-interval

Syntax

query-response-interval *seconds*

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Context

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping query-response-interval)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping query-response-interval)

[Tree] (config>service>vpls>sap>igmp-snooping query-response-interval)

[Tree] (config>service>vpls>sap>mld-snooping query-response-interval)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping query-response-interval)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping query-response-interval)

Full Context

configure service vpls mesh-sdp igmp-snooping query-response-interval

configure service vpls mesh-sdp mld-snooping query-response-interval

configure service vpls sap igmp-snooping query-response-interval

configure service vpls sap mld-snooping query-response-interval

configure service vpls spoke-sdp mld-snooping query-response-interval

configure service vpls spoke-sdp igmp-snooping query-response-interval

Description

This command configures the IGMP query response interval. If the **send-queries** command is enabled, this parameter specifies the maximum response time advertised in IGMPv2 or IGMPv3 queries.

The configured query response interval must be smaller than the configured query interval.

If **send-queries** is not enabled on this SAP or SDP, the configured query response interval value is ignored.

The **no** form of this command reverts to the default value.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time to wait to receive a response to the host-query message from the host.

Values 1 to 1023

Platforms

All

query-response-interval

Syntax

query-response-interval *seconds*

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no query-response-interval

Context

[Tree] (config>router>igmp>group-interface query-response-interval)

[Tree] (config>service>vprn>igmp>group-interface query-response-interval)

[Tree] (config>service>vprn>mld>group-interface query-response-interval)

[Tree] (config>service>vprn>igmp query-response-interval)

[Tree] (config>router>mld>group-interface query-response-interval)

Full Context

configure router igmp group-interface query-response-interval

configure service vprn igmp group-interface query-response-interval

configure service vprn mld group-interface query-response-interval

configure service vprn igmp query-response-interval

configure router mld group-interface query-response-interval

Description

This command configures the query response interval on when the group interface is configured with the **no sub-hosts-only** command. If nothing is configured, by default, the **query-response-interval** takes the value defined in the **config>router>igmp** (or **mld**) context or in the **config>service>vprn>igmp** (or **mld**) context.

The **no** form of this command reverts to the default value.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time to wait to receive a host-query message response from the host.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn mld group-interface query-response-interval
- configure router mld group-interface query-response-interval
- configure router igmp group-interface query-response-interval
- configure service vprn igmp group-interface query-response-interval

All

- configure service vprn igmp query-response-interval

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query-response-interval

Syntax

query-response-interval *seconds*

no query-response-interval

Context

[Tree] (config>router>mld>if query-response-interval)

[Tree] (config>router>mld query-response-interval)

Full Context

configure router mld interface query-response-interval

configure router mld query-response-interval

Description

This command specifies how long the querier router waits to receive a response to a host-query message from a host.

The **no** form of this command reverts to the default value.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time to wait to receive a response to the host-query message from the host.

Values 1 to 1023

Platforms

All

query-response-interval

Syntax

query-response-interval *seconds*

no query-response-interval

Context

[Tree] (config>router>igmp>if query-response-interval)

[Tree] (config>router>igmp query-response-interval)

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Full Context

configure router igmp interface query-response-interval

configure router igmp query-response-interval

Description

This command specifies how long the querier router waits to receive a response to a host-query message from a host.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time to wait to receive a response to the host-query message from the host.

Values 1 to 1023

Platforms

All

query-response-interval

Syntax

query-response-interval *seconds*

no query-response-interval

Context

[Tree] (config>subscr-mgmt>igmp-policy query-response-interval)

Full Context

configure subscriber-mgmt igmp-policy query-response-interval

Description

This command configures the query response interval. If nothing is configured, by default, the **query-response-interval** takes the value defined in the **config>router>igmp** context or in the **config>service>vprn>igmp** context. It is highly recommended that all three query intervals be configured together on each IGMP policy.

The **no** form of this command reverts to the default value.

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Parameters

seconds

Specifies the length of time, in seconds, that the querier router waits to receive a response to from the host.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-response-interval

Syntax

query-response-interval *seconds*

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp query-response-interval)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping query-response-interval

Description

This command configures the IGMP query response interval. If the **send-queries** command is enabled, this parameter specifies the maximum response time advertised in IGMPv2/v3 queries.

The configured query-response-interval must be smaller than the configured **query-interval**.

If **send-queries** is not enabled on an MSAP or SDP, the configured query-response-interval value is ignored.

The **no** form of this command reverts to the default.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time, in seconds, to wait to receive a response to the host-query message from the host.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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query-response-interval

Syntax

query-response-interval *seconds*

no query-response-interval

Context

[Tree] (config>subscr-mgmt>mld-policy query-response-interval)

Full Context

configure subscriber-mgmt mld-policy query-response-interval

Description

This command configures the query response interval. If nothing is configured, by default, the **query-response-interval** takes the value defined in the **config>router>mld** context or in the **config>service>vprn>mld** context. It is highly recommended that all three query intervals be configured together on each MLD policy.

The **no** form of this command reverts to the default.

Parameters

seconds

Specifies the length of time that the querier router waits to receive a response to from the host.

Values 1 to 1023

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-response-interval

Syntax

query-response-interval *seconds*

Context

[Tree] (config>service>vprn>mld query-response-interval)

[Tree] (config>service>vprn>mld>if query-response-interval)

Full Context

configure service vprn mld query-response-interval

configure service vprn mld interface query-response-interval

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Description

This command specifies how long the querier router waits to receive a response to a host-query message from a host.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time to wait to receive a response to the host-query message from the host.

Values 1 to 1023

Platforms

All

query-response-interval

Syntax

query-response-interval *seconds*

no query-response-interval

Context

[Tree] (config>service>pw-template>igmp-snooping query-response-interval)

Full Context

configure service pw-template igmp-snooping query-response-interval

Description

This command configures the IGMP query response interval. If the **send-queries** command is enabled, this parameter specifies the maximum response time advertised in IGMPv2/v3 queries.

The configured **query-response-interval** must be smaller than the configured **query-interval**.

If **send-queries** is not enabled on this SAP or SDP, the configured **query-response-interval** value is ignored.

Default

query-response-interval 10

Parameters

seconds

Specifies the length of time to wait to receive a response to the host-query message from the host.

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Values 1 to 1023

Platforms

All

37.18 query-src-ip

query-src-ip

Syntax

query-src-ip *ip-address*

no query-src-ip

Context

[Tree] (config>service>vpls>igmp-snooping query-src-ip)

Full Context

configure service vpls igmp-snooping query-src-ip

Description

This command configures the IP source address used in IGMP or MLD queries.

The **no** form of this command removes the IP address from this configuration.

Parameters

ip-address

Specifies an IPv4 address in the form of a.b.c.d or an IPv6 address in the following form:

x:x:x:x:x:x:x:x:x:x:x:d.d.d.d

where:

x - [0 to FF]

d - [0 to 255]

Platforms

All

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query-src-ip

Syntax

query-src-ip *ipv6-address*

no query-src-ip

Context

[Tree] (config>service>vpls>mld-snooping query-src-ip)

Full Context

configure service vpls mld-snooping query-src-ip

Description

This command configures the IP source address used in MLD queries.

Parameters

ipv6-address

Specifies an IPv6 address in the following form:

x:x:x:x:x:x:x:x (eight 16-bit pieces)

Platforms

All

query-src-ip

Syntax

query-src-ip *ip-address*

no query-src-ip

Context

[Tree] (config>service>vprn>igmp>grp-if query-src-ip)

Full Context

configure service vprn igmp group-interface query-src-ip

Description

This command configures the query source IP address for the group interface. This IP address overrides the source IP address configured at the router level.

The **no** form of this command removes the IP address.

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Parameters

ip-address

Sets the source IPv4 address for all subscriber's IGMP queries.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-src-ip

Syntax

query-src-ip *ip-address*

no query-src-ip

Context

[Tree] (config>router>igmp>group-interface query-src-ip)

Full Context

configure router igmp group-interface query-src-ip

Description

This command configures the query source IP address for the group interface. This IP address overrides the source IP address configured at the router level.

The **no** form of the command removes the IP address.

Parameters

ip-address

Sets the source IPv4 address for all subscriber's IGMP queries.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

query-src-ip

Syntax

query-src-ip *ipv6-address*

no query-src-ip

Context

[Tree] (config>router>mld>group-interface query-src-ip)

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Full Context

configure router mld group-interface query-src-ip

Description

This command configures the query source IPv6 address for the group interface. This IP address overrides the source IP address configured at the router level.

The **no** form of this command removes the IPv6 address.

Parameters

ipv6-address

Sets the source IPv6 address for all subscriber's MLD queries.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

37.19 queue

queue

Syntax

queue *queue-id* {**ingress-only** | **egress-only** | **ingress-egress**}

no queue *queue-id*

Context

[Tree] (config>subscr-mgmt>cat-map>category queue)

Full Context

configure subscriber-mgmt category-map category queue

Description

This command configures a queue in this category.

The **no** form of this command reverts to the default.

Parameters

queue-id

Specifies the queue ID for this instances. Each queue nominated in the category map is monitored for activity (over a period of approximately 60 seconds), should the activity fall below the threshold value then a time is started. Whenever this timer exceeds the configured timeout under the idle-timeout the action (currently disconnect) is executed for that subscriber and all hosts under that given SLA-profile-instance.

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Values 1 to 32

ingress-only

Specifies that ingress queues are defined in this category.

egress-only

Specifies that egress queues are defined in this category.

ingress-egress

Specifies that ingress and egress queues are defined in this category.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr queue)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue

Description

This command specifies the queue-id for which counters are collected in this custom record. The counters that are collected are defined in egress and ingress counters.

The **no** form of this command reverts to the default value.

Parameters

queue-id

Specifies the queue-id for which counters are collected in this custom record.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

queue

Syntax

[**no**] **queue** *queue-id*

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Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos queue)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos queue)

Full Context

configure subscriber-mgmt sla-profile ingress qos queue

configure subscriber-mgmt sla-profile egress qos queue

Description

Commands in this context configure egress or ingress queue parameters. Parameters defined in the **config>qos>sap-egress** *policy-id* or the **config>qos>sap-ingress** *policy-id* context are overridden by parameters specified in the subscriber management SLA profile context.

The classification and the queue mapping are shared by all the hosts on the same complex that use the same QoS policy (specified in the **sla-profile** SAP egress and SAP ingress policy IDs).

The queues are shared by all the hosts (of the same subscriber) on the same SAP that are using the same SLA profile. Queues are instantiated when, on a given SAP, a host of a subscriber is the first to use a certain SLA profile. This instantiation is referred to as an SLA profile instance.

The **no** form of this command removes the *queue-id* from the SLA profile.

Parameters

queue-id

Specifies the queue ID for the SAP egress or ingress queue, expressed as a decimal integer. The ID uniquely identifies the queue within the profile.

Values 1 to 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

Context

[Tree] (config>service>vpls>sap>egress>queue-override queue)

[Tree] (config>service>vpls>sap>ingress>queue-override queue)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress>queue-override queue)

[Tree] (config>service>ies>if>sap>ingress>queue-override queue)

[Tree] (config>service>ies>if>sap>egress>queue-override queue)

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Full Context

configure service vpls sap egress queue-override queue

configure service vpls sap ingress queue-override queue

configure service ies subscriber-interface group-interface sap egress queue-override queue

configure service ies interface sap ingress queue-override queue

configure service ies interface sap egress queue-override queue

Description

This command specifies the ID of the queue whose parameters are to be overridden.

The **no** form of this command removes the queue ID from the configuration.

Parameters

queue-id

Specifies the queue ID whose parameters are to be overridden.

Values 1 to 8 for SAP egress
1 to 32 for SAP ingress

create

Keyword used to create the queue ID. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

Context

[Tree] (config>port>eth>network>egr>qgrp>qover queue)

[Tree] (config>port>ethernet>access>egr>qgrp>qover queue)

Full Context

configure port ethernet network egress queue-group queue-overrides queue

configure port ethernet access egress queue-group queue-overrides queue

Description

This command associates a queue for use in a queue group template. The defined queue-id acts as a repository for the default parameters for the queue. The template queue is created on each queue-group

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object which is created with the queue group template name. Each queue is identified within the template by a queue-id number. The template ensures that all queue groups created with the template's name will have the same queue-ids providing a uniform structure for the forwarding class redirection commands in the SAP egress QoS policies. The parameters within the template queue will be used as the default settings for each queue in the actual queue group. The queue parameters may be individually changed for each queue in each queue group using per queue overrides.

The **no** form of this command removes the queue-id from the configuration.

Parameters

queue-id

Specifies the queue ID.

Values 1 to 8

create

Mandatory when creating an entry.

Platforms

All

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

Context

[Tree] (config>port>ethernet>access>ing>qgrp>qover queue)

Full Context

configure port ethernet access ingress queue-group queue-overrides queue

Description

This command associates a queue for use in a queue group template. The defined queue-id acts as a repository for the default parameters for the queue. The template queue is created on each queue-group object which is created with the queue group template name. Each queue is identified within the template by a queue-id number. The template ensures that all queue groups created with the template's name will have the same queue-ids providing a uniform structure for the forwarding class redirection commands in the SAP egress QoS policies. The parameters within the template queue will be used as the default settings for each queue in the actual queue group. The queue parameters may be individually changed for each queue in each queue group using per queue overrides.

The **no** form of this command removes the queue-id from the configuration.

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Parameters

queue-id

Specifies the queue ID.

Values 1 to 32

create

Mandatory when creating an entry.

Platforms

All

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

Context

[Tree] (config>service>ipipe>sap>ingress>queue-override queue)

[Tree] (config>service>epipe>sap>egress>queue-override queue)

[Tree] (config>service>cpipe>sap>ingress>queue-override queue)

[Tree] (config>service>epipe>sap>ingress>queue-override queue)

[Tree] (config>service>ipipe>sap>egress>queue-override queue)

[Tree] (config>service>cpipe>sap>egress>queue-override queue)

Full Context

configure service ipipe sap ingress queue-override queue

configure service epipe sap egress queue-override queue

configure service cpipe sap ingress queue-override queue

configure service epipe sap ingress queue-override queue

configure service ipipe sap egress queue-override queue

configure service cpipe sap egress queue-override queue

Description

This command specifies the ID of the queue whose parameters are to be overridden.

Parameters

queue-id

The queue ID whose parameters are to be overridden.

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Values 1 to 32

create

This keyword is mandatory when creating a queue.

Platforms

All

- configure service ipipe sap ingress queue-override queue
- configure service epipe sap egress queue-override queue
- configure service epipe sap ingress queue-override queue
- configure service ipipe sap egress queue-override queue

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue
- configure service cpipe sap ingress queue-override queue

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override queue)

[Tree] (config>service>vprn>if>sap>ingress>queue-override queue)

Full Context

configure service vprn interface sap egress queue-override queue

configure service vprn interface sap ingress queue-override queue

Description

This command specifies the ID of the queue whose parameters are to be overridden.

Parameters

queue-id

Specifies the queue ID whose parameters are to be overridden.

Values 1 to 32

create

Keyword used to create the group override instance.

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Platforms

All

queue

Syntax

queue *queue-id* [**group** *queue-group-name*]

no queue

Context

[Tree] (config>qos>sap-ingress>fc queue)

Full Context

configure qos sap-ingress fc queue

Description

This command overrides the default queue mapping for **fc** fc-name. The specified queue-id must exist within the policy before the mapping can be made. When the forwarding class mapping is executed, all traffic classified to fc-name on a SAP using this policy.

The **no** form of this command sets the queue-id back to the default queue for the forwarding class.

Default

queue 1

Parameters

queue-id

Specifies the SAP egress queue-id to be associated with the forwarding class. The queue-id must be an existing queue defined in sap-egress policy-id.

Values 1 — 8

Default 1

group *queue-group-name*

This optional parameter is used to redirect the forwarding type within the forwarding class to the specified *queue-id* within the *queue-group-name*. When the policy is applied, all packets matching the forwarding class and forwarding type will be redirected to the queue within the specified queue group. The queue-group-name are configured in the **config>qos>queue-group-templates** egress and ingress contexts. This parameter is used when policy-based queue group redirection is desired. That is, the specific queue group to redirect to is named in the QoS policy.

Platforms

All

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queue

Syntax

queue *queue-id* [**multipoint**] [*queue-type*] [*queue-mode*] [**create**]

no queue *queue-id*

Context

[Tree] (config>qos>sap-ingress queue)

Full Context

configure qos sap-ingress queue

Description

This command creates the context to configure an ingress SAP QoS policy queue.

Explicit definition of an ingress queue's type is supported. A single ingress queue allows support for multiple forwarding classes. The default behavior automatically chooses the expedited or best effort nature of the queue based on the forwarding classes mapped to it. As long as all forwarding classes mapped to the queue are expedited (nc, ef, h1, or h2), the queue is treated as an expedited queue by the hardware schedulers. When any best effort forwarding classes are mapped to the queue (be, af, l1, or l2), the queue is treated as best effort (be) by the hardware schedulers. The queue type must be defined at the time of queue creation within the policy.

The **queue** command allows the creation of multipoint queues. Only multipoint queues can receive ingress packets that need flooding to multiple destinations. By separating the unicast for multipoint traffic at service ingress and handling the traffic on separate multipoint queues, special handling of the multipoint traffic is possible. Each queue acts as an accounting and (optionally) shaping device offering precise control over potentially expensive multicast, broadcast, and unknown unicast traffic. Only the back-end support of multipoint traffic (between the forwarding class and the queue based on forwarding type) needs to be defined. The individual classification rules used to place traffic into forwarding classes are not affected. Queues must be defined as multipoint at the time of creation within the policy.

The multipoint queues are for multipoint-destined service traffic. Within non-multipoint services, such as Epipe services, all traffic is considered unicast due to the nature of the service type. Multicast and broadcast-destined traffic in an Epipe service will not be mapped to a multipoint service queue.

When an ingress SAP QoS policy with multipoint queues is applied to an Epipe SAP, the multipoint queues are not created. When an ingress SAP QoS policy with multipoint queues is applied to an IES SAP, a multipoint queue will be created when PIM is enabled on the IES interface.

Any billing or statistical queries about a multipoint queue on a non-multipoint service returns zero values. Any queue parameter information requested about a multipoint queue on a non-multipoint service returns the queue parameters in the policy. Buffers will not be allocated for multipoint queues on non-multipoint services. Buffer pool queries return zero values for actual buffers allocated and current buffer utilization.

The **no** form of this command removes the *queue-id* from the SAP ingress QoS policy and from any existing SAPs using the policy. If any forwarding class forwarding types are mapped to the queue, they revert to their default queues. When a queue is removed, any pending accounting information for each SAP queue created due to the definition of the queue in the policy is discarded.

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Parameters

queue-id

The *queue-id* for the queue, expressed as an integer. The *queue-id* uniquely identifies the queue within the policy. This is a required parameter each time the queue command is executed.

Values 1 to 32

queue-type

The **expedite**, **best-effort**, and **auto-expedite** queue types are mutually exclusive. Each defines the method that the system uses to service the queue from a hardware perspective. A keyword can be specified at the time the queue is created. If an attempt to change the keyword after the queue is initially defined, an error is generated.

Values expedite, best-effort, auto-expedite

expedite — This keyword ensures that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort — This keyword ensures that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

auto-expedite — This keyword allows the system to auto-define the way the queue is serviced by the hardware. When **auto-expedite** is defined on the queue, the queue is treated in an expedited manner when all forwarding classes mapped to the queue are configured as expedited types nc, ef, h1 or h2. When a single non-expedited forwarding class is mapped to the queue (be, af, l1, and l2), the queue automatically falls back to non-expedited status.

Default auto-expedite

multipoint

This optional keyword specifies that this *queue-id* is for multipoint forwarded traffic only. This *queue-id* can only be explicitly mapped to the forwarding class multicast, broadcast, or unknown unicast ingress traffic. If forwarding class unicast traffic is mapped to a multipoint queue, an error is generated and no changes are made to the current unicast traffic queue mapping.

A queue must be created as multipoint. The **multipoint** designator cannot be defined after the queue is created. If an attempt is made to modify the command to include the **multipoint** keyword, an error is generated and the command will not execute.

The **multipoint** keyword can be entered in the command line on a preexisting multipoint queue to edit *queue-id* parameters.

Default non-multipoint (unicast queue)

queue-mode

Specifies the mode in which the queue is operating. This attribute is associated with the queue at the time of creation and cannot be modified thereafter.

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Values **profile-mode**: When the queue is operating in the profile mode (or the color aware mode), the queue tries to provide the appropriate bandwidth to the packets with different profiles. The profiles are assigned according to the configuration of the forwarding class or the sub-forwarding class.

priority-mode: The queue is capable of handling traffic differently with two distinct priorities. These priorities are assigned by the stages preceding the queueing framework in the system. In priority mode, the queue does not have the functionality to support the profiled traffic and in such cases the queue will have a degraded performance. However, the converse is not valid and a queue in-profile mode should be capable of supporting the different priorities of traffic.

Default priority-mode

create

Keyword creates an ingress SAP QoS policy queue.

Platforms

All

queue

Syntax

queue *queue-id* [{**group** *queue-group-name* [**instance** *instance-id*] | **port-redirect-group-queue**}]

no queue

Context

[Tree] (config>qos>sap-egress>fc queue)

Full Context

configure qos sap-egress fc queue

Description

This command overrides the default queue mapping for **fc** fc-name. The specified queue ID must exist within the policy before the mapping can be made. When the forwarding class mapping is executed, all traffic is classified to fc-name on a SAP using this policy.

The **no** form of this command sets the queue-id back to the default queue for the forwarding class (queue 1).

Default

no queue

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Parameters

queue-id

Specifies the SAP egress queue-id to be associated with the forwarding class. The queue-id must be an existing queue defined in sap-egress policy-id.

Values 1 to 8

Default 1

queue-group-name

This optional parameter is used to redirect the forwarding type within the forwarding class to the specified *queue-id* within the *queue-group-name*. When the policy is applied, all packets matching the forwarding class and forwarding type will be redirected to the queue within the specified queue group. The queue-group-name are configured in the **config>qos>queue-group-templates** egress and ingress contexts. This parameter is used when policy-based queue group redirection is desired. That is, the specific queue group to redirect to is named in the QoS policy.

instance-id

This parameter is used to specify the specific instance of a queue group with template queue-group-name to which this queue should be redirected. This parameter is only valid for queue groups on egress ports where policy-based redirection is required.

Values 1 to 40960

Default 1

port-redirect-group-queue

This keyword is used to mark a given forwarding class queue for redirection to an egress queue group queue. This is only used when the specific queue group instance is assigned at the time the QoS policy is applied to the SAP. This redirection model is known as SAP-based redirection.

Platforms

All

queue

Syntax

queue *queue-id* [*queue-type*] [**create**]

no queue *queue-id*

Context

[Tree] (config>qos>sap-egress queue)

Full Context

configure qos sap-egress queue

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Description

This command creates the context to configure an egress service access point (SAP) QoS policy queue.

Explicit definition of an egress queue's type is supported. A single egress queue allows support for multiple forwarding classes. The default behavior automatically chooses the expedited or best effort nature of the queue based on the forwarding classes mapped to it. As long as all forwarding classes mapped to the queue are expedited (nc, ef, h1, or h2), the queue is treated as an expedited queue by the hardware schedulers. When any best effort forwarding classes are mapped to the queue (be, af, l1, or l2), the queue is treated as best effort by the hardware schedulers. The queue type must be defined at the time of queue creation within the policy.

The **no** form of this command removes the *queue-id* from the SAP egress QoS policy and from any existing SAPs using the policy. If any forwarding class forwarding types are mapped to the queue, they revert to their default queues. When a queue is removed, any pending accounting information for each SAP queue created due to the definition of the queue in the policy is discarded.

Parameters

queue-id

The ID for the queue, expressed as an integer. The *queue-id* uniquely identifies the queue within the policy. This is a required parameter each time the queue command is executed.

Values 1 to 32

queue-type

Specifies the method that system uses to service the queue from a hardware perspective. A keyword can be specified at the time the queue is created. If an attempt is made to change the keyword after the queue is initially defined, an error is generated.

Values **expedite** - Specifies that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort - Specifies that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

auto-expedite - Allows the system to auto-define the way the queue is serviced by the hardware. When **auto-expedite** is defined on the queue, the queue is treated in an expedited manner when all forwarding classes mapped to the queue are configured as expedited types nc, ef, h1, or h2. When a single non-expedited forwarding class is mapped to the queue (be, af, l1, and l2), the queue automatically falls back to non-expedited status.

Default auto-expedite

create

Creates an entry for the queue.

Platforms

All

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queue

Syntax

queue *queue-id* **sched-class** *class-id*

queue *queue-id* **unattached**

queue *queue-id* **wrr-group** *wrr-group-id*

no queue *queue-id*

Context

[Tree] (config>qos>hs-attachment-policy queue)

Full Context

configure qos hs-attachment-policy queue

Description

This command defines how the specified queue-id is attached to the scheduler. A queue may have one of four attachment states:

- directly attached to a scheduler class
- attached to a WRR group which is attached to a scheduler class
- attached to a WRR group which is unattached
- unattached

The following items are rules for attachment:

- Only one queue or WRR group can be attached to a given scheduling class. If another queue or a WRR group is currently attached to the specified scheduling class, the queue's attachment command fails and the current attachment for the *queue-id* is unchanged.
- Queues must be attached to scheduler classes (directly or indirectly through a WRR group) in an ascending order.

  For example, if queue 3 is attached to scheduler class 2, queues 1 and 2 cannot be attached to scheduling classes 3 through 6 (or attached to a WRR group that is attached to scheduling classes 3 through 6).
- Up to six queues can be placed in any WRR group. These queues can all be in one WRR group or be spread between both WRR groups. Attempting to execute the **wrr-group** keyword on a seventh queue within the attachment policy fails.
- Queues must attach to WRR groups in contiguous order.
- WRR group 1 must have lower queue ID members than WRR group 2. Attempting to attach a queue ID to group 1 that is higher than any queue ID currently attached to group 2 fails with no change to the current attachment state for that queue ID. Attempting to attach a queue ID to group 2 that is lower than any queue ID currently attached to group 1 fails with no change to the current attachment state for that queue ID.
- WRR group 1 must have at least one attached member queue before queues can be attached to WRR group 2.

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- Queues and WRR groups can be unattached at any time.
  - Unattached queues, or queues attached to an unattached WRR group, discard all received packets. Normal discard accounting is maintained.
  - The unattached state for an in-service queue or WRR group is intended for **hs-attachment-policy** editing purposes and is expected to be an intermediate state in this case.

When an **hs-attachment-policy** is initially created, all queues and both WRR groups default to the unattached state. Each queue and WRR group attachment state must be explicitly configured.

The **no** form of the command reverts to the default unattached attachment state for queue ID. The command fails if the specified *queue-id* is currently in a WRR group and removing the queue from that group causes the queue IDs for that group to become discontinuous.

Default

queue *queue-id* unattached

Parameters

queue-id

Specifies the queue identifier for the HS attachment policy queue. This parameter is required when executing the command.

Values 1 to 8

sched-class

Specifies a direct attachment between the *queue-id* and one of the six scheduling classes. A value of 1 through 6 must accompany the **sched-class** keyword representing the queue's attached scheduling class. The **sched-class**, **group**, and **unattached** keywords are mutually exclusive. One of the keywords must be specified when the **queue** attachment command is executed.

class-id

Specifies the scheduling class that is associated with this *queue-id*.

Values 1 to 6

wrr-group

Specifies the inclusion of the *queue-id* in either WRR group 1 or WRR group 2. A value of 1 or 2 must accompany the **wrr-group** keyword representing the queue's attached WRR group number. Queues placed in a WRR group must have contiguous queue IDs. The **sched-class**, **group**, and **unattached** keywords are mutually exclusive. One of the keywords must be specified when the **queue** attachment command is executed.

wrr-group-id

Specifies the WRR group to which the queue-id is to be attached.

Values 1, 2

unattached

Indicates that the *queue-id* is not attached to any scheduling class or WRR group. An unattached queue does not forward any packets. The **sched-class**, **group**, and **unattached** keywords are mutually exclusive. One of the keywords must be specified when the **queue** attachment command is executed.

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Platforms

7750 SR-7/12/12e

queue

Syntax

queue *queue-id* [**multipoint**] [*queue-type*] [**create**]

no queue *queue-id*

Context

[Tree] (config>qos>network-queue>fc queue)

Full Context

configure qos network-queue fc queue

Description

Commands in this context configure a QoS network-queue policy queue.

Explicit definition of an ingress queue's type status is supported. A single ingress queue allows support for multiple forwarding classes. The default behavior automatically chooses the expedited or best effort nature of the queue based on the forwarding classes mapped to it. As long as all forwarding classes mapped to the queue are expedited (nc, ef, h1, or h2), the queue is treated as an expedited queue by the hardware schedulers. When any best effort forwarding classes are mapped to the queue (be, af, l1, or l2), the queue is treated as best effort (be) by the hardware schedulers. The queue type must be defined at the time of queue creation within the policy.

The **queue** command allows the creation of multipoint queues. Only multipoint queues can receive ingress packets that need flooding to multiple destinations. By separating the unicast for multipoint traffic at service ingress and handling the traffic on separate multipoint queues, special handling of the multipoint traffic is possible. Each queue acts as an accounting and (optionally) shaping device offering precise control over potentially expensive multicast, broadcast, and unknown unicast traffic. Only the back-end support of multipoint traffic (between the forwarding class and the queue based on forwarding type) needs to be defined. The individual classification rules used to place traffic into forwarding classes are not affected. Queues must be defined as multipoint at the time of creation within the policy.

The multipoint queues are for multipoint traffic.

The multipoint queues are for multipoint-destined service traffic. Within non-multipoint services, such as Epipe services, all traffic is considered unicast due to the nature of the service type. Multicast and broadcast-destined traffic in an Epipe service will not be mapped to a multipoint service queue.

When a QoS policy with multipoint queues is applied to an Epipe or IES SAP, the multipoint queues are not created. Any billing or statistical queries about a multipoint queue on a non-multipoint service returns zero values. Any queue parameter information requested about a multipoint queue on a non-multipoint service returns the queue parameters in the policy. Buffers will not be allocated for multipoint queues on non-multipoint services. Buffer pool queries return zero values for actual buffers allocated and current buffer utilization.

The **no** form of this command removes the *queue-id* from the network-queue policy and from any existing SAPs using the policy. If any forwarding class forwarding types are mapped to the queue, they revert to

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their default queues. When a queue is removed, any pending accounting information for each SAP queue created due to the definition of the queue in the policy is discarded.

Parameters

queue-id

The *queue-id* for the queue, expressed as an integer. The *queue-id* uniquely identifies the queue within the policy. This is a required parameter each time the queue command is executed.

Values 1 to 32

multipoint

This optional keyword specifies that this *queue-id* is for multipoint forwarded traffic only. This *queue-id* can only be used to forward multicast, broadcast, or unknown unicast ingress traffic.

A queue must be created as multipoint. The **multipoint** designator cannot be defined after the queue is created. If an attempt is made to modify the command to include the **multipoint** keyword, an error is generated, and the command will not execute.

The **multipoint** keyword can be entered in the command line on a preexisting multipoint queue to edit *queue-id* parameters.

Default Non-multipoint (unicast queue)

queue-type

The **expedite**, **best-effort**, and **auto-expedite** queue types are mutually exclusive. Each defines the method that the system uses to service the queue from a hardware perspective. While parental virtual schedulers can be defined for the queue, they only enforce how the queue interacts for bandwidth with other queues associated with the same scheduler hierarchy. An internal mechanism that provides access rules when the queue is vying for bandwidth with queues in other virtual schedulers is also needed. A keyword must be specified at the time the queue is created in the network-queue policy. If an attempt is made to change the keyword after the queue is initially defined, an error is generated.

Values expedite, best-effort, auto-expedite

expedite — This keyword ensures that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort — This keyword ensures that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

auto-expedite — This keyword allows the system to auto-define the way the queue is serviced by the hardware. When **auto-expedite** is defined on the queue, the queue is treated in an expedited manner when all forwarding classes mapped to the queue are configured as expedited types nc, ef, h1 or h2. When a single non-expedited forwarding class is mapped to the queue (be, af, l1, and l2), the queue automatically falls back to non-expedited status.

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Default auto-expedite

Platforms

All

queue

Syntax

queue *queue-id* [**multipoint**] [*queue-type*] [*queue-mode*] [**create**]

no queue *queue-id*

Context

[Tree] (config>qos>qgrps>ing>queue-group queue)

Full Context

configure qos queue-group-templates ingress queue-group queue

Description

This command creates a queue for use in a queue group template. When created, the defined queue-id acts as a repository for the default parameters for the queue. The template queue is created on each queue-group object that is created with the queue group template name. Each queue is identified within the template by a queue-id number. The template ensures that all queue groups created with the template name will have the same queue-ids providing a uniform structure for the forwarding class redirection commands in the SAP ingress QoS policies. The parameters within the template queue will be used as the default settings for each queue in the actual queue group. The queue parameters may be individually changed for each queue in each queue group using per queue overrides.

When a queue within a template is mapped by a forwarding class on any object, the queue may be edited, but not deleted.

The **no** form of this command removes a template queue from the queue group template. If the queue is specified as a forwarding class redirection target in any SAP ingress QoS policy, the command will fail.

Parameters

queue-id

This required parameter identifies the queue that will either be created or edited within the queue group template.

Values 1 to 32

multipoint

This optional keyword creates an ingress multipoint queue. Multipoint queues in a queue group may be used by ingress VPLS for forwarding types multicast, broadcast or unknown within a forwarding class. For ingress IES and VPRN access SAPs, only multicast is supported. Multipoint queues are only supported on ingress queue group templates.

Default non-multipoint (unicast queue)

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queue-type

The queue types are mutually exclusive.

Values **expedite —** This keyword ensures that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort — This keyword ensures that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

Default best-effort

queue-mode

These keywords are optional and mutually exclusive when creating a new template queue. The keywords specify how the queue manages ingress explicitly profiled packets.

Values **profile-mode** — Overrides the default priority mode of the queue and allows the adoption of color aware profiling within the queue. Forwarding classes and subclasses may be explicitly defined as in-profile or out-of-profile. Out-of-profile classified packets bypass the CIR rate associated with the queue, reserving it for the undefined or in-profile classified packets. If the template queue is not defined as profile-mode and the packet redirected to the queue is explicitly out-of-profile based on the classification rules, the queues within-CIR bandwidth may be consumed by the packet.

priority-mode — Defines that the SAP ingress QoS policy priority classification result will be honored by the queue. Priority mode is the default mode of the queue. High-priority packets are allowed into the queue up to the MBS defined for the queue. Low-priority packets are discarded at the low-priority MBS threshold that is derived from applying the low drop-tail percentage to the queue's MBS.

create

Keyword used to create the queue ID instance.

Platforms

All

queue

Syntax

queue *queue-id*

no queue

Context

[Tree] (config>qos>qgrps>egr>qgrp>fc queue)

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Full Context

configure qos queue-group-templates egress queue-group fc queue

Description

This command is used to map the forwarding class to the specified *queue-id*. The specified *queue-id* must exist within the egress queue group template. When a queue is defined in a forwarding class mapping, that queue cannot be deleted unless the forwarding class mapping is moved to another queue within the template. Other criteria may also exist preventing the queue from being deleted from the template such as an applied SAP egress QoS policy mapping to the queue.

Parameters

queue-id

The specified *queue-id* must exist within the egress queue group template.

Values 1 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

queue

Syntax

queue *queue-id* [*queue-type*] [**create**]

no queue *queue-id*

Context

[Tree] (cfg>qos>qgrps>egr>queue-group queue)

Full Context

configure qos queue-group-templates egress queue-group queue

Description

This command creates a queue for use in a queue group template. When created, the defined *queue-id* acts as a repository for the default parameters for the queue. The template queue is created on each queue group object that is created with the queue group template name. Each queue is identified within the template by a queue ID. The template ensures that all queue groups created with the template name will have the same queue-ids providing a uniform structure for the forwarding class redirection commands in the SAP egress QoS policies. The parameters within the template queue will be used as the default settings for each queue in the actual queue group. The queue parameters may be individually changed for each queue in each queue group using per queue overrides.

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Parameters

queue-id

Specifies the queue ID. The specified *queue-id* must exist within the egress queue group template.

Values 1 to 8

queue-type

Specifies the method that the system uses to service the queue from a hardware perspective.

Values expedite, best-effort

expedite — This keyword ensures that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort — This keyword ensures that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

Default best-effort

Platforms

All

queue

Syntax

queue *queue-id*

no queue

Context

[Tree] (config>qos>shared-queue>fc queue)

Full Context

configure qos shared-queue fc queue

Description

This command overrides the default unicast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a non-multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all unicast traffic (this includes all traffic, even broadcast and multicast for services) on a SAP using this policy is forwarded using the *queue-id*.

The **no** form of this command sets the unicast (point-to-point) *queue-id* back to the default queue for the forwarding class (queue 1).

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Parameters

queue-id

The *queue-id* parameter specified must be an existing non-multipoint queue defined in the **config>qos>sap-ingress** context. For the 7950 XRS, this is not configurable in the policer-output-queues profile.

Values Any valid non-multipoint *queue-id* in the policy including 1 and 3 through 32.

Default 1

Platforms

All

queue

Syntax

queue *queue-id* [*queue-type*] [**multipoint**] [**create**]

no queue *queue-id*

Context

[Tree] (config>qos>shared-queue queue)

Full Context

configure qos shared-queue queue

Description

This command creates the context to configure a shared queue QoS policy queue.

Explicit definition of an ingress queue's type is supported. A single ingress queue allows support for multiple forwarding classes. The default behavior automatically chooses the expedited or best effort nature of the queue based on the forwarding classes mapped to it. As long as all forwarding classes mapped to the queue are expedited (nc, ef, h1, or h2), the queue is treated as an expedited queue by the hardware schedulers. When any best effort forwarding classes are mapped to the queue (be, af, l1, or l2), the queue is treated as best effort by the hardware schedulers. The queue type can be overridden within the policy.

On the 7450 ESS, the expedited hardware schedulers are used to enforce expedited access to internal switch fabric destinations. The hardware status of the queue must be defined at the time of queue creation within the policy.

Parameters

queue-id

The *queue-id* for the queue, expressed as an integer. The *queue-id* uniquely identifies the queue within the policy. This is a required parameter each time the queue command is executed.

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Values 1 to 32

queue-type

The **expedite**, **best-effort**, and **auto-expedite** queue types are mutually exclusive. Each defines the method that the system uses to service the queue from a hardware perspective. While parental virtual schedulers can be defined for the queue, they only enforce how the queue interacts for bandwidth with other queues associated with the same scheduler hierarchy. An internal mechanism that provides access rules when the queue is vying for bandwidth with queues in other virtual schedulers is also needed. A keyword must be specified at the time the queue is created in the SAP ingress policy. If an attempt to change the keyword after the queue is initially defined, an error is generated.

expedite — This keyword ensures that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort — This keyword ensures that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

auto-expedite — This keyword allows the system to auto-define the way the queue is serviced by the hardware. When auto-expedite is defined on the queue, the queue is treated in an expedited manner when all forwarding classes mapped to the queue are configured as expedited types nc, ef, h1, or h2. When a single non-expedited forwarding class is mapped to the queue (be, af, l1, and l2) the queue automatically falls back to non-expedited status.

Default **auto-expedite**

multipoint

This keyword specifies that this *queue-id* is for multipoint forwarded traffic only. This *queue-id* can only be explicitly mapped to the forwarding class multicast, broadcast, or unknown unicast ingress traffic. If forwarding class unicast traffic is mapped to a multipoint queue, an error is generated and no changes are made to the current unicast traffic queue mapping.

A queue must be created as multipoint. The **multipoint** designator cannot be defined after the queue is created. If an attempt is made to modify the command to include the **multipoint** keyword, an error is generated and the command will not execute.

The **multipoint** keyword can be entered in the command line on a preexisting multipoint queue to edit *queue-id* parameters.

Platforms

All

queue

Syntax

[**no**] **queue** *queue-id*

Context

[Tree] (config>log>acct-policy>cr queue)

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Full Context

configure log accounting-policy custom-record queue

Description

This command specifies the queue-id for which counters will be collected in this custom record. The counters that will be collected are defined in egress and ingress counters.

The **no** form of this command reverts to the default value.

Parameters

queue-id

Specifies the queue-id for which counters will be collected in this custom record.

Platforms

All

queue

Syntax

queue *queue-id* [**create**]

Context

[Tree] (config>system>security>cpm-queue queue)

Full Context

configure system security cpm-queue queue

Description

This command allows users to allocate dedicated CPM. The first available queue is 33.

Parameters

queue-id

33 to 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

queue

Syntax

queue *queue-id* [**create**]

no queue *queue-id*

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Context

[Tree] (config>port>ethernet>network>egress-port-queue-overrides queue)

Full Context

configure port ethernet network egress-port-queue-overrides queue

Description

This command configures an Ethernet network queue ID.

The **no** form of this command removes the Ethernet network queue ID.

Parameters

queue-id

Specifies the Ethernet network queue ID.

Values 1 to 16

create

Keyword used to create an entry.

Platforms

All

queue

Syntax

queue *queue-id* [**multipoint**] [*queue-type*] [**create**]

no queue *queue-id*

Context

[Tree] (config>qos>network-queue queue)

Full Context

configure qos network-queue queue

Description

This command enters the context to configure a QoS network-queue policy queue.

Explicit definition of an ingress queue's type status is supported. A single ingress queue allows support for multiple forwarding classes. The default behavior automatically chooses the expedited or best effort nature of the queue based on the forwarding classes mapped to it. As long as all forwarding classes mapped to the queue are expedited (nc, ef, h1, or h2), the queue is treated as an expedited queue by the hardware schedulers. When any best effort forwarding classes are mapped to the queue (be, af, l1, or l2), the queue is treated as best effort (be) by the hardware schedulers. The queue type must be defined at the time of queue creation within the policy.

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The **queue** command allows the creation of multipoint queues. Only multipoint queues can receive ingress packets that need flooding to multiple destinations. By separating the unicast for multipoint traffic at service ingress and handling the traffic on separate multipoint queues, special handling of the multipoint traffic is possible. Each queue acts as an accounting and (optionally) shaping device offering precise control over potentially expensive multicast, broadcast, and unknown unicast traffic. Only the back-end support of multipoint traffic (between the forwarding class and the queue based on forwarding type) needs to be defined. The individual classification rules used to place traffic into forwarding classes are not affected. Queues must be defined as multipoint at the time of creation within the policy.

The multipoint queues are for multipoint traffic.

The multipoint queues are for multipoint-destined service traffic. Within non-multipoint services, such as Epipe services, all traffic is considered unicast due to the nature of the service type. Multicast and broadcast-destined traffic in an Epipe service will not be mapped to a multipoint service queue.

When a QoS policy with multipoint queues is applied to an Epipe or IES SAP, the multipoint queues are not created. Any billing or statistical queries about a multipoint queue on a non-multipoint service returns zero values. Any queue parameter information requested about a multipoint queue on a non-multipoint service returns the queue parameters in the policy. Buffers will not be allocated for multipoint queues on non-multipoint services. Buffer pool queries return zero values for actual buffers allocated and current buffer utilization.

The **no** form of this command removes the *queue-id* from the network-queue policy and from any existing SAPs using the policy. If any forwarding class forwarding types are mapped to the queue, they revert to their default queues. When a queue is removed, any pending accounting information for each SAP queue created due to the definition of the queue in the policy is discarded.

Parameters

queue-id

The *queue-id* for the queue, expressed as an integer. The *queue-id* uniquely identifies the queue within the policy. This is a required parameter each time the queue command is executed.

Values 1 to 32

multipoint

This optional keyword specifies that this *queue-id* is for multipoint forwarded traffic only. This *queue-id* can only be used to forward multicast, broadcast, or unknown unicast ingress traffic.

A queue must be created as multipoint. The **multipoint** designator cannot be defined after the queue is created. If an attempt is made to modify the command to include the **multipoint** keyword, an error is generated, and the command will not execute.

The **multipoint** keyword can be entered in the command line on a preexisting multipoint queue to edit *queue-id* parameters.

Default Non-multipoint (unicast queue)

queue-type

The **expedite**, **best-effort**, and **auto-expedite** queue types are mutually exclusive. Each defines the method that the system uses to service the queue from a hardware perspective. While parental virtual schedulers can be defined for the queue, they only enforce how the queue interacts for bandwidth with other queues associated with the same scheduler hierarchy. An internal mechanism that provides access rules when the

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queue is vying for bandwidth with queues in other virtual schedulers is also needed. A keyword must be specified at the time the queue is created in the network-queue policy. If an attempt is made to change the keyword after the queue is initially defined, an error is generated.

Values expedite, best-effort, auto-expedite

expedite — This keyword ensures that the queue is treated in an expedited manner independent of the forwarding classes mapped to the queue.

best-effort — This keyword ensures that the queue is treated in a non-expedited manner independent of the forwarding classes mapped to the queue.

auto-expedite — This keyword allows the system to auto-define the way the queue is serviced by the hardware. When **auto-expedite** is defined on the queue, the queue is treated in an expedited manner when all forwarding classes mapped to the queue are configured as expedited types nc, ef, h1 or h2. When a single non-expedited forwarding class is mapped to the queue (be, af, l1, and l2), the queue automatically falls back to non-expedited status.

Default auto-expedite

Platforms

All

queue

Syntax

[**no**] **queue** *queue-id*

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress>queues queue)

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress>queues queue)

Full Context

configure subscriber-mgmt idle-timeout-policy egress queues queue

configure subscriber-mgmt idle-timeout-policy ingress queues queue

Description

This command configures the egress or ingress queues for monitoring idle time.

The **no** form of this command removes the specified queue from idle time monitoring.

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Parameters

queue-id

Specifies the queue ID.

Values 1 to 8 (egress)
1 to 32 (ingress)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

37.20 queue-delay

queue-delay

Syntax

queue-delay *delay*

no queue-delay

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue queue-delay)

Full Context

configure qos queue-group-templates egress queue-group queue queue-delay

Description

This command configures the target queue delay for packets forwarded through the queue. It is used to determine the related queue parameters based on the administrative PIR of the queue. This command and the **mbs** command are mutually exclusive.

In order to change between the **mbs** and **queue-delay** parameters, the current parameter must be removed before adding the new parameter; that is, changing from **mbs** to **queue-delay** requires a **no mbs** before the **queue-delay** is configured and changing from **queue-delay** to **mbs** requires a **no queue-delay** before the **mbs** is configured.

If **queue-delay** is configured for an egress queue group queue, it is not possible to override the MBS for that queue.

The **no** form of this command disables the determination of the queue parameters based on the queue delay.

Default

no queue-delay

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Parameters

delay

Specifies the target queue delay in ms.

Values 0 to 5000 (decimal)

Platforms

All

37.21 queue-frame-based-accounting

queue-frame-based-accounting

Syntax

[**no**] **queue-frame-based-accounting**

Context

[Tree] (config>service>ies>if>sap>egress>agg-rate queue-frame-based-accounting)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress>agg-rate queue-frame-based-accounting)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress>agg-rate queue-frame-based-accounting)

Full Context

configure service ies interface sap egress agg-rate queue-frame-based-accounting

configure service vprn subscriber-interface group-interface sap egress agg-rate queue-frame-based-accounting

configure service ies subscriber-interface group-interface sap egress agg-rate queue-frame-based-accounting

Description

This command enables frame-based accounting on all queues associated with the **agg-rate** context. Only supported on Ethernet ports. Packet byte offset settings are not included in the applied rate when queue frame based accounting is configured, however the offsets are applied to the statistics.

The **no** form of this command disables frame-based accounting.

Platforms

All

- configure service ies interface sap egress agg-rate queue-frame-based-accounting

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress agg-rate queue-frame-based-accounting

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- configure service vprn subscriber-interface group-interface sap egress agg-rate queue-frame-based-accounting

queue-frame-based-accounting

Syntax

[**no**] **queue-frame-based-accounting**

Context

[Tree] (config>port>ethernet>access>egr>vport>agg-rate queue-frame-based-accounting)

[Tree] (config>port>ethernet>network>egr>qgrp>agg-rate queue-frame-based-accounting)

[Tree] (config>port>ethernet>access>egr>qgrp>agg-rate queue-frame-based-accounting)

Full Context

configure port ethernet access egress vport agg-rate queue-frame-based-accounting

configure port ethernet network egress queue-group agg-rate queue-frame-based-accounting

configure port ethernet access egress queue-group agg-rate queue-frame-based-accounting

Description

This command enables frame based accounting on all policers and queues associated with the agg-rate context. It is only supported on Ethernet ports. Packet byte offset settings are not included in the applied rate when queue frame-based accounting is configured, regardless of how offsets are applied to the statistics.

The **no** form of this command disables frame based accounting on all policers and queues associated with the agg-rate context.

Platforms

All

queue-frame-based-accounting

Syntax

[**no**] **queue-frame-based-accounting**

Context

[Tree] (config>service>epipe>sap>egress>agg-rate queue-frame-based-accounting)

Full Context

configure service epipe sap egress agg-rate queue-frame-based-accounting

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Description

This command is used to enable (or disable) frame based accounting on all policers and queues associated with the agg-rate context.

The command is supported on Ethernet ports only.

Packet byte offset settings are not included in the applied rate when queue frame based accounting is configured; however the offsets are applied to the statistics.

Platforms

All

queue-frame-based-accounting

Syntax

[**no**] **queue-frame-based-accounting**

Context

[Tree] (config>service>template>vpls-sap-template>egress>agg-rate queue-frame-based-accounting)

[Tree] (config>service>vpls>sap>egress>agg-rate queue-frame-based-accounting)

Full Context

configure service template vpls-sap-template egress agg-rate queue-frame-based-accounting

configure service vpls sap egress agg-rate queue-frame-based-accounting

Description

This command is used to enabled frame-based accounting on all policers and queues associated with the agg-rate context. Only supported on Ethernet ports. Packet byte offset settings are not included in the applied rate when queue frame based accounting is configured; however the offsets are applied to the statistics.

The **no** form of this command disables the-frame based accounting.

Platforms

All

queue-frame-based-accounting

Syntax

[**no**] **queue-frame-based-accounting**

Context

[Tree] (config>service>vprn>if>sap>egress>agg-rate queue-frame-based-accounting)

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Full Context

configure service vprn interface sap egress agg-rate queue-frame-based-accounting

Description

This command is used to enabled (or disable) frame based accounting on all policers and queues associated with the agg-rate context. Only supported on Ethernet ports. Packet byte offset settings are not included in the applied rate when queue frame-based accounting is configured; the offsets are applied to the statistics.

Platforms

All

queue-frame-based-accounting

Syntax

[**no**] **queue-frame-based-accounting**

Context

[Tree] (config>service>cust>multi-service-site>egress>agg-rate queue-frame-based-accounting)

Full Context

configure service customer multi-service-site egress agg-rate queue-frame-based-accounting

Description

This command enables frame based accounting on all policers and queues associated with the agg-rate context. Only supported on Ethernet ports. Packet byte offset settings are not included in the applied rate when queue frame based accounting is configured, however the offsets are applied to the statistics.

The **no** form of the command disables frame based accounting.

Default

no queue-frame-based-accounting

Platforms

All

37.22 queue-group

queue-group

Syntax

queue-group *queue-group-name* **instance** *instance-id* [**create**]

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no queue-group *queue-group-name* **instance** *instance-id*

Context

[Tree] (config>card>fp>ingress>access queue-group)

Full Context

configure card fp ingress access queue-group

Description

This command creates an instance of a named queue group template on the ingress forwarding plane of a given IOM/IMM. The queue-group-name and **instance** *instance-id* are mandatory parameters when executing the command.

The named queue group template can contain only policers. If it contains queues, then the command will fail.

The **no** form of this command deletes a specific instance of a queue group.

Parameters

queue-group-name

Specifies the name of the queue group template to be instantiated on the forwarding plane of the IOM/IMM, up to 32 characters. The queue-group-name must correspond to a valid ingress queue group template name, configured under **config>qos>queue-group-templates**.

instance-id

Specifies the instance of the named queue group to be created on the IOM/IMM ingress forwarding plane.

Values 1 to 65535

create

Keyword used to associate the queue group. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

queue-group

Syntax

queue-group *queue-group-name* **instance** *instance-id* [**create**]

no queue-group *queue-group-name* **instance** *instance-id*

Context

[Tree] (config>card>fp>ingress>network queue-group)

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Full Context

configure card fp ingress network queue-group

Description

This command creates a queue-group instance in the network ingress context of a forwarding plane.

Only a queue-group containing policers can be instantiated. If the queue-group template contains policers and queues, the queues are not instantiated. If the queue-group contains queues only, the instantiation in the data path is failed.

One or more instances of the same policer queue-group name and/or a different policer queue-group name can be created on the network ingress context of a forwarding plane.

The queue-group-name must be unique within all network ingress and access ingress queue groups in the system. The queue-group instance-id must be unique within the context of the forwarding plane.

The **no** form of this command deletes the queue-group instance from the network ingress context of the forwarding plane.

Parameters

queue-group-name

Specifies the name of the queue group template up to 32 characters.

instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

create

Keyword used to create the queue-group instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

queue-group

Syntax

queue-group *queue-group-name* **instance** *instance-id*

no queue-group

Context

[Tree] (config>port>ethernet>network>egress queue-group)

Full Context

configure port ethernet network egress queue-group

Description

This command configures a queue-group instance in the network egress context of a port.

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Queue-groups containing queues only or policers and queues can be instantiated. When a port is a LAG, one instance of the queue-group is instantiated on each member link.

One or more instances of the same queue-group name and/or a different queue-group name can be created in the network egress context of a port.

The queue-group-name must be unique within all network egress and access egress queue groups in the system. The queue-group instance-id must be unique within the context of the port.

The **no** version of this command deletes the queue-group instance from the network egress context of the port.

Parameters

queue-group-name

Specifies the name of the queue group template up to 32 characters.

instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

Platforms

All

queue-group

Syntax

[**no**] **queue-group** *queue-group-name* [**instance** *instance-id*] [**create**]

Context

[Tree] (config>port>ethernet>access>egr queue-group)

[Tree] (config>port>ethernet>access>ing queue-group)

Full Context

configure port ethernet access egress queue-group

configure port ethernet access ingress queue-group

Description

This command creates an ingress or egress queue group on an Ethernet port. A queue group is a collection of queues identified by a group name. Queue groups created on access ports are used as an alternative queue destination for SAPs.

Within a SAP, a forwarding class may be redirected from the local SAP queue to a port queue group queue. The forwarding classes from multiple SAPs may be redirected to the same queue group which can be used to minimize the number of per-SAP queues.

Queue groups may be created on both access and network oriented ports. When the port is in access mode, the queue groups must be created within the port access node.

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Within the access node, queue groups are also configured as ingress or egress. Access ingress queue groups can only be used by ingress SAP forwarding classes and only a single ingress queue group per port is supported. Multiple access egress queue groups may be created on a single port and are used by egress SAP forwarding classes. The instance-id parameter identifies different instances of the same queue group template. Creating multiple queue groups with a different instance ID but the same queue group name results in separate queue groups being created on the port. The instance-id parameter is only valid for egress queue groups on access ports.

When the queue group is created in an ingress port context, the group-name must be an existing ingress queue group template. Similarly, queue groups created in an egress port context must have a group-name of an existing egress queue group template. Two ingress queue groups with the same name cannot be created on the same port. Two egress queue groups can only be created on the same port with the same queue group template name if they have different instance-id values.

The queues defined in the template are created on the queue group. The queue parameters within the template are used as the default queue parameters for each queue in the queue group. The default queue parameters for each queue may be overridden on the queue group with specific queue parameters.

Each queue group supports the application of a scheduler-policy for the purpose of managing the queues within the group into an aggregate SLA. The queues defined within the template may be configured with parent scheduler defining the mapping of a queue to one of the schedulers within the scheduler policy. Egress queue groups also support the **agg-rate** parameter and the queues in the egress template support the port-parent command. Each command is used for configuring egress port virtual scheduling behavior.

Each queue group allows the application of an accounting policy and the ability to enable and disable collecting statistics. The statistics are derived from the queue counters on each queue within the queue group. The accounting policy defines which queue counters are collected and to which accounting file they will be written.

A queue group does not have an administrative shutdown or no shutdown command. A queue group is considered to be always on once created.

When creating a queue group, the system will attempt to allocate queue resources based on the queues defined in the queue group template. If the appropriate queue resources do not currently exist, the queue group will not be created. Ingress port queue groups do not support the shared-queuing or multipoint-shared queuing behavior.

When the queue group is created on a LAG (Link Aggregation Group), it must be created on the primary port member. The primary port member is the port with the lowest port ID based on the slot, MDA position and port number on the MDA. A queue group created on the primary LAG port will be automatically created on all other port members. If a new port is being added to a LAG with an existing queue group, the queue group must first be created on the port prior to adding the port to the LAG. If the LAG queue group has queue overrides, the queue overrides must also be defined on the port queue group prior to adding the port to the LAG.

A port queue group cannot be removed from the port when a forwarding class is currently redirected to the group. All forwarding class redirections must first be removed prior to removing the queue group.

Parameters

queue-group-name

The group-name parameter is required when executing the port queue-group command. The specified group-name must exist as an ingress or egress queue group template depending on the ingress or egress context of the port queue group. Only a single queue group may be created on an ingress port. Multiple queue groups may be created on an egress port.

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instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

create

Keyword used to associate the queue group. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

All

queue-group

Syntax

queue-group *queue-group-name* [**create**]

no queue-group *queue-group-name*

Context

[Tree] (config>qos>qgrps>ingress queue-group)

[Tree] (config>qos>qgrps>egress queue-group)

Full Context

configure qos queue-group-templates ingress queue-group

configure qos queue-group-templates egress queue-group

Description

This command creates a queue group template. The system does not maintain default queue groups or queue group templates. Each queue group template used in the system must be explicitly created.

The **no** form of this command removes the specified queue group template from the system. If the queue group template is currently in use by an ingress port, the command will fail. If *queue-group-name* does not exist, the command has no effect and does not return an error.

Parameters

queue-group-name

Specifies the name of the queue group template up to 32 characters. Each ingress queue group template must be uniquely named within the system. Multiple ingress queue group templates may not share the same name. An ingress and egress queue group template may share the same name.

create

Keyword used to create the queue group instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

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Platforms

All

37.23 queue-group-egress

queue-group-egress

Syntax

queue-group-egress *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy queue-group-egress)

Full Context

configure qos copy queue-group-egress

Description

This command copies an existing **queue-group-egress** *queue-group-name* to another **queue-group-egress** *queue-group-name*. The **copy** command is a configuration level maintenance tool used to create new entries using an existing mapping policy name. If **overwrite** is not specified, an error occurs if the destination policy exists.

Parameters

src-name

Specifies the existing source **queue-group-egress** *queue-group-name*, up to 32 characters, from which the **copy** command attempts to copy.

dst-name

Specifies the destination **queue-group-ingress** *queue-group-name*, up to 32 characters, to which the copy command attempts to copy.

overwrite

Use this parameter when the **queue-group-egress** *dst-name* already exists. If it does, everything in the existing destination **queue-group-egress** *dst-name* is completely overwritten with the contents of the **queue-group-egress** *src-name*. The **overwrite** parameter must be specified or else the following error message is returned:

```
MINOR: CLI Destination "qge2" exists - use {overwrite}.
```

If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make” manner and therefore should be handled with care.

Platforms

All

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37.24 queue-group-ingress

queue-group-ingress

Syntax

queue-group-ingress *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy queue-group-ingress)

Full Context

configure qos copy queue-group-ingress

Description

This command copies an existing **queue-group-ingress** to another **queue-group-ingress**. The **copy** command is a configuration level maintenance tool used to create new entries using an existing mapping policy name. If **overwrite** is not specified, an error occurs if the destination policy exists.

Parameters

src-name

Specifies the existing source **queue-group-ingress**, up to 32 characters, from which the **copy** command attempts to copy.

dst-name

Specifies the destination **queue-group-ingress**, up to 32 characters, to which the copy command attempts to copy.

overwrite

Use this parameter when the **queue-group-ingress** *dst-name* already exists. If it does, everything in the existing destination **queue-group-ingress** *dst-name* is completely overwritten with the contents of the **queue-group-ingress** *src-name*. The **overwrite** parameter must be specified or else the following error message is returned:

```
MINOR: CLI Destination "qgitest2" exists - use {overwrite}.
```

If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make" manner and therefore should be handled with care.

Platforms

All

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37.25 queue-group-redirect-list

queue-group-redirect-list

Syntax

queue-group-redirect-list *redirect-list-name*

no queue-group-redirect-list

Context

[Tree] (config>service>ies>if>sap>egress queue-group-redirect-list)

[Tree] (config>service>ies>if>sap>ingress queue-group-redirect-list)

Full Context

configure service ies interface sap egress queue-group-redirect-list

configure service ies interface sap ingress queue-group-redirect-list

Description

This command applies a queue group redirect list to the ingress or egress of an interface SAP within an IES or VPRN service. The redirect list is used to redirect traffic to different instances of the default queue group. This command requires the prior configuration of a default queue group instance, this being the queue group instance specified with the QoS policy under the SAP ingress or egress.

The **no** version of this command removes the queue group redirect list from the SAP.

Parameters

redirect-list-name

Specifies the name of the queue group redirect list up to 32 characters in length.

Platforms

All

queue-group-redirect-list

Syntax

queue-group-redirect-list *redirect-list-name*

no queue-group-redirect-list

Context

[Tree] (config>service>vprn>if>sap>ingress queue-group-redirect-list)

[Tree] (config>service>vprn>if>sap>egress queue-group-redirect-list)

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Full Context

configure service vprn interface sap ingress queue-group-redirect-list

configure service vprn interface sap egress queue-group-redirect-list

Description

This command applies a queue group redirect list to the ingress or egress of an interface SAP within a VPRN service. The redirect list is used to redirect traffic to different instances of the default queue group.

This command requires the prior configuration of a default queue group instance, which is the queue group instance specified with the QoS policy under the SAP ingress or egress.

The **no** version of this command removes the queue group redirect list from the SAP.

Parameters

redirect-list-name

Specifies the name of the queue group redirect list, up to 32 characters in length.

Platforms

All

queue-group-redirect-list

Syntax

queue-group-redirect-list *redirect-list-name* [**create**]

no queue-group-redirect-list *redirect-list-name*

Context

[Tree] (config>qos queue-group-redirect-list)

Full Context

configure qos queue-group-redirect-list

Description

This command configures a queue group redirect list that is used to redirect traffic to different instances of a queue group.

The **no** form of this command deletes the queue group redirect list. A list can only be deleted when there no references to it.

Parameters

redirect-list-name

Specifies the name of the queue group redirect list, up to 32 characters.

Platforms

All

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37.26 queue-group-templates

queue-group-templates

Syntax

queue-group-templates

Context

[Tree] (config>qos queue-group-templates)

Full Context

configure qos queue-group-templates

Description

Commands in this context define ingress and egress queue group templates.

Platforms

All

37.27 queue-instance-accounting

queue-instance-accounting

Syntax

queue-instance-accounting [**interim-update**]

no queue-instance-accounting

Context

[Tree] (config>subscr-mgmt>acct-plcy queue-instance-accounting)

Full Context

configure subscriber-mgmt radius-accounting-policy queue-instance-accounting

Description

This command enables per queue-instance-accounting. A stream of accounting messages (START/INTERIM-UPDATE/STOP) is generated per queuing instance. A queuing instance is equivalent to an sla-profile instance. Accounting session id is generated per queuing instance and this accounting session id cannot be included in RADIUS Access-Request message. Queue instance counters represent volume based aggregation for all hosts sharing the queuing instance.

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CoA and LI is supported based on the acct-session-id of the queuing instance.

The **no** form of this command reverts to the default.

Default

queue-instance-accounting interim-update

Parameters

interim-update

Specifies whether accounting messages are sent for the queue-instance. The queue-instance is the SLA profile instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

37.28 queue-override

queue-override

Syntax

[**no**] **queue-override**

Context

[Tree] (config>service>ies>if>sap>ingress queue-override)

[Tree] (config>service>vpls>sap>egress queue-override)

[Tree] (config>service>vprn>if>sap>ingress queue-override)

[Tree] (config>service>vpls>sap>ingress queue-override)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress queue-override)

[Tree] (config>service>vprn>if>sap>egress queue-override)

[Tree] (config>service>ies>if>sap>egress queue-override)

Full Context

configure service ies interface sap ingress queue-override

configure service vpls sap egress queue-override

configure service vprn interface sap ingress queue-override

configure service vpls sap ingress queue-override

configure service ies subscriber-interface group-interface sap egress queue-override

configure service vprn interface sap egress queue-override

configure service ies interface sap egress queue-override

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Description

Commands in this context configure override values for the specified SAP egress or ingress QoS queue. These values override the corresponding ones specified in the associated SAP egress QoS policy.

Platforms

All

- configure service ies interface sap egress queue-override
- configure service vprn interface sap egress queue-override
- configure service vprn interface sap ingress queue-override
- configure service ies interface sap ingress queue-override
- configure service vpls sap ingress queue-override
- configure service vpls sap egress queue-override

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress queue-override

queue-override

Syntax

[**no**] **queue-override**

Context

[Tree] (config>service>ipipe>sap>ingress queue-override)

[Tree] (config>service>epipe>sap>egress queue-override)

[Tree] (config>service>epipe>sap>ingress queue-override)

[Tree] (config>service>ipipe>sap>egress queue-override)

[Tree] (config>service>cpipe>sap>egress queue-override)

[Tree] (config>service>cpipe>sap>ingress queue-override)

Full Context

configure service ipipe sap ingress queue-override

configure service epipe sap egress queue-override

configure service epipe sap ingress queue-override

configure service ipipe sap egress queue-override

configure service cpipe sap egress queue-override

configure service cpipe sap ingress queue-override

Description

Commands in this context configure override values for the specified SAP egress or ingress QoS queue. These values override the corresponding ones specified in the associated SAP egress or ingress QoS

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policy. If the policy was created as a template policy, this command overrides the parameter and its description and queue parameters in the policy.

Platforms

All

- configure service ipipe sap ingress queue-override
- configure service epipe sap ingress queue-override
- configure service ipipe sap egress queue-override
- configure service epipe sap egress queue-override

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress queue-override
- configure service cpipe sap egress queue-override

37.29 queue-overrides

queue-overrides

Syntax

queue-overrides

Context

[Tree] (config>port>ethernet>access>egr>qgrp queue-overrides)

[Tree] (config>port>ethernet>access>ing>qgrp queue-overrides)

[Tree] (config>port>ethernet>network>egr>qgrp queue-overrides)

Full Context

configure port ethernet access egress queue-group queue-overrides

configure port ethernet access ingress queue-group queue-overrides

configure port ethernet network egress queue-group queue-overrides

Description

Commands in this context define optional queue parameter overrides for each queue within the queue group.

Platforms

All

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37.30 queue-parameters

queue-parameters

Syntax

queue-parameters

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2-paths>secondary-path queue-parameters)

[Tree] (config>mcast-mgmt>bw-plcy>t2-paths>primary-path queue-parameters)

Full Context

configure mcast-management bandwidth-policy t2-paths secondary-path queue-parameters

configure mcast-management bandwidth-policy t2-paths primary-path queue-parameters

Description

Commands in this context configure queue parameters. This command defines the individual parameters for the queues through which multicast packets are forwarded into the switch fabric on each path.

The individual path queues may be viewed as shared queues. All multicast packets forwarded through the switch fabric associated with one of the paths traverses bypass the normal queuing behavior. Instead of being forwarded through the normal service or network multicast queue, a single queue associated with the multicast path is used. To retain billing and diagnostic information, the forwarding and discard statistics for the service or network queue the packet would have traversed without ingress multicast management is used to account for each packet's behavior.

Note:
Any ingress scheduling policy functions attempting to manage the service or network multicast queues is only able to read the statistics of the multicast queues and not able to manage the queues dynamic rate since the packets are flowing through different, non-managed queues. Since this is the case, multicast queues parented to a scheduling policy should be parented to the root scheduler at the highest priority without any rate limitation. Any ingress rate limiting for multicast traffic is performed by the multicast path bandwidth manger based on each records priority and a possible "black-hole" rate threshold.

All queues created for ingress multicast path management are automatically created by the system out of the system reserved queue space. Each queue is created as an expedited queue.

When forwarding through the queues, each packets forwarding class is ignored. However, the forwarding class is retained for proper egress processing. The packets expressed or implied profile is also ignored within the ingress path queues. A packets congestion priority is derived from the records cong-priority-threshold evaluation result as indicated by the policy or multicast-info-policy. The **cong-priority-threshold** sets the high or low congestion priority of a record based on the records preference value. Within each multicast information policy bundle the **cong-priority-threshold** *preference-level* is set with a value from 0 to 7 and defines the threshold at which all records with a preference equal to or higher than the defined preference is treated as congestion priority high. Multicast records with a preference lower than the defined

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class threshold is treated as congestion priority low. Low-priority packets use the low drop-tail threshold of the queue, while high-priority packets use the standard MBS value. In the event of path congestion, low-priority packets are discarded first, leaving room for the higher priority packets.

For the primary and secondary paths, a single queue exists for each path and every packet forwarded through the path by the bandwidth manager uses that queue.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

37.31 queue-policy

queue-policy

Syntax

queue-policy *name*

no queue-policy

Context

[Tree] (config>card>fp>ingress>network queue-policy)

Full Context

configure card fp ingress network queue-policy

Description

This command specifies the network-queue policy which defines queue parameters such as CBS, high priority only burst size, MBS, CIR and PIR rates, as well as forwarding-class to queue mappings. The network-queue policy is defined in the **config>qos>network-queue** context.

Default

queue-policy default

Parameters

name

Specifies an existing network-queue policy name, up to 32 characters long.

Platforms

All

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queue-policy

Syntax

queue-policy *name*

no queue-policy

Context

[Tree] (config>port>sonet-sdh>path>network queue-policy)

[Tree] (config>port>tdm>ds3>network queue-policy)

[Tree] (config>port>ethernet>network queue-policy)

[Tree] (config>port>tdm>e3>network queue-policy)

Full Context

configure port sonet-sdh path network queue-policy

configure port tdm ds3 network queue-policy

configure port ethernet network queue-policy

configure port tdm e3 network queue-policy

Description

This command specifies the existing network queue policy which defines queue parameters such as CBS, high priority only burst size, MBS, CIR and PIR rates, as well as forwarding-class to queue mappings. The network-queue policy is defined in the **config>qos>network-queue** context.

Default

queue-policy default

Parameters

name

Specifies an existing network-queue policy name. The name can be up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh path network queue-policy

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm e3 network queue-policy
- configure port tdm ds3 network queue-policy

All

- configure port ethernet network queue-policy

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queue-policy

Syntax

queue-policy *network-queue-policy-name*

no queue-policy

Context

[Tree] (config>isa>aa-grp>qos>egress>from-subscriber queue-policy)

[Tree] (config>isa>aa-grp>qos>egress>to-subscriber queue-policy)

Full Context

configure isa application-assurance-group qos egress from-subscriber queue-policy

configure isa application-assurance-group qos egress to-subscriber queue-policy

Description

This command assigns an IOM network queue policy as applicable to specific application assurance group traffic.

Default

queue-policy "default”

Parameters

network-queue-policy-name

Specifies the name of the network queue policy defined in the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

37.32 queue-sets

queue-sets

Syntax

queue-sets

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers queue-sets)

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Full Context
configure qos fp-resource-policy aggregate-shapers queue-sets

Description
Commands in this context configure queue sets.

Platforms
7750 SR-1, 7750 SR-s

37.33 queues

queues

Syntax
queues

Context
[Tree] (config>qos>fp-resource-policy queues)

Full Context
configure qos fp-resource-policy queues

Description
Commands in this context modify the FP resource policy information for the queues.

Platforms
7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

queues

Syntax
queues all

no queues

Context
[Tree] (config>subscr-mgmt>sla-prof>aggregate-qos-stats>egress queues)

Full Context
configure subscriber-mgmt sla-profile aggregate-qos-stats egress queues

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Description

This command configures which types of queues are used to calculate the total egress aggregate statistics. This can include all static queues that are configured in a QoS SAP-egress policy and all dynamic queues that are created on demand, according to the session needs.

The **no** form of this command removes all the queues from the statistics calculation.

Default

queues all

Parameters

all

Keyword that specifies to select all static and dynamic queues for the aggregate QoS egress statistics calculation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

queues

Syntax

queues

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy>ingress queues)

[Tree] (config>subscr-mgmt>idle-timeout-policy>egress queues)

Full Context

configure subscriber-mgmt idle-timeout-policy ingress queues

configure subscriber-mgmt idle-timeout-policy egress queues

Description

Commands in this context configure egress or ingress queues for the idle timeout policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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37.34 queues-hqos-manageable

queues-hqos-manageable

Syntax

[**no**] **queues-hqos-manageable**

Context

[Tree] (config>qos>qgrps>egr>qgrp queues-hqos-manageable)

Full Context

configure qos queue-group-templates egress queue-group queues-hqos-manageable

Description

This command specifies that the queues within this egress queue group template are to be managed by the Hierarchical QoS (HQoS) process when the template is applied to an Ethernet access egress or network egress context. It is applicable to all egress queue group templates, including the default **policer-output-queues** template.

The **no queues-hqos-manageable** command must be configured for access egress queue groups that are used for post-policer traffic in order to prevent HQoS from measuring the traffic through a policer managed by HQoS then again through a post-policer access egress queue group queue.

Avoid scenarios that result in traffic being either not being measured or being measured twice by HQoS as they will cause the HQoS result to be inaccurate.

A template configured for **no queues-hqos-manageable** cannot be applied to an Ethernet network egress context. Any egress queue group templates applied to an Ethernet network egress context cannot be configured as **no queues-hqos-manageable**. The configuration of **no queues-hqos-manageable** and the configuration of policers and queue **packet-byte-offset** within the egress queue group template are mutually exclusive.

When a queue group template with **no queues-hqos-manageable** is configured under a port's Ethernet access egress context, the configuration of an aggregate rate or scheduler policy is not permitted under that context, nor are parent overrides for any of the queues in the queue group. If a port scheduler is configured on the port, the queue group queues are not parented to the port scheduler.

The **no** form of this command specifies that queues within this egress queue group are not managed by HQoS.

Default

queues-hqos-manageable

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-1s, 7750 SR-1se, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, VSR

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37.35 quiet-period

quiet-period

Syntax

quiet-period *seconds*

Context

[Tree] (config>port>ethernet>dot1x quiet-period)

Full Context

configure port ethernet dot1x quiet-period

Description

This command configures the period between two authentication sessions during which no EAPOL frames are sent by the router.

The **no** form of this command returns the value to the default.

Default

quiet-period 60

Parameters

seconds

Specifies the quiet period in seconds.

Values 1 to 3600

Platforms

All

37.36 quit

quit

Syntax

quit

Context

[Tree] (candidate quit)

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Full Context

candidate quit

Description

This command exits the **edit-cfg** mode. The contents of the current candidate will not be deleted and the operator can continue editing the candidate later.

Platforms

All

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38 r Commands – Part I

38.1 radius

radius

Syntax

radius *type* **direction** {**ingress** | **egress**} **script** *script*

no radius *type* **direction** {**ingress** | **egress**}

Context

[Tree] (config>python>py-policy radius)

Full Context

configure python python-policy radius

Description

This command specifies the Python script for the specified RADIUS packet type in the specified direction.

Multiple **radius** command configurations are allowed in the same Python policy.

The **no** form of this command reverts to the default.

Parameters

type

Specifies the message type of the event.

Values access-request, access-accept, access-reject, accounting-request, accounting-response, access-challenge, disconnect-request, change-of-authorization-request

direction {ingress | egress}

Specifies whether the event is incoming or outgoing.

script

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

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radius

Syntax

[**no**] **radius**

Context

[Tree] (debug>router radius)

Full Context

debug router radius

Description

This command enables the debug router RADIUS context.

Platforms

All

radius

Syntax

radius [**create**]

no radius

Context

[Tree] (config>service>vprn>aaa>rmt-srv radius)

Full Context

configure service vprn aaa remote-servers radius

Description

This command creates the context to configure RADIUS authentication on the VPRN.

Implement redundancy by configuring multiple server addresses for each VPRN.

The **no** form of this command removes the RADIUS configuration.

Parameters

create

Keyword used to create the RADIUS context.

Platforms

All

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radius

Syntax

radius

Context

[Tree] (config>app-assure>group>transit-ip-policy radius)

Full Context

configure application-assurance group transit-ip-policy radius

Description

This command enables dynamic RADIUS-based management of transit aa-subs for the transit-ip-policy. This is mutually exclusive to other types management of transit subs for a specific transit-ip-policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

radius

Syntax

radius

Context

[Tree] (config>li radius)

Full Context

configure li radius

Description

This command configures RADIUS for Lawful Intercept.

Platforms

All

radius

Syntax

radius [**detail**] [**hex**]

no radius

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Context

[Tree] (debug radius)

Full Context

debug radius

Description

This command enables debugging for RADIUS connections.

The **no** form of the command disables the debug output.

Parameters

detail

Displays detailed output.

hex

Displays the packet dump in hex format.

Platforms

All

radius

Syntax

[**no**] **radius**

Context

[Tree] (config>system>security radius)

Full Context

configure system security radius

Description

This command creates the context to configure RADIUS authentication on the router.

Implement redundancy by configuring multiple server addresses for each router.

The **no** form of this command removes the RADIUS configuration.

Platforms

All

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38.2 radius-accounting

radius-accounting

Syntax

radius-accounting

Context

[Tree] (config>subscr-mgmt>sub-prof radius-accounting)

Full Context

configure subscriber-mgmt sub-profile radius-accounting

Description

Commands in this context configure RADIUS accounting subscriber profile parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.3 radius-accounting-policy

radius-accounting-policy

Syntax

radius-accounting-policy *policy-name*

no radius-accounting-policy

Context

[Tree] (config>router>l2tp radius-accounting-policy)

[Tree] (config>service>vprn>l2tp>group>tunnel radius-accounting-policy)

[Tree] (config>service>vprn>l2tp>group radius-accounting-policy)

[Tree] (config>service>vprn>if>sap>ipsec-gw radius-accounting-policy)

[Tree] (config>router>l2tp>group>tunnel radius-accounting-policy)

[Tree] (config>service>vprn>l2tp radius-accounting-policy)

[Tree] (config>service>ies>if>sap>ipsec-gw radius-accounting-policy)

[Tree] (config>router>l2tp>group radius-accounting-policy)

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Full Context

configure router l2tp radius-accounting-policy

configure service vprn l2tp group tunnel radius-accounting-policy

configure service vprn l2tp group radius-accounting-policy

configure service vprn interface sap ipsec-gw radius-accounting-policy

configure router l2tp group tunnel radius-accounting-policy

configure service vprn l2tp radius-accounting-policy

configure service ies interface sap ipsec-gw radius-accounting-policy

configure router l2tp group radius-accounting-policy

Description

This command configures the RADIUS accounting policy.

The **no** form of this command reverts to the default value.

Default

no radius-accounting-policy

Parameters

policy-name

Specifies the policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router l2tp radius-accounting-policy
- configure service vprn l2tp group radius-accounting-policy
- configure service vprn l2tp group tunnel radius-accounting-policy
- configure service vprn l2tp radius-accounting-policy
- configure router l2tp group tunnel radius-accounting-policy
- configure router l2tp group radius-accounting-policy

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ipsec-gw radius-accounting-policy
- configure service vprn interface sap ipsec-gw radius-accounting-policy

radius-accounting-policy

Syntax

radius-accounting-policy *name* [**create**]

no radius-accounting-policy

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Context

[Tree] (config>subscr-mgmt radius-accounting-policy)

Full Context

configure subscriber-mgmt radius-accounting-policy

Description

This command specifies a subscriber RADIUS based accounting policy.

The **no** form of this command removes the policy name from the configuration.

Parameters

name

The name of the policy. The string is case-sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

create

Keyword used to create a RADIUS accounting policy instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

radius-accounting-policy

Syntax

radius-accounting-policy *nat-accounting-policy*

no radius-accounting-policy

Context

[Tree] (config>isa>wlan-gw-group>nat radius-accounting-policy)

Full Context

configure isa wlan-gw-group nat radius-accounting-policy

Description

This command configures the RADIUS accounting policy to use for each MDA in this ISA group.

The **no** form of this command removes the accounting policy from the configuration.

Parameters

nat-accounting-policy

Specifies the RADIUS accounting policy up to 32 characters.

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

radius-accounting-policy

Syntax

radius-accounting-policy *rad-acct-plcy-name*

no radius-accounting-policy

Context

[Tree] (config>app-assure>group>statistics>aa-sub radius-accounting-policy)

Full Context

configure application-assurance group statistics aa-sub radius-accounting-policy

Description

This command specifies an existing subscriber RADIUS based accounting policy to use for AA. RADIUS Accounting policies are configured in the **config>app-assure>radius-accounting-policy** context.

Default

no radius-accounting-policy

Parameters

rad-acct-plcy-name

Specifies the name of the policy. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

radius-accounting-policy

Syntax

radius-accounting-policy *rad-acct-plcy-name* [**create**]

no radius-accounting-policy *rad-acct-plcy-name*

Context

[Tree] (config>app-assure radius-accounting-policy)

Full Context

configure application-assurance radius-accounting-policy

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Description

This command specifies an existing subscriber RADIUS-based accounting policy to use for AA. RADIUS accounting policies are configured in the **config>app-assure>radius-accounting-policy** context.

Default

no radius-accounting-policy

Parameters

rad-acct-plcy-name

Specifies the policy name. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

create

Keyword used to create the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

radius-accounting-policy

Syntax

radius-accounting-policy *name* [**create**]

no radius-accounting-policy *name*

Context

[Tree] (config>ipsec radius-accounting-policy)

Full Context

configure ipsec radius-accounting-policy

Description

This command specifies an existing RADIUS accounting policy to use to collect accounting statistics on this subscriber profile by RADIUS. This command is used independently of the **collect-stats** command.

Parameters

name

Specifies an existing RADIUS based accounting policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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radius-accounting-policy

Syntax

radius-accounting-policy *nat-accounting-policy*

no radius-accounting-policy

Context

[Tree] (config>isa>nat-group radius-accounting-policy)

Full Context

configure isa nat-group radius-accounting-policy

Description

This command specifies the RADIUS accounting policy to use for each MDA in this ISA group.

The **no** form of the command removes the policy ID from the configuration.

Default

no radius-accounting-policy

Parameters

nat-accounting-policy

Reference to the nat-accounting-policy which defines:

Source IP addresses that are assigned to BB-ISA cards.

Parameters related to RADIUS server itself.

List of RADIUS attributes that are included in accounting messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.4 radius-accounting-server

radius-accounting-server

Syntax

radius-accounting-server

Context

[Tree] (config>aaa>l2tp-acct-plcy>include-radius-attribute radius-accounting-server)

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Full Context

configure aaa l2tp-accounting-policy include-radius-attribute radius-accounting-server

Description

Commands in this context configure RADIUS accounting server attributes under a specific session authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

radius-accounting-server

Syntax

radius-accounting-server

Context

[Tree] (config>app-assure>rad-acct-plcy radius-accounting-server)

[Tree] (config>aaa>l2tp-acct-plcy radius-accounting-server)

Full Context

configure application-assurance radius-accounting-policy radius-accounting-server

configure aaa l2tp-accounting-policy radius-accounting-server

Description

This command creates the context for defining RADIUS accounting server attributes under a specific session authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure application-assurance radius-accounting-policy radius-accounting-server

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure aaa l2tp-accounting-policy radius-accounting-server

38.5 radius-attr

radius-attr

Syntax

radius-attr type *attribute-type* [**extended-type** *attribute-ext-type*] [**transaction**]

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radius-attr type *attribute-type* [**transaction**] {**address** | **hex** | **integer** | **string**} **value** *attribute-value*

radius-attr vendor *vendor-id* **type** *attribute-type* [**extended-type** *attribute-ext-type*] [**transaction**] [**encoding** *encoding-type*]

radius-attr vendor *vendor-id* **type** *attribute-type* [**extended-type** *attribute-ext-type*] [**transaction**] [**encoding** *encoding-type*] {**address** | **hex** | **integer** | **string**} **value** *attribute-value*

no radius-attr type *attribute-type* [**extended-type** *attribute-ext-type*]

no radius-attr type *attribute-type* [**extended-type** *attribute-ext-type*] {**address** | **hex** | **integer** | **string**} **value** *attribute-value*

no radius-attr vendor *vendor-id* **type** *attribute-type* [**extended-type** *attribute-ext-type*]

no radius-attr vendor *vendor-id* **type** *attribute-type* [**extended-type** *attribute-ext-type*] {**address** | **hex** | **integer** | **string**} [**value**] *attribute-value*

Context

[Tree] (debug>router>radius radius-attr)

Full Context

debug router radius radius-attr

Description

This command specifies the RADIUS attribute filter of command **debug router radius**.

Parameters

attribute-type

Specifies the RADIUS attribute type.

Values 1 to 255

attribute-ext-type

Specifies the RADIUS attribute extended type (RFC 6929).

Values 1 to 255

address

Specifies the value is a IPv4 or IPv6 address/prefix/subnet.

string

Specifies the value is a ASCII string.

integer

Specifies the value is a integer.

hex

Specifies the value is a binary string in hex format, such as "\0xAB01FE”.

attribute-value

Specifies the value of the RADIUS attribute.

Values

address	<ipv4-address> | <ipv6-address> | <ipv6-prefix/prefix-length>

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ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D
ipv6-prefix-length [0 to 128]	
hex	[0x0 to 0xFFFFFFFF (up to 506 hex nibbles)]
integer	[0 to 4294967295]
string	ascii-string (up to 253 characters)

transaction

Specifies that the system outputs both request and response packets in the same session even if the response packet does not include the filter attribute.

vendor-id

Specifies the vendor ID for the vendor specific attribute.

Values 0 to 16777215

encoding-type

Specifies the size of the vendor-type and vendor-length in bytes. It is a two digitals string: "xy", x is the size of vendor-type, range from 1 to 4; y is the size of vendor-length, range from 0 to 2; it is "11" by default.

Values type-size:1 to 4, length-size: 0 to 2

Platforms

All

38.6 radius-auth-policy

radius-auth-policy

Syntax

radius-auth-policy *radius-authentication-policy-name*

no radius-auth-policy

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Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn radius-auth-policy)

Full Context

configure subscriber-mgmt gtp apn-policy apn radius-auth-policy

Description

This command configures the RADIUS authentication policy with which the GTP connection is authenticated.

The **no** form of this command removes the authentication policy. Only new session setups are affected.

Default

no radius-auth-policy

Parameters

radius-authentication-policy-name

Specifies the name of the authentication policy to be used, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.7 radius-authentication

radius-authentication

Syntax

radius-authentication

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile radius-authentication)

Full Context

configure subscriber-mgmt vrgw brg brg-profile radius-authentication

Description

Commands in this context configure parameters related to RADIUS authentication performed for the BRG.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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38.8 radius-authentication-policy

radius-authentication-policy

Syntax

radius-authentication-policy *name*

no radius-authentication-policy

Context

[Tree] (config>service>ies>if>sap>ipsec-gw radius-authentication-policy)

[Tree] (config>service>vprn>if>sap>ipsec-gw radius-authentication-policy)

Full Context

configure service ies interface sap ipsec-gw radius-authentication-policy

configure service vprn interface sap ipsec-gw radius-authentication-policy

Description

This command configures the policy used for the IKEv2 remote-access tunnels terminated on the IPsec gateway. The **radius-authentication-policy** is defined under **config>ipsec** context.

Parameters

name

Specifies the name of an existing RADIUS authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

radius-authentication-policy

Syntax

radius-authentication-policy *name* [**create**]

no radius-authentication-policy *name*

Context

[Tree] (config>ipsec radius-authentication-policy)

Full Context

configure ipsec radius-authentication-policy

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Description

This command specifies the RADIUS authentication policy associated with this IPsec gateway.

Parameters

name

Specifies an existing RADIUS authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.9 radius-authentication-server

radius-authentication-server

Syntax

radius-authentication-server

Context

[Tree] (config>subscr-mgmt>auth-plcy radius-authentication-server)

Full Context

configure subscriber-mgmt authentication-policy radius-authentication-server

Description

Commands in this context define RADIUS authentication server attributes under a specific session authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.10 radius-coa-port

radius-coa-port

Syntax

radius-coa-port {*port-number*}

no radius-coa-port

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Context

[Tree] (config>aaa radius-coa-port)

Full Context

configure aaa radius-coa-port

Description

This command configures the system-wide UDP port number that RADIUS is listening on for CoA and Disconnect messages.

The **no** form of this command reverts to the default.

Default

radius-coa-port 3799

Parameters

port-number

Specifies the UDP port number for RADIUS CoA and disconnect messages.

Values 1647, 1700, 1812, 3799

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.11 radius-plcy

radius-plcy

Syntax

radius-plcy *name*

no radius-plcy

Context

[Tree] (config>port>ethernet>dot1x radius-plcy)

Full Context

configure port ethernet dot1x radius-plcy

Description

This command references the RADIUS policy to be used for 802.1x authentication. An 802.1x RADIUS policy must be configured (**config**>**system**>**security**>**dot1x**) before it is associated to a port. If the RADIUS policy ID does not exist, an error is returned. Only one 802.1x RADIUS policy can be associated with a port at a time.

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The **no** form of this command removes the RADIUS policy association.

Default

no radius-plcy

Parameters

name

Specifies an existing 802.1x RADIUS policy name, up to 32 characters.

Platforms

All

radius-plcy

Syntax

radius-plcy *name* [**create**]

Context

[Tree] (config>system>security>dot1x radius-plcy)

Full Context

configure system security dot1x radius-plcy

Description

This command creates the context to configure RADIUS server parameters for 802.1x network access control on the router.

Note:
The RADIUS server configured under the config>system>security>dot1x>radius-plcy context authenticates clients who get access to the data plane of the router as opposed to the RADIUS server configured under the **config>system>radius** context which authenticates CLI login users who get access to the management plane of the router.

The **no** form of this command removes the RADIUS server configuration for 802.1x.

Platforms

All

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38.12 radius-proxy

radius-proxy

Syntax

radius-proxy

Context

[Tree] (config>service>vprn radius-proxy)

[Tree] (config>router radius-proxy)

Full Context

configure service vprn radius-proxy

configure router radius-proxy

Description

This command context to configure RADIUS proxy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.13 radius-proxy-cache

radius-proxy-cache

Syntax

radius-proxy-cache router *router-instance* **server** *server-name*

no radius-proxy-cache

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>track-mobility radius-proxy-cache)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>track-mobility radius-proxy-cache)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range track-mobility radius-proxy-cache

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range track-mobility radius-proxy-cache

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Description

This command specifies the RADIUS-proxy server to allow subscribers created via data-triggered authentication to create an entry. This RADIUS proxy cache entry allows efficient handling of UE mobility.

Parameters

router-instance

Specifies the router instance.

Values

router-name	Base
service-id	1 to 2147483647

server-name

Specifies the server name up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.14 radius-proxy-server

radius-proxy-server

Syntax

[**no**] **radius-proxy-server router** *router-instance* **name** *server-name*

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile radius-proxy-server)

Full Context

configure subscriber-mgmt vrgw brg brg-profile radius-proxy-server

Description

This command enables BRG processing on the specified RADIUS proxy server. Whenever an Access-Accept message is received with the attribute Alc-BRG-Id present, this triggers the creation of a BRG. The BRG uses the **brg-profile** specified in the Access-Accept message or fall back to this BRG profile. When the specified **radius-proxy-server** has a cache enabled, no cache entries are created for a transaction identified as BRG. A RADIUS proxy server can only be listed in one BRG profile.

This command can be executed multiple times.

The **no** form of this command removes BRG processing for the specified **radius-proxy server**.

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Parameters

router-instance

Specifies the ID of the VRF where the proxy server is located.

server-name

Specifies the name of the RADIUS proxy server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

radius-proxy-server

Syntax

radius-proxy-server router *router-instance* **name** *server-name*

no radius-proxy-server

Context

[Tree] (config>router>nat>inside>subscriber-identification radius-proxy-server)

[Tree] (config>service>vprn>nat>inside>subscriber-identification radius-proxy-server)

Full Context

configure router nat inside subscriber-identification radius-proxy-server

configure service vprn nat inside subscriber-identification radius-proxy-server

Description

This command configures RADIUS proxy server parameters. This is a reference to a RADIUS accounting proxy server in Subscriber Aware Large Scale NAT44 application. RADIUS accounting proxy server will cache attributes related to a BNG subscriber as they are received in standard accounting messages (RFC 2866). Radius accounting proxy server can be configured in any routing instance within 7750 SR.

Parameters

router *router-instance*

Specifies the routing instance in which the RADIUS accounting proxy is configured.

name *server-name*

Specifies the name reference to the RADIUS accounting proxy server that is instantiated in 7750 SR.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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38.15 radius-script-policy

radius-script-policy

Syntax

radius-script-policy *policy-name* [**create**]

no radius-script-policy *policy-name*

Context

[Tree] (config>aaa radius-script-policy)

Full Context

configure aaa radius-script-policy

Description

This command configures a RADIUS script policy.

The **no** form of this command removes the script policy from the configuration.

Parameters

policy-name

Configures Python scripts to modify RADIUS messages.

create

This keyword is required when first creating the configuration context. Once the context is created, it is possible to navigate into the context without the **create** keyword.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.16 radius-server

radius-server

Syntax

radius-server

Context

[Tree] (config>router radius-server)

[Tree] (config>service>vprn radius-server)

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Full Context

configure router radius-server

configure service vprn radius-server

Description

Commands in this context configure the RADIUS server under router or VPRN service.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.17 radius-server-policy

radius-server-policy

Syntax

radius-server-policy *policy-name*

no radius-server-policy

Context

[Tree] (config>aaa>l2tp-acct-plcy radius-server-policy)

Full Context

configure aaa l2tp-accounting-policy radius-server-policy

Description

This command references an existing **radius-server-policy** (available under the **config>aaa** context) for use in subscriber management authentication and accounting.

When configured in an authentication-policy, following CLI commands are ignored in the policy to avoid conflicts:

- all commands in the radius-authentication-server context
- accept-authorization-change
- coa-script-policy
- accept-script-policy
- request-script-policy

When configured in a radius-accounting-policy, following CLI commands are ignored in the policy to avoid conflicts:

- all commands in the radius-accounting-server context
- acct-request-script-policy

The **no** form of this command removes the radius-server-policy reference from the configuration.

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Default

no radius-server-policy

Parameters

policy-name

Specifies the RADIUS server policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

radius-server-policy

Syntax

radius-server-policy *policy-name* [**create**]

no radius-server-policy *policy-name*

Context

[Tree] (config>aaa radius-server-policy)

Full Context

configure aaa radius-server-policy

Description

This command creates a radius-server-policy.

A RADIUS server policy can be used in

- radius-proxy, for application like EAP authentication for WIFI access
- authentication policy, for Enhanced Subscriber Management authentication
- RADIUS accounting policy, for Enhanced Subscriber Management accounting
- dynamic data service RADIUS accounting
- AAA route downloader

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the name of the radius-server-policy up to 32 characters.

create

Keyword used to create a radius-server-policy name. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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radius-server-policy

Syntax

radius-server-policy *radius-server-policy-name*

no radius-server-policy

Context

[Tree] (config>subscr-mgmt>auth-plcy radius-server-policy)

[Tree] (config>subscr-mgmt>acct-plcy radius-server-policy)

Full Context

configure subscriber-mgmt authentication-policy radius-server-policy

configure subscriber-mgmt radius-accounting-policy radius-server-policy

Description

This command references an existing radius-server-policy (available under the config>aaa context) for use in subscriber management authentication and accounting.

When configured in an authentication-policy, following CLI commands are ignored in the policy to avoid conflicts:

- all commands in the radius-authentication-server context
- accept-authorization-change
- coa-script-policy
- accept-script-policy
- request-script-policy

When configured in a radius-accounting-policy, following CLI commands are ignored in the policy to avoid conflicts:

- all commands in the radius-accounting-server context
- acct-request-script-policy

The **no** form of this command removes the radius-server-policy reference from the configuration

Parameters

radius-server-policy-name

Specifies the RADIUS server policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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radius-server-policy

Syntax

radius-server-policy *policy-name*

no radius-server-policy

Context

[Tree] (config>aaa>route-downloader radius-server-policy)

Full Context

configure aaa route-downloader radius-server-policy

Description

This command references an existing radius-server-policy (available under the **config>aaa** context). The server (or servers) referenced by the policy is used as the targets for the access-request message.

The **no** form of this command removes the policy name from the route-downloader configuration.

Parameters

policy-name

Specifies the RADIUS server policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

radius-server-policy

Syntax

radius-server-policy *policy-name*

no radius-server-policy

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile>radius-authentication radius-server-policy)

Full Context

configure subscriber-mgmt vrgw brg brg-profile radius-authentication radius-server-policy

Description

This command is used if the BRG must be authenticated to the controller/PCMP by the vRGW. This is required if the BRG does not perform RADIUS authentication via the proxy server. The vRGW originates a valid Access Request using the BRG ID as the username.

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The **no** form of this command removes the **radius-server-policy** from the configuration. Setup of an unauthenticated BRG fails.

Parameters

policy-name

Specifies the RADIUS server policy, up to 32 characters, to be applied to this subscriber authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

radius-server-policy

Syntax

radius-server-policy *radius-server-policy-name*

no radius-server-policy

Context

[Tree] (config>ipsec>rad-auth-plcy radius-server-policy)

[Tree] (config>ipsec>rad-acct-plcy radius-server-policy)

Full Context

configure ipsec radius-authentication-policy radius-server-policy

configure ipsec radius-accounting-policy radius-server-policy

Description

This command references an existing **radius-server-policy** (available under the **config>aaa** context) for use in subscriber management authentication and accounting.

When configured in an authentication-policy, following CLI commands are ignored in the policy to avoid conflicts:

- all commands in the radius-authentication-server context
- accept-authorization-change
- coa-script-policy
- accept-script-policy
- request-script-policy

When configured in a radius-accounting-policy, following CLI commands are ignored in the policy to avoid conflicts:

- all commands in the radius-accounting-server context
- acct-request-script-policy

The **no** form of this command removes the radius-server-policy reference from the configuration.

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Default

no radius-server-policy

Parameters

radius-server-policy-name

Specifies the RADIUS server policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

radius-server-policy

Syntax

radius-server-policy *policy-name*

no radius-server-policy

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile radius-server-policy)

Full Context

configure subscriber-mgmt vrgw brg brg-profile radius-server-policy

Description

This command allows the vRGW to authenticate on the BRG's behalf. This is required if the BRG does not perform authentication itself using the radius proxy. The vRGW originates a valid Access Request using the BRG ID as a username.

The **no** form of this command removes the RADIUS server policy from the configuration. Setting up of an unauthenticated BRG will now fail.

Default

no radius-server-policy

Parameters

policy-name

Specifies the RADIUS server policy, up to 32 characters, to apply in this subscriber authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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radius-server-policy

Syntax

radius-server-policy *policy-name*

radius-server-policy auth *policy-name-auth*

radius-server-policy acct *policy-name-acct*

radius-server-policy auth *policy-name-auth* **acct** *policy-name-acct*

no radius-server-policy

Context

[Tree] (config>port>ethernet>dot1x radius-server-policy)

Full Context

configure port ethernet dot1x radius-server-policy

Description

This command configures the RADIUS policy with IPv4/IPv6 in base routing and VPRN. The current RADIUS policy can be found under the **configure>aaa>radius-server-policy** context.

The RADIUS servers for the policy are configured under **configure>router>radius-server** or **configure>service>vprn>radius-server** context.

The RADIUS policy is assigned under dot1x using the **radius-server-policy** command. When the RADIUS policy is configured, both authorization and accounting are performed via the same server.

The **no** form of this command allows authorization and accounting via different servers.

Default

no radius-server-policy

Parameters

policy-name

Specifies the RADIUS server policy, up to 32 characters.

The policy is configured under **configure>aaa>radius-server-policy**. When the policy name is configured, both authorization and accounting are done via this server.

policy-name-auth

Specifies the AAA RADIUS server policy for dot1x authorization only; up to 32 characters.

The policy is configured under **configure>aaa>radius-server-policy**. The policy name authorization is used if the user needs a different server for authorization.

policy-name-acct

Specifies the AAA RADIUS server policy for dot1x accounting only; up to 32 characters.

The policy is configured under **configure>aaa>radius-server-policy**. The policy name accounting is used if the user needs a different server for accounting.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.18 radius-session-timeout

radius-session-timeout

Syntax

radius-session-timeout {**backwards-compatible** | **ignore** | **absolute**}

no radius-session-timeout

Context

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session radius-session-timeout)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session radius-session-timeout)

Full Context

configure service ies subscriber-interface group-interface ipoe-session radius-session-timeout

configure service vprn subscriber-interface group-interface ipoe-session radius-session-timeout

Description

This command specifies how to interpret the session-timeout coming from a RADIUS VSA in an Access-Accept or CoA message.

The value of this command can only be changed on wlan-gw group interfaces.

The **no** form of this command to resets the default behavior.

Default

radius-session-timeout absolute (backward compatible on wlan-gw group interfaces)

Parameters

backwards-compatible

Specifies that the VSA is interpreted as an IPv4 lease time if the Alc-Lease-Time attribute is not present and an absolute timeout otherwise. The VSA is treated the same as for non-ipoe session DHCP hosts.

ignore

Specifies that the VSA meaning is irrelevant for IPoE session and should be ignored.

absolute

Specifies that the VSA would be treated as a timeout starting from the moment the IPoE session is set up.

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Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.19 radius-user-name

radius-user-name

Syntax
[**no**] **radius-user-name**

Context
[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>include-avp radius-user-name)

Full Context
configure subscriber-mgmt diameter-application-policy gy include-avp radius-user-name

Description
This command includes the RADIUS user name AVP in the Diameter Gy messages.

The **no** form of this command returns the command to the default setting.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.20 rai

rai

Syntax
[**no**] **rai**

Context
[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp rai)

Full Context
configure subscriber-mgmt diameter-application-policy gx include-avp rai

Description
This command enables the inclusion of the RAI AVP as signaled in the incoming GTP setup message.

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The **no** form of this command disables the inclusion of the AVP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.21 range

range

Syntax

range start-entry *queue-id* **count** *count*

no range

Context

[Tree] (config>qos>sap-egress>dynamic-queue range)

Full Context

configure qos sap-egress dynamic-queue range

Description

This command configures the range of IDs from which the system allocates dynamic queues. You cannot use the same IDs for static queues within the same policy.

Default

no range

Parameters

queue-id

Specifies the ID of the queue for the start entry of the range.

Values 2 to 8

count

Specifies the count for the range.

Values 1 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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range

Syntax

range *encap-range* **sync-tag** *sync-tag*

no range *encap-range*

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>port range)

Full Context

configure redundancy multi-chassis peer sync port range

Description

This command configures a range of encapsulation values.

Parameters

encap-range

Specifies a range of encapsulation values on a port to be synchronized with a multi-chassis peer.

Values

Dot1Q	start-tag-end-tag
start-tag	0 to 4094
end-tag	0 to 4094
QinQ	qtag1.start-qtag2-qtag1.end-qtag2-start-qtag1.*-end-qtag1.*
qtag1	1 to 4094
start-qtag1	1 to 4094
en-qtag1	1 to 4094
start-qtag2	0 to 4094
end-qtag2	0 to 4094

sync-tag

Specifies a synchronization tag up to 32 characters to be used while synchronizing this encapsulation value range with the multi-chassis peer.

Platforms

All

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range

Syntax

range *vc-id-range* [**sync-tag** *sync-tag*]

no range *vc-id-range*

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>sdp range)

Full Context

configure redundancy multi-chassis peer sync sdp range

Description

This command specifies a range of VC IDs for manually configured spoke SDPs to be synchronized with the multi-chassis peer and a synchronization tag to be used while synchronizing each range with the multi-chassis peer. The **range** command and the configuration of a synchronization tag on the parent **sdp** command are mutually exclusive.

To synchronize a single spoke SDP, the *start-vc-id* should be the same as the *end-vc-id*. If the configured *end-vc-id* is lower than the *start-vc-id*, the **range** command fails.

The synchronization tag can be changed by entering the same command with a different synchronization tag. Changing the synchronization tag removes all states relating to the previous synchronization tag for the SDP and a new synchronization tag state is created.

Multiple **range** commands can be configured, however, overlapping ranges for the same SDP (*sdp-id*) are not permitted.

The synchronization of PIM snooping is only supported for manually configured spoke SDPs but is not supported for spoke SDPs configured within an endpoint. See PIM Snooping for IPv4 Synchronization for service support.

The synchronization of the PIM snooping state is not supported on any of the following when used with the configured *sdp-id*:

- mesh SDPs
- spoke SDPs in non-VPLS services
- BGP-AD/BGP-VPLS (FEC 129) spoke SDPs
- spoke SDPs configured in endpoints
- pseudowire SAPs
- ESM-over-MPLS pseudowires

Non-existent spoke SDPs may be specified. If these spoke SDPs are created at a later time, then all states on the spoke SDPs are synchronized according to the synchronization tag and the synchronization protocols enabled. The **sync-tag** can be changed by entering the same command with a different **sync-tag** value. If the synchronization tag is changed, then all states for the previous **sync-tag** are removed for the SDP configured in the command and the state is then built for the new synchronization tag.

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Parameters

vc-id-range

Specifies a non-overlapping range of VC IDs for the spoke SDPs of the SDP to be synchronized with the multi-chassis peer.

Values *start-vc-id-end-vc-id*

start-vc-id: 1 to 4294967295

end-vc-id: 1 to 4294967295

sync-tag

Specifies a synchronization tag, up to 32 characters, to be used when synchronizing with the multi-chassis peer.

Platforms

All

range

Syntax

[**no**] **range** *vlan-range*

Context

[Tree] (config>redundancy>mc>peer>mcr>ring>path-excl range)

[Tree] (config>redundancy>mc>peer>mcr>ring>path-b range)

Full Context

configure redundancy multi-chassis peer mc-ring ring path-excl range

configure redundancy multi-chassis peer mc-ring ring path-b range

Description

This command configures a Layer 2 MC-Ring path-b or path-excl VLAN range.

By default, all customer VLANs participating in an L2 MC-Ring are on path-a. For load balancing purposes, a range of customer VLANs can be configured to use path-b which is set up in the opposite direction than path-a.The range of VLANs that are not participating in L2 MC-Ring are configured using the **path-excl** command.

Parameters

vlan-range

Specifies the VLAN range.

Values [0 to 4094] - [0 to 4094]

[0 to 4094] - *

* - *

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Platforms

All

range

Syntax

[**no**] **range** *vlan-range*

Context

[Tree] (config>service>vpls>sap>managed-vlan-list range)

Full Context

configure service vpls sap managed-vlan-list range

Description

This command configures a range of VLANs on an access port that are to be managed by an existing management VPLS.

This command is only valid when the VPLS in which it is entered was created as a management VPLS, and when the SAP in which it was entered was created on an Ethernet port with encapsulation type of dot1q or qinq, or on a SONET/SDH port with encapsulation type of bcp-dot1q.

To modify the range of VLANs, first the new range should be entered and afterwards the old range removed.

The **no** form of this command removes the VLAN range from this configuration.

Parameters

vlan-range

Specifies the VLAN start value and VLAN end value. The end-vlan must be greater than start-vlan. The format is <start-vlan>-<end-vlan>.

Values start-vlan: 1 to 4094

end-vlan: 1 to 4094

Platforms

All

range

Syntax

range start [*value*] **end** [*value*]

range default

no range start [*value*] **end** [*value*]

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges range)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges range)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range

Description

This command creates a VLAN range or enters the context of the specified VLAN ranges for configuration applicable to that range of VLANs.

Parameters

start

Specifies the start of the VLAN range.

Values 0 to 4096

Default 200

end

Specifies the end of VLAN range.

Values 0 to 4096

Default 400

default

Specifies to use defaults for the interface.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

range

Syntax

range *isid* [**to** *isid*]

no range

Context

[Tree] (config>service>vpls>isid-policy>entry range)

Full Context

configure service vpls isid-policy entry range

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Description

This command specifies an ISID or a Range of ISIDs in a B-VPLS. One range is allowed per entry.

Default

no range

Parameters

isid

Specifies the ISID value in 24 bits. When singular, ISID identifies a particular ISID to be used for matching

Values 0 to 16777215

to *isid*

Identifies upper value in a range of ISIDs to be used as matching criteria

Platforms

All

range

Syntax

range *range-id* **isid** *isid-value* [**to** *isid-value*] [**create**]

no range *range-id*

Context

[Tree] (config>service>vpls>sap>static-isid range)

[Tree] (config>service>vpls>spoke-sdp>static-isid range)

Full Context

configure service vpls sap static-isid range

configure service vpls spoke-sdp static-isid range

Description

This command identifies a set of ISIDs for I-VPLS services that are external to SPBM. These ISIDs are advertised as supported locally on this node unless an altered by an isid-policy. This allows communication from I-VPLS services external to SPBM through this node. The SAP may be a regular SAP or MC-LAG SAP. The spoke-SDP may be an active/standby spoke. When used with MC-LAG or active/stand-by PWs the conditional static-mac must be configured. ISIDs declared this way become part of the ISID multicast and consume MFIBs. Multiple SPBM static-isid ranges are allowed under a SAP/spoke-SDP.

The static-isids are associated with a remote B-MAC that must be declared as a static-mac for unicast traffic. ISIDs are advertised as if they were attached to the local B-MAC. Only remote I-VPLS ISIDs need to be defined. In the MFIB, the group MACs are then associated with the active SAP or spoke-SDP. An

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ISID policy may be defined to suppress the advertisement of an ISID if the ISID is primary used for unicast services. The following rules govern the usage of multiple ISID statements:

- overlapping values are allowed:
  - isid from 301 to 310
  - isid from 305 to 315
  - isid 316
- the minimum and maximum values from overlapping ranges are considered and displayed. The above entries will be equivalent with "ISID from 301 to 316” statement.
- there is no consistency check with the content of ISID statements from other entries. The entries will be evaluated in the order of their IDs and the first match will cause the implementation to execute the associated action for that entry.

The **no** form of this command removes all the previous statements under one interface

no isid value | from value to higher-value - removes a specific ISID value or range. Must match a previously used positive statement: for example if the command "isid 316 to 400” was used using "no isid 316 to 350” will not work but "no isid 316 to 400 will be successful.

Parameters

range-id

Sets context for specified entry ID for the static-isids

Values 1— 8191

isid-value

Configures the ISID or the start of an ISID range. Specifies the ISID value in 24 bits. When just one present identifies a particular ISID to be used for matching.

Values 0 to 16777215

to isid

Identifies upper value in a range of ISIDs to be used as matching criteria

Values 0 to 16777215

create

This keyword is mandatory when creating a range instance.

Platforms

All

range

Syntax

range start-entry *policer-id* **count** *count*

no range

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Context

[Tree] (config>qos>sap-egress>dyn-policer range)

[Tree] (config>qos>sap-ingress>dyn-policer range)

Full Context

configure qos sap-egress dynamic-policer range

configure qos sap-ingress dynamic-policer range

Description

This command defines the range of ids for dynamic policers that are created using a Gx interface.

The **no** form of this command disables creation of dynamic policers using a Gx interface, resulting in a Gx rule instantiation failure, which is the default.

Default

no range

Parameters

start-entry *policer-id*

Specifies the lowest entry in the range.

Values 1 to 63

count *count*

Specifies the number of entries in the range.

Values 1 to 63

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.22 rapid-psc-timer

rapid-psc-timer

Syntax

rapid-psc-timer *interval*

no rapid-psc-timer

Context

[Tree] (config>router>mpls>mpls-tp>protection-template rapid-psc-timer)

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Full Context

configure router mpls mpls-tp protection-template rapid-psc-timer

Description

This command configures the rapid timer value to be used for protection switching coordination (PSC) packets for MPLS-TP linear protection (RFC 6378).

Default

rapid-psc-timer 10

Parameters

interval

Specifies the rapid timer interval in milliseconds.

Values [10, 100, 1000]

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

38.23 rapid-retransmit-time

rapid-retransmit-time

Syntax

rapid-retransmit-time *hundred-milliseconds*

no rapid-retransmit-time

Context

[Tree] (config>router>rsvp rapid-retransmit-time)

Full Context

configure router rsvp rapid-retransmit-time

Description

This command defines the value of the Rapid Retransmission Interval. It is used in the re-transmission mechanism to handle unacknowledged message_id objects and is based on an exponential back-off timer.

Re-transmission interval of a RSVP message with the same message_id = 2 * rapid-retransmit-time interval of time.

The node stops re-transmission of unacknowledged RSVP messages:

- If the updated back-off interval exceeds the value of the regular refresh interval.

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- If the number of re-transmissions reaches the value of the **rapid-retry-limit** parameter, whichever comes first.

The Rapid Retransmission Interval must be smaller than the regular refresh interval configured in **config>router>rsvp>refresh-time**.

The **no** form of this command reverts to the default value.

Default

rapid-retransmit-time 5

Parameters

hundred-milliseconds

Specifies the rapid retransmission interval, in hundred-milliseconds (for example, enter "6" for a 600 millisecond retransmit time).

Values 1 to 100, in units of 100 ms.

Platforms

All

38.24 rapid-retry-limit

rapid-retry-limit

Syntax

rapid-retry-limit *number*

no rapid-retry-limit

Context

[Tree] (config>router>rsvp rapid-retry-limit)

Full Context

configure router rsvp rapid-retry-limit

Description

This command defines the value of the Rapid Retry Limit. This is used in the retransmission mechanism based on an exponential backoff timer in order to handle unacknowledged message_id objects. The RSVP message with the same message_id is retransmitted every 2 * rapid-retransmit-time interval of time. The node stops retransmission of unacknowledged RSVP messages whenever the updated backoff interval exceeds the value of the regular refresh interval or the number of retransmissions reaches the value of the **rapid-retry-limit** parameter, whichever comes first.

The **no** form of this command reverts to the default value.

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Default

rapid-retry-limit 3

Parameters

number

Specifies the value of the Rapid Retry Limit.

Values 1 to 6, integer values

Platforms

All

38.25 rapid-update

rapid-update

Syntax

rapid-update [**l2-vpn**] [**mvpn-ipv4**] [**mvpn-ipv6**] [**mdt-safi**] [**evpn**] [**label-ipv4**] [**label-ipv6**] [**vpn-ipv4**] [**vpn-ipv6**] [**mcast-vpn-ipv4**] [**mcast-vpn-ipv6**] [**ipv4**] [**ipv6**]

no rapid-update

Context

[Tree] (config>router>bgp rapid-update)

Full Context

configure router bgp rapid-update

Description

This command enables and disables BGP rapid update for specified address families.

If rapid update is enabled for a set of address families, and a route belonging to a family in that set is received by the router and chosen for propagation to certain BGP peers, the remaining time on the MRAI timer of these peers is ignored. The route is transmitted immediately, along with all other pending routes for these peers (including routes of address families not specified in the **rapid-update** command).

The **rapid-update** command overrides the peer-level **min-route-advertisement** (**config router bgp min-route-advertisement**, **config router bgp group min-route-advertisement**, **config router bgp group neighbor min-route-advertisement**) time and applies the minimum setting (0 seconds) to routes belonging to specified address families. Routes of other address families continue to be advertised according to the session-level MRAI setting.

The **no** form of this command disables rapid update for all address families.

Default

no rapid-update

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Parameters

l2-vpn

Specifies the BGP rapid update for the 12-byte Virtual Switch Instance identifier (VSI-ID) value consisting of the 8-byte route distinguisher (RD) followed by a 4-byte value.

mvpn-ipv4

Keyword to specify BGP rapid update for the mvpn-ipv4 address family. The mvpn-pv4 address is a variable size value consisting of the 1-byte route type, 1-byte length and variable size that is route type specific. Route type defines encoding for the route type specific field. Length indicates the length in octets of the route type specific field.

mdt-safi

Keyword to specify BGP rapid update for the mdt-safi address family. The address is a 16-byte value consisting of 12-byte route distinguisher (RD) followed by a 4-byte group address.

mvpn-ipv6

Keyword to specify BGP rapid update for the mvpn-ipv6 address family.

evpn

Keyword to specify BGP rapid update for the evpn address family by including or removing EVPN routes from the set of routes that can trigger rapid update.

label-ipv4

Keyword that includes or removes label-ipv4 routes from the set of routes that can trigger rapid update.

label-ipv6

Keyword that includes or removes label-ipv6 routes from the set of routes that can trigger rapid update.

vpn-ipv4

Keyword that includes or removes vpn-ipv4 routes from the set of routes that can trigger rapid update.

vpn-ipv6

Keyword that includes or removes vpn-ipv6 routes from the set of routes that can trigger rapid update.

mcast-vpn-ipv4

Keyword that includes or removes mcast-vpn-ipv4 routes from the set of routes that can trigger rapid update.

mcast-vpn-ipv6

Keyword that includes or removes mcast-vpn-ipv6 routes from the set of routes that can trigger rapid update.

ipv4

Keyword that includes or removes IPv4 routes from the set of routes that can trigger rapid update.

ipv6

Keyword that includes or removes IPv6 routes from the set of routes that can trigger rapid update.

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Platforms

All

rapid-update

Syntax

rapid-update [**ipv4**] [**ipv6**]

no rapid-update

Context

[Tree] (config>service>vprn>bgp rapid-update)

Full Context

configure service vprn bgp rapid-update

Description

This command enables and disables BGP rapid update for specified address families.

If rapid update is enabled for a set of address families, and a route belonging to a family in that set is received by the router and chosen for propagation to certain BGP peers, the remaining time on the MRAI timer of these peers is ignored. The route is transmitted immediately, along with all other pending routes for these peers (including routes of address families not specified in the **rapid-update** command).

The **rapid-update** command overrides the peer-level **min-route-advertisement** (**config router bgp min-route-advertisement**, **config router bgp group min-route-advertisement**, **config router bgp group neighbor min-route-advertisement**) time and applies the minimum setting (0 seconds) to routes belonging to specified address families. Routes of other address families continue to be advertised according to the session-level MRAI setting.

The **no** form of this command disables rapid update for all address families.

Default

no rapid-update

Parameters

ipv4

Keyword that includes or removes IPv4 routes from the set of routes that can trigger rapid update.

ipv6

Keyword that includes or removes IPv6 routes from the set of routes that can trigger rapid update.

Platforms

All

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38.26 rapid-withdrawal

rapid-withdrawal

Syntax

[**no**] **rapid-withdrawal**

Context

[Tree] (config>service>vprn>bgp rapid-withdrawal)

Full Context

configure service vprn bgp rapid-withdrawal

Description

This command disables the delay (Minimum Route Advertisement) on sending BGP withdrawals. Normal route withdrawals may be delayed up to the minimum route advertisement to allow for efficient packing of BGP updates.

The **no** form of this command removes this command from the configuration and returns withdrawal processing to the normal behavior.

Default

no rapid-withdrawal

Platforms

All

rapid-withdrawal

Syntax

[**no**] **rapid-withdrawal**

Context

[Tree] (config>router>bgp rapid-withdrawal)

Full Context

configure router bgp rapid-withdrawal

Description

This command disables the delay (Minimum Route Advertisement) on sending BGP withdrawals. Normal route withdrawals may be delayed up to the minimum route advertisement to allow for efficient packing of BGP updates.

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The **no** form of this command removes this command from the configuration and returns withdrawal processing to the normal behavior.

Default

no rapid-withdrawal

Platforms

All

38.27 rat-type

rat-type

Syntax

rat-type {**utran** | **geran** | **wlan** | **gan** | **hspa** | **eutran** | **virtual** | *id*}

no rat-type

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile rat-type)

Full Context

configure subscriber-mgmt gtp peer-profile rat-type

Description

This command configures the default Radio Access Type (RAT) signaled during GTP setup. RAT is the underlying physical connection method for a radio-based communication network. This can be overridden by RADIUS.

The **no** form of this command reverts to the default value.

Default

rat-type wlan

Parameters

utran

Specifies the signaled RAT type is UTRAN (1).

geran

Specifies the signaled RAT type is GERAN (2).

wlan

Specifies the signaled RAT type is WLAN (3).

gan

Specifies the signaled RAT type is GAN (4).

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hspa

Specifies the signaled RAT type is HSPA Evolution (5).

eutran

Specifies the signaled RAT type is EUTRAN (6).

virtual

Specifies the signaled RAT type is virtual (7).

id

Specifies the numeric RAT type value.

Values 0 to 255

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

rat-type

Syntax

[**no**] **rat-type**

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute rat-type)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute rat-type

Description

This command enables the inclusion of the Radio Access Type in AAA protocols as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

rat-type

Syntax

[**no**] **rat-type**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp rat-type)

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp rat-type)

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Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp rat-type

configure subscriber-mgmt diameter-application-policy nasreq include-avp rat-type

Description

This command includes the RAT type.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt diameter-application-policy gx include-avp rat-type

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt diameter-application-policy nasreq include-avp rat-type

rat-type

Syntax

[**no**] **rat-type**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute rat-type)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute rat-type

Description

This command configures the 3GPP-RAT-Type attribute for inclusion in RADIUS accounting for Fixed Wireless Access (FWA) sessions. Its value is taken from the RAT Type IE that is included in the GTP-c Create Session Request.

Note: This command is not applicable to GTP uplink.

The **no** form of this command disables the inclusion of the attribute.

Default

no rat-type

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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38.28 rate

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>hs-wrr-grp rate)

Full Context

configure subscriber-mgmt sla-profile egress qos hs-wrr-group rate

Description

This command configures the rate (PIR) override for the WRR group.

The **no** form of this command removes the rate from the configuration.

Parameters

rate

Specifies the PIR expressed as a percentage of line rate in kb/s.

Values 1 to 2000000000, max

Platforms

7750 SR-7/12/12e

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue rate)

Full Context

configure subscriber-mgmt sla-profile egress qos queue rate

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Description

This command defines the administrative Peak Information Rate (PIR) and the administrative Committed Information Rate (CIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets out an egress interface (for SAP egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile then out-of-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent command's *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP egress QoS policy with the *queue-id*.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Parameters

pir-rate

Defines the administrative PIR rate, in kb/s, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed. Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queues **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 2000000000, max

Default max

cir-rate

Defines the administrative CIR rate, kb/s, for the queue. The **cir** parameter overrides the default administrative CIR used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed. Fractional values are not allowed and must be given as a positive integer.

Values 0 to 2000000000, max

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>queue rate)

Full Context

configure subscriber-mgmt sla-profile ingress qos queue rate

Description

This command defines the administrative Peak Information Rate (PIR) and the administrative Committed Information Rate (CIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets through the switch fabric (for SAP ingress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. For SAP ingress, the CIR also defines the rate that packets are considered in-profile by the system. In-profile then out-of-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent command's *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP ingress or SAP egress QoS policy with the *queue-id*.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Parameters

pir-rate

Defines the administrative PIR rate, in kilobits, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queues **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 2000000000, max

Default max

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cir-rate

Specifies the **cir** parameter used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

Fractional values are not allowed and must be given as a positive integer.

Values 0 to 2000000000, max

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

rate

Syntax

rate {**max** | *rate*} [**cir** {**max** | *rate*}]

Context

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>policer rate)

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>policer rate)

Full Context

configure subscriber-mgmt sla-profile egress qos policer rate

configure subscriber-mgmt sla-profile ingress qos policer rate

Description

This command is used to configure the policer's metering and optional profiling rates. The metering rate is used by the system to configure the policer's PIR leaky bucket's decrement rate while the profiling rate configures the policer's CIR leaky bucket's decrement rate. The decrement function empties the bucket while packets applied to the bucket attempt to fill it based on each packets size. If the bucket fills faster than how much is decremented per packet, the bucket's depth eventually reaches it's exceed (CIR) or violate (PIR) threshold. The **cbs**, **mbs**, and **high-prio-only** commands are used to configure the policer's PIR and CIR thresholds.

If a packet arrives at the policer while the bucket's depth is less than the threshold associated with the packet, the packet is considered to be conforming to the bucket's rate. If the bucket depth is equal to or greater than the threshold, the packet is considered to be in the exception state. For the CIR bucket, the exception state is exceeding the CIR rate while the PIR bucket's exception state is violating the PIR bucket rate. If the packet is violating the PIR, the packet is marked red and is discarded. If the packet is not red, it may be green or yellow based on the conforming or exceeding state from the CIR bucket.

When a packet is red neither the PIR or CIR bucket depths are incremented by the packets size. When the packet is yellow the PIR bucket is incremented by the packet size, but the CIR bucket is not. When the packet is green, both the PIR and CIR buckets are incremented by the packet size. This ensures that conforming packets impact the bucket depth while exceeding or violating packets do not.

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The policer's **adaptation-rule** command settings are used by the system to convert the specified rates into hardware timers and decrement values for the policer's buckets.

By default, the policer's metering rate is **max** and the profiling rate is 0 kb/s (all packets out-of-profile).

The **rate** settings defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command restores the default metering and profiling rate to a policer.

Parameters

{max | *rate*}

Specifies the packet byte offset. Specifying the keyword **max** or an explicit **rate** (in kilobits per second) parameter directly following the rate command is required and identifies the policer's metering rate for the PIR leaky bucket. When the policer is first created, the metering rate defaults to max. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used is equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to max.

Values max or 1 to 2000000000

cir {max | *rate*}

Specifies the packet byte offset. The optional **cir** keyword is used to override the default CIR rate of the policer. Specifying the keyword **max** or an explicit **rate** (in kilobits per second) parameter directly following the cir keyword is required and identifies the policer's profiling rate for the CIR leaky bucket. When the policer is first created, the profiling rate defaults to 0 kb/s. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used is equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to **max**.

Values max or 0 to 2000000000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

rate

Syntax

rate *kilobits-per-second*

no rate

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress>agg-rate rate)

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[Tree] (config>service>ies>if>sap>egress>agg-rate rate)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress>agg-rate rate)

Full Context

configure service vprn subscriber-interface group-interface sap egress agg-rate rate

configure service ies interface sap egress agg-rate rate

configure service ies subscriber-interface group-interface sap egress agg-rate rate

Description

This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object (SAP, subscriber, Vport, and so on).

The **no** form of this command removes an explicit rate value from the aggregate rate therefore returning it to its default value.

Parameters

kilobits-per-second

Specifies the rate limit for the SAP, in kilobits per second.

Values 1 to 6400000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress agg-rate rate
- configure service vprn subscriber-interface group-interface sap egress agg-rate rate

All

- configure service ies interface sap egress agg-rate rate

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>service>ies>if>sap>ingress>queue-override>queue rate)

[Tree] (config>service>vpls>sap>ingress>queue-override>queue rate)

[Tree] (config>service>vpls>sap>egress>queue-override>queue rate)

[Tree] (config>service>ies>if>sap>egress>queue-override>queue rate)

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Full Context

configure service ies interface sap ingress queue-override queue rate

configure service vpls sap ingress queue-override queue rate

configure service vpls sap egress queue-override queue rate

configure service ies interface sap egress queue-override queue rate

Description

This command overrides specific attributes of the specified queue's Peak Information Rate (PIR) and the Committed Information Rate (CIR) parameters.

The PIR defines the maximum rate that the queue can transmit packets out an egress interface (for SAP egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile, then out-of-profile, packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP egress QoS policy with the *queue-id*.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (max, 0).

Default

rate max cir 0

Parameters

pir-rate

Defines the administrative PIR rate, in kilobits, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and must be configured as a positive integer.

The actual PIR rate is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 6400000000, **max**

Default max

cir-rate

Overrides the default administrative CIR used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

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Fractional values are not allowed and must be configured as a positive integer.

Values 0 to 6400000000, **max**

Default 0

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>service>vpls>sap>egress>sched-override>scheduler rate)

Full Context

configure service vpls sap egress scheduler-override scheduler rate

Description

This command overrides specific attributes of the specified scheduler rate. The **rate** command defines the maximum bandwidth that the scheduler can offer its policers, child queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the amount of bandwidth to be considered during the parent scheduler's 'within CIR' distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler because of insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler assumes that an infinite amount of bandwidth is available and allow all child queues and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's PIR and CIR parameters to the value configured in the applied scheduler policy.

Default

rate max cir sum

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Parameters

pir-rate

Specifies the PIR rates. The **pir** parameter accepts a step multiplier value that specifies the multiplier used to determine the PIR rate at which the queue operates. A value of 0 to 100000000 or the keyword **max** is accepted. Any other value results in an error without modifying the current PIR rate.

To calculate the actual PIR rate, the rate described by the queue's **rate** is multiplied by the *pir-rate*.

The SAP ingress context for PIR is independent of the defined forwarding class (fc) for the queue. The default **pir** and definable range is identical for each class. The PIR in effect for a queue defines the maximum rate at which the queue is allowed to forward packets in a given second, shaping the queue's output.

The PIR parameter for SAP ingress queues do not have a negate (**no**) function. To return the queue's PIR rate to the default value, that value must be specified as the PIR value.

Values 1 to 6400000000, max

Default max

cir-rate

Specifies the CIR rate. The **cir** parameter accepts a step-multiplier value that specifies the multiplier used to determine the CIR rate at which the queue operate. A value of 0 to 250 or the keyword max is accepted. Any other value results in an error without modifying the current CIR rate.

To calculate the actual CIR rate, the rate described by the **rate pir** *pir-rate* is multiplied by the *cir-rate*. If the **cir** is set to max, then the CIR rate is set to infinity.

The context for CIR is dependent on the defined forwarding class (fc) for the queue. The default CIR and definable range is different for each class. The CIR in effect for a policer or queue defines both its profile (in or out) marking level as well as the relative importance compared to other queues for scheduling purposes during congestion periods.

Values 0 to 6400000000, max, sum

Default sum

Platforms

All

rate

Syntax

rate *rate* [**cir** *cir-rate*]

no rate

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Context

[Tree] (config>subscr-mgmt>isa-policer rate)

Full Context

configure subscriber-mgmt isa-policer rate

Description

This command specifies at which rate the policer drains packets. The **cir** value is only supported on dual-bucket-bandwidth policers. If rate **max** is configured, no actual rate limitations are applied.

The **no** form of this command reverts to the default.

Parameters

rate

Specifies the rate in kb/s.

Values 1 to 100000000, **max**

Default max

cir-rate

Specifies the CIR rate in kb/s.

Values 1 to 100000000, **max**

Default max

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

rate

Syntax

rate {*rate* | **max**} [**cir** {**max** | *rate*}]

no rate

Context

[Tree] (config>card>fp>ingress>access>qgrp>policer-over>plcr rate)

[Tree] (config>card>fp>ingress>network>qgrp>policer-over>plcr rate)

Full Context

configure card fp ingress access queue-group policer-override policer rate

configure card fp ingress network queue-group policer-override policer rate

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Description

This command configures the policer's metering and optional profiling rates. The metering rate is used by the system to configure the policer's PIR leaky bucket's decrement rate while the profiling rate configures the policer's CIR leaky bucket's decrement rate. The decrement function empties the bucket while packets applied to the bucket attempt to fill it based on its packet size. If the bucket fills faster than how much is decremented per packet, the bucket's depth eventually reaches it's exceeded (CIR) or violate (PIR) threshold. The **cbs**, **mbs**, and **high-prio-only** commands are used to configure the policer's PIR and CIR thresholds.

If a packet arrives at the policer while the bucket's depth is less than the threshold associated with the packet, the packet is considered to be conforming to the bucket's rate. If the bucket depth is equal to or greater than the threshold, the packet is considered to be in the exception state. For the CIR bucket, the exception state is exceeding the CIR rate while the PIR bucket's exception state is violating the PIR bucket rate. If the packet is violating the PIR, the packet is marked red and will be discarded. If the packet is not red, it may be green or yellow based on the conforming or exceeding state from the CIR bucket.

When a packet is red neither the PIR nor the CIR bucket depths are incremented by the packets size. When the packet is yellow the PIR bucket is incremented by the packet size, but the CIR bucket is not. When the packet is green, both the PIR and CIR buckets are incremented by the packet size. This ensures that conforming packets impact the bucket depth while exceeding or violating packets do not.

The policer's **adaptation-rule** command settings are used by the system to convert the specified rates into hardware timers and decrement values for the policer's buckets.

By default, the policer's metering rate is **max** and the profiling rate is 0 kb/s (all packets out-of-profile).

The **rate** settings defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command reverts to the default metering and profiling rate of a policer.

Parameters

{*rate* | max}

Specifying the keyword **max** or an explicit *rate* parameter directly following the rate command is required and identifies the policer's metering rate for the PIR leaky bucket. When the policer is first created, the metering rate defaults to max. The *kilobits-per-second* value must be expressed as an integer and defines the rate in kilobits-per-second. The integer value is multiplied by 1,000 to derive the actual rate in bits-per-second. When max is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to max.

Values **max** or 1 to 2000000000

cir {max | *rate*}

The optional **cir** keyword is used to override the default CIR rate of the policer. Specifying the keyword max or an explicit *rate* parameter directly following the cir keyword is required and identifies the policer's profiling rate for the CIR leaky bucket. When the policer is first created, the profiling rate defaults to 0 kb/s. The *kilobits-per-second* value must be expressed as an integer and defines the rate in kilobits-per-second. The integer value is multiplied by 1,000 to derive the actual rate in bits-per-second. When max is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to max.

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Values **max** or 0 to 2000000000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

rate

Syntax

rate *kilobits-per-second*

no rate

Context

[Tree] (config>port>ethernet>network>egr>qgrp>agg-rate rate)

[Tree] (config>port>ethernet>access>egr>qgrp>agg-rate rate)

Full Context

configure port ethernet network egress queue-group agg-rate rate

configure port ethernet access egress queue-group agg-rate rate

Description

This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object.

The **no** form of this command removes an explicit rate value from the aggregate rate returning it to its default value.

Parameters

kilobits-per-second

Specifies the rate limit for the queue group, in kilobits per second.

Values 1 to 3200000000, **max**

Platforms

All

rate

Syntax

rate *kilobits-per-second*

no rate

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Context

[Tree] (config>port>ethernet>access>egr>vport>agg-rate rate)

Full Context

configure port ethernet access egress vport agg-rate rate

Description

This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object.

The **no** form of this command removes an explicit rate value from the aggregate rate returning it to its default value.

Parameters

kilobits-per-second

Specifies the rate limit for the Vport, in kilobits per second.

Values 1 to 6400000000, **max**

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>port>ethernet>network>egr>qover>q rate)

[Tree] (config>port>ethernet>access>egr>qgrp>qover>q rate)

[Tree] (config>port>ethernet>access>ing>qgrp>qover>q rate)

Full Context

configure port ethernet network egress queue-overrides queue rate

configure port ethernet access egress queue-group queue-overrides queue rate

configure port ethernet access ingress queue-group queue-overrides queue rate

Description

This command specifies the administrative Peak Information Rate (PIR) and the administrative Committed Information Rate (CIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets out an egress interface (for SAP egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

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The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile then out-of-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP egress QoS policy with the *queue-id*.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **rate** is performed under the **hs-wrr-group** within the egress queue group template.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Default

rate max cir 0 - The max default specifies the amount of bandwidth in kilobits per second (thousand bits per second). The max value is mutually exclusive to the pir-rate value.

Parameters

pir-rate

Defines the administrative PIR rate, in kilobits per second, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed. Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 200000000, max

Default max

cir-rate

The **cir** parameter overrides the default administrative CIR used by the queue, in kilobits per second. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed. Fractional values are not allowed and must be given as a positive integer.

Values 0 to 200000000, max

Default 0

Platforms

All

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rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>port>ethernet>access>egr>qgrp>sched-override>scheduler rate)

[Tree] (config>port>ethernet>access>ing>qgrp>sched-override>scheduler rate)

Full Context

configure port ethernet access egress queue-group scheduler-override scheduler rate

configure port ethernet access ingress queue-group scheduler-override scheduler rate

Description

This command can be used to override specific attributes of the specified scheduler rate. The rate command defines the maximum bandwidth that the scheduler can offer its child queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the amount of bandwidth to be considered during the parent scheduler's 'within CIR' distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler because of insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler assumes that an infinite amount of bandwidth is available and allow all child policers, queues, and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's PIR and CIR parameters to the value configured in the applied scheduler policy.

Parameters

pir-rate

Specifies the PIR rate, in kilobits per second. Any other value results in an error without modifying the current PIR rate.

Values 1 to 6400000000, **max**

cir-rate

Specifies the CIR rate, in kilobits per second. If the CIR is set to **max**, then the CIR rate is set to infinity. The **sum** keyword specifies that the CIR be used as the summed CIR values of the children schedulers, policers, or queues.

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Values 0 to 6400000000, **sum**, **max**

Platforms

All

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>port>ethernet>egress>hs-sec-shaper>class rate)

[Tree] (config>port>ethernet>egress>hs-sec-shaper>agg rate)

Full Context

configure port ethernet egress hs-secondary-shaper class rate

configure port ethernet egress hs-secondary-shaper aggregate rate

Description

This command specifies the rate allowed for the HS secondary shaper's aggregate rate and per-class rates.

The **no** form of this command reverts to the default.

Default

rate max

Parameters

rate

Specifies the maximum rate in kilobits per second. When the **max** keyword follows the **rate** keyword, the bandwidth limitation is removed from the aggregate or class. The **max** keyword is mutually exclusive to the **rate** parameter. Either **max** or a rate value must follow the **rate** keyword.

Values 1 to 100000000, max

Platforms

7750 SR-7/12/12e

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rate

Syntax

rate *kilobits-per-second*

no rate

Context

[Tree] (config>service>ipipe>sap>egress>agg-rate rate)

[Tree] (config>service>cpipe>sap>egress>agg-rate rate)

[Tree] (config>service>epipe>sap>egress>agg-rate rate)

Full Context

configure service ipipe sap egress agg-rate rate

configure service cpipe sap egress agg-rate rate

configure service epipe sap egress agg-rate rate

Description

This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object (SAP, subscriber, Vport, and so on).

The **no** form of this command removes an explicit rate value from the aggregate rate returning it to its default value.

Parameters

kilobits-per-second

The enforced aggregate rate for all queues associated with the agg-rate context, in kilobits per second.

Values 1 to 6400000000, **max**

Platforms

All

- configure service epipe sap egress agg-rate rate
- configure service ipipe sap egress agg-rate rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress agg-rate rate

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rate

Syntax

rate {*rate* | **max**} [**cir** {*rate* | **max**}]

Context

[Tree] (config>service>epipe>sap>ingress>policer-over>plcr rate)

[Tree] (config>service>ipipe>sap>ingress>policer-over>plcr rate)

[Tree] (config>service>epipe>sap>egress>policer-over>plcr rate)

[Tree] (config>service>cpipe>sap>egress>policer-over>plcr rate)

[Tree] (config>service>cpipe>sap>ingress>policer-over>plcr rate)

[Tree] (config>service>ipipe>sap>egress>policer-over>plcr rate)

Full Context

configure service epipe sap ingress policer-override policer rate

configure service ipipe sap ingress policer-override policer rate

configure service epipe sap egress policer-override policer rate

configure service cpipe sap egress policer-override policer rate

configure service cpipe sap ingress policer-override policer rate

configure service ipipe sap egress policer-override policer rate

Description

This command within the SAP ingress and egress policer-overrides contexts is used to override the sap-ingress and sap-egress QoS policy configured rate parameters for the specified policer-id.

The **no** rate command is used to restore the policy defined metering and profiling rate to a policer.

Parameters

rate *rate*

Specifies the policer instance metering rate for the PIR leaky bucket, in kilobits per second. The integer value is multiplied by 1000 to derive the actual rate in bits per second.

Values 1 to 6400000000

cir *rate*

Specifies the overriding value for the policy-derived profiling rate of the policer, in kilobits per second. The integer value is multiplied by 1000 to derive the actual rate in bits per second.

Values 0 to 6400000000

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max

Uses the maximum policer rate, equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR or CIR used is equivalent to **max**.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service epipe sap ingress policer-override policer rate
- configure service ipipe sap egress policer-override policer rate
- configure service ipipe sap ingress policer-override policer rate
- configure service epipe sap egress policer-override policer rate

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress policer-override policer rate
- configure service cpipe sap egress policer-override policer rate

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>service>epipe>sap>egress>queue-override>hs-wrr-group rate)

[Tree] (config>service>ipipe>sap>egress>queue-override>hs-wrr-group rate)

Full Context

configure service epipe sap egress queue-override hs-wrr-group rate

configure service ipipe sap egress queue-override hs-wrr-group rate

Description

This command overrides the scheduling rate applied to the HS WRR group in kb/s. A rate can be specified in kb/s or the keyword **max** can be used to remove the bandwidth limitation on the HS WRR group. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the rate override value from the configuration.

Parameters

rate

Specifies the scheduling rate of the HS WRR group in kb/s.

Values 1 to 2000000000, max

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Platforms

7750 SR-7/12/12e

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>service>ipipe>sap>egress>queue-override>queue rate)

[Tree] (config>service>epipe>sap>ingress>queue-override>queue rate)

[Tree] (config>service>cpipe>sap>ingress>queue-override>queue rate)

[Tree] (config>service>ipipe>sap>ingress>queue-override>queue rate)

[Tree] (config>service>cpipe>sap>egress>queue-override>queue rate)

[Tree] (config>service>epipe>sap>egress>queue-override>queue rate)

Full Context

configure service ipipe sap egress queue-override queue rate

configure service epipe sap ingress queue-override queue rate

configure service cpipe sap ingress queue-override queue rate

configure service ipipe sap ingress queue-override queue rate

configure service cpipe sap egress queue-override queue rate

configure service epipe sap egress queue-override queue rate

Description

This command can be used to override specific attributes of the specified queue's Peak Information Rate (PIR) and the Committed Information Rate (CIR) parameters.

The PIR defines the maximum rate that the queue can transmit packets out an egress interface (for SAP egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile and then out-of-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP egress QoS policy with the *queue-id*.

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This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the **rate** is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Default

rate max cir 0

Parameters

pir-rate

Defines the administrative PIR rate, in kilobits per second, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 6400000000, **max**

Default max

cir-rate

The **cir** parameter overrides the default administrative CIR used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

Fractional values are not allowed and must be given as a positive integer. The **sum** keyword specifies that the CIR be used as the summed CIR values of the children schedulers, policers, or queues.

Values 0 to 6400000000, **max**, **sum**

Default 0

Platforms

All

- configure service ipipe sap ingress queue-override queue rate
- configure service epipe sap ingress queue-override queue rate
- configure service epipe sap egress queue-override queue rate
- configure service ipipe sap egress queue-override queue rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress queue-override queue rate
- configure service cpipe sap ingress queue-override queue rate

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rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>service>epipe>sap>ingress>sched-override>scheduler rate)

[Tree] (config>service>cpipe>sap>ingress>sched-override>scheduler rate)

[Tree] (config>service>epipe>sap>egress>sched-override>scheduler rate)

[Tree] (config>service>ipipe>sap>egress>sched-override>scheduler rate)

[Tree] (config>service>cpipe>sap>egress>sched-override>scheduler rate)

[Tree] (config>service>ipipe>sap>ingress>sched-override>scheduler rate)

Full Context

configure service epipe sap ingress scheduler-override scheduler rate

configure service cpipe sap ingress scheduler-override scheduler rate

configure service epipe sap egress scheduler-override scheduler rate

configure service ipipe sap egress scheduler-override scheduler rate

configure service cpipe sap egress scheduler-override scheduler rate

configure service ipipe sap ingress scheduler-override scheduler rate

Description

This command can be used to override specific attributes of the specified scheduler rate. The **rate** command defines the maximum bandwidth that the scheduler can offer its child policers, queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the amount of bandwidth to be considered during the parent scheduler's 'within CIR' distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child policers or queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler due to insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler will assume that an infinite amount of bandwidth is available and allow all child policers, queues, and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's PIR and CIR parameters to the values configured in the applied scheduler policy.

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Parameters

pir-rate

The **pir** parameter accepts the **max** keyword or a value in kilobits per second. Any other value will result in an error without modifying the current PIR rate.

Values 1 to 6400000000, **max**

cir cir-rate

The **cir** parameter accepts a value in kilobits per second or the **max** keyword. Any other value will result in an error without modifying the current CIR rate.

If the **cir** parameter is set to **max**, then the CIR rate is set to infinity but bounded by the PIR rate.

The **sum** keyword specifies that the CIR will be used as the summed CIR values of the children schedulers, policers, or queues.

Values 0 to 6400000000, **max**, **sum**

Platforms

All

- configure service ipipe sap egress scheduler-override scheduler rate
- configure service epipe sap egress scheduler-override scheduler rate
- configure service ipipe sap ingress scheduler-override scheduler rate
- configure service epipe sap ingress scheduler-override scheduler rate

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress scheduler-override scheduler rate
- configure service cpipe sap ingress scheduler-override scheduler rate

rate

Syntax

rate *kilobits-per-second*

no rate

Context

[Tree] (config>service>template>vpls-sap-template>egress>agg-rate rate)

[Tree] (config>service>vpls>sap>egress>encap-defined-qos>encap-group>agg-rate rate)

[Tree] (config>service>vpls>sap>egress>agg-rate rate)

Full Context

configure service template vpls-sap-template egress agg-rate rate

configure service vpls sap egress encap-defined-qos encap-group agg-rate rate

configure service vpls sap egress agg-rate rate

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Description

This command defines the enforced aggregate rate for all queues associated with the **agg-rate** context. A rate must be specified for the **agg-rate** context to be considered active on the context's object (SAP, subscriber, Vport, and so on.).

The **no** form of this command removes an explicit rate value from the aggregate rate returning it to its default value.

Parameters

kilobits-per-second

The enforced aggregate rate for all queues associated with the **agg-rate** context, in kilobits per second.

Values 1 to 6400000000, **max**

Platforms

All

rate

Syntax

rate {*rate* | **max**} [**cir** {**max** | *rate*}]

Context

[Tree] (config>service>vpls>sap>egress>policer-override>plcr rate)

[Tree] (config>service>vpls>sap>ingress>policer-override>plcr rate)

Full Context

configure service vpls sap egress policer-override policer rate

configure service vpls sap ingress policer-override policer rate

Description

This command within the SAP ingress and egress policer-overrides contexts is used to override the sap-ingress and sap-egress QoS policy configured rate parameters for the specified policer-id.

The **no** form of this command removes the **rate** override so that the **rate** configured for the policer in the applied SAP egress QoS policy is used.

Parameters

{*rate* | max}

Specifying the keyword **max** or an explicit kilobits per second parameter directly following the rate override command is required and identifies the policer instance's metering rate for the PIR leaky bucket. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the

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policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to **max**.

Values 1 to 6400000000, **max**

cir {max | *rate*}

The optional **cir** keyword is used to override the policy derived profiling rate of the policer. Specifying the keyword **max** or an explicit kilobits per second parameter directly following the **cir** keyword is required. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to **max**.

Values 0 to 6400000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>service>vpls>sap>egress>queue-override>hs-wrr-group rate)

Full Context

configure service vpls sap egress queue-override hs-wrr-group rate

Description

This command overrides the scheduling rate applied to the HS WRR group in kb/s. Alternatively, the keyword **max** can be specified which removes the bandwidth limitation on the HS WRR group. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the rate override value from the configuration.

Parameters

rate

Specifies the scheduling rate of the HS WRR group in kb/s.

Values 1 to 2000000000, max

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Platforms

7750 SR-7/12/12e

rate

Syntax

rate {*rate* | **max**} [**cir** {**max** | *rate*}]

Context

[Tree] (config>service>ies>if>sap>egress>policer-override>plcr rate)

[Tree] (config>service>ies>if>sap>ingress>policer-override>plcr rate)

Full Context

configure service ies interface sap egress policer-override policer rate

configure service ies interface sap ingress policer-override policer rate

Description

This command within the SAP ingress and egress policer-overrides contexts is used to override the sap-ingress and sap-egress QoS policy configured rate parameters for the specified policer-id.

The **no** form of the command removes the **rate** override so that the **rate** configured for the policer in the applied SAP egress QoS policy is used.

Parameters

{*rate* | max}

Specifying the keyword **max** or an explicit kilobits per second parameter directly following the rate override command is required and identifies the policer instance's metering rate for the PIR leaky bucket. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to **max**.

Values 1 to 6400000000, **max**

cir {max | *rate*}

The optional **cir** keyword is used to override the policy derived profiling rate of the policer. Specifying the keyword **max** or an explicit kilobits per second parameter directly following the **cir** keyword is required. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to **max**.

Values 0 to 6400000000, **max**

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>service>ies>if>sap>egress>queue-override>hs-wrr-group rate)

Full Context

configure service ies interface sap egress queue-override hs-wrr-group rate

Description

This command overrides the scheduling rate applied to the HS WRR group in Kb/s. Alternatively, the keyword **max** can be specified which removes the bandwidth limitation on the HS WRR group. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the rate override value from the configuration.

Parameters

rate

Specifies the scheduling rate of the HS WRR group in Kb/s.

Values 1 to 2000000000, max

Platforms

7750 SR-7/12/12e

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>service>ies>if>sap>egress>sched-override>scheduler rate)

[Tree] (config>service>ies>if>sap>ingress>sched-override>scheduler rate)

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Full Context

configure service ies interface sap egress scheduler-override scheduler rate

configure service ies interface sap ingress scheduler-override scheduler rate

Description

This command can be used to override specific attributes of the specified scheduler rate. The **rate** command defines the maximum bandwidth that the scheduler can offer its child queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the amount of bandwidth to be considered during the parent scheduler's 'within CIR' distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler due to insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler will assume that an infinite amount of bandwidth is available and allow all child queues and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's PIR and CIR parameters to the value configured in the applied scheduler policy.

Parameters

pir-rate

The **pir** parameter accepts a value in kilobits per second, or the keyword **max**. Any other value will result in an error without modifying the current PIR rate.

Values 1 to 6400000000, **max**

cir-rate

This parameter accepts a step-multiplier value that specifies the multiplier used to determine the CIR rate at which the queue will operate. A value in kilobits per second or the keywords **max** or **sum** is accepted. Any other value will result in an error without modifying the current CIR rate.

If the **cir** is set to max, then the CIR rate is set to infinity but is restricted by the PIR rate.

The **sum** keyword specifies that the CIR be used as the summed CIR values of the children schedulers, policers, or queues.

For **egress>sched-override>scheduler** and **ingress>sched-override>scheduler**:

Values 0 to 6400000000, **max**, **sum**

Platforms

All

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rate

Syntax

rate *kilobits-per-second*

no rate

Context

[Tree] (config>service>vprn>if>sap>egress>agg-rate rate)

Full Context

configure service vprn interface sap egress agg-rate rate

Description

This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object.

The **no** form of this command removes an explicit rate value from the aggregate rate returning it to its default value.

Parameters

kilobits-per-second

Specifies the rate limit for the SAP, in kilobits per second.

Values 1 to 6400000000, max

Platforms

All

rate

Syntax

rate {*rate* | **max**} [**cir** {**max** | *rate*}]

Context

[Tree] (config>service>vprn>if>sap>egress>policer-override>plcr rate)

[Tree] (config>service>vprn>if>sap>ingress>policer-override>plcr rate)

Full Context

configure service vprn interface sap egress policer-override policer rate

configure service vprn interface sap ingress policer-override policer rate

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Description

This command within the SAP ingress and egress policer-overrides contexts is used to override the sap-ingress and sap-egress QoS policy configured rate parameters for the specified policer-id.

The **no** form of this command restores the policy defined metering and profiling rate to a policer.

Parameters

{*rate* | max}

Specifying the keyword **max** or an explicit kilobits per second parameter directly following the rate override command is required and identifies the policer instance's metering rate for the PIR leaky bucket. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to **max**.

Values 1 to 6400000000, **max**

cir {max | *rate*}

The optional **cir** keyword is used to override the policy derived profiling rate of the policer. Specifying the keyword **max** or an explicit kilobits per second parameter directly following the **cir** keyword is required. The kilobits per second value must be expressed as an integer and defines the rate in kilobits per second. The integer value is multiplied by 1,000 to derive the actual rate in bits per second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to **max**.

Values 0 to 6400000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>service>vprn>if>sap>egress>queue-override>hs-wrr-group rate)

Full Context

configure service vprn interface sap egress queue-override hs-wrr-group rate

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Description

This command overrides the scheduling rate applied to the HS WRR group in Kb/s. Alternatively, the keyword **max** can be specified which removes the bandwidth limitation on the HS WRR group. The override rate type must match the corresponding rate type within the applied QoS policy.

The **no** form of this command removes the rate override value from the configuration.

Parameters

rate

Specifies the scheduling rate of the HS WRR group in Kb/s.

Values 1 to 2000000000, max

Platforms

7750 SR-7/12/12e

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>service>vprn>if>sap>ingress>queue-override>queue rate)

[Tree] (config>service>vprn>if>sap>egress>queue-override>queue rate)

Full Context

configure service vprn interface sap ingress queue-override queue rate

configure service vprn interface sap egress queue-override queue rate

Description

This command can be used to override specific attributes of the specified queue's Peak Information Rate (PIR) and the Committed Information Rate (CIR) parameters. The PIR defines the maximum rate that the queue can transmit packets out an egress interface (for SAP egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

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The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP egress QoS policy with the *queue-id*.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the rate is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Default

rate max cir 0

Parameters

pir-rate

Defines the administrative PIR rate, in kb/s, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 6400000000, **max**

Default max

cir-rate

Defines the administrative CIR rate, in kb/s, for the queue. The **cir** parameter overrides the default administrative CIR used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

Fractional values are not allowed and must be given as a positive integer.

Values 0 to 6400000000, **max**

Default 0

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

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Context

[Tree] (config>service>vprn>if>sap>ingress>sched-override>scheduler rate)

[Tree] (config>service>vprn>if>sap>egress>sched-override>scheduler rate)

Full Context

configure service vprn interface sap ingress scheduler-override scheduler rate

configure service vprn interface sap egress scheduler-override scheduler rate

Description

This command can be used to override specific attributes of the specified scheduler rate. The **rate** command defines the maximum bandwidth that the scheduler can offer its child queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the amount of bandwidth to be considered during the parent scheduler's 'within CIR' distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child policers and queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler due to insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler will assume that an infinite amount of bandwidth is available and allow all child queues and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's PIR and CIR parameters to the value configured in the applied scheduler policy.

Parameters

pir-rate

Specifies the PIR rate for the scheduler. The **pir** parameter accepts a value in kb/s, or the **max** keyword. Any other value will result in an error without modifying the current PIR rate.

Values 1 to 6400000000, **max**

cir-rate

Specifies the CIR rate for the scheduler. The **cir** parameter accepts a value in kb/s, or the **max** or **sum** keywords. Any other value will result in an error without modifying the current CIR rate.

If the **cir** is set to **max**, then the CIR rate is set to infinity, but is limited by the *pir-rate*.

If the **cir** is set to **sum**, then the CIR rate is set to the summed CIR values of the children schedulers, policers, or queues.

Values 0 to 6400000000, **max**, **sum**

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Platforms

All

rate

Syntax

rate *sample-rate*

no rate

Context

[Tree] (config>app-assure>group>cflowd>volume rate)

Full Context

configure application-assurance group cflowd volume rate

Description

This command configures the sampling rate of packets for the cflowd export of application assurance volume statistics.

The **no** form of this command reverts to the default value.

Parameters

sample-rate

Specifies the rate at which to sample packets for the cflowd export of application assurance volume statistics.

Values 1 to 10000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>app-assure>group>tod-override rate)

[Tree] (config>app-assure>group>policer rate)

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Full Context

configure application-assurance group policer tod-override rate

configure application-assurance group policer rate

Description

This command configures the administrative PIR and CIR for bandwidth policers and flow setup rate limits for flow policers. The actual rate sustained by the flow can be limited by other policers that may be applied to that flow's traffic. This command does not apply to flow-count-limit policers.

The **cir** option is applicable only to dual-bucket bandwidth policers. It is recommended to configure flow setup rate subscriber-level policer for AA subscribers to ensure fair usage of flow resources between AA subscribers.

The **no** form of this command resets the values to defaults.

Default

rate max cir 0

Parameters

pir-rate

Specifies an integer for the PIR rate in kb/s for bandwidth policers.

Values 1 to 100000000, **max** or flows/sec

cir-rate

Specifies an integer for the CIR rate in kb/s.

Values 0 to 100000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

rate

Syntax

rate *sample-rate*

no rate

Context

[Tree] (debug>app-assure>group>http-host-recorder rate)

[Tree] (debug>app-assure>group>port-recorder rate)

Full Context

debug application-assurance group http-host-recorder rate

debug application-assurance group port-recorder rate

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Description

This command configures the sampling rate for the recorded http host, a sampling rate of 10 will sample one out of 10 http-host.

Parameters

sample-rate

Specifies the sample rate.

Values 1 to 10000

Default 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

Output

The following output is an example of a configuration with http-host entries ending with ".com" as a result of the expression filter configuration. It will not record any other HTTP host values since the default-filter-action set to no-record. The http-host entries analyzed by the recorder in the first place are http-host-app-filter-candidates.

Output Example

```
7750# show debug
debug
    application-assurance
        group 1:1
            http-host-recorder
                filter
                    default-filter-action no-record
                    expression 1 http-host eq "*.com$" record
                    record http-host-app-filter-candidates
                exit
                rate 100
                no shutdown
            exit
        exit
    exit
exit
```

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>qos>plcr-ctrl-plcy>tier>arbiter rate)

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Full Context

configure qos policer-control-policy tier arbiter rate

Description

This command is used to define the maximum bandwidth an instance of the arbiter can receive from its parent tier 1 arbiter or the root arbiter. The arbiter instance enforces this limit by calculating the bandwidth each of its child policers should receive relative to their offered loads, parenting parameters, and individual rate limits, and using that derived rate as a child PIR decrement rate override. The override will not exceed the child policer's administrative rate limit and the aggregate of all the child PIR decrement rates will not exceed the specified arbiter rate limit.

The arbiter's policy defined rate value may be overridden at the SAP or sub-profile where the **policer-control-policy** is applied. Specifying an override prevents the arbiter from being removed from the policer control policy until the override is removed.

The **no** form of this command is used to remove a rate limit from the arbiter at the policer control policy level. The policy level rate limit for the arbiter will return to the default value of **max**. The **no rate** command has no effect on instances of the arbiter where a rate limit override has been defined.

Default

rate max

Parameters

rate

Enter an integer representing the rate limit in kilobits per second.

Values 1 to 6400000000, **max**

max

When **max** is specified, the arbiter does not enforce a rate limit on its child policers or arbiters other than the individual rate limits enforced at the child level.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

rate

Syntax

rate {**max** | *pir-rate*} [**cir** {**max** | *cir-rate*}]

Context

[Tree] (config>qos>sap-ingress>policer rate)

[Tree] (config>qos>sap-egress>policer rate)

Full Context

configure qos sap-ingress policer rate

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configure qos sap-egress policer rate

Description

This command is used to configure the policer's metering and optional profiling rates. The metering rate is used by the system to configure the policer's PIR leaky bucket's decrement rate while the profiling rate configures the policer's CIR leaky bucket's decrement rate. The decrement function empties the bucket while packets applied to the bucket attempt to fill it based on each packet's size. If the bucket fills faster than how much is decremented per packet, the bucket's depth eventually reaches its exceed (CIR) or violate (PIR) threshold. The **cbs**, **mbs**, and **high-prio-only** commands are used to configure the policer's PIR and CIR thresholds.

If a packet arrives at the policer while the bucket's depth is less than the threshold associated with the packet, the packet is considered to be conforming to the bucket's rate. If the bucket depth is equal to or greater than the threshold, the packet is considered to be in the exception state. For the CIR bucket, the exception state is exceeding the CIR rate while the PIR bucket's exception state is violating the PIR bucket rate. If the packet is violating the PIR, the packet is marked red and will be discarded. If the packet is not red, it may be green or yellow, based on the conforming or exceeding state from the CIR bucket.

When a packet is red, neither the PIR nor CIR bucket depths are incremented by the packets size. When the packet is yellow, the PIR bucket is incremented by the packet size, but the CIR bucket is not. When the packet is green, both the PIR and CIR buckets are incremented by the packet size. This ensures that conforming packets impact the bucket depth while exceeding or violating packets do not.

The policer's **adaptation-rule** command settings are used by the system to convert the specified rates into hardware timers and decrement values for the policer's buckets.

By default, the policer's metering rate is **max** and the profiling rate is 0 kb/s (all packets out-of-profile).

The **rate** settings defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied.

The **no** form of this command is used to restore the default metering and profiling rate to a policer.

Parameters

{max | *pir-rate*}

Specifying the keyword **max** or an explicit *pir-rate* parameter directly following the rate command is required and identifies the policer's metering rate for the PIR leaky bucket. When the policer is first created, the metering rate defaults to max. The *pir-rate* value must be expressed as an integer and defines the rate in kilobits-per-second. The integer value is multiplied by 1,000 to derive the actual rate in bits-per-second. When max is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to max.

Values 1 to 6400000000, **max**

cir {max | *cir-rate*}

The optional **cir** keyword is used to override the default CIR rate of the policer. Specifying the keyword max or an explicit *cir-rate* parameter directly following the cir keyword is required and identifies the policer's profiling rate for the CIR leaky bucket. When the policer is first created, the profiling rate defaults to 0 kb/s. The *cir-rate* value must be expressed as an integer and defines the rate in kilobits-per-second. The integer value is multiplied by 1,000 to derive the actual rate in bits-per-second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer

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is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to max.

Values 0 to 6400000000, **max**

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*] [**fir** *fir-rate*]

rate *pir-rate* **police**

no rate

Context

[Tree] (config>qos>sap-ingress>queue rate)

Full Context

configure qos sap-ingress queue rate

Description

This command defines the administrative Peak Information Rate (PIR), the administrative Committed Information Rate (CIR), and the administrative Fair Information Rate (FIR) parameters for the queue.

The PIR defines the maximum rate that the queue can transmit packets through the switch fabric (for SAP ingress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. For SAP ingress, the CIR also defines the rate that packets are considered in-profile by the system, unless **cir-non-profiling** is configured. In-profile, then out-of-profile, packets are preferentially queued by the system at egress and at subsequent next-hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The FIR defines an additional rate at which the system prioritizes the queue over other queues competing for the same bandwidth above that used by the CIR.

The **rate** command can be executed at any time, altering the PIR, CIR, and FIR for all queues created through the association of the SAP ingress QoS policy with the *queue-id*.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0, 0).

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Default

rate max cir 0 fir 0

Parameters

pir-rate

Defines the administrative PIR, in kilobits per second, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and the value must be given as a positive integer.

The actual PIR is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 6400000000, **max**

Default max

cir-rate

The **cir** parameter overrides the default administrative CIR, in kilobits per second, used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

Fractional values are not allowed and the value must be given as a positive integer. The actual CIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 0 to 6400000000, **max**

Default 0

fir-rate

The **fir** parameter overrides the default administrative FIR, in kilobits per second, used by the queue. When the **rate** command is executed, an FIR setting is optional. When the **rate** command has not been executed or the **fir** parameter is not explicitly specified, the default FIR (0) is assumed.

Fractional values are not allowed and the value must be given as a positive integer. The actual FIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

Values 0 to 6400000000, **max**

Default 0

police

Specifies that traffic feeding into the queue instance above the specified PIR rate will be dropped. When the **police** keyword is defined, only the PIR rate may be overridden.

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Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>qos>sap-egress>queue rate)

Full Context

configure qos sap-egress queue rate

Description

This command defines the administrative Peak Information Rate (PIR) and the administrative Committed Information Rate (CIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets out an egress interface (for SAP egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled as in- or out-of-profile throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR rates for all queues created through the association of the SAP egress QoS policy with the *queue-id*.

When configured on an egress HSQ queue group queue, the **cir** keyword is ignored.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the rate is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Default

rate max cir 0

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Parameters

pir-rate

Defines the administrative PIR rate, in kilobits per second, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 6400000000, **max**

Default max

cir-rate

The **cir** parameter overrides the default administrative CIR, in kilobits per second, used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

Fractional values are not allowed and must be given as a positive integer.

Values 0 to 6400000000, **max**

Default 0

Platforms

All

rate

Syntax

rate *percent*

no rate

Context

[Tree] (config>qos>network-queue>hs-wrr-group rate)

Full Context

configure qos network-queue hs-wrr-group rate

Description

This command specifies the scheduling rate applied to the HS WRR group as a percentage of the port rate, which includes both the **egress-rate** and HS scheduler policy **max-rate**, if configured.

The **no** form of the command reverts to the default.

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Default

rate 100

Parameters

percent

Specifies the scheduling rate of the HS WRR group as a percentage.

Values 1 to 100

Platforms

7750 SR-7/12/12e

rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>qos>sap-egress>hs-wrr-group rate)

Full Context

configure qos sap-egress hs-wrr-group rate

Description

This command specifies the scheduling rate applied to the HS WRR group in kb/s. Alternatively, the keyword **max** can be specified, which removes the bandwidth limitation on the HS WRR group. The **rate** and **percent-rate** commands are mutually exclusive.

The **no** form of the command reverts to the default value.

Default

rate max

Parameters

rate

Specifies the scheduling rate of the HS WRR group in kb/s.

Values 1 to 2000000000, max

Platforms

7750 SR-7/12/12e

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rate

Syntax

rate *rate*

no rate

Context

[Tree] (config>qos>qgrps>egr>qgrp>hs-wrr-group rate)

Full Context

configure qos queue-group-templates egress queue-group hs-wrr-group rate

Description

This command specifies the scheduling rate applied to the HS WRR group in kb/s. Alternatively, the keyword **max** can be specified, which removes the bandwidth limitation on the HS WRR group. The **rate** and **percent-rate** commands are mutually exclusive.

The **no** form of the command reverts to the **rate max**.

Default

rate max

Parameters

rate

Specifies the scheduling rates of the HS WRR group in kb/s.

Values 1 to 2000000000, max

Platforms

7750 SR-7/12/12e

rate

Syntax

rate *percent* [**cir** *percent*] [**fir** *percent*]

no rate

Context

[Tree] (config>qos>network-queue>queue rate)

Full Context

configure qos network-queue queue rate

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Description

This command defines the administrative Peak Information Rate (PIR), the administrative Committed Information Rate (CIR), and the administrative Fair Information Rate (FIR) parameters for the queue.

The PIR defines the percentage that the queue can transmit packets through the switch fabric (for ingress queues) or out of an egress port (for egress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available bandwidth.

The CIR defines the percentage at which the system prioritizes the queue over other queues competing for the same bandwidth.

The CIR can be used by the queue's **port-parent** commands **cir-level** and **cir-weight** parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent port scheduler.

The FIR defines an additional percentage at which the system prioritizes the queue over other queues competing for the same bandwidth above that used by the CIR percentage.

The **rate** command can be executed at any time, altering the PIR, CIR, and FIR for all queues created through the association of the network queue policy with the *queue-id*.

When configured on an egress HSQ queue group queue, the **cir** keyword is ignored.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the rate is performed under the **hs-wrr-group** within the network queue policy.

The **no** form of the command returns all queues created with the *queue-id* by association with the network queue policy to the default PIR, CIR, and FIR parameters.

Default

rate 100 cir 0 fir 0

Parameters

percent

Defines the percentage of the sum of the capacities of network and hybrid ports on that FP (taking into account any **ingress-rate** configuration) or egress port speed for the rate allowed for the queue. When the **rate** command is executed, a valid *percent* (PIR setting) must be explicitly defined. When the **rate** command has not been executed, the default PIR of **100** is assumed. Fractional values are not allowed, and the value must be given as a positive integer.

The actual PIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 100

Default 100

cir ***percent***

Defines the percentage of the sum of the capacities of network and hybrid ports on that FP (taking into account any **ingress-rate** configuration) or egress port speed for the CIR allowed for the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly

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specified, the default CIR (0) is assumed. Fractional values are not allowed, and the value must be given as a positive integer. The actual CIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 0 to 100

Default 0

fir ***percent***

Defines the percentage of the sum of the capacities of network and hybrid ports on that FP (taking into account any **ingress-rate** configuration) or egress port speed for the FIR allowed for the queue. When the **rate** command is executed, a FIR setting is optional. When the **rate** command has not been executed or the **fir** parameter is not explicitly specified, the default FIR (0) is assumed. Fractional values are not allowed, and the value must be given as a positive integer. The actual FIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

Values 0 to 100

Default 0

Platforms

All

rate

Syntax

rate {**max** | *pir-rate*} [**cir** {**max** | *cir-rate*}]

no rate

Context

[Tree] (config>qos>qgrps>egr>qgrp>policer rate)

[Tree] (config>qos>qgrps>ing>qgrp>policer rate)

Full Context

configure qos queue-group-templates egress queue-group policer rate

configure qos queue-group-templates ingress queue-group policer rate

Description

This command is used to configure the policer's metering and optional profiling rates. The metering rate is used by the system to configure the policer's PIR leaky bucket's decrement rate while the profiling rate configures the policer's CIR leaky bucket's decrement rate. The decrement function empties the bucket while packets applied to the bucket attempt to fill it based on each packet's size. If the bucket fills faster than how much is decremented per packet, the bucket's depth eventually reaches its exceed (CIR) or

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violate (PIR) threshold. The **cbs**, **mbs**, and **high-prio-only** commands are used to configure the policer's PIR and CIR thresholds.

If a packet arrives at the policer while the bucket's depth is less than the threshold associated with the packet, the packet is considered to be conforming to the bucket's rate. If the bucket depth is equal to or greater than the threshold, the packet is considered to be in the exception state. For the CIR bucket, the exception state is exceeding the CIR rate while the PIR bucket's exception state is violating the PIR bucket rate. If the packet is violating the PIR, the packet is marked red and will be discarded. If the packet is not red, it may be green or yellow, based on the conforming or exceeding state from the CIR bucket.

When a packet is red, neither the PIR nor CIR bucket depths are incremented by the packets size. When the packet is yellow, the PIR bucket is incremented by the packet size, but the CIR bucket is not. When the packet is green, both the PIR and CIR buckets are incremented by the packet size. This ensures that conforming packets impact the bucket depth while exceeding or violating packets do not.

The policer's **adaptation-rule** command settings are used by the system to convert the specified rates into hardware timers and decrement values for the policer's buckets.

By default, the policer's metering rate is **max** and the profiling rate is 0 kb/s (all packets out-of-profile).

The **no** form of this command is used to restore the default metering and profiling rate to a policer.

Parameters

{max | *pir-rate*}

Specifying the keyword **max** or an explicit *pir-rate* parameter directly following the rate command is required and identifies the policer's metering rate for the PIR leaky bucket. When the policer is first created, the metering rate defaults to max. The *pir-rate* value must be expressed as an integer and defines the rate in kilobits-per-second. The integer value is multiplied by 1,000 to derive the actual rate in bits-per-second. When max is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the PIR used is equivalent to max.

Values **max**, 1 to 2000000000

cir {max | *cir-rate*}

The optional **cir** keyword is used to override the default CIR rate of the policer. Specifying the keyword max or an explicit *cir-rate* parameter directly following the cir keyword is required and identifies the policer's profiling rate for the CIR leaky bucket. When the policer is first created, the profiling rate defaults to 0 kb/s. The *cir-rate* value must be expressed as an integer and defines the rate in kilobits-per-second. The integer value is multiplied by 1,000 to derive the actual rate in bits-per-second. When **max** is specified, the maximum policer rate used will be equal to the maximum capacity of the card on which the policer is configured. If the policer rate is set to a value larger than the maximum rate possible for the card, then the CIR used is equivalent to max.

Values **max,** 0 to 2000000000

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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rate

Syntax

rate *pir-rate* [**cir** *cir-rate*] [**fir** *fir-rate*]

rate *pir-rate* **police**

no rate

Context

[Tree] (config>qos>queue-group-templates>ingress>queue-group>queue rate)

Full Context

configure qos queue-group-templates ingress queue-group queue rate

Description

This command defines the administrative Peak Information Rate (PIR), the administrative Committed Information Rate (CIR), and the administrative Fair Information Rate (FIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets through the switch fabric (for SAP ingress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. For SAP ingress, the CIR also defines the rate that packets are considered in-profile by the system, unless **cir-non-profiling** is configured. In-profile, then out-of-profile, packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The FIR defines an additional rate at which the system prioritizes the queue over other queues competing for the same bandwidth above that used by the CIR.

The **rate** command can be executed at any time, altering the PIR, CIR, and FIR for all queues created through the association of the ingress queue group template with the *queue-id*.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR, CIR, and FIR parameters (**max**, 0, 0).

Default

rate max cir 0 fir 0

Parameters

pir-rate

Defines the administrative PIR, in kilobits, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not

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been executed, the default PIR of **max** is assumed. Fractional values are not allowed and the value must be given as a positive integer.

The actual PIR is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 2000000000 kb/s, **max**

Default max

cir-rate

The **cir** parameter overrides the default administrative CIR used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed. Fractional values are not allowed and the value must be given as a positive integer. The actual CIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 2000000000 kb/s, **max**

Default 0

fir-rate

The **fir** parameter overrides the default administrative FIR used by the queue. When the rate command is executed, an FIR setting is optional. When the rate command has not been executed or the **fir** parameter is not explicitly specified, the default FIR (0) is assumed.

Fractional values are not allowed and the value must be given as a positive integer. The actual FIR used is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

Values 1 to 2000000000 kb/s, **max**

Default 0

police

Specifies that traffic feeding into the queue instance above the specified rate is dropped.

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

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Context

[Tree] (config>qos>queue-group-templates>egress>queue-group>queue rate)

Full Context

configure qos queue-group-templates egress queue-group queue rate

Description

This command defines the administrative PIR and the administrative CIR parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets out an egress port. Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by oversubscription factors or available egress bandwidth.

The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth. In-profile packets are preferentially queued by the system at egress and at subsequent next hop nodes where the packet can traverse. To be properly handled as in- or out-of-profile throughout the network, the packets must be marked accordingly for profiling at each hop.

The CIR can be used by the queue's parent commands *cir-level* and *cir-weight* parameters to define the amount of bandwidth considered to be committed for the child queue during bandwidth allocation by the parent scheduler.

The **rate** command can be executed at any time, altering the PIR and CIR for all queues created through the association of the egress queue group template with the *queue-id*.

When configured on an egress HSQ queue group queue, the **cir** keyword is ignored.

This command is ignored for egress HSQ queue group queues which are attached to an HS WRR group within an associated HS attachment policy. In this case, the configuration of the rate is performed under the **hs-wrr-group** within the SAP egress QoS policy.

The **no** form of this command returns all queues created with the *queue-id* by association with the QoS policy to the default PIR and CIR parameters (**max**, 0).

Default

rate max cir 0

Parameters

pir-rate

Defines the administrative PIR rate, in kilobits, for the queue. When the **rate** command is executed, a valid PIR setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed.

Fractional values are not allowed and must be given as a positive integer.

The actual PIR rate is dependent on the queue's **adaptation-rule** parameters and the actual hardware where the queue is provisioned.

Values 1 to 200000000 kb/s, **max**

Default max

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cir-rate

The **cir** parameter overrides the default administrative CIR used by the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed.

Fractional values are not allowed and must be given as a positive integer.

Values 0 to 200000000 kb/s, **max**

Default 0

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>qos>scheduler-policy>tier>scheduler rate)

Full Context

configure qos scheduler-policy tier scheduler rate

Description

The **rate** command defines the maximum bandwidth that the scheduler can offer its child queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the amount of bandwidth to be considered during the parent scheduler's within-CIR distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler due to insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler will assume that an infinite amount of bandwidth is available and allow all child queues and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's PIR and CIR parameters to the value configured in the applied scheduler policy.

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Parameters

pir *pir*

Specifies the PIR rate of the scheduler in kb/s or it can be set to the maximum using the max keyword.

Values 1 to 6400000000, **max**

Default max

cir *cir*

Specifies the CIR rate of the scheduler in kb/s or it can be set to the maximum using the max keyword. The sum keyword can also be used, which sets the CIR to the sum of child CIR values.

Values 0 to 6400000000, **max, sum**

Default sum

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

Context

[Tree] (config>qos>port-scheduler-policy>group rate)

Full Context

configure qos port-scheduler-policy group rate

Description

This command specifies the total bandwidth and the within-CIR bandwidth allocated to a weighted scheduler group.

The **no** form of this command returns the rate to its default value of **max**.

Parameters

pir-rate

Specifies PIR rates, in kilobits per second.

Values 1 to 6400000000, **max**

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cir ***cir-rate***

Specifies CIR rates, in kilobits per second.

Values 0 to 6400000000, **max**

Platforms

All

rate

Syntax

rate *percent* [**cir** *percent*] [**fir** *percent*]

no rate

Context

[Tree] (config>qos>shared-queue>queue rate)

Full Context

configure qos shared-queue queue rate

Description

This command defines the administrative PIR, the administrative CIR, and the administrative FIR parameters for the queue.

The PIR defines the percentage that the queue can transmit packets through the switch fabric (for ingress queues). Defining a PIR does not necessarily guarantee that the queue can transmit at the intended rate. The actual rate sustained by the queue can be limited by over-subscription factors or available bandwidth.

The CIR defines the percentage at which the system prioritizes the queue over other queues competing for the same bandwidth.

The **rate** command can be executed at any time, altering the PIR, CIR, and FIR for the queue created with the *queue-id*.

Parameters

percent

Defines the percentage of the FP ingress capacity for the max rate allowed for the queue. When the **rate** command is executed, a valid percent (PIR) setting must be explicitly defined. When the **rate** command has not been executed, the default PIR of **max** is assumed. Fractional values are not allowed and the value must be given as a positive integer.

Values 1 to 100, **max**

Default 100

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cir *percent*

Defines the percentage of the FP ingress capacity for the CIR allowed for the queue. When the **rate** command is executed, a CIR setting is optional. When the **rate** command has not been executed or the **cir** parameter is not explicitly specified, the default CIR (0) is assumed. Fractional values are not allowed and the value must be given as a positive integer.

Values 0 to 100, **max**

Default 0

fir *percent*

Defines the percentage of the FP ingress capacity for the FIR allowed for the queue. When the **rate** command is executed, a FIR setting is optional. When the **rate** command has not been executed or the **fir** parameter is not explicitly specified, the default FIR (0) is assumed. Fractional values are not allowed and the value must be given as a positive integer. FIR is only supported on FP4 hardware and is ignored when the related policy is applied to FP2- or FP3-based hardware.

Values 0 to 100

Default 0

Platforms

All

rate

Syntax

rate *sample-rate*

no rate

Context

[Tree] (config>cflowd rate)

Full Context

configure cflowd rate

Description

This command specifies the rate (N) at which traffic is sampled and sent for flow analysis. A packet is sampled every N packets; for example, when **sample-rate** is configured as 1, then all packets are sent to the cache. When **sample-rate** is configured as 100, then every 100th packet is sent to the cache.

The **no** form of this command resets the sample rate to the default value.

Default

rate 1000

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Parameters

sample-rate

Specifies the rate at which traffic is sampled.

Values 1 to 10000

Platforms

All

rate

Syntax

rate *kilobits-per-second*

no rate

Context

[Tree] (config>service>cust>multi-service-site>egress>agg-rate rate)

Full Context

configure service customer multi-service-site egress agg-rate rate

Description

This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object.

The **no** form of the command reverts to the default.

Parameters

kilobits-per-second

Specifies the rate limit for the multi-service site, in kilobits per second.

Values 1 to 6400000000, **max**

Platforms

All

rate

Syntax

rate *pir-rate* [**cir** *cir-rate*]

no rate

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Context

[Tree] (config>service>cust>multi-service-site>ingress>sched-override>scheduler rate)

[Tree] (config>service>cust>multi-service-site>egress>sched-override>scheduler rate)

Full Context

configure service customer multi-service-site ingress scheduler-override scheduler rate

configure service customer multi-service-site egress scheduler-override scheduler rate

Description

This command overrides specific attributes of the specified scheduler rate.

The **rate** command defines the maximum bandwidth that the scheduler can offer its child policers, queues or schedulers. The maximum rate is limited to the amount of bandwidth the scheduler can receive from its parent scheduler. If the scheduler has no parent, the maximum rate is assumed to be the amount available to the scheduler. When a parent is associated with the scheduler, the CIR parameter provides the scheduler's amount of bandwidth to be considered during the parent schedulers 'within CIR' distribution phase.

The actual operating rate of the scheduler is limited by bandwidth constraints other than its maximum rate. The scheduler's parent scheduler may not have the available bandwidth to meet the scheduler's needs or the bandwidth available to the parent scheduler could be allocated to other child schedulers or child policers or queues on the parent based on higher priority. The children of the scheduler may not need the maximum rate available to the scheduler due to insufficient offered load or limits to their own maximum rates.

When a scheduler is defined without specifying a rate, the default rate is **max**. If the scheduler is a root scheduler (no parent defined), the default maximum rate must be changed to an explicit value. Without this explicit value, the scheduler will assume that an infinite amount of bandwidth is available and allow all child queues and schedulers to operate at their maximum rates.

The **no** form of this command returns the scheduler's to the PIR and CIR parameters to the value configured in the applied scheduler policy.

Parameters

pir-rate

Specifies the PIR rate.

Values 1 to 6400000000, **max**

Default **max**

cir-rate

Specifies the CIR rate.

If the *cir-rate* is set to **max**, then the CIR rate is set to infinity. The **sum** keyword specifies that the CIR be used as the summed CIR values of the children schedulers, policers or queues.

Values 0 to 6400000000, **max**, **sum**

Default **sum**

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Platforms

All

rate

Syntax

rate *rate* [**cir** *cir*]

no rate

Context

[Tree] (config>system>security>cpm-queue>queue rate)

Full Context

configure system security cpm-queue queue rate

Description

This command specifies the maximum bandwidth that will be made available to the queue in kilobits per second (kb/s).

Parameters

rate

Specifies the administrative Peak Information Rate (PIR) for the queue.

cir

Specifies the amount of bandwidth committed to the queue.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rate

Syntax

rate kbps {*kilobits-per-second* | **max**} [**mbs** *size*] [**bytes** | **kilobytes**]

rate packets {*ppi* | **max**} **within** *seconds* [**initial-delay** *packets*]

no rate

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>protocol>dynamic-parameters rate)

[Tree] (config>sys>security>dist-cpu-protection>policy>local-monitoring-policer rate)

Full Context

configure system security dist-cpu-protection policy protocol dynamic-parameters rate

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configure system security dist-cpu-protection policy local-monitoring-policer rate

Description

This command configures the rate and burst tolerance for the policer in either a packet rate or a bit rate.

The actual hardware may not be able to perfectly rate limit to the exact configured parameters. In this case, the configured parameters will be adapted to the closest supported rate. The actual (operational) parameters can be seen in CLI, for example, **show service id** *33* **sap** 1/1/3:33 **dist-cpu-protection detail**.

If the *kilobits-per-second* parameter value is configured as max, then the policer is effectively disabled (always conforming).

If the *size* parameter value is configured as 0, then all packets are considered as nonconforming.

Default

rate packets max within 1 initial-delay 0

Parameters

packets | kbps

specifies that the rate is either in units of packets per interval or in units of kilobits per second. The packets option would typically be used for lower rates (for example, for per-subscriber DHCP rate limiting) while the kbps option would typically be used for higher rates (for example, per-interface BGP rate limiting).

ppi

Specifies packets per interval.

Values 0 to 255, max

max = disable the policer (always conforming)

packets 0 = all packets considered nonconforming

seconds

Specifies the length of the ppi rate measurement interval.

Values 1 to 32767

packets

Specifies the number of packets allowed (even at line rate) in an initial burst (or a burst after the policer bucket has drained to zero) in addition to the normal *ppi*. This would typically be set to a value that is equal to the number of received packets in several full handshakes/negotiations of the particular protocol.

Values 0 to 255

kilobits-per-second

Specifies the kilobits per second.

Values 1 to 20000000, max

size

Specifies the tolerance for the kbps rate.

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Values 0 to 4194304

Default 10

bytes | kilobytes

Specifies that the units of the mbs size parameter are either in bytes or kilobytes.

Platforms

All

rate

Syntax

rate kbps {*kilobits-per-second* | **max**} [**mbs** *size*] [**bytes** | **kilobytes**]

rate packets {*ppi* | **max**} **within** *seconds* [**initial-delay** *packets*]

no rate

Context

[Tree] (config>sys>security>dist-cpu-protection>policy>static-policer rate)

Full Context

configure system security dist-cpu-protection policy static-policer rate

Description

This command configures the rate and burst tolerance for the policer in either a packet rate or a bit rate.

The actual hardware may not be able to perfectly rate limit to the exact configured parameters. In this case, the configured parameters will be adapted to the closest supported rate. The actual (operational) parameters can be seen in CLI, for example, **show service id** *33* **sap** 1/1/3:33 **dist-cpu-protection detail**.

If the *kilobits-per-second* parameter value is configured as max, then the policer is effectively disabled (always conforming).

If the *size* parameter is configured as 0, then all packets are considered as nonconforming.

Default

rate packets max within 1 initial-delay 0

Parameters

packets | kbps

specifies that the rate is either in units of packets per interval or in units of kilobits per second. The packets option would typically be used for lower rates (for example, for per-subscriber DHCP rate limiting) while the kbps option would typically be used for higher rates (for example, per-interface BGP rate limiting).

ppi

Specifies packets per interval.

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Values 0 to 8000, max
max = disable the policer (always conforming)
packets 0 = all packets considered nonconforming

seconds

Specifies the length of the ppi rate measurement interval.

Values 1 to 32767

packets

Specifies the number of packets allowed (even at line rate) in an initial burst (or a burst after the policer bucket has drained to zero) in addition to the normal *ppi*. This would typically be set to a value that is equal to the number of received packets in several full handshakes/negotiations of the particular protocol.

Values 0 to 255

kilobits-per-second

Specifies the kilobits per second.

Values 1 to 20000000, max

size

Specifies the tolerance for the kbps rate.

Values 0 to 4194304

Default 10

bytes | kilobytes

Specifies that the units of the mbs size parameter are either in bytes or kilobytes.

Platforms

All

rate

Syntax

rate cir *cir-rate-in-kbps* [**pir** *pir-rate-in-kbps*]

no rate

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream rate)

Full Context

configure test-oam service-activation-testhead service-test service-stream rate

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Description

This command configures the CIR that must be validated for a specific stream. If configured, the PIR value must be greater than or equal to the CIR value.

The service activation testhead generates traffic up to the specified rate based on the **test-types** command, as follows.

- For **type cir**, traffic is generated at a rate up to the configured CIR.
- For **type cir-pir**, traffic is generated at a rate up to the configured PIR.
- For **type policing**, traffic is generated at a rate up to 125% of the configured PIR.
- For **type performance**, traffic is generated at a rate up to the configured PIR.

The **no** form of this command reverts to the default values.

Default

no rate

Parameters

cir-rate-in-kbps

Specifies the CIR rate, in kb/s, which overrides the default CIR value. The configured value must be a positive integer; fractional values are not allowed. If the **rate** command is not executed, or the CIR parameter is not explicitly specified, the default CIR value applies.

Values 1 to 400,000,000

pir-rate-in-kbps

Specifies the PIR rate, in kb/s, which overrides the default administrative PIR value. The configured value must be a positive integer; fractional values are not allowed. If the **rate** command is not executed or the PIR parameter is not explicitly specified, the default PIR value applies.

Values 1 to 400,000,000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

38.29 rate-adjustment

rate-adjustment

Syntax

rate-adjustment *adjusted-percent*

no rate-adjustment

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Context

[Tree] (config>subscr-mgmt>ancp>policy>egress rate-adjustment)

[Tree] (config>subscr-mgmt>ancp>policy>ingress rate-adjustment)

Full Context

configure subscriber-mgmt ancp ancp-policy egress rate-adjustment

configure subscriber-mgmt ancp ancp-policy ingress rate-adjustment

Description

This command configures a rate adjustment for the scheduler. The **rate-adjustment** command should be used when the rate returned by the DSLAM is calculated with different encapsulation than the 7450 ESS or 7750 SR. The node will adjust the rate by the percent specified as:

DSLAM_RATE*adjust-rate/100 — rate-reduction.

The **no** form of this command reverts to the default.

Parameters

adjusted-percent

Specifies a rate adjustment for the scheduler.

Values 1 to 200

Default 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.30 rate-calc-min-int

rate-calc-min-int

Syntax

rate-calc-min-int [**fast-queue** *percent-of-default*] [**slow-queue** *percent-of-default*]

no rate-calc-min-int

Context

[Tree] (config>card>virt-sched-adj rate-calc-min-int)

Full Context

configure card virtual-scheduler-adjustment rate-calc-min-int

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Description

This command overrides the default minimum time that must elapse before a policer or queue's offered rate may be recalculated. A minimum time between offered rate calculations is enforced to both prevent inaccurate estimation of the offered rate and excessive input to the virtual scheduler process.

In order to smooth out rapidly fluctuating offered rates, the system averages the measured offered rate with a window of previously measured offered traffic statistics and knowledge of the time between the samples.

The window size is defined by the "rate calculation minimum interval" with offered traffic statistics being read at most four times within the window. Any previous measured offered statistics within the window are used in the averaging function. Note that if there are large numbers of samples required, for example when a large number of queues are running HQoS, then it may be that a time greater than the "rate calculation minimum interval" passes before another sample of the offered statistics can be taken for a queue. In this case, in order to calculate an offered rate, HQoS will always use two samples, the current and the previous. In this case, using a smaller **rate-calc-min-int** will have no effect on the responsiveness of HQoS to queue rate changes.

The system separates policers and queues into fast and slow categories and maintains a separate "rate calculation minimum interval" for each type. The default for each type are as follows:

Slow Queue: 1.0 seconds

Fast Queue: 0.25 seconds

The actual minimum rate calculation interval may be increased or decreased by using the fast-queue and/or slow-queue keywords (which are also applicable for policers managed by HQoS) followed by a percent value which is applied to the default interval. The default slow-queue threshold rate is 1 Mb/s. Once a policer or queue is categorized as slow, its rate must rise to 1.5 Mb/s before being categorized as a fast policer or queue. The categorization threshold may be modified by using the **slow-queue-threshold** command.

The **no** form of this command restores the default fast queue and slow queue minimum rate calculation interval.

Default

no rate-calc-min-int

Parameters

percent-of-default

Specifies that the fast-queue percent-of-default parameter is optional and is used to modify the default minimum rate calculation time for "fast" queues. Defining 100.00 percent is equivalent to removing the override (restoring the default) on the fast queue minimum rate calculation time.

Values 0.01% to 1000.00%

Default 100.00%

percent-of-default

Specifies that the slow-queue percent-of-default parameter is optional and is used to modify the default minimum rate calculation time for "slow" queues. Defining 100.00 percent is equivalent to removing the override (restoring the default) on the slow queue minimum rate calculation time.

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Values 0.01% to 1000.00%

Default 100.00%

Platforms

All

38.31 rate-down

rate-down

Syntax

rate-down *rate*

no rate-down

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>access-loop-encapsulation rate-down)

Full Context

configure subscriber-mgmt local-user-db ppp host access-loop-encapsulation rate-down

Description

This command is applicable to LAC and LNS. It provides the last mile link rate in the downstream direction that is needed for proper shaping and calculating the interleaving delay.

The rate information in the last mile will be taken from the following sources in the order of priority:

- Statically provisioned value in local user database (LUDB).
- RADIUS.
- PPPoE tags on LAC or ICRQ message (RFC 5515) /ICCN message (TX Connect Seed) on LNS.

Default

no rate-down

Parameters

rate

Specifies the last mile link downstream rate in the access loop

Values 1 to 100000 kb/s

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

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38.32 rate-limit

rate-limit

Syntax

rate-limit *packets-per-second*

no rate-limit

Context

[Tree] (config>service>nat>syslog>syslog-export-policy rate-limit)

Full Context

configure service nat syslog syslog-export-policy rate-limit

Description

This command configures the maximum rate limit at which syslog messages are sent. Once the rate limit is exceeded, NAT flow logs will be buffered. Overload condition is characterized by exhaustion of this buffer space. This condition can occur due to imposed rate limit or the software speed limit. Once the buffer space is exhausted, new flow creation will be denied, and the teardown of the existing flows will be delayed until the buffer space becomes available.

The **no** form of the command removes the maximum rate limit from the configuration.

Parameters

packets-per-second

Specifies the packet rate limit in seconds.

Values 10 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

rate-limit

Syntax

rate-limit *value* [**kbps** | **pps**] [**mbs** *mbs-value*]

rate-limit *value* [**kbps** | **pps**] **extracted-traffic**

rate-limit *value* [**kbps** | **pps**] **packet-length** {**lt** | **gt** | **eq**} *packet-length-value*

rate-limit *value* [**kbps** | **pps**] **packet-length range** *packet-length-value packet-length-value*

rate-limit *value* [**kbps** | **pps**] **pattern expression** *expression* **mask** *mask* **offset-type** *offset-type* **offset-value** *offset-value*

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rate-limit *value* [**kbps** | **pps**] **ttl** {**lt** | **gt** | **eq**} *ttl-value*

rate-limit *value* [**kbps** | **pps**] **ttl range** *ttl-value ttl-value*

rate-limit policer *policer-name*

Context

[Tree] (config>filter>ip-filter>entry>action rate-limit)

Full Context

configure filter ip-filter entry action rate-limit

Description

This command configures the rate-limit value for traffic matching this filter entry. Rate-limit policers are configured with MBS equals CBS equals 10 ms of the rate and high-prio-only equals 0.

Traffic can also be rate limited based on **extracted-traffic**, **packet-length**, **ttl**, or a pattern of conditional match criteria.

Packets that match the filter entry match criteria, but do not match the conditional match criteria value, are implicitly forwarded with no further match in the following filter entries.

For pattern match:

- the expression is left-aligned for the odd number bytes, for example, the expression 0xABC is programmed 0x0ABC in the line card
- the 'data' offset requires protocol UDP or TCP to be selected in the filter entry match criteria.

Parameters

value

Specifies the **rate-limit** *value* in kb/s (default) or packets per second (pps). A rate of 0 results in all traffic being dropped. A rate of **max** results in all traffic being forwarded.

Values 0 to 2000000000 kb/s, max

0 to 100000000 pps, max

mbs-value

Specifies the maximum burst size in bytes. This parameter can only be specified when the **rate-limit** *value* unit is **kbps**.

Values 0 to 268435456

extracted-traffic

Specifies rate-limit packets both extracted to the CPM and matching the filter entry match criteria.

packet-length

Specifies rate-limit packets matching both the filter entry match criteria and the *packet-length value* defined in the **rate-limit** action statement. Packets matching the filter entry match criteria and not matching the *packet-length* value, as defined in the **rate-limit** action statement, are implicitly forwarded with no further match in the following filter entries.

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Values **lt** — Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt — Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq — Specifies "equal to”.

packet-length-value

Specifies the packet length value for the rate limit action.

Values 0 to 65535

range

Specifies an inclusive range. When **range** is used, the start of the range (the first value entered) must be smaller than the end of the range (the second value entered).

expression

Specifies the hexadecimal pattern to match; up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

mask

Specifies the mask for the pattern expression, up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

offset-type

Specifies the starting point reference for the offset-value of this pattern.

Values layer-3, layer-4, data, dns-qtype

offset-value

Specifies the offset value for the pattern expression. Dns-qtype supports offset value of 0.

Values 0 to 255

ttl-value

Specifies rate-limit packets matching both the filter entry match criteria and the TTL value defined in the *rate-limit* action statement. Packets matching the filter entry match criteria and not matching the TTL value, as defined in the *rate-limit* action statement, are implicitly forwarded with no further match in the following filter entries.

Values 0 to 255

policer-name

Specifies the policer name to use for rate-limiting traffic, up to 32 characters.

Platforms

All

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rate-limit

Syntax

rate-limit *value*

Context

[Tree] (config>filter>mac-filter>entry>action rate-limit)

Full Context

configure filter mac-filter entry action rate-limit

Description

This command sets the rate limit for the traffic matching both the filter entry match criteria and the *packet-length-value* defined in the **rate-limit action** statement.

Packets matching the filter entry match criteria and not matching the *packet-length-value* defined in the **rate-limit action** statement are implicitly forwarded with no further match in subsequent filter entries.

Rate limit packets matching both the filter entry match criteria and the *ttl-value* are defined in the **action rate-limit** statement.

Packets matching the filter entry match criteria and not matching the *ttl-value* defined in the **rate-limit action** statement are implicitly forwarded with no further match in the following filter entries.

Parameters

value

Specifies the **rate-limit** *value* in kb/s. A rate of 0 results in all traffic being dropped. A rate of **max** results in all traffic being forwarded.

Values 0 to 2000000000 kb/s | max

Platforms

All

rate-limit

Syntax

rate-limit *value* [**kbps** | **pps**] [**mbs** *mbs-value*]

rate-limit *value* [**kbps** | **pps**] **extracted-traffic**

rate-limit *value* [**kbps** | **pps**] **hop-limit** {**lt** | **gt** | **eq**} *hop-limit-value*

rate-limit *value* [**kbps** | **pps**] **hop-limit range** *hop-limit-value hop-limit-value*

rate-limit *value* [**kbps** | **pps**] **pattern expression** *expression* **mask** *mask* **offset-type** *offset-type* **offset-value** *offset-value*

rate-limit *value* [**kbps** | **pps**] **payload-length** {**lt** | **gt** | **eq**} *payload-length-value*

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rate-limit *value* [**kbps** | **pps**] **payload-length range** *payload-length-value payload-length-value*

rate-limit policer *policer-name*

Context

[Tree] (config>filter>ipv6-filter>entry>action rate-limit)

Full Context

configure filter ipv6-filter entry action rate-limit

Description

This command configures the rate-limit value for traffic matching this filter entry.

Traffic can also be rate-limited based on **extracted-traffic**, **payload-length**, **hop-limit**, or a pattern of conditional match criteria.

Packets that match the filter entry match criteria, but do not match the conditional match criteria value, are implicitly forwarded with no further match in the following filter entries.

For pattern match:

- the expression is left-aligned for the odd number bytes, for example, the expression 0xABC is programmed 0x0ABC in the line card.
- the 'data' offset requires protocol UDP or TCP to be selected in the filter entry match criteria.

Parameters

value

Specifies the **rate-limit** *value* in kb/s (default) or packets per second (pps). A rate of 0 results in all traffic being dropped. A rate of **max** results in all traffic being forwarded.

Values 0 to 2000000000 kb/s, max

0 to 100000000 pps, max

mbs-value

Specifies the maximum burst size in bytes. This parameter can only be specified when the **rate-limit** *value* unit is **kbps**.

Values 0 to 268435456

extracted-traffic

Specifies packets extracted to the CPM.

hop-limit

Specifies the hop limit value for the rate limit action.

Values **lt** — Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt — Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq — Specifies "equal to”.

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hop-limit-value

Specifies the hop limit value for the rate limit action.

Values 0 to 255

range

Specifies an inclusive range. When the **range** parameter is used, the start of the range (the first value entered) must be smaller than the end of the range (the second value entered).

expression

Specifies the hexadecimal pattern to match; up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

mask

Specifies the mask for the pattern expression, up to eight bytes.

Values 0x0000000000000001 to 0xffffffffffffffff

offset-type

Specifies the starting point reference for the offset-value of this pattern.

Values layer-3, layer-4, data, dns-qtype

offset-value

Specifies the offset value for the pattern expression. Dns-qtype supports offset value of 0.

Values 0 to 255

payload-length

Specifies rate-limit packets matching both the filter entry match criteria and the *payload-length-value* defined in the **rate-limit** action statement. Packets matching the filter entry match criteria and not matching the *payload-length-value,* as defined in the **rate-limit** action statement, are implicitly forwarded with no further match in the following filter entries.

Values **lt** — Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt — Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq — Specifies "equal to”.

payload-length-value

Specifies the payload length value for the rate limit action.

Values 0 to 65535

policer-name

Specifies the policer name to use for rate-limiting traffic, up to 32 characters.

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Platforms

All

38.33 rate-modify

rate-modify

Syntax

rate-modify scheduler *scheduler-name*

rate-modify agg-rate-limit

no rate-modify

Context

[Tree] (config>subscr-mgmt>ancp>policy>egress rate-modify)

[Tree] (config>subscr-mgmt>ancp>policy>ingress rate-modify)

Full Context

configure subscriber-mgmt ancp ancp-policy egress rate-modify

configure subscriber-mgmt ancp ancp-policy ingress rate-modify

Description

This command configures rate modify scheduler parameters.

The **no** form of this command removes the scheduler name from the configuration.

Parameters

agg-rate-limit

Specifies that the maximum total rate for all subscriber egress queues for each subscriber associated with the policy.

scheduler-name

Specifies a scheduler name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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38.34 rate-monitor

rate-monitor

Syntax

rate-monitor *kilobit-per-second* [**alarm**]

no rate-monitor

Context

[Tree] (config>subscr-mgmt>ancp>policy>egress rate-monitor)

[Tree] (config>subscr-mgmt>ancp>policy>ingress rate-monitor)

Full Context

configure subscriber-mgmt ancp ancp-policy egress rate-monitor

configure subscriber-mgmt ancp ancp-policy ingress rate-monitor

Description

This command configures the rate monitor level.

The **no** form of this command removes the value from the configuration.

Parameters

kilobit-per-second

Specifies the rate below which the system generates an event.

Values 0 to 4294967295

alarm

When the monitored rate is below the configured value the system generates an alarm (trap) to the management system. The trap includes the rate as well as the ANCP policy name and the ANCP string.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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38.35 rate-percentage

rate-percentage

Syntax

rate-percentage *rate-percentage*

no rate-percentage

Context

[Tree] (config>app-assure>group>policer rate-percentage)

Full Context

configure application-assurance group policer rate-percentage

Description

This command indirectly configures the rate used by Access-Network-Location (ANL) policers. Because ANL total bandwidth is dynamically measured and estimated by AA, this command allows the operator to configure the ratio of that measured bandwidth to be used by the ANL policer as the policer rate.

The **no** form of this command resets the values to defaults.

Default

no rate-percentage

Parameters

rate-percentage

Specifies an integer value that specifies a percentage that is applied against the ANL estimate maximum bandwidth to produce the actual rate that is used by the policer when ANL congestion occurs.

Values 0 to 200 (0: means drop all traffic)

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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38.36 rate-percentage-stage2

rate-percentage-stage2

Syntax

rate-percentage-stage2 *rate-percentage*

no rate-percentage-stage2

Context

[Tree] (config>app-assure>group>policer rate-percentage-stage2)

Full Context

configure application-assurance group policer rate-percentage-stage2

Description

This command indirectly configures the rate used by Access-Network-Location (ANL) policers. Because ANL stage2 total bandwidth is dynamically measured and estimated by AA, this command allows the operator to configure the ratio of that measured bandwidth to be used by the ANL stage2 policer as the policer rate.

The **no** form of this command reverts to the default.

Parameters

rate-percentage

Specifies an integer value that specifies a percentage that is applied to the ANL estimated maximum bandwidth to produce the actual rate that is used by the policer when ANL stage2 congestion occurs. A value of 0 means that all traffic is dropped.

Values 0 to 200

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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38.37 rate-reduction

rate-reduction

Syntax

rate-reduction *kilobit-per-second*

no rate-reduction

Context

[Tree] (config>subscr-mgmt>ancp>policy>ingress rate-reduction)

[Tree] (config>subscr-mgmt>ancp>policy>egress rate-reduction)

Full Context

configure subscriber-mgmt ancp ancp-policy ingress rate-reduction

configure subscriber-mgmt ancp ancp-policy egress rate-reduction

Description

This command defines a constant rate reduction to the rate specified by the DSLAM. The **rate-reduction** command should be used if the node should adjust the rate to a value that is offset (for example by a fixed multicast dedicated bandwidth) compared to the total available on the DSLAM.

When set, the rate is:

DSLAM_RATE*adjust-rate/100 — rate-reduction

The **no** form of this command removes the value from the configuration.

Parameters

kilobits-per-second

Specifies the rate reduction to be applied for this subscriber.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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38.38 rate-thresholds

rate-thresholds

Syntax

rate-thresholds high *high-percentage* **low** *low-percentage*

no rate-thresholds

Context

[Tree] (config>subscr-mgmt>sla-profile>egress>bonding-selection rate-thresholds)

Full Context

configure subscriber-mgmt sla-profile egress bonding-selection rate-thresholds

Description

This command configures the rate thresholds that are required before decreasing or increasing the preferred link's weight with the specified change percentage.

The low threshold value must be lower than the high threshold value.

The **no** form of this command reverts to the default.

Default

rate-thresholds high 90 low 80

Parameters

high-percentage

Specifies the high threshold, as a percentage of the reference rate.

Values 56 to 99

low-percentage

Specifies the low threshold, as a percentage of the reference rate.

Values 55 to 98

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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38.39 rating-group

rating-group

Syntax

rating-group *rating-group-id*

no rating-group

Context

[Tree] (config>subscr-mgmt>cat-map>category rating-group)

Full Context

configure subscriber-mgmt category-map category rating-group

Description

This command configures the rating group applicable for this category.

The **no** form of this command reverts to the default.

Parameters

rating-group-id

Specifies the rating group applicable for this category.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.40 raw

raw

Syntax

[**no**] **raw**

Context

[Tree] (config>cflowd>collector>aggregation raw)

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Full Context

configure cflowd collector aggregation raw

Description

This command configures raw (unaggregated) flow data to be sent in Version 5.

The **no** form of this command removes this type of aggregation from the collector configuration.

Platforms

All

38.41 rd

rd

Syntax

rd *file-url* **rf** [**router** *router-instance*]

rd *file-url* [**force**] [**router** *router-instance*]

Context

[Tree] (file rd)

Full Context

file rd

Description

If the directory is empty, the **rd** command is used to remove it. The **force** option executes the command without prompting the user to confirm the action.

If the directory contains files and/or subdirectories, the **rf** parameter must be used to remove the directory.

Example:

```
A:nE1>file cf1:\ # rd test
Are you sure (y/n)? y
Deleting directory cf1:\test ..MINOR: CLI Cannot delete cf1:\test.
A:nE1>file cf1:\ # rd test force
Deleting directory cf1:\test .MINOR: CLI Cannot delete cf1:\test.


A:nE1>file cf1:\ # rd testbase rf
Deleting all subdirectories and files in specified directory. y/n ?y
Deleting directory cf1:\testbase\testbase1 ..OK
Deleting directory cf1:\test .OK
```


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Parameters

file-url

Specifies the directory to be removed.

Values

local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
remote-url	[{ftp | sftp}://*login*:*pswd@remote-locn*/][*file-path*]
	up to 247 characters
	directory length up to 99 characters each
remote-locn	[hostname | ipv4-address | [ipv6-address]]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

rf

Keyword that forces a recursive delete.

force

Keyword that forces an immediate deletion of the specified directory. The **rd** *file-url* **force** command executes the command without displaying a user prompt message.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

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38.42 rd-entry

rd-entry

Syntax

rd-entry *rd*

no rd-entry *rd*

Context

[Tree] (config>router>policy-options>route-distinguisher-list rd-entry)

Full Context

configure router policy-options route-distinguisher-list rd-entry

Description

This command creates a route distinguisher (RD) entry in the RD list, containing an IPv4 address or ASN and the assigned number.

The **no** form of the command deletes the RD entry from the list.

Parameters

rd

Specifies a route distinguisher matching an entry in one of the following formats:

- *a.b.c.d*/*m:** – RD in IPv4 format with a wildcard character (such as 10.0.0.0/16:*)
- *a.b.c.d*/*m:n* – RD in IPv4 format with a specific number (such as 10.0.0.2/32:535)
- *asn*:* – RD in ASN format with a wildcard character (such as 65000:*)
- *asn*:*n* – RD in ASN format with a specific number (such as 65000:535)

See the "Route distinguishers" section of the *7450 ESS, 7750 SR, 7950 XRS, and VSR Layer 3 Services Guide: IES and VPRN* for information about Type values.

Platforms

All

38.43 rdnss-lifetime

rdnss-lifetime

Syntax

rdnss-lifetime *seconds*

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rdnss-lifetime infinite

no rdnss-lifetime

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6 rdnss-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 rdnss-lifetime)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv rdnss-lifetime)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv rdnss-lifetime)

[Tree] (config>subscr-mgmt>rtr-adv-plcy>dns-opt rdnss-lifetime)

Full Context

configure service ies subscriber-interface group-interface ipv6 rdnss-lifetime

configure service vprn subscriber-interface group-interface ipv6 rdnss-lifetime

configure service ies subscriber-interface ipv6 rtr-adv rdnss-lifetime

configure service vprn subscriber-interface ipv6 rtr-adv rdnss-lifetime

configure subscriber-mgmt router-advertisement-policy dns-options rdnss-lifetime

Description

This command configures the maximum time that the RDNSS address may be used for name resolution.

The **no** form of this command returns the command to the default setting.

Default

rdnss-lifetime 3600

Parameters

seconds

Specifies the time, in seconds, that the RDNSS address is valid for this route.

Values 900 to 3600

infinite

Specifies that the RDNSS address can be used permanently.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

rdnss-lifetime

Syntax

rdnss-lifetime *seconds*

rdnss-lifetime infinite

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no rdnss-lifetime

Context

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv>dns-opt rdnss-lifetime)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv>dns-opt rdnss-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv>dns-opt rdnss-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv>dns-opt rdnss-lifetime)

Full Context

configure service ies subscriber-interface ipv6 router-advertisements dns-options rdnss-lifetime

configure service vprn subscriber-interface ipv6 router-advertisements dns-options rdnss-lifetime

configure service ies subscriber-interface group-interface ipv6 router-advertisements dns-options rdnss-lifetime

configure service vprn subscriber-interface group-interface ipv6 router-advertisements dns-options rdnss-lifetime

Description

This command configures the maximum time that the RDNSS address may be used for name resolution.

The **no** form of this command reverts to the default.

Default

rdnss-lifetime 3600

Parameters

seconds

Specifies the time, in seconds, that the RDNSS address is valid for this route.

Values 900 to 3600

infinite

The RDNSS address can be used permanently.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

rdnss-lifetime

Syntax

rdnss-lifetime {*seconds* | **infinite**}

no rdnss-lifetime

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Context

[Tree] (config>service>vprn>router-advert>dns-options rdnss-lifetime)

[Tree] (config>service>vprn>router-advert>if>dns-options rdnss-lifetime)

Full Context

configure service vprn router-advertisement dns-options rdnss-lifetime

configure service vprn router-advertisement interface dns-options rdnss-lifetime

Description

This command specifies the maximum time that the RDNSS address may be used for name resolution by the client. The RDNSS Lifetime must be no more than twice MaxRtrAdvLifetime with a maximum of 3600 seconds.

Default

rdnss-lifetime infinite

Parameters

infinite

Specifies an infinite RDNSS lifetime.

seconds

Specifies the time in seconds.

Values 4to 3600

Platforms

All

rdnss-lifetime

Syntax

rdnss-lifetime *seconds*

rdnss-lifetime infinite

no rdnss-lifetime

Context

[Tree] (config>router>router-advert>if>dns-opt rdnss-lifetime)

[Tree] (config>router>router-advert>dns-opt rdnss-lifetime)

Full Context

configure router router-advertisement interface dns-options rdnss-lifetime

configure router router-advertisement dns-options rdnss-lifetime

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Description

This command specifies the maximum time that the RDNSS address may be used for name resolution by the client.

Default

rdnss-lifetime infinite

Parameters

seconds

Specifies the time in seconds.

Values 4 to 3600

infinite

Specifies an infinite RDNSS lifetime.

Platforms

All

38.44 re-auth-period

re-auth-period

Syntax

re-auth-period *seconds*

no re-auth-period

Context

[Tree] (config>port>ethernet>dot1x re-auth-period)

Full Context

configure port ethernet dot1x re-auth-period

Description

This command configures the period after which re-authentication is performed. This value is only relevant if **re-authentication** is enabled.

The **no** form of this command returns the value to the default.

Default

re-auth-period 3600

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Parameters

seconds

Specifies the re-authentication delay period in seconds.

Values 1 to 9000

Platforms

All

38.45 re-authentication

re-authentication

Syntax

[**no**] **re-authentication**

Context

[Tree] (config>subscr-mgmt>auth-policy re-authentication)

Full Context

configure subscriber-mgmt authentication-policy re-authentication

Description

This command enables authentication process at every DHCP address lease renewal s only if RADIUS did not reply any special attributes (for example, authentication only, no authorization).

The **no** form of this command reverts to the default value.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

re-authentication

Syntax

[**no**] **re-authentication**

Context

[Tree] (config>port>ethernet>dot1x re-authentication)

Full Context

configure port ethernet dot1x re-authentication

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Description

This command enables/disables periodic 802.1x re-authentication.

When **re-authentication** is enabled, the router re-authenticates clients on the port every **re-auth-period**.

The **no** form of this command returns the value to the default.

Default

no re-authentication

Platforms

All

38.46 re-establish-session

re-establish-session

Syntax

re-establish-session padr

no re-establish-session

Context

[Tree] (config>subscr-mgmt>ppp-policy re-establish-session)

Full Context

configure subscriber-mgmt ppp-policy re-establish-session

Description

This command enables host to reconnect and override existing session.

If disabled and a subscriber abruptly terminates a PPP sessions without sending a PADT to the BNG, the BNG denies any reconnect attempts until the stale PPP session has expired. With this, enabled re-establish-session eliminates the waiting period by allowing immediate PPP reconnection attempts.

The **no** form of this command reverts to the default.

Parameters

padr

Specifies that the existing session will be deleted upon reception of the PPPoE Active Discovery Request (PADR).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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38.47 reachable-time

reachable-time

Syntax

reachable-time *milli-seconds*

no reachable-time

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy reachable-time)

Full Context

configure subscriber-mgmt router-advertisement-policy reachable-time

Description

This command configures the reachable time for advertisements.

The **no** form of this command returns the command to the default setting.

Default

reachable-time 0

Parameters

milli-seconds

Specifies the time, in milliseconds, for the reachable time.

Values 0 to 3600000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

reachable-time

Syntax

reachable-time *milli-seconds*

no reachable-time

Context

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv reachable-time)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv reachable-time)

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[Tree] (config>router>router-advert>if reachable-time)

[Tree] (config>service>vprn>router-advert>if reachable-time)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv reachable-time)

Full Context

configure service ies subscriber-interface ipv6 router-advertisements reachable-time

configure service vprn subscriber-interface ipv6 router-advertisements reachable-time

configure router router-advertisement interface reachable-time

configure service vprn router-advertisement interface reachable-time

configure service vprn subscriber-interface group-interface ipv6 router-advertisements reachable-time

Description

This command configures how long this router should be considered reachable by other nodes on the link after receiving a reachability confirmation.

The configured value is placed in the reachable time field in router advertisement messages sent from this interface.

The **no** form of this command reverts to the default.

Default

reachable-time 0

Parameters

milli-seconds

Specifies the reachable time, in seconds, for advertisements from this interface.

Values 0 to 3600000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface ipv6 router-advertisements reachable-time
- configure service vprn subscriber-interface group-interface ipv6 router-advertisements reachable-time
- configure service vprn subscriber-interface ipv6 router-advertisements reachable-time

All

- configure service vprn router-advertisement interface reachable-time
- configure router router-advertisement interface reachable-time

reachable-time

Syntax

reachable-time *milliseconds*

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no reachable-time

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv reachable-time)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements reachable-time

Description

This command configures how long this router should be considered reachable by other nodes on the link after receiving a reachability confirmation.

Parameters

milliseconds

Specifies the length of time the router should be considered reachable for default router selection.

Values 0 to 3600000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

reachable-time

Syntax

reachable-time *seconds*

no reachable-time

Context

[Tree] (config>service>vprn>ipv6 reachable-time)

[Tree] (config>service>vprn>if>ipv6 reachable-time)

Full Context

configure service vprn ipv6 reachable-time

configure service vprn interface ipv6 reachable-time

Description

This command configures how long this router should be considered reachable by other nodes on the link after receiving a reachability confirmation.

Default

no reachable-time

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Parameters

seconds

Specifies the length of time, in seconds the router should be considered reachable.

Values 30 to 3600

Platforms

All

reachable-time

Syntax

reachable-time *seconds*

no reachable-time

Context

[Tree] (config>router>ipv6 reachable-time)

Full Context

configure router ipv6 reachable-time

Description

This command configures the neighbor reachability detection timer.

The **no** form of this command reverts to the default value.

Default

reachable-time 30

Parameters

seconds

Specifies the length of time the router should be considered reachable.

Values 30 to 3600

Platforms

All

reachable-time

Syntax

reachable-time *seconds*

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no reachable-time

Context

[Tree] (config>router>if>ipv6 reachable-time)

Full Context

configure router interface ipv6 reachable-time

Description

This command configures the neighbor reachability detection timer.

The **no** form of this command reverts to the default value.

Default

no reachable-time

Parameters

seconds

Specifies the length of time the router should be considered reachable.

Values 30 to 3600

Platforms

All

38.48 reactivation-failure-threshold

reactivation-failure-threshold

Syntax

reactivation-failure-threshold *number*

no reactivation-failure-threshold

Context

[Tree] (config>test-oam>icmp>ping-template reactivation-failure-threshold)

Full Context

configure test-oam icmp ping-template reactivation-failure-threshold

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Description

This command configures the number of consecutive failures, without previous successes, that must occur transmitting at the reactivation-interval (recovering phase) level before changing to the standard interval and subsequently waiting for the first success.

The **no** form of this command reverts to the default value.

Default

reactivation-failure-threshold 4

Parameters

number

Specifies the number of consecutive failures without previous successes.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

38.49 reactivation-interval

reactivation-interval

Syntax

reactivation-interval *seconds*

no reactivation-interval

Context

[Tree] (config>test-oam>icmp>ping-template reactivation-interval)

Full Context

configure test-oam icmp ping-template reactivation-interval

Description

This command configures the packet transmit interval used when the IP interface is operationally down because of a ping template failure and the previous ICMP echo request successfully received a response, recovering phase.

The **no** form of this command reverts to the default value.

Default

reactivation-interval 1

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Parameters

seconds

Specifies the packet transmit interval used when IP interface is operational down

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

38.50 reactivation-threshold

reactivation-threshold

Syntax

reactivation-threshold *number*

no reactivation-threshold

Context

[Tree] (config>test-oam>icmp>ping-template reactivation-threshold)

Full Context

configure test-oam icmp ping-template reactivation-threshold

Description

This command configures the count, when reached, that causes the transition of the IP interface from operationally down to operationally up because of a ping template failure. This is used in the recovering phase.

The **no** form of this command reverts to the default value.

Default

reactivation-threshold 3

Parameters

number

Specifies a count that causes the transition of the IP interface from operationally up to operationally down because of ping-template failure.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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38.51 reactivation-timeout

reactivation-timeout

Syntax

reactivation-timeout *seconds*

no reactivation-timeout

Context

[Tree] (config>test-oam>icmp>ping-template reactivation-timeout)

Full Context

configure test-oam icmp ping-template reactivation-timeout

Description

This command configures the time that the function waits before declaring the packet as lost. This is the timer used to time out the **reactivation-interval** transmitted packets. The **reactivation-timeout** value can be equal to or lower than the **reactivation-interval** value but not higher.

The **no** form of this command reverts to the default value.

Default

reactivation-timeout 1

Parameters

seconds

Specifies the wait time, in seconds, before declaring the packet is lost.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

38.52 read-algorithm

read-algorithm

Syntax

read-algorithm {**hash** | **hash2** | **custom**| **all-hash**}

no read-algorithm

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Context

[Tree] (config>system>security>management-interface>classic-cli read-algorithm)

Full Context

configure system security management-interface classic-cli read-algorithm

Description

This command specifies how encrypted configuration secrets are interpreted, and which encryption types are accepted, when secrets are input into the system or read from a configuration file (for example at system bootup time).

The **no** form of this command reverts to the default value.

Default

read-algorithm all-hash

Parameters

hash

Specifies hash. Use this option to transport a phrase between modules and nodes. In this case the write-algorithm should be **hash** as well.

hash2

Specifies hash2 which is module-specific.

custom

Specifies the custom encryption to management interface.

all-hash

Specifies that the system accepts hash or hash2.

Platforms

All

38.53 reassemble

reassemble

Syntax

reassemble

Context

[Tree] (config>filter>ip-filter>entry>action reassemble)

Full Context

configure filter ip-filter entry action reassemble

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Description

This command sets the filter entry action to reassemble.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.54 reassembly

reassembly

Syntax

reassembly [*wait-msecs*]

no reassembly

Context

[Tree] (config>service>ies>if>sap>ip-tunnel reassembly)

[Tree] (config>service>vprn>if>sap>ip-tunnel reassembly)

Full Context

configure service ies interface sap ip-tunnel reassembly

configure service vprn interface sap ip-tunnel reassembly

Description

This command configures the maximum number of seconds to wait to receive all fragments of a particular IPsec or GRE packet for reassembly.

The **no** form of this commands removes the wait time from the configuration.

Default

no reassembly

Parameters

wait-msecs

Specifies the reassembly wait time in 100 increments.

Values 1 to 5000 ms

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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reassembly

Syntax

reassembly [*wait-msecs*]

no reassembly

Context

[Tree] (config>service>ies>if>sap>gre-tunnel reassembly)

[Tree] (config>service>vprn>if>sap>gre-tunnel reassembly)

[Tree] (config>isa>tunnel-group reassembly)

Full Context

configure service ies interface sap gre-tunnel reassembly

configure service vprn interface sap gre-tunnel reassembly

configure isa tunnel-group reassembly

Description

This command configures IP packet reassembly for IPsec and GRE tunnels supported by an MS-ISA. The **reassembly** command at the tunnel-group level configures IP packet reassembly for all IPsec and GRE tunnels associated with the tunnel-group. The **reassembly** command at the GRE tunnel level configures IP packet reassembly for that one specific GRE tunnel, overriding the tunnel-group configuration.

The **no** form of this command disables IP packet reassembly.

Default

no reassembly (tunnel-group level)

reassembly (gre-tunnel level)

Parameters

wait

Specifies the maximum number of milliseconds that the ISA tunnel application will wait to receive all fragments of a particular IPsec or GRE packet. If one or more fragments are still missing when this limit is reached the partially reassembled datagram is discarded and an ICMP time exceeded message is sent to the source host (if allowed by the ICMP configuration of the sending interface). Internally, the configured value is rounded up to the nearest multiple of 100 ms.

Values 1 to 5000

Default 2000 (tunnel-group level)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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reassembly

Syntax

[**no**] **reassembly**

Context

[Tree] (config>router>nat>inside>dslite>address reassembly)

Full Context

configure router nat inside dual-stack-lite address reassembly

Description

This command enables reassembly of fragmented frames for DS-Lite. Reassembly is enabled in the upstream direction per AFTR address.

The **no** form of the command disables the reassembly.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.55 reassembly-group

reassembly-group

Syntax

reassembly-group *nat-group-id* [**to-base-network**]

no reassembly-group

Context

[Tree] (config>router reassembly-group)

[Tree] (config>service>vprn reassembly-group)

Full Context

configure router reassembly-group

configure service vprn reassembly-group

Description

This command associates a reassembly-group consisting of multiple ISAs with the routing context in which the application requiring reassembly service resides.

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Default

no reassembly-group

Parameters

nat-group-id

Specifies the NAT group ID; the NAT group contains up to 10 active ISAs.

Values 1 to 4

to-base-network

Enables the reassembly context to use network interfaces in the base routing context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.56 reassembly-timeout

reassembly-timeout

Syntax

reassembly-timeout {*timeout*}

no reassembly-timeout

Context

[Tree] (config>router>l2tp>group>tunnel>mlppp reassembly-timeout)

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp reassembly-timeout)

[Tree] (config>service>vprn>l2tp>group>mlppp reassembly-timeout)

[Tree] (config>router>l2tp>group>mlppp reassembly-timeout)

Full Context

configure router l2tp group tunnel mlppp reassembly-timeout

configure service vprn l2tp group tunnel mlppp reassembly-timeout

configure service vprn l2tp group mlppp reassembly-timeout

configure router l2tp group mlppp reassembly-timeout

Description

This command is applicable only to LNS. It determines the time during which the LNS keeps fragments of the same packet in the buffer before it discards them. The assumption is that if the fragments do not arrive within certain time, the chance is that they were lost somewhere in the network. In this case the partial packet cannot be reassembled and all fragments that has arrived up to this point and are stored in the

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buffer IS discarded to free up the buffer. Otherwise, a condition arises in which partial packets are held in the buffer until the buffer is exhausted.

The configuration under the tunnel hierarchy overrides the configuration under the group hierarchy.

The **no** form of this command reverts to the default.

Default

reassembly-timeout 1000

Parameters

timeout

Specifies the reassembly timeout value.

Values 100, 1000 milliseconds

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

38.57 rebind-timer

rebind-timer

Syntax

rebind-timer [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no rebind-timer

Context

[Tree] (config>router>dhcp6>server>pool>prefix rebind-timer)

[Tree] (config>router>dhcp6>server>defaults rebind-timer)

[Tree] (config>service>vprn>dhcp6>defaults rebind-timer)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy rebind-timer)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ipv6-lease-times rebind-timer)

[Tree] (config>service>vprn>dhcp6>server>pool>prefix rebind-timer)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ipv6-lease-times rebind-timer)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy-server rebind-timer)

Full Context

configure router dhcp6 local-dhcp-server pool prefix rebind-timer

configure router dhcp6 local-dhcp-server defaults rebind-timer

configure service vprn dhcp6 defaults rebind-timer

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configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server rebind-timer

configure subscriber-mgmt local-user-db ipoe host ipv6-lease-times rebind-timer

configure service vprn dhcp6 local-dhcp-server pool prefix rebind-timer

configure subscriber-mgmt local-user-db ppp host ipv6-lease-times rebind-timer

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server rebind-timer

Description

This command configures the lease rebind timer (T2) via LUDB.

The T2 time is the time at which the client contacts any available addressing authority to extend the lifetimes of DHCPv6 leases. T2 is a time duration relative to the current time expressed in units of seconds.

The IP addressing authority controls the time at which the client contacts the addressing authority to extend the lifetimes on assigned addresses/prefixes through the T1 and T2 parameters assigned to an IA. At time T1 for an IA, the client initiates a Renew/Reply message exchange to extend the lifetimes on any addresses in the IA. The client includes an IA option with all addresses/prefixes currently assigned to the IA in its Renew message. Recommended values for T1 and T2 are .5 and .8 times the shortest preferred lifetime of the addresses/prefixes in the IA that the addressing authority is willing to extend, respectively.

The configured rebind timer should always be longer than or equal to the renew timer.

The T1 and T2 are carried in the IPv6 address option that is within the IA.

The **no** form of this command reverts to the default.

Default

rebind-timer min 48

Parameters

rebind-timer

Specifies the preferred lifetime.

Values	**days** *days*	0 to 14
	hrs *hours*	0 to 23
	min *minutes*	0 to 59
	sec *seconds*	0 to 9

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server rebind-timer
- configure subscriber-mgmt local-user-db ppp host ipv6-lease-times rebind-timer
- configure service vprn dhcp6 local-dhcp-server pool prefix rebind-timer
- configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server rebind-timer
- configure subscriber-mgmt local-user-db ipoe host ipv6-lease-times rebind-timer

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- configure router dhcp6 local-dhcp-server pool prefix rebind-timer

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router dhcp6 local-dhcp-server defaults rebind-timer

38.58 reboot

reboot

Syntax

reboot [**active** | **standby** | **upgrade**] [**now**]

Context

[Tree] (admin reboot)

Full Context

admin reboot

Description

This command reboots the router or one CPM and can also be used to force an upgrade of the system boot ROMs.

If no options are specified, the user is prompted to confirm the reboot operation. Answering yes (y) will result in both CPMs and all IOMs rebooting.

```
ALA-1>admin# reboot
Are you sure you want to reboot (y/n)?
```

Parameters

active

Reboots the active CPM.

Default active

standby

Reboots the standby CPM.

Default active

upgrade

Forces card firmware to be upgraded during chassis reboot. This option should only be used if it has been indicated as required in the Release Notes or by Nokia technical support. Normally, the 7450 ESS, 7750 SR, 7950 XRS, and VSR router OS automatically performs firmware upgrades on CPMs and XCM/IOM cards without the need for the **upgrade** keyword.

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When the **upgrade** keyword is specified, a chassis flag is set for the BOOT Loader (boot.ldr) and on the subsequent boot of the OS on the chassis, firmware images on CPMs, XCMs, and IOMs will be upgraded automatically.

Firmware on CPMs, XCMs, or IOMs that are installed in a running chassis will be upgraded automatically. For example, if a card is inserted as the result of a hot swap, and the card has a firmware version that is no longer compatible with the SR OS image running on the chassis, then the firmware on the card will be automatically upgraded before the card is brought online.

If the card firmware is upgraded, a chassis cardUpgraded (event 2032) log event is generated. The corresponding SNMP trap for this log event is tmnxEqCardFirmwareUpgraded.

During any firmware upgrade, automatic or manual, it is imperative that during the upgrade procedure:

- Power must not be switched off or interrupted.
- The system must not be reset.
- No cards are inserted or removed.

Any of the above conditions may render cards inoperable requiring a return of the card for resolution.

The time required to upgrade the firmware on the cards in the chassis depends on the number of cards to be upgraded. The progress of a firmware upgrade can be monitored at the console.

now

Forces a reboot of the router immediately without an interactive confirmation.

Platforms

All

reboot

Syntax

reboot [**now**] **upgrade**

Context

[Tree] (admin>satellite>eth-sat reboot)

Full Context

admin satellite eth-sat reboot

Description

The command initiates an administrative reboot of the specified Ethernet-satellite chassis.

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Parameters

now

Causes the satellite to reboot immediately without further prompts or interactive confirmation.

upgrade

Causes the satellite to update its firmware image during chassis reboot.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

38.59 recall

recall

Syntax

[**no**] **recall**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>history recall)

Full Context

configure system management-interface cli md-cli environment history recall

Description

This command configures command history recall and search execution. When enabled, command history recall (**!**), substitution (**!$**), display (**:p**, **Esc+.**), and backward search (**Ctrl-R**) is enabled.

The **no** form of this command disables history recall and search execution.

Default

no recall

Platforms

All

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38.60 receive

receive

Syntax

[**no**] **receive**

Context

[Tree] (config>port>ethernet>eth-cfm>mep>eth-bn receive)

Full Context

configure port ethernet eth-cfm mep eth-bn receive

Description

This command enables the reception and processing of **eth-bn** messages and the retrieval and processing of the current bandwidth field for inclusion in dynamic egress rate adjustments.

The received rate is an Layer 2 rate, and is expected to be in Mb/s. If this rate is a link rate (including preamble, start frame delimiter, and inter-frame gap), this would require the use of network egress queue groups (configured in the **configure qos queue-group-templates egress queue-group "qg1" queue 1 packet-byte-offset add** *20*). The **packet-byte-offset** is not supported for default network queues.

Default

no receive

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

receive

Syntax

receive {**both** | **none** | **version-1** | **version-2**}

no receive

Context

[Tree] (config>service>vprn>ripng>group receive)

[Tree] (config>service>vprn>rip>group>neighbor receive)

[Tree] (config>service>vprn>ripng>group>neighbor receive)

[Tree] (config>service>vprn>rip>group receive)

[Tree] (config>service>vprn>rip receive)

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[Tree] (config>service>vprn>ripng receive)

Full Context

configure service vprn ripng group receive

configure service vprn rip group neighbor receive

configure service vprn ripng group neighbor receive

configure service vprn rip group receive

configure service vprn rip receive

configure service vprn ripng receive

Description

This command configures the type(s) of RIP updates that will be accepted and processed.

If **both** or **version-2** is specified, the RIP instance listens for and accepts packets sent to the broadcast and multicast (224.0.0.9) addresses.

If **version-1** is specified, the router only listens for and accepts packets sent to the broadcast address.

This control can be issued at the global, group or interface level. The default behavior accepts and processes both RIPv1 and RIPv2 messages.

The **no** form of this command resets the type of messages accepted to both.

Default

no receive

Parameters

both

Accept RIP updates in either Version 1 or Version 2 format.

none

Do not accept and RIP updates.

version-1

Router should only accept RIP updates in Version 1 format.

version-2

Router should only accept RIP updates in Version 2 format.

Platforms

All

receive

Syntax

receive

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Context

[Tree] (config>system>security>keychain>direction>uni receive)

Full Context

configure system security keychain direction uni receive

Description

This command enables the receive nodal context. Entries defined under this context are used to authenticate TCP segments that are being received by the router.

Platforms

All

receive

Syntax

receive *option-number*

no receive

Context

[Tree] (config>system>security>keychain>tcp-option-number receive)

Full Context

configure system security keychain tcp-option-number receive

Description

This command configures the TCP option number accepted in TCP packets received.

The **no** form of this command reverts to the default value.

Default

receive 254

Parameters

option-number

Specifies an enumerated integer that indicates the TCP option number to be used in the TCP header.

Values 253, 254, 253&254, tcp-ao

Platforms

All

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receive

Syntax

receive {**both** | **none** | **version-1** | **version-2**}

no receive

Context

[Tree] (config>router>ripng>group>neighbor receive)

[Tree] (config>router>rip receive)

[Tree] (config>router>ripng receive)

[Tree] (config>router>ripng>group receive)

[Tree] (config>router>rip>group>neighbor receive)

[Tree] (config>router>rip>group receive)

Full Context

configure router ripng group neighbor receive

configure router rip receive

configure router ripng receive

configure router ripng group receive

configure router rip group neighbor receive

configure router rip group receive

Description

This command configures the types of RIP updates that will be accepted and processed.

If **both** or **version-2** is specified, the RIP instance listens for and accepts packets sent to the broadcast and multicast (224.0.0.9) addresses.

If **version-1** is specified, the router only listens for and accept packets sent to the broadcast address.

This control can be issued at the global, group or interface level. The default behavior is to accept and process both RIPv1 and RIPv2 messages.

The **no** form of the command reverts to the default value.

Default

receive both – in the config>router>rip context

receive version-1 – in the config>router>ripng context

Parameters

both

Specifies that RIP updates in either version 1 or version 2 format will be accepted.

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none
Specifies that RIP updates will not be accepted.

version-1
Specifies that RIP updates in version 1 format only will be accepted.

version-2
Specifies that RIP updates in version 2 format only will be accepted.

Platforms
All

38.61 receive-interval

receive-interval

Syntax
receive-interval *receive-interval*

no receive-interval

Context
[Tree] (config>lag>bfd>family receive-interval)

Full Context
configure lag bfd family receive-interval

Description
This command specifies the receive timer used for micro-BFD session over the associated LAG links.

The **no** form of this command removes the receive timer from the configuration.

Default
receive-interval 100

Parameters
receive-interval
Specifies the interval value, in milliseconds.

Values 10 to 100000

Default 100 for CPM3 or later, 1000 for all others

Platforms
All

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receive-interval

Syntax

receive-interval *receive-interval*

no receive-interval

Context

[Tree] (config>router>bfd>bfd-template receive-interval)

Full Context

configure router bfd bfd-template receive-interval

Description

This command specifies the receive timer used for BFD packets. If the template is used for a BFD session on an MPLS-TP LSP, then this timer is used for CC packets.

The **no** form of this command reverts to the default value.

Default

receive-interval 100

Parameters

receive-interval

Specifies the receive interval. The minimum interval that can be configured is hardware dependent.

Values 10 ms to 100,000 ms in 1 ms intervals

Default 10 ms for CPM3 or higher; 1 second for other hardware

Platforms

All

receive-interval

Syntax

receive-interval *receive-interval*

no receive-interval

Context

[Tree] (config>router>lsp-bfd>tail-end receive-interval)

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Full Context

configure router lsp-bfd tail-end receive-interval

Description

This command configures the LSP BFD minimum receive interval for the tail end of LSP BFD sessions.

The **no** form of this command reverts to the default value.

Default

receive-interval 1000

Parameters

receive-interval

Specifies the receive interval, in milliseconds.

Values 100 to 1000

Default 1000

Platforms

All

38.62 receive-msdp-msg-rate

receive-msdp-msg-rate

Syntax

receive-msdp-msg-rate *number* **interval** *seconds* [**threshold** *number*]

no receive-msdp-msg-rate

Context

[Tree] (config>service>vprn>msdp receive-msdp-msg-rate)

[Tree] (config>service>vprn>msdp>group receive-msdp-msg-rate)

[Tree] (config>service>vprn>msdp>group>peer receive-msdp-msg-rate)

[Tree] (config>service>vprn>msdp>peer receive-msdp-msg-rate)

Full Context

configure service vprn msdp receive-msdp-msg-rate

configure service vprn msdp group receive-msdp-msg-rate

configure service vprn msdp group peer receive-msdp-msg-rate

configure service vprn msdp peer receive-msdp-msg-rate

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Description

This command limits the number of Multicast Source Discovery Protocol (MSDP) messages that are read from the TCP session. It is possible that an MSDP/ RP router may receive a large number of MSDP protocol message packets in a particular source active message.

After the number of MSDP packets (including source active messages) defined in the threshold have been processed, the rate of all other MSDP packets is rate limited by no longer accepting messages from the TCP session until the time (seconds) has elapsed.

The **no** form of this command reverts this active-source limit to default operation.

Default

no receive-msdp-msg-rate

Parameters

number

Defines the number of MSDP messages (including source active messages) that are read from the TCP session per the number of seconds.

Values 10 to 10000

Default 0

interval *seconds*

Defines the time that, together with the *number* parameter, defines the number of MSDP messages (including source active messages) that are read from the TCP session within the configured number of seconds.

Values 1 to 600

Default 0

threshold number

The number of MSDP messages can be processed before the MSDP message rate limiting function described above is activated; this is particularly of use during at system startup and initialization.

Values 1 to 1000000

Default 0

Platforms

All

receive-msdp-msg-rate

Syntax

receive-msdp-msg-rate *number* **interval** *seconds* [**threshold** *threshold*]

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no receive-msdp-msg-rate

Context

[Tree] (config>router>msdp receive-msdp-msg-rate)

[Tree] (config>router>msdp>group receive-msdp-msg-rate)

[Tree] (config>router>msdp>group>peer receive-msdp-msg-rate)

[Tree] (config>router>msdp>peer receive-msdp-msg-rate)

Full Context

configure router msdp receive-msdp-msg-rate

configure router msdp group receive-msdp-msg-rate

configure router msdp group peer receive-msdp-msg-rate

configure router msdp peer receive-msdp-msg-rate

Description

This command configures the limit for the number of MSDP messages that are read from the TCP session.

An MSDP or RP router may receive a large number of MSDP protocol message packets in an SA message. After the number of processed MSDP packets (including SA messages) reaches the specified limit, the rate of all other MSDP packets is rate limited. The router stops accepting messages from the TCP session until the specified time interval has elapsed.

The **no** form of this command sets no limit on the number of MSDP and SA limit messages that are accepted.

Default

no receive-msdp-msg-rate

Parameters

number

Specifies the maximum number of MSDP messages (including SA messages) to read from the TCP session in the configured time interval.

Values 10 to 10000

seconds

Specifies the time interval, in seconds, for which to limit the maximum number of MSDP messages that are read from the TCP session.

Values 1 to 600

threshold

Specifies the maximum number of MSDP messages that can be processed before the MSDP message rate limiting function is activated; this parameter is useful during system startup and initialization.

Values 1 to 1000000

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Platforms

All

38.63 receive-window-size

receive-window-size

Syntax

receive-window-size *window-size*

no receive-window-size

Context

[Tree] (config>router>l2tp>group receive-window-size)

[Tree] (config>service>vprn>l2tp>group>tunnel receive-window-size)

[Tree] (config>service>vprn>l2tp>group receive-window-size)

[Tree] (config>router>l2tp receive-window-size)

[Tree] (config>router>l2tp>group>tunnel receive-window-size)

[Tree] (config>service>vprn>l2tp receive-window-size)

Full Context

configure router l2tp group receive-window-size

configure service vprn l2tp group tunnel receive-window-size

configure service vprn l2tp group receive-window-size

configure router l2tp receive-window-size

configure router l2tp group tunnel receive-window-size

configure service vprn l2tp receive-window-size

Description

This command configures the L2TP receive window size.

Default

receive-window-size 64

Parameters

window-size

Specifies the window size.

Values 4 to 1024

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.64 received-garp-flood

received-garp-flood

Syntax

[**no**] **received-garp-flood**

Context

[Tree] (config>service>vpls>proxy-arp received-garp-flood)

Full Context

configure service vpls proxy-arp received-garp-flood

Description

This command configures flooding of GARP requests and replies received on a SAP (or SDP-bind) to the service flood list (which includes EVPN destinations and other SAPs and SDP-binds).

The **no** form of this command does not flood GARPs.

Default

received-garp-flood

Platforms

All

38.65 received-host-unsolicited-na-flood

received-host-unsolicited-na-flood

Syntax

[**no**] **received-host-unsolicited-na-flood**

Context

[Tree] (config>service>vpls>proxy-nd received-host-unsolicited-na-flood)

Full Context

configure service vpls proxy-nd received-host-unsolicited-na-flood

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Description

This command configures the system to flood received unsolicited NAs into the VPLS service (to EVPN destinations and SAPs or SDP-binds).

The impacted NA messages contain the following flags: [S=0 and R=0].

The **no** form of this command does not flood unsolicited NAs.

Default

received-host-unsolicited-na-flood

Platforms

All

38.66 received-router-unsolicited-na-flood

received-router-unsolicited-na-flood

Syntax

[**no**] **received-router-unsolicited-na-flood**

Context

[Tree] (config>service>vpls>proxy-nd received-router-unsolicited-na-flood)

Full Context

configure service vpls proxy-nd received-router-unsolicited-na-flood

Description

This command configures the system to flood received unsolicited router NAs into the VPLS service (to EVPN destinations and SAPs or SDP-binds).

The impacted NA messages contain the following flags: [S=0 and R=1].

The **no** form of this command does not flood unsolicited NAs.

Default

received-router-unsolicited-na-flood

Platforms

All

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38.67 received-unknown-arp-request-flood

received-unknown-arp-request-flood

Syntax

[**no**] **received-unknown-arp-request-flood**

Context

[Tree] (config>service>vpls>proxy-arp received-unknown-arp-request-flood)

Full Context

configure service vpls proxy-arp received-unknown-arp-request-flood

Description

This command configures flooding of unknown ARP requests received on a SAP (or SDP-bind) to the service flood list (which includes EVPN destinations and other SAPs and SDP-binds).

By default, if there is no active proxy ARP entry for the requested IP address, the system floods ARP requests, including EVPN (with source squelching).

The **no** form of this command does not flood unknown ARP requests.

Default

received-unknown-arp-request-flood

Platforms

All

38.68 received-unknown-ns-flood

received-unknown-ns-flood

Syntax

[**no**] **received-unknown-ns-flood**

Context

[Tree] (config>service>vpls>proxy-nd received-unknown-ns-flood)

Full Context

configure service vpls proxy-nd received-unknown-ns-flood

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Description

This command configures the system to flood received unknown NS messages into the VPLS service (to EVPN destinations and SAPs or SDP-binds).

The **no** form of this command does not flood unknown NS messages.

Default

received-unknown-ns-flood

Platforms

All

38.69 receiver

receiver

Syntax

receiver *receiver-name* [**create**]

no receiver

Context

[Tree] (config>sflow receiver)

Full Context

configure sflow receiver

Description

This command creates an sFlow receiver context or enters existing sFlow receiver context for the sFlow agent.

The **no** form of this command deletes an existing sFlow receiver context.

Parameters

receiver-names

String of up to 127 characters.

Platforms

7750 SR, 7750 SR-s, 7950 XRS

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38.70 reclassify-using-qos

reclassify-using-qos

Syntax

reclassify-using-qos *policy-id*

no reclassify-using-qos

Context

[Tree] (config>service>ies>if>vpls>egress reclassify-using-qos)

Full Context

configure service ies interface vpls egress reclassify-using-qos

Description

The reclassify-using-qos command is used to specify a sap-egress QoS policy that will be used to reclassify the forwarding class and profile of egress routed packets on the VPLS or I-VPLS service. When routed packets associated with the IP interface egress a VPLS SAP, the reclassification rules within the sap-egress QoS policy applied to the SAP are always ignored (even when reclassify-using-qos is not defined).

Any queues or policers defined within the specified QoS policy are ignored and are not created on the VPLS egress SAPs. Instead, the routed packets continue to use the forwarding class mappings, queues and policers from the sap-egress QoS policy applied to the egress VPLS SAP.

While the specified sap-egress policy ID is applied to an IP interface it cannot be deleted from the system.

The **no** form of this command removes the sap-egress QoS policy used for reclassification from the egress IP interface. When removed, IP routed packets will not be reclassified on the egress SAPs of the VPLS service attached to the IP interface.

Parameters

policy-id

Specifies the SAP egress QoS policy ID. This parameter is required when executing the reclassify-using-qos command. The specified SAP egress QoS ID must exist within the system or the command fails.

Platforms

All

reclassify-using-qos

Syntax

reclassify-using-qos *policy-id*

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no reclassify-using-qos

Context

[Tree] (config>service>vprn>if>vpls>egress reclassify-using-qos)

Full Context

configure service vprn interface vpls egress reclassify-using-qos

Description

This command specifies a SAP egress QoS policy that is used to reclassify the forwarding class and profile of egress routed packets on the VPLS service. When routed packets associated with the IP interface egress a VPLS SAP, the reclassification rules within the sap-egress QoS policy applied to the SAP are always ignored (even when reclassify-using-qos is not defined).

Any queues or policers defined within the specified QoS policy are ignored and are not created on the VPLS egress SAPs. Instead, the routed packets continue to use the forwarding class mappings, queues and policers from the SAP egress QoS policy applied to the egress VPLS SAP.

While the specified SAP egress policy ID is applied to an IP interface it cannot be deleted from the system.

The **no** form of this command removes the SAP egress QoS policy used for reclassification from the egress IP interface. When removed, IP routed packets is not reclassified on the egress SAPs of the VPLS service attached to the IP interface.

Parameters

policy-id

Specifies the SAP egress QoS policy ID This parameter is required when executing the **reclassify-using-qos** command. The specified SAP egress QoS ID must exist within the system or the command fails.

Platforms

All

38.71 reconnect-timeout

reconnect-timeout

Syntax

reconnect-timeout *reconnect-timeout*

reconnect-timeout infinite

no reconnect-timeout

Context

[Tree] (config>router>l2tp>eth-tunnel reconnect-timeout)

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[Tree] (config>router>l2tp>group>eth-tunnel reconnect-timeout)

[Tree] (config>service>vprn>l2tp reconnect-timeout)

[Tree] (config>service>vprn>l2tp>group reconnect-timeout)

Full Context

configure router l2tp eth-tunnel reconnect-timeout

configure router l2tp group eth-tunnel reconnect-timeout

configure service vprn l2tp reconnect-timeout

configure service vprn l2tp group reconnect-timeout

Description

This command configures the number of seconds that the Ethernet tunnel client of L2TPv3 waits before attempting to re-establish a new session after a session setup fails or a session closes.

The **no** form of this command returns **reconnect-timeout** to an infinite timeout value, meaning that reconnection is not attempted by the local client.

Default

no reconnect-timeout (infinite timeout)

Parameters

reconnect-timeout

Specifies the number of seconds before a session reconnection is attempted after a previous session or session setup fails.

Values 10 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

reconnect-timeout

Syntax

reconnect-timeout *reconnect-timeout*

no reconnect-timeout

Context

[Tree] (config>service>vprn>l2tp>eth-tunnel reconnect-timeout)

Full Context

configure service vprn l2tp eth-tunnel reconnect-timeout

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Description

This command configures the number of seconds that the Ethernet tunnel client of L2TPv3 waits before attempting to re-establish a new session after a session setup fails or a session closes.

The **no** form of this command returns **reconnect-timeout** to an infinite timeout value, meaning that reconnection is not attempted by the local client.

Default

no reconnect-timeout (infinite timeout)

Parameters

reconnect-timeout

Specifies the timeout value for the next session setup retry.

Values 10 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

reconnect-timeout

Syntax

reconnect-timeout *reconnect-timeout*

reconnect-timeout infinite

no reconnect-timeout

Context

[Tree] (config>service>vprn>l2tp>group>eth-tunnel reconnect-timeout)

Full Context

configure service vprn l2tp group eth-tunnel reconnect-timeout

Description

This command configures the number of seconds that the Ethernet tunnel client of L2TPv3 waits before attempting to re-establish a new session after a session setup fails or a session closes.

The **no** form of this command returns **reconnect-timeout** to an infinite timeout value, meaning that reconnection is not attempted by the local client.

Default

no reconnect-timeout (infinite timeout)

Parameters

reconnect-timeout

Specifies the timeout value for the next session setup retry.

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Values 10 to 3600

infinite

Specifies the timeout value for the next session setup retry.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.72 record

record

Syntax

[**no**] **record**

Context

[Tree] (config>router>mpls>lsp>primary-p2mp-instance record)

[Tree] (config>router>mpls>lsp>primary record)

[Tree] (config>router>mpls>lsp>secondary record)

[Tree] (config>router>mpls>lsp-template record)

Full Context

configure router mpls lsp primary-p2mp-instance record

configure router mpls lsp primary record

configure router mpls lsp secondary record

configure router mpls lsp-template record

Description

This command enables recording of all the hops that an LSP path traverses. Enabling **record** increases the size of the PATH and RESV refresh messages for the LSP since this information is carried end-to-end along the path of the LSP. The increase in control traffic per LSP may impact scalability.

The config>router>mpls>lsp>primary-p2mp-instance>record command is not supported on the 7450 ESS.

The **no** form of this command disables the recording of all the hops for the given LSP. There are no restrictions as to when the **no** command can be used. The **no** form of this command also disables the **record-label** command.

Default

record

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Platforms

All

record

Syntax

record

Context

[Tree] (debug>app-assure>group>traffic-capture record)

Full Context

debug application-assurance group traffic-capture record

Description

This command configures traffic recording options.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

record

Syntax

record {**all-hosts** | **http-host-app-filter-candidates**}

Context

[Tree] (debug>app-assure>group>http-host>filter record)

Full Context

debug application-assurance group http-host-recorder filter record

Description

This command configures which http-host are selected for the http-host-recorder. It is either any http-host values going through the AA ISA or the http-host corresponding to flows not matching a string based app-filter.

For the feature to work it is required to configure at least one app-filter to catch the HTTP protocol signature.

Parameters

all-hosts | http-host-app-filter-candidates

Specifies which hosts the recorder will record

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Values	all-hosts, http-host-app-filter-candidates
Default	http-host-app-filter-candidates

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

record

Syntax

[**no**] **record** *record-name*

Context

[Tree] (config>log>acct-policy record)

Full Context

configure log accounting-policy record

Description

This command adds the accounting record type to the accounting policy that is forwarded to the configured accounting file. A record name can only be used in one accounting policy. To obtain a list of all record types that can be configured, use the **show log accounting-records** command.

Note:
aa, video, and subscriber records are not applicable to the 7950 XRS.

To configure an accounting policy for access ports, select a service record (for example, service-ingress-octets). To change the record name to another service record, enter the **record** command with the new record name and it replaces the old record name.

When configuring an accounting policy for network ports, select a network record. To change the record name to another network record, enter the **record** command with the new record name and it replaces the old record name.

If the change required modifies the record from network to service or from service to network, then the old record name must be removed using the **no** form of this command.

Only one record can be configured in a single accounting policy. For example, if an accounting-policy is configured with an **access-egress-octets** record, to change it to a **service-ingress-octets** record, use the **no record** command under the accounting-policy to remove the old record first, and then enter the **service-ingress-octets** record.

Note:
Collecting excessive statistics can adversely affect the CPU utilization and take up large amounts of storage space.

The **no** form of this command removes the record type from the policy.

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Default

no record

Parameters

record-name

Specifies the accounting record name.

Platforms

All

38.73 record-label

record-label

Syntax

[**no**] **record-label**

Context

[Tree] (config>router>mpls>lsp-template record-label)

[Tree] (config>router>mpls>lsp>primary record-label)

[Tree] (config>router>mpls>lsp>secondary record-label)

Full Context

configure router mpls lsp-template record-label

configure router mpls lsp primary record-label

configure router mpls lsp secondary record-label

Description

This command enables recording of all the labels at each node that an LSP path traverses. Enabling the **record-label** command will also enable the **record** command if it is not already enabled.

The **no** form of this command disables the recording of the hops that an LSP path traverses.

Default

record-label

Platforms

All

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38.74 record-stats

record-stats

Syntax

record-stats {**delay** | **loss** | **delay-and-loss**}

no record-stats

Context

[Tree] (config>oam-pm>session>ip>twamp-light record-stats)

Full Context

configure oam-pm session ip twamp-light record-stats

Description

This option provides the ability to determine which statistics are recorded. The TWAMP-Light PDU can report on both delay and loss using a single packet. The operator may choose which statistics they would like to report. Only delay recording is on by default. All other metrics are ignored. In order to change what is being recorded and reported, the TWAMP-Light session must be shutdown. This is required because the single packet approach means the base statistics are shared between the various datasets. Issuing a **no shutdown** command clears previous all non-volatile memory for the session and allocate new memory blocks. All the parameters under this context are mutually exclusive.

The **no** version of the command restores the default "delay” only.

Default

record-stats delay

Parameters

delay

Specifies report on delay using a single packet..

loss

Specifies to report on loss using a single packet..

delay-and-loss

Specifies to report on both delay and loss using a single packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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38.75 recovery

recovery

Syntax

[**no**] **recovery**

Context

[Tree] (debug>router>l2tp>assignment-id>event recovery)

[Tree] (debug>router>l2tp>tunnel>event recovery)

[Tree] (debug>router>l2tp>group>event recovery)

[Tree] (debug>router>l2tp>event recovery)

[Tree] (debug>router>l2tp>peer>event recovery)

Full Context

debug router l2tp assignment-id event recovery

debug router l2tp tunnel event recovery

debug router l2tp group event recovery

debug router l2tp event recovery

debug router l2tp peer event recovery

Description

This command configures L2TP LAC state recovery event debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.76 recovery-failed

recovery-failed

Syntax

[**no**] **recovery-failed**

Context

[Tree] (debug>router>l2tp>peer>event recovery-failed)

[Tree] (debug>router>l2tp>group>event recovery-failed)

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[Tree] (debug>router>l2tp>assignment-id>event recovery-failed)

[Tree] (debug>router>l2tp>tunnel>event recovery-failed)

[Tree] (debug>router>l2tp>event recovery-failed)

Full Context

debug router l2tp peer event recovery-failed

debug router l2tp group event recovery-failed

debug router l2tp assignment-id event recovery-failed

debug router l2tp tunnel event recovery-failed

debug router l2tp event recovery-failed

Description

This command configures L2TP LAC state recovery failed event debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.77 recovery-max-session-lifetime

recovery-max-session-lifetime

Syntax

recovery-max-session-lifetime *minutes*

no recovery-max-session-lifetime

Context

[Tree] (config>service>vprn>l2tp>failover recovery-max-session-lifetime)

[Tree] (config>router>l2tp>failover recovery-max-session-lifetime)

Full Context

configure service vprn l2tp failover recovery-max-session-lifetime

configure router l2tp failover recovery-max-session-lifetime

Description

This command configures the sub-set of sessions that this system attempts to synchronize in the Session State Synchronization phase as described in RFC 4951, *Fail Over Extensions for Layer 2 Tunneling Protocol (L2TP)*.

The **no** form of this command reverts to the default.

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Default

recovery-max-session-lifetime 2

Parameters

minutes

Specifies the sub-set of sessions to recover.

Values 2 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.78 recovery-method

recovery-method

Syntax

recovery-method *method*

no recovery-method

Context

[Tree] (config>service>vprn>l2tp>group>failover recovery-method)

[Tree] (config>service>vprn>l2tp>failover recovery-method)

[Tree] (config>router>l2tp>failover recovery-method)

[Tree] (config>router>l2tp>group>tunnel>failover recovery-method)

[Tree] (config>router>l2tp>group>failover recovery-method)

[Tree] (config>service>vprn>l2tp>group>tunnel>failover recovery-method)

Full Context

configure service vprn l2tp group failover recovery-method

configure service vprn l2tp failover recovery-method

configure router l2tp failover recovery-method

configure router l2tp group tunnel failover recovery-method

configure router l2tp group failover recovery-method

configure service vprn l2tp group tunnel failover recovery-method

Description

This command sets the recovery method to be used for newly created tunnels.

The **no** form of this command reverts to the default.

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Default

recovery-method mcs on config>router>l2tp>failover and config>service>vprn>l2tp>failover

recovery-method default on config>router>l2tp>group>failover

recovery-method default on config>router>l2tp>group>tunnel>failover

recovery-method default on config>service>vprn>l2tp>group>failover

recovery-method default on config>service>vprn>l2tp>group>tunnel>failover

Parameters

method

Describes how a pair of redundant LAC peers recover tunnel and session state (sequence numbers, for example) immediately after a failover.

Note:
While failover is enabled, the tunnels and sessions proper are always kept synchronized between the redundant pair, regardless of the recovery method for the sequence numbers when a failover really occurs.

Values **mcs** — Specifies that the stateful information is recovered from the failover peer directly, using Multi-Chassis Redundancy Synchronization (MCS).

recovery-tunnel — Specifies that the stateful information is recovered as described in RFC 4951, *Fail Over Extensions for Layer 2 Tunneling Protocol (L2TP)*. This method uses a recovery tunnel to the L2TP peer to pass the stateful information.

default — Specifies that the actual value must be derived from another object of the same type with a wider scope. Takes the value of the next higher level (not available in **config>router>l2tp>failover** and **config>service>vprn>l2tp>failover**).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.79 recovery-time

recovery-time

Syntax

recovery-time *seconds*

no recovery-time

Context

[Tree] (config>service>vprn>l2tp>group>tunnel>failover recovery-time)

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[Tree] (config>service>vprn>l2tp>group>failover recovery-time)

[Tree] (config>service>vprn>l2tp>failover recovery-time)

[Tree] (config>router>l2tp>group>tunnel>failover recovery-time)

[Tree] (config>router>l2tp>failover recovery-time)

[Tree] (config>router>l2tp>group>failover recovery-time)

Full Context

configure service vprn l2tp group tunnel failover recovery-time

configure service vprn l2tp group failover recovery-time

configure service vprn l2tp failover recovery-time

configure router l2tp group tunnel failover recovery-time

configure router l2tp failover recovery-time

configure router l2tp group failover recovery-time

Description

This command sets the recovery time to be negotiated via RFC 4951. It represents the extra time this L2TP peer (LAC or LNS) needs to recover all its tunnels.

The **no** form of this command reverts to the default.

Default

recovery-time 0 on config>router>l2tp>failover and config>service>vprn>l2tp>failover

Parameters

seconds

Specifies the period, expressed in seconds, an endpoint asks its peer to wait before assuming the recovery process has failed.

Values 0 to 900

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

38.80 red

red

Syntax

red [**detail**]

no red

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Context

[Tree] (debug>service>id>pim-snooping red)

Full Context

debug service id pim-snooping red

Description

This command enables or disables debugging for PIM messages sent to the standby CPM.

Parameters

detail

Displays detailed debugging information

Platforms

All

red

Syntax

[**no**] **red** [**detail**]

Context

[Tree] (debug>router>pim red)

Full Context

debug router pim red

Description

This command enables debugging for PIM redundancy messages to the standby CPM.

The **no** form of this command disables debugging for PIM redundancy messages to the standby CPM.

Parameters

detail

Displays detailed redundancy information.

Platforms

All

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red

Syntax

red [**detail**]

no red

Context

[Tree] (debug>router>pcep>pcc>conn red)

[Tree] (debug>router>pcep>pcc red)

Full Context

debug router pcep pcc connection red

debug router pcep pcc red

Description

This command enables debugging for PCC or connection redundancy events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCC or connection redundancy events.

Platforms

All

red

Syntax

red [**detail**]

no red

Context

[Tree] (debug>router>pcep>pce red)

[Tree] (debug>router>pcep>pce>conn red)

Full Context

debug router pcep pce red

debug router pcep pce connection red

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Description

This command enables debugging for PCE or connection redundancy events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCE or connection redundancy events.

Platforms

VSR-NRC

38.81 red-alarm-threshold

red-alarm-threshold

Syntax

red-alarm-threshold *percentage*

no red-alarm-threshold

Context

[Tree] (config>port>access>ingress>pool red-alarm-threshold)

[Tree] (config>port>network>egress>pool red-alarm-threshold)

[Tree] (config>port>access>egress>pool red-alarm-threshold)

Full Context

configure port access ingress pool red-alarm-threshold

configure port network egress pool red-alarm-threshold

configure port access egress pool red-alarm-threshold

Description

This command configures the threshold for the red alarm on the over-subscription allowed.

Users can selectively enable amber or red alarm thresholds. But if both are enabled (non-zero), the amber alarm threshold cannot be more than the red alarm threshold.

The **no** form of this command reverts to the default value.

Default

no red-alarm-threshold

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Parameters

percentage

Specifies the red alarm threshold.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

red-alarm-threshold

Syntax

red-alarm-threshold *percentage*

no red-alarm-threshold

Context

[Tree] (config>card>fp>ingress>network>pool red-alarm-threshold)

Full Context

configure card fp ingress network pool red-alarm-threshold

Description

This command configures the threshold for the red alarm on the over-subscription allowed.

Users can selectively enable amber or red alarm thresholds. But if both are enabled (non-zero) then the red alarm threshold must be greater than the amber alarm threshold.

The **no** form of this command reverts to the default value.

Default

no amber-alarm-threshold

Parameters

percentage

Specifies the red alarm threshold.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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38.82 red-source-list

red-source-list

Syntax

red-source-list

Context

[Tree] (config>service>vprn>mvpn red-source-list)

Full Context

configure service vprn mvpn red-source-list

Description

This command enables context to configure list of redundant source prefixes for preferred source selection.

Platforms

All

38.83 redelegation-timer

redelegation-timer

Syntax

redelegation-timer *seconds*

no redelegation-timer

Context

[Tree] (config>router>pcep>pcc redelegation-timer)

Full Context

configure router pcep pcc redelegation-timer

Description

This command configures the redelegation timer for PCE-initiated LSPs.

The **no** form of the command sets this value to the default.

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Default

redelegation-timer 90

Parameters

seconds

Specifies the number of seconds before the redelegation timer expires.

Values 1 to 3600

Platforms

All

38.84 redirect-https

redirect-https

Syntax

redirect-https

no redirect-https

Context

[Tree] (config>app-assure>group>http-redirect redirect-https)

Full Context

configure application-assurance group http-redirect redirect-https

Description

This command configures the http-redirect policy to redirect HTTPS sessions to the configured redirect-url.

The **no** form of this command removes the redirect-https.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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38.85 redirect-policy

redirect-policy

Syntax

redirect-policy *redirect-policy-name* [**create**]

no redirect-policy *redirect-policy-name*

Context

[Tree] (config>filter redirect-policy)

Full Context

configure filter redirect-policy

Description

This command, creates a configuration context for the specified redirect policy.

The **no** form of the command removes the redirect policy from the filter configuration only if the policy is not referenced in a filter and the filter is not in use (applied to a service or network interface).

Parameters

redirect-policy-name

Specifies the redirect policy name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes. There is no limit to the number of redirect policies that can be configured.

create

This keyword is required to create the configuration context. Once it is created, the context can be enabled with or without the **create** keyword.

Platforms

All

redirect-policy

Syntax

redirect-policy *redirect-policy-name* **destination** *ip-address*

no redirect-policy *redirect-policy-name* [**destination** *ip-address*]

Context

[Tree] (config>filter>redirect-policy-binding redirect-policy)

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Full Context

configure filter redirect-policy-binding redirect-policy

Description

This command adds the destination (specified by its IP address) of a redirect-policy (specified by its name) to the binding. An error is thrown if either the destination does not exist for the specified redirect-policy or if the redirect-policy does not exist.

The **no** form of the command removes from the binding from all the destinations of the specified redirect-policy, or only the specified destination.

Parameters

redirect-policy-name

Specifies the name of the redirect-policy (up to 32 characters) as the destination that is to be added to the binding.

ip-address

The IP address of the destination. This can be an IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d.
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

All

38.86 redirect-policy-binding

redirect-policy-binding

Syntax

redirect-policy-binding *name* [**create**]

no redirect-policy-binding *name*

Context

[Tree] (config>filter redirect-policy-binding)

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Full Context

configure filter redirect-policy-binding

Description

This command creates a redirect-policy binding (specified by its name) in case it does not exist and, enters the context associated with it. When a redirect-policy binding is created, no destination is associated to this binding by default and the binding operator is set to AND.

The **no** form of this command deletes the redirect-policy binding and all the associated configuration information.

Parameters

name

Specifies the name of the binding. Possible values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotations.

create

This keyword is required to create the binding if it does not exist. This has no effect when used with an existing binding.

Platforms

All

38.87 redirect-url

redirect-url

Syntax

redirect-url *redirect-url*

no redirect-hurl

Context

[Tree] (config>app-assure>group>http-redirect redirect-url)

Full Context

configure application-assurance group http-redirect redirect-url

Description

This command configures the http redirect URL which is the URL (page) that the user is redirected to when an HTTP redirect takes effect.

The operator can select the URL arguments to include in the redirect-url using either a specific template-id or by configuring the redirect-url using any of the supported macro substitution keywords. Only ESM and ESM-MAC sub types support $MAC, $SAP, $CID, and $RID macro substitution.

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The **no** form of this command removes the redirect-url field from the configuration.

Parameters

redirect-url

Specifies the URL of the landing page

Values **macro substitutions**:

$CATID	The category ID.
$CATNAME	The category name of the URL.
$URL	The Request-URI in the HTTP GET Request received.
$SUB	A string that represents the subscriber ID.
$IP	A string that represents the IP address of the subscriber host.
$RTRID	A string that represents the router ID.
$URLPRM	The HTTP URL parameter associated with the subscriber.
$MAC	A string that represents the MAC address of the subscriber host.
$SAP	A string that represents a SAP ID.
$CID	A string that represents the circuit-id or interface-id of the subscriber host (hexadecimal format).
$RID	A string that represents the remote-id of the subscriber host (hexadecimal format).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

38.88 redirect-vprn

redirect-vprn

Syntax

redirect-vprn

Context

[Tree] (config>router>dns redirect-vprn)

Full Context

configure router dns redirect-vprn

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Description

This command configures the DNS resolution to be resolved via VPRN. If configured, all packet URL resolution is done through a DNS server that is reachable in a VPRN. This includes packets in the global routing table.

Default

redirect-vprn

Platforms

All

38.89 redirection

redirection

Syntax

redirection *level*

no redirection

Context

[Tree] (config>system>file-trans-prof redirection)

Full Context

configure system file-transmission-profile redirection

Description

This command enables system to accept HTTP redirection response, along with the max level of redirection. The virtual router may send a new request to another server if the requested resources are not available (temporarily available to another server).

Default

no redirection

Parameters

level

Specifies the maximum level of redirection of the file transmission profile max level of HTTP redirection.

Values 1 to 8

Platforms

All

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38.90 redirection-policy

redirection-policy

Syntax

redirection-policy *policy-name*

no redirection-policy

Context

[Tree] (config>subscr-mgmt>igmp-policy redirection-policy)

Full Context

configure subscriber-mgmt igmp-policy redirection-policy

Description

This command will apply multicast redirection action to the subscriber. The redirection action along with the redirected interface (and possibly service id) is defined in the referenced policy-name. IGMP messages is redirected to an alternate interface if that alternate interface has IGMP enabled. The alternate interface does not have to have any multicast groups registered via IGMP. Currently all IGMP messages are redirected and there is no ability to selectively redirect IGMP messages based on match conditions (multicast-group address, source IP address, and so on). Multicast redirection is supported between VPRN services and also between interfaces within the Global Routing Context. Multicast Redirection is not supported between the VPRN services and the Global Routing Table (GRT).

IGMP state is maintained per subscriber host and per redirected interface. Traffic is however forwarded only on the redirected interface.

The **no** form of this command reverts to the default value.

Parameters

policy-name

Specifies the redirection policy to be applied to this host IGMP policy up to 32 characters. This is a policy defined in the **config>router>policy-option>policy-statement** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

redirection-policy

Syntax

redirection-policy *policy-name*

no redirection-policy

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Context

[Tree] (config>subscr-mgmt>mld-policy redirection-policy)

Full Context

configure subscriber-mgmt mld-policy redirection-policy

Description

This command applies multicast redirection action to the subscriber. The redirection action along with the redirected interface (and possibly service id) is defined in the referenced policy-name. MLD messages is redirected to an alternate interface if that alternate interface has MLD enabled. The alternate interface does not have to have any multicast groups registered via MLD. Currently all MLD messages are redirected and there is no ability to selectively redirect MLD messages based on match conditions (multicast-group address, source IP address, and so on). Multicast redirection is supported between VPRN services and also between interfaces within the Global Routing Context. Multicast Redirection is not supported between the VPRN services and the Global Routing Table (GRT).

MLD state is maintained per subscriber host and per redirected interface. Traffic is however forwarded only on the redirected interface.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies a redirection policy name up to 32 characters. This is a regular policy defined under the **configure>router>policy-option>policy-statement** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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39 r Commands – Part II

39.1 redirects

redirects

Syntax

redirects [*number seconds*]

no redirects

Context

[Tree] (config>service>vprn>nw-if>icmp redirects)

[Tree] (config>service>vprn>if redirects)

[Tree] (config>service>ies>if>icmp redirects)

[Tree] (config>service>ies>sub-if>grp-if>icmp redirects)

[Tree] (config>service>vprn>if>icmp redirects)

[Tree] (config>service>ies>if>ipv6>icmp6 redirects)

[Tree] (config>service>vprn>if>ipv6>icmp6 redirects)

Full Context

configure service vprn network-interface icmp redirects

configure service vprn interface redirects

configure service ies interface icmp redirects

configure service ies subscriber-interface group-interface icmp redirects

configure service vprn interface icmp redirects

configure service ies interface ipv6 icmp6 redirects

configure service vprn interface ipv6 icmp6 redirects

Description

This command configures the rate for Internet Control Message Protocol (ICMP) redirect messages issued on the router interface.

When routes are not optimal on this router and another router on the same subnetwork has a better route, the router can issue an ICMP redirect to alert the sending node that a better route is available.

The **redirects** command enables the generation of ICMP redirects on the router interface. The rate at which ICMP redirects is issued can be controlled with the optional *number* and *seconds* parameters by

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indicating the maximum number of redirect messages that can be issued on the interface for a given time interval.

The **no** form of this command disables the generation of ICMP redirects on the router interface.

Default

redirects 100 10

Parameters

number

Specifies the maximum number of ICMP redirect messages to send. This parameter must be specified with the *second* parameter.

Values 10 to 1000

seconds

Specifies the time frame in seconds used to limit the *number* of ICMP redirect messages that can be issued.

Values 1 to 60

Platforms

All

- configure service vprn interface ipv6 icmp6 redirects
- configure service ies interface ipv6 icmp6 redirects
- configure service vprn interface redirects
- configure service ies interface icmp redirects
- configure service vprn network-interface icmp redirects
- configure service vprn interface icmp redirects

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface icmp redirects

redirects

Syntax

redirects [**number** *number*] [**seconds** *seconds*]

no redirects

Context

[Tree] (config>subscr-mgmt>git>ipv4>icmp redirects)

Full Context

configure subscriber-mgmt group-interface-template ipv4 icmp redirects

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Description

This command configures the ICMPv4 redirect messages that are generated when routes are not optimal on the router and the node needs to be alerted that another router on the same subnetwork has a better route available.

When disabled, ICMPv4 redirects are not generated.

The **no** form of this command disables generation of redirect messages.

Default

redirects number 100 seconds 10

Parameters

number

Specifies the number of ICMPv4 redirects that are issued in the time frame specified by the *seconds* parameter.

Values 10 to 1000

Default 100

seconds

Specifies the time, in seconds, that is used to limit the number of ICMPv4 redirects issued.

Values 1 to 60

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

redirects

Syntax

redirects [*number seconds*]

no redirects

Context

[Tree] (config>router>if>icmp redirects)

Full Context

configure router interface icmp redirects

Description

This command enables and configures the rate for ICMP redirect messages issued on the router interface.

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When routes are not optimal on this router, and another router on the same subnetwork has a better route, the router can issue an ICMP redirect to alert the sending node that a better route is available.

The **redirects** command enables the generation of ICMP redirects on the router interface. The rate at which ICMP redirects are issued can be controlled with the optional *number* and *time* parameters by indicating the maximum number of redirect messages that can be issued on the interface for a given time interval.

By default, generation of ICMP redirect messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the generation of ICMP redirects on the router interface.

Default

redirects 100 10 — Maximum of 100 redirect messages in 10 seconds.

Parameters

number

The maximum number of ICMP redirect messages to send, expressed as a decimal integer. This parameter must be specified with the *time* parameter.

Values 10 to 1000

seconds

The time frame, in seconds, used to limit the *number* of ICMP redirect messages that can be issued, expressed as a decimal integer.

Values 1 to 60

Platforms

All

redirects

Syntax

redirects [*number seconds*]

no redirects

Context

[Tree] (config>router>if>ipv6>icmp6 redirects)

Full Context

configure router interface ipv6 icmp6 redirects

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Description

This command configures the rate for ICMPv6 redirect messages. When configured, ICMPv6 redirects are generated when routes are not optimal on the router and another router on the same subnetwork has a better route to alert that node that a better route is available.

The **no** form of this command disables ICMPv6 redirects.

Default

redirects 100 10 (when IPv6 is enabled on the interface)

Parameters

number

Limits the number of redirects issued per the time frame specified in *seconds* parameter.

Values 10 to 1000

seconds

Determines the time frame, in seconds, that is used to limit the number of redirects issued per time frame.

Values 1 to 60

Platforms

All

39.2 redistribute-delay

redistribute-delay

Syntax

redistribute-delay *redistribute-delay*

no redistribute-delay

Context

[Tree] (config>router>ospf>timers redistribute-delay)

[Tree] (config>router>ospf3>timers redistribute-delay)

Full Context

configure router ospf timers redistribute-delay

configure router ospf3 timers redistribute-delay

Description

This command sets the internal OSPF hold down timer for external routes being redistributed into OSPF.

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Shorting this delay can speed up the advertisement of external routes into OSPF but can result in additional OSPF messages if that source route is not yet stable.

The **no** form of this command resets the timer value back to the default value.

Note:
The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

redistribute-delay 1000

Parameters

redistribute-delay

Specifies the OSPF redistribution hold down time in milliseconds for external routes being advertised into OSPF.

Values 0 to 1000

Platforms

All

39.3 redistribute-external

redistribute-external

Syntax

[**no**] **redistribute-external**

Context

[Tree] (config>service>vprn>ospf3>area>nssa redistribute-external)

[Tree] (config>service>vprn>ospf>area>nssa redistribute-external)

Full Context

configure service vprn ospf3 area nssa redistribute-external

configure service vprn ospf area nssa redistribute-external

Description

This command enables the redistribution of external routes into the Not So Stubby Area (NSSA) or an NSSA area border router (ABR) that is exporting the routes into non-NSSA areas.

NSSA or Not So Stubby Areas are similar to stub areas in that no external routes are imported into the area from other OSPF areas. The major difference between a stub area and an NSSA is that the NSSA

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has the capability to flood external routes that it learns (providing it is an ASBR) throughout its area and via an ABR to the entire OSPF domain.

The **no** form of this command disables the default behavior to automatically redistribute external routes into the NSSA area from the NSSA ABR.

Default

redistribute-external — External routes are redistributed into the NSSA.

Platforms

All

redistribute-external

Syntax

[**no**] **redistribute-external**

Context

[Tree] (config>router>ospf3>area>nssa redistribute-external)

[Tree] (config>router>ospf>area>nssa redistribute-external)

Full Context

configure router ospf3 area nssa redistribute-external

configure router ospf area nssa redistribute-external

Description

This command enables the redistribution of external routes into the Not So Stubby Area (NSSA) or an NSSA area border router (ABR) that is exporting the routes into non-NSSA areas.

NSSA or Not So Stubby Areas are similar to stub areas in that no external routes are imported into the area from other OSPF or OSPF3 areas. The major difference between a stub area and an NSSA is that the NSSA has the capability to flood external routes that it learns (providing it is an ASBR) throughout its area and via an Area Border Router to the entire OSPF or OSPF3 domain.

The **no** form of this command disables the default behavior to automatically redistribute external routes into the NSSA area from the NSSA ABR.

Default

redistribute-external

Platforms

All

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39.4 redo

redo

Syntax

redo [*count*]

Context

[Tree] (candidate redo)

Full Context

candidate redo

Description

This command reapplies the changes to the candidate that were removed using a previous undo. All undo or redo history is lost when the operator exits **edit-cfg** mode.

A **redo** command is blocked if another user has made changes in the same CLI branches that would be impacted during the redo.

Parameters

count

Specifies the number of previous changes to reapply.

Values 1 to 50

Default 1

Platforms

All

39.5 reduced-prompt

reduced-prompt

Syntax

reduced-prompt [*no-of-nodes-in-prompt*]

no reduced-prompt

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Context

[Tree] (environment reduced-prompt)

Full Context

environment reduced-prompt

Description

This command configures the maximum number of higher CLI context levels to display in the CLI prompt for the current CLI session. This command is useful when configuring features that are several node levels deep, causing the CLI prompt to become too long. By default, the CLI prompt displays the system name and the complete context in the CLI.

The number of *nodes* specified indicates the number of higher-level contexts that can be displayed in the prompt. For example, if reduced prompt is set to 2, the two highest contexts from the present working context are displayed by name with the hidden (reduced) contexts compressed into a ellipsis ("…").

```
A:ALA-1>environment# reduced-prompt 2
A:ALA-1>config>router# interface to-103
A:ALA-1>...router>if#
```

The setting is not saved in the configuration. It must be reset for each CLI session or stored in an **exec** script file.

The **no** form of the command reverts to the default.

Default

no reduced-prompt

Parameters

no-of-nodes-in-prompt

Specifies the maximum number of higher-level nodes displayed by name in the prompt, expressed as a decimal integer.

Values 0 to 15

Default 2

Platforms

All

39.6 redundancy

redundancy

Syntax

redundancy

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Context

[Tree] (config redundancy)

Full Context

configure redundancy

Description

This command allows the user to perform redundancy operations.

Associated commands include the following in the **admin>redundancy** context:

- **force-switchover** - Forces a switchover to the standby CPM card.
- **now** - Switch to standby CPM.

  Switching to the standby displays the following message.

  ```
  WARNING: Configuration and/or Boot options may have changed since the last save.

  Are you sure you want to switchover (y/n)?
  ```
- **synchronize** - Synchronizes the secondary CPM.

Platforms

All

redundancy

Syntax

redundancy

Context

[Tree] (admin redundancy)

Full Context

admin redundancy

Description

Commands in this context allow the user to perform redundancy operations.

Platforms

All

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redundancy

Syntax

redundancy

Context

[Tree] (config>service>ies>sub-if>wlan-gw redundancy)

Full Context

configure service ies subscriber-interface wlan-gw redundancy

Description

Commands in this context configure WLAN-GW redundancy-related parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

redundancy

Syntax

redundancy

Context

[Tree] (config>router>nat>inside redundancy)

[Tree] (config>service>vprn>nat>inside redundancy)

[Tree] (config>service>vprn>nat>outside>pool redundancy)

Full Context

configure router nat inside redundancy

configure service vprn nat inside redundancy

configure service vprn nat outside pool redundancy

Description

Commands in this context configure redundancy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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redundancy

Syntax

redundancy {**active-active** | **active-standby** | **l2aware-bypass**}

no redundancy

Context

[Tree] (config>isa>nat-group redundancy)

Full Context

configure isa nat-group redundancy

Description

This command configures intra-chassis redundancy mode for the NAT group.

Default

redundancy active-standby

Parameters

active-active

Specifies the mode in which all MS-ISAs in a NAT group are active. If one or two MS-ISAs in the system fail, the remaining active MS-ISA accepts the load from the failed MS-ISAs.

active-standby

Specifies the mode in which one or more MS-ISAs in the NAT group are in standby mode. While in standby mode, MS-ISAs do not process traffic. Traffic is diverted to the standby MS-ISA only when the active MS-ISA fails, at which point the standby becomes active.

l2-aware-bypass

Specifies that when an ISA MDA fails, NAT reroutes its traffic based on the regular destination address lookup. This resiliency mode is applicable only to L2-Aware NAT. When the MS-ISA fails, its traffic is routed via regular routing (destination-based lookup). The assumption is that traffic is sent to an external NAT device that serves as a backup NAT device.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

redundancy

Syntax

redundancy

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Context

[Tree] (config>router>nat>outside>pool redundancy)

Full Context

configure router nat outside pool redundancy

Description

Commands in this context configure NAT pool redundancy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

redundancy

Syntax

redundancy

Context

[Tree] (config>eth-cfm redundancy)

Full Context

configure eth-cfm redundancy

Description

Commands in this context configure the ETH-CFM redundancy parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.7 redundant-interface

redundant-interface

Syntax

redundant-interface *red-ip-int-name*

no redundant-interface

Context

[Tree] (config>service>vprn>sub-if>grp-if redundant-interface)

[Tree] (config>service>ies>sub-if>grp-if redundant-interface)

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Full Context

configure service vprn subscriber-interface group-interface redundant-interface

configure service ies subscriber-interface group-interface redundant-interface

Description

This command configures a redundant interface used for dual homing.

Parameters

red-ip-int-name

Specifies the redundant IP interface name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

redundant-interface

Syntax

redundant-interface *ip-int-name* [**create**]

no redundant-interface *ip-int-name*

Context

[Tree] (config>service>vprn redundant-interface)

[Tree] (config>service>ies redundant-interface)

Full Context

configure service vprn redundant-interface

configure service ies redundant-interface

Description

This command configures a redundant interface.

Parameters

ip-int-name

Specifies the name of the IP interface. Interface names can be from 1 to 32 alphanumeric characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

Keyword used to create a redundant interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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redundant-interface

Syntax

redundant-interface service *service-id* **name** *interface-name*

no redundant-interface

Context

[Tree] (config>subscr-mgmt>up-resiliency>fsg-template redundant-interface)

Full Context

configure subscriber-mgmt up-resiliency fate-sharing-group-template redundant-interface

Description

This command configures downstream traffic shunting from a standby BNG-UP to an active BNG-UP. Downstream traffic that is received for standby sessions is sent over the redundant interface to the active BNG-UP. This requires the configuration of the **multi-chassis-shunt-id** command in the service that receives the session traffic.

The **no**form of the command removes the configuration.

Parameters

service-id

Specifies the name of the VPRN or IES service that contains the redundant interface, up to 64 characters. This can be different from the service where session traffic is terminated.

interface-name

Specifies the redundant interface name, up to 32 characters. It must exist within the configured *service-id*.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.8 redundant-mcast-capacity

redundant-mcast-capacity

Syntax

redundant-mcast-capacity *primary-percentage* **secondary** *secondary-percentage*

no redundant-mcast-capacity

Context

[Tree] (config>mcast-mgmt>chassis-level>plane-capacity redundant-mcast-capacity)

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Full Context

configure mcast-management chassis-level per-mcast-plane-capacity redundant-mcast-capacity

Description

This command configures the primary and secondary multicast plane capacities used when the full complement of possible switch fabrics in the system are up. The rates are defined as a percentage of the total multicast plane capacity which is configured using the **total-capacity** command.

The **no** form of this command reverts to the default values.

Default

redundant-mcast-capacity 87.50 secondary 87.50

Parameters

primary-percentage

Specifies the percentage of the total multicast plane capacity to be used for primary multicast planes.

Values 0.01 to 100

secondary-percentage

Specifies the percentage of the total multicast plane capacity to be used for secondary multicast planes.

Values 0.01 to 100

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

39.9 redundant-multicast

redundant-multicast

Syntax

[**no**] **redundant-multicast**

Context

[Tree] (config>router>igmp>if redundant-multicast)

Full Context

configure router igmp interface redundant-multicast

Description

This command configures the interface as a member of a redundant pair for multicast traffic.

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The **no** form of the command removes the configuration.

Platforms

All

39.10 ref-aa-specific-counter

ref-aa-specific-counter

Syntax

ref-aa-specific-counter any

no ref-aa-specific-counter

Context

[Tree] (config>log>acct-policy>cr ref-aa-specific-counter)

Full Context

configure log accounting-policy custom-record ref-aa-specific-counter

Description

This command enables the use of significant-change so only those aa-specific records which have changed in the last accounting interval are written.

The **no** form of this command disables the use of significant-change so all aa-specific records are written whether or not they have changed within the last accounting interval.

Parameters

any

Indicates that a record is collected as long as any field records activity when non-zero significant-change value is configured.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.11 ref-order

ref-order

Syntax

ref-order *first second* [*third* [*fourth* [*fifth* [*sixth*]]]]

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no ref-order

Context

[Tree] (config>system>sync-if-timing ref-order)

Full Context

configure system sync-if-timing ref-order

Description

The synchronous equipment timing subsystem can lock to different timing reference inputs, those specified in the **ref1**, **ref2**, **bits**, **synce**, **ptp**, and **gnss** command configuration. This command organizes the priority order of the timing references.

If a reference source is disabled, then the clock from the next reference source as defined by **ref-order** is used. If all reference sources are disabled, then clocking is derived from a local oscillator.

If a **sync-if-timing** reference is linked to a source port that is operationally down, the port is no longer qualified as a valid reference.

For 7450 ESS and 7750 SR systems with two CPM modules, the system distinguishes between the BITS inputs on the active and standby CPMs. The active CPM will use its BITS input port providing that port is qualified. If the local port is not qualified, then the active CPM will use the BITS input port from the standby CPM as the next priority reference. For example, the normal **ref-order** of **bits ref1 ref2** will actually be **bits** (active CPM), followed by **bits** (standby CPM), followed by **ref1**, followed by **ref2**.

For 7950 XRS systems with two CPMs and two CCMs, the system distinguishes between the BITS inputs on the CCMs associated with the active and standby CPMs. The active CPM will use the BITS input port on the associated CCM, provided that the port is qualified. If the local port is not qualified, then the active CPM will use the BITS input port from the CCM associated with the standby CPM as the next priority reference. For example, the normal ref-order of **bits ref1 ref2** will actually be **bits** (active CCM), followed by **bits** (standby CCM), followed by **ref1**, followed by **ref2**.

The SyncE/1588 port of the CPM or CCM can be used as a frequency input reference. It shares internal resources with the BITS input ports and so only one can be used at a time. The BITS port shall have priority, if BITS input is enabled, then the SyncE port cannot be enabled.

Similar to the BITS input ports, when the **synce** reference is enabled and in the **ref-order**, the system distinguishes between the **synce** inputs on the active and standby CPM/CCMs. The active CPM/CCM uses its **synce** input port if that port is qualified. If the local port is not qualified, the active CPM uses the synce input port from the standby CPM/CCM as the next priority reference. For example, the **ref-order** of **synce ref1 ref2** will actually be synce (active CPM/CCM), followed by **synce** (standby CPM/CCM), followed by **ref1**, followed by **ref2**.

The **no** form of the command resets the reference order to the default values.

Default

bits synce ref1 ref2 ptp gnss (7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1-x-48D, 7750 SR-1-x-92S, 7750 SR-1se, 7750 SR-2se)

bits synce ref1 ref2 ptp (7750 SR-7, 7750 SR-12 and 7750 SR-12e with CPM-5, 7950 XRS-20, 7950 XRS-20e, 7750 SR-7s, 7750 SR-14s, 7450 ESS-7, 7450 ESS-12)

bits ref1 ref2 ptp (7750 SR-a4/8, 7750 SR-1e, 7750 SR-2e, 7750 SR-3e, 7750 SR-1, 7750 SR-1s, 7750 SR-2s)

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Parameters

first

Specifies the first timing reference to use in the reference order sequence.

Values ref1, ref2, bits, ptp, synce, gnss

second

Specifies the second timing reference to use in the reference order sequence.

Values ref1, ref2, bits, ptp, synce, gnss

third

Specifies the third timing reference to use in the reference order sequence.

Values ref1, ref2, bits, ptp, synce, gnss

fourth

Specifies the fourth timing reference to use in the reference order sequence.

Values ref1, ref2, bits, ptp, synce, gnss

fifth

Specifies the fifth timing reference to use in the reference order sequence.

Values ref1, ref2, bits, ptp, synce, gnss

sixth

Specifies the sixth timing reference to use in the reference order sequence.

Values ref1, ref2, bits, ptp, synce, gnss

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.12 ref-policer

ref-policer

Syntax

ref-policer *policer-id*

ref-policer all

no ref-policer

Context

[Tree] (config>log>acct-policy>cr ref-policer)

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Full Context

configure log accounting-policy custom-record ref-policer

Description

This command creates a policer context to configure reference policer counters for significant change only reporting. The custom record is only generated when the change in the sum of all queue and policer reference counters equals or exceeds the configured (non-zero) significant change value.

The **no** form of this command deletes all policer reference counters.

Default

no ref-policer

Parameters

policer-id

Specifies the policer for which reference counters are configured and to which **significant-change** is applied.

Values 1 to 63

all

Applies the **significant-change** to the specified counters for all policers.

Platforms

All

39.13 ref-queue

ref-queue

Syntax

ref-queue *queue-id*

ref-queue all

no ref-queue

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr ref-queue)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue

Description

This command configures a reference queue.

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The **no** form of this command reverts to the default value.

Parameters

queue-id

Specifies the reference queue ID.

Values 1 to 32

all

Includes all reference queue IDs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ref-queue

Syntax

ref-queue *queue-id*

ref-queue all

no ref-queue

Context

[Tree] (config>log>acct-policy>cr ref-queue)

Full Context

configure log accounting-policy custom-record ref-queue

Description

This command creates a queue context to configure reference queue counters for significant change only reporting. The custom record is only generated when the change in the sum of all queue and policer reference counters equals or exceeds the configured (non-zero) significant change value.

The **no** form of this command deletes all queue reference counters.

Default

no ref-queue

Parameters

queue-id

Specifies the queue for which reference counters are configured and to which the **significant-change** is applied.

Values 1 to 32

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all

Applies the **significant-change** to the specified counters for all queues.

Platforms

All

39.14 ref1

ref1

Syntax

ref1

Context

[Tree] (config>system>sync-if-timing ref1)

Full Context

configure system sync-if-timing ref1

Description

Commands in this context configure parameters for the first timing reference.

The restrictions on the location for the source port or source bits for **ref1** and **ref2** are listed in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide*.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ref1

Syntax

ref1

Context

[Tree] (conf>sys>sat>eth-sat>sync-if-timing ref1)

Full Context

configure system satellite eth-sat sync-if-timing ref1

Description

Commands in this context configure parameters for the first timing reference used in the ethernet satellite.

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The source ports for ref1 can be either uplinks or client ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.15 ref2

ref2

Syntax

ref2

Context

[Tree] (config>system>sync-if-timing ref2)

Full Context

configure system sync-if-timing ref2

Description

Commands in this context configure parameters for the second timing reference. There are restrictions on the source-port and source-bits locations for **ref2** based on the platform. The restrictions on the location for the source-port or source-bits for **ref1** and **ref2** are listed in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide*.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ref2

Syntax

ref2

Context

[Tree] (conf>sys>sat>eth-sat>sync-if-timing ref2)

Full Context

configure system satellite eth-sat sync-if-timing ref2

Description

Commands in this context configure parameters for the second timing reference used in the ethernet satellite.

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The source ports for ref2 can be either uplinks or client ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.16 reference-bandwidth

reference-bandwidth

Syntax

reference-bandwidth *bandwidth-in-kbps*

reference-bandwidth [**zbps** *Zetta-bps*] [**ebps** *Exa-bps*] [**pbps** *Peta-bps*] [**tbps** *Tera-bps*] [**gbps** *Giga-bps*] [**mbps** *Mega-bps*] [**kbps** *Kilo-bps*]

no reference-bandwidth

Context

[Tree] (config>service>vprn>isis reference-bandwidth)

Full Context

configure service vprn isis reference-bandwidth

Description

This command configures the reference bandwidth that provides the basis of bandwidth relative costing.

In order to calculate the lowest cost to reach a specific destination, each configured level on each interface must have a cost. If the reference bandwidth is defined, then the cost is calculated using the following formula:

cost = reference – bandwidth # bandwidth

If the reference bandwidth is configured as 10 Gigabits (10,000,000,000), a 100 M/bps interface has a default metric of 100. In order for metrics in excess of 63 to be configured, wide metrics must be deployed. (See **wide-metrics-only** in the **config>router>isis** context.)

If the reference bandwidth is not configured, all interfaces have a default metric of 10.

The **no** form of this command reverts to the default value.

Default

no reference-bandwidth — No reference bandwidth is defined. All interfaces have a metric of 10.

Parameters

Zetta-bps

Specifies the reference bandwidth in zettabits per second, expressed as a decimal integer.

Values 1 to 18

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Exa-bps

Specifies the reference bandwidth in exabits per second, expressed as a decimal integer.

Values 1 to 999

Peta-bps

Specifies the reference bandwidth in petabits per second, expressed as a decimal integer.

Values 1 to 999

bandwidth-in-kbps

Specifies the reference bandwidth in kilobits per second, expressed as a decimal integer.

Values 1 to 18446744073709551615

Tera-bps

Specifies the reference bandwidth in terabits per second, expressed as a decimal integer.

Values 1 to 999

Giga-bps

Specifies the reference bandwidth in gigabits per second, expressed as a decimal integer.

Values 1 to 999

Mega-bps

Specifies the reference bandwidth in megabits per second, expressed as a decimal integer.

Values 1 to 999

Kilo-bps

Specifies the reference bandwidth in kilobits per second, expressed as a decimal integer.

Values 1 to 999

Platforms

All

reference-bandwidth

Syntax

reference-bandwidth *bandwidth-inkbps*

reference-bandwidth [**zbps** *Zetta-bps*] [**ebps** *Exa-bps*] [**pbps** *Peta-bps*] [**tbps** *Tera-bps*] [**gbps** *Giga-bps*] [**mbps** *Mega-bps*] [**kbps** *Kilo-bps*]

no reference-bandwidth

Context

[Tree] (config>service>vprn>ospf3 reference-bandwidth)

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[Tree] (config>service>vprn>ospf reference-bandwidth)

Full Context

configure service vprn ospf3 reference-bandwidth

configure service vprn ospf reference-bandwidth

Description

This command configures the reference bandwidth in kilobits per second (kb/s) that provides the reference for the default costing of interfaces based on their underlying link speed.

The default interface cost is calculated as follows:

cost = reference–bandwidth # bandwidth

The default *reference-bandwidth* is 100,000,000 kb/s or 100 Gb/s, so the default auto-cost metrics for various link speeds are as follows:

- 10 Mb/s link default cost of 10000
- 100 Mb/s link default cost of 1000
- 1 Gb/s link default cost of 100
- 10 Gb/s link default cost of 10
- 40 Gb/s link default cost of 2
- 100 Gb/s link default cost of 1
- 400 Gb/s link default cost of 1

Note:
The default **reference-bandwidth** value must be manually configured to a higher value if interface speeds are greater than 100 Gb/s, and metrics based on link speed are used. When the default **reference-bandwidth** value is used, a metric of 1 is set on all interface speeds ≥ 100 Gb/s. For example, 100 GE, 100 GE LAG, 400 GE, and 400 GE LAG interfaces will all have a metric of 1.

If the reference bandwidth is configured as 10 Gb (reference-bandwidth 10000000000), a 100 Mb/s interface has a default metric of 100.

When a very large reference bandwidth value is configured, a metric calculation may result in a value higher than the supported protocol cost value. If this occurs, OSPF automatically reverts to the maximum configurable cost metric.

The reference-bandwidth command assigns a default cost to the interface based on the interface speed. To override this default cost on a particular interface, use the **metric** *metric* command configured in the **config>router>ospf>area>if** *ip-int-name* context.

The **no** form of this command reverts the reference bandwidth to the default value.

Default

reference-bandwidth 100000000

Parameters

bandwidth-in-kbps

Specifies the reference bandwidth in kilobits per second expressed as a decimal integer.

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Values 1 to 4000000000

tbps Tera-bps

Specifies the reference bandwidth in terabits per second expressed as a decimal integer.

Values 1 to 4

gbps *Giga-bps*

Specifies the reference bandwidth in gigabits per second expressed as a decimal integer.

Values 1 to 999

mbps *Mega-bps*

Specifies the reference bandwidth in megabits per second expressed as a decimal integer.

Values 1 to 999

kbps *Kilo-bps*

Specifies the reference bandwidth in kilobits per second expressed as a decimal integer.

Values 1 to 999

Platforms

All

reference-bandwidth

Syntax

reference-bandwidth *bandwidth-in-kbps*

reference-bandwidth [**zbps** *Zetta-bps*] [**ebps** *Exa-bps*] [**pbps** *Peta-bps*] [**tbps** *Tera-bps*] [**gbps** *Giga-bps*] [**mbps** *Mega-bps*] [**kbps** *Kilo-bps*]

no reference-bandwidth

Context

[Tree] (config>router>isis reference-bandwidth)

Full Context

configure router isis reference-bandwidth

Description

This command configures the reference bandwidth that provides the basis of bandwidth relative costing.

To calculate the lowest cost to reach a specific destination, each configured level on each interface must have a cost. If the reference bandwidth is defined, then the cost is calculated using the following formula:

cost = reference-bandwidth # bandwidth

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If the reference bandwidth is configured as 10 Gb (**reference-bandwidth** 10000000000), a 100 Mb/s interface has a default metric of 100. To configure metrics in excess of 63, wide metrics must be deployed (see **wide-metrics-only** in the **config>router>isis** context).

When a large **reference-bandwidth** value is configured, a metric calculation may result in a value higher than the supported protocol cost value. If this occurs, IS-IS automatically reverts to the maximum configurable cost metric.

If the reference bandwidth is not configured, then all interfaces have a default metric of 10.

The **no** form of this command reverts to the default value.

Default

no reference-bandwidth

Parameters

bandwidth-in-kbps

Specifies the reference bandwidth in kilobits per second, expressed as a decimal integer.

Values 1 to 18446744073709551615

Zetta-bps

Specifies the reference bandwidth in zettabits per second, expressed as a decimal integer.

Values 1 to 18

Exa-bps

Specifies the reference bandwidth in exabits per second, expressed as a decimal integer.

Values 1 to 999

Peta-bps

Specifies the reference bandwidth in petabits per second, expressed as a decimal integer.

Values 1 to 999

Tera-bps

Specifies the reference bandwidth in terabits per second, expressed as a decimal integer.

Values 1 to 999

Giga-bps

Specifies the reference bandwidth in gigabits per second, expressed as a decimal integer.

Values 1 to 999

Mega-bps

Specifies the reference bandwidth in megabits per second, expressed as a decimal integer.

Values 1 to 999

Kilo-bps

Specifies the reference bandwidth in kilobits per second, expressed as a decimal integer.

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Values 1 to 999

Platforms

All

reference-bandwidth

Syntax

reference-bandwidth *bandwidth-in-kbps*

reference-bandwidth [**zbps** *Zetta-bps*] [**ebps** *Exa-bps*] [**pbps** *Peta-bps*] [**tbps** *Tera-bps*] [**gbps** *Giga-bps*] [**mbps** *Mega-bps*] [**kbps** *Kilo-bps*]

no reference-bandwidth

Context

[Tree] (config>router>ospf reference-bandwidth)

[Tree] (config>router>ospf3 reference-bandwidth)

Full Context

configure router ospf reference-bandwidth

configure router ospf3 reference-bandwidth

Description

This command configures the reference bandwidth in kilobits per second (kb/s) that provides the reference for the default costing of interfaces based on their underlying link speed.

The default interface cost is calculated as follows:

cost = reference-bandwidth # bandwidth

The default *reference-bandwidth* is 100,000,000 kb/s or 100 Gb/s, the default auto-cost metrics for various link speeds are as follows:

- 10 Mb/s link default cost of 10000
- 100 Mb/s link default cost of 1000
- 1 Gb/s link default cost of 100
- 10 Gb/s link default cost of 10
- 100 Gb/s link default cost of 1
- 400 Gb/s link default cost of 1

Note:
The default reference-bandwidth must be manually configured to a higher value if interface speeds are greater than 100 Gb/s, and metrics based on link speed are used. When the default reference-bandwidth is used, a metric of 1 is set on all interface speeds ≥ 100 Gb/s. For example, 100 GE, 100 GE LAG, 400 GE, and 400 GE LAG interfaces will all have a metric of 1.

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If the reference bandwidth is configured as 10 Gb (reference-bandwidth 10000000000), a 100 Mb/s interface has a default metric of 100.

When a very large reference bandwidth value is configured, a metric calculation may result in a value higher than the supported protocol cost value. If this occurs, OSPF automatically reverts to the maximum configurable cost metric.

The **reference-bandwidth** command assigns a default cost to the interface based on the interface speed. To override this default cost on a particular interface, use the **metric** *metric* command configured in the **config>router>ospf>area>interface** *ip-int-name* context.

The **no** form of this command reverts to the default value.

Default

reference-bandwidth 100000000

Parameters

bandwidth-in-kbps

Specifies the reference bandwidth in kilobits per second, expressed as a decimal integer.

Values 1 to 18446744073709551615

Zetta-bps

Specifies the reference bandwidth in zettabits per second, expressed as a decimal integer.

Values 1 to 18

Exa-bps

Specifies the reference bandwidth in exabits per second, expressed as a decimal integer.

Values 1 to 999

Peta-bps

Specifies the reference bandwidth in petabits per second, expressed as a decimal integer.

Values 1 to 999

Tera-bps

Specifies the reference bandwidth in terabits per second, expressed as a decimal integer.

Values 1 to 999

Giga-bps

Specifies the reference bandwidth in gigabits per second, expressed as a decimal integer.

Values 1 to 999

Mega-bps

Specifies the reference bandwidth in megabits per second, expressed as a decimal integer.

Values 1 to 999

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Kilo-bps

Specifies the reference bandwidth in kilobits per second, expressed as a decimal integer.

Values 1 to 999

Platforms

All

39.17 reflect-pad

reflect-pad

Syntax

[**no**] **reflect-pad**

Context

[Tree] (config>oam-pm>session>mpls>dm reflect-pad)

Full Context

configure oam-pm session mpls dm reflect-pad

Description

This command enables copying the padding in each MPLS-DM query to the response.

When padding is included in the DM frame the option exists to reflect the padding back in the direction of the source or remove the padding. The removal of the pad-tlv is good practice when using unidirectional tunnels such as RSVP.

This command uses the mandatory TLV type 0, instructing the responder to include the pad TLV from the response. The no form of this command uses the optional TVL type 128, instructing the responder to remove the pad TLV from the response.

The **no** form of this command disables copying the padding in each MPLS-DM query to the response.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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39.18 reflector

reflector

Syntax

reflector [**udp-port** *udp-port-number*] [**create**]

no reflector

Context

[Tree] (config>router>twamp-light reflector)

[Tree] (config>service>vprn>twamp-light reflector)

Full Context

configure router twamp-light reflector

configure service vprn twamp-light reflector

Description

This command configures a TWAMP Light session reflector parameters and to enable TWAMP Light functionality with the **no shutdow**n command. The **udp-port** keyword and value must be specified with the **create** keyword. An error message is generated if the specific UDP port is unavailable.

Parameters

udp-port-number

Specifies the UDP port number. A strictly enforced restricted range has been introduced. The TWAMP Light session reflector must be brought in line with this new restriction prior upgrading or rebooting from any previous release if there is an active TWAMP Light session reflector configured. Failure to do so prevents an ISSU operation from proceeding and fails to activate any reflector outside of the enforced range.

Note that in the Two-Way Active Measurement Protocol Light (TWAMP Light) section for a complete description. This parameter is required and specifies the destination udp-port that the session reflector uses to listen for TWAMP Light packets. The session controller launching the TWAMP Light packets must be configured with the same destination UDP port as part of the TWAMP Light test. The IES service uses the destination UDP port that is configured under the **router** context. Only one UDP port can be configured per unique context.

Values 862, 64364 to 64373

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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reflector

Syntax

[**no**] **reflector** *reflector-name*

Context

[Tree] (config>bfd>seamless-bfd reflector)

Full Context

configure bfd seamless-bfd reflector

Description

This command specifies the seamless BFD reflector.

The **no** form of this command removes the context.

Parameters

reflector-name

Specifies the reflector name, up to 32 characters.

Platforms

All

39.19 refresh-reduction

refresh-reduction

Syntax

[**no**] **refresh-reduction**

Context

[Tree] (config>router>rsvp>interface refresh-reduction)

Full Context

configure router rsvp interface refresh-reduction

Description

This command enables the use of the RSVP overhead refresh reduction capabilities on this RSVP interface.

When this option is enabled, a node will enable support for three capabilities. It will accept bundles RSVP messages from its peer over this interface, it will attempt to perform reliable RSVP message delivery to

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its peer, and will use summary refresh messages to refresh path and resv states. The reliable message delivery must be explicitly enabled by the user after refresh reduction is enabled. The other two capabilities are enabled immediately.

A bundle message is intended to reduce overall message handling load. A bundle message consists of a bundle header followed by one or more bundle sub-messages. A sub-message can be any regular RSVP message except another bundle message. A node will only process received bundled RSVP messages but will not generate them.

When reliable message delivery is supported by both the node and its peer over the RSVP interface, an RSVP message is sent with a message_id object. A message_id object can be added to any RSVP message when sent individually or as a sub-message of a bundled message.

if the sender sets the ack_desired flag in the message_id object, the receiver acknowledges the receipt of the RSVP message by piggy-backing a message_ack object to the next RSVP message it sends to its peer. Alternatively, an ACK message can also be used to send the message_ack object. In both cases, one or many message_ack objects could be included in the same message.

The router supports the sending of separate ACK messages only but is capable of processing received message_ack objects piggy-backed to hop-by-hop RSVP messages, such as path and resv.

The router sets the ack_desired flag only in non-refresh RSVP messages and in refresh messages which contain new state information.

A retransmission mechanism based on an exponential backoff timer is supported in order to handle unacknowledged message_id objects. The RSVP message with the same message_id is retransmitted every 2 * rapid-retransmit-time interval of time. The rapid-retransmit-time is referred to as the rapid retransmission interval as it must be smaller than the regular refresh interval configured in the **config>router>rsvp>refresh-time** context. There is also a maximum number of retransmissions of an unacknowledged RSVP message rapid-retry-limit. The node will stop retransmission of unacknowledged RSVP messages whenever the updated backoff interval exceeds the value of the regular refresh interval or the number of retransmissions reaches the value of the rapid-retry-limit parameter, whichever comes first. These two parameters are configurable globally on a system in the **config>router>rsvp** context.

Refresh summary consists of sending a summary refresh message containing a message_id list object. The fields of this object are populated each with the value of the message_identifier field in the message_id object of a previously sent individual path or resv message. The summary refresh message is sent every refresh regular interval as configured by the user using the refresh-time command in the **config>router>rsvp** context. The receiver checks each message_id object against the saved path and resv states. If a match is found, the state is updated as if a regular path or resv refresh message was received from the peer. If a specific message_identifier field does not match, then the node sends a message_id_nack object to the originator of the message.

The above capabilities are referred to collectively as "refresh overhead reduction extensions”. When the refresh-reduction is enabled on an RSVP interface, the node indicates this to its peer by setting a "refresh-reduction-capable” bit in the flags field of the common RSVP header. If both peers of an RSVP interface set this bit, all the above three capabilities can be used. Furthermore, the node monitors the settings of this bit in received RSVP messages from the peer on the interface. As soon as this bit is cleared, the router stops sending summary refresh messages. If a peer did not set the "refresh-reduction-capable” bit, a node does not attempt to send summary refresh messages.

However, if the peer did not set the "refresh-reduction-capable” bit, a node, with refresh reduction enabled and reliable message delivery enabled, will still attempt to perform reliable message delivery with this peer. If the peer does not support the message_id object, it returns an error message "unknown object class”. In this case, the node retransmits the RSVP message without the message_id object and reverts to using this method for future messages destined to this peer. The RSVP Overhead Refresh Reduction is supported

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with both RSVP P2P LSP path and the S2L path of an RSVP P2MP LSP instance over the same RSVP instance.

The **no** form of this command reverts to the default value.

Default

no refresh-reduction

Platforms

All

39.20 refresh-reduction-over-bypass

refresh-reduction-over-bypass

Syntax

refresh-reduction-over-bypass [**enable** | **disable**]

Context

[Tree] (config>router>rsvp refresh-reduction-over-bypass)

Full Context

configure router rsvp refresh-reduction-over-bypass

Description

This command enables the refresh reduction capabilities over all bypass tunnels originating on this PLR node or terminating on this Merge Point (MP) node.

By default, this is disabled. Since a bypass tunnel may merge with the primary LSP path in a node downstream of the next-hop, there is no direct interface between the PLR and the MP node and it is possible the latter will not accept summary refresh messages received over the bypass.

When disabled, the node as a PLR or MP will not set the "Refresh-Reduction-Capable” bit on RSVP messages pertaining to LSP paths tunneled over the bypass. It will also not send Message-ID in RSVP messages. This effectively disables summary refresh.

Default

refresh-reduction-over-bypass disable

Platforms

All

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39.21 refresh-time

refresh-time

Syntax

refresh-time *seconds*

no refresh-time

Context

[Tree] (config>router>rsvp refresh-time)

Full Context

configure router rsvp refresh-time

Description

The **refresh-time** controls the interval (in s), between the successive Path and Resv refresh messages. RSVP declares the session down after it misses **keep-multiplier** *number* consecutive refresh messages.

The **no** form of this command reverts to the default value.

Default

refresh-time 30

Parameters

seconds

The refresh time in s.

Values 1 to 65535

Platforms

All

refresh-time

Syntax

refresh-time *seconds* **hold-time** *seconds*

no refresh-time

Context

[Tree] (config>router>origin-validation>rpki-session refresh-time)

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Full Context

configure router origin-validation rpki-session refresh-time

Description

This command is used to configure the **refresh-time** and **hold-time** intervals that are used for liveness detection of the RPKI-Router session. The **refresh-time** defaults to 300 seconds and is reset whenever a Reset Query PDU or Serial Query PDU is sent to the cache server. When the timer expires, a new Serial Query PDU is sent with the last known serial number.

The **hold-time** specifies the length of time in seconds that the session is to be considered UP without any indication that the cache server is alive and reachable. The timer defaults to 600 seconds and must be at least 2x the refresh-time (otherwise the CLI command is not accepted). Reception of any PDU from the cache server resets the hold timer. When the **hold-time** expires, the session is considered to be DOWN and the stale timer is started.

Default

no refresh-time

Parameters

seconds

Specifies a time in seconds.

Values 30 to 32767

seconds

Specifies a time in seconds.

Values 60 to 65535

Platforms

All

39.22 refresh-timer

refresh-timer

Syntax

refresh-timer *value*

no refresh-timer

Context

[Tree] (config>service>epipe>spoke-sdp>control-channel-status refresh-timer)

[Tree] (config>service>vpls>spoke-sdp>control-channel-status refresh-timer)

[Tree] (config>service>cpipe>spoke-sdp>control-channel-status refresh-timer)

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Full Context

configure service epipe spoke-sdp control-channel-status refresh-timer

configure service vpls spoke-sdp control-channel-status refresh-timer

configure service cpipe spoke-sdp control-channel-status refresh-timer

Description

This command configures the refresh timer for control channel status signaling packets. By default, no refresh packets are sent.

Default

no refresh-timer

Parameters

value

Specifies the refresh timer value, in seconds.

Values 10 to 65535

Default 0 (off)

Platforms

All

- configure service epipe spoke-sdp control-channel-status refresh-timer
- configure service vpls spoke-sdp control-channel-status refresh-timer

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp control-channel-status refresh-timer

refresh-timer

Syntax

refresh-timer *value*

no refresh-timer

Context

[Tree] (config>service>ies>if>spoke-sdp>control-channel-status refresh-timer)

Full Context

configure service ies interface spoke-sdp control-channel-status refresh-timer

Description

This command configures the refresh timer for control channel status signaling packets. By default, no refresh packets are sent.

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Default

no refresh-timer

Parameters

value

Specifies the refresh timer value.

Values 10 to 65535 seconds

Default 0 (off)

Platforms

All

refresh-timer

Syntax

refresh-timer *value*

no refresh-timer

Context

[Tree] (config>service>vprn>if>spoke-sdp>control-channel-status refresh-timer)

[Tree] (config>service>vprn>red-if>spoke-sdp>control-channel-status refresh-timer)

Full Context

configure service vprn interface spoke-sdp control-channel-status refresh-timer

configure service vprn redundant-interface spoke-sdp control-channel-status refresh-timer

Description

This command configures the refresh timer for control channel status signaling packets. By default, no refresh packets are sent.

Default

no refresh-timer

Parameters

value

Specifies the refresh timer value.

Values 10 to 65535 seconds

Default 0 (off)

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Platforms

All

- configure service vprn interface spoke-sdp control-channel-status refresh-timer

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp control-channel-status refresh-timer

refresh-timer

Syntax

refresh-timer *seconds*

no refresh-timer

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>control-channel-status refresh-timer)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>control-channel-status refresh-timer)

Full Context

configure mirror mirror-dest spoke-sdp control-channel-status refresh-timer

configure mirror mirror-dest remote-source spoke-sdp control-channel-status refresh-timer

Description

This command configures the refresh timer for control channel status signaling packets. By default, no refresh packets are sent.

Parameters

seconds

Specifies the refresh timer value.

Values 10 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.23 register

register

Syntax

register [**group** *grp-ip-address*] [**source** *ip-address*] [**detail**]

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no register

Context

[Tree] (debug>router>pim register)

Full Context

debug router pim register

Description

This command enables debugging for PIM register mechanism.

The **no** form of this command disables debugging for PIM register mechanism.

Parameters

grp-ip-address

Debugs information associated with the specified PIM register.

Values multicast group address (ipv4, ipv6)

ip-address

Debugs information associated with the specified PIM register.

Values source address (ipv4, ipv6)

detail

Debugs detailed register information.

Platforms

All

39.24 register-message

register-message

Syntax

[**no**] **register-message** {*ip-address* | *ipv6-address*}

Context

[Tree] (config>service>vprn>pim>src-address register-message)

[Tree] (config>router>pim>src-address register-message)

Full Context

configure service vprn pim source-address register-message

configure router pim source-address register-message

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Description

This command configures the source IP address for PIM register messages. The IP address can be set to any unicast address, regardless of whether it resides on the node. Ensure that the specified IP address is configured on the router as a loopback or interface IP address.

The **no** form of this command removes the IP address. By default, when no IP address is specified for the PIM instance, the source IP address for register messages is selected by choosing the smallest IP address from available interfaces on the node.

Parameters

ip-address | *ipv6-address*

Specifies the source IPv4 or IPv6 address, up to 64 characters.

Platforms

All

39.25 registrant-sm

registrant-sm

Syntax

[**no**] **registrant-sm**

Context

[Tree] (debug>service>id>mrp registrant-sm)

Full Context

debug service id mrp registrant-sm

Description

This command enables debugging of the registrant state machine.

The **no** form of this command disables debugging of the registrant state machine.

Platforms

All

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39.26 reinit-delay

reinit-delay

Syntax

reinit-delay *time*

no reinit-delay

Context

[Tree] (config>system>lldp reinit-delay)

Full Context

configure system lldp reinit-delay

Description

This command configures the time before re-initializing LLDP on a port.

The **no** form of this command reverts to the default value.

Default

no reinit-delay

Parameters

time

Specifies the time, in seconds, before re-initializing LLDP on a port.

Values 1 to 10

Default 2

Platforms

All

39.27 reject-disabled-ncp

reject-disabled-ncp

Syntax

[**no**] **reject-disabled-ncp**

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Context

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp reject-disabled-ncp)

[Tree] (config>service>vprn>l2tp>group>ppp reject-disabled-ncp)

[Tree] (config>router>l2tp>group>tunnel>ppp reject-disabled-ncp)

[Tree] (config>router>l2tp>group>ppp reject-disabled-ncp)

Full Context

configure service vprn l2tp group tunnel ppp reject-disabled-ncp

configure service vprn l2tp group ppp reject-disabled-ncp

configure router l2tp group tunnel ppp reject-disabled-ncp

configure router l2tp group ppp reject-disabled-ncp

Description

This command forces an LCP Protocol Reject when receiving an IPv6CP Configure Request message whenIPv6 is not configured.

By default, an IPv6CP Configure Request message is silently ignored when IPv6 is not configured.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

reject-disabled-ncp

Syntax

[**no**] **reject-disabled-ncp**

Context

[Tree] (config>subscr-mgmt>ppp-policy reject-disabled-ncp)

Full Context

configure subscriber-mgmt ppp-policy reject-disabled-ncp

Description

This command forces an LCP Protocol Reject when receiving an IPv6CP Configure Request message while IPv6 is not configured or when receiving an IPv4CP Configure Request message and no local IPv4 address is assigned.

By default, an IPv4CP/IPv6CP Configure Request message is silently ignored when IPv4/IPv6 is not configured.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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39.28 relative

relative

Syntax

relative *percent*

no relative

Context

[Tree] (config>test-oam>link-meas>template>asw>thr relative)

[Tree] (config>test-oam>link-meas>template>sw>thr relative)

Full Context

configure test-oam link-measurement measurement-template aggregate-sample-window threshold relative

configure test-oam link-measurement measurement-template sample-window threshold relative

Description

This command configures the percentage value of change, positive or negative, compared to the previously reported measurement. If this percentage value is reached in either direction, the new value is conveyed to the routing engine for further handling and stored as the delay measurement last reported. If the percentage value is not configured, this threshold is disabled.

The **no** form of this command reverts to the default value.

Default

relative 0

Parameters

percent

Specifies the percentage of change.

A value of 0 (zero) indicates no relative thresholding is performed when considering report to the routing engine.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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39.29 relay

relay

Syntax

[**no**] **relay**

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 relay)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 relay)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6 relay)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6 relay)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay

configure service vprn subscriber-interface ipv6 dhcp6 relay

configure service ies subscriber-interface ipv6 dhcp6 relay

Description

Commands in this context configure DHCPv6 relay parameters for this interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.30 relay-plain-bootp

relay-plain-bootp

Syntax

[**no**] **relay-plain-bootp**

Context

[Tree] (config>service>ies>if>dhcp relay-plain-bootp)

[Tree] (config>service>vprn>if>dhcp relay-plain-bootp)

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Full Context

configure service ies interface dhcp relay-plain-bootp

configure service vprn interface dhcp relay-plain-bootp

Description

This command enables the relaying of plain BOOTP packets.

The **no** form of this command disables the relaying of plain BOOTP packets.

Platforms

All

relay-plain-bootp

Syntax

[**no**] **relay-plain-bootp**

Context

[Tree] (config>router>if>dhcp relay-plain-bootp)

Full Context

configure router interface dhcp relay-plain-bootp

Description

This command enables the relaying of plain BOOTP packets.

The **no** form of this command disables the relaying of plain BOOTP packets.

Default

no relay-plain-bootp

Platforms

All

39.31 relay-proxy

relay-proxy

Syntax

relay-proxy [**release-update-src-ip**] [**siaddr-override** *ip-address*] [**allow-forcerenew-without-lease**]

no relay-proxy

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Context

[Tree] (config>service>ies>sub-if>dhcp relay-proxy)

[Tree] (config>service>ies>sub-if>grp-if>dhcp relay-proxy)

[Tree] (config>service>vprn>if>dhcp relay-proxy)

[Tree] (config>service>vprn>sub-if>dhcp relay-proxy)

[Tree] (config>service>ies>if>dhcp relay-proxy)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp relay-proxy)

Full Context

configure service ies subscriber-interface dhcp relay-proxy

configure service ies subscriber-interface group-interface dhcp relay-proxy

configure service vprn interface dhcp relay-proxy

configure service vprn subscriber-interface dhcp relay-proxy

configure service ies interface dhcp relay-proxy

configure service vprn subscriber-interface group-interface dhcp relay-proxy

Description

This command enables the DHCPv4 relay proxy function on the interface. The command has no effect when no DHCP servers are configured (DHCPv4 relay not configured). By default, unicast DHCPv4 release messages are forwarded transparently.

A relay proxy enhances the relay so that it also relays unicast client DHCPv4 REQUEST messages (lease renewals):

- In the upstream direction, update the source IP address and add the gateway IP address (gi-address) field before sending the message to the intended DHCP server (the message is not broadcasted to all configured DHCP servers.
- In the downstream direction, remove the gi-address and update the destination IP address to the address of the `yiaddr` (your IP address) field.

The optional **release-update-src-ip** parameter updates the source IP address of a DHCP RELEASE message with the address used for relayed DHCPv4 messages.

The optional **siaddr-override** *ip-address* parameter enables DHCP server IP address hiding toward the client. This parameter requires that **lease-populate** is enabled on the interface. The DHCP server IP address is required for the address hiding function and is stored in the lease state record. The client interacts with the relay proxy as if it is the DHCP server. In all DHCP messages to the client, the value of following header fields and DHCP options containing the DHCP server IP address is replaced with the configured <*ip-address*>:

- the "source IP address” field in the IP DHCPv4 packet header
- the "siaddr” field in the DHCPv4 header if not equal to zero in the message received from the server
- the Server Identification option (DHCPv4 option 54) if present in the original server message
- the source IP address field in the IP packet header

DHCP OFFER selection during initial binding is done in the relay-proxy. Only the first DHCP OFFER message is forwarded to the client. Subsequent DHCP OFFER messages from different servers are silently dropped.

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Parameters

release-update-src-ip

Updates the source IP address of a DHCP RELEASE message with the address used for relayed DHCPv4 messages.

ip-address

Enables DHCPv4 server address hiding towards the DHCPv4 client and activates DHCPv4 OFFER selection in case multiple DHCP servers are configured. The *ip-address* can be any local address in the same routing instance. If DHCP relay lease-split is enabled, **siaddr-override** *ip-address* has priority over the **emulated-server** *ip-address* configured in the proxy-server and is used as the source IP address.

allow-forcerenew-without-lease

Keyword to forward DHCPv4 FORCERENEW messages without the corresponding lease state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface dhcp relay-proxy
- configure service ies subscriber-interface group-interface dhcp relay-proxy
- configure service vprn subscriber-interface dhcp relay-proxy
- configure service vprn subscriber-interface group-interface dhcp relay-proxy

All

- configure service vprn interface dhcp relay-proxy
- configure service ies interface dhcp relay-proxy

39.32 relay-unsolicited-cfg-attribute

relay-unsolicited-cfg-attribute

Syntax

relay-unsolicited-cfg-attribute

Context

[Tree] (config>ipsec>ike-policy relay-unsolicited-cfg-attribute)

Full Context

configure ipsec ike-policy relay-unsolicited-cfg-attribute

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Description

This command enters relay unsolicited configuration attributes context. With this configuration, the configured attributes returned from source (such as a RADIUS server) will be returned to IKEv2 remote-access tunnel client regardless if the client has requested it in the CFG_REQUEST payload.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.33 release-reason

release-reason

Syntax

[**no**] **release-reason**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes release-reason)

Full Context

configure aaa isa-radius-policy acct-include-attributes release-reason

Description

This command enables the inclusion of the release reason attributes.

The **no** form of the command excludes release reason attributes.

Default

no release-reason

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.34 release-timeout

release-timeout

Syntax

release-timeout *seconds*

no release-timeout

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Context

[Tree] (config>subscr-mgmt>pfcp-association release-timeout)

Full Context

configure subscriber-mgmt pfcp-association release-timeout

Description

This command configures the time to wait to clean up the PFCP association after administratively disabling it and requesting a shutdown to the BNG CPF. If the BNG CPF does not gracefully remove the PFCP association before the timer expires, the full association and all related sessions are forcefully removed.

The **no** form of this command reverts to the default.

Default

release-timeout 3600

Parameters

seconds

Specifies the wait time, in seconds, for cleanup of the PFCP association.

Values 30 to 3600

Note:
The PFCP protocol encoding does not allow the full range of configured values. The system automatically rounds up the configured value to the nearest value allowed by the protocol. For more information about the protocol encoding, see 3GPP TS 29.244 8.2.78.1.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.35 reliable-delivery

reliable-delivery

Syntax

[**no**] **reliable-delivery**

Context

[Tree] (config>router>rsvp>if>refresh-reduction reliable-delivery)

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Full Context

configure router rsvp interface refresh-reduction reliable-delivery

Description

This command enables reliable delivery of RSVP messages over the RSVP interface. When refresh-reduction is enabled on an interface and reliable-delivery is disabled, the router will send a message_id and not set ACK desired in the RSVP messages over the interface. The router does not expect an ACK and but will accept it if received. The node will also accept message ID and reply with an ACK when requested. In this case, if the neighbor set the "refresh-reduction-capable" bit in the flags field of the common RSVP header, the node will enter summary refresh for a specific message_id it sent regardless if it received an ACK or not to this message from the neighbor.

Finally, when 'reliable-delivery' option is enabled on any interface, RSVP message pacing is disabled on all RSVP interfaces of the system, for example, the user cannot enable the **msg-pacing** option in the **config>router>rsvp** context, and error message is returned in CLI. Conversely, when the **msg-pacing** option is enabled, the user cannot enable the reliable delivery option on any interface on this system. An error message is also generated in CLI after such an attempt.

The **no** form of this command reverts to the default value.

Default

no reliable-delivery

Platforms

All

39.36 reload

reload

Syntax

reload type {**cert** | **key** | **cert-key-pair**} *filename* **protocol** *protocol* [**key-file** *filename*]

Context

[Tree] (admin>certificate reload)

Full Context

admin certificate reload

Description

This command reloads imported certificate or key file or both at the same time. This command is typically used to update certificate or key file without shutting down **ipsec-tunnel/ipsec-gw/cert-profile/ca-profile**. Note that **type cert** and **type key** is deprecated in a future release. Use **type cert-key-pair** instead. Instead of **type cert** use **type key** instead.

- If the new file exists and valid, then for each tunnel using it:

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– If the key matches the certificate, then the new file is downloaded to the MS-ISA to be used the next time. Tunnels currently up are not affected.
– If the key does not match the certificate:
  • If **cert** and **key** configuration is used instead of **cert-profile** then the tunnel is brought down.
  • If **cert-profile** is used, then **cert-profile** is brought down. The next authentication fails while the established tunnels are not affected.

If the new file does not exists or somehow invalid (bad format, does not contain right extension, and so on), then this command will abort.

In the case of **type cert-key-pair**, if the new file does not exist or is invalid or **cert** and **key** do not match, then this command aborts with an error message.

Parameters

type

Specifies what item will be reloaded.

cert

Specifies that a certificate cache will be reloaded.

key

Specifies that a key cache will be reloaded.

cert-key-pair

Specifies that a paired certificate and key cache will be reloaded.

filename

Up to 95 characters.

protocol

Specifies which protocol the certificate will be reloaded for.

Values ipsec, tls

Platforms

All

39.37 rem-router-id

rem-router-id

Syntax

rem-router-id *ip-addr*

no rem-router-id

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Context

[Tree] (config>service>vprn>l2tp>group>l2tpv3 rem-router-id)

Full Context

configure service vprn l2tp group l2tpv3 rem-router-id

Description

This command configures the IP address that should be used within the Remote Router-ID AVP.

The **no** form of this command removes the configured IP address.

Default

no rem-router-id

Parameters

ip-addr

Specifies an IP address to be used within the Remote Router-ID AVP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.38 remark

remark

Syntax

remark

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action remark)

Full Context

configure application-assurance group policy app-qos-policy entry action remark

Description

This command configures remark action on flows matching this AQP entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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remark

Syntax

remark dscp *dscp-name*

Context

[Tree] (config>filter>ipv6-filter>entry>action remark)

[Tree] (config>filter>ipv6-filter>entry>action>extended-action remark)

[Tree] (config>filter>ip-filter>entry>action remark)

[Tree] (config>filter>ip-filter>entry>action>extended-action remark)

Full Context

configure filter ipv6-filter entry action remark

configure filter ipv6-filter entry action extended-action remark

configure filter ip-filter entry action remark

configure filter ip-filter entry action extended-action remark

Description

This command enables and configures the remarking of the DiffServ Code Points of packets matching the criteria of the IPv4/IPv6 filter policy entry, in conjunction with a PBR action. Packets are remarked regardless of QoS-based in-profile or out-of-profile classification. QoS-based DSCP remarking is overridden. If the status of the PBR target is tracked and it is down, the extended action will not be executed; otherwise, the extended action will be performed.

Parameters

dscp-name

Specifies the DSCP value to write.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

All

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39.39 remarking

remarking

Syntax

remarking [**force**]

no remarking

Context

[Tree] (config>qos>network>egress remarking)

Full Context

configure qos network egress remarking

Description

This command remarks both customer traffic and egress network IP interface traffic; VPRN customer traffic is not remarked. The remarking is based on the forwarding class to DSCP and LSP EXP bit mapping defined under the egress node of the network QoS policy.

Normally, packets that ingress on network ports have either the DSCP or, for MPLS packets, LSP EXP bit set by an upstream router. The packets are placed in the appropriate forwarding class based on the DSCP-to-forwarding class mapping or the LSP EXP-to-forwarding class mapping. The DSCP or LSP EXP bits of such packets are not altered as the packets egress this router, unless **remarking** is enabled.

Remarking can be required if this router is connected to a different DiffServ domain where the DSCP-to-forwarding class mapping is different.

Normally, no remarking is necessary when all router devices are in the same DiffServ domain.

The network QoS policy supports an egress flag that forces remarking of packets that were received on trusted IES and network IP interfaces. This provides the capability of remarking without regard to the ingress state of the IP interface on which a packet was received. The effect of the egress network remark trusted state on each type of ingress IP interface and trust state is listed in Table 107: Ingress IP Interface Type and Trust State Effect on Egress Network Remarking.

The remark trusted state has no effect on packets received on an ingress VPRN IP interface.

Table 107: Ingress IP Interface Type and Trust State Effect on Egress Network Remarking

Ingress IP Interface Type and Trust State	Egress Network IP Interface Trust Remark Disabled (Default)	Egress Network IP Interface Trust Remark Enabled
IES Non-Trusted (Default)	Egress Remarked	Egress Remarked
IES Trusted	Egress Not Remarked	Egress Remarked
VPRN Non-Trusted	Egress Remarked	Egress Remarked

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Ingress IP Interface Type and Trust State	Egress Network IP Interface Trust Remark Disabled (Default)	Egress Network IP Interface Trust Remark Enabled
VPRN Trusted (Default)	Egress Not Remarked	Egress Not Remarked
Network Non-Trusted	Egress Remarked	Egress Remarked
Network Trusted (Default)	Egress Not Remarked	Egress Remarked

The **no** form of this command resets the configuration to the default behavior.

Default

no remarking — Remarking disabled in the Network QoS policy.

Parameters

force

Specifies that all IP routed traffic egressing the associated network interface will have its EXP, DSCP, P-bit, and DE bit setting remarked as defined in the associated QoS policy. Only bit fields configured in the QoS policy will be remarked; all others will be left untouched or set based on the default if the fields were not present at ingress.

Platforms

All

39.40 remote

remote

Syntax

remote

Context

[Tree] (config>ipsec>ts-list remote)

Full Context

configure ipsec ts-list remote

Description

Commands in this context configure remote TS-list parameters. The TS-list is the traffic selector of the local system, such as TSi, when the system acts as an IKEv2 responder.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.41 remote-address

remote-address

Syntax

remote-address *ip-address*

no remote-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query remote-address)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query remote-address

Description

This command enables matching only on the tunnel that uses the specified source IP address.

The **no** form of this command disables matching on a tunnel's source IP address.

Default

no remote-address

Parameters

ip-address

Specifies the IPv4 or IPv6 remote address.

Values	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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39.42 remote-age

remote-age

Syntax

remote-age *aging-timer*

no remote-age [*aging-timer*]

Context

[Tree] (config>service>template>vpls-template remote-age)

[Tree] (config>service>vpls remote-age)

Full Context

configure service template vpls-template remote-age

configure service vpls remote-age

Description

This command specifies the aging time for remotely learned MAC addresses in the forwarding database (FDB) for the Virtual Private LAN Service (VPLS) instance.

In a VPLS service, MAC addresses are associated with a Service Access Point (SAP) or with a service destination point (SDP). MACs associated with a SAP are classified as local MACs, and MACs associated with an SDP are remote MACs.

Like in a Layer 2 switch, learned MACs can be aged out if no packets are sourced from the MAC address for a period of time (the aging time). In each VPLS service instance, there are independent aging timers for local learned MAC and remote learned MAC entries in the FDB. The **remote-age** timer specifies the aging time for remote learned MAC addresses. To reduce the amount of signaling required between switches configure this timer larger than the **local-age** timer.

The **no** form of this command returns the remote aging timer to the default value.

Default

remote-age 900

Parameters

seconds

Specifies the aging time for remote MACs expressed in seconds

Values 60 to 86400

Platforms

All

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39.43 remote-attachment-circuit

remote-attachment-circuit

Syntax

remote-attachment-circuit *ac-name* [**endpoint** *endpoint-name*] [**create**]

no remote-attachment-circuit *ac-name*

Context

[Tree] (config>service>epipe>bgp-evpn remote-attachment-circuit)

Full Context

configure service epipe bgp-evpn remote-attachment-circuit

Description

This command configures the remote attachment circuit.

The **no** form of this command disables the context.

Default

no remote-attachment-circuit

Parameters

ac-name

Specifies the name of the remote attachment circuit, up to 32 characters.

endpoint-name

Specifies the name of the endpoint, up to 32 characters.

create

Keyword used to create the remote AC.

Platforms

All

39.44 remote-gateway-address

remote-gateway-address

Syntax

remote-gateway-address [*ip-address* | *ipv6-address*]

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no remote-gateway-address

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel remote-gateway-address)

Full Context

configure router interface ipsec ipsec-tunnel remote-gateway-address

Description

This command configures the remote IPsec tunnel endpoint address.

Parameters

ip-address

Specifies a remote unicast IPv4 address, up to 64 characters.

ipv6-address

Specifies a remote unicast global unicast IPv6 address, up to 64 characters.

Platforms

VSR

39.45 remote-id

remote-id

Syntax

remote-id hex *hex-string*

remote-id string *ascii-string*

no remote-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident remote-id)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident remote-id)

Full Context

configure subscriber-mgmt local-user-db ppp host host-identification remote-id

configure subscriber-mgmt local-user-db ipoe host host-identification remote-id

Description

This command specifies the remote ID to match for a host lookup. When the LUDB is accessed using a DHCPv4 server, the SAP-ID is matched against DHCP option 82.

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Note:
This command is used only when **remote-id** is configured as one of the **match-list** parameters.

The **no** form of this command removes the remote ID from the configuration.

Parameters

hex-string

Specifies the hexadecimal format for the remote ID.

Values 0x0 to 0xFFFFFFFF (maximum 254 hex nibbles)

ascii-string

Specifies the string format for the remote ID, up to 255 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

remote-id

Syntax

remote-id mac

remote-id string *ASCII string*

no remote-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ali remote-id)

Full Context

configure subscriber-mgmt local-user-db ppp host access-loop-information remote-id

Description

This command specifies a remote-id for PPPoE hosts. A remote-id received in PPPoE tags has precedence over the LUDB specified remote ID.

The **no** form of this command reverts to the default.

Parameters

mac

Specifies MAC address of the PPPoE session as the remote ID.

ASCII string

Specifies the circuit ID as a string, up to 63 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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remote-id

Syntax

remote-id

remote-id mac

remote-id string [*string*]

no remote-id

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>option remote-id)

[Tree] (config>service>ies>if>ipv6>dhcp6>option remote-id)

[Tree] (config>service>vprn>if>ipv6>dhcp6>option remote-id)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 option remote-id

configure service ies interface ipv6 dhcp6-relay option remote-id

configure service vprn interface ipv6 dhcp6-relay option remote-id

Description

This command enables the sending of remote ID option in the DHCPv6 relay packet.

The client DHCP Unique Identifier (DUID) is used as the remote ID.

The **no** form of this command disables the sending of remote ID option in the DHCPv6 relay packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface ipv6 dhcp6 option remote-id

All

- configure service vprn interface ipv6 dhcp6-relay option remote-id
- configure service ies interface ipv6 dhcp6-relay option remote-id

remote-id

Syntax

remote-id

remote-id hex [*hex-string*]

remote-id {**mac** | **string** *string*}

no remote-id

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Context

[Tree] (config>service>ies>if>dhcp>option remote-id)

[Tree] (config>service>vprn>if>dhcp>option remote-id)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option remote-id)

[Tree] (config>service>vpls>sap>dhcp>option remote-id)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option remote-id)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option remote-id)

Full Context

configure service ies interface dhcp option remote-id

configure service vprn interface dhcp option remote-id

configure service vprn subscriber-interface group-interface dhcp option remote-id

configure service vpls sap dhcp option remote-id

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option remote-id

configure service ies subscriber-interface group-interface dhcp option remote-id

Description

This command specifies what information goes into the remote-id sub-option in the DHCP relay packet.

If disabled, the **remote-id** sub-option of the DHCP packet is left empty. When the command is configured without any parameters, it equals to the remote-id mac option.

The **no** form of this command reverts to the default.

Parameters

string

Specifies the remote-id, up to 32 characters.

hex-string

Specifies the hex value of this option.

Values 0x0 to 0xFFFFFFFF...(up to 64 hex nibbles)

mac

Specifies that the MAC address of the remote end is encoded in the sub-option.

Platforms

All

- configure service vpls sap dhcp option remote-id
- configure service vprn interface dhcp option remote-id
- configure service ies interface dhcp option remote-id

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface dhcp option remote-id
- configure service ies subscriber-interface group-interface dhcp option remote-id

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- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option remote-id

remote-id

Syntax

[**no**] **remote-id**

Context

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute remote-id)

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute remote-id)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute remote-id

configure subscriber-mgmt radius-accounting-policy include-radius-attribute remote-id

Description

This command enables the generation of the Broad Band Forum Agent-Remote-Id VSA in RADIUS request messages.

The **no** form of this command disables the generation of the Broad Band Forum Agent-Remote-Id VSA.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

remote-id

Syntax

[**no**] **remote-id**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp remote-id)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp remote-id

Description

This command enables the generation of the Broad Band Forum Agent-Remote-Id Vendor Specific AVP in Diameter NASREQ AAR messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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remote-id

Syntax

[**no**] **remote-id** *remote-id*

Context

[Tree] (debug>service>id>ppp remote-id)

Full Context

debug service id ppp remote-id

Description

This command enable PPP debug for the specified remote-id.

Multiple remote-id filters can be specified in the same debug command.

Parameters

remote-id

Specifies the remote-id in PADI.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

remote-id

Syntax

[**no**] **remote-id**

Context

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes remote-id)

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes remote-id)

Full Context

configure aaa isa-radius-policy auth-include-attributes remote-id

configure aaa isa-radius-policy acct-include-attributes remote-id

Description

This command enables the sending of remote ID option. The client DHCP Unique Identifier (DUID) is used as the remote ID.

The **no** form of the command disables the sending of remote ID option relay packet.

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Default

no remote-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

remote-id

Syntax

remote-id [{**mac** | **string** *string*}]

no remote-id

Context

[Tree] (config>router>if>dhcp>option remote-id)

Full Context

configure router interface dhcp option remote-id

Description

When enabled, the router sends the MAC address of the remote end (typically the DHCP client) in the **remote-id** suboption of the DHCP packet. This command identifies the host at the other end of the circuit. If disabled, the **remote-id** suboption of the DHCP packet will be left empty.

The **no** form of this command returns the system to the default.

Default

no remote-id

Parameters

mac

This keyword specifies the MAC address of the remote end is encoded in the suboption.

string

Specifies the remote ID.

Platforms

All

remote-id

Syntax

remote-id mac

remote-id string <*string*>

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no remote-id

Context

[Tree] (config>service>vpls>sap>dhcp6>ldra>options remote-id)

Full Context

configure service vpls sap dhcp6 ldra options remote-id

Description

This command configures the information for the remote ID suboption in the DHCP6 LDRA.

The **no** form of this command reverts to the default.

Default

no remote-id

Parameters

mac

Sets the enterprise number field of the Relay Agent remote ID to 6527 and configures the DHCPv6 client source MAC address as six hexadecimal numbers.

string

Sets the enterprise number field of the Relay-Agent remote ID to 6527 and configures the ASCII-encoded string using up to 32 characters.

Platforms

All

remote-id

Syntax

remote-id *action*

remote-id *action* **ascii** *ascii-string*

remote-id *action* **hex** *hex-string*

no remote-id

Context

[Tree] (config>service>vpls>sap>pppoe>intermediate-agent>bbf-vendor-specific-tag remote-id)

Full Context

configure service vpls sap pppoe intermediate-agent bbf-vendor-specific-tag remote-id

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Description

This command configures the PPPoE Intermediate Agent action on the Remote ID sub tag (User identification) in the BBF vendor specific PPPoE tag.

The **no** form of this command resets the configuration to its default.

Default

remote-id replace ascii "$MAC"

Parameters

ascii

Keyword used to specify an ASCII string as the value of the Remote ID sub-tag when replaced or inserted by the PPPoE Intermediate Agent.

ascii-string

Specifies a user-defined ASCII string, up to 63 characters. The following variables can be used in the user-defined string:

Values		
	$MAC	source MAC address of the received PADx packet
	$SAP	SAP ID where the PADx packet is received
	$SVC	service ID of the service where the PADx packet is received
	$SYS	system name of the router

hex

Keyword used to specify an hexadecimal string as the value of the Remote ID sub-tag when replaced or inserted by the PPPoE Intermediate Agent.

hex-string

Specifies a user-defined hexadecimal string.

Values 0x0 to 0xFFFFFFFF (maximum 126 hex nibbles)

action

Specifies the action

Values		
	keep	Keep the Remote ID sub-tag when present in the received packet. Do not insert a Remote ID sub-tag when not present in the received packet.
	remove	Remove the Remote ID sub-tag when present in the received packet. Do not insert a Remote ID sub-tag when not present in the received packet.
	merge	Keep the Remote ID sub-tag when present in the received packet. Insert a Remote ID sub-tag when not present in the received packet.

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replace	Replace the Remote ID sub-tag when present in the received packet. Insert a Remote ID sub-tag when not present in the received packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.46 remote-ip

remote-ip

Syntax

remote-ip *ip-address*

no remote-ip

Context

[Tree] (config>service>ies>if>sap>ip-tunnel remote-ip)

Full Context

configure service ies interface sap ip-tunnel remote-ip

Description

This command configures the primary destination IPv4 or IPv6 address to use for an IP tunnel. This configuration applies to the outer IP header of the encapsulated packets. The **source** address, **remote-ip** address and **backup-remote-ip** address of a tunnel must all belong to the same address family (IPv4 or IPv6). When the remote-ip address contains an IPv6 address it must be a global unicast address.

Default

no remote-ip

Parameters

ip-address

An IPv4 address or an IPv6 address.

Platforms

All

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remote-ip

Syntax

remote-ip *ip-address*

no remote-ip

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel remote-ip)

Full Context

configure service vprn interface sap ip-tunnel remote-ip

Description

This command sets the primary destination IPv4 address of GRE encapsulated packets associated with a particular GRE tunnel. If this address is reachable in the delivery service (there is a route) then this is the destination IPv4 address of GRE encapsulated packets sent by the delivery service.

The **no** form of this command deletes the destination address from the GRE tunnel configuration.

Parameters

ip-address

Specifies the destination IPv4 address of the GRE tunnel.

Values 1.0.0.0 to 223.255.255.255

Platforms

All

remote-ip

Syntax

remote-ip {*ip-prefix/prefix-length* | *ip-prefix netmask* | **any**}

Context

[Tree] (config>router>ipsec>sec-plcy>entry remote-ip)

[Tree] (config>service>vprn>ipsec>sec-plcy>entry remote-ip)

Full Context

configure router ipsec security-policy entry remote-ip

configure service vprn ipsec security-policy entry remote-ip

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Description

This command configures the remote (from the tunnel) IP prefix/mask for the policy parameter entry.

Only one entry is necessary to describe a potential flow. The **local-ip** and **remote-ip** commands can be defined only once. The system evaluates:

- the local IP as the source IP when traffic is examined in the direction of the flows from private to public and as the destination IP when traffic flows from public to private
- the remote IP as the source IP when traffic flows public to private and as the destination IP when traffic flows from private to public

Parameters

ip-prefix

Specifies the destination address of the aggregate route in dotted decimal notation.

Values a.b.c.d (host bits must be 0)
prefix-length 1 to 32

netmask

Specifies the subnet mask in dotted decimal notation.

any

keyword to specify that it can be any address.

Platforms

VSR

- configure router ipsec security-policy entry remote-ip

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec security-policy entry remote-ip

39.47 remote-ip-address

remote-ip-address

Syntax

remote-ip-address *ip-address*

no remote-ip-address

Context

[Tree] (config>lag>bfd>family remote-ip-address)

Full Context

configure lag bfd family remote-ip-address

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Description

This command specifies the IPv4 or IPv6 address of the BFD destination.

The **no** form of this command removes this address from the configuration.

Default

no remote-ip-address

Parameters

ip-address

Specifies the IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x:-[0 to FFFF]H
	d: [0 to 255]D

Platforms

All

39.48 remote-ip-range-start

remote-ip-range-start

Syntax

remote-ip-range-start *ip-address*

no remote-ip-range-start

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy remote-ip-range-start)

Full Context

configure isa nat-group inter-chassis-redundancy remote-ip-range-start

Description

This command configures the first IPv4 address that is assigned to a first member ISA on the remote node. The remaining member ISAs on the remote node are assigned the consecutive IP addresses starting from the first IP address. These IP addresses are used to communicate between the ISAs on redundant nodes

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for the purpose of flow synchronization. Traffic from the first local IP address (member ISA), is sent to the first IP address from the remote IP range.

Note: These IP addresses are added to the routing table under the protocol "NAT" within the routing context where they are configured. The user can then export the IP addresses into the network using routing policies to ensure reachability. These IP addresses effectively become routes with no relation to any local interface on the router.

The **no** form of this command removes the ip-address from the configuration.

Default

no remote-ip-range-start

Parameters

ip-address

Specifies the first IPv4 address, in the a.b.c.d format, from the range assigned to the first member ISA on the remote node.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.49 remote-lb-fwd-non-efm-frames

remote-lb-fwd-non-efm-frames

Syntax

[**no**] **remote-lb-fwd-non-efm-frames**

Context

[Tree] (config>port>ethernet>efm-oam remote-lb-fwd-non-efm-frames)

Full Context

configure port ethernet efm-oam remote-lb-fwd-non-efm-frames

Description

This command configures the router to forward the non-EFM frames received from the EFM peer, when in remote loopback state.

The **no** form of this command configures the router to discard all non-EFM frames, when in remote loopback state.

Default

no remote-lb-fwd-non-efm-frames

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Platforms

All

39.50 remote-lfa

remote-lfa

Syntax

remote-lfa [**max-pq-cost** *value*]

no remote-lfa

Context

[Tree] (config>router>isis>loopfree-alternates remote-lfa)

Full Context

configure router isis loopfree-alternates remote-lfa

Description

This command enables the use of the Remote LFA algorithm in the LFA SPF calculation for this ISIS instance.

The **no** form of this command disables the use of the Remote LFA algorithm in the LFA SPF calculation for this ISIS instance.

Default

no remote-lfa

Parameters

value

Specifies the integer used to limit the search of candidate P and Q nodes in the remote LFA by setting the maximum IGP cost from the router performing the remote LFA calculation to the candidate P or Q node.

Values 0 to 4294967295

Default 4261412864

Platforms

All

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remote-lfa

Syntax

remote-lfa [**max-pq-cost** *value*]

no remote-lfa

Context

[Tree] (config>router>ospf>loopfree-alternates remote-lfa)

[Tree] (config>router>ospf3>loopfree-alternates remote-lfa)

Full Context

configure router ospf loopfree-alternates remote-lfa

configure router ospf3 loopfree-alternates remote-lfa

Description

This command enables the use of the Remote LFA algorithm in the LFA SPF calculation in this OSPF or OSPF3 instance.

The **no** form of this command disables the use of the Remote LFA algorithm in the LFA SPF calculation in this OSPF or OSPF3 instance.

Default

no remote-lfa

Parameters

max-pq-cost value

Specifies the integer used to limit the search of candidate P and Q nodes in the remote LFA by setting the maximum IGP cost from the router performing the remote LFA calculation to the candidate P or Q node.

Values 0 to 4294967295

Default 4261412864

Platforms

All

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39.51 remote-max-checkpoints

remote-max-checkpoints

Syntax

remote-max-checkpoints [*number-of-files*]

no remote-max-checkpoints

Context

[Tree] (config>system>rollback remote-max-checkpoints)

Full Context

configure system rollback remote-max-checkpoints

Description

This command configures the maximum number of rollback checkpoint files when the rollback-location is remote (for example, ftp).

Default

no remote-max-checkpoints

Parameters

number of files

Specifies the maximum rollback files saved at a remote location.

Values 1 to 200

Platforms

All

39.52 remote-mepid

remote-mepid

Syntax

remote-mepid *mep-id* **remote-mac** {*unicast-da* | **default**}

no remote-mepid *mep-id*

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Context

[Tree] (config>eth-cfm>domain>assoc remote-mepid)

Full Context

configure eth-cfm domain association remote-mepid

Description

This command configures the remote MEP ID. Optionally, the operator may configure a unicast MAC address associated with the remote MEP. This unicast value replaces the default Layer 2 class 1 multicast address that is typically associated with ETH-CC packets.

Note:
This command is not supported with sub second CCM intervals. The *unicast-da* parameter may only be configured when a single remote MEP exists in the association.

The **no** form of this command removes the peer information.

Parameters

mep-id

Specifies the peer MEP ID.

Values 1 to 8191

unicast-da

Specifies the unicast MAC destination address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx or default

default — Removes the remote MAC unicast address and reverts back to class 1 multicast address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

remote-mepid

Syntax

remote-mepid *mep-id*

no remote-mepid

Context

[Tree] (config>oam-pm>session>ethernet remote-mepid)

Full Context

configure oam-pm session ethernet remote-mepid

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Description

This command specifies the remote MEP ID as an alternative to the static **dest-mac** *ieee-address*. When the **remote-mepid** option is configured as an alternative to the **dest-mac**, the domain and association information of the **source mep** within the session is used to check for a locally-stored unicast MAC address for the peer. The local MEP must be administratively enabled. Peer MEP MAC addresses are learned and maintained by the ETH-CC protocol.

The **no** form of this command removes this session parameter.

Parameters

mep-id

Specifies the remote MEP ID of the peer within the association.

Values 1 to 8191

Platforms

All

39.53 remote-name

remote-name

Syntax

remote-name *host-name*

no remote-name

Context

[Tree] (config>service>vprn>l2tp>group>tunnel remote-name)

[Tree] (config>router>l2tp>group>tunnel remote-name)

Full Context

configure service vprn l2tp group tunnel remote-name

configure router l2tp group tunnel remote-name

Description

This command configures a string to be compared to the host name used by the tunnel peer during the authentication phase of tunnel establishment.

Default

no remote-name

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Parameters

host-name

Specifies a remote host name for the tunnel, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.54 remote-port

remote-port

Syntax

remote-port *port*

no remote-port

Context

[Tree] (config>system>netconf>call-home>netconf-client remote-port)

Full Context

configure system netconf call-home netconf-client remote-port

Description

This command configures the port the NETCONF client is listening on.

The **no** form of this command disables the remote port for the NETCONF client.

Default

remote-port 4334

Parameters

port

Specifies the remote port for the NETCONF client.

Values 1 to 65535

Default 4334

Platforms

All

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39.55 remote-proxy-arp

remote-proxy-arp

Syntax

[**no**] **remote-proxy-arp**

Context

[Tree] (config>service>ies>if remote-proxy-arp)

[Tree] (config>service>vprn>if remote-proxy-arp)

[Tree] (config>service>vprn>sub-if>grp-if remote-proxy-arp)

[Tree] (config>service>ies>sub-if>grp-if remote-proxy-arp)

[Tree] (config>service>vprn>nw-if remote-proxy-arp)

Full Context

configure service ies interface remote-proxy-arp

configure service vprn interface remote-proxy-arp

configure service vprn subscriber-interface group-interface remote-proxy-arp

configure service ies subscriber-interface group-interface remote-proxy-arp

configure service vprn nw-if remote-proxy-arp

Description

This command enables remote proxy ARP on the interface.

Remote proxy ARP is similar to proxy ARP. It allows the router to answer an ARP request on an interface for a subnet that is not provisioned on that interface. This allows the router to forward to the other subnet on behalf of the requester. To distinguish remote proxy ARP from local proxy ARP, local proxy ARP performs a similar function but only when the requested IP is on the receiving interface.

The **no** form of this command reverts to the default.

Platforms

All

- configure service vprn interface remote-proxy-arp
- configure service ies interface remote-proxy-arp

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface remote-proxy-arp
- configure service vprn subscriber-interface group-interface remote-proxy-arp

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remote-proxy-arp

Syntax

[**no**] **remote-proxy-arp**

Context

[Tree] (config>subscr-mgmt>git>ipv4 remote-proxy-arp)

Full Context

configure subscriber-mgmt group-interface-template ipv4 remote-proxy-arp

Description

This command enables remote proxy ARP on the interface.

Remote proxy ARP is similar to proxy ARP. It allows the router to answer an ARP request on an interface for a subnet that is not provisioned on that interface. This allows the router to forward to the other subnet on behalf of the requester. To distinguish remote proxy ARP from local proxy ARP, local proxy ARP performs a similar function but only when the requested IP address is on the receiving interface.

The **no** form of this command disables remote proxy ARP on the interface.

Default

no remote-proxy-arp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

remote-proxy-arp

Syntax

[**no**] **remote-proxy-arp**

Context

[Tree] (config>router>if remote-proxy-arp)

Full Context

configure router interface remote-proxy-arp

Description

This command enables remote proxy ARP on the interface.

Default

no remote-proxy-arp

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Platforms

All

39.56 remote-servers

remote-servers

Syntax

remote-servers

Context

[Tree] (config>service>vprn>aaa remote-servers)

Full Context

configure service vprn aaa remote-servers

Description

Commands in this context configure AAA remote servers on the VPRN.

Platforms

All

39.57 remote-source

remote-source

Syntax

[**no**] **remote-source**

Context

[Tree] (config>mirror>mirror-dest remote-source)

Full Context

configure mirror mirror-dest remote-source

Description

This command is used on a destination router in a remote mirroring solution. The mirroring (packet copy) is performed on the source router and sent via an SDP to the destination router. Remote mirroring requires remote source configuration on the destination router.

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Remote mirroring allows a destination router to terminate SDPs from multiple remote source routers. This allows consolidation of packet sniffers or analyzers at a single or small set of points in a network (for example, a sniffer or analyze farm, or lawful interception gateway).

A **remote-source** entry must be configured on the destination router for each source router from which mirrored traffic is being sent via SDPs.

A mirror destination service that is configured for a destination router must not be configured as for a source router.

The emote source configuration is not applicable when routable LI encapsulation is being used on the mirror source router. The remote source configuration is only used when a source router is sending mirrored traffic to a destination router via SDPs.

Two types of remote-source entries can be configured:

- far end
- spoke SDP

Certain remote source types are applicable with certain SDP types. For descriptions of the command usage in the **mirror-dest** context, see the **far-end** and **spoke-sdp** commands.

The **no** form of this command removes all remote-source entries.

Platforms

All

39.58 remote-v6-ip

remote-v6-ip

Syntax

remote-v6-ip any

remote-v6-ip *ipv6-prefix/prefix-length*

no remote-v6-ip

Context

[Tree] (config>router>ipsec>sec-plcy>entry remote-v6-ip)

[Tree] (config>service>vprn>ipsec>sec-plcy>entry remote-v6-ip)

Full Context

configure router ipsec security-policy entry remote-v6-ip

configure service vprn ipsec security-policy entry remote-v6-ip

Description

This command specifies the remote v6 prefix for the security-policy entry.

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Parameters

ipv6-prefix/prefix-length

Specifies the local v6 prefix and length.

Values	ipv6-address/prefix: ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x [0 to FFFF]H
		d [0 to 255]D
		host bits must be 0
		:: not allowed
		prefix-length [1 to 28]

any

A keyword to specify that any address can be used.

Platforms

VSR

- configure router ipsec security-policy entry remote-v6-ip

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec security-policy entry remote-v6-ip

39.59 remote-ve-name

remote-ve-name

Syntax

[**no**] **remote-ve-name** *name*

Context

[Tree] (config>service>epipe>bgp-vpws remote-ve-name)

Full Context

configure service epipe bgp-vpws remote-ve-name

Description

This command creates or edits a remote-ve-name. A single remote-ve-name can be created per BGP VPWS instance if the service is single-homed or uses a single pseudowire to connect to a pair of dual-

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homed systems. When the service requires active/standby pseudowires to be created to remote dual-homed systems then two remote-ve-names must be configured.

This context defines the remote PE to which a pseudowire will be signaled.

remote-ve-name commands can be added even if bgp-vpws is not shutdown.

The **no** form of this command removes the configured remote-ve-name from the bgp vpws node. It can be used when the BGP VPWS status is either shutdown or "no shutdown".

Parameters

name

Specifies a site name up to 32 characters in length.

Platforms

All

39.60 remove

remove

Syntax

[**no**] **remove**

Context

[Tree] (config>service>vprn>bgp>attribute-set remove)

Full Context

configure service vprn bgp attribute-set remove

Description

This command configures BGP to ignore and silently discard ATTR_SETs in BGP routes received from PE-CE peers of the VPRN. The discarded ATTR_SETs do not affect BGP best-path selection in the VPRN, and they do not appear in the VPN-IP routes that result from the VRF export of the BGP routes. Nokia recommends enabling this command in most deployments.

The **no** form of this command configures BGP to ignore ATTR_SETs in BGP routes received from PE-CE peers of the VPRN without discarding them. This allows the ATTR_SETs to propagate between CE devices connected to the VPRN and to other PE devices when the BGP routes are exported as VPN-IP routes.

Note: If the configuration of this command is changed, ROUTE_REFRESH messages are sent to all PE-CE peers of the VPRN.

Default

no remove

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Platforms

All

39.61 remove-oldest

remove-oldest

Syntax

[**no**] **remove-oldest**

Context

[Tree] (config>subscr-mgmt>sla-profile>host-limits remove-oldest)

Full Context

configure subscriber-mgmt sla-profile host-limits remove-oldest

Description

This command removes the oldest subscriber host when the host limit is reached.

The **no** form of this command maintains the oldest subscriber host when the host limit is reached.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.62 remove-private

remove-private

Syntax

[**no**] **remove-private**

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy remove-private)

Full Context

configure subscriber-mgmt bgp-peering-policy remove-private

Description

This command allows private AS numbers to be removed from the AS path before advertising them to BGP peers.

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The OS software recognizes the set of AS numbers that are defined by IANA as private. These are AS numbers in the range 64512 through 65535, inclusive.

The **no** form of this command used at the global level reverts to default value.

Private AS numbers are included in the AS path attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

remove-private

Syntax

remove-private [**limited**] [**skip-peer-as**] [**replace**]

no remove-private

Context

[Tree] (config>service>vprn>bgp>group remove-private)

[Tree] (config>service>vprn>bgp>group>neighbor remove-private)

[Tree] (config>service>vprn>bgp remove-private)

Full Context

configure service vprn bgp group remove-private

configure service vprn bgp group neighbor remove-private

configure service vprn bgp remove-private

Description

When this command is configured private AS numbers are removed or replaced when they are found inside the AS path of BGP routes advertised to peers within the scope of the command.

The set of AS numbers that are defined by IANA as private are in the range of 64512 to 65534, and 4200000000 to 4294967294, inclusive. In SR OS, this command also removes ASN 65535 and ASN 4294967295, which are reserved values.

The **no** form of this command (at the BGP instance level) implements the default behavior, private AS numbers are allowed without restriction or modification in routes advertised to peers.

Default

no remove-private

Parameters

limited

This keyword instructs BGP to process private ASNs only up to the first public ASN encountered. Private ASNs beyond that first public AS will not be stripped or replaced.

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skip-peer-as

This keyword instructs BGP to not strip or replace a private ASN from the AS-Path if that ASN is the same as the BGP peer AS number.

replace

When this keyword is configured, private ASNs are not stripped. Each occurrence is replaced by the ASN of the advertising BGP router (the ASN the router advertised to its peer in its OPEN message). When the **replace** keyword is not configured, private ASNs are stripped, subject to influence by the other keyword options. This generally results in a shortening of AS_PATH length.

Platforms

All

remove-private

Syntax

remove-private [**limited**] [**skip-peer-as**] [**replace**]

no remove-private

Context

[Tree] (config>router>bgp remove-private)

[Tree] (config>router>bgp>group remove-private)

[Tree] (config>router>bgp>group>neighbor remove-private)

Full Context

configure router bgp remove-private

configure router bgp group remove-private

configure router bgp group neighbor remove-private

Description

When this command is configured private AS numbers are removed or replaced when they are found inside the AS path of BGP routes advertised to peers within the scope of the command.

The set of AS numbers that are defined by IANA as private are in the range of 64512 to 65534, and 4200000000 to 4294967294, inclusive. In SR OS, this command also removes ASN 65535 and ASN 4294967295, which are reserved values.

The **no** form of this command (at the BGP instance level) implements the default behavior, private AS numbers are allowed without restriction or modification in routes advertised to peers.

Default

no remove-private

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Parameters

limited

This keyword instructs BGP to process private ASNs only up to the first public ASN encountered. Private ASNs beyond that first public AS will not be stripped or replaced.

skip-peer-as

This keyword instructs BGP to not strip or replace a private ASN from the AS-Path if that ASN is the same as the BGP peer AS number.

replace

When this keyword is configured, private ASNs are not stripped. Each occurrence is replaced by the ASN of the advertising BGP router (the ASN the router advertised to its peer in its OPEN message). When the **replace** keyword is not configured, private ASNs are stripped, subject to influence by the other keyword options. This generally results in a shortening of AS_PATH length.

Platforms

All

39.63 renew

renew

Syntax

renew est-profile *name* **cert** *cert-filename* **key** *key-filename* [**hash-alg** *hash-algorithm*] **output** *output-cert-filename* [**validate-cert-chain**] [**force**]

Context

[Tree] (admin>certificate>est renew)

Full Context

admin certificate est renew

Description

This command renews an imported certificate (specified by the **cert** *cert-filename*) with a Certificate Authority (CA) using the EST protocol specified by the **est-profile** name, with an imported private key specified the key parameter. The key can be either the key of the certificate to be renewed or a new key.

The authentication between system and EST server is specified by the est-profile.

The **hash-alg** *hash-alorithm* parameter is used to generate the CSR (Certificate Signing Request) in the EST request message.

Parameters

name

Specifies EST profile name, up to 32 characters

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cert-filename

Specifies the certificate file name, up to 95 characters

key-filename

Specifies the file name of a key, up to 95 characters

hash-algorithm

Specifies the hash algorithm to be used in a certificate request.

Values sha1, sha224, sha256, sha384, sha512

output-cert-filename

Specifies the output cert file name, up to 200 characters

validate-cert-chain

Specifies that the the system validates the certificate chain of the result certificate before importing it

force

Specifies the system to overwrite the existing file with same **output** *output-cert-filename*

Platforms

All

39.64 renew-timer

renew-timer

Syntax

renew-timer [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no renew-timer

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ipv6-lease-times renew-timer)

[Tree] (config>router>dhcp6>server>pool>prefix renew-timer)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy renew-timer)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy-server renew-timer)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ipv6-lease-times renew-timer)

[Tree] (config>service>vprn>dhcp6>server>pool>prefix renew-timer)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-lease-times renew-timer

configure router dhcp6 local-dhcp-server pool prefix renew-timer

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server renew-timer

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configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server renew-timer

configure subscriber-mgmt local-user-db ppp host ipv6-lease-times renew-timer

configure service vprn dhcp6 local-dhcp-server pool prefix renew-timer

Description

This command configures the lease renew time (T1) via LUDB.

The T1 is the time at which the client contacts the addressing authority to extend the lifetimes of the DHCPv6 leases (addresses or prefixes). T1 is a time duration relative to the current time expressed in units of seconds.

The IP addressing authority controls the time at which the client contacts the addressing authority to extend the lifetimes on assigned addresses through the T1 and T2 parameters assigned to an IA. At time T1 for an IA, the client initiates a Renew/Reply message exchange to extend the lifetimes on any addresses in the IA. The client includes an IA option with all addresses currently assigned to the IA in its Renew message. Recommended values for T1 and T2 are .5 and .8 times the shortest preferred lifetime of the addresses in the IA that the addressing authority is willing to extend, respectively.

The configured renew timer should always be smaller than or equal to the rebind timer.

The T1 and T2 are carried in the IPv6 address option that is within the IA.

The **no** form of this command reverts to the default.

Default

renew-timer min 30

Parameters

renew-timer

Specifies the preferred lifetime.

Values	**days** *days*	0 to 7
	hrs *hours*	0 to 23
	min *minutes*	0 to 59
	sec *seconds*	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

renew-timer

Syntax

renew-timer [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no renew-timer

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Context

[Tree] (config>router>dhcp6>server>defaults renew-timer)

Full Context

configure router dhcp6 local-dhcp-server defaults renew-timer

Description

This command configures the default renew timer.

The **no** form of this command reverts to the default.

Default

renew-timer min 30

Parameters

renew-timer

Specifies the timer after which the lease is renewed.

Values	days:	0 to 7
	hours:	0 to 23
	minutes:	0 to 59
	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.65 renotify

renotify

Syntax

renotify *value*

no renotify

Context

[Tree] (config>service>vpls>mac-notification renotify)

Full Context

configure service vpls mac-notification renotify

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Description

This command controls the periodic interval at which sets of MAC notification messages are sent. At each expiration of the renotify timer, a new burst of notification messages is sent, specifically <count> frames at <interval> deci-seconds.

Default

no renotify

Parameters

value

Specifies the time interval between re-notification, in seconds

Values 240 to 840

Platforms

All

39.66 renum

renum

Syntax

renum *src-entry-id* **to** *dst-entry-id*

Context

[Tree] (config>service>mrp>mrp-policy renum)

Full Context

configure service mrp mrp-policy renum

Description

This command renumbers existing MRP policy entries to properly sequence policy entries. This may be required in some cases since the implementation exits when the first match is found and executes the actions according to the accompanying action command. This requires that entries be sequenced correctly from most to least explicit.

Parameters

src-entry-id

Specifies the entry number of an existing entry.

Values 1 to 65535

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new-entry-id

Specifies the new entry number to be assigned to the old entry. If the new entry exists, an error message is generated.

Values 1 to 65535

Platforms

All

renum

Syntax

renum *old-entry-id new-entry-id*

Context

[Tree] (config>qos>sap-ingress>ip-criteria renum)

[Tree] (config>qos>sap-ingress>ipv6-criteria renum)

[Tree] (config>qos>sap-egress>ip-criteria renum)

[Tree] (config>qos>sap-egress>ipv6-criteria renum)

[Tree] (config>qos>sap-ingress>mac-criteria renum)

Full Context

configure qos sap-ingress ip-criteria renum

configure qos sap-ingress ipv6-criteria renum

configure qos sap-egress ip-criteria renum

configure qos sap-egress ipv6-criteria renum

configure qos sap-ingress mac-criteria renum

Description

This command renumbers existing QoS policy criteria entries to properly sequence policy entries.

This can be required in some cases since the router exits when the first match is found and executes the actions in accordance with the accompanying action command. This requires that entries be sequenced correctly from most to least explicit.

Parameters

old-entry-id

Enter the entry number of an existing entry.

Values 1 to 65535

new-entry-id

Enter the new entry number to be assigned to the old entry.

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Values 1 to 65535

Platforms

All

renum

Syntax

renum *old-entry-number new-entry-number*

Context

[Tree] (config>qos>network>egress>ipv6-criteria renum)

[Tree] (config>qos>network>ingress>ipv6-criteria renum)

[Tree] (config>qos>network>egress>ip-criteria renum)

[Tree] (config>qos>network>ingress>ip-criteria renum)

Full Context

configure qos network egress ipv6-criteria renum

configure qos network ingress ipv6-criteria renum

configure qos network egress ip-criteria renum

configure qos network ingress ip-criteria renum

Description

This command renumbers existing QoS policy criteria entries to properly sequence policy entries.

This can be required in some cases since the router exits when the first match is found and executes the actions in accordance with the accompanying action command. This requires that entries be sequenced correctly from most to least explicit.

Parameters

old-entry-number

Enter the entry number of an existing entry.

Values 1 to 65535

new-entry-number

Enter the new entry number to be assigned to the old entry.

Values 1 to 65535

Platforms

All

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renum

Syntax

renum *old-entry-id new-entry-id*

Context

[Tree] (config>filter>ip-exception renum)

[Tree] (config>filter>ipv6-filter renum)

[Tree] (config>filter>ipv6-exception renum)

[Tree] (config>filter>mac-filter renum)

[Tree] (config>filter>ip-filter renum)

Full Context

configure filter ip-exception renum

configure filter ipv6-filter renum

configure filter ipv6-exception renum

configure filter mac-filter renum

configure filter ip-filter renum

Description

This command renumbers existing MAC, IPv4/IPv6, IP exception filter, or IPv6 exception filter entries to properly sequence filter entries.

This may be required in some cases since the OS exits when the first match is found and executes the actions according to the accompanying action command. This requires that entries be sequenced correctly from most to least explicit.

Parameters

old-entry-id

Specifies the entry number of an existing entry, as a decimal integer.

Values 1 to 2097151

new-entry-id

Specifies the new entry-number to be assigned to the old entry, as a decimal integer.

Values 1 to 2097151

Platforms

VSR

- configure filter ip-exception renum
- configure filter ipv6-exception renum

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All

- configure filter ip-filter renum
- configure filter ipv6-filter renum
- configure filter mac-filter renum

renum

Syntax

renum *old-entry-number new-entry-number*

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter renum)

[Tree] (config>system>security>mgmt-access-filter>ip-filter renum)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter renum)

Full Context

configure system security management-access-filter mac-filter renum

configure system security management-access-filter ip-filter renum

configure system security management-access-filter ipv6-filter renum

Description

This command renumbers existing management access filter entries for an IP(v4), IPv6, or MAC filter to re-sequence filter entries.

The exits on the first match found and executes the actions in accordance with the accompanying **action** command. This may require some entries to be re-numbered differently from most to least explicit.

Parameters

old-entry-number

Specifies the entry number of the existing entry.

Values 1 to 9999

new-entry-number

Specifies the new entry number that will replace the old entry number.

Values 1 to 9999

Platforms

All

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renum

Syntax

renum *old-entry-id new-entry-id*

Context

[Tree] (config>sys>sec>cpm>mac-filter renum)

[Tree] (config>sys>sec>cpm>ip-filter renum)

[Tree] (config>sys>sec>cpm>ipv6-filter renum)

Full Context

configure system security cpm-filter mac-filter renum

configure system security cpm-filter ip-filter renum

configure system security cpm-filter ipv6-filter renum

Description

This command renumbers existing IP(IPv4), IPv6, or MAC filter entries to re-sequence filter entries.

This may be required in some cases since the OS exits when the first match is found and execute the actions according to the accompanying action command. This requires that entries be sequenced correctly from most to least explicit.

Parameters

old-entry-id

Specifies the entry number of an existing entry.

Values 1 to 6144 for ip-filter and ipv6-filter
1 to 2048 for mac-filter

new-entry-id

Specifies the new entry number to be assigned to the old entry.

Values 1 to 6144 for ip-filter and ipv6-filter
1 to 2048 for mac-filter

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

renum

Syntax

renum *old-entry-number new-entry-number*

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Context

[Tree] (config>system>security>profile renum)

Full Context

configure system security profile renum

Description

This command renumbers profile entries to re-sequence the entries.

Since the OS exits when the first match is found and executes the actions according to accompanying action command, re-numbering is useful to rearrange the entries from most explicit to least explicit.

Parameters

old-entry-number

Enter the entry number of an existing entry.

Values 1 **to** 9999

new-entry-number

Enter the new entry number.

Values 1 **to** 9999

Platforms

All

39.67 renumber

renumber

Syntax

renumber from *entry-id* **to** *entry-id*

Context

[Tree] (config>router>policy-options>policy-statement renumber)

Full Context

configure router policy-options policy-statement renumber

Description

This command allows the operator to renumber the existing entry ID to a new entry ID. When performing the renumbering action, the two entry IDs must be different. The existing (**from**) *entry-id* must exist. The new (**to**) *entry-id* must not exist.

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Renumbering is not saved in the configuration because it is a performing action.

Parameters

from *entry-id*

Specifies the existing entry ID to be renumbered.

Values 1 to 4294967295

to *entry-id*

Specifies the new entry ID to be assigned.

Values 1 to 4294967295

Platforms

All

39.68 reorder-audio

reorder-audio

Syntax

reorder-audio *time*

no reorder-audio

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video reorder-audio)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video reorder-audio)

Full Context

configure mcast-management multicast-info-policy bundle video reorder-audio

configure mcast-management multicast-info-policy bundle channel video reorder-audio

Description

This command configures the time, in milliseconds, by which the audio packets are reordered in the ad stream.

Configuring this parameter depends on what is configured on the A Server and the GOP sizes of the network stream. Typically, this configuration should match the A Server configuration.

The **no** form of the command removes the time value from the configuration.

Default

no reorder-audio

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Parameters

time

Specifies the audio reorder time, in milliseconds.

Values 100 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-s

39.69 repair

repair

Syntax

repair [*cflash-id*]

Context

[Tree] (file repair)

Full Context

file repair

Description

This command checks a compact flash device for errors and repairs any errors found.

Parameters

cflash-id

Specifies the compact flash slot ID to be repaired. When a specific *cflash-id* is specified, that drive is repaired. If no *flash-id* is specified, the drive referred to by the current working directory is assumed. If a slot number is not specified, the active CPM is assumed.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Default the current compact flash device

Platforms

All

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39.70 repeat

repeat

Syntax

repeat *padding*

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>patt repeat)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload data-pattern repeat

Description

This command configures the data pattern padding bytes for the frames launched for the service stream.

The specified data pattern value is repeated as many times as required to fill the remaining length of the payload for the highest level of the specified PDU. If only the Ethernet and ETH-CFM information is added, the data pattern is included in the data TLV of the ETH-CFM frame.

Default

repeat 0

Parameters

padding

Specifies the data pattern to populate the payload data.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

39.71 repeated-characters

repeated-characters

Syntax

repeated-characters *count*

no repeated-characters

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Context

[Tree] (config>system>security>password>complexity-rules repeated-characters)

Full Context

configure system security password complexity-rules repeated-characters

Description

The number of times a characters can be repeated consecutively.

The **no** form of this command resets to default.

Default

no repeated-characters

Parameters

count

Specifies the minimum count of consecutively repeated characters.

Values 2 to 8

Platforms

All

39.72 replace

replace

Syntax

replace [*line*]

Context

[Tree] (candidate replace)

Full Context

candidate replace

Description

This command displays the specified line (a single line only) and allows it to be changed.

Parameters

line

Indicates which line to replace starting at the point indicated by the following options.

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Values line, offset, **first**, **edit-point**, **last**

line	absolute line number
offset	relative line number to current edit point. Prefixed with '+' or '-'
first	keyword - first line
edit-point	keyword - current edit point
last	keyword - last line that is not 'exit'

Platforms

All

39.73 replace-result-code

replace-result-code

Syntax

replace-result-code *code* [*code*]

no replace-result-code

Context

[Tree] (config>router>l2tp replace-result-code)

[Tree] (config>service>vprn>l2tp replace-result-code)

Full Context

configure router l2tp replace-result-code

configure service vprn l2tp replace-result-code

Description

This command replaces CDN Result-Code 4, 5 and 6 on LNS with the Result Code 2. This is needed for interoperability with some implementation of LAC which only takes action based on CDN Result-Code 2 while ignoring CDN Result-Code 4, 5 and 6.

Default

no replace-result-code

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Parameters

code

Specifies the L2TP Result codes that need to be replaced. Up to three codes can be specified.

Values cdn-tmp-no-facilities — CDN Result-Code 4 on LNS are replaced with the result code 2 before it is sent to LAC.

cdn-prem-no-facilities — CDN Result-Code 5 on LNS are replaced with the result code 2 before it is sent to LAC.

cdn-inv-dest — CDN Result-Code 6 on LNS are replaced with the result code 2 before it is sent to LAC.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.74 replay-protection

replay-protection

Syntax

[**no**] **replay-protection**

Context

[Tree] (config>macsec>connectivity-association replay-protection)

Full Context

configure macsec connectivity-association replay-protection

Description

Specifies the size of the replay protection window.

This command must be configured to force packet discard when it has detected a packet that is not within the replay-window-size.

When replay protection is enabled, the sequence of the ID number of the received packets are checked. If the packet arrives out of sequence and the difference between the packet numbers exceeds the replay window size, the packet is counted by the receiving port and then discarded. For example, if the replay protection window size is set to five and a packet assigned the ID of 1006 arrives on the receiving link immediately after the packet assigned the ID of 1000, the packet that is assigned the ID of 1006 is counted and discarded because it falls outside the parameters of the replay window size.

Replay protection is especially useful for fighting man-in-the-middle attacks. A packet that is replayed by a man-in-the-middle attacker on the Ethernet link will arrive on the receiving link out of sequence, so replay protection helps ensure the replayed packet is dropped instead of forwarded through the network.

Replay protection should not be enabled in cases where packets are expected to arrive out of order.

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Default

no replay-protection

Platforms

All

39.75 replay-window

replay-window

Syntax

replay-window *replay-window-size*

no replay-window

Context

[Tree] (config>ipsec>tnl-temp replay-window)

[Tree] (config>ipsec>trans-mode-prof replay-window)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel replay-window)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel replay-window)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel replay-window)

Full Context

configure ipsec tunnel-template replay-window

configure ipsec ipsec-transport-mode-profile replay-window

configure service vprn interface ipsec ipsec-tunnel replay-window

configure service vprn interface sap ipsec-tunnel replay-window

configure service ies interface ipsec ipsec-tunnel replay-window

Description

This command specifies the size of the anti-replay window. The anti-replay window protocol further secures IPsec against an entity that can inject a recorded message in a message stream from a source to a destination computer on the Internet.

Default

no replay-window

Parameters

replay-window-size

Specifies the size of the SA anti-replay window.

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Values 32, 64, 128, 256, 512

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec ipsec-transport-mode-profile replay-window
- configure service vprn interface sap ipsec-tunnel replay-window
- configure ipsec tunnel-template replay-window

VSR

- configure service vprn interface ipsec ipsec-tunnel replay-window
- configure service ies interface ipsec ipsec-tunnel replay-window

39.76 replay-window-size

replay-window-size

Syntax

replay-window-size *number-of-packet*s

no replay-window-size

Context

[Tree] (config>macsec>connectivity-association replay-window-size)

Full Context

configure macsec connectivity-association replay-window-size

Description

This command specifies the size of the replay protection window.

This command must be configured to enable replay protection. When replay protection is enabled, the sequence of the ID number of received packets are checked. If the packet arrives out of sequence and the difference between the packet numbers exceeds the replay protection window size, the packet is dropped by the receiving port. For example, if the replay protection window size is set to five and a packet assigned the ID of 1006 arrives on the receiving link immediately after the packet assigned the ID of 1000, the packet that is assigned the ID of 1006 is dropped because it falls outside the parameters of the replay protection window.

Replay protection is especially useful for fighting man-in-the-middle attacks. A packet that is replayed by a man-in-the-middle attacker on the Ethernet link will arrive on the receiving link out of sequence, so replay protection helps ensure the replayed packet is dropped instead of forwarded through the network.

Replay protection should not be enabled in cases where packets are expected to arrive out of order.

When the *number-of-packets* variable is set to 0, all packets that arrive out-of-order are dropped.

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The **no** form of this command reverts to the default value.

Default

replay-window-size 0

Parameters

number-of-packets

Specifies the window for which the packets can arrive out of order.

Values 0 to 4294967294

Platforms

All

39.77 replication-segment

replication-segment

Syntax

[**no**] **replication-segment** *policy-name*

Context

[Tree] (config>router>p2mp-sr-tree replication-segment)

Full Context

configure router p2mp-sr-tree replication-segment

Description

This command creates a P2MP SR tree replication segment entry for the P2MP LSP.

The **no** form of this command deletes the replication segment entry.

Parameters

policy-name

Specifies the P2MP policy name, up to 32 characters, associated with the forwarding instructions contained in the replication segment.

Platforms

All

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39.78 replication-sid

replication-sid

Syntax

replication-sid *label* [*label*]

no replication-sid

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls>downstream-nodes replication-sid)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls downstream-nodes replication-sid

Description

This command configures the replication SID or a SID list for the next hop of the P2MP SR tree replication segment.

When a SID list is configured, the replication SID is at the bottom of the stack and the unicast node or the adjacency SID is at the top of the stack. The SID at the top of the stack must be configured first in the list and the replication SID at the bottom of the list must be configured last in the list.

The **no** form of this command removes the replication SID.

Default

no replication-sid

Parameters

label

Specifies the label of the replication SID; up to a maximum of 11 labels.

Values 3, 16 to 1048575, 4294967295

Platforms

All

replication-sid

Syntax

replication-sid *ipv6-address*

no replication-sid

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Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>srv6>downstream-nodes replication-sid)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-v6 downstream-nodes replication-sid

Description

This command configures the outgoing replication SID for the next hop of the P2MP SR tree replication segment.

Note: Currently, the SRv6 replication SID does not support a SID list.

The **no** form of this command removes the replication SID.

Default

no replication-sid

Parameters

ipv6-address

Specifies the IPv6 replication SID, including the locator and the function. SR OS supports a 16-bit function from bit 64 to bit 80, with the locator configurable from bit 0 to 64 of the IPv6 address.

Values	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

39.79 replication-threshold

replication-threshold

Syntax

replication-threshold *seconds*

no replication-threshold

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy replication-threshold)

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Full Context

configure isa nat-group inter-chassis-redundancy replication-threshold

Description

This command configures the minimum duration of the flow that needs to be met before it is synchronized to the standby node. This way, flow synchronization and statefulness in a multi-chassis environment are limited only to long-lived flows.

The **no** form of this command reverts to the default values.

Default

replication-threshold 20

Parameters

seconds

Specifies the minimum flow existence time before it is synchronized.

Values 0 to 300

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.80 reply-on-padt

reply-on-padt

Syntax

[**no**] **reply-on-padt**

Context

[Tree] (config>subscr-mgmt>ppp-policy reply-on-padt)

Full Context

configure subscriber-mgmt ppp-policy reply-on-padt

Description

This command enables replying to PPPoE Active Discovery Terminate (PADT) packets. Some of the PPPoE clients expect reply on PADT message before the context of the session is cleared up. To support such client, a command enabling reply to PADT is provided.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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39.81 report-alarm

report-alarm

Syntax

[**no**] **report-alarm** [**ais**] [**los**] [**oof**] [**rai**] [**looped**]

Context

[Tree] (config>port>tdm>ds3 report-alarm)

[Tree] (config>port>tdm>e3 report-alarm)

Full Context

configure port tdm ds3 report-alarm

configure port tdm e3 report-alarm

Description

This command enables logging of DS-3 and E-3 alarms for a DS-3/E-3 port or channel.

The **no** form of this command disables logging of the specified alarms.

Parameters

ais

Reports alarm indication signal errors. When configured, **ais** alarms are not raised and cleared.

Default **ais** alarms are issued

los

Reports loss of signal errors. When configured, **los** traps are not raised and cleared.

Default **los** traps are issued

oof

Reports out-of-frame errors. When configured, **oof** alarms are not raised and cleared.

Default **oof** alarms are not issued

rai

Reports resource availability indicator events. When configured, **rai** events are not raised and cleared.

Default **rai** alarms are not issued

looped

Reports looped packets errors.

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Default **looped** alarms are not issued

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

report-alarm

Syntax

[**no**] **report-alarm** [**signal-fail**] [**remote**] [**local**] [**no-frame-lock**] [**high-ber**] [**no-block-lock**] [**no-am-lock**] [**duplicate-lane**]

Context

[Tree] (config>port>ethernet report-alarm)

Full Context

configure port ethernet report-alarm

Description

This command specifies when and if to generate alarms and alarm clear notifications for this port.

Note:
For some DWDM transceivers, if the **configure port dwdm coherent rx-los-reaction squelch** command is disabled the signal-fail and no-am-lock alarm conditions are not reported when the media side of the transceiver has an RX LOS condition.

Parameters

signal-fail

Reports an Ethernet signal lost alarm.

remote

Reports remote faults.

local

Reports local faults.

no-frame-lock

Reports a 'not locked on the Ethernet framing sequence' alarm.

high-ber

Reports High Bit Error Rate.

no-block-lock

Reports 40G/100G PCS Lanes Not Block Locked.

no-am-lock

Reports 40G/100G PCS Alignment Marker Loss of Lock.

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duplicate-lane

Reports 40G/100G PCS Duplicate Lane Marker.

Platforms

All

report-alarm

Syntax

report-alarm severity {**tnc** | **qos** | **poa**}

no report-alarm

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms report-alarm)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms report-alarm)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms report-alarm)

Full Context

configure mcast-management multicast-info-policy bundle video analyzer alarms report-alarm

configure mcast-management multicast-info-policy bundle channel video analyzer alarms report-alarm

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms report-alarm

Description

This command configures the type of alarm to monitor and raise through SNMP. The severity of alarms increases from TNC, to QoS, and then to POA. For example, if QoS alarms are configured, the analyzer only raises alarms and events related to QoS. The analyzer may raise alarms for POA events if they occur, but alarms for TNC are not sent.

Default

no report-alarm

Parameters

severity

Keyword to configure the type of alarm.

tnc

Specifies to monitor and raise alarms for TNC events.

qos

Specifies to monitor and raise alarms for QoS events.

poa

Specifies to monitor and raise alarms for POA events.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

39.82 report-alarms

report-alarms

Syntax

[**no**] **report-alarms** [**modflt**] [**mod**] [**netrx**] [**nettx**] [**hosttx**]

Context

[Tree] (config>port>dwdm>coherent report-alarms)

Full Context

configure port dwdm coherent report-alarms

Description

This command configures the alarms that will be reported for the coherent module.

Default

modflt mod netrx nettx hosttx

Parameters

modflt

Reports module fault alarm.

mod

Reports module alarm.

netrx

Reports network (optical side) receive alarm.

nettx

Reports network (optical side) transmit alarm.

hosttx

Reports host (electrical side) transmit alarm.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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report-alarms

Syntax

[**no**] **report-alarms** [**loc**] [**los**] [**lof**] [**lom**] [**otu-ais**] [**otu-ber-sf**] [**otu-ber-sd**] [**otu-bdi**] [**otu-tim**] [**otu-iae**] [**otu-biae**] [**fec-sf**] [**fec-sd**] [**fec-fail**] [**fec-uncorr**] [**odu-ais**] [**odu-oci**] [**odu-lck**] [**odu-bdi**] [**odu-tim**] [**opu-plm**]

Context

[Tree] (config>port>otu report-alarms)

Full Context

configure port otu report-alarms

Description

This command enables OTU alarms. Specify specific alarms to add to the list of reported alarms.

The **no** form of this command disables OTU alarm reporting.

Default

loc, los, lof, lom, otu-ber-sf, otu-bdi, fec-sf

Parameters

alarms

Refer to Table 108: Alarm Descriptions for alarm descriptions.

Table 108: Alarm Descriptions

Alarm	Description
loc	Loss of clock.
lof	Loss of OTU framing.
lom	Loss of Multi-frame.
los	Loss of signal transitions on the data.
otu-ais	OTU Alarm Indication Signal (all 1s, overwrites all OTU overhead, even framing bytes).
otu-ber-sf	SM Signal Fail (based on BPI8).
otu-ber-sd	SM Signal Degrade (based on BPI8).
otu-bdi	SM Backward defect indication.
otu-tim	SM Trace Id Mismatch.

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Alarm	Description
otu-iae	SM Incoming Alignment Error.
otu-biae	SM Backward Incoming Alignment Error.
fec-sf	Signal Fail (based on FEC corrected bits).
fec-sd	Signal Degrade (based on FEC corrected bits).
fec-fail	FEC Mode mismatch (EFEC-GFEC) or High Uncorrectable rate (>10E-2).
fec-uncorr	One or More Uncorrectable FEC errors.
odu-ais	ODU Alarm Indication Signal.
odu-oci	ODU Open connection Indication.
odu-lck	ODU Locked.
odu-bdi	PM Backward Defect indication.
odu-tim	PM Trace Id Mismatch.
opu-plm	OPU PSI Payload Type Mismatch.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

report-alarms

Syntax

[**no**] **report-alarms** [**los**] [**high-ber**] [**am-not-locked**] [**deskew-failed**] [**remote-phy-fault**]

Context

[Tree] (config>card>mda>flex>member report-alarms)

Full Context

configure card mda flex member report-alarms

Description

This command configures reporting for the FlexE member when a configured condition is met.

The **no** form of this command removes report alarms.

Default

no report-alarms

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Parameters

los

Keyword to trigger reporting when the PHY loses its signal.

high-ber

Keyword to trigger reporting when the system receives a high bit error rate (BER).

am-not-locked

Keyword to trigger reporting when the system is unable to achieve an alignment marker lock.

deskew-failed

Keyword to trigger reporting when the system is unable to deskew the PHY.

remote-phy-fault

Keyword to trigger reporting when the PHY receives reverse path forwarding (RPF).

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

report-alarms

Syntax

[**no**] **report-alarms** [**overhead-frame-not-locked**] [**deskew-failed**] [**local-phy-fault**] [**remote-phy-fault**] [**bad-group-number**] [**bad-phy-number**] [**bad-phy-instance-number**] [**flexe-map-mismatch**] [**client-calendar-error**] [**calendar-in-use-error**]

Context

[Tree] (config>card>mda>flex report-alarms)

Full Context

configure card mda flex report-alarms

Description

This command configures reporting for the MDA FlexE group where one or more instances detect a configured condition.

The **no** form of this command removes reporting for the configured condition.

Default

no report-alarms

Parameters

overhead-frame-not-locked

Keyword to trigger reporting when the group does not have overhead frame lock.

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deskew-failed

Keyword to trigger reporting when group members are not deskewed.

local-phy-fault

Keyword to trigger reporting when the system receives a local fault for PHY instances.

remote-phy-fault

Keyword to trigger reporting when the PHY receives RPF.

bad-group-number

Keyword to trigger reporting when the system receives an invalid group number for PHY instances.

am-not-locked

Keyword to trigger reporting when the system is unable to achieve an alignment marker lock.

bad-phy-number

Keyword to trigger reporting when the system receives an invalid PHY number on PHY instances.

bad-phy-instance-number

Keyword to trigger reporting when the system receives invalid PHY instance numbers.

flexe-map-mismatch

Keyword to trigger reporting when the system receives an invalid FlexE map for PHY instances.

calendar-in-use-error

Keyword to trigger reporting when the wrong calendar is in use for PHY instances.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

39.83 report-alarms-phy

report-alarms-phy

Syntax

[**no**] **report-alarms-phy** [**bad-crc**] [**bad-group-number**] [**client-calendar-error**] [**multiframe-not-locked**] [**bad-phy-number**] [**bad-phy-instance-number**] [**flexe-map-mismatch**] [**calendar-in-use-error**]

Context

[Tree] (config>card>mda>flex>member report-alarms-phy)

Full Context

configure card mda flex member report-alarms-phy

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Description

This command configures reporting when one or more PHY instances detect a configured condition.

The **no** form of this command removes reporting for the configured condition.

Default

no report-alarms-phy

Parameters

bad-crc

Keyword to trigger reporting when CRC error occurs on multiframe for PHY instances.

bad-group-number

Keyword to trigger reporting when the system receives an invalid group number for PHY instances.

client-calendar-error

Keyword to trigger reporting when the system detects the wrong calendar used for PHY instances.

multiframe-not-locked

Keyword to trigger reporting when the multiframe is not locked for PHY instances.

bad-phy-number

Keyword to trigger reporting when the system receives an invalid PHY number on PHY instances.

bad-phy-instance-number

Keyword to trigger reporting when the system receives invalid PHY instance numbers.

flexe-map-mismatch

Keyword to trigger reporting when the system receives an invalid FlexE map for PHY instances.

calendar-in-use-error

Keyword to trigger reporting when the wrong calendar is in use for PHY instances.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

39.84 report-ip-address-event

report-ip-address-event

Syntax

[**no**] **report-ip-address-event**

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Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx report-ip-address-event)

Full Context

configure subscriber-mgmt diameter-application-policy gx report-ip-address-event

Description

This command enables triggered CCR-u messages based on IP address allocation or de-allocation for the subscriber host.

If the requests for both IP address families (IPv4 and IPv6) arrive at approximately the same time, a single CCR-i is sent containing the IP addresses from both address families, IPv4 and IPv6 (NA, PD, or SLAAC). When the requests for IP addresses are not nearly simultaneous, the CCR-i contains only the IP address that was allocated first (the one that triggered the session creation). The request for the second IP address family, depending on configuration, triggers an additional CCR-u that will carry the IP address allocation update to the PCRF along with the UE_IP_ADDRESS_ALLOCATE (18) event. The CCR-u content mirrors the content of the CCR-i with the exception of already allocated IP address(es).

When this command is disabled, IP address-triggered CCR-u messages are not sent.

The **no** form of this command disables the command.

Default

report-ip-address-event

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.85 report-local-routes

report-local-routes

Syntax

[**no**] **report-local-routes**

Context

[Tree] (config>bmp>station report-local-routes)

Full Context

configure bmp station report-local-routes

Description

This command enables local route reporting to the BMP monitoring station.

The **no** form of this command disables the local route reporting.

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Platforms

All

39.86 report-path-constraints

report-path-constraints

Syntax

report-path-constraints

no report-path-constraints

Context

[Tree] (config>router>pcep>pcc report-path-constraints)

Full Context

configure router pcep pcc report-path-constraints

Description

This command enables the inclusion of LSP path constraints in the PCE report messages sent from the PCC to a PCE.

In order for the PCE to know about the original constraints for an LSP which is delegated, but for which there is no prior state in its LSP database, such as if no PCReq message was sent for the same PLSP-ID, the following proprietary behavior is observed:

- PCC appends a duplicate of each of the LSPA, METRIC, and BANDWIDTH objects in the PCRpt message. The only difference between two objects of the same type is that the P-flag is set in the common header of the duplicate object to indicate that it is a mandatory object for processing by PCE.
- The value of the metric or bandwidth in the duplicate object contains the original constraint value, while the first object contains the operational value. This is applicable to hop metrics in the METRIC and BANDWIDTH objects only. The SR OS PCC does not support configuring a boundary on the path computation IGP or TE metrics.
- The path computation on the PCE must use the first set of objects when updating a path if the PCRpt contained a single set. If the PCRpt contained a duplicate set, PCE path computation must use the constraints in the duplicate set.

The **no** form of the command disables the above behavior in case of interoperability issues with third-party PCE implementations.

Default

report-path-constraints

Platforms

All

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39.87 report-rate

report-rate

Syntax

report-rate agg-rate-limit

report-rate scheduler *scheduler-name*

report-rate pppoe-actual-rate

report-rate policer *policer-id*

report-rate rfc5515-actual-rate

no report-rate

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress report-rate)

[Tree] (config>subscr-mgmt>sla-prof>egress report-rate)

Full Context

configure subscriber-mgmt sla-profile ingress report-rate

configure subscriber-mgmt sla-profile egress report-rate

Description

This command configures the source for Tx and Rx connect speeds in AVP 38 (Rx Connect Speed) and AVP 24 (Tx Connect Speed) of an L2TP session established on a LAC.

The **no** form of this command reverts to the default.

Parameters

agg-rate-limit

Specifies that the rate (egress only) is taken from:

1. the agg-rate RADIUS override (RADIUS VSA "Alc-Subscriber-QoS-Override” in a RADIUS Access-Accept message) if present
2. the configured agg-rate-limit in the **config>subscr-mgmt>sub-prof>egr** context
3. fall back to the default (no report-rate)

scheduler-name

Specifies the rate taken from the **scheduler** *scheduler-name* up to 32 characters. If the **scheduler** *scheduler-name* is not present in the scheduler-policy configured in the **config>subscr-mgmt>sub-prof>egr** context, fall back to the default (no report-rate).

pppoe-actual-rate

Specifies rates taken from the DSL Line characteristics PPPoE tags (Actual Data Rate Upstream/Downstream) if present; otherwise fall back to the default (no report-rate).

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policer-id

Specifies the rate taken from the policer with the specified ID.

Values 1 to 63

rfc5515-actual-rate

Puts the same value as the transmitted Actual-Data-Rate-Upstream AVP in the Rx-Connect-Speed AVP, and the same value as the transmitted Actual-Data-Rate-Downstream AVP in the Tx-Connect-Speed AVP

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.88 report-src-ip

report-src-ip

Syntax

report-src-ip *ip-address*

no report-src-ip

Context

[Tree] (config>service>vpls>igmp-snooping report-src-ip)

Full Context

configure service vpls igmp-snooping report-src-ip

Description

This command configures the source IPv4 address used when generating IGMP reports. According the IGMPv3 standard, a zero source address is allowed in sending IGMP reports. However, for interoperability with some multicast routers, the source IP address of IGMP group reports can be configured using this command.

Default

report-src-ip 0.0.0.0

Parameters

ip-address

Specifies the source IPv4 address in transmitted IGMP reports.

Values a.b.c.d

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Platforms

All

report-src-ip

Syntax

report-src-ip *ipv6-address*

no report-src-ip

Context

[Tree] (config>service>vpls>mld-snooping report-src-ip)

Full Context

configure service vpls mld-snooping report-src-ip

Description

This command configures the source IPv6 address used when generating MLD reports. A zero source address is allowed in sending MLD reports. However, for interoperability with some multicast routers, the source IP address of MLD reports can be configured using this command.

Default

report-src-ip 0:0:0:0:0:0:0:0

Parameters

ipv6-address

Specifies the source IPv6 address in transmitted MLD reports.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

Platforms

All

39.89 report-wlan-location

report-wlan-location

Syntax

[**no**] **report-wlan-location**

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile report-wlan-location)

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Full Context

configure subscriber-mgmt gtp peer-profile report-wlan-location

Description

This command enables reporting the WLAN location or cellular location of the UE in the signaling interface (S2a or Gn) between the WLAN GW and the mobile gateway (PGW or GGSN).

The **no** form of this command disables location reporting.

Default

no report-wlan-location

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.90 reporting

reporting

Syntax

[**no**] **reporting**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh>interim-c reporting)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling interim-credit reporting

Description

This command enables reporting of the used interim credit for each rating group when a new Diameter Gy session is successfully established with the Online Charging Server (OCS). When enabled, the used interim credit report includes:

- the unreported used credit assigned via the initial Diameter Gy session when Extended Failure Handling (EFH) became active
- the used interim credits during EFH
- the used credits assigned via the new established Diameter Gy session

The **no** form of this command disables interim credit reporting. Only credit assigned via the new established Diameter Gy session is reported.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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reporting

Syntax

[**no**] **reporting**

Context

[Tree] (config>test-oam>link-meas>template reporting)

Full Context

configure test-oam link-measurement measurement-template reporting

Description

This command specifies whether values that reach a configured threshold are reported to the routing engine. Reaching a configured **sample-window** or **aggregate-sample-window** indicates a value of interest.

When this command is disabled, values reaching thresholds are not reported to the routing engine. In both enabled and disabled cases, the **sample-window** and **aggregate-sample-window** information and computed values are stored on the node until overwriting occurs.

Default

reporting

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.91 request

request

Syntax

request *seconds*

Context

[Tree] (config>li>x-interfaces>x3>timeouts request)

[Tree] (config>li>x-interfaces>x2>timeouts request)

Full Context

configure li x-interfaces x3 timeouts request

configure li x-interfaces x2 timeouts request

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Description

This command configures the X2 and X3 keep-alive timeout.

Parameters

seconds

Specifies the maximum time to wait for a LIC reply to a request. The system retries up to three more times, and if no reply is received, the system initiates a connection release and logs the failure event.

Values 5 to 30

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.92 request-format

request-format

Syntax

request-format

Context

[Tree] (config>system>security>tacplus request-format)

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus request-format)

Full Context

configure system security tacplus request-format

configure service vprn aaa remote-servers tacplus request-format

Description

Commands in this context configure access operations that are sent to the TACACS+ server during authorization.

Platforms

All

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39.93 request-path

request-path

Syntax

[**no**] **request-path**

Context

[Tree] (config>system>security>pki>est-profile request-path)

Full Context

configure system security pki est-profile request-path

Description

Commands in this context configure URL paths for EST request messages.

Platforms

All

39.94 request-script-policy

request-script-policy

Syntax

request-script-policy *script-policy*

no request-script-policy

Context

[Tree] (config>aaa>l2tp-accounting-policy request-script-policy)

[Tree] (config>aaa>radius-srv-plcy request-script-policy)

Full Context

configure aaa l2tp-accounting-policy request-script-policy

configure aaa radius-server-policy request-script-policy

Description

This command configures a RADIUS script policy to modify Access-Request.

The **no** form of this command removes the policy-name from the configuration.

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Parameters

script-policy

Specifies the name of the Python script used to modify Access-Request messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

request-script-policy

Syntax

request-script-policy *policy-name*

no request-script-policy

Context

[Tree] (config>subscr-mgmt>auth-plcy request-script-policy)

Full Context

configure subscriber-mgmt authentication-policy request-script-policy

Description

This command configures the RADIUS script policy used to change the RADIUS attributes of the outgoing Access-Request messages.

The **no** form of this command removes the policy name from the configuration.

Parameters

policy-name

Specifies the name of the Python script to modify Access-Request messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.95 request-timer

request-timer

Syntax

request-timer *timer1* **retry-timer** *timer2* **timeout-multiplier** *multiplier*

no request-timer

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Context

[Tree] (config>service>vpls>spoke-sdp>control-channel-status request-timer)

[Tree] (config>service>cpipe>spoke-sdp>control-channel-status request-timer)

[Tree] (config>service>epipe>spoke-sdp>control-channel-status request-timer)

Full Context

configure service vpls spoke-sdp control-channel-status request-timer

configure service cpipe spoke-sdp control-channel-status request-timer

configure service epipe spoke-sdp control-channel-status request-timer

Description

This command configures the control channel status request mechanism. When it is configured, control channel status request procedures are used. These augment the procedures for control channel status messaging from RFC 6478. This command cannot be used with a non-zero refresh-timer value.

Parameters

timer1

Specifies the interval, in seconds, at which pseudowire status messages, including a reliable delivery TLV with the "request" bit set, are sent.

Values 10 to 65535

timer2

specifies the timeout interval, in seconds, if no response to a pseudowire status request is received. This parameter must be configured. A value of zero (0) disables retries.

Values 0, 3 to 60

multiplier

If a requesting node does not receive a valid response to a pseudowire status request within a number of seconds equal to the retry timer multiplied by this multiplier, then it will assume the pseudowire is down. This parameter is optional.

Values 3 to 20

Platforms

All

- configure service vpls spoke-sdp control-channel-status request-timer
- configure service epipe spoke-sdp control-channel-status request-timer

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp control-channel-status request-timer

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request-timer

Syntax

request-timer *timer1* **retry-timer** *timer2* **timeout-multiplier** *multiplier*

no request-timer

Context

[Tree] (config>service>ies>if>spoke-sdp>control-channel-status request-timer)

Full Context

configure service ies interface spoke-sdp control-channel-status request-timer

Description

This command configures the control channel status request mechanism. When it is configured, control channel status request procedures are used. These augment the procedures for control channel status messaging from RFC 6478. This command is mutually exclusive with a non-zero refresh-timer value.

Parameters

timer1

Specifies the interval at which pseudowire status messages, including a reliable delivery TLV, with the "request" bit set, are sent.

Values 10 to 65535 seconds

retry-timer *timer2*

Specifies the timeout interval if no response to a pseudowire status request is received. This parameter must be configured. A value of zero (0) disables retries.

Values 0, 3 to 60 seconds

timeout-multiplier *multiplier*

If a requesting node does not receive a valid response to a pseudowire status request within this multiplier times the retry timer, then it will assume the pseudowire is down. This parameter is optional.

Values 3 to 20 seconds

Platforms

All

request-timer

Syntax

request-timer *request-timer-secs* **retry-timer** *retry-timer-secs* **timeout-multiplier** *multiplier*

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no request-timer

Context

[Tree] (config>service>vprn>if>spoke-sdp>control-channel-status request-timer)

[Tree] (config>service>vprn>red-if>spoke-sdp>control-channel-status request-timer)

Full Context

configure service vprn interface spoke-sdp control-channel-status request-timer

configure service vprn redundant-interface spoke-sdp control-channel-status request-timer

Description

This command configures the control channel status request mechanism. When it is configured, control channel status request procedures are used. These augment the procedures for control channel status messaging from RFC 6478. This command is mutually exclusive with a non-zero refresh-timer value.

Parameters

request-timer-secs

Specifies the interval, in seconds, at which pseudowire status messages, including a reliable delivery TLV, with the "request" bit set, are sent.

Values 10 to 65535

retry-timer *retry-timer-secs*

Specifies the timeout interval, in seconds, if no response to a pseudowire status request is received. This parameter must be configured. A value of zero (0) disables retries.

Values 0, 3 to 60

timeout-multiplier *multiplier*

Specifies the multiplier, in seconds. If a requesting node does not receive a valid response to a pseudowire status request within this multiplier times the retry timer, then it assume the pseudowire is down. This parameter is optional.

Values 3 to 15

Platforms

All

- configure service vprn interface spoke-sdp control-channel-status request-timer

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp control-channel-status request-timer

request-timer

Syntax

request-timer *request-timer-secs* **retry-timer** *retry-timer-secs* **timeout-multiplier** *multiplier*

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no request-timer

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>control-channel-status request-timer)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>control-channel-status request-timer)

Full Context

configure mirror mirror-dest spoke-sdp control-channel-status request-timer

configure mirror mirror-dest remote-source spoke-sdp control-channel-status request-timer

Description

This command configures the control channel status request mechanism. When it is configured, control channel status request procedures are used. These augment the procedures for control channel status messaging from RFC 6478. This command is mutually exclusive with a non-zero refresh-timer value.

Parameters

request-timer-secs

Specifies the interval, in seconds, at which pseudowire status messages, including a reliable delivery TLV, with the "request" bit set, are sent.

Values 10 to 65535

retry-timer-secs

Specifies the timeout interval, in seconds, if no response to a pseudowire status request is received. This parameter must be configured. A value of zero (0) disables retries.

Values 3 to 60

multiplier

Specifies the multiplier, in seconds, that if a requesting node does not receive a valid response to a pseudowire status request within this multiplier times the retry timer, then it will assume the pseudowire is down. This parameter is optional.

Values 3 to 15

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.96 requests

requests

Syntax

[**no**] **requests** [**neighbor** *ip-int-name* | *ip-address*]

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Context

[Tree] (debug>router>rip requests)

Full Context

debug router rip requests

Description

This command enables debugging for RIP requests.

Parameters

ip-int-name* | *ip-address

Debugs the RIP requests sent on the neighbor IP address or interface.

Platforms

All

requests

Syntax

[**no**] **requests** [**neighbor** *ip-int-name* | *ipv6-address*]

Context

[Tree] (debug>router>ripng requests)

Full Context

debug router ripng requests

Description

This command enables debugging for RIP requests.

Parameters

ip-int-name*| *ipv6-address

Debugs the RIP requests sent on the neighbor IP address or interface.

Platforms

All

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39.97 require-message-authenticator

require-message-authenticator

Syntax

[**no**] **require-message-authenticator**

Context

[Tree] (config>router>radius-server>server require-message-authenticator)

[Tree] (config>service>vprn>radius-server>server require-message-authenticator)

Full Context

configure router radius-server server require-message-authenticator

configure service vprn radius-server server require-message-authenticator

Description

This command configures the router to silently drop Access-Request responses that do not contain a Message-Authenticator attribute.

The **no** form of this command accepts Access-Request responses without a Message-Authenticator attribute.

Default

no require-message-authenticator

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

require-message-authenticator

Syntax

[**no**] **require-message-authenticator**

Context

[Tree] (config>router>radius-proxy>server require-message-authenticator)

[Tree] (config>service>vprn>radius-proxy>server require-message-authenticator)

Full Context

configure router radius-proxy server require-message-authenticator

configure service vprn radius-proxy server require-message-authenticator

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Description

This command configures the RADIUS proxy to silently drop Access-Request messages received from the RADIUS client that do not contain a Message-Authenticator attribute.

This command is ignored when configured for a distributed RADIUS proxy running on ISA/ESA.

The **no** form of this command accepts Access-Request messages without a Message-Authenticator attribute.

Default

no require-message-authenticator

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.98 required

required

Syntax

required [**lowercase** *count*] [**uppercase** *count*] [**numeric** *count*] [**special-character** *count*]

no required

Context

[Tree] (config>system>security>password>complexity-rules required)

Full Context

configure system security password complexity-rules required

Description

Force the minimum number of different character classes required.

The **no** form of this command resets to default.

Default

required lowercase 0 uppercase 0 numeric 0 special-character 0

Parameters

count

Specifies the minimum count of characters classes.

Values 0 to 10

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Platforms

All

39.99 rescue-location

rescue-location

Syntax

rescue-location *file-url*

no rescue-location

Context

[Tree] (config>system>rollback rescue-location)

Full Context

configure system rollback rescue-location

Description

The location and filename of the rescue configuration is configurable to be local (on compact flash) or remote. The suffix .rc will be automatically appended to the filename when a rescue configuration file is saved. Trivial FTP (TFTP) is not supported for remote locations.

Default

no rescue location

Parameters

file-url

Specifies the URL or filename.

Values

local-url | *remote-url*	
local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length of up to 99 characters each
remote-url	[{ftp://}*login*:*pswd*@ *remote-locn*/][*file-path*] up to 255 characters, directory length of up to 99 characters each
remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]

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	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:
rescue filename	suffixed with .rc during the rescue file creation

Platforms

All

39.100 reserved

reserved

Syntax

reserved *num-sessions*

no reserved

Context

[Tree] (config>isa>nat-group>session-limits reserved)

Full Context

configure isa nat-group session-limits reserved

Description

This command configures the number of sessions per block that are reserved for prioritized sessions.

Default

no reserved

Parameters

num-sessions

Specifies the number of sessions reserved for prioritized sessions.

Values 0 to 6291456

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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reserved

Syntax

reserved *num-sessions*

no reserved

Context

[Tree] (config>service>nat>firewall-policy>session-limits reserved)

[Tree] (config>service>nat>up-nat-policy>session-limits reserved)

[Tree] (config>service>nat>nat-policy>session-limits reserved)

Full Context

configure service nat firewall-policy session-limits reserved

configure service nat up-nat-policy session-limits reserved

configure service nat nat-policy session-limits reserved

Description

This command configures the number of sessions per block that will be reserved for prioritized sessions.

Default

no reserved

Parameters

num-sessions

Specifies the number of sessions reserved for prioritized sessions.

Values 0 to 65534

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy session-limits reserved

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy session-limits reserved
- configure service nat up-nat-policy session-limits reserved

reserved

Syntax

reserved *num-ports*

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no reserved

Context

[Tree] (config>service>nat>up-nat-policy>port-limits reserved)

[Tree] (config>service>nat>nat-policy>port-limits reserved)

Full Context

configure service nat up-nat-policy port-limits reserved

configure service nat nat-policy port-limits reserved

Description

This command configures the number of ports per block that will be reserved for prioritized sessions.

Default

no reserved

Parameters

num-ports

Specifies the number of ports to reserve for prioritized sessions.

Values 1 to 65534

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.101 reserved-label-block

reserved-label-block

Syntax

[**no**] **reserved-label-block** *name*

Context

[Tree] (config>router>mpls-labels reserved-label-block)

Full Context

configure router mpls-labels reserved-label-block

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Description

Commands in this context configure a block of labels from the dynamic range to be locally assigned for specific applications, such as Segment Routing adjacency SIDs. The reserved label block is not advertised by the IGP.

The **no** form of this command removes a reserved label block.

Parameters

name

Specifies the name of the reserved label block, up to 64 characters

Platforms

All

reserved-label-block

Syntax

reserved-label-block *name*

no reserved-label-block

Context

[Tree] (config>router>rib-api>mpls reserved-label-block)

Full Context

configure router rib-api mpls reserved-label-block

Description

This command specifies the reserved label block for use in all label-FIB entries programmed using the RIB-API gRPC service. The named reserved label block must already have been configured under **config**>**router**>**mpls**>**mpls-labels**.

The **no** form of this command removes the assignment of the reserved label block, causing all existing label-FIB entry programming, using the RIB-API gRPC service, to become invalid and unusable.

Default

no reserved-label-block

Parameters

name

Specifies the name of the reserved label block up to 64 characters in length.

Platforms

All

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reserved-label-block

Syntax

reserved-label-block *name*

no reserved-label-block

Context

[Tree] (config>router>mpls>fwd-policies reserved-label-block)

Full Context

configure router mpls forwarding-policies reserved-label-block

Description

This command specifies the reserved label block to use for all MPLS forwarding policies. The named reserved label block must already have been configured under **config**>**router**>**mpls-labels**.

The **no** form of the command removes the assignment of the reserved label block.

Parameters

name

Specifies the name of the reserved label block, up to 64 characters.

Platforms

All

reserved-label-block

Syntax

reserved-label-block *name*

no reserved-label-block

Context

[Tree] (config>router>segment-routing>sr-policies reserved-label-block)

Full Context

configure router segment-routing sr-policies reserved-label-block

Description

This command associates a reserved label block with segment routing policies. The *name* must already exist. Reserved label blocks are configured under the **config**>**router**>**mpls-labels** hierarchy.

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A locally-targeted segment routing policy (statically configured or BGP signaled) cannot be activated if its binding SID (BSID) is not an available label between the start-label and end-label of the referenced reserved label block.

The **no** form of this command removes any association of segment routing policies with a reserved label block.

Default

no reserved-label-block

Parameters

name

Specifies the name of a **reserved-label-block** that has already been configured, up to 64 characters.

Platforms

All

reserved-label-block

Syntax

[**no**] **reserved-label-block** *name*

Context

[Tree] (config>anysec reserved-label-block)

Full Context

configure anysec reserved-label-block

Description

This command assigns the label block that is reserved for ANYsec encryption SID under the **configure router mpls-labels** context. Without this reserved block, ANYsec cannot assign any encryption SIDs. The encryption SID uniquely identifies the encrypting node within a network and avoids double encryption scenarios. The encryption SID can be assigned per encryption group. However, all encryption groups can have the same encryption SID.

To save label space, Nokia recommends limiting the number of encryption SIDs within a network.

The **no** form of this command removes a reserved label block.

Parameters

name

Specifies the name of the reserved label block.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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39.102 reserved-lbl-block

reserved-lbl-block

Syntax

reserved-lbl-block *reserved-lbl-block*

no reserved-lbl-block

Context

[Tree] (config>router>p2mp-sr-tree reserved-lbl-block)

Full Context

configure router p2mp-sr-tree reserved-lbl-block

Description

This command configures the reserved label block name for the P2MP SR tree. Before configuring for the P2MP SR tree, the reserved label block name must be configured on the root node of the P2MP policy in the **config**>**router**>**mpls-labels** context.

The **no** form of this command removes the reserved label block name for the P2MP SR tree.

Default

no reserved-lbl-block

Parameters

reserved-lbl-block

Specifies the value of the reserved label block name, up to 64 characters.

Platforms

All

39.103 reserved-non-shaper-queues

reserved-non-shaper-queues

Syntax

reserved-non-shaper-queues *range*

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers reserved-non-shaper-queues)

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Full Context

configure qos fp-resource-policy aggregate-shapers reserved-non-shaper-queues

Description

This command configures the number of egress queues which will not be used by hardware aggregate shapers.

Parameters

range

Specifies the number of queues which will not be used by hardware aggregate shapers

Values 2048 to 262144

Default 8192

Platforms

7750 SR-1, 7750 SR-s

39.104 reserved-pool-in-use

reserved-pool-in-use

Syntax

reserved-pool-in-use *percentage*

no reserved-pool-in-use

Context

[Tree] (config>port>access>ingress>pool>monitor-depth>alarm reserved-pool-in-use)

[Tree] (config>card>fp>ingress>network>pool>monitor-depth>alarm reserved-pool-in-use)

[Tree] (config>port>network>egress>pool>monitor-depth>alarm reserved-pool-in-use)

[Tree] (config>port>access>egress>pool>monitor-depth>alarm reserved-pool-in-use)

Full Context

configure port access ingress pool monitor-pool-depth alarm-thresholds reserved-pool-in-use

configure card fp ingress network pool monitor-pool-depth alarm-thresholds reserved-pool-in-use

configure port network egress pool monitor-pool-depth alarm-thresholds reserved-pool-in-use

configure port access egress pool monitor-pool-depth alarm-thresholds reserved-pool-in-use

Description

This command configures the threshold for the reserved pool in use.

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A tmnxResvPoolUseThreshExcd trap is generated when the reserved pool usage exceeds this threshold percentage. When the usage returns below the threshold percentage, the tmnxResvPoolUseThreshNotExcd trap is generated.

The **no** form of this command removes the threshold on which to alarm.

Default

no reserved-pool-in-use

Parameters

percentage

Specifies the reserved pool in-use alarm threshold.

Values 0.01 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

39.105 reset-on-recoverable-error

reset-on-recoverable-error

Syntax

[**no**] **reset-on-recoverable-error**

Context

[Tree] (config>card reset-on-recoverable-error)

Full Context

configure card reset-on-recoverable-error

Description

This command configures the behavior of the card when a fatal memory parity error is detected on a Q-chip of the card. If **reset-on-recoverable-error** is enabled, the card is reset, regardless of the setting of the **fail-on-error** parameter.

The **no** form of this command specifies that the recovery action is taken instead of resetting the card.

Default

no reset-on-recoverable-error

Platforms

7450 ESS, 7750 SR-7/12/12e

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reset-on-recoverable-error

Syntax

[**no**] **reset-on-recoverable-error**

Context

[Tree] (config>card>mda reset-on-recoverable-error)

Full Context

configure card mda reset-on-recoverable-error

Description

This command configures the behavior of the MDA when a fatal memory parity error is detected on a Q-chip of the MDA. If **reset-on-recoverable-error** is enabled, the MDA is reset, regardless of the setting of the **fail-on-error** parameter.

The **no** form of this command specifies that the recovery action is taken instead of resetting the MDA.

Default

no reset-on-recoverable-error

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

reset-on-recoverable-error

Syntax

[**no**] **reset-on-recoverable-error**

Context

[Tree] (config>card>xiom reset-on-recoverable-error)

Full Context

configure card xiom reset-on-recoverable-error

Description

This command configures the behavior of the XIOM when a fatal memory parity error is detected on a Q-chip of the XIOM. If **reset-on-recoverable-error** is enabled, the XIOM is reset, regardless of the setting of the **fail-on-error** parameter.

The **no** form of this command specifies that the recovery action is taken instead of resetting the XIOM.

Default

no reset-on-recoverable-error

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Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

39.106 reset-policy-exclusive

reset-policy-exclusive

Syntax

reset-policy-exclusive

Context

[Tree] (admin reset-policy-exclusive)

Full Context

admin reset-policy-exclusive

Description

This command allows an authorized administrator to reset the exclusive policy editing lock. This will reset the lock flag and end the policy editing session in progress, discarding any policy edits.

Platforms

All

39.107 reset-query

reset-query

Syntax

[**no**] **reset-query**

Context

[Tree] (debug>router>rpki-session>packet reset-query)

Full Context

debug router rpki-session packet reset-query

Description

This command enables debugging for reset query RPKI packets.

The **no** form of this command disables debugging for reset query RPKI packets.

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Platforms

All

39.108 reset-unknown-tcp

reset-unknown-tcp

Syntax

[**no**] **reset-unknown-tcp**

Context

[Tree] (config>service>nat>up-nat-policy reset-unknown-tcp)

[Tree] (config>service>nat>nat-policy reset-unknown-tcp)

Full Context

configure service nat up-nat-policy reset-unknown-tcp

configure service nat nat-policy reset-unknown-tcp

Description

This command enables the system to drop a TCP packet and generate a TCP reset, when a TCP packet without the SYN flag set is received by the NAT inside for an unknown flow.

The **no** form of this command disables sending the reset, but the packet is still dropped.

Default

no reset-unknown-tcp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.109 resignal-on-igp-event

resignal-on-igp-event

Syntax

[**no**] **resignal-on-igp-event**

Context

[Tree] (config>router>mpls>sr-te-resignal resignal-on-igp-event)

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Full Context

configure router mpls sr-te-resignal resignal-on-igp-event

Description

This command enables the ad hoc reoptimzation of all CSPF paths in the operational UP state of all SR-TE LSPs at the receipt of an IGP link event. The following link events are supported:

- link down
- link up
- IGP or TE metric change
- SRLG change
- admin group change

The ad hoc reoptimization follows the same behavior as in the timer-based resignal Make-Before-Break (MBB) feature. MPLS reevaluates all the paths in operational UP state of all SR-TE LSPs. The reevaluation consists of updating the total IGP or TE metric of the current path, checking the validity of the hops and labels, and computing a new CSPF path. MPLS programs the new path only if its total metric is different than the updated metric of the current path, or if one or more hops or labels of the current path are invalid. Otherwise, the current path is considered to be the most optimal and retained.

This feature does not require that the timer-based resignal (**configure router mpls sr-te-resignal resignal-timer**) command be enabled. If enabled, the resignal timer is aborted and an ad hoc reoptimization is performed.

The **no** form of this command disables ad hoc reoptimization of SR-TE LSPs.

Default

no resignal-on-igp-event

Platforms

All

resignal-on-igp-event

Syntax

[**no**] **resignal-on-igp-event**

Context

[Tree] (config>router>mpls resignal-on-igp-event)

Full Context

configure router mpls resignal-on-igp-event

Description

This command enables the ad hoc reoptimization of the active CSPF path of all RSVP-TE LSPs at the receipt of an IGP link event. The following link events are supported:

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- link down
- link up
- IGP or TE metric change
- SRLG change
- admin group change

The ad hoc reoptimization follows the same behavior as in the timer-based resignal Make-Before-Break (MBB) feature. MPLS reevaluates the active paths of all RSVP-TE LSPs. The reevaluation consists of updating the total IGP or TE metric of the current path, checking the validity of the hops, and computing a new CSPF path. MPLS signals and programs the new path only if its total metric is different than the updated metric of the current path, or if one or more hops of the current path are invalid. Otherwise, the current path is considered to be the most optimal and retained.

This feature does not require that the timer-based resignal (**configure router mpls resignal-timer**) command be enabled. If enabled, the resignal timer is aborted and an ad hoc reoptimization is performed.

The **no** form of this command disables ad hoc reoptimization of the active RSVP-TE LSPs.

Default

no resignal-on-igp-event

Platforms

All

39.110 resignal-on-igp-overload

resignal-on-igp-overload

Syntax

[**no**] **resignal-on-igp-overload**

Context

[Tree] (config>router>mpls resignal-on-igp-overload)

Full Context

configure router mpls resignal-on-igp-overload

Description

This command enables the resignaling of all RSVP-TE LSPs at the receipt of the IS-IS overload bit in the TE-DB.

Once the re-optimization is triggered, the behavior is the same as the timer-based resignal or the **delay** option of the manual-based resignal. MPLS forces the expiry of the resignal timer and requests the TE-DB to compute a new CSPF for each RSVP-TE LSP active path.

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This re-optimization effectively causes the immediate move of transit RSVP-TE LSP paths away from the IS-IS node in overload.

By default, MPLS re-optimizes, using the MBB procedure, the transit paths away from the node in an IS-IS overload state only at the time a manual or timer-based resignal is performed for the LSP paths. MPLS does not act immediately on the receipt of the IS-IS overload bit.

Note:
This command and the **retry-on-overload** command are mutually exclusive.

The **no** form of this command results in the MPLS not acting immediately to the request of the IS-IS overload bit.

Default

no resignal-on-overload

Platforms

All

resignal-on-igp-overload

Syntax

[**no**] **resignal-on-igp-overload**

Context

[Tree] (config>router>mpls>sr-te-resignal resignal-on-igp-overload)

Full Context

configure router mpls sr-te-resignal resignal-on-igp-overload

Description

This command enables the ad-hoc re-optimzation of the CSPF paths of all SR-TE LSPs when IS-IS receives an IS-IS overload bit advertisement from a remote router.

When this command is enabled on the router and an IGP overload bit is set in a Layer 1 or Layer 2 IS-IS LSP received from a remote router, MPLS performs an ad-hoc re-optimization of all the paths of all the SR-TE LSPs that have paths computed by the local CSPF. For each SR-TE LSP current path that transits the router in overload, the CSPF looks for a new path that avoids the router. For each SR-TE LSP current path that terminates on the router in overload, the CSPF checks if a better path exists. In both cases, if a new path is not found the system maintains the current path when operationally up.

The ad-hoc re-optimization triggers the timer-based re-optimization by forcing the resignal timer to expire. Therefore, the user must use the following command to configure the resignal timer for the SR-TE application.

```
configure router mpls sr-te-resignal resignal-timer
```

The **no** form of this command configures MPLS to not act immediately on an IS-IS overload bit from a remote router. MPLS will act on it at the next timer-based or manual re-optimization of the SR-TE LSPs.

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Default

no resignal-on-igp-overload

Platforms

All

39.111 resignal-timer

resignal-timer

Syntax

resignal-timer *minutes*

no resignal-timer

Context

[Tree] (config>router>mpls resignal-timer)

Full Context

configure router mpls resignal-timer

Description

This command specifies the value for the LSP resignal timer. The resignal timer is the time, in minutes, the software waits before attempting to resignal the LSPs.

When the resignal timer expires, if the new computed path for an LSP has a better metric than the current recorded hop list, an attempt is made to resignal that LSP using the make-before-break mechanism. If the attempt to resignal an LSP fails, the LSP continues to use the existing path and a resignal will be attempted the next time the timer expires.

The **no** form of this command disables timer-based LSP resignaling.

Default

no resignal-timer

Parameters

minutes

Specifies the time the software waits before attempting to resignal the LSPs.

Values 30 to 10080

Platforms

All

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resignal-timer

Syntax

resignal-timer *minutes*

no resignal-timer

Context

[Tree] (config>router>mpls>sr-te-resignal resignal-timer)

Full Context

configure router mpls sr-te-resignal resignal-timer

Description

This command specifies the value for the SR-TE LSP resignal timer when the path computation method is set to the local CSPF or the PCE.

The resignal timer is the time, in minutes, MPLS waits before attempting to re-optimize all paths of all SR-TE LSPs. The re-optimization is performed by the local CSPF or the PCE, depending on the value of the parameter **path-computation-method**.

When local CSPF is used and the resignal timer expires, MPLS provides the current path of the SR-TE LSP and TE-DB updates the total IGP or TE metric of the current path and checks the validity of the hops and labels. CSPF then computes a new path for each SR-TE LSP. MPLS programs the new path only if the total metric of the new computed path is different than the updated metric of the current path, or if one or more hops or labels of the current path are invalid. Otherwise, the current path is considered to be one of the most optimal ECMP paths and is not updated in data path.

The **no** form of this command disables timer-based LSP resignaling.

Default

no resignal-timer

Parameters

minutes

Specifies the time, in minutes, the software waits before attempting to resignal the SR-TE LSPs.

Values 30 to 10080

Platforms

All

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39.112 resolution

resolution

Syntax

resolution {**route-table** | **tunnel-table** | **fallback-tunnel-to-route-table**}

Context

[Tree] (config>service>epipe>bgp-evpn>srv6 resolution)

[Tree] (config>service>vprn>bgp-evpn>srv6 resolution)

[Tree] (config>router>bgp>srv6>family resolution)

[Tree] (config>service>vpls>bgp-evpn>srv6 resolution)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 resolution)

Full Context

configure service epipe bgp-evpn segment-routing-v6 resolution

configure service vprn bgp-evpn segment-routing-v6 resolution

configure router bgp segment-routing-v6 family resolution

configure service vpls bgp-evpn segment-routing-v6 resolution

configure service vprn bgp-ipvpn segment-routing-v6 resolution

Description

This command configures the resolution option for routes in the specified family.

The **no** form of the command reverts to the default.

Default

resolution route-table

Parameters

route-table

Keyword that specifies to resolve the route to the shortest-path SRv6 tunnel. If no such shortest-path tunnel is found, the resolution fails.

tunnel-table

Keyword that specifies to resolve the route directly to a tunnel in TTMv6. The system tries to find an SRv6 policy with a matching color and endpoint for BGP routes received with an SRv6 TLV and containing an SRv6 service SID in the IPv6 tunnel table. If none is found, the resolution fails.

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fallback-tunnel-to-route-table

Keyword that specifies to first try resolving the route to a tunnel in the IPv6 tunnel table. If none is found in the IPv6 tunnel table, fall back to the shortest-path SRv6 resolution. If no such shortest-path tunnel is found in RTM, the resolution fails.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

resolution

Syntax

resolution {**disabled** | **any** | **filter**}

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel resolution)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel resolution)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel resolution)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel resolution)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution

Description

This command configures the resolution mode in the automatic binding of a BGP-EVPN or BGP-IPVPN MPLS service to tunnels to MP-BGP peers.

Default

resolution disabled

Parameters

any

Enables the binding to any supported tunnel type in a BGP-EVPN or BGP-IPVPN MPLS context following TTM preference.

disabled

Disables the automatic binding of a BGP-EVPN or BGP-IPVPN MPLS service to tunnels to MP-BGP peers.

filter

Enables the binding to the subset of tunnel types configured the **resolution-filter** context.

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Platforms

All

resolution

Syntax

resolution {**any** | **disabled** | **filter**}

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop resolution)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution

Description

This command determines the resolution mode for the associated static route to a tunnel next hop.

Default

resolution any

Parameters

any

Allows the associated static route to be resolved to any active entry in the TTM, following the TTM preference order.

disabled

Disables the resolution of the associated static route to any active entry in the TTM. As a result, the static route can only be resolved via IP RTM resolution of the static route's next hop.

filter

Allows the associated static route to be resolved to active tunnels in the TTM using the resolution-filter restrictions.

Platforms

All

resolution

Syntax

resolution {**any** | **filter** | **disabled**}

Context

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family resolution)

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Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution

Description

This command configures the resolution mode in the resolution of BGP label routes using tunnels to BGP peers.

Parameters

any

Enables the binding to any supported tunnel type in the BGP label route context following TTM preference.

filter

Enables the binding to the subset of tunnel types configured under **resolution-filter**.

disabled

Disables the resolution of BGP label routes using tunnels to BGP peers.

Platforms

All

resolution

Syntax

resolution {**any** | **filter** | **disabled**}

Context

[Tree] (config>router>bgp>next-hop-res>shortcut-tunn>family resolution)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution

Description

This command configures the resolution mode in the resolution of BGP prefixes using tunnels to BGP peers.

Parameters

any

Enables the binding to any supported tunnel type in BGP shortcut context following TTM preference.

filter

Enables the binding to the subset of tunnel types configured under **resolution-filter**.

disabled

Disables the resolution of BGP prefixes using tunnels to BGP peers.

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Platforms

All

resolution

Syntax

resolution {**any** | **disabled** | **filter** | **match-family-ip**}

Context

[Tree] (config>router>isis>igp-shortcut>tunnel-next-hop>family resolution)

Full Context

configure router isis igp-shortcut tunnel-next-hop family resolution

Description

This command configures resolution mode in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

Parameters

any

Enables the binding to any supported tunnel type following TTM preference.

disabled

Disables the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

filter

Enables the binding to the subset of tunnel types configured under **resolution-filter**.

match-family-ip

Enables the resolution of the SR tunnel family to match that of the corresponding IP prefix family.

Platforms

All

resolution

Syntax

resolution {**any** | **disabled** | **filter** | **match-family-ip**}

Context

[Tree] (config>router>ospf>igp-shortcut>tunnel-next-hop>family resolution)

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Full Context

configure router ospf igp-shortcut tunnel-next-hop family resolution

Description

This command configures resolution mode in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

Parameters

any

Enables the binding to any supported tunnel type following TTM preference.

disabled

Disables the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

filter

Enables the binding to the subset of tunnel types configured under **resolution-filter**.

match-family-ip

Enables the resolution of the SR tunnel family to match that of the corresponding IP prefix family.

Platforms

All

resolution

Syntax

resolution {**any** | **disabled** | **filter**}

Context

[Tree] (config>router>ospf3>igp-shortcut>tunnel-next-hop>family resolution)

Full Context

configure router ospf3 igp-shortcut tunnel-next-hop family resolution

Description

This command configures resolution mode in the resolution of the IPv6 prefix using IGP shortcuts.

Parameters

any

Enables the binding to any supported tunnel type following TTM preference.

disabled

Disables the resolution of the IPv6 prefix using IGP shortcuts.

filter

Enables the binding to the subset of tunnel types configured under **resolution-filter**.

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Platforms

All

resolution

Syntax

resolution

Context

[Tree] (config>service>vprn>auto-bind-tunnel resolution)

Full Context

configure service vprn auto-bind-tunnel resolution

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

39.113 resolution-filter

resolution-filter

Syntax

resolution-filter

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel resolution-filter)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel resolution-filter)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel resolution-filter)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel resolution-filter)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter

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Description

Commands in this context configure the subset of tunnel types that can be used in the resolution of BGP-EVPN or BGP-IPVPN routes within the automatic binding of BGP-EVPN or BGP-IPVPN MPLS service to tunnels to MP-BGP peers.

The following tunnel types are supported in a BGP-EVPN or BGP-IPVPN MPLS context: BGP, LDP, RIB-API, RSVP, SR-ISIS, SR-OSPF, SR-policy, SR-TE, UDP, and MPLS forwarding policy.

The user must set **resolution** to **filter** to activate the list of tunnel-types configured under **resolution-filter**.

Note:
UDP tunnels are created through import policies with action **create-udp-tunnel**.

Platforms

All

resolution-filter

Syntax

resolution-filter

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop resolution-filter)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter

Description

This command creates the context to configure the tunnel next-hop resolution options.

If one or more tunnel filter criteria are specified, the static route nexthop is resolved to an available tunnel from one of those LSP types. The tunnel type is selected based on the TTM preference.

Platforms

All

resolution-filter

Syntax

resolution-filter

Context

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family resolution-filter)

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Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter

Description

Commands in this context set resolution filter types.

Platforms

All

resolution-filter

Syntax

resolution-filter [**bgp**] [**ldp**] [**rsvp**] [**sr-isis**] [**sr-ospf**] [**sr-policy**] [**sr-te**]

Context

[Tree] (config>router>bgp>next-hop-res>shortcut-tunn>family resolution-filter)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter

Description

This command configures the subset of tunnel types that can be used to resolve BGP unlabeled routes.

Parameters

bgp

Selects the BGP label route tunnel type.

ldp

Selects the LDP tunnel type.

rsvp

Selects the RSVP-TE tunnel type.

sr-isis

Selects the SR tunnel type programmed by an IS-IS instance in TTM.

sr-ospf

Selects the SR tunnel type programmed by an OSPF instance in TTM.

sr-policy

Selects the SR tunnel type programmed by an SR policy instance in TTM.

sr-te

Selects the SR tunnel type programmed by a TE instance in TTM.

Platforms

All

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resolution-filter

Syntax

resolution-filter

Context

[Tree] (config>router>isis>igp-shortcut>tunnel-next-hop>family resolution-filter)

Full Context

configure router isis igp-shortcut tunnel-next-hop family resolution-filter

Description

Commands in this context configure the subset of tunnel types which can be used in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

Parameters

rsvp

Selects the RSVP-TE tunnel type.

sr-te

Selects the SR-TE tunnel type.

Platforms

All

resolution-filter

Syntax

resolution-filter

Context

[Tree] (config>router>ospf3>igp-shortcut>tunnel-next-hop>family resolution-filter)

[Tree] (config>router>ospf>igp-shortcut>tunnel-next-hop>family resolution-filter)

Full Context

configure router ospf3 igp-shortcut tunnel-next-hop family resolution-filter

configure router ospf igp-shortcut tunnel-next-hop family resolution-filter

Description

Commands in this context configure the subset of tunnel types that can be used in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

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Platforms

All

resolution-filter

Syntax

resolution-filter

Context

[Tree] (config>service>vprn>auto-bind-tunnel resolution-filter)

Full Context

configure service vprn auto-bind-tunnel resolution-filter

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

39.114 resolve

resolve

Syntax

resolve *minutes*

Context

[Tree] (config>service>vpls>proxy-arp>dynamic resolve)

[Tree] (config>service>vpls>proxy-nd>dynamic resolve)

Full Context

configure service vpls proxy-arp dynamic resolve

configure service vpls proxy-nd dynamic resolve

Description

This command configures the frequency at which a resolve message is sent. The resolve message is an ARP-request or NS message flooded to all the non-EVPN endpoints in the service irrespective of the current status of the **unknown-arp-request-flood-evpn** or **unknown-ns-flood-evpn** commands.

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Default

resolve 5

Parameters

minutes

Specifies the frequency in minutes at which the **resolve** message is issued.

Values 1 to 60

Default 5

Platforms

All

resolve

Syntax

[**no**] **resolve**

Context

[Tree] (configure>service>vprn>bgp-evpn>vxlan>gateway-ip resolve)

[Tree] (configure>service>vprn>bgp-evpn>mpls>gateway-ip resolve)

Full Context

configure service vprn bgp-evpn vxlan gateway-ip resolve

configure service vprn bgp-evpn mpls gateway-ip resolve

Description

This command configures the router to resolve IP prefix routes with a non-zero GW-IP to either EVPN-IFL-HOST routes that match the GW-IP or to local R-VPLS interfaces if the GW-IP is associated with a local R-VPLS interface.

The **no** form of this command does not resolve IP prefix routes with a non-zero GW-IP value.

Default

no resolve

Platforms

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan gateway-ip resolve

All

- configure service vprn bgp-evpn mpls gateway-ip resolve

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39.115 resolve-root-using

resolve-root-using

Syntax

resolve-root-using {**ucast-rtm** | **mcast-rtm**}

Context

[Tree] (config>router>ldp resolve-root-using)

Full Context

configure router ldp resolve-root-using

Description

By default, MLDP resolves the FEC using the unicast RTM. When this command is set to **mcast-rtm**, MLDP will resolve the FEC using the multicast route table. The multicast route table does not include any IGP shortcuts, unlike the unicast RTM. MLDP cannot resolve a FEC using an IGP shortcut, so if IGP shortcuts are used for unicast, enable multicast MLDP lookups.

If this command is set to **mcast-rtm**:

- For FEC resolution using IGP, static or local, the ROOT in this FEC is resolved using the multicast RTM.
- A FEC being resolved using BGP is recursive, so the FEC next-hop (ASBR/ABR) is resolved using the multicast RTM first and, if this fails, it is resolved using the unicast RTM. This next-hop needs to be recursively resolved again using IGP/Static-Route or Local, this second resolution (recursive resolution) uses the multicast RTM only.
- In all cases, MLDP uses the unicast RTM to resolve the FEC and will not resolve the FEC if its next hop is resolved using an IGP shortcut.

Default

resolve-root-using ucast-rtm

Platforms

All

39.116 resolve-static

resolve-static

Syntax

[**no**] **resolve-static**

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Context

[Tree] (config>router>policy-options>policy-statement>entry>action resolve-static)

[Tree] (config>router>policy-options>policy-statement>default-action resolve-static)

Full Context

configure router policy-options policy-statement entry action resolve-static

configure router policy-options policy-statement default-action resolve-static

Description

This command has an affect only in BGP route-table-import policies and applies only to BGP IPv4 and IPv6 routes created by importing static routes with indirect next-hops. When such a route matches a policy entry with this action, the BGP next-hop is the resolved next-hop of the static route.

The **no** form of this command reverts to the default behavior, which copies the indirect next-hop of the static route into the BGP next-hop without resolving it further.

Default

no resolve-static

Platforms

All

39.117 resolve-v6-prefix-over-shortcut

resolve-v6-prefix-over-shortcut

Syntax

[**no**] **resolve-v6-prefix-over-shortcut**

Context

[Tree] (config>router>ldp>targ-session resolve-v6-prefix-over-shortcut)

Full Context

configure router ldp targeted-session resolve-v6-prefix-over-shortcut

Description

This command allows an IPv6 prefix FEC to be resolved over an IGP shortcut.

The **no** form of this command disables the resolution.

Platforms

All

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39.118 responder-url

responder-url

Syntax

responder-url *url-string*

no responder-url

Context

[Tree] (config>system>security>pki>ca-profile>ocsp responder-url)

Full Context

configure system security pki ca-profile ocsp responder-url

Description

This command specifies HTTP URL of the OCSP responder for the CA, this URL will only be used if there is no OCSP responder defined in the AIA extension of the certificate to be verified.

Default

no responder-url

Parameters

url-string

Specifies the HTTP URL of the OCSP responder

Platforms

All

39.119 response-signing-cert

response-signing-cert

Syntax

response-signing-cert *filename*

no response-signing-cert

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 response-signing-cert)

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Full Context

configure system security pki ca-profile cmpv2 response-signing-cert

Description

This command specifies a imported certificate that is used to verify the CMP response message if they are protected by signature. If this command is not configured, CA's certificate is used.

Default

no response-signing-cert

Parameters

filename

Specifies the filename of the imported certificate.

Platforms

All

39.120 restart-backoff

restart-backoff

Syntax

restart-backoff initial-time *seconds* **max-time** *seconds*

no restart-backoff

Context

[Tree] (config>subscr-mgmt>pppoe-client-policy restart-backoff)

Full Context

configure subscriber-mgmt pppoe-client-policy restart-backoff

Description

This command configures backoff timer parameters that determine how often and how long the system will attempt to restart a PPPoE client after a failure. When a client first fails, the system immediately tries to re-establish connectivity. If this attempt is also unsuccessful, the system initiates a backoff timer and waits until it expires before attempting to restart the client again, to avoid flooding the BNG. The initial duration of the backoff timer is configured with the **initial-time** parameter. With each subsequent failure, the backoff timer is doubled until the configured **max-time** is reached.

The **no** form of this command reverts to the default.

Default

restart-backoff initial-time 30 max-time 600

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Parameters

initial-time seconds

Specifies the initial backoff time to wait before attempting a client restart.

Values 10 to 3600

max-time seconds

Specifies the maximum time to attempt client restarts.

Values 10 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.121 restart-time

restart-time

Syntax

restart-time *seconds*

no restart-time

Context

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart restart-time)

[Tree] (config>service>vprn>bgp>group>graceful-restart restart-time)

[Tree] (config>service>vprn>bgp>graceful-restart restart-time)

Full Context

configure service vprn bgp group neighbor graceful-restart restart-time

configure service vprn bgp group graceful-restart restart-time

configure service vprn bgp graceful-restart restart-time

Description

This command sets the value of the restart-time that is advertised in the router's graceful-restart capability. If this command is not configured, the default is 300.

Default

no restart-time

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Parameters

seconds

Specifies the restart-time that is advertised in the router's graceful-restart capability.

Values 0 to 4095 seconds

Default 300

Platforms

All

restart-time

Syntax

restart-time *seconds*

no restart-time

Context

[Tree] (config>router>bgp>graceful-restart restart-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart restart-time)

[Tree] (config>router>bgp>group>graceful-restart restart-time)

Full Context

configure router bgp graceful-restart restart-time

configure router bgp group neighbor graceful-restart restart-time

configure router bgp group graceful-restart restart-time

Description

This command sets the value of the restart-time that is advertised in the router's graceful-restart capability. If this command is not configured, the default is 300.

Default

no restart time

Parameters

seconds

Specifies the restart-time that is advertised in the router's graceful-restart capability.

Values 0 to 4095 seconds

Default config>router>bgp>graceful-restart: 120 seconds

config>router>bgp>group>graceful-restart: 300 seconds

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config>router>bgp>group>neighbor>graceful-restart: 300 seconds

Platforms

All

39.122 restore-disconnected

restore-disconnected

Syntax

[**no**] **restore-disconnected**

Context

[Tree] (config>service>vprn>sub-if>grp-if>wpp restore-disconnected)

[Tree] (config>service>ies>sub-if>grp-if>wpp restore-disconnected)

Full Context

configure service vprn subscriber-interface group-interface wpp restore-disconnected

configure service ies subscriber-interface group-interface wpp restore-disconnected

Description

This command specifies that the initial profiles must be restored after a DHCP host has disconnected. The behavior that system will restore the **initial-sla-profile**, **initial-sub-profile**, or **initial-app-profile** when hosts disconnects instead of removing them.

The **no** form of this command specifies that the initial profiles will not be restored after a DHCP host has disconnected.

Default

restore-disconnected

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

restore-disconnected

Syntax

restore-disconnected {**restore** | **no-restore**}

no restore-disconnected

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Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>wpp restore-disconnected)

Full Context

configure subscriber-mgmt local-user-db ipoe host wpp restore-disconnected

Description

This command specifies the behavior that system will restore the **initial-sla-profile**, **initial-sub-profile**, or **initial-app-profile** when hosts disconnects instead of removing them.

The **no** form of this command reverts to the default.

Parameters

restore

Specifies that the initial profiles must be restored after a DHCP host has disconnected.

no-restore

Specifies that the initial profiles will not be restored after a DHCP host has disconnected.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.123 restrict-non-configured-ip-address

restrict-non-configured-ip-address

Syntax

restrict-non-configured-ip-address [**sponge-mac** *mac-address*]

no restrict-non-configured-ip-address

Context

[Tree] (config>service>vpls>proxy-arp restrict-non-configured-ip-address)

[Tree] (config>service>vpls>proxy-nd restrict-non-configured-ip-address)

Full Context

configure service vpls proxy-arp restrict-non-configured-ip-address

configure service vpls proxy-nd restrict-non-configured-ip-address

Description

This command configures whether all the configured dynamic IP address entries are considered the only authorized entries in the proxy ARP or ND table. ARP or ND packets coming from a unauthorized sender IP addresses are dropped. Therefore, unauthorized IP addresses are not learned in the proxy ARP or ND

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table, and ARP requests or neighbor solicitations (NS) coming from a unauthorized sender IP addresses are not replied to, unless the **sponge-mac** option is configured.

The **no** form of this command does not drop ARP or ND packets coming from a unauthorized sender IP addresses.

Parameters

sponge-mac

Keyword to specify that ARP requests or NSs from an unauthorized IP address are not learned in the proxy ARP or ND table and ARP requests or NSs from an unauthorized IP address are replied with the configured sponge MAC address. Any IP address that is not configured as proxy ARP, ND dynamic ARP, or neighbor IP address is considered unauthorized and dropped.

mac-address

Specifies the MAC address.

The configured sponge MAC address is not installed in the FDB or advertised in EVPN. If needed, the sponge MAC address can be configured as a static MAC in the same service in the node or a remote node.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

All

39.124 restrict-protected-src

restrict-protected-src

Syntax

restrict-protected-src discard-frame

restrict-protected-src [**alarm-only**]

no restrict-protected-src

Context

[Tree] (config>service>vpls>endpoint restrict-protected-src)

[Tree] (config>service>vpls>spoke-sdp restrict-protected-src)

[Tree] (config>service>vpls>sap restrict-protected-src)

[Tree] (config>service>vpls>mesh-sdp restrict-protected-src)

[Tree] (config>service>vpls>split-horizon-group restrict-protected-src)

[Tree] (config>service>pw-template restrict-protected-src)

[Tree] (config>service>pw-template>split-horizon-group restrict-protected-src)

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Full Context

configure service vpls endpoint restrict-protected-src

configure service vpls spoke-sdp restrict-protected-src

configure service vpls sap restrict-protected-src

configure service vpls mesh-sdp restrict-protected-src

configure service vpls split-horizon-group restrict-protected-src

configure service pw-template restrict-protected-src

configure service pw-template split-horizon-group restrict-protected-src

Description

This command indicates how the agent will handle relearn requests for protected MAC addresses, either manually added using the mac-protect command or automatically added using the **auto-learn-mac-protect** command. While enabled all packets entering the configured SAP, spoke SDP, mesh SDP, or any SAP that is part of the configured split horizon group (SHG) is verified not to contain a protected source MAC address. If the packet is found to contain such an address, the action taken depends on the parameter specified on the **restrict-protected-src** command, namely:

- No parameter — The packet is discarded, an alarm is generated and the SAP, spoke SDP or mesh SDP is set operationally down. The SAP, spoke SDP or mesh SDP must be shut down and enabled (**no shutdown**) for this state to be cleared.
- **alarm-only** — The packet is forwarded, an alarm is generated but the source MAC is not learned on the SAP, spoke SDP or mesh SDP.
- **discard-frame** — The packet is discarded and an alarm generated. The frequency of alarm generation is fixed to be at most one alarm per MAC address per FP per 10 minutes in a given VPLS service. This parameter is only applicable to automatically protected MAC addresses.

When the **restrict-protected-src** is enabled on an SHG the action only applies to the associated SAPs (no action is taken by default for spoke SDPs in the SHG) and is displayed in the SAP show output as the oper state unless it is overridden by the configuration of **restrict-protected-src** on the SAP itself. To enable this function for spoke SDPs within a SHG, the **restrict-protected-src** must be enabled explicitly under the spoke SDP. If required, **restrict-protected-src** can also be enabled explicitly under specific SAPs within the SHG.

When this command is applied or removed, with either the **alarm-only** or **discard-frame** parameters, the MAC addresses are cleared from the related object.

The use of **restrict-protected-src discard-frame** is mutually exclusive with the configuration of manually protected MAC addresses within a given VPLS.

The **alarm-only** parameter is not supported on the 7750 SR-a, 7750 SR-1e/2e/3e, 7950 XRS, 7750 SR-1,or 7750 SR-1s/2s/7s/14s platforms.

The **no** form of the command reverts to the default.

Default

no restrict-protected-src

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Parameters

alarm-only

Specifies that the packet is forwarded, an alarm is generated but the source MAC is not learned on the SAP, spoke SDP, or mesh SDP.

Default no alarm-only

discard-frame

Specifies that the packet is discarded and an alarm generated. The frequency of alarm generation is fixed to be at most one alarm per MAC address per FP per 10 minutes within a given VPLS service.

Default no discard-frame

Platforms

All

restrict-protected-src

Syntax

restrict-protected-src discard-frame

no restrict-protected-src

Context

[Tree] (config>service>vpls>pbb>backbone-vpls restrict-protected-src)

Full Context

configure service vpls pbb backbone-vpls restrict-protected-src

Description

This command indicates how the agent handles relearn requests for protected MAC addresses, either manually added using the **mac-protect** command or automatically added using the **auto-learn-mac-protect** command. While enabled, all packets entering the configured SAP, spoke SDP, mesh SDP, or any SAP that is part of the configured split horizon group (SHG) is verified not to contain a protected source MAC address. If the packet is found to contain such an address, the action taken depends on the parameter specified on the **restrict-protected-src** command, namely:

- No parameter — The packet is discarded, an alarm is generated and the SAP, spoke SDP or mesh SDP will be set as operationally down. The SAP, spoke SDP or mesh SDP must be shutdown and enabled (no shutdown) for this state to be cleared.
- **discard-frame** — The packet is discarded and an alarm generated. The frequency of alarm generation is fixed to be at most one alarm per MAC address per FP per 10 minutes in a specified VPLS service. This parameter is only applicable to automatically protected MAC addresses.

When the **restrict-protected-src** is enabled on an SHG, the action only applies to the associated SAPs (no action is taken by default for spoke-SDPs in the SHG) and is displayed in the SAP show output as the oper state unless it is overridden by the configuration of **restrict-protected-src** on the SAP itself. To

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enable this function for spoke SDPs within a SHG, the **restrict-protected-src** must be enabled explicitly under the spoke SDP. If required, **restrict-protected-src** can also be enabled explicitly under specific SAPs within the SHG.

When this command is applied or removed, with the **discard-frame** parameter, the MAC addresses are cleared from the related object.

The use of **restrict-protected-src discard-frame** is mutually exclusive with the configuration of manually protected MAC addresses within a specified VPLS.

Default

no restrict-protected-src

Parameters

discard-frame

Specifies that the packet is discarded and an alarm generated. The frequency of alarm generation is fixed to be at most one alarm per MAC address per FP per 10 minutes within a specified VPLS service

Platforms

All

restrict-protected-src

Syntax

restrict-protected-src discard-frame

no restrict-protected-src

Context

[Tree] (config>service>vpls>vxlan restrict-protected-src)

[Tree] (config>service>vpls>bgp-evpn>srv6 restrict-protected-src)

Full Context

configure service vpls vxlan restrict-protected-src

configure service vpls bgp-evpn segment-routing-v6 restrict-protected-src

Description

This command enables protected source MAC restrictions.

Platforms

All

- configure service vpls vxlan restrict-protected-src

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 restrict-protected-src

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39.125 restrict-unprotected-dst

restrict-unprotected-dst

Syntax

restrict-unprotected-dst

no restrict-unprotected-dst

Context

[Tree] (config>service>vpls>split-horizon-group restrict-unprotected-dst)

[Tree] (config>service>vpls restrict-unprotected-dst)

[Tree] (config>service>pw-template>split-horizon-group restrict-unprotected-dst)

[Tree] (config>service>vpls>sap restrict-unprotected-dst)

Full Context

configure service vpls split-horizon-group restrict-unprotected-dst

configure service vpls restrict-unprotected-dst

configure service pw-template split-horizon-group restrict-unprotected-dst

configure service vpls sap restrict-unprotected-dst

Description

This command indicates how the system will forward packets destined for an unprotected MAC address, either manually added using the **mac-protect** command or automatically added using the **auto-learn-mac-protect** command. While enabled all packets entering the configured SAP or SAPs within a split horizon group (but not spoke or mesh-SDPs) will be verified to contain a protected destination MAC address. If the packet is found to contain a non-protected destination MAC, it will be discarded. Detecting a non-protected destination MAC on the SAP will not cause the SAP to be placed in the operationally down state. No alarms are generated.

If the destination MAC address is unknown, even if the packet is entering a restricted SAP, with **restrict-unprotected-dst** enabled, it will be flooded.

Default

no restrict-unprotected-dst

Platforms

All

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39.126 restricted-to-home

restricted-to-home

Syntax

[**no**] **restricted-to-home**

Context

[Tree] (config>system>security>user restricted-to-home)

[Tree] (config>system>security>user-template restricted-to-home)

Full Context

configure system security user restricted-to-home

configure system security user-template restricted-to-home

Description

This command denies the user from accessing files outside of their local home directory. Files can be accessed locally by CLI file commands and output modifiers such as **>** (file redirect).

When enabled, the system denies all configuration save operations (such as **admin save**) via any management interface (such as CLI and NETCONF) unless **save-when-restricted** is enabled.

When **restricted-to-home** is configured, file access is denied unless the **home-directory** is configured and the directory is created by an administrator.

The **no** form of this command permits the user to access all files on the system and to remote files.

Default

restricted-to-home

Platforms

All

39.127 results

results

Syntax

results *file-url*

no results

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Context

[Tree] (config>system>script-control>script-policy results)

Full Context

configure system script-control script-policy results

Description

This command is used to specify the location where the system writes the output of an event script's execution.

The **no** form of the command removes the file location from the configuration. Scripts will not execute if there is no result location defined.

Default

no results

Parameters

file-url

Specifies the location to send CLI output from script runs. The *file-url* is a location, directory, and filename prefix to which a data and timestamp suffix is added when the results files are created during a script run, as follows:

*file-url*_YYYYMMDD-hhmmss.uuuuuu.out

where:

YYYYMMDD — date

hhmmss — hours, minutes, and seconds

uuuuuu — microseconds (padded to 6 characters with leading zeros)

Values *local-url* | *remote-url*

local-url — [*cflash-id/*] [*file-path*] 167 chars max, including *cflash-idfile-path* 166 chars max

remote url — [{ftp:// | tftp://}*login*:*password*@*remote-location/*][*file-path*] 255 characters max directory length 99 characters max each

remote-location — [*hostname* | *ipv4-address* | *ipv6-address*]

ipv4-address — *a.b.c.d*

ipv6-address — x:x:x:x:x:x:x:x[-*interface*] x:x:x:x:x:x:d.d.d.d[-*interface*] x — [0 to FFFF]H d — [0 to 255]D interface — 32 characters max, for link local addresses

cflash-id — cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

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39.128 resv

resv

Syntax

resv [**detail**]

no resv

Context

[Tree] (debug>router>rsvp>event resv)

Full Context

debug router rsvp event resv

Description

This command debugs RSVP reservation events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about RSVP reservation events.

Platforms

All

resv

Syntax

resv [**detail**]

no resv

Context

[Tree] (debug>router>rsvp>packet resv)

Full Context

debug router rsvp packet resv

Description

This command enables debugging for RSVP resv packets.

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The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about RSVP Resv events.

Platforms

All

39.129 resv-cbs

resv-cbs

Syntax

resv-cbs *percent-or-default* **amber-alarm-action step** *percent* **max** *percent*

resv-cbs *percent-or-default*

no resv-cbs

Context

[Tree] (config>port>network>egress>pool resv-cbs)

[Tree] (config>port>access>egress>pool resv-cbs)

[Tree] (config>port>access>ingress>pool resv-cbs)

Full Context

configure port network egress pool resv-cbs

configure port access egress pool resv-cbs

configure port access ingress pool resv-cbs

Description

This command defines the percentage or specifies the sum of the pool buffers that are used as a guideline for CBS calculations for access and network ingress and egress queues. Two actions are accomplished by this command:

- A reference point is established to compare the currently assigned (provisioned) total CBS with the amount the buffer pool considers to be reserved. Based on the percentage of the pool reserved that has been provisioned, the over provisioning factor can be calculated.
- The size of the shared portion of the buffer pool is indirectly established. The shared size is important to the calculation of the instantaneous-shared-buffer-utilization and the average-shared-buffer-utilization variables used in Random Early Detection (RED) per packet slope plotting.

It is important to note that this command does not actually set aside buffers within the buffer pool for CBS reservation. The CBS value per queue only determines the point at which enqueuing packets are subject

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to a RED slope. Oversubscription of CBS could result in a queue operating within its CBS size and still not able to enqueue a packet due to unavailable buffers. The resv-cbs parameter can be changed at any time.

If the total pool size is 10 Mb and the resv-cbs set to 5, the 'reserved size' is 500 kb.

The **no** form of this command clears all the adaptive configurations. There cannot be any adaptive sizing enabled for default **resv-cbs**.

Default

resv-cbs 30

Parameters

percent-or-default

Specifies the pool buffer size percentage.

Values 0 to 100, **default**

amber-alarm-action step *percent*

Specifies the percentage step-size for the reserved CBS size of the pool. When using the default value, the adaptive CBS sizing is disabled. To enable adaptive CBS sizing, **step** *percent* must be set to non-default value along with the **max** parameter. When reserved CBS is default adaptive CBS sizing cannot be enabled. The reserved CBS (Committed Burst Size) defines the amount of buffer space within the pool that is not considered shared.

Values 1 to 100

Default 0

max *percent*

Specifies the maximum percentage for the reserved CBS size of the pool. When using the default value, the adaptive CBS sizing is disabled. To enable adaptive CBS sizing, **max** value must be set to non-default value along with the **step** *percent*. When reserved CBS is default adaptive CBS sizing cannot be enabled. The reserved CBS (Committed Burst Size) defines the amount of buffer space within the pool that is not considered shared. Max reserved CBS must not be more than the reserved CBS.

Values 1 to 100

Default 0

Platforms

All

resv-cbs

Syntax

resv-cbs min *percentage* **max** *percentage*

no resv-cbs

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Context

[Tree] (config>card>fp>egress>wred-queue-control resv-cbs)

Full Context

configure card fp egress wred-queue-control resv-cbs

Description

This command defines the amount of buffers within the WRED mega-pool that will be set aside for WRED queues operating within their configured CBS thresholds. **Note** that the **min** *percentage* and **max** *percentage* parameters must be set to the same value. The forwarding plane protects against WRED queue buffer starvation by setting aside a portion of the buffers within the WRED mega-pool. The WRED queue CBS threshold defines when a WRED queue requests buffers from reserved portion of the WRED mega-pool and when it starts requesting buffers from the shared portion of the mega-pool. With proper oversubscription provisioning, this prevents a seldom active queue from being denied a buffer from the mega-pool when the shared portion of the mega-pool is congested.

The WRED mega-slope reserve CBS size is controlled in the same manner as the overall sizing of the WRED mega-pool. A min and max parameter is provided to scope the range that the reserved portion based on percentages of the WRED mega-pool current size.

The **no** form of this command immediately restores the default min and max percentage values for sizing the WRED mega-pool CBS reserve.

Default

resv-cbs min 25.00 max 25.00

Parameters

min *percentage*

Specifies that the required keyword defines the minimum percentage of the WRED mega-pool buffers that will be applied to the CBS reserve. The value given for *percentage* must be less than or equal to the value given for the **max** *percentage*. Percentages are defined with an accuracy of hundredths of a percent in the nn.nn format (15.65 = 15.65%).

Values 0.00 to 99.99

Default 25.00

max *percentage*

Specifies that the required keyword defines the maximum percentage of the WRED mega-pool buffers that may be applied to the CBS reserve. The value given for *percentage* must be greater than or equal to the value given for the **min** *percentage*. Percentages are defined with an accuracy of hundredths of a percent in the nn.nn format (15.65 = 15.65%).

Values 0.01 to 99.99

Default 25.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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resv-cbs

Syntax

resv-cbs *percent-or-default*

resv-cbs *percent-or-default* **amber-alarm-action step** *percent* **max** *percent*

no resv-cbs

Context

[Tree] (config>card>fp>ingress>network>pool resv-cbs)

Full Context

configure card fp ingress network pool resv-cbs

Description

This command defines the percentage or specifies the sum of the pool buffers that are used as a guideline for CBS calculations for access and network ingress and egress queues. Two actions are accomplished by this command:

- A reference point is established to compare the currently assigned (provisioned) total CBS with the amount the buffer pool considers to be reserved. Based on the percentage of the pool reserved that has been provisioned, the over provisioning factor can be calculated.
- The size of the shared portion of the buffer pool is indirectly established. The shared size is important to the calculation of the instantaneous-shared-buffer-utilization and the average-shared-buffer-utilization variables used in Random Early Detection (RED) per packet slope plotting.

It is important to note that this command does not actually set aside buffers within the buffer pool for CBS reservation. The CBS value per queue only determines the point at which enqueuing packets are subject to a RED slope. Oversubscription of CBS could result in a queue operating within its CBS size and still not able to enqueue a packet due to unavailable buffers. The **resv-cbs** parameter can be changed at any time.

If the total pool size is 10 Mb and the **resv-cbs** set to 5, the 'reserved size' is 500 kb.

The **no** form of this command clears all the adaptive configurations. There cannot be any adaptive sizing enabled for default **resv-cbs**.

Default

resv-cbs 30

Parameters

percent-or-default

Specifies the pool buffer size percentage.

Values 0 to 100, **default**

amber-alarm-action step ***percent***

Specifies the percentage step-size for the reserved CBS size of the pool. When using the default value, the adaptive CBS sizing is disabled. To enable adaptive CBS sizing, step percent must be set to non-default value along with the max parameter. When reserved

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CBS is default adaptive CBS sizing cannot be enabled. The reserved CBS defines the amount of buffer space within the pool that is not considered shared.

Values 1 to 100

Default 0

max *percent*

Specifies the maximum percentage for the reserved CBS size of the pool. When using the default value, the adaptive CBS sizing is disabled. To enable adaptive CBS sizing, **max** value must be set to non-default value along with the **step** *percent*. When reserved CBS is default adaptive CBS sizing cannot be enabled. The reserved CBS defines the amount of buffer space within the pool that is not considered shared. Max reserved CBS must not be more than the reserved CBS.

Values 1 to 100

Default 0

Platforms

All

resv-cbs

Syntax

resv-cbs *percent-or-default*

no resv-cbs

Context

[Tree] (config>isa>aa-grp>qos>egress>from-subscriber>pool resv-cbs)

[Tree] (config>isa>aa-grp>qos>egress>to-subscriber>pool resv-cbs)

Full Context

configure isa application-assurance-group qos egress from-subscriber pool resv-cbs

configure isa application-assurance-group qos egress to-subscriber pool resv-cbs

Description

This command defines the percentage or specifies the sum of the pool buffers that are used as a guideline for CBS calculations for access and network ingress and egress queues. Two actions are accomplished by this command.

- A reference point is established to compare the currently assigned (provisioned) total CBS with the amount the buffer pool considers to be reserved. Based on the percentage of the pool reserved that has been provisioned, the over provisioning factor can be calculated.

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- The size of the shared portion of the buffer pool is indirectly established. The shared size is important to the calculation of the instantaneous-shared-buffer-utilization and the average-shared-buffer-utilization variables used in Random Early Detection (RED) per packet slope plotting.

This command does not actually set aside buffers within the buffer pool for CBS reservation. The CBS value per queue only determines the point at which enqueuing packets are subject to a RED slope. Oversubscription of CBS could result in a queue operating within its CBS size and still not able to enqueue a packet due to unavailable buffers. The resv-cbs parameter can be changed at any time.

If the total pool size is 10 MB and the **resv-cbs** set to 5, the 'reserved size' is 500 KB.

The **no** form of this command restores the default value of 30.

Default

resv-cbs default

Parameters

percent-or-default

Specifies the pool buffer size percentage.

Values 0 to 100, default

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.130 resv-ret

resv-ret

Syntax

resv-ret *resv-ret*

Context

[Tree] (config>isa>video-group resv-ret)

Full Context

configure isa video-group resv-ret

Description

This command provides a mechanism to reserve an explicit amount of egress bandwidth, in Mb/s, for RET for all the ISAs within a video group. If the amount of egress bandwidth is less than the reserved amount, FCC requests are discarded and only RET requests processed. The bandwidth is dynamically adjusted per ISA within the video group if an ISA becomes operational/non-operational within the group.

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Default

resv-ret 0

Parameters

resv-ret

Specifies the egress bandwidth in Mb/s.

Values 0 to 10500

Platforms

7450 ESS, 7750 SR, 7750 SR-s

39.131 resverr

resverr

Syntax

resverr [**detail**]

no resverr

Context

[Tree] (debug>router>rsvp>packet resverr)

Full Context

debug router rsvp packet resverr

Description

This command debugs ResvErr packets.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about ResvErr packets.

Platforms

All

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39.132 resvtear

resvtear

Syntax

resvtear [**detail**]

no resvtear

Context

[Tree] (debug>router>rsvp>packet resvtear)

Full Context

debug router rsvp packet resvtear

Description

This command debugs ResvTear packets.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about ResvTear packets.

Platforms

All

39.133 ret

ret

Syntax

ret *percent*

Context

[Tree] (config>isa>video-group>watermark>session ret)

[Tree] (config>isa>video-group>watermark>bandwidth ret)

Full Context

configure isa video-group watermark session ret

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configure isa video-group watermark bandwidth ret

Description

This command sets the watermark to trigger the SNMP trap if the RET bandwidth or session exceeds the configured percentage. The bandwidth is the available egress bandwidth of the ISA. The SNMP trap is cleared when the consumption is lowered by 10%. For example, if the system resource of the bandwidth available is 10 Gb/s and the watermark is configured to be 90%, the SNMP trap is raised as the bandwidth exceeds 9 Gb/s (90% of 10 Gb/s). The SNMP trap is cleared when the bandwidth drops below 8.1 Gb/s (10% of 9 Gb/s = 0.9 Gb/s, and 9 Gb/s - 0.9 Gb/s = 8.1 Gb/s). The default value of the watermark is set at 90% of the system resources for both bandwidth and session.

Default

ret 90

Parameters

percent

Specifies the percentage of the system resources per ISA.

Values 1 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-s

39.134 ret-session-timeout

ret-session-timeout

Syntax

ret-session-timeout *seconds*

no ret-session-timeout

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if ret-session-timeout)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface ret-session-timeout

Description

By default, the video ISA will wait for 5 minutes before closing the RTCP session from the subscriber. The RTCP session can be adjusted from 5 second to 5 minutes. The timeout is applicable to both RET and FCC RTCP sessions.

The **no** form of the command reverts to the default.

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Default

ret-session-timeout 300

Parameters

seconds

Specifies the RET session timeout, in seconds.

Values 5 to 300

Platforms

7450 ESS, 7750 SR, 7750 SR-s

39.135 retail-service-id

retail-service-id

Syntax

retail-service-id *service-id*

no retail-service-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host retail-service-id)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host retail-service-id)

Full Context

configure subscriber-mgmt local-user-db ipoe host retail-service-id

configure subscriber-mgmt local-user-db ppp host retail-service-id

Description

This command indicates the service ID of the retailer VPRN service to which this session belongs. If the value of this object is non-zero, the session belongs to a retailer VPRN.

The **no** form of this command removes the service ID from the configuration.

Parameters

service-id

Specifies the retailer service ID or name.

Values

service-id:	1 to 2147483647
service-name:	up to 64 characters

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

39.136 retail-svc-id

retail-svc-id

Syntax

retail-svc-id *service-id*

retail-svc-id

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host retail-svc-id)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host retail-svc-id)

Full Context

configure service vprn subscriber-interface group-interface sap static-host retail-svc-id

configure service ies subscriber-interface group-interface sap static-host retail-svc-id

Description

This command specifies the service id of the retailer IES/VPRN service to which the static IPv6 host belongs. A corresponding retailer subscriber interface must exist in the specified service.

The **no** form of this command reverts to the default.

Parameters

service-id

Specifies the retailer service ID or retailer service name.

Values *service-id*: 1 to 2148007978

svc-name: A string up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retail-svc-id

Syntax

retail-svc-id *service-id*

no retail-svc-id

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range retail-svc-id)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range retail-svc-id)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range retail-svc-id

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range retail-svc-id

Description

This command configures the retailer service.

Parameters

service-id

Specifies the identifier of the retail service.

Values 1 to 2147483650

svc-name: up to 64 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

39.137 retention-timer

retention-timer

Syntax

retention-timer [*seconds*]

no retention-timer

Context

[Tree] (config>service>vprn>evpn-neighbor-synchronization retention-timer)

[Tree] (config>router>evpn-neighbor-synchronization retention-timer)

Full Context

configure service vprn evpn-neighbor-synchronization retention-timer

configure router evpn-neighbor-synchronization retention-timer

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Description

This command configures the timer that determines how long an EVPN ARP and ND entry is retained after the remote PE withdraws the MAC/IP route that originated it. The behavior for a synchronized ARP and ND entry is as follows:

- When the originating EVPN MAC/IP route is withdrawn, the retention timer starts, and the entry remains present until the timer expires.
- While the retention timer is active, the system attempts to refresh the entry by sending an ARP Request or Neighbor Solicitation to the IP owner. This refresh may occur at any point from the start of the timer until 30 seconds before it expires.
- ARP Requests and Neighbor Solicitations are staggered within the timeout period to prevent overloading the CPM transmitter when many entries require refreshing.

The **no** form of this command reverts to the default.

Default

no retention timer

Parameters

seconds

Specifies the retention timer, in seconds.

Values 0 to 65535

Platforms

All

39.138 retransmit-interval

retransmit-interval

Syntax

retransmit-interval *seconds*

no retransmit-interval

Context

[Tree] (config>service>vpls>sap>spb retransmit-interval)

[Tree] (config>service>vpls>spoke-sdp>spb retransmit-interval)

Full Context

configure service vpls sap spb retransmit-interval

configure service vpls spoke-sdp spb retransmit-interval

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Description

This command configures the minimum time between LSP PDU retransmissions on a point-to-point interface. This command is valid only for interfaces on control B-VPLS.

The no form of this command reverts to the default value.

Default

retransmit-interval 5

Parameters

seconds

The interval in seconds that SPB IS-IS LSPs can be sent on the interface.

Values 1 to 65535

Platforms

All

retransmit-interval

Syntax

retransmit-interval *seconds*

no retransmit-interval

Context

[Tree] (config>service>vprn>isis>if retransmit-interval)

Full Context

configure service vprn isis interface retransmit-interval

Description

This command configures the minimum time between LSP PDU retransmissions on a point-to-point interface.

The **no** form of this command reverts to the default value.

Default

retransmit-interval 5

Parameters

seconds

Specifies the interval in seconds that IS-IS LSPs can be sent on the interface

Values 1 to 65535

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Platforms

All

retransmit-interval

Syntax

retransmit-interval *seconds*

no retransmit-interval

Context

[Tree] (config>service>vprn>ospf>area>sham-link retransmit-interval)

[Tree] (config>service>vprn>ospf>area>if retransmit-interval)

[Tree] (config>service>vprn>ospf3>area>if retransmit-interval)

[Tree] (config>service>vprn>ospf3>area>virtual-link retransmit-interval)

[Tree] (config>service>vprn>ospf>area>virtual-link retransmit-interval)

Full Context

configure service vprn ospf area sham-link retransmit-interval

configure service vprn ospf area interface retransmit-interval

configure service vprn ospf3 area interface retransmit-interval

configure service vprn ospf3 area virtual-link retransmit-interval

configure service vprn ospf area virtual-link retransmit-interval

Description

This command specifies the length of time, in seconds, that OSPF will wait before retransmitting an unacknowledged link state advertisement (LSA) to an OSPF neighbor.

The value should be longer than the expected round trip delay between any two routers on the attached network. Once the retransmit interval expires and no acknowledgment is received, the LSA is retransmitted.

The **no** form of this command reverts to the default interval.

Default

retransmit-interval 5

Parameters

seconds

The retransmit interval in seconds expressed as a decimal integer.

Values 1 to 3600

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Platforms

All

retransmit-interval

Syntax

retransmit-interval *seconds*

no retransmit-interval

Context

[Tree] (config>router>isis>interface retransmit-interval)

Full Context

configure router isis interface retransmit-interval

Description

This command configures the minimum time between LSP PDU retransmissions on a point-to-point interface.

The **no** form of this command reverts to the default value.

Default

retransmit-interval 5

Parameters

seconds

Specifies the interval, in seconds, that IS-IS LSPs can be sent on the interface.

Values 1 to 65535

Platforms

All

retransmit-interval

Syntax

retransmit-interval *seconds*

no retransmit-interval

Context

[Tree] (config>router>ospf3>area>interface retransmit-interval)

[Tree] (config>router>ospf3>area>virtual-link retransmit-interval)

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[Tree] (config>router>ospf>area>interface retransmit-interval)

[Tree] (config>router>ospf>area>virtual-link retransmit-interval)

Full Context

configure router ospf3 area interface retransmit-interval

configure router ospf3 area virtual-link retransmit-interval

configure router ospf area interface retransmit-interval

configure router ospf area virtual-link retransmit-interval

Description

This command specifies the length of time, in seconds, that OSPF will wait before retransmitting an unacknowledged link state advertisement (LSA) to an OSPF neighbor.

The value should be longer than the expected round trip delay between any two routers on the attached network. After the retransmit-interval expires and no acknowledgment has been received, the LSA will be retransmitted.

The **no** form of this command reverts to the default interval.

Default

retransmit-interval 5

Parameters

seconds

Specifies the retransmit interval in seconds expressed as a decimal integer.

Values 1 to 1800

Platforms

All

39.139 retransmit-time

retransmit-time

Syntax

retransmit-time *milli-seconds*

no retransmit-time

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv retransmit-time)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv retransmit-time)

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[Tree] (config>subscr-mgmt>rtr-adv-plcy retransmit-time)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv retransmit-time)

[Tree] (config>router>router-advert>if retransmit-time)

[Tree] (config>service>vprn>router-advert>if retransmit-time)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv retransmit-time)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements retransmit-time

configure service vprn subscriber-interface ipv6 router-advertisements retransmit-time

configure subscriber-mgmt router-advertisement-policy retransmit-time

configure service ies subscriber-interface ipv6 router-advertisements retransmit-time

configure router router-advertisement interface retransmit-time

configure service vprn router-advertisement interface retransmit-time

configure service vprn subscriber-interface group-interface ipv6 router-advertisements retransmit-time

Description

This command configures the value to be placed in the retransmit timer field in router advertisements sent from this interface.

The **no** form of this command reverts to the default.

Default

retransmit-time 0

Parameters

milli-seconds

Specifies the retransmit time, in milli-seconds, for advertisement from this group-interface.

Values 0 to 1800000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt router-advertisement-policy retransmit-time
- configure service vprn subscriber-interface group-interface ipv6 router-advertisements retransmit-time
- configure service ies subscriber-interface group-interface ipv6 router-advertisements retransmit-time
- configure service vprn subscriber-interface ipv6 router-advertisements retransmit-time
- configure service ies subscriber-interface ipv6 router-advertisements retransmit-time

All

- configure service vprn router-advertisement interface retransmit-time
- configure router router-advertisement interface retransmit-time

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39.140 retries

retries

Syntax

retries *number*

no retries

Context

[Tree] (config>subscr-mgmt>pfcp-association>heartbeat retries)

Full Context

configure subscriber-mgmt pfcp-association heartbeat retries

Description

This command configures the number of times the same Heartbeat Request message is sent before the PFCP path to the peer is considered down.

The **no** form of this command reverts to the default value.

Default

retries 4

Parameters

number

Specifies the number of times the same Heartbeat Request message is sent. This value should be identical on both the BNG UPF and CPF. For information about the BNG CUPS CPF configuration, refer to the *CMG BNG CUPS Control Plane Function Guide* and the *7750 SR MG and CMG CLI Reference Guide*.

Values 1 to 15

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retries

Syntax

retries *number*

no retries

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Context

[Tree] (config>subscr-mgmt>pfcp-association>tx retries)

Full Context

configure subscriber-mgmt pfcp-association tx retries

Description

This command configures the number of times a message is retried before the message is considered lost. This retry number is also known as N1.

The **no** form of this command reverts to the default value.

Default

retries 3

Parameters

number

Specifies the number of times a message is retried.

This value should be identical on both the BNG UPF and CPF. For information about the BNG CUPS CPF configuration, refer to the *CMG BNG CUPS Control Plane Function Guide* and the *7750 SR MG and CMG CLI Reference Guide*.

Values 1 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retries

Syntax

retries *count*

no retries

Context

[Tree] (config>system>grpc>tcp-keepalive retries)

Full Context

configure system grpc tcp-keepalive retries

Description

This command configures the number of TCP keepalive probes sent by the router that must be unacknowledged before the connection is closed.

The **no** form of this command reverts to the default value.

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Default

retries 4

Parameters

count

Specifies the number of missed keep-alives before the TCP connection is declared down.

Values 3 to 100

Default 4

Platforms

All

retries

Syntax

retries *count*

no retries

Context

[Tree] (config>system>telemetry>destination-group>tcp-keepalive retries)

[Tree] (config>system>grpc-tunnel>destination-group>tcp-keepalive retries)

Full Context

configure system telemetry destination-group tcp-keepalive retries

configure system grpc-tunnel destination-group tcp-keepalive retries

Description

This command configures the number of missed TCP keepalive probes before the TCP connection is closed and attempts are made to reach other destinations within the same destination group.

The **no** form of this command reverts to the default value.

Default

retries 4

Parameters

count

Specifies the number of missed keep-alives before the TCP connection is declared down.

Values 3 to 100

Default 4

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Platforms

All

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40 r Commands – Part III

40.1 retry

retry

Syntax

retry *count*

Context

[Tree] (config>aaa>l2tp-acct-plcy>radius-acct-server retry)

Full Context

configure aaa l2tp-accounting-policy radius-accounting-server retry

Description

This command configures the number of times the router attempts to contact the RADIUS server for authentication.

Note:
The retry count includes the first attempt.

The **no** form of this command reverts to the default value.

Default

retry 3 (the initial attempt as well as two retried attempts)

Parameters

count

Specifies the retry count.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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retry

Syntax

retry *count*

Context

[Tree] (config>app-assure>rad-acct-plcy>server retry)

Full Context

configure application-assurance radius-accounting-policy radius-accounting-server retry

Description

This command configures the number of times the router attempts to contact the RADIUS accounting server if a response to the initial message is not received.

The **no** form of this command reverts to the default value.

Default

retry 3

Parameters

count

Specifies the retry count.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

retry

Syntax

retry *count*

no retry

Context

[Tree] (config>subscr-mgmt>acct-plcy>server retry)

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server retry)

Full Context

configure subscriber-mgmt radius-accounting-policy radius-accounting-server retry

configure subscriber-mgmt authentication-policy radius-authentication-server retry

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Description

This command configures the number of times the router attempts to contact the RADIUS server for authentication or accounting, if not successful the first time.

The **no** form of this command reverts to the default value.

Default

retry 3

Parameters

count

Specifies the retry count.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retry

Syntax

retry *count*

no retry

Context

[Tree] (config>aaa>radius-srv-plcy>servers retry)

Full Context

configure aaa radius-server-policy servers retry

Description

This command configures the number of times the router attempts to contact the RADIUS server, if not successful the first time.

The **no** form of this command reverts to the default.

Default

retry 3

Parameters

count

Specifies the number of times a signaling request message is transmitted towards the same peer.

Values 1 to 256

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retry

Syntax

retry *minutes*

no retry

Context

[Tree] (config>service>vpls>bgp-evpn>mac-duplication retry)

Full Context

configure service vpls bgp-evpn mac-duplication retry

Description

Specifies the timer after which the MAC in hold-down state is automatically flushed and the mac-duplication process starts again. This value is expected to be equal to two times or more than that of window.

If **no** retry is configured, this implies that, when mac-duplication is detected, MAC updates for that MAC will be held down till the user intervenes or a network event (that flushes the MAC) occurs.

Default

retry 9

Parameters

minutes

Specifies the BGP EVPN MAC duplication retry in minutes.

Values 2 to 60

Platforms

All

retry

Syntax

retry *count*

no retry

Context

[Tree] (config>system>security>dot1x>radius-plcy retry)

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[Tree] (config>system>security>radius retry)

[Tree] (config>service>vprn>aaa>rmt-srv>radius retry)

Full Context

configure system security dot1x radius-plcy retry

configure system security radius retry

configure service vprn aaa remote-servers radius retry

Description

This command configures the number of times the router attempts to contact the RADIUS server for authentication if there are problems communicating with the server.

The **no** form of this command reverts to the default value.

Default

retry 3

Parameters

count

Specifies the retry count.

Values 1 to 10

Platforms

All

retry

Syntax

retry *count*

no retry

Context

[Tree] (config>system>file-trans-prof retry)

Full Context

configure system file-transmission-profile retry

Description

This command specifies the number of retries on transport protocol level.

When the virtual router does not receive any data from a server (e.g., FTP or HTTP server) after the configured **timeout** *seconds*, the router may repeat the request to the server. The number of retries specifies the maximum number of repeated requests.

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The **no** form of this command disables the retry.

Default

no retry

Parameters

count

Specifies the number of retries.

Values 1 to 256

Platforms

All

retry

Syntax

retry *count*

Context

[Tree] (config>aaa>isa-radius-plcy>servers retry)

Full Context

configure aaa isa-radius-policy servers retry

Description

This command configures the number of times the router attempts to contact the RADIUS server for authentication, if not successful the first time.

The **no** form of the command reverts to the default value.

Default

retry 3

Parameters

count

Specifies the retry count.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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retry

Syntax

retry *count*

no retry

Context

[Tree] (config>system>security>ldap retry)

Full Context

configure system security ldap retry

Description

This command configures the number of retries for the SR OS in its attempt to reach the current LDAP server before attempting the next server.

The **no** form of this command reverts to the default value.

Default

retry 3

Parameters

count

Specifies the number of retransmissions.

Values 1 to 10

Default 3

Platforms

All

40.2 retry-count

retry-count

Syntax

retry-count [*count*]

no retry-count

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Context

[Tree] (config>subscr-mgmt>shcv-policy>periodic retry-count)

Full Context

configure subscriber-mgmt shcv-policy periodic retry-count

Description

This command configures the number of retransmissions.

The **no** form of this command reverts to the default.

Default

retry-count 1 — For trigger-type ip-conflict, host-limit-exceeded and mobility

retry-count 10 — For trigger-type inactivity and MAC learning

Parameters

count

Specifies the number of retransmissions in periodic connectivity verification.

Values 2 to 29

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retry-count

Syntax

retry-count [*count*]

no retry-count

Context

[Tree] (config>subscr-mgmt>shcv-policy>trigger retry-count)

Full Context

configure subscriber-mgmt shcv-policy trigger retry-count

Description

This command configures the number of retransmissions in periodic connectivity verification.

The **no** form of this command reverts to the default.

Default

retry-count 1

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Parameters

count

Specifies the number of retransmissions in periodic connectivity verification.

Values 1 to 29

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retry-count

Syntax

retry-count *retry-count*

no retry-count

Context

[Tree] (config>service>epipe>spoke-sdp-fec retry-count)

Full Context

configure service epipe spoke-sdp-fec retry-count

Description

This optional command specifies the number of attempts software should make to reestablish the spoke SDP after it has failed. After each successful attempt, the counter is reset to zero.

When the specified number is reached, no more attempts are made and the spoke-sdp is put into the shutdown state.

Use the no shutdown command to bring up the path after the retry limit is exceeded.

The **no** form of this command reverts the parameter to the default value.

Default

retry-count 30

Parameters

retry-count

The maximum number of retries before putting the spoke-sdp into the shutdown state.

Values 10 to 10000

Platforms

All

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retry-count

Syntax

retry-count *retry-count*

no retry-count

Context

[Tree] (config>test-oam>ldp-treetrace>path-discovery retry-count)

[Tree] (config>test-oam>ldp-treetrace>path-probing retry-count)

Full Context

configure test-oam ldp-treetrace path-discovery retry-count

configure test-oam ldp-treetrace path-probing retry-count

Description

In the path discovery phase of the LDP tree trace feature, this command configures the number of retransmissions of an LSP trace message to discover the path of an LDP FEC when no response is received within the **timeout** parameter.

In the path-probing phase of the LDP tree trace, this command configures the number of retransmissions of an LSP ping message to probe the path of an LDP FEC when no response is received within the **timeout** parameter.

The **no** form of this command resets the retry count to its default value.

Default

no retry-count

Parameters

retry-count

Specifies the maximum number of consecutive time outs allowed before failing a path probe (ping).

Platforms

All

retry-count

Syntax

retry-count [*count*]

no retry-count

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Context

[Tree] (config>service>pw-routing retry-count)

Full Context

configure service pw-routing retry-count

Description

This optional command specifies the number of attempts software should make to re-establish the spoke SDP after it has failed. After each successful attempt, the counter is reset to zero.

When the specified number is reached, no more attempts are made and the spoke SDP is put into the shutdown state.

Use the **no shutdown** command to bring up the path after the retry limit is exceeded.

The **no** form of this command reverts the parameter to the default value.

Default

no retry-count

Parameters

count

Specifies the maximum number of retries before putting the spoke SDP into the shutdown state.

Values 10 to 10000

Platforms

All

40.3 retry-interval

retry-interval

Syntax

retry-interval min *minimum* **max** *maximum*

no retry-interval

Context

[Tree] (config>aaa>route-downloader retry-interval)

Full Context

configure aaa route-downloader retry-interval

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Description

This command sets the duration, in minutes, of the retry interval. The retry interval is the interval meant for the system to retry sending an Access Request message after the previous one was unanswered (not with an access reject but rather just a RADIUS failure or ICMP port unreachable). This timer is actually an exponential backoff timer that starts at **min** and is capped at **max** minutes.

The **no** form of this command reverts to the default values.

Default

retry-interval min 10 max 20

Parameters

min ***minimum***

Specifies the duration, in minutes, of the retry interval. This duration grows exponentially after each sequential failure.

Values 1 to 1440

max ***maximum***

Specifies the maximum duration, in minutes, of the retry interval.

Values 1 to 1440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retry-interval

Syntax

retry-interval *milliseconds*

no retry-interval

Context

[Tree] (config>router>wpp>portals>portal retry-interval)

[Tree] (config>service>vprn>wpp>portals>portal retry-interval)

Full Context

configure router wpp portals portal retry-interval

configure service vprn wpp portals portal retry-interval

Description

This command configures the time interval between two consecutive retransmissions

The **no** form of this command reverts to the default.

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Default

retry-interval 2000

Parameters

milliseconds

Specifies the time interval between two consecutive retransmissions.

Values 10 to 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

retry-interval

Syntax

retry-interval *seconds*

no retry-interval

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update retry-interval)

Full Context

configure system security pki ca-profile auto-crl-update retry-interval

Description

This command specifies the interval, in seconds, that the system waits before retrying the configured **url-entry** list when **schedule-type** is **next-update-based** and none of the URLs return a qualified CRL.

The **no** form of this command causes the system to retry immediately without waiting.

Default

retry-interval 3600

Parameters

seconds

Specifies an interval, in seconds, before retrying to update the CRL.

Values 1 to 31622400

Platforms

All

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retry-interval

Syntax

retry-interval *seconds*

Context

[Tree] (config>system>security>pki>cert-upd-prof retry-interval)

Full Context

configure system security pki certificate-update-profile retry-interval

Description

This command configures the retry interval after the update fails.

Default

retry-interval 3600

Parameters

seconds

Specifies a retry interval, in seconds, after a failed update.

Values 60 to 36000

Platforms

All

40.4 retry-limit

retry-limit

Syntax

retry-limit *number*

no retry-limit

Context

[Tree] (config>router>mpls>lsp-template retry-limit)

[Tree] (config>router>mpls>lsp retry-limit)

Full Context

configure router mpls lsp-template retry-limit

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configure router mpls lsp retry-limit

Description

This optional command specifies the number of attempts software should make to re-establish the LSP after it has failed LSP. After each successful attempt, the counter is reset to zero.

When the specified number is reached, no more attempts are made and the LSP path is put into the **shutdown** state.

Use the config router **mpls lsp** *lsp-name* **no shutdown** command to bring up the path after the retry-limit is exceeded.

For P2MP LSP that are created based on the LSP template, all S2Ls must attempt to retry-limit before the client application is informed of failure.

The **no** form of this command reverts to the default value.

Default

retry-limit 0 (no limit, retries forever)

Parameters

number

Specifies the number of times software will attempt to re-establish the LSP after it has failed. Allowed values are integers in the range of 0 to 10000.

Values 0 to 10000

Platforms

All

40.5 retry-on-igp-overload

retry-on-igp-overload

Syntax

[**no**] **retry-on-igp-overload**

Context

[Tree] (config>router>mpls retry-on-igp-overload)

Full Context

configure router mpls retry-on-igp-overload

Description

This command allows for the global configuration of the handling in the ingress LER of the LSP paths which transit an LSR that advertised the IS-IS overload bit.

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By default, MPLS re-optimizes using make-before-break (MBB) the transit paths away from the node in an IS-IS overload state only at the time a manual or timer-based re-signal is performed for the LSP paths. MPLS will not act immediately on the receipt of the IS-IS overload bit.

When this command is enabled, MPLS in the ingress LER immediately tears down and re-signals all LSP paths away from a transit LSR node which advertised the IS-IS overload bit.

LSP paths that terminate on the node that advertised the IS-IS overload bit are not acted on whether this command is enabled or disabled.

The **no** form of this command returns to the default behavior.

Platforms

All

40.6 retry-timeout

retry-timeout

Syntax

retry-timeout *timer*

no retry-timeout

Context

[Tree] (config>port>ethernet>dwl retry-timeout)

Full Context

configure port ethernet down-when-looped retry-timeout

Description

This command configures the minimum wait time before re-enabling port after loop detection.

Default

no retry-timeout

Parameters

timer

Specifies the minimum wait time before re-enabling port after loop detection.

Values 0, 10 to 160

Platforms

All

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retry-timeout

Syntax

retry-timeout *timeout*

no retry-timeout

Context

[Tree] (config>service>template>vpls-template>mac-move retry-timeout)

[Tree] (config>service>vpls>mac-move retry-timeout)

Full Context

configure service template vpls-template mac-move retry-timeout

configure service vpls mac-move retry-timeout

Description

This indicates the time in seconds to wait before a SAP that has been disabled after exceeding the maximum relearn rate is re-enabled.

It is recommended that the retry-timeout value is larger or equal to 5s * cumulative factor of the highest priority port so that the sequential order of port blocking will not be disturbed by re-initializing lower priority ports.

A zero value indicates that the SAP will not be automatically re-enabled after being disabled. If, after the SAP is re-enabled it is disabled again, the retry timeout is increased with the provisioned retry timeout in order to avoid thrashing. For example, when retry-timeout is set to 15, it increments (15,30,45,60...).

The **no** form of this command reverts to the default value.

Default

retry-timeout 10 (when mac-move is enabled)

Parameters

timeout

Specifies the time, in seconds, to wait before a SAP that has been disabled after exceeding the maximum relearn rate is re-enabled.

Values 0 to 120

Platforms

All

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retry-timeout

Syntax

retry-timeout *seconds*

no retry-timeout

Context

[Tree] (config>system>security>tacplus retry-timeout)

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus retry-timeout)

Full Context

configure system security tacplus retry-timeout

configure service vprn aaa remote-servers tacplus retry-timeout

Description

This command configures the maximum timeout before retrying requests when health checks are disabled and all TACACS+ servers are operationally down. Set the value of this timer to a lower value or disable it to increase the interactive responsiveness of AAA requests after the servers become unreachable.

The **no** form of this command removes the retry timeout and requests are sent immediately.

Default

retry-timeout 300

Parameters

seconds

Specifies the maximum timeout, in seconds, before retrying requests.

Values 1 to 300

Default 300

Platforms

All

40.7 retry-timer

retry-timer

Syntax

retry-timer *retry-timer*

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no retry-timer

Context

[Tree] (config>service>epipe>spoke-sdp-fec retry-timer)

Full Context

configure service epipe spoke-sdp-fec retry-timer

Description

This command specifies a retry-timer for the spoke SDP. This is a configurable exponential back-off timer that determines the interval between retries to reestablish a spoke SDP if it fails and a label withdraw message is received with the status code "AII unreachable".

The **no** form of this command reverts the timer to its default value.

Default

retry-timer 30

Parameters

retry-timer

The initial retry-timer value in seconds.

Values 10 to 480

Platforms

All

retry-timer

Syntax

retry-timer *seconds*

no retry-timer

Context

[Tree] (config>router>mpls>lsp-template retry-timer)

[Tree] (config>router>mpls>lsp retry-timer)

Full Context

configure router mpls lsp-template retry-timer

configure router mpls lsp retry-timer

Description

This command configures the time (in s), for LSP re-establishment attempts after it has failed. The retry time is jittered to +/- 25% of its nominal value.

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For P2MP LSP created based on LSP template, all S2Ls must attempt to retry-limit before client application is informed of failure.

The **no** form of this command reverts to the default value.

Default

retry-timer 30

Parameters

seconds

Specifies the amount of time (in s), between attempts to re-establish the LSP after it has failed. Allowed values are integers in the range of 1 to 600.

Values 1 to 600

Platforms

All

retry-timer

Syntax

retry-timer *secs*

no retry-timer

Context

[Tree] (config>service>pw-routing retry-timer)

Full Context

configure service pw-routing retry-timer

Description

This command configures a retry-timer for the spoke-SDP. This is a configurable exponential back-off timer that determines the interval between retries to re-establish a spoke-SDP if it fails and a label withdraw message is received with the status code "AII unreachable”.

The **no** form of this command reverts the timer to its default value.

Default

no retry-timer

Parameters

secs

Specifies initial retry-timer value in seconds.

Values 10 to 480

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Platforms
All

40.8 return-path

return-path

Syntax
return-path

Context
[Tree] (config>test-oam>link-meas>template>twl return-path)

Full Context
configure test-oam link-measurement measurement-template twamp-light return-path

Description
Commands in this context configure the return-path TLV for the test packet.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.9 return-path-bfd-sid

return-path-bfd-sid

Syntax
return-path-bfd-sid *ipv6-address*

no return-path-bfd-sid

Context
[Tree] (conf>router>segment-routing>sr-policies>policy>srv6 return-path-bfd-sid)

Full Context
configure router segment-routing sr-policies static-policy segment-routing-v6 return-path-bfd-sid

Description
This command configures the Seamless Bidirectional Forwarding Detection (S-BFD) session to echo mode and pushes an additional SRv6 SID in the SRH on S-BFD packets only.

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The command applies to the initiator of the S-BFD sessions. The return path SID refers to a binding SID on a SRv6 policy configured on the far-end router. Instead of being routed through the IGP path, the S-BFD packet returns to the initiator through this SRv6 return path.

The **no** form of this command disables the controlled return-path SID and echo mode for S-BFD. If the command is deleted, the S-BFD session returns to asynchronous mode and the initiator node does not push a return-path SID. Any S-BFD packets for this SRv6 policy that the terminating router receives are sent back using a routed return path.

Parameters

ipv6-address

Specifies the IPv6 address.

Values
- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

40.10 return-path-label

return-path-label

Syntax

return-path-label *label-value*

no return-path-label

Context

[Tree] (config>router>segment-routing>main-plcy return-path-label)

[Tree] (config>router>mpls>lsp>sec>bfd return-path-label)

[Tree] (config>router>mpls>lsp>bfd return-path-label)

[Tree] (config>router>mpls>lsp>primary>bfd return-path-label)

[Tree] (config>router>mpls>lsp-template>bfd return-path-label)

Full Context

configure router segment-routing maintenance-policy return-path-label

configure router mpls lsp secondary bfd return-path-label

configure router mpls lsp bfd return-path-label

configure router mpls lsp primary bfd return-path-label

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configure router mpls lsp-template bfd return-path-label

Description

This command configures the Seamless Bidirectional Forwarding Detection (S-BFD) session to echo mode and adds an additional MPLS label, referring to an MPLS-labeled reply path for the S-BFD packet, to the bottom of the label stack for the S-BFD packet.

The command applies to the initiator of the S-BFD sessions. The return-path label may be a binding SID for an SR policy or other MPLS path configured on the reflector router. Instead of being routed through the IGP path, the S-BFD packet returns to the initiator through this MPLS return path.

The **no** form of this command disables the controlled return-path label and echo mode for S-BFD. S-BFD returns to asynchronous mode and the initiator node does not push a return-path label. Any S-BFD packets for this LSP or path that the reflector receives are sent back using a routed return path.

Default

no return-path-label

Parameters

label-value

Specifies the label value.

Values 32 to 1048575

Platforms

All

- configure router segment-routing maintenance-policy return-path-label

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure router mpls lsp secondary bfd return-path-label
- configure router mpls lsp bfd return-path-label
- configure router mpls lsp primary bfd return-path-label
- configure router mpls lsp-template bfd return-path-label

40.11 reuse

reuse

Syntax

reuse *integer*

no reuse

Context

[Tree] (config>router>policy-options>damping reuse)

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Full Context

configure router policy-options damping reuse

Description

This command configures the reuse parameter for the route damping profile.

When the Figure of Merit (FoM) value falls below the **reuse** threshold, the route is once again considered valid and can be reused or included in route advertisements.

The **no** form of this command removes the reuse parameter from the damping profile.

Default

no reuse

Parameters

integer

Specifies the reuse value expressed as a decimal integer.

Values 1 to 20000

Platforms

All

40.12 reuse-ext-ip

reuse-ext-ip

Syntax

[**no**] **reuse-ext-ip**

Context

[Tree] (config>service>nat>pcp-server-policy reuse-ext-ip)

Full Context

configure service nat pcp-server-policy reuse-ext-ip

Description

This command enables the system to reuse the external IP address assigned to a subscriber when the requested well-known port or external IP mapping is not available.

The **no** form of this command causes a request for a well-known port to be allocated exactly as requested but on a different external IP address from the one that the subscriber is already using. This occurs if the requested well-known port is already allocated to another subscriber which is sharing the same external IP address. The existing external IP address is initially allocated to the subscriber by the virtue of initial traffic flow.

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Default

no reuse-ext-ip

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.13 reverse-path

reverse-path

Syntax

[**no**] **reverse-path**

Context

[Tree] (config>router>mpls>mpls-tp>transit-path reverse-path)

Full Context

configure router mpls mpls-tp transit-path reverse-path

Description

This command enables the reverse path of an MPLS-TP reverse path to be created or edited.

The reverse path must be created after the forward path.

The **no** form of this command removes the reverse path. The reverse path must be removed before the forward path.

Default

no reverse-path

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.14 reverse-route

reverse-route

Syntax

reverse-route

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Context

[Tree] (config>ipsec>tnl-temp reverse-route)

Full Context

configure ipsec tunnel-template reverse-route

Description

Commands in this context configure the dynamic LAN-to-LAN (DL2L) tunnel reverse-route options for the tunnel template.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.15 revert

revert

Syntax

revert {**latest-rb**| *checkpoint-id* | **rescue**} [**now**]

Context

[Tree] (admin>rollback revert)

Full Context

admin rollback revert

Description

This command initiates a configuration rollback revert operation that will return the configuration state of the node to a previously saved checkpoint. The rollback revert minimizes impacts to running services. There are no impacts in areas of configuration that did not change since the checkpoint. Configuration parameters that changed (or items on which changed configuration have dependencies) are first removed (revert to default) and the previous values are then restored (can be briefly service impacting in changed areas).

Parameters

latest-rb

Specifies the most recently created rollback checkpoint (corresponds to the file-url.rb rollback checkpoint file).

checkpoint-id

Specifies the configuration to return to (which rollback checkpoint file to use). Checkpoint-id of 1 corresponds to the file-url.rb.1 rollback checkpoint file. The higher the id, the older the checkpoint. Max is the highest rollback checkpoint supported or configured.

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Values 1 to 9

rescue

Specifies to revert to the rescue checkpoint.

now

Forces a rollback revert without any interactive confirmations (assumes 'y' for any confirmations that would have occurred).

Platforms

All

revert

Syntax

[**no**] **revert**

Context

[Tree] (config>system>sync-if-timing revert)

Full Context

configure system sync-if-timing revert

Description

This command allows the clock to revert to a higher priority reference if the current reference goes offline or becomes unstable. When the failed reference becomes operational, it is eligible for selection. When the mode is non-revertive, a failed clock source is not selected again.

Default

no revert

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.16 revert-members

revert-members

Syntax

revert-members [*1..8*]

no revert-members

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Context

[Tree] (config>service>vprn>isis>link-group>level revert-members)

Full Context

configure service vprn isis link-group level revert-members

Description

This command sets the threshold for the minimum number of operational links to return the associated link group to its normal operating state and remove the associated offsets to the IS-IS metrics. If the number of operational links is equal to or greater than the configured **revert-members** threshold, the configured offsets are removed.

The **no** form of this command reverts the threshold back to the default, which is equal to the **oper-members** threshold value.

Default

no revert-members *oper-members*

Parameters

1..8

Specifies the number of revert members.

Values 1 to 8

Platforms

All

revert-members

Syntax

revert-members [*1..8*]

no revert-members

Context

[Tree] (config>router>isis>link-group>level revert-members)

Full Context

configure router isis link-group level revert-members

Description

This command sets the threshold for the minimum number of operational links to return the associated link group to its normal operating state and remove the associated offsets to the IS-IS metrics. If the number of operational links is equal to or greater than the configured revert-member threshold then the configured offsets are removed.

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The **no** form of this command reverts the threshold back to the default which is equal to the oper-member threshold value.

Default

no revert-members oper-members

Parameters

1..8

Specifies the threshold for revertive members.

Values 1 to 8

Platforms

All

40.17 revert-time

revert-time

Syntax

revert-time *time*

no revert-time

Context

[Tree] (config>eth-tunnel revert-time)

Full Context

configure eth-tunnel revert-time

Description

This command configure how long to wait before switching back to the primary path after it has been restored to Ethernet tunnel.

The **no** form of this command disables the revert behavior, effectively setting the revert time to zero.

Default

no revert-time

Parameters

time

Specifies the re-activation delay, in seconds, for the primary path.

Values 1 to 720

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

revert-time

Syntax

revert-time [*revert-time* | **infinite**]

no revert-time

Context

[Tree] (config>service>epipe>endpoint revert-time)

[Tree] (config>service>cpipe>endpoint revert-time)

[Tree] (config>service>ipipe>endpoint revert-time)

Full Context

configure service epipe endpoint revert-time

configure service cpipe endpoint revert-time

configure service ipipe endpoint revert-time

Description

This command configures the time to wait before reverting back to the primary spoke SDP defined on this service endpoint, after having failed over to a backup spoke SDP.

Parameters

revert-time

Specifies the time, in seconds, to wait before reverting to the primary SDP.

Values 0 to 600

Default 0

infinite

Causes the endpoint to be non-revertive.

Platforms

All

- configure service ipipe endpoint revert-time
- configure service epipe endpoint revert-time

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe endpoint revert-time

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revert-time

Syntax

revert-time *revert-time* | **infinite**

no revert-time

Context

[Tree] (config>service>vpls>endpoint revert-time)

Full Context

configure service vpls endpoint revert-time

Description

This command configures the time to wait before reverting to primary spoke-SDP.

In a regular endpoint the revert-time setting affects just the pseudowire defined as primary (precedence 0). For a failure of the primary pseudowire followed by restoration the revert-timer is started. After it expires the primary pseudowire takes the active role in the endpoint. This behavior does not apply for the case when both pseudowires are defined as secondary. For example, if the active secondary pseudowire fails and is restored it will stay in standby until a configuration change or a force command occurs.

Parameters

revert-time

Specifies the time to wait, in seconds, before reverting back to the primary spoke-SDP defined on this service endpoint, after having failed over to a backup spoke-SDP

Values 0 to 600

infinite

Specifying this keyword makes endpoint non-revertive

Platforms

All

revert-time

Syntax

revert-time {*revert-time* | **infinite**}

no revert-time

Context

[Tree] (config>mirror>mirror-dest>endpoint revert-time)

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Full Context

configure mirror mirror-dest endpoint revert-time

Description

This command configures the time to wait before reverting to the primary spoke SDP. This command has an effect only when used in conjunction with an endpoint which contains a SDP of type 'primary'. It is ignored and has no effect in all other cases. The revert-timer is the delay in seconds the system waits before it switches the path of the mirror service from an active secondary SDP in the endpoint into the endpoint primary SDP after the latter comes back up.

The **no** form of this command resets the timer to the default value of 0. This means that the mirror-service path is switched back to the endpoint primary sdp immediately after it comes back up.

Parameters

revert-time

Specifies a delay, in seconds, the system waits before it switches the path of the mirror service from an active secondary SDP in the endpoint into the endpoint primary SDP after the latter comes back up.

Values 0 to 600

infinite

Forces the mirror or LI service path to never revert to the primary SDP as long as the currently active secondary SDP is UP.

Platforms

All

revert-time

Syntax

revert-time {*revert-time* | **infinite**}

no revert-time

Context

[Tree] (config>service>sdp>mixed-lsp-mode revert-time)

Full Context

configure service sdp mixed-lsp-mode revert-time

Description

This command configures the delay period the SDP must wait before it reverts to a higher priority LSP type when one becomes available.

The **no** form of the command resets the timer to the default value of 0. This means the SDP reverts immediately to a higher priority LSP type when one becomes available.

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Default

no revert-time

Parameters

revert-time

Specifies the delay period, in seconds, that the SDP must wait before it reverts to a higher priority LSP type when one becomes available. A value of zero means the SDP reverts immediately to a higher priority LSP type when one becomes available.

Values 0 to 600

infinite

This keyword forces the SDP to never revert to another higher priority LSP type unless the currently active LSP type is down.

Platforms

All

revert-time

Syntax

revert-time *time*

no revert-time

Context

[Tree] (config>eth-ring revert-time)

Full Context

configure eth-ring revert-time

Description

This command configures the revert time for an Eth-Ring. It ranges from 60 seconds to 720 second by 1 second intervals.

The **no** form of this command means non-revertive mode and revert time is essentially 0, and the revert timers are not set.

Default

revert-time 300

Parameters

time

Specifies the guard-time, in seconds.

Values 60 to 720

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.18 revert-timer

revert-timer

Syntax

revert-timer *timer-value*

no revert-timer

Context

[Tree] (config>router>mpls>lsp revert-timer)

Full Context

configure router mpls lsp revert-timer

Description

This command configures a revert timer on an LSP. The timer starts when the LSP primary path recovers from a failure. The LSP reverts from a secondary path to the primary path when the timer expires, or when the secondary path fails.

The **no** form of this command cancels any currently outstanding revert timer. If the LSP is up when a no revert-timer is issued, the LSP will revert to the primary path. Otherwise the LSP reverts when the primary path is restored.

Default

no revert-timer

Parameters

timer-value

Specifies the amount of time, in one minute increments, between attempts to re-establish the LSP after it has failed.

Values 1 to 4320

Platforms

All

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revert-timer

Syntax

revert-timer *seconds*

no revert-timer

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy revert-timer)

Full Context

configure router mpls forwarding-policies forwarding-policy revert-timer

Description

This command configures the revert timer in an MPLS forwarding policy.

When the primary direct or indirect next hop is restored and is added back into the routing table, CPM waits for an amount of time equal to the user-programmed revert timer before activating it and updating the data path. However, if the backup direct or indirect next hop fails while the timer is running, CPM activates it and updates the data path immediately.

A value of 0 disables the revert timer; meaning the policy reverts immediately.

The **no** form of this command removes the revert timer from the MPLS forwarding policy.

Default

revert-timer 0

Parameters

seconds

Specifies the revert-timer value, in number of seconds.

Values 1 to 600

Platforms

All

revert-timer

Syntax

revert-timer *revert-timer*

no revert-timer

Context

[Tree] (config>router>segment-routing>maintenance-policy revert-timer)

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Full Context

configure router segment-routing maintenance-policy revert-timer

Description

This command configures the revert timer for SR Policy candidate paths.

The revert timer is started when the primary path (for example, the best preference programmed candidate path) recovers (for example, after the number of S-BFD sessions that are up is ≥ **threshold** and the **hold-down-timer** has expired) and switches back when the timer expires.

The **no** form of this command removes the revert timer from the SR policy.

Default

no revert-timer

Parameters

revert-timer

Specifies the revert timer, in minutes.

Values 1 to 4320

Platforms

All

40.19 revertive

revertive

Syntax

[**no**] **revertive**

Context

[Tree] (config>router>mpls>mpls-tp>protection-template revertive)

Full Context

configure router mpls mpls-tp protection-template revertive

Description

This command configured revertive behavior for MPLS-TP linear protection. The protect-tp-path MEP must be in the shutdown state for of the MPLS-TP LSPs referencing this protection template in order to change the revertive parameter.

Default

revertive

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

revertive

Syntax

[**no**] **revertive**

Context

[Tree] (config>redundancy>multi-chassis>ipsec-domain revertive)

Full Context

configure redundancy multi-chassis ipsec-domain revertive

Description

This command configures whether to allow a revertive activity state after a designated active state recovers from an ineligibility event. The revertive function allows a router in an N:M domain to automatically take over as the active router in the domain, when it becomes eligible to do so.

The **no** form of this command reverts to the default value.

Default

no revertive

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.20 revertive-timer

revertive-timer

Syntax

revertive-timer *sec*

no revertive-timer

Context

[Tree] (config>service>vprn>mvpn>pt>selective>umh-rm>group>source revertive-timer)

[Tree] (config>service>vprn>mvpn>pt>inclusive>umh-rm revertive-timer)

Full Context

configure service vprn mvpn provider-tunnel selective umh-rate-monitoring group source revertive-timer

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configure service vprn mvpn provider-tunnel inclusive umh-rate-monitoring revertive-timer

Description

This command configures the timer value, after expiration, which causes the UMH to switch to the primary UMH after traffic is restored. This value must account for the traffic flapping from the primary UMH. If traffic flapping occurs, the timer resets.

The **no** form of this command leaves the UMH in standby mode, with no revertive behavior.

Default

no revertive-timer

Parameters

sec

Specifies the timer value, in seconds.

A value of 0 means revert immediately.

Values 0 to 3600

Platforms

All

40.21 revocation-check

revocation-check

Syntax

revocation-check {**crl** | **crl-optional**}

Context

[Tree] (config>system>security>pki>ca-profile revocation-check)

Full Context

configure system security pki ca-profile revocation-check

Description

This command specifies the revocation method the system uses to check the revocation status of certificate issued by the CA. If the **crl-optional** option is configured, when the user disables the **ca-profile**, the system tries to load the configured CRL (specified by the **crl-file** command). However, if the system fails to load the configured CRL for the following reasons, the system still brings the **ca-profile** operationally up, but leaves the CRL configured as non-existent:

- CRL file does not exist
- CRL is not properly encoded - maybe due to interrupted file transfer

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- CRL does not match cert
- Wrong CRL version
- CRL expired

Note:
The **crl-optional** command option makes configuration of a valid CRL in a **ca-profile** optional. However, from a security point of view, it is important to always verify the revocation status of a certificate.

If the system needs to use the CRL of a specific CA profile to check the revocation status of an end-entity certificate, and the CRL is non-existent due to the preceding reasons, the system treats a case like this as being unable to get an answer from CRL and falls back to the next status verify method or default result.

If the system needs to check the revocation of a CA certificate in a certificate chain, and if the CRL is non-existent due to the preceding reasons, the system skips checking the revocation status of the CA certificate. For example, if CA1 is issued by CA2, if the revocation-check for CA2 is **crl-optional** and the CRL for CA2 is non-existent, the system does not check the certificate revocation status of CA1 and it is considered as "good”.

Note:
Users must shut down the **ca-profile** to change the **revocation-check** configuration.

Default

revocation-check crl

Parameters

crl

Specifies to use the configured CRL.

crl-optional

Specifies that the CRL is optional.

Platforms

All

40.22 revoke-key

revoke-key

Syntax

revoke-key card *cpm-slot* **serial-number** *cpm-serial-number* **confirmation-code** *code*

Context

[Tree] (admin>system>security>secure-boot revoke-key)

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Full Context

admin system security secure-boot revoke-key

Description

This command revokes secure boot keys.

Parameters

cpm-slot

Specifies the CPM slot.

Values A,B

cpm-serial-number

Specifies the CPM serial number, up to 256 characters.

code

Specifies the signed software confirmation code, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.23 rib-api

rib-api

Syntax

[**no**] **rib-api**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter rib-api)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter rib-api)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter rib-api)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter rib-api)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter rib-api

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter rib-api

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter rib-api

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter rib-api

Description

This command selects the RIB-API tunnel type.

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This command enables tunnels programmed using the RibApi gRPC service to be used in resolving the next hops of routes imported into the EVPN service.

The **no** form of this command disables tunnels programmed using the RibApi gRPC service from being used in resolving the next hops.

Default

no rib-api

Platforms

All

rib-api

Syntax

rib-api

Context

[Tree] (config>router rib-api)

Full Context

configure router rib-api

Description

Commands in this context configure parameters related to the RIB-API gRPC service.

Platforms

All

rib-api

Syntax

[**no**] **rib-api**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter rib-api)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter rib-api

Description

This command enables tunnels programmed using the RibApi gRPC service for use in resolving the indirect next hops of statically-configured IPv4 and IPv6 routes.

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Platforms

All

rib-api

Syntax

[**no**] **rib-api**

Context

[Tree] (debug>router rib-api)

Full Context

debug router rib-api

Description

This command enables debugging for RIB-API protocol entities.

Platforms

All

rib-api

Syntax

rib-api

Context

[Tree] (config>system>grpc rib-api)

Full Context

configure system grpc rib-api

Description

Commands in this context control the RibAPI gRPC service.

Platforms

All

rib-api

Syntax

[**no**] **rib-api**

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Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter rib-api)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter rib-api)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter rib-api

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter rib-api

Description

This command enables tunnels programmed using the RibApi gRPC service for use in resolving the next hops of label-IPv4 or label-IPv6 routes.

Platforms

All

rib-api

Syntax

rib-api

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter rib-api)

Full Context

configure service vprn auto-bind-tunnel resolution-filter rib-api

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

40.24 rib-api-getversion

rib-api-getversion

Syntax

rib-api-getversion {**permit** | **deny**}

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Context

[Tree] (config>system>security>profile>grpc>rpc-authorization rib-api-getversion)

Full Context

configure system security profile grpc rpc-authorization rib-api-getversion

Description

This command permits the use of GetVersion RPC provided by the RibApi service.

The **no** form of this command reverts to the default value.

Default

rib-api-getversion permit

Parameters

permit

Specifies that the use of the GetVersion RPC is permitted.

deny

Specifies that the use of the GetVersion RPC is denied.

Platforms

All

40.25 rib-api-modify

rib-api-modify

Syntax

rib-api-modify {**permit** | **deny**}

Context

[Tree] (config>system>security>profile>grpc>rpc-authorization rib-api-modify)

Full Context

configure system security profile grpc rpc-authorization rib-api-modify

Description

This command permits the use of Modify RPC provided by the RibApi service.

The **no** form of this command reverts to the default value.

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Default

rib-api-modify permit

Parameters

permit

Specifies that the use of the Modify RPC is permitted.

deny

Specifies that the use of the Modify RPC is denied.

Platforms

All

40.26 rib-management

rib-management

Syntax

rib-management

Context

[Tree] (config>service>vprn>bgp rib-management)

Full Context

configure service vprn bgp rib-management

Description

Commands in this context configure RIB management parameters.

Platforms

All

rib-management

Syntax

rib-management

Context

[Tree] (config>router>bgp rib-management)

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Full Context

configure router bgp rib-management

Description

Commands in this context configure RIB management parameters.

Platforms

All

40.27 rib-priority

rib-priority

Syntax

rib-priority high {*prefix-list-name* | **tag** *tag*}

no rib-priority

Context

[Tree] (config>service>vprn>isis rib-priority)

Full Context

configure service vprn isis rib-priority

Description

This command enabled RIB prioritization for the IS-IS protocol and specifies the prefix list or IS-IS tag value that will be used to select the specific routes that should be processed through the IS-IS route calculation process at a higher priority.

The **no** form of this command disables RIB prioritization.

Default

no rib-priority

Parameters

prefix-list-name

Specifies the prefix list which is used to select the routes that are processed at a higher priority through the route calculation process.

tag tag-value

Specifies the tag value that is used to match IS-IS routes that are to be processed at a higher priority through the route calculation process.

Values 1 to 4294967295

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Platforms

All

rib-priority

Syntax

rib-priority high

no rib-priority

Context

[Tree] (config>service>vprn>ospf3>area>if rib-priority)

[Tree] (config>service>vprn>ospf>area>if rib-priority)

Full Context

configure service vprn ospf3 area interface rib-priority

configure service vprn ospf area interface rib-priority

Description

This command enables RIB prioritization for the OSPF/OSPFv3 protocol. When enabled at the OSPF interface level, all routes learned through the associated OSPF interface will be processed through the OSPF route calculation process at a higher priority.

The **no** form of **rib-priority** command disables RIB prioritization at the associated level.

Default

no rib-priority

Platforms

All

rib-priority

Syntax

rib-priority {**high**} *prefix-list-name*

no rib-priority

Context

[Tree] (config>service>vprn>ospf3 rib-priority)

[Tree] (config>service>vprn>ospf rib-priority)

Full Context

configure service vprn ospf3 rib-priority

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configure service vprn ospf rib-priority

Description

This command enabled RIB prioritization for the OSPF protocol and specifies the prefix list that will be used to select the specific routes that should be processed through the OSPF route calculation process at a higher priority.

The **no** form of **rib-priority** command disables RIB prioritization at the associated level.

Default

no rib-priority

Parameters

prefix-list-name

Specifies the prefix list which is used to select the routes that are processed at a higher priority through the route calculation process.

Platforms

All

rib-priority

Syntax

rib-priority high {*prefix-list-name* | **tag** *tag-value*}

no rib-priority

Context

[Tree] (config>router>isis rib-priority)

Full Context

configure router isis rib-priority

Description

This command enabled RIB prioritization for the IS-IS protocol and specifies the prefix list or IS-IS tag value that will be used to select the specific routes that should be processed through the IS-IS route calculation process at a higher priority.

The no rib-priority form of command disables RIB prioritization.

Default

no rib-priority high

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Parameters

prefix-list-name

Specifies the prefix list which is used to select the routes that are processed at a higher priority through the route calculation process.

tag tag-value

Specifies the tag value that is used to match IS-IS routes that are to be processed at a higher priority through the route calculation process.

Values 1 to 4294967295

Platforms

All

rib-priority

Syntax

rib-priority {**high**} *prefix-list-name*

no rib-priority {**high**}

Context

[Tree] (config>router>ospf3 rib-priority)

[Tree] (config>router>ospf rib-priority)

Full Context

configure router ospf3 rib-priority

configure router ospf rib-priority

Description

This command enables RIB prioritization for the OSPF protocol and specifies the prefix list used to select the specific routes that should be processed through the OSPF route calculation process at a higher priority.

The **no** form of this command disables RIB prioritization at the associated level.

Default

no rib-priority high

Parameters

prefix-list-name

Specifies the prefix list, up to 32 characters, which is used to select the routes that are processed at a higher priority through the route calculation process.

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Platforms

All

rib-priority

Syntax

rib-priority {**high**}

no rib-priority

Context

[Tree] (config>router>ospf>area>interface rib-priority)

[Tree] (config>router>ospf3>area>interface rib-priority)

Full Context

configure router ospf area interface rib-priority

configure router ospf3 area interface rib-priority

Description

This command enables RIB prioritization for the OSPF/OSPFv3 protocol. When enabled at the OSPF interface level, all routes learned through the associated OSPF interface are processed through the OSPF route calculation process at a higher priority.

The **no** form of this command disables RIB prioritization at the associated level.

Default

no rib-priority

Parameters

high

Specifies that the name of the prefix list which contains prefixes get high priority for RIB-download. The high priority prefixes are downloaded first to the RIB. In doing so, the convergence time for these prefixes is better.

Platforms

All

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40.28 ring

ring

Syntax

ring *sync-tag* [**create**]

no ring *sync-tag*

Context

[Tree] (config>redundancy>mc>peer>mcr ring)

Full Context

configure redundancy multi-chassis peer mc-ring ring

Description

This command configures a multi-chassis ring.

The **no** form of this command removes the sync-tag from the configuration.

Parameters

sync-tag

Specifies a synchronization tag, up to 32 characters, to be used while synchronizing this port with the multi-chassis peer.

create

Creates he multi-chassis peer ring instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

40.29 ring-node

ring-node

Syntax

ring-node *ring-node-name* [**create**]

no ring-node *ring-node-name*

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Context

[Tree] (config>redundancy>mc>peer>mcr>ring ring-node)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node

Description

This command specifies the unique name of a multi-chassis ring access node.

Parameters

ring-node-name

Specifies the unique name of a multi-chassis ring access node. The name can be up to 32 characters.

create

Keyword used to create the ring node instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

ring-node

Syntax

ring-node *ring-node-name*

no ring-node

Context

[Tree] (config>service>epipe>sap ring-node)

Full Context

configure service epipe sap ring-node

Description

This command configures a multi-chassis ring-node for this SAP.

The **no** form of this command removes the name from the configuration.

Platforms

All

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40.30 rip

rip

Syntax

[**no**] **rip**

Context

[Tree] (config>service>ies rip)

[Tree] (config>service>vprn rip)

Full Context

configure service ies rip

configure service vprn rip

Description

This command enables the RIP protocol on the given VPRN IP interface.

The **no** form of this command disables the RIP protocol from the given VPRN IP interface.

Default

no rip

Platforms

All

rip

Syntax

[**no**] **rip**

Context

[Tree] (config>router rip)

Full Context

configure router rip

Description

This command creates the context to configure the RIP protocol instance.

When a RIP instance is created, the protocol is enabled by default. To start or suspend execution of the RIP protocol without affecting the configuration, use the [**no**] **shutdown** command.

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The **no** form of the command deletes the RIP protocol instance removing all associated configuration parameters.

Default

no rip

Platforms

All

40.31 rip-policy

rip-policy

Syntax

rip-policy *policy-name*

no rip-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host rip-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host rip-policy)

Full Context

configure subscriber-mgmt local-user-db ppp host rip-policy

configure subscriber-mgmt local-user-db ipoe host rip-policy

Description

This command configures the RIP policy name. This policy is applied to a subscriber IPv4 host to enable the BNG to learn RIP routes from the host. RIP routes are never sent to the hosts.

The **no** form of this command removes the RIP policy name from the configuration.

Parameters

policy-name

Specifies the RIP policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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rip-policy

Syntax

rip-policy *policy-name* [**create**]

no rip-policy *policy-name*

Context

[Tree] (config>subscr-mgmt rip-policy)

Full Context

configure subscriber-mgmt rip-policy

Description

This command creates a RIP policy. This policy is applied to a subscriber IPv4 host to enable the BNG to learn RIP routes from the host. RIP routes are never sent to the hosts.

Parameters

policy-name

Specifies the RIP policy name up to 32 characters.

create

Keyword required to create the configuration context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

rip-policy

Syntax

rip-policy *rip-policy-name*

no rip-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host rip-policy)

Full Context

configure service ies subscriber-interface group-interface sap static-host rip-policy

Description

This command specifies the name of the RIP policy up to 32 characters.

The **no** form of this command removes the policy name from the static-host configuration.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.32 ripng

ripng

Syntax

[**no**] **ripng**

Context

[Tree] (config>router ripng)

Full Context

configure router ripng

Description

This command creates the context to configure the RIPng protocol instance.

When a RIPng instance is created, the protocol is enabled by default. To start or suspend execution of the RIP protocol without affecting the configuration, use the [**no**] **shutdown** command.

The **no** form of this command deletes the RIP protocol instance removing all associated configuration parameters.

Default

no ripng

Platforms

All

40.33 rmon

rmon

Syntax

rmon

Context

[Tree] (config>system>thresholds rmon)

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Full Context

configure system thresholds rmon

Description

This command creates the context to configure generic RMON alarms and events.

Generic RMON alarms can be created on any SNMP object-ID that is valid for RMON monitoring (for example, an integer-based datatype).

The configuration of an event controls the generation and notification of threshold crossing events configured with the alarm command.

Platforms

All

40.34 roaming

roaming

Syntax

roaming *bit* [*bit*]

no roaming

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>charging roaming)

Full Context

configure subscriber-mgmt gtp peer-profile charging-characteristics roaming

Description

This command configures the charging characteristics for roaming UE.

The **no** form of this command removes the *bit* value from the configuration.

Default

no roaming

Parameters

bit

Specifies up to 16 bits to set in the Charging Characteristics Information Element (IE) for roaming UE, if not known by other means such as RADIUS.

Values bit0, bit1, bit2, bit3, bit4, bit5, bit6, bit7, bit8, bit9, bit10, bit11, bit12, bit13, bit14, bit15

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.35 robust-count

robust-count

Syntax

robust-count *robust-count*

no robust-count

Context

[Tree] (config>service>vpls>mesh-sdp>mld-snooping robust-count)

[Tree] (config>service>vpls>sap>igmp-snooping robust-count)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping robust-count)

[Tree] (config>service>vpls>sap>mld-snooping robust-count)

[Tree] (config>service>vpls>igmp-snooping robust-count)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping robust-count)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping robust-count)

Full Context

configure service vpls mesh-sdp mld-snooping robust-count

configure service vpls sap igmp-snooping robust-count

configure service vpls spoke-sdp igmp-snooping robust-count

configure service vpls sap mld-snooping robust-count

configure service vpls igmp-snooping robust-count

configure service vpls spoke-sdp mld-snooping robust-count

configure service vpls mesh-sdp igmp-snooping robust-count

Description

If the **send-queries** command is enabled, this parameter allows tuning for the expected packet loss on a SAP or SDP. The robust-count variable allows tuning for the expected packet loss on a subnet and is comparable to a retry count. If this SAP or SDP is expected to be 'lossy', this parameter may be increased. IGMP snooping on this SAP or SDP is robust to (robust-count-1) packet losses.

If **send-queries** is not enabled, this parameter will be ignored.

Default

robust-count 2

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Parameters

robust-count

Specifies the robust count for the SAP or SDP

Values 2 to 7 (for **config>service>vpls>sap>igmp-snooping**) 1 to 255 (for **config>service>vpls>igmp-snooping**)

Platforms

All

robust-count

Syntax

robust-count *robust-count*

no robust-count

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp robust-count)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping robust-count

Description

This command configures the IGMP robustness variable. If the **send-queries** command is enabled, this parameter allows tuning for the expected packet loss on a SAP or SDP. The robust-count variable allows tuning for the expected packet loss on a subnet and is comparable to a retry count. If an MSAP or SDP is expected to be "lossy", this parameter may be increased. IGMP snooping on an MSAP or SDP is robust to (robust-count-1) packet losses.

If send-queries is not enabled, this parameter is ignored.

The **no** form of this command reverts to the default.

Default

robust-count 2

Parameters

robust-count

Specifies the robust count for the SAP or SDP.

Values 2 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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robust-count

Syntax

robust-count *robust-count*

no robust-count

Context

[Tree] (config>service>vprn>igmp robust-count)

[Tree] (config>service>vprn>mld robust-count)

Full Context

configure service vprn igmp robust-count

configure service vprn mld robust-count

Description

This command configures the robust count. The robust-count variable allows tuning for the expected packet loss on a subnet. If a subnet anticipates losses, the robust-count variable can be increased.

Default

robust-count 2

Parameters

robust-count

Specifies the robust count value.

Values 2 to 10

Platforms

All

robust-count

Syntax

robust-count *robust-count*

no robust-count

Context

[Tree] (config>router>igmp robust-count)

Full Context

configure router igmp robust-count

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Description

This command configures the robust count. The robust-count variable allows tuning for the expected packet loss on a subnet. If a subnet anticipates losses, the robust-count variable can be increased.

Default

robust-count 2

Parameters

robust-count

Specify the robust count value.

Values 2 to 10

Platforms

All

robust-count

Syntax

robust-count *robust-count*

no robust-count

Context

[Tree] (config>router>mld robust-count)

Full Context

configure router mld robust-count

Description

This command configures the robust count. The robust-count variable allows tuning for the expected packet loss on a subnet. If a subnet anticipates losses, the robust-count variable can be increased.

Default

robust-count 2

Parameters

robust-count

Specify the robust count value.

Values 2 to 10

Platforms

All

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robust-count

Syntax

robust-count *robust-count*

no robust-count

Context

[Tree] (config>service>pw-template>igmp-snooping robust-count)

Full Context

configure service pw-template igmp-snooping robust-count

Description

If the **send-queries** command is enabled, this parameter allows tuning for the expected packet loss. The robust-count variable allows tuning for the expected packet loss on a subnet and is comparable to a retry count.

If send-queries is not enabled, this parameter will be ignored.

Default

robust-count 2

Parameters

robust-count

Specifies the robust count for the SAP or SDP.

Values 2 to 7

Platforms

All

40.36 role

role

Syntax

role *role-type*

Context

[Tree] (config>system>satellite>port-template>port role)

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Full Context

configure system satellite port-template port role

Description

This command configures the role that the associated port is to take on.

Parameters

none

Clears the role association for the associated port.

uplink

Specifies that the associated satellite port is assigned the role of an uplink port.

client

Specifies that the associated satellite port is assigned the role of a satellite client port.

system-default

Specifies that the associated satellite port is returned to the system default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

role

Syntax

role *role-type*

no role

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>srv6 role)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-v6 role

Description

This command configures the role the SRv6 P2MP SR tree replication segment performs in handling the packets.

The **no** form of this command removes the role configuration.

Parameters

role-type

Specifies the role type of the replication segment.

Values **root** | **transit** | **leaf**

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root

Specifies the root role for this segment.

transit

Specifies the transit role for this segment.

leaf

Specifies the leaf area role for this segment.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

40.37 rollback

rollback

Syntax

rollback

Context

[Tree] (config>system rollback)

Full Context

configure system rollback

Description

Configure parameters of the classic CLI configuration rollback functionality. Configuration rollback provides the ability to undo configuration and revert back to previous router configuration states.

Platforms

All

rollback

Syntax

rollback

Context

[Tree] (admin rollback)

Full Context

admin rollback

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Description

Commands in this context configure rollback operations.

Platforms

All

40.38 rollback-location

rollback-location

Syntax

rollback-location *file-url* /*rollback filename*

no rollback-location

Context

[Tree] (config>system>rollback rollback-location)

Full Context

configure system rollback rollback-location

Description

The location and name of the rollback checkpoint files is configurable to be local (on compact flash) or remote. The *file-url* must not contain a suffix (just a path/directory + filename). The suffixes for rollback checkpoint files are ".rb", ".rb.1", ..., ".rb.9" and are automatically appended to rollback checkpoint files.

Default

no rollback-location

Parameters

file-url

Specifies the URL or rollback filename.

Values

local-url | *remote-url*	
local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length of up to 99 characters each
remote-url	[{ftp://}*login*:*pswd*@ *remote-locn*/][*file-path*] up to 255 characters, directory length of up to 99 characters each
remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]
ipv4-address	*a.b.c.d*

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ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*] *x:x:x:x:x:x:d.d.d.d*[-*interface*] *x* - [0 to FFFF]H *d* - [0 to 255]D *interface* - up to 32 characters each, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

rollback-filename

Specifies the rollback file name.

Values suffixed with .rb, .rb.1 up to .9 during rollback checkpoint creation

Platforms

All

40.39 rollback-sync

rollback-sync

Syntax

rollback-sync

Context

[Tree] (admin>redundancy rollback-sync)

Full Context

admin redundancy rollback-sync

Description

This command copies the entire set of rollback checkpoint files from the active CPM to the standby CPM.

Platforms

All

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rollback-sync

Syntax

[**no**] **rollback-sync**

Context

[Tree] (config>redundancy rollback-sync)

Full Context

configure redundancy rollback-sync

Description

The operator can enable automatic synchronization of classic CLI rollback checkpoint files between the active CPM and standby CPM. When this automatic synchronization is enabled, a classic CLI **rollback save** causes the new classic CLI checkpoint file to be saved on both the active and standby CPMs. The suffixes of the old checkpoint files on both active and standby CPMs are incremented. Note that automatic sync only causes the one new checkpoint file to be copied to both CFs (the other checkpoint files are not automatically copied from active to standby but that can be done manually with **admin redundancy rollback-sync**).

Automatic synchronization of classic CLI rollback checkpoint files across CPMs is only performed if the rollback-location is configured as a local file-url (for example, "cf3:/rollback-files/rollback). Synchronization is not done if the rollback-location is remote.

The **config redundancy synchronize {boot-env | config}** and **admin redundancy synchronize {boot-env | config}** do not apply to classic CLI rollback checkpoint files. These commands do not manually or automatically sync classic CLI rollback checkpoint files. The **rollback-sync** command must be used to sync classic CLI rollback checkpoint files.

Default

no rollback-sync

Platforms

All

40.40 rollover

rollover

Syntax

rollover *minutes* [**retention** *hours*]

no rollover

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Context

[Tree] (config>log>file-id rollover)

Full Context

configure log file-id rollover

Description

This command configures how often an event or accounting log is rolled over or partitioned into a new file.

An event or accounting log is actually composed of multiple, individual files. The system creates a new file for the log based on the **rollover** time, expressed in minutes.

The *retention* option, expressed in hours, allows you to modify the default time to keep the file in the system. The retention time is based on the rollover time of the file.

If logs are needed to be retained for more than 16 days, use a CRON job to move the logs to a different location, either on a local drive or a remote server. For more information, contact Nokia support.

When multiple **rollover** commands for a *file-id* are entered, the last command overwrites the previous command.

The **no** form of this command reverts to the default values.

Default

rollover 1440 retention 12

Parameters

minutes

Specifies the rollover time, in minutes.

Values 5 to 10080

retention hours

Specifies the retention period in hours, expressed as a decimal integer. The retention time is based on the time creation time of the file. The file becomes a candidate for removal once the creation datestamp + rollover time + retention time is less than the current timestamp.

Default 12

Values 1 to 500

Platforms

All

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40.41 root

root

Syntax

root

Context

[Tree] (config>qos>policer-control-policy root)

Full Context

configure qos policer-control-policy root

Description

The **root** node contains the policer control policies configuration parameters for the root arbiter. Within the node, the parent policer's maximum rate limit can be set, the strict priority level, and fair threshold portions may be defined per priority level.

The root node always exists and does not need to be created.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

40.42 root-address

root-address

Syntax

root-address *ip-address*

no root-address

Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy root-address)

Full Context

configure router p2mp-sr-tree p2mp-policy root-address

Description

This command configures the IP address of the P2MP SR tree root node of the P2MP policy. The root tree ID and the root address uniquely identify the P2MP policy on the root node.

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The **no** form of this command removes the root address entry.

Parameters

ip-address

Specifies the IPv4 address of the root node.

Values a.b.c.d

Platforms

All

root-address

Syntax

root-address *ip-address*

no root address

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment root-address)

Full Context

configure router p2mp-sr-tree replication-segment root-address

Description

This command configures the replication segment with the IP address of the root node of the P2MP SR tree replication segment.

The **no** form of this command removes the root node address.

Parameters

ip-address

Specifies the IPv4 address.

Values a.b.c.d

Platforms

All

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40.43 root-and-leaf

root-and-leaf

Syntax

[**no**] **root-and-leaf**

Context

[Tree] (config>service>vpls>provider-tunnel>inclusive root-and-leaf)

Full Context

configure service vpls provider-tunnel inclusive root-and-leaf

Description

This command configures the node to operate as both root and leaf of the I-PMSI in a specified VPLS/B-VPLS instance.

By default, a node will behave as a leaf-only node. When the node is leaf only for the I-PMSI of type P2MP RSVP LSP, no PMSI Tunnel Attribute is included in BGP-AD route update messages and therefore no RSVP P2MP LSP is signaled but the node can join RSVP P2MP LSP rooted at other PE nodes participating in this VPLS/B-VPLS service. The user must still configure a LSP template even if the node is a leaf only.

For the I-PMSI of type mLDP, the leaf-only node will join I-PMSI rooted at other nodes it discovered but will not include a PMSI Tunnel Attribute in BGP-AD route update messages. This way a leaf-only node will forward packets to other nodes in the VPLS/B-VPLS using the point-to-point spoke-SDPs.

The **no** version of this command re-instates the default value.

Platforms

All

40.44 root-guard

root-guard

Syntax

[**no**] **root-guard**

Context

[Tree] (config>service>vpls>spoke-sdp>stp root-guard)

[Tree] (config>service>vpls>sap>stp root-guard)

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[Tree] (config>service>template>vpls-sap-template>stp root-guard)

Full Context

configure service vpls spoke-sdp stp root-guard

configure service vpls sap stp root-guard

configure service template vpls-sap-template stp root-guard

Description

This command specifies whether this port is allowed to become an STP root port. It corresponds to the restrictedRole parameter in 802.1Q. If set, it can cause lack of spanning tree connectivity.

Default

no root-guard

Platforms

All

root-guard

Syntax

[**no**] **root-guard**

Context

[Tree] (config>service>pw-template>stp root-guard)

Full Context

configure service pw-template stp root-guard

Description

This command specifies whether this port is allowed to become an STP root port. It corresponds to the restrictedRole parameter in 802.1Q. If set, it can cause lack of spanning tree connectivity.

Default

no root-guard

Platforms

All

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40.45 root-pool

root-pool

Syntax

[**no**] **root-pool** *root-pool-id*

Context

[Tree] (config>qos>hs-pool-policy>root-tier root-pool)

Full Context

configure qos hs-pool-policy root-tier root-pool

Description

Commands in this context configure root tier parameters. Within the **root-tier** context, root pools can be sized using the **allocation-weight** command or a slope policy can be associated with a root pool.

The **no** form of the command restores the default **allocation-weight** value and default slope policy to the specified root pool. Root pool 1 has a different default weight than root pools 2 through 16. The **no root-pool** command fails for root pools 2 through 16 if the root pool is currently the parent of a mid-tier pool.

Parameters

root-pool-id

Specifies the root pool ID. This is a required parameter when executing the **root-pool** command and specifies which root pool context is being entered.

Values 1 to 16

Platforms

7750 SR-7/12/12e

40.46 root-tier

root-tier

Syntax

root-tier

Context

[Tree] (config>qos>hs-pool-policy root-tier)

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Full Context

configure qos hs-pool-policy root-tier

Description

Commands in this context configure root pool parameters. Within the **root-tier** context, root pools can be sized using the **allocation-weight** command or a slope policy can be associated with a root pool.

Platforms

7750 SR-7/12/12e

40.47 round-robin-inactive-records

round-robin-inactive-records

Syntax

[**no**] **round-robin-inactive-records**

Context

[Tree] (config>mcast-mgmt>chassis-level round-robin-inactive-records)

Full Context

configure mcast-management chassis-level round-robin-inactive-records

Description

This command specifies whether initially inactive multicast records use the IOM default secondary multicast path or not. When enabled, the system redistributes newly populated inactive records among all available IOM multicast paths and multicast switch fabric planes. When disabled, the system continues to set all initially inactive multicast records to use the IOM default secondary multicast path.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

40.48 route

route

Syntax

route index *index* [**realm** *realm-string*] [**application** *application*] [**create**]

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no route index *index*

Context

[Tree] (config>aaa>diam>node>peer route)

Full Context

configure aaa diameter node peer route

Description

This command configures the index of the static route within the Diameter peer used to reach remote realms that are not directly connected to the origin realm, or to override the route preference (peer preference) of the directly-connected realms.

The **no** form of this command removes the route index information from the configuration.

Parameters

index

Specifies the index of the static route within the Diameter peer.

Values 1 to 15

realm-string

Specifies the destination realm reachable through this static route, up to 80 characters.

application

Specifies the ID of the Diameter application of the static route.

Values nasreq, gy, gx

create

Keyword used to create the route index. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.49 route-admin-tag-policy

route-admin-tag-policy

Syntax

[**no**] **route-admin-tag-policy** *policy-name*

Context

[Tree] (config>router>admin-tags route-admin-tag-policy)

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Full Context

configure router admin-tags route-admin-tag-policy

Description

This command configures a route admin tag policy.

Up to 2,000 policies can be configured per system.

The **no** form of this command removes the route admin tag policy.

Parameters

policy-name

The name of the route admin tag policy, up to 32 characters.

Platforms

All

40.50 route-advertisement

route-advertisement

Syntax

[no] route-advertisement

Context

[Tree] (config>router>bgp>group>srv6 route-advertisement)

[Tree] (config>router>bgp>group>neighbor>srv6 route-advertisement)

Full Context

configure router bgp group segment-routing-v6 route-advertisement

configure router bgp group neighbor segment-routing-v6 route-advertisement

Description

Commands in this context configure the route advertisement options.

The **no** form of this command deletes the context.

Default

no route-advertisement

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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40.51 route-distinguisher

route-distinguisher

Syntax

route-distinguisher auto-rd

route-distinguisher *rd*

no route-distinguisher

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn>bgp route-distinguisher)

Full Context

configure subscriber-mgmt isa-service-chaining evpn bgp route-distinguisher

Description

This command configures the Route Distinguisher (RD) field that is signaled in NLRI in EVPN routes.

The **no** form of this command reverts to the default.

Parameters

auto-rd

Specifies that the system automatically generates an RD.

rd

Specifies the RD.

Values rd: *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-asnumber: [1 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [1 to 4294967295]

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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route-distinguisher

Syntax

route-distinguisher auto-rd

no route-distinguisher

route-distinguisher *rd*

Context

[Tree] (config>service>epipe>bgp route-distinguisher)

[Tree] (config>service>vpls>bgp route-distinguisher)

Full Context

configure service epipe bgp route-distinguisher

configure service vpls bgp route-distinguisher

Description

This command configures the Route Distinguisher (RD) component that will be signaled in the MP-BGP NLRI for L2VPN and EVPN families. This value will be used for BGP-AD, BGP VPLS and BGP multi-homing NLRI if these features are configured.

If this command is not configured, the RD is automatically built using the BGP-AD VPLS ID. The following rules apply:

- if BGP AD VPLS-id is configured and no RD is configured under BGP node - RD=VPLS-ID
- if BGP AD VPLS-id is not configured then an RD value must be configured under BGP node (this is the case when only BGP VPLS is configured)
- if BGP AD VPLS-id is configured and an RD value is also configured under BGP node, the configured RD value prevails

Values and format (6 bytes, other 2 bytes of type will be automatically generated)

Alternatively, the **auto-rd** option allows the system to automatically generate an RD based on the **bgp-auto-rd-range** command configured at the service level. For **BGP-EVPN** enabled VPLS and Epipe services, the **route-distinguisher** value can also be auto-derived from the **evi** value (**config>service>vpls>bgp-evpn>evi** or **config>service>epipe>bgp-evpn>evi**) if this command is not configured. See the **config>service>system>bgp-evpn>eth-seg>service-carving>manual evi** command description for more information.

Parameters

ip-addr:comm-val

Specifies the IP address.

Values *ip-addr*: a.b.c.d

comm-val: 0 to 65535

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as-number:ext-comm-val

Specifies the AS number.

Values *as-number*: 1 to 65535

ext-comm-val: 0 to 4294967295

auto-rd

The system will generate an RD for the service according to the IP address and range configured in the **bgp-auto-rd-range** command.

Platforms

All

route-distinguisher

Syntax

route-distinguisher [*ip-addr:comm-val* | *as-number:ext-comm-val*]

no route-distinguisher

Context

[Tree] (config>service>system>bgp-evpn route-distinguisher)

Full Context

configure service system bgp-evpn route-distinguisher

Description

This command configures the Route Distinguisher (RD) component that will be signaled in the MP-BGP NLRI for EVPN corresponding to the base EVPN instance (Ethernet Segment routes). If the route-distinguisher component is not configured, the system will use system:ip-address as the default route-distinguisher

Default

no route-distinguisher

Parameters

ip-addr:comm-val

Specifies the IP address.

Values *ip-addr*: a.b.c.d

comm-val: 0 to 65535

as-number:ext-comm-val

Specifies the AS number.

Values *as-number*: 1 to 65535

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ext-comm-val: 0 to 4294967295

Platforms

All

route-distinguisher

Syntax

route-distinguisher *rd*

route-distinguisher auto-rd

no route-distinguisher

Context

[Tree] (config>service>vprn>bgp-evpn>mpls route-distinguisher)

[Tree] (config>service>vprn>bgp-evpn>vxlan route-distinguisher)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 route-distinguisher)

[Tree] (config>service>vprn>bgp-ipvpn>mpls route-distinguisher)

Full Context

configure service vprn bgp-evpn mpls route-distinguisher

configure service vprn bgp-evpn vxlan route-distinguisher

configure service vprn bgp-ipvpn segment-routing-v6 route-distinguisher

configure service vprn bgp-ipvpn mpls route-distinguisher

Description

This command specifies an identifier attached to a route, which enables the user to identify the VPN to which the route belongs. Each routing instance must have a unique (within the carrier's domain) route distinguisher (RD) associated with it.

Alternatively, the **auto-rd** option allows the system to automatically generate an RD based on the **configure service system bgp-auto-rd-range** command.

The **no** form of this command removes the RD configuration.

Default

no route-distinguisher

Parameters

auto-rd

Keyword that allows the system to generate an RD for the service according to the IP address and range configured in the **bgp-auto-rd-range** command.

rd

Specifies the route distinguisher.

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Values rd: *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-asnumber: [1 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [1 to 4294967295]

Platforms

All

- configure service vprn bgp-ipvpn mpls route-distinguisher
- configure service vprn bgp-evpn mpls route-distinguisher

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan route-distinguisher

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-ipvpn segment-routing-v6 route-distinguisher

route-distinguisher

Syntax

route-distinguisher [*rd*]

no route-distinguisher

Context

[Tree] (config>service>vprn>evpn-neighbor-synchronization route-distinguisher)

[Tree] (config>router>evpn-neighbor-synchronization route-distinguisher)

Full Context

configure service vprn evpn-neighbor-synchronization route-distinguisher

configure router evpn-neighbor-synchronization route-distinguisher

Description

Commands in this context configure MAC/IP routes used for synchronization.

The **no** form of this command reverts to its default.

Default

no layer-3-neighbor-synchronization

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Parameters

rd

Specifies the route distinguisher.

Values rd: *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-asnumber: [1 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [1 to 4294967295]

Platforms

All

route-distinguisher

Syntax

route-distinguisher

Context

[Tree] (config>service>vprn route-distinguisher)

Full Context

configure service vprn route-distinguisher

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

40.52 route-distinguisher-list

route-distinguisher-list

Syntax

route-distinguisher-list *name*

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no route-distinguisher-list *name*

Context

[Tree] (config>router>policy-options route-distinguisher-list)

Full Context

configure router policy-options route-distinguisher-list

Description

This command creates a list of entries used to match the RD in BGP routes of specific address families.

Parameters

name

Specifies the name of the RD list, up to 64 characters.

Platforms

All

route-distinguisher-list

Syntax

route-distinguisher-list *name*

no route-distinguisher-list *name*

Context

[Tree] (config>router>policy-options>policy-statement>entry>from route-distinguisher-list)

Full Context

configure router policy-options policy-statement entry from route-distinguisher-list

Description

This command configures a route distinguisher (RD) list as a match criterion for the policy statement entry.

This match condition is supported by policies applied as VRF import or BGP peer import policies. A BGP route can match a policy entry with this match criterion if the NLRI field contains an RD that is matched by at least one of the entries in the **route-distinguisher-list**.

BGP routes belonging to address families other than VPN-IPv4, VPN-IPv6, MCAST-VPN-IPv4, MCAST-VPN-IPv6, EVPN, FlowSpec-VPN IPv4, FlowSpec-VPN IPv6, MVPN-IPv4 or MVPN-IPv6 routes do not match policy entries with this match criterion.

Parameters

name

Specifies the (possibly parameterized) name of an RD list.

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Platforms

All

40.53 route-downloader

route-downloader

Syntax

route-downloader *name* [**create**]

no route-downloader *name*

Context

[Tree] (config>aaa route-downloader)

Full Context

configure aaa route-downloader

Description

Commands in this context configure a route-downloader instance. The route-downloader is a process that uses radius access-request messages to a particular server. The server returns either an access-accept or access-deny message. Access-accept messages also contain the prefixes (in the form of static blackhole routes in various formats). Only a single route-downloader object can be created.

The **no** form of this command removes the name from the configuration. The object must be shutdown prior to deletion. No prefix is needed to delete an existing route-download object.

Parameters

name

Specifies the name of this RADIUS route downloader.

create

This keyword is mandatory while creating an instance of the route-download object.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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40.54 route-entry

route-entry

Syntax

[**no**] **route-entry** {*ip-prefix/length* | *ip-prefix netmask*}

[**no**] **route-entry** *ipv6-prefix/prefix-length*

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes route-entry)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes route-entry)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry

Description

This command assigns a managed route to a specified subscriber host. As a consequence, a static route pointing subscriber-host IP address as a next hop is installed in the FIB.

The **no** form of this command removes the respective route. By default, there are no managed routes configured.

Parameters

ip-prefix/length

Specifies the IP prefix and length.

Syntax:

ip-prefix/length:	ip-prefix	a.b.c.d
	ip-prefix-length	1 to 32

netmask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (0.0.0.0 not allowed)

ipv6-prefix/prefix-length

Specifies the IPv6 prefix and prefix length.

Values	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H

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	d: [0 to 255]D
ipv6-prefix-length	1 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.55 route-exists

route-exists

Syntax

route-exists *expression*

no route-exists

Context

[Tree] (config>router>policy-options>policy-statement>entry>cond-expr route-exists)

Full Context

configure router policy-options policy-statement entry conditional-expression route-exists

Description

This command is used to specify a route existence expression to control evaluation of the policy entry. If the route existence expression evaluates to 'true' the matching and action commands of the policy entry are applied as normal. If the route existence expression evaluates to 'false' the entire policy entry is skipped and processing continues with the next entry; however, conditional expressions are only parsed when the route policy is used as a BGP export policy or VRF export policy.

Default

no route-exists

Parameters

expression

"["<pfx-list-name>"]" [all | none]

If neither the **all** nor the **none** keyword are used the match logic is 'any' – that is, the route expression evaluates as 'true' if any exact match entry in the referenced prefix-list has an active route in the route table associated with the policy.

all – the route expression evaluates as 'true' only if all the exact match entries in the referenced prefix-list have an active route in the route table associated with the policy.

none – the route expression evaluates as 'true' only if none of the exact match entries in the referenced prefix-list have an active route in the route table associated with the policy.

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Platforms

All

40.56 route-limit

route-limit

Syntax

route-limit *limit*

Context

[Tree] (config>router>nat>outside route-limit)

[Tree] (config>service>vprn>nat>outside route-limit)

Full Context

configure router nat outside route-limit

configure service vprn nat outside route-limit

Description

This command configures the router to a maximum limit of source subprefix routes that can be installed on the outside when the source IPv4 address is not translated (large scale stateful inbound filtering and DNAT-only functionality). If the actual number of generated routes exceeds this configured limit, the excess routes are not installed in the routing table, and a log message is generated.

The following commands, along with this command, are all interrelated. See the following commands for more information:

- **configure service vprn nat outside domain prefix**
- **configure router nat outside domain prefix**
- **configure service vprn nat inside large-scale nat66 hash-prefix**
- **configure router nat inside large-scale nat66 hash-prefix**

Default

route-limit 32768

Parameters

limit

Specifies the maximum number of source sub-prefix routes that can be installed on the outside.

Values 1 to 131072

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.57 route-monitoring

route-monitoring

Syntax

route-monitoring pre-policy [**post-policy**]

route-monitoring post-policy

no route-monitoring

Context

[Tree] (config>router>bgp>group>neighbor>monitor route-monitoring)

[Tree] (config>service>vprn>bgp>monitor route-monitoring)

[Tree] (config>router>bgp>group>monitor route-monitoring)

[Tree] (config>router>bgp>monitor route-monitoring)

[Tree] (config>service>vprn>bgp>group>monitor route-monitoring)

Full Context

configure router bgp group neighbor monitor route-monitoring

configure service vprn bgp monitor route-monitoring

configure router bgp group monitor route-monitoring

configure router bgp monitor route-monitoring

configure service vprn bgp group monitor route-monitoring

Description

This command specifies if BMP sends pre-policy route monitoring messages, post-policy route monitoring messages, both types of messages, or none.

The **no** form of this command disables sending of route-monitoring messages.

Parameters

pre-policy

Enables sending pre-policy route monitoring messages using the pre-policy path attribute values, if available.

post-policy

Enables sending post-policy route monitoring messages using the post-policy path attribute values, if available.

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Platforms

All

40.58 route-next-hop

route-next-hop

Syntax

route-next-hop {**system-ipv4** | **system-ipv6** | *ip-address*}

Context

[Tree] (config>service>vpls>bgp-evpn>mpls route-next-hop)

[Tree] (config>service>epipe>bgp-evpn>srv6 route-next-hop)

[Tree] (config>service>vpls>bgp-evpn>srv6 route-next-hop)

[Tree] (config>service>epipe>bgp-evpn>mpls route-next-hop)

Full Context

configure service vpls bgp-evpn mpls route-next-hop

configure service epipe bgp-evpn segment-routing-v6 route-next-hop

configure service vpls bgp-evpn segment-routing-v6 route-next-hop

configure service epipe bgp-evpn mpls route-next-hop

Description

This command configures the next hop of the EVPN routes.

Default

route-next-hop system-ipv4

Parameters

system-ipv4

Specifies the system IPv4 address as the next hop for the service EVPN routes.

system-ipv6

Specifies the system IPv6 address as the next hop for the service EVPN routes.

ip-address

Specifies the IPv4 address value as the next hop for the service EVPN.

Values a.b.c.d

Platforms

All

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- configure service epipe bgp-evpn mpls route-next-hop
- configure service vpls bgp-evpn mpls route-next-hop

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 route-next-hop
- configure service epipe bgp-evpn segment-routing-v6 route-next-hop

route-next-hop

Syntax

route-next-hop {*ip-address* | *ipv6-address*}

no route-next-hop

Context

[Tree] (config>service>system>bgp-evpn>eth-seg route-next-hop)

Full Context

configure service system bgp-evpn ethernet-segment route-next-hop

Description

This command modifies the next hop to the configured IP address value, for the following routes:

- ES
- AD per-ES (irrespective of the **evi-rt-set** or **evi-rt configuration mode**)

The **no** form of the command changes the originating IP address back to the system-ip.

Default

no route-next-hop

Parameters

ip-address

Specifies an IPv4 or IPv6 address.

Values *ip-address* | *ipv6-address*

Platforms

All

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40.59 route-next-hop-policy

route-next-hop-policy

Syntax

route-next-hop-policy

Context

[Tree] (config>router route-next-hop-policy)

Full Context

configure router route-next-hop-policy

Description

This command creates the context to configure route next-hop policies.

Platforms

All

40.60 route-preference

route-preference

Syntax

route-preference primary {**inband** | **outband**} **secondary** {**inband** | **outband** | **none**}

no route-preference

Context

[Tree] (config>log route-preference)

Full Context

configure log route-preference

Description

This command specifies the primary and secondary routing preference for traffic generated for SNMP notifications and syslog messages. If the remote destination is not reachable through the routing context specified by primary route preference then the secondary routing preference will be attempted.

The **no** form of this command reverts to the default values.

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Default

no route-preference

Parameters

primary

Specifies the primary routing preference for traffic generated for SNMP notifications and syslog messages.

Default outband

secondary

Specifies the secondary routing preference for traffic generated for SNMP notifications and syslog messages. The routing context specified by the secondary route preference will be attempted if the remote destination was not reachable by the primary routing preference, specified by primary route preference. The value specified for the secondary routing preference must be distinct from the value for primary route preference.

Default inband

inband

Specifies that the logging utility will attempt to use the base routing context to send SNMP notifications and syslog messages to remote destinations.

outband

Specifies that the logging utility will attempt to use the management routing context to send SNMP notifications and syslog messages to remote destinations.

none

Specifies that no attempt will be made to send SNMP notifications and syslog messages to remote destinations.

Platforms

All

route-preference

Syntax

route-preference {**both** | **inband** | **outband**}

no route-preference

Context

[Tree] (config>system>security>ldap route-preference)

[Tree] (config>system>security>tacplus route-preference)

[Tree] (config>system>security>radius route-preference)

Full Context

configure system security ldap route-preference

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configure system security tacplus route-preference

configure system security radius route-preference

Description

This command specifies the routing preference to reach the AAA server. If the configured option is to use both in-band and out-of-band routes, the out-of-band routes in the management routing instance are used to reach the server before the in-band routes in the Base routing instance.

The **no** form of this command reverts to the default value.

Default

route-preference both

Parameters

both

Specifies the use of out-of-band routes before in-band routes.

inband

Specifies the use of in-band routes only.

outband

Specifies the use of out-of-band routes only.

Platforms

All

route-preference

Syntax

route-preference {**both** | **inband** | **outband**}

no route-preference

Context

[Tree] (config>router>pcep>pcc>peer route-preference)

Full Context

configure router pcep pcc peer route-preference

Description

This command specifies the routing preference to reach the PCE server. If the configured option is to use both in-band and out-of-band routes, the out-of-band routes in the management routing instance are used to reach the server before the in-band routes in the Base routing instance.

The **no** form of this command reverts to the default value.

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Default

route-preference both

Parameters

both

Specifies the use of out-of-band routes before in-band routes.

inband

Specifies the use of in-band routes only.

outband

Specifies the use of out-of-band routes only.

Platforms

All

40.61 route-recovery-wait

route-recovery-wait

Syntax

route-recovery-wait *seconds*

no route-recovery-wait

Context

[Tree] (config>log>app-route-notifications route-recovery-wait)

Full Context

configure log app-route-notifications route-recovery-wait

Description

The time delay that must pass before notifying specific CPM applications after the recovery or change of a route during normal operation.

The **no** form of this command disables the time-delay configuration.

Default

no route-recovery-wait

Parameters

seconds

Time delay in seconds.

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Values 1 to 100

Platforms

All

40.62 route-refresh

route-refresh

Syntax

route-refresh [**neighbor** *ip-address* | **group** *name*]

no route-refresh

Context

[Tree] (debug>router>bgp route-refresh)

Full Context

debug router bgp route-refresh

Description

This command enables debugging for BGP route-refresh.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

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Platforms

All

40.63 route-table

route-table

Syntax

route-table [*ip-prefix*/*prefix-length*]

route-table *ip-prefix*/*prefix-length* **longer**

no route-table

Context

[Tree] (debug>router>ip route-table)

Full Context

debug router ip route-table

Description

This command configures route table debugging.

Parameters

ip-prefix/prefix-length

The IP prefix for prefix list entry in dotted decimal notation.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix	a.b.c.d (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
ipv6-prefix-length	0 to 128	

Values The following values apply to the 7450 ESS:

ipv4-prefix	a.b.c.d (host bits must be 0)

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ipv4-prefix-length	0 to 32

longer

Specifies the prefix list entry matches any route that matches the specified *ip-prefix* and prefix *mask* length values greater than the specified *mask*.

Platforms

All

40.64 route-table-import

route-table-import

Syntax

route-table-import *policy-name*

no route-table-import

Context

[Tree] (config>service>vprn>bgp>rib-management>ipv6 route-table-import)

[Tree] (config>service>vprn>bgp>rib-management>label-ipv4 route-table-import)

[Tree] (config>service>vprn>bgp>rib-management>ipv4 route-table-import)

Full Context

configure service vprn bgp rib-management ipv6 route-table-import

configure service vprn bgp rib-management label-ipv4 route-table-import

configure service vprn bgp rib-management ipv4 route-table-import

Description

This command specifies the name of a route policy to control the importation of active routes from the IP route table into one of the BGP RIBs.

If the **route-table-import** command is not configured, or if the command refers to an empty policy, all non-BGP routes from the IP route table are imported into the applicable RIB.

If the **route-table-import** command is configured, then routes dropped or rejected by the configured policy are not installed in the associated RIB. Rejected routes cannot be advertised to BGP peers associated with the RIB, but they can still be used to resolve BGP next-hops of routes in that RIB. If the active route for a prefix is rejected by the **route-table-import** policy, then the best BGP route for that prefix in the BGP RIB can be advertised to peers as though it is used.

Aggregate routes are always imported into each RIB, independent of the **route-table-import** policy.

Route modifications specified in the actions of a **route-table-import** policy are ignored and have no effect on the imported routes.

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Default

no route-table-import

Parameters

policy-name

Specifies the name of a policy-statement (up to 64 characters).

Platforms

All

route-table-import

Syntax

route-table-import *policy-name*

no route-table-import

Context

[Tree] (config>router>bgp>rib-management>ipv6 route-table-import)

[Tree] (config>router>bgp>rib-management>label-ipv4 route-table-import)

[Tree] (config>router>bgp>rib-management>label-ipv6 route-table-import)

[Tree] (config>router>bgp>rib-management>ipv4 route-table-import)

Full Context

configure router bgp rib-management ipv6 route-table-import

configure router bgp rib-management label-ipv4 route-table-import

configure router bgp rib-management label-ipv6 route-table-import

configure router bgp rib-management ipv4 route-table-import

Description

This command specifies the name of a policy to control the importation of active routes from the IP route table into one of the BGP RIBs.

If the **route-table-import** command is not configured, or if the command refers to an empty policy, all non-BGP routes from the IP route table are imported into the applicable RIB.

If the **route-table-import** command is configured, then routes dropped or rejected by the configured policy are not installed in the associated RIB. Rejected routes cannot be advertised to BGP peers associated with the RIB, but they can still be used to resolve BGP next-hops of routes in that RIB. If the active route for a prefix is rejected by the **route-table-import** policy, then the best BGP route for that prefix in the BGP RIB can be advertised to peers as though it is used.

Aggregate routes are always imported into each RIB, independent of the **route-table-import** policy.

Route modifications specified in the actions of a **route-table-import** policy are ignored and have no effect on the imported routes.

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Default

no route-table-import

Parameters

policy-name

Specifies the name of a policy-statement (up to 64 characters).

Platforms

All

40.65 route-tag

route-tag

Syntax

route-tag [*number*]

no route-tag

Context

[Tree] (config>router>evpn-neighbor-synchronization route-tag)

[Tree] (config>service>vprn>evpn-neighbor-synchronization route-tag)

Full Context

configure router evpn-neighbor-synchronization route-tag

configure service vprn evpn-neighbor-synchronization route-tag

Description

This command configures the BGP route tag for the MAC/IP routes used for synchronization. The BGP route tag applies to MAC/IP routes generated from local ARP and ND entries. This tag can be matched by any export policy.

The **no** form of this command reverts to the default.

Default

no route-tag

Parameters

number

Specifies the route tag, in either decimal or hexadecimal form.

Values 1 to 255

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Platforms

All

40.66 route-target

route-target

Syntax

route-target export *ext-community* **import** *ext-community*

no route-target

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn>bgp route-target)

Full Context

configure subscriber-mgmt isa-service-chaining evpn bgp route-target

Description

This command configures route target attributes to be signaled in EVPN routes used for service chaining.

The **no** form of this command removes the parameters from the configuration.

Parameters

export

Specifies the route target to be used by BGP in this EVPN service when exporting EVPN routes.

import

Specifies the route target to be used by BGP in this EVPN service when importing EVPN routes.

ext-community

Specifies the extended community.

Values rd: *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ip-addr: a.b.c.d

comm-val: [0 to 65535]

2byte-asnumber: [1 to 65535]

ext-comm-val: [0 to 4294967295]

4byte-asnumber: [1 to 4294967295]

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

route-target

Syntax

route-target {*ext-community* **| {[export** *ext-community*]**[import** *ext-community*]**}}**

no route-target

Context

[Tree] (config>service>vpls>bgp route-target)

[Tree] (config>service>epipe>bgp route-target)

[Tree] (config>service>vpls>bgp-ad route-target)

Full Context

configure service vpls bgp route-target

configure service epipe bgp route-target

configure service vpls bgp-ad route-target

Description

This command configures the route target (RT) component that will be signaled in the related MP- BGP attribute to be used for BGP auto-discovery, BGP VPLS, BGP multi-homing and EVPN if these features are configured in this VPLS service, or for BGP multi-homing, BGP-VPWS and EVPN in case of Epipe services.

If this command is not used in VPLS services, the RT is built automatically using the VPLS ID. The extended community can have the same two formats as the VPLS ID, a two-octet AS-specific extended community, IPv4 specific extended community. For BGP EVPN enabled VPLS and Epipe services, the route target can also be auto-derived from the **evi** value (**config>service>vpls>bgp-evpn>evi** or **config>service>epipe>bgp-evpn>evi**) if this command is not configured.

Parameters

export *ext-community*

Specifies communities allowed to be sent to remote PE neighbors.

import *ext-community*

Specifies communities allowed to be accepted from remote PE neighbors.

Platforms

All

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40.67 route-target-list

route-target-list

Syntax

route-target-list *comm-id* [*comm-id*]]

no route-target-list [*comm-id*]

Context

[Tree] (config>router>bgp route-target-list)

Full Context

configure router bgp route-target-list

Description

This command specifies the route target(s) to be accepted from or advertised to peers. If the **route-target-list** is a non-null list, only routes with one or more of the given route targets are accepted from or advertised to peers.

The **route-target-list** is assigned at the global level and applies to all peers connected to the system.

This command is only applicable if the router is a route-reflector server.

The **no** form of this command with a specified route target community removes the specified community from the **route-target-list**. The **no** form of this command entered without a route target community removes all communities from the list.

Default

no route-target-list

Parameters

comm-id

Specifies up to 15 route target communities.

Values [**target:** {*ip-address*:*comm-val* | *2byte-asnumber*:*ext-comm-val* | *4byte-asnumber*:*comm-val*}

where:

- *ip-address* — a.b.c.d
- *comm-val* — 0 to 65535
- *2byte-asnumber* — 0 to 65535
- *ext-comm-val* — 0 to 4294967295
- *4byte-asnumber* — 0 to 4294967295

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Platforms

All

40.68 route-unknown

route-unknown

Syntax

[**no**] **route-unknown** [{*ip-prefix/mask* | *ipv6-address/prefix-length*}]

Context

[Tree] (config>vrrp>policy>priority-event route-unknown)

Full Context

configure vrrp policy priority-event route-unknown

Description

This command creates a context to configure a route unknown priority control event that monitors the existence of a specific active IP route prefix within the routing table.

The **route-unknown** command configures a priority control event that defines a link between the VRRP priority control policy and the Route Table Manager (RTM). The RTM registers the specified route prefix as monitored by the policy. If any change (add, delete, new next hop) occurs relative to the prefix, the policy is notified and takes correct action according to the priority event definition. If the route prefix exists and is active in the routing table according to the conditions defined, the event is in the cleared state. If the route prefix is removed, becomes inactive or fails to meet the event criteria, the event is in the set state.

The command creates a **route-unknown** node identified by *prefix/mask-length* and containing event control commands.

Multiple unique (different *prefix/mask-length*) **route-unknown** event nodes can be configured within the **priority-event** node up to the maximum limit of 32 events.

The **route-unknown** command can reference any valid IP address mask-length pair. The IP address and associated mask length define a unique IP router prefix. The dynamic monitoring of the route prefix results in one of the event operational states listed in Table 109: Route-unknown Operational States.

Table 109: Route-unknown Operational States

route-unknown Operational State	Description
Set – non-existent	The route does not exist in the route table
Set – inactive	The route exists in the route table but is not being used
Set – wrong next hop	The route exists in the route table but does not meet the **next-hop** requirements

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route-unknown Operational State	Description
Set – wrong protocol	The route exists in the route table but does not meet the **protocol** requirements
Set – less specific found	The route exists in the route table but does is not an exact match and does not meet any **less-specific** requirements
Set – default best match	The route exists in the route table as the default route but the default route is not allowed for route matching
Cleared – less specific found	A less specific route exists in the route table and meets all criteria including the **less-specific** requirements
Cleared – found	The route exists in the route table manager and meets all criteria

An existing route prefix in the RTM must be active (used by the IP forwarding engine) to clear the event operational state. It may be less specific (the defined prefix may be contained in a larger prefix according to Classless Inter-Domain Routing (CIDR) techniques) if the event has the **less-specific** statement defined. The less specific route that incorporates the router prefix may be the default route (0.0.0.0) if the **less-specific allow-default** statement is defined. The matching prefix may be required to have a specific next hop IP address if defined by the event **next-hop** command. Finally, the source of the RTM prefix may be required to be one of the dynamic routing protocols or be statically defined if defined by the event **protocol** command. If an RTM prefix is not found that matches all the above criteria (if defined in the event control commands), the event is considered to be set. If a matching prefix is found in the RTM, the event is considered to be cleared.

When an event transitions from clear to set, the set is processed immediately and must be reflected in the associated virtual router instances in-use priority value. As the event transitions from clear to set, a hold-set timer is loaded with the value configured by the events **hold-set** command. This timer prevents the event from clearing until it expires, damping the effect of event flapping. If the event clears and becomes set again before the hold-set timer expires, the timer is reset to the **hold-set** value, extending the time before another clear can take effect.

The **no** form of the command is used to remove the specific *prefix/mask-length* monitoring event. The event can be removed at anytime. When the event is removed, the in-use priority of all associated virtual router instances must be reevaluated. The events **hold-set** timer has no effect on the removal procedure.

Default

no route-unknown — No route unknown priority control events are defined for the priority control event policy.

Parameters

ip-prefix/mask

The IP prefix address in dotted decimal notation and the subnet mask length expressed as a decimal integer associated with the IP *prefix* defining the route prefix to be monitored by the route unknown priority control event.

Values The following values apply to the 7750 SR, 7950 XRS, and 7450 ESS:

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ip-prefix/mask:	ip-prefix	a.b.c.d (host bits must be 0)
	mask	0 to 32

ipv6-address/prefix-length

The IPv6 address of the host for which the specific event will monitor connectivity. The *ipv6-address* can only be monitored by a single event in this policy. The IPv6 address can be monitored by multiple VRRP priority control policies. The IPv6 address can be used in one or multiple **ping** requests. Each VRRP priority control **host-unreachable** and **ping** destined to the same *ipv6-address* is uniquely identified on a per message basis. Each session originates a unique identifier value for the ICMP echo request messages it generates. This allows received ICMP echo reply messages to be directed to the appropriate sending application.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0..FFFF]H
prefix-length	0 to 128	

Platforms

All

40.69 routed-subnet-transparent-forward

routed-subnet-transparent-forward

Syntax

[**no**] **routed-subnet-transparent-forward**

Context

[Tree] (config>router>subscriber-mgmt>dhcpv4 routed-subnet-transparent-forward)

[Tree] (config>service>vprn>subscriber-mgmt>dhcpv4 routed-subnet-transparent-forward)

Full Context

configure router subscriber-mgmt dhcpv4 routed-subnet-transparent-forward

configure service vprn subscriber-mgmt dhcpv4 routed-subnet-transparent-forward

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Description

This command configures the transparent forwarding of DHCPv4 packets that are received on a subscriber interface with a source IP in a routed subnet that is associated with a routed IPoE session or host. Supported routed subnets are RADIUS and NASREQ framed routes or routes learned via an ESM dynamic BGP peer and managed routes associated with a static IPv4 host.

The **no** form of this command disables transparent forwarding of DHCPv4 packets.

Default

no routed-subnet-transparent-forward

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.70 router

router

Syntax

router *router-instance*

router service-name *service-name*

no router

Context

[Tree] (config>aaa>l2tp-acct-plcy>radius-acct-server router)

Full Context

configure aaa l2tp-accounting-policy radius-accounting-server router

Description

This command configures the virtual router instance applicable for the set of configured RADIUS servers. This value cannot be changed once a RADIUS server is configured for this policy.

The **no** form of this command reverts to the default.

Default

no router

Parameters

router-instance

Specifies the router instance.

Values *router-name* | *vprn-svc-id*

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router-name	Base, management Default - Base
vprn-svc-id	1 to 2147483647

service-name

Specifies the service name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

router service-name *service-name*

no router

Context

[Tree] (config>app-assure>rad-acct-plcy>server router)

Full Context

configure application-assurance radius-accounting-policy radius-accounting-server router

Description

This command configures the virtual router instance applicable for the set of configured RADIUS servers. This value cannot be changed once a RADIUS server is configured for this policy.

The **no** form of this command reverts to the default.

Default

no router

Parameters

router-instance

Specifies the router name or service ID used to specify the router instance.

service-name

Specifies the service name to identify the service, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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router

Syntax

router *router-instance*

router service-name *service-name*

no router

Context

[Tree] (config>subscr-mgmt>acct-plcy>server router)

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server router)

Full Context

configure subscriber-mgmt radius-accounting-policy radius-accounting-server router

configure subscriber-mgmt authentication-policy radius-authentication-server router

Description

This command specifies the virtual router instance applicable for the set of configured RADIUS servers. This value cannot be changed once a RADIUS server is configured for this policy. When the value is zero, both base and management router instances are matched.

The **no** form of this command reverts to the default.

Parameters

router-instance

Specifies the virtual router instance

Values

router-name:	Base, management
service-id:	1 to 2147483647

service-name

Specifies the service name, up to 64 characters..

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

router service *service-name*

no router

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Context

[Tree] (config>aaa>diam>node router)

Full Context

configure aaa diameter node router

Description

This command references the routing-instance from which diameter peering connection is initiated.

The **no** form of this command reverts to the default.

Default

router "Base”

Parameters

router-instance

Specifies the router instance.

Values *router-name* | *vprn-svc-id*

router-name: Base, management Default - Base

vprn-svc-id: 1 to 2147483647

service-name

Specifies the service name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

no router

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query router)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query router

Description

This command enables matching only on tunnels that are terminated in the specified routing instance.

The **no** form of this command disables matching on a routing instance.

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Default

no router

Parameters

router-instance

Specifies the routing instance in the form of *router-name* or *vprn-svc-id*.

Values *router-name* — Base
vprn-svc-id — 1 to 2147483647

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

router service-name *service-name*

no router

Context

[Tree] (config>aaa>radius-srv-plcy>servers router)

Full Context

configure aaa radius-server-policy servers router

Description

This command specifies the virtual router instance applicable for the set of configured RADIUS servers. This value cannot be changed once a RADIUS server is configured for this policy.

The **no** form of this command reverts to the default.

Parameters

router-instance

Specifies the router instance.

Values

service-name	Service name, up to 64 characters.	
	router-instance:	router-name, service-id
	router-name:	Base, management
	service-id:	1 to 2147483647

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service-name

Specifies the router name service-id up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

no router

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw router)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw router)

Full Context

configure service ies subscriber-interface group-interface wlan-gw router

configure service vprn subscriber-interface group-interface wlan-gw router

Description

This command specifies the routing instance that wlan-gw gateway endpoint resides in.

The **no** form of this command removes the value from the wlan-gw configuration.

Default

router

Parameters

router-instance

Specifies the identifier of the virtual router instance where the tunneled UE traffic is routed.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router [*router-instance*] [**create**]

no router [*router-instance*]

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Context

[Tree] (config router)

Full Context

configure router

Description

Commands in this context configure router parameters including interfaces, route policies and protocols. This command is also used to create CPM router instances.

For CPM router instances, this command enters or creates a user-created CPM router instance. A CPM router instance is a not a VPRN router instance. VPRN router instances are configured under **configure service vprn**. CPM router instances are the only type of non-VPRN router instances that can be created by a user, and they have a user-defined name. CPM router instances only use CPM/CCM ethernet ports as interfaces.

Parameters

router-instance

Specifies the router name or CPM router instance.

Values

router-instance : *router name*

router-name	Base | management | *cpm-vr-name*
cpm-vr-name	[32 characters maximum]

Default Base

create

Mandatory keyword when creating a router instance. The create keyword requirement can be enabled or disabled in the **environment**>**create** context.

Platforms

All

router

Syntax

router *router-instance* **group** *tunnel-group-name*

router group *tunnel-group-name* **service-name** *service-name*

no router

Context

[Tree] (config>service>vpls>sap>l2tpv3-session router)

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[Tree] (config>service>epipe>sap>l2tpv3-session router)

Full Context

configure service vpls sap l2tpv3-session router

configure service epipe sap l2tpv3-session router

Description

This command configures the service and L2TPv3 group to which this L2TPv3 session should be associated. The associated services are used to provide transport for the L2TPv3 tunnel. The service can be specified with either the service-name or router ID. The group name specifies the L2TPv3 group parameters that should be associated with the session.

The **no** form of this command deletes the router configuration.

Parameters

router-instance

Specifies the router name or service ID used to identify the router instance.

Values *router-instance*: *router-name* or *vprn-svc-id*

router-name	"Base"
vprn-svc-id	1 to 2147483647

Default Base

tunnel-group-name

Specifies the tunnel group name, up to 32 characters.

service-name

Specifies the service name, up to 64 characters.

Platforms

All

router

Syntax

router [*router-instance*]

router service-name *service-name*

Context

[Tree] (debug router)

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Full Context

debug router

Description

Commands in this context enable debugging of various protocols and areas of a *router-instance*.

Parameters

router-instance

Specifies the router name, CPM router instance, or service ID.

Values *router-name* or *service-id*

router-instance : *router-name*

router-name Base | management | *cpm-vr-name*

cpm-vr-name [32 characters maximum]

service-id: 1 to 2147483647

Default Base

service-name

Specifies the service name, up to 64 characters.

Platforms

All

router

Syntax

router *router-instance*

router service *vprn-service-name*

Context

[Tree] (config>system>file-trans-prof router)

Full Context

configure system file-transmission-profile router

Description

This command specifies the routing instance that the transport protocol uses.

Default

router Base

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Parameters

router-instance

Specifies the router instance on which the file transmission connection will be established.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **router service** *vprn-service-name* variant can be used in all configuration modes.

Values {router-name | *vprn-svc-id*}

router-name: Base, management

router-name is an alias for input only. The *router-name* gets replaced with an id automatically by SR OS in the configuration).

vprn-svc-id: 1 to 2147483647

Default Base

service vprn-service-name

Identifies the service, up to 64 characters.

Platforms

All

router

Syntax

router *router-instance*

no router

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy router)

Full Context

configure isa nat-group inter-chassis-redundancy router

Description

This command configures routing instance through which ISAs communicate between redundant nodes and synchronize their flow state.

The **no** form of this command removes the router instance from the configuration.

Default

no router

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Parameters

router-instance

Specifies the router name or service ID for the router instance.

Values <*router-name*>| <*vprn-svc-id*>
router-name: "Base"
vprn-svc-id: 1 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

router service-name *service-name*

no router

Context

[Tree] (config>aaa>isa-radius-plcy>servers router)

Full Context

configure aaa isa-radius-policy servers router

Description

This command specifies the number of times the router attempts to contact the RADIUS server for authentication, if not successful the first time.

The **no** form of the command reverts to the default value.

Default

no router

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

router

Syntax

router *router-instance*

router service-name *service-name*

no router

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Context

[Tree] (config>mirror>mirror-dest>encap>layer-3-encap router)

Full Context

configure mirror mirror-dest encap layer-3-encap router

Description

This command specifies the routing instance into which to inject the mirrored packets. The packets are forwarded in the routing instance based on the configurable destination IP address in the inserted IP header. If a mirror-dest is configured to inject into a VPRN service, then that VPRN service cannot be deleted. A mirror-dest with layer-3-encap is set to operationally down if the configured destination IP address is not reachable via an interface in the routing instance or service configured for the mirror-dest. No changes are allowed to the router configuration once a gateway is configured. A service must already exist before it is specified as a router-instance. VPRN and IES services share the same number space for the service-id, but IES services cannot be specified as the router-instance for routable LI encap.

Forwarding of routable encapsulated LI packets out an R-VPLS interface is not supported. A mirror-dest configured with routable encapsulation can be bound to a routing instance that also has an R-VPLS bound to it but the operator must ensure that the destination of the LI packets is not reachable via any R-VPLS interfaces. Any routable encapsulated LI packets that arrive at the egress of an R-VPLS interface are discarded. Parallel use of routable LI encapsulation and R-VPLS in the same routing instance is supported as long as the mirrored packets do not egress out the R-VPLS interface.

Default

router Base

Parameters

router-instance

Specifies the router instance.

Values <*router-name*> | <*service-id*>

router-name	"Base", *name*
service-id	1 to 2147483647

service-name

Specifies the service name, up to 64 characters.

Platforms

All

router

Syntax

router *router-instance*

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no router

Context

[Tree] (config>li>mirror-dest-template>layer-3-encap router)

Full Context

configure li mirror-dest-template layer-3-encap router

Description

This command specifies the routing instance into which to inject the mirrored packets. The packets will be forwarded in the routing instance based on the configurable destination IP address in the inserted IP header. This parameter can be overridden by RADIUS.

If a mirror destination is configured to inject into a VPRN service, that VPRN service cannot be deleted. A mirror destination with Layer 3 encapsulation will be set to operationally down if the configured destination IP address is not reachable via an interface in the routing instance or service configured for the mirror destination. A service must exist before it is specified as a router instance. VPRN and IES services share the same number space for the service ID; however, IES services cannot be specified as the router instance for routable LI encapsulation.

Default

router "Base”

Parameters

router-instance

Specifies the router instance using the router name or service ID.

Values	*router-instance*	*router-name* | *vprn-svc-id*	
		router-name	"Base”
		vprn-svc-id	1 to 2147483647

Platforms

All

router

Syntax

router *router-name*

no router

Context

[Tree] (config>li>x-interfaces>lics>lic router)

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Full Context

configure li x-interfaces lics lic router

Description

This command configures the router instance that the X-interfaces must use for communication.

The **no** form of this command reverts to the default.

Parameters

router-name

Specifies the router name or VPRN service ID.

Values <*router-name*>, <*vprn-svc-id*>

router-name	Base
vprn-svc-id	1 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

router

Syntax

router *router-or-service*

router service-name *service-name*

no router

Context

[Tree] (config>oam-pm>session>ip router)

Full Context

configure oam-pm session ip router

Description

This command numerically references the source context from which the TWAMP Light packet is launched. The **router-instance** *router-instance* configuration, under the same context as the **router** command, is the preferred method for referencing. This method references the launch context by name, and not number, or alias that converts **service-name** to a number.

The **no** form of this command restores the default value.

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Parameters

router-or-service

Specifies the numerical reference to the router instance or service. Well known router-name "Base" is allowed for convenience, but mapped numerically.

Values {*router-name* | *vprn-svc-id*}

router-name: Base

vprn-svc-id: 1 to 2147483647

The parameter *router-instance* is preferred for specifying the router or service.

service-name

Specifies the alias function that allows the service-name to be used converted and stored as service ID, up to 64 characters. The parameter *router-instance* is preferred for specifying the router or service.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

router

Syntax

no router *router-instance* **interface** *interface-name*

router *router-instance* **interface** *interface-name* [**direction** {**ingress | egress | both**}]

Context

[Tree] (config>cflowd>collector>exp-filter>if-list router)

Full Context

configure cflowd collector export-filter interface-list router

Description

This command configures the interface flow data sent to this collector.

The **no** form of this command removes the specified interface from the **interface-list** filter.

Parameters

router-instance

Specifies the router instance ID associated with the interface name

Values *router-name* | *vprn-svc-id*

router-name: Base, management Default - Base

vprn-svc-id: 1 to 2147483647

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interface-name

Specifies the interface name, up to 32 characters and must start with a letter, for the router to the service interface or SAP.

ingress

Keyword to specify that ingress flows are sent to the associated Cflowd Collector.

Default both

egress

Keyword to specify that egress flows are sent to the associated Cflowd Collector.

Default both

both

Keyword to specify that both ingress and egress flows are sent to the associated Cflowd Collector.

Default both

Platforms

All

router

Syntax

[**no**] **router** *router-instance*

Context

[Tree] (config>cflowd>collector>export-filter router)

Full Context

configure cflowd collector export-filter router

Description

This command allows the flow data from only specific router instances to be sent to the associated collector.

Multiple router instances can be configured by issuing the command multiple times with the different router-instances.

The **no** form of this command removes the specified router-instance restriction, which means flows from that router-instance will no longer be exported. If all router-instances are removed, then flows from all router instances are sent to the associated collector.

Default

no router

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Parameters

router-instances

Specifies the router name or router instance VPRN service ID. Only "Base" is supported.

Values router-name: Base, management Default - management

vprn-svc-id: 1 to 2147483647

Platforms

All

router

Syntax

router {*router-name* | *vprn-svc-id*}

Context

[Tree] (config>cflowd>collector router)

Full Context

configure cflowd collector router

Description

This command configures the flow data sent to the associated collector to be sent within the specified router context. If this parameter is not specified, flow data is exported using the management routing context.

Default

router management

Parameters

router-name

Specifies the router name.

Values Base, management

Default management

vprn-svc-id

Specifies the router instance VPRN service ID.

Values 1 to 2147483647

Platforms

All

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router

Syntax

router *router-instance*

router service-name *service-name*

no router

Context

[Tree] (config>filter>redirect-policy router)

Full Context

configure filter redirect-policy router

Description

This command enhances VRF support in redirect policies. When a router instance is specified, the configured destination tests are run in the specified router instance, and the PBR action is executed in the specified router instance. If no destination is active or if the hardware does not support PBR action "next-hop router", action forward will be executed (i.e. routing will be performed in the context of the incoming interface routing instance).

The **no** form of the command preserves backward-compatibility. Tests always run in the "Base" routing instance context, and the PBR action executes in the routing context of the ingress interface that the filter using this redirect policy is deployed on.

Default

no router

Parameters

router-instance

Specifies a router instance in the form of **router-name** or **service-id**.

Values **router-name** — Base

service-id — Specifies an existing Layer 3 service [1 to 2147483647]

service-name

Specifies the name of a configured Layer 3 service.

Platforms

All

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router

Syntax

router {**eq** | **neq**} *router-instance* [**regexp**]

no router

Context

[Tree] (config>log>filter>entry>match router)

Full Context

configure log filter entry match router

Description

This command specifies the log event matches for the router instance using a special vrtr-name format used by the logging system.

The **no** form of this command removes the log event matches.

Parameters

eq

Determines if the matching criteria should be equal to the specified value.

neq

Determines if the matching criteria should not be equal to the specified value.

router-instance

Specifies a router name, up to 32 characters, to be used in the match criteria. The router-instance in this command is a name for a router instance in a special format used in the logging system (called the vrtr-name). Examples of vrtr-names include **Base** and **vprn101** (where 101 is the service-id of the VPRN service). It represents the router instance that generated the log event.

regexp

Specifies the type of string comparison to use to determine if the log event matches the value of the specified router instance. When the **regexp** keyword is specified, the string in the **router** command is a regular expression string that is matched against the vrtr-name string in the log event being filtered.

Platforms

All

router

Syntax

router service-name *service-name*

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router *router-instance*

no router

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry router)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry router)

Full Context

configure system security management-access-filter ip-filter entry router

configure system security management-access-filter ipv6-filter entry router

Description

This command configures a router name or service ID to be used as a management access filter match criterion.

The **no** form the command removes the router name or service ID from the match criteria.

Parameters

router-instance

Specifies one of the following parameters for the router instance:

router-name — Specifies a router name or CPM router instance, up to 32 characters to be used in the match criteria.

Values "Base" | "management" | "vpls-management"

Default Base

vprn-svc-id — Specifies a CPM router instance to be used in the match criteria.

Values 1 to 2147483647

service name

Specifies an existing service name, up to 64 characters.

Platforms

All

router

Syntax

router service-name *service-name*

router *router-instance*

no router

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Context

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match router)

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match router)

Full Context

configure system security cpm-filter ip-filter entry match router

configure system security cpm-filter ipv6-filter entry match router

Description

This command specifies a router name or a service-id to be used in the match criteria.

Default

no router

Parameters

router-instance

Specifies one of the following parameters for the router instance:

router-name — Specifies a router name up to 32 characters to be used in the match criteria.

service-id — Specifies an existing service ID to be used in the match criteria.

Values 1 to 2147483647

service-name

Specifies an existing service name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

router

Syntax

router service-name *service-name*

router *router-instance*

no router

Context

[Tree] (config>bmp>station>connection router)

Full Context

configure bmp station connection router

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Description

This command configures the router instance to be used to connect to the associate BMP monitoring station.

The **no** form of this command removes the parameters from the configuration.

Parameters

service-name

Specifies the name associated with the VPRN service through which the BMP monitoring station connection should traverse.

router-instance

Specifies the routing instance where the lead pool resides.

Values *router-name* | *vprn-service-id*

router-name: "Base" Default - Base

vprn-svc-id: 1 to 2147483647

service-name: The service name up to 64 characters in length.

Platforms

All

router

Syntax

router *router-name*

no router

Context

[Tree] (config>mirror>mirror-dest>pcap router)

Full Context

configure mirror mirror-dest pcap router

Description

This command configures the destination router name for the FTP transmission of the PCAP file.

The **no** form of this command configures the router name to **management**, which is the default.

Default

router management

Parameters

router-name

Specifies the router name.

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Values Base, management

Platforms
All

40.71 router-advertisement

router-advertisement

Syntax
[**no**] **router-advertisement**

Context
[Tree] (config>service>vprn router-advertisement)

Full Context
configure service vprn router-advertisement

Description
This command configures router advertisement properties. By default, it is disabled for all IPv6 enabled interfaces.

The **no** form of this command disables all IPv6 interface. However, the **no interface** *interface-name* command disables a specific interface.

Default
no router-advertisement

Platforms
All

router-advertisement

Syntax
[**no**] **router-advertisement**

Context
[Tree] (config>router router-advertisement)

Full Context
configure router router-advertisement

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Description

This command configures router advertisement properties. By default, it is disabled for all IPv6 enabled interfaces.

The **no** form of this command disables all IPv6 interface. However, the **no interface** *interface-name* command disables a specific interface.

Default

disabled

Platforms

All

40.72 router-advertisement-policy

router-advertisement-policy

Syntax

router-advertisement-policy *policy*

no router-advertisement-policy

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host router-advertisement-policy)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host router-advertisement-policy)

Full Context

configure subscriber-mgmt local-user-db ipoe host router-advertisement-policy

configure subscriber-mgmt local-user-db ppp host router-advertisement-policy

Description

This command applies an RA policy to the host.

The **no** form of this command removes the policy from the configuration.

Parameters

policy

Specifies the policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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router-advertisement-policy

Syntax

router-advertisement-policy *name* [**create**]

no router-advertisement-policy *name*

Context

[Tree] (config>subscr-mgmt router-advertisement-policy)

Full Context

configure subscriber-mgmt router-advertisement-policy

Description

This command creates a router advertisement policy or enters the context to configure a router advertisement policy. The keyword **create** is mandatory when creating a router advertisement policy the first time.

The **no** form of this command deletes the specified router advertisement policy.

Parameters

name

Specifies the router advertisement policy name up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

Specifies the keyword used to create the router advertisement policy. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.73 router-advertisements

router-advertisements

Syntax

[**no**] **router-advertisements**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6 router-advertisements)

[Tree] (config>service>vprn>sub-if>ipv6 router-advertisements)

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[Tree] (config>service>ies>sub-if>ipv6 router-advertisements)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 router-advertisements)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements

configure service vprn subscriber-interface ipv6 router-advertisements

configure service ies subscriber-interface ipv6 router-advertisements

configure service vprn subscriber-interface group-interface ipv6 router-advertisements

Description

This command enables IPv6 router advertisements for this interface.

The **no** form of this command disables the router advertisements.

Default

router-advertisements

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.74 router-id

router-id

Syntax

router-id *ip-address*

no router-id

Context

[Tree] (config>service>vprn>ospf router-id)

[Tree] (config>service>vprn router-id)

[Tree] (config>service>vprn>bgp router-id)

Full Context

configure service vprn ospf router-id

configure service vprn router-id

configure service vprn bgp router-id

Description

This command sets the router ID for a specific VPRN context.

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When configuring the router ID in the base instance of OSPF it overrides the router ID configured in the **config>router** context. The default value for the base instance is inherited from the configuration in the **config>router** context. If the router ID in the **config>router** context is not configured, the following applies:

- The system uses the system interface address (which is also the loopback address).
- If a system interface address is not configured, use the last 32 bits of the chassis MAC address.

If neither the router ID nor system interface are defined, the router ID from the base router context is inherited.

This is a **required** command when configuring multiple instances and the instance being configured is not the base instance.

When configuring a new router ID, the instance is not automatically restarted with the new router ID. The next time the instance is initialized, the new router ID is used.

To force the new router ID to be used, issue the **shutdown** and **no shutdown** commands for the instance, or reboot the entire router.

It is possible to configure an SR OS to operate with an IPv6 only BOF and no IPv4 system interface address. When configured in this manner, the operator must explicitly define IPv4 router IDs for protocols such as OSPF and BGP as there is no mechanism to derive the router ID from an IPv6 system interface address.

The **no** form of this command removes the router ID definition from the given VPRN context.

Default

no router-id

Parameters

ip-address

The IP address must be given in dotted decimal notation.

Platforms

All

router-id

Syntax

router-id *ip-address*

no router-id

Context

[Tree] (config>service>vprn>isis router-id)

Full Context

configure service vprn isis router-id

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Description

This command sets the router ID for a specific VPRN context.

If neither the router ID nor system interface are defined, the router ID from the base router context is inherited.

The **no** form of this command removes the router ID definition from the given VPRN context.

Default

no router-id

Parameters

ip-address

The IP address must be given in dotted decimal notation.

Platforms

All

router-id

Syntax

[**no**] **router-id** *ip*

Context

[Tree] (config>router>mpls>srlg-database router-id)

Full Context

configure router mpls srlg-database router-id

Description

Commands in this context configure the link members of SRLG groups for a specific router in the network. The user must also use this command to enter the local interface SRLG membership into the user SRLG database. Use by CSPF of all interface SRLG membership information of a specific router ID may be temporarily disabled by shutting down the node. If this occurs, CSPF assumes these interfaces have no SRLG membership association.

The **no** form of this command will delete all interface entries under the router ID.

Parameters

ip-address

Specifies the router ID for this system. This must be the router ID configured under the base router instance, the base OSPF instance or the base IS-IS instance.

Platforms

All

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router-id

Syntax

router-id *ip-address*

no router-id

Context

[Tree] (config>router router-id)

Full Context

configure router router-id

Description

This command configures the router ID for the router instance.

The router ID is used by both OSPF and BGP routing protocols in this instance of the routing table manager. IS-IS uses the router ID value as its system ID.

When configuring a new router ID, protocols are not automatically restarted with the new router ID. The next time a protocol is initialized, the new router ID is used. This can result in an interim period of time when different protocols use different router IDs.

It is possible to configure SR OS to operate with an IPv6 only BOF and no IPv4 system interface address. When configured in this manner, the operator must explicitly define IPv4 router IDs for protocols such as OSPF and BGP as there is no mechanism to derive the router ID from an IPv6 system interface address.

To force the new router ID to be used, issue the **shutdown** and **no shutdown** commands for each protocol that uses the router ID, or restart the entire router.

The system uses the system interface address which is also the loopback address. If a system interface address is not configured, use the last 32 bits of the chassis MAC address.

The **no** form of this command removes the configured value and the last 32 bits of the chassis MAC address are used.

Default

no router-id

Parameters

ip-address

Specifies the 32 bit router ID expressed in dotted decimal notation or as a decimal value.

Platforms

All

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router-id

Syntax

router-id *ip-address*

no router-id

Context

[Tree] (config>router>bgp router-id)

Full Context

configure router bgp router-id

Description

This command specifies the router ID to be used with this BGP instance.

Changing the BGP router ID on an active BGP instance causes the BGP instance to restart with the new router ID.

It is possible to configure an SR OS to operate with an IPv6 only BOF and no IPv4 system interface address. When configured in this manner, the operator must explicitly define IPv4 router IDs for protocols such as OSPF and BGP as there is no mechanism to derive the router ID from an IPv6 system interface address.

When no **router-id** is configured for BGP, the system interface IP address is used.

Default

no router-id

Parameters

ip-address

Specifies the router ID, expressed as any non-zero value in the range 0.0.0.1 to 255.255.255.255 (or when converted to decimal it can have any value in the range 1-4294967295). It is recommended to use the system IPv4 address.

Platforms

All

router-id

Syntax

router-id *router-id*

no router-id

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Context

[Tree] (config>router>isis router-id)

Full Context

configure router isis router-id

Description

This command configures the router ID.

The **no** form of this command deletes the router ID.

Parameters

router-id

The IP address of the router.

Platforms

All

router-id

Syntax

router-id *ip-address*

no router-id

Context

[Tree] (config>router>ospf router-id)

[Tree] (config>router>ospf3 router-id)

Full Context

configure router ospf router-id

configure router ospf3 router-id

Description

This command configures the router ID for the OSPF instance. This command configures the router ID for the OSPF instance.

When configuring the router ID in the base instance of OSPF it overrides the router ID configured in the **config**>**router** context.

The default value for the base instance is inherited from the configuration in the **config**>**router** context. If the router ID in the **config**>**router** context is not configured, the following applies:

- the system uses the system interface address (which is also the loopback address)
- if a system interface address is not configured, it uses the last 32 bits of the chassis MAC address

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This is a **required** command when configuring multiple instances and the instance being configured is not the base instance.

When configuring a new router ID, the instance is not automatically restarted with the new router ID. The next time the instance is initialized, the new router ID is used.

To force the new router ID to be used, issue the **shutdown** and **no shutdown** commands for the instance, or reboot the entire router.

It is possible to configure an SR OS to operate with an IPv6 only BOF and no IPv4 system interface address. When configured in this manner, the operator must explicitly define IPv4 router IDs for protocols such as OSPF and BGP as there is no mechanism to derive the router ID from an IPv6 system interface address.

The **no** form of this command to reverts to the default value.

Platforms

All

40.75 router-instance

router-instance

Syntax

router-instance *router-instance*

no router-instance

Context

[Tree] (config>oam-pm>session>ip router-instance)

Full Context

configure oam-pm session ip router-instance

Description

This command references the source context from which the TWAMP Light packet is launched by name. The **router-instance** *router-instance* configuration is the preferred method for referencing and references the launch context by name, not number or alias that converts **service-name** to a number.

The **no** form of this command restores the default value.

Parameters

router-instance

Specifies the preferred method for entering a service name. Stored as the service name. Only the service linking function is allowed for both mixed-mode and model-driven configuration modes, up to 64 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

router-instance

Syntax

router-instance *router-instance*

router-instance service *vprn-service-instance*

no router-instance

Context

[Tree] (config>system>telemetry>destination-group>destination router-instance)

[Tree] (config>system>grpc-tunnel>destination-group>destination router-instance)

Full Context

configure system telemetry destination-group destination router-instance

configure system grpc-tunnel destination-group destination router-instance

Description

This command configures the router instance for the destination group.

The **no** form of this command reverts to the default value.

Default

router-instance management

Parameters

router-instance

Specifies the router instance type, up to 32 characters.

Values management, base

vprn-service-instance

Specifies the VPRN service instance, up to 64 characters.

Platforms

All

router-instance

Syntax

[**no**] **router-instance** *service-id*

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Context

[Tree] (config>router>static-route-entry>leak-dest router-instance)

Full Context

configure router static-route-entry leak-destination router-instance

Description

This command configures the static route leak destination router instance.

When a VPRN service is added to the list of VPRNs that receive a leaked copy of the static route, the static route is leaked into that VPRN if the following conditions are met:

- all configured next hops of the static route are direct next hops
- the static route is an active route, or it is capable of immediately becoming an active route when a more-preferred route for the same prefix is removed

Static routes leaked using this method appear as "VPN Leak" protocol routes in the route table of the VPRN.

When a VPRN receives a packet that matches a "VPN Leak" route that leaked using this method, the packet is forwarded according to the configuration of the static route in the GRT, even if the static route is currently non-best in the GRT.

The **no** form of this command removes the configuration.

Parameters

service-id

Specifies the service ID.

Values 1 to 2147483647 | svc-name: up to 64 characters

Platforms

All

router-instance

Syntax

router-instance *router-instance*

router-instance *service-name*

no router-instance

Context

[Tree] (config>system>netconf>call-home>netconf-client router-instance)

Full Context

configure system netconf call-home netconf-client router-instance

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Description

This command configures either a router instance or VPRN service name for the NETCONF client.

The **no** form of this command disables the router instance or VPRN service name.

Default

no router-instance

Parameters

router-instance

Specifies a router instance name, up to 32 characters, for the NETCONF client.

service-name

Specifies a VPRN service name, up to 64 characters, for the NETCONF client.

Platforms

All

40.76 router-lifetime

router-lifetime

Syntax

router-lifetime *seconds*

router-lifetime no-default-router

no router-lifetime

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy router-lifetime)

Full Context

configure subscriber-mgmt router-advertisement-policy router-lifetime

Description

This command specifies the router lifetime.

The **no** form of this command returns the command to the default setting.

Default

router-lifetime 4500

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Parameters

seconds

Specifies the time, in seconds, for the prefix to remain preferred.

Values 2700 to 9000

no-default-router

Specifies that the router is not to be used as a default router.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

router-lifetime

Syntax

router-lifetime *seconds*

router-lifetime no-default-router

no router-lifetime

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv router-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv router-lifetime)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv router-lifetime)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv router-lifetime)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements router-lifetime

configure service vprn subscriber-interface group-interface ipv6 router-advertisements router-lifetime

configure service vprn subscriber-interface ipv6 router-advertisements router-lifetime

configure service ies subscriber-interface ipv6 router-advertisements router-lifetime

Description

This command configures the value to be placed in the router lifetime field of router advertisements sent from this interface. A value of zero indicates this router should not be used by hosts as a default router.

The **no** form of this command reverts to the default.

Default

router-lifetime 4500

Parameters

seconds

Specifies the router lifetime in seconds for this group-interface.

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Values 2700 to 9000

no-default-router

Specifies that the router is not to be used as a default router.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

router-lifetime

Syntax

router-lifetime *seconds*

no router-lifetime

Context

[Tree] (config>router>router-advert>if router-lifetime)

[Tree] (config>service>vprn>router-advert>if router-lifetime)

Full Context

configure router router-advertisement interface router-lifetime

configure service vprn router-advertisement interface router-lifetime

Description

This command sets the router lifetime.

Default

router life-time 1800

Parameters

seconds

The length of time, in seconds, (relative to the time the packet is sent) that the prefix is valid for route determination.

Values 0, 4 to 9000 seconds. 0 means that the router is not a default router on this link.

Platforms

All

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40.77 router-solicit

router-solicit

Syntax

router-solicit

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6 router-solicit)

[Tree] (config>service>vprn>sub-if>ipv6 router-solicit)

[Tree] (config>service>ies>sub-if>ipv6 router-solicit)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6 router-solicit)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-solicit

configure service vprn subscriber-interface ipv6 router-solicit

configure service ies subscriber-interface ipv6 router-solicit

configure service vprn subscriber-interface group-interface ipv6 router-solicit

Description

Commands in this context configure parameters used for router-solicit based authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.78 router-solicitation

router-solicitation

Syntax

[**no**] **router-solicitation**

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>auto-reply router-solicitation)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>auto-reply router-solicitation)

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Full Context

configure service vprn subscriber-interface group-interface ipv6 auto-reply router-solicitation

configure service ies subscriber-interface group-interface ipv6 auto-reply router-solicitation

Description

This command enables auto-reply router solicitation.

The **no** form of this command disables auto-reply router solicitation.

Default

router-solicitation

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.79 router-target-as-number

router-target-as-number

Syntax

router-target-as-number *as-number*

no router-target-as-number

Context

[Tree] (config>subscr-mgmt>vrgw>lanext router-target-as-number)

Full Context

configure subscriber-mgmt vrgw lanext router-target-as-number

Description

This command specifies the AS number for the HLE service. It is used to derive the route target (RT) and route distinguisher (RD) for the HLE EVPN service only when the RADIUS server does not return a specific route target or route distinguisher.

The derived RT is in the "target:<configured-router-target-as-number>:<returned Alc-Bridge-Id>" format.

The derived RD is in the "<configured-router-target-as-number>:<returned Alc-Bridge-Id>" format.

The **no** form of this command removes the AS number from the configuration.

Parameters

as-number

Specifies the AS number of the HLE service.

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Values 1 to 65535

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.80 router-unsolicited-na-flood-evpn

router-unsolicited-na-flood-evpn

Syntax

[**no**] **router-unsolicited-na-flood-evpn**

Context

[Tree] (config>service>vpls>proxy-nd router-unsolicited-na-flood-evpn)

Full Context

configure service vpls proxy-nd router-unsolicited-na-flood-evpn

Description

This command controls whether the system floods router unsolicited Neighbor Advertisements to EVPN. The NA messages impacted by this command are NA messages with the following flags: S=0 and R=1.

The **no** form of the command will only flood to local SAPs/binds but not to EVPN destinations. This is only recommended in networks where CEs are routers directly connected to the PEs. Networks using aggregation switches between the host/routers and the PEs should flood unsolicited NA messages in EVPN to ensure that the remote caches are updated and BGP does not miss the advertisement of these entries.

Default

router-unsolicited-na-flood-evpn

Platforms

All

40.81 routing-type0

routing-type0

Syntax

routing-type0 {**true** | **false**}

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no routing-type0

Context

[Tree] (config>filter>ipv6-filter>entry>match routing-type0)

Full Context

configure filter ipv6-filter entry match routing-type0

Description

This command enables match on existence of Routing Type Extension Header type 0 in the IPv6 filter policy.

The **no** form of this command ignores Routing Type Extension Header type 0 presence/absence in a packet when evaluating match criteria of a given filter policy entry.

Default

no routing-type0

Parameters

true

Specifies whether a packet contains Routing Type Extension Header type 0.

false

Specifies whether a packet does not contain Routing Type Extension Header type 0.

Platforms

All

40.82 routing-type4

routing-type4

Syntax

routing-type4 {**true** | **false**}

no routing-type4

Context

[Tree] (config>filter>ipv6-filter>entry>match routing-type4)

Full Context

configure filter ipv6-filter entry match routing-type4

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Description

This command enables match on the presence or absence of an SRH, a routing extension header, in the IPv6 packet.

The **no** form of this command ignores the presence or absence of an SRH in the IPv6 packet when evaluating match criteria of the filter policy entry.

Default

no routing-type4

Parameters

true

Filters IPv6 packets that contain a routing extension header type 4 (SRH).

false

Filters IPv6 packets that do not contain a routing extension header type 4 (SRH).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.83 rp

rp

Syntax

rp

Context

[Tree] (config>service>vprn>pim rp)

Full Context

configure service vprn pim rp

Description

This command enables access to the context to configure the rendezvous point (RP) of a PIM protocol instance.

A Nokia PIM router acting as an RP must respond to a PIM register message specifying an SSM multicast group address by sending stop register message(s) to the first hop router. It does not build an (S, G) shortest path tree toward the first hop router. An SSM multicast group address can be either from the SSM default range of 232/8 or from a multicast group address range that was explicitly configured for SSM.

Default

rp enabled when PIM is enabled.

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Platforms

All

rp

Syntax

rp

Context

[Tree] (config>router>pim rp)

Full Context

configure router pim rp

Description

Commands in this context configure rendezvous point (RP) parameters. The address of the root of the group's shared multicast distribution tree is known as its RP. Packets received from a source upstream and join messages from downstream routers rendezvous at this router.

If this command is not enabled, then the router can never become the RP.

Platforms

All

40.84 rp-candidate

rp-candidate

Syntax

rp-candidate

Context

[Tree] (config>service>vprn>pim>rp rp-candidate)

[Tree] (config>service>vprn>pim>rp>ipv6 rp-candidate)

Full Context

configure service vprn pim rp rp-candidate

configure service vprn pim rp ipv6 rp-candidate

Description

Commands in this context configure the candidate rendezvous point (RP) parameters.

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Default

enabled when PIM is enabled

Platforms

All

rp-candidate

Syntax

rp-candidate

Context

[Tree] (config>router>pim>rp rp-candidate)

[Tree] (config>router>pim>rp>ipv6 rp-candidate)

Full Context

configure router pim rp rp-candidate

configure router pim rp ipv6 rp-candidate

Description

Commands in this context configure the Candidate RP parameters.

Routers use a set of available rendezvous points distributed in Bootstrap messages to get the proper group-to-RP mapping. A set of routers within a domain are also configured as candidate RPs (C-RPs); typically, these will be the same routers that are configured as candidate BSRs.

Every multicast group has a shared tree through which receivers learn about new multicast sources and new receivers learn about all multicast sources. The rendezvous point (RP) is the root of this shared tree.

Default

rp-candidate shutdown

Platforms

All

40.85 rp-set-peer

rp-set-peer

Syntax

[**no**] **rp-set-peer** *ip-address*

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Context

[Tree] (config>service>vprn>pim>rp>anycast rp-set-peer)

Full Context

configure service vprn pim rp anycast rp-set-peer

Description

This command configures a peer in the anycast RP-set. The address identifies the address used by the other node as the RP candidate address for the same multicast group address range as configured on this node.

This is a manual procedure. Caution should be taken to produce a consistent configuration of an RP-set for a given multicast group address range. The priority should be identical on each node and be a higher value than any other configured RP candidate that is not a member of this RP-set.

Although there is no set maximum of addresses that can be configured in an RP-set, up to 15 multicast addresses is recommended.

The **no** form of this command removes an entry from the list.

Parameters

ip-address

Specifies the address used by the other node as the RP candidate address for the same multicast group address range as configured on this node.

Platforms

All

rp-set-peer

Syntax

[**no**] **rp-set-peer** *ipv6-address*

Context

[Tree] (config>service>vprn>pim>rp>ipv6>anycast rp-set-peer)

Full Context

configure service vprn pim rp ipv6 anycast rp-set-peer

Description

This command configures an IPv6 peer in the anycast rp-set. The address identifies the address used by the other node as the RP candidacy address for the same multicast group address range as configured on this node.

This is a manual procedure. Caution should be taken to produce a consistent configuration of an RP- set for a given multicast group address range. The priority should be identical on each node and be a higher value than any other configured RP candidate that is not a member of this rp-set.

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Although there is no set maximum of addresses that can be configured in an rp-set, up to 15 multicast addresses is recommended.

The **no** form of this command removes an entry from the list.

Parameters

ipv6-address

Specifies the address used by the other node as the RP candidacy address for the same multicast group address range as configured on this node.

Values

ipv6-address	: x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

Platforms

All

rp-set-peer

Syntax

[**no**] **rp-set-peer** *ip-address*

Context

[Tree] (config>router>pim>rp>anycast rp-set-peer)

Full Context

configure router pim rp anycast rp-set-peer

Description

This command configures an IP peer in the anycast RP-set. The address identifies the address used by the other node as the RP candidate address for the same multicast group address range as configured on this node.

This is a manual procedure. Caution should be taken to produce a consistent configuration of an RP-set for a given multicast group address range. The priority should be identical on each node and be a higher value than any other configured RP candidate that is not a member of this RP-set.

Although there is no set maximum number of addresses that can be configured in an RP-set, up to 15 IP addresses is recommended.

The **no** form of this command removes an entry from the list.

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Parameters

ip-address

Specifies an IP peer in the anycast RP-set.

Platforms

All

rp-set-peer

Syntax

[**no**] **rp-set-peer** *ipv6-address*

Context

[Tree] (config>router>pim>rp>ipv6>anycast rp-set-peer)

Full Context

configure router pim rp ipv6 anycast rp-set-peer

Description

This command configures a peer in the anycast RP-set. The address identifies the address used by the other node as the RP candidate address for the same multicast group address range as configured on this node.

This is a manual procedure. Caution should be taken to produce a consistent configuration of an RP-set for a given multicast group address range. The priority should be identical on each node and be a higher value than any other configured RP candidate that is not a member of this RP-set.

Although there is no set maximum number of addresses that can be configured in an RP-set, up to 15 IP addresses is recommended.

The **no** form of this command removes the IPv6 address from the anycast RP set.

Parameters

ipv6-address

Specifies an IPv6 peer in the anycast RP-set.

Platforms

All

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40.86 rpc-authorization

rpc-authorization

Syntax

rpc-authorization

Context

[Tree] (config>system>security>profile>grpc rpc-authorization)

Full Context

configure system security profile grpc rpc-authorization

Description

This command opens a configuration context for configuring user privileges related to RPCs.

Platforms

All

40.87 rpf-select

rpf-select

Syntax

rpf-select

Context

[Tree] (config>service>vprn>mvpn rpf-select)

Full Context

configure service vprn mvpn rpf-select

Description

This command enables context for VRF extranet mapping for C-instance receivers in this receiver MVPN instance to multicast streams in P-instance core MVPN instances.

Platforms

All

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40.88 rpf-table

rpf-table

Syntax

rpf-table {**rtable-m** | **rtable-u** | **both**}

no rpf-table

Context

[Tree] (config>service>vprn>msdp rpf-table)

Full Context

configure service vprn msdp rpf-table

Description

This command configures the sequence of route tables used to find a Reverse Path Forwarding (RPF) interface for a particular multicast route.

By default, only the unicast route table is looked up to calculate RPF interface towards the source/rendezvous point. However, the operator can specify the following:

- use the unicast route table only
- use the multicast route table only or
- use both the route tables

The **no** form of this command reverts to the default.

Default

rpf-table rtable-u

Parameters

rtable-m

Specifies that only the multicast route table will be used by the multicast protocol (PIM) for IPv4 RPF checks. This route table will contain routes submitted by static routes, ISIS and OSPF.

rtable-u

Specifies only that the unicast route table will be used by the multicast protocol (PIM) for IPv4 RPF checks. This route table will contain routes submitted by all the unicast routing protocols.

both

Will always look up first in the multicast route table and, if there is a route, it will use it. If PIM does not find a route in the first lookup, it will try to find it in the unicast route table. Rtable-m is checked before rtable-u.

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Platforms

All

rpf-table

Syntax

rpf-table {**rtable-m** | **rtable-u** | **both**}

no rpf-table

Context

[Tree] (config>router>msdp rpf-table)

[Tree] (config>service>vprn>pim rpf-table)

Full Context

configure router msdp rpf-table

configure service vprn pim rpf-table

Description

This command configures the sequence of route tables used to find an RPF interface for a multicast route.

By default, only the unicast route table is looked up to calculate RPF interface towards the source or rendezvous point. The user can specify the following options:

- use the unicast route table only
- use the multicast route table only
- use both route tables

The **no** form of this command configures the router to only use the unicast route table.

Default

no rpf-table

Parameters

rtable-m

Keyword to specify that only the multicast route table is used by the multicast protocol (PIM) for IPv4 RPF checks. This route table contains routes submitted by static routes, IS-IS and OSPF.

rtable-u

Keyword to specify that only the unicast route table is used by the PIM for IPv4 RPF checks. This route table contains routes submitted by all the unicast routing protocols.

both

Keyword to specify that the multicast route table is used first by the PIM for checks. If the multicast route table lookup fails, the unicast route table is used.

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Platforms

All

rpf-table

Syntax

rpf-table {**rtable-m** | **rtable-u** | **both**}

no rpf-table

Context

[Tree] (config>router>pim rpf-table)

Full Context

configure router pim rpf-table

Description

This command configures the sequence of route tables used to find a Reverse Path Forwarding (RPF) interface for a particular multicast route.

By default, only the unicast route table is looked up to calculate RPF interface towards the source or rendezvous point. However, the operator can specify one of the following:

- use the unicast route table only
- use the multicast route table only
- use both the route tables

The **no** form of this command reverts to the default value.

Default

rpf-table rtable-u

Parameters

rtable-m

Specifies that only the multicast route table will be used by the multicast protocol (PIM) for IPv4 RPF checks. This route table will contain routes submitted by static routes, ISIS and OSPF.

rtable-u

Specifies only that the unicast route table will be used by the multicast protocol (PIM) for IPv4 RPF checks. This route table will contain routes submitted by all the unicast routing protocols.

both

Specifies to always lookup first in the multicast route table and if there is a route, it will use it. If PIM does not find a route in the first lookup, it will try to find it in the unicast route table. Rtable-m is checked before rtable-u.

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Platforms

All

40.89 rpf6-table

rpf6-table

Syntax

rpf6-table {**rtable6-m** | **rtable6-u** | **both**}

no rpf6-table

Context

[Tree] (config>service>vprn>pim rpf6-table)

Full Context

configure service vprn pim rpf6-table

Description

This command configures the sequence of route tables used to find a Reverse Path Forwarding (RPF) interface for a specific multicast route.

By default, only the unicast route table is looked up to calculate the RPF interface toward the source/rendezvous point. However, the operator can specify to use the following:

- unicast route table only
- multicast route table only
- both route tables

Default

rpf6-table rtable6-u

Parameters

rtable6-m

Specifies that only the multicast route table will be used by the multicast protocol (PIM) for IPv6 RPF checks. This route table will contain routes submitted by static routes, ISIS and OSPF.

rtable6-u

Specifies that only the unicast route table will be used by the multicast protocol (PIM) for IPv6 RPF checks. This route table will contain routes submitted by all unicast routing protocols.

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both

Specifies that the multicast route table will be used first by the multicast protocol (PIM) for IPv6 RPF checks, then the unicast route table will be used if the multicast route table lookup fails.

Platforms

All

rpf6-table

Syntax

rpf6-table {**rtable6-m** | **rtable6-u** | **both**}

no rpf6-table

Context

[Tree] (config>router>pim rpf6-table)

Full Context

configure router pim rpf6-table

Description

This command configures the sequence of route tables used to find a Reverse Path Forwarding (RPF) interface for a particular multicast route.

By default, only the unicast route table is looked up to calculate RPF interface towards the source/ rendezvous point. However, the operator can specify the following:

- use unicast route table only
- use multicast route table only or
- use both the route tables

The **no** form of this command reverts to the default value.

Default

rpf6-table rtable6-u

Parameters

rtable6-m

Specifies that only the multicast route table will be used by the multicast protocol (PIM) for IPv6 RPF checks. This route table will contain routes submitted by static routes, ISIS and OSPF.

rtable6-u

Specifies that only the unicast route table will be used by the multicast protocol (PIM) for IPv6 RPF checks. This route table will contain routes submitted by all the unicast routing protocols.

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both

Specifies that the multicast route table will be used first by the multicast protocol (PIM) for IPv6 RPF checks, and then the unicast route table will be used if the multicast route table lookup fails.

Platforms

All

40.90 rpfv

rpfv

Syntax

rpfv [**detail**]

no rpfv

Context

[Tree] (debug>router>pim rpfv)

Full Context

debug router pim rpfv

Description

This command enables debugging for PIM RPF vector.

The **no** form of this command disables debugging for PIM RPF vector.

Parameters

detail

Debugs detailed RPF vector information.

Platforms

All

rpfv

Syntax

rpfv core

rpfv mvpn

rpfv core mvpn

no rpfv [**core**] [**mvpn**]

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Context

[Tree] (config>router>pim rpfv)

Full Context

configure router pim rpfv

Description

This command enables RPF Vector processing for Inter-AS Rosen MVPN Option-B and Option-C. The **rpfv** must be enabled on every node for Inter-AS Option B/C MVPN support.

If **rpfv** is configured, MLDP inter-AS resolution cannot be used. These two features are mutually exclusive.

The **no** form of this command reverts to the default.

Default

no rpfv

Parameters

mvpn

Enables MVPN RPF vector processing for Inter-AS Option B/C MVPN based on RFC 5496 and RFC 6513. If a core RPF vector is received, it will be dropped before a message is processed.

core

Enables core RPF vector (no RD) processing for Inter-AS Option B/C MVPN, which allows SR OS interoperability as P-router with third-party vendors that do not encode RD in the RPF vector for Inter-AS MVPN.

core mvpn

Enables core RPF vector (no RD) processing for Inter-AS Option B/C MVPN, which allows SR OS interoperability as P-router with third-party vendors that do not encode RD in the RPF vector for Inter-AS MVPN.

The **no** version of this command disables RPF Vector processing. If RPF vector is received in a PIM join message, the vector will be removed before local processing of PIM message starts.

Platforms

All

40.91 rpki-session

rpki-session

Syntax

[**no**] **rpki-session** *ip-address*

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Context

[Tree] (config>router>origin-validation rpki-session)

Full Context

configure router origin-validation rpki-session

Description

This command configures a session with an RPKI local cache server by using the RPKI-Router protocol. It is over these sessions that the router learns dynamic VRP entries expressing valid origin AS and prefix associations. SR OS supports the RPKI-Router protocol over TCP/IPv4 or TCP/IPv6 transport. The router can set up an RPKI-Router session using the base routing table (in-band) or the management router (out-of-band). Configure the command in the **config**>**router management** instance to configure a session using the management port.

Default

no rpki-session

Parameters

ip-address

Specifies the IPv4 address or an IPv6 address. If the IPv6 address is link-local then the interface name must be appended to the IPv6 address after a hyphen (-).

Platforms

All

rpki-session

Syntax

[**no**] **rpki-session** *ip-address*

Context

[Tree] (debug>router rpki-session)

Full Context

debug router rpki-session

Description

This command enables and configures debugging for RPKI session.

The **no** form of this command disables debugging for RPKI session.

Parameters

ip-address

Debugs the RPKI session associated with the specified IP address.

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Values			
	ipv4-address:	a.b.c.d	
	ipv6-address	x:x:x:x:x:x:x:x	[-interface]
		x:x:x:x:x:x:d.d.d.d	[-interface]
		x:	[0 to FFFF]H
		d:	[0 to 255]D
		interface	up to 32 characters, mandatory for link local addresses

Platforms

All

40.92 rpl-end

rpl-end

Syntax

[**no**] **rpl-end**

Context

[Tree] (config>eth-ring>path rpl-end)

Full Context

configure eth-ring path rpl-end

Description

This command configures the G.8032 path as a ring protection link end. The ring should be declared as either a RPL owner or RPL neighbor for this command to be allowed. Only path a or path b can be declared an RPL-end.

The **no** form of this command sets the rpl-end to default no rpl-end.

Default

no rpl-end

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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40.93 rpl-node

rpl-node

Syntax

rpl-node [**owner** | **nbr**]

no rpl-node

Context

[Tree] (config>eth-ring rpl-node)

Full Context

configure eth-ring rpl-node

Description

This command configures the G.8032 ring protection link type as owner or neighbor. The **no** form of the command means this node is not connected to an RPL link. When RPL owner or neighbor is specified either the a or b path must be configured with the **rpl-end** command. An owner is responsible for operation of the rpl link. Configuring the RPL as neighbor is optional (can be left as no rpl-node) but if the command is used the nbr is mandatory.

On a sub-ring without virtual channel it is mandatory to configure sub-ring non-virtual-link on all nodes on the sub-ring to propagate the R-APS messages around the sub-ring.

The **no** form of this command removes the RPL link.

Default

no rpl-node

Parameters

owner

Specifies the owner link type.

nbr

Specifies the neighbor link type.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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40.94 rr

rr

Syntax

[**no**] **rr**

Context

[Tree] (debug>router>rsvp>event rr)

Full Context

debug router rsvp event rr

Description

This command debugs refresh reduction events.

The **no** form of the command disables the debugging.

Platforms

All

40.95 rr-use-route-table

rr-use-route-table

Syntax

rr-use-route-table

no rr-use-route-table

Context

[Tree] (config>router>bgp>next-hop-res>labeled-routes rr-use-route-table)

Full Context

configure router bgp next-hop-resolution labeled-routes rr-use-route-table

Description

This command enables BGP to perform a lookup of IGP routes in the route table to resolve the BGP next-hop of label-IPv4 and label-IPv6 routes. This is useful for a Route Reflector (RR) that does not participate in tunnel signaling protocols such as LDP and RSVP and therefore, does not have tunnels to resolve the BGP next-hops of label-unicast routes.

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Configure the **disable-route-table-install** command before you configure the **rr-use-route-table** command because forwarding would otherwise be incorrect for cases where label routes are resolved this way.

Default

no rr-use-route-table

Platforms

All

40.96 rs-fec-mode

rs-fec-mode

Syntax

rs-fec-mode *rs-fec-mode*

no rs-fec-mode

Context

[Tree] (config>port>connector rs-fec-mode)

Full Context

configure port connector rs-fec-mode

Description

This command is used for breakout connectors when all connector ports must use the same **rs-fec-mode** setting.

In all other cases, the **rs-fec-mode** is set using the **configure port ethernet rs-fec-mode** command for each individual connector port.

See "Forward Error Correction" in the *Interface Configuration Guide* for more information about **rs-fec-mode** settings.

Default

no rs-fec-mode

Parameters

rs-fec-mode

Specifies the RS-FEC mode to support.

Values cl91-514-528, cl91-514-544

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rs-fec-mode

Syntax

rs-fec-mode *rs-fec-mode*

no rs-fec-mode

Context

[Tree] (config>port>ethernet rs-fec-mode)

Full Context

configure port ethernet rs-fec-mode

Description

This command enables RS-FEC on the Ethernet port. RS-FEC Clause 91 is required for QSFP28, CFP4, 100GBase-SR4, 100GBase-ER4 lite, and CWDM4 for the QSFP28 package optics for short-reach optics.

See "Forward Error Correction" in the *Interface Configuration Guide* for more information about **rs-fec-mode** settings.

Default

no rs-fec-mode

Parameters

rs-fec-mode

Specifies the RS-FEC mode to support.

Values cl91-514-528, cl74, cl108

Platforms

All

40.97 rsa

rsa

Syntax

rsa

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Context

[Tree] (config>system>security>user>public-keys rsa)

Full Context

configure system security user public-keys rsa

Description

This command allows the user to enter the context to configure RSA public keys.

Platforms

All

40.98 rsa-key

rsa-key

Syntax

rsa-key *key-id* [**create**]

no rsa-key *key-id*

Context

[Tree] (config>system>security>user>public-keys>rsa rsa-key)

Full Context

configure system security user public-keys rsa rsa-key

Description

This command creates an RSA public key and associates it with the username. Multiple public keys can be associated with the user. The key ID is used to identify these keys for the user.

Parameters

create

Keyword used to create the RSA key. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

key-id

Specifies the key identifier.

Values 1 to 32

Platforms

All

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40.99 rsa-signature

rsa-signature

Syntax

rsa-signature {**pkcs1** | **pss**}

Context

[Tree] (config>ipsec>cert-profile>entry rsa-signature)

Full Context

configure ipsec cert-profile entry rsa-signature

Description

This command specifies the signature scheme for RSA key.

Default

rsa-signature pkcs1

Parameters

pkcs1

Specifies the RSA pkcs#1 v1.5 signature scheme.

pss

Specifies the RSA probabilistic signature scheme.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

40.100 rsvp

rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>res-filter rsvp)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>res-filter rsvp)

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[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>res-filter rsvp)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter rsvp

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter rsvp

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter rsvp

Description

This command selects the RSVP-TE tunnel type.

The **rsvp** value instructs BGP to search for the best metric RSVP LSP to the address of the BGP next hop. This address can correspond to the system interface or to another loopback interface used by the BGP instance on the remote node. The LSP metric is provided by MPLS in the tunnel table. In the case of multiple RSVP LSPs with the same lowest metric, BGP selects the LSP with the lowest **tunnel-id**.

The **no** form of this command removes the RSVP-TE tunnel type.

Default

no rsvp

Platforms

All

rsvp

Syntax

rsvp

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter rsvp)

Full Context

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter rsvp

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

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rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (config>service>vpls>provider-tunnel>inclusive rsvp)

Full Context

configure service vpls provider-tunnel inclusive rsvp

Description

This command creates the context to configure the parameters of an RSVP P2MP LSP used for forwarding Broadcast, Unicast unknown and Multicast (BUM) packets of a VPLS or B-VPLS instance.

Platforms

All

rsvp

Syntax

rsvp

no rsvp

Context

[Tree] (config>service>vprn>mvpn>pt>selective rsvp)

[Tree] (config>service>vprn>mvpn>pt>inclusive rsvp)

Full Context

configure service vprn mvpn provider-tunnel selective rsvp

configure service vprn mvpn provider-tunnel inclusive rsvp

Description

Commands in this context configure the RSVP P2MP LSP for the provider tunnel.

The **no** form of this command removes the rsvp context including all the statements in the context.

Default

no rsvp

Platforms

All

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rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (config>router rsvp)

Full Context

configure router rsvp

Description

Commands in this context configure RSVP protocol parameters. RSVP is not enabled by default and must be explicitly enabled (**no shutdown**).

RSVP is used to set up LSPs. RSVP should be enabled on all router interfaces that participate in signaled LSPs.

The **no** form of this command deletes this RSVP protocol instance and removes all configuration parameters for this RSVP instance. To suspend the execution and maintain the existing configuration, use the **shutdown** command. RSVP must be shutdown before the RSVP instance can be deleted. If RSVP is not shutdown, the **no rsvp** command does nothing except issue a warning message on the console indicating that RSVP is still administratively enabled.

Default

no shutdown

Platforms

All

rsvp

Syntax

rsvp [**lsp** *lsp-name*] [**sender** *source-address*] [**endpoint** *endpoint-address*] [**tunnel-id** *tunnel-id*] [**lsp-id** *lsp-id*] [**interface** *ip-int-name*]

no rsvp

Context

[Tree] (debug>router rsvp)

Full Context

debug router rsvp

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Description

This command enables and configures debugging for RSVP.

Parameters

lsp ***lsp-name***

Specifies the LSP name up to 64 characters in length.

sender ***source-address***

Specifies the IP address of the sender.

endpoint ***endpoint-address***

Specifies the far-end IP address.

tunnel-id ***tunnel-id***

Specifies the RSVP tunnel ID.

Values 0 to 4294967295

lsp-id ***lsp-id***

Specifies the LSP ID.

Values 1 to 65535

interface ***ip-int-name***

Specifies the interface name. The interface name can be up to 32 characters long and must be unique. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (config>router>gtm>pt>inclusive rsvp)

[Tree] (config>router>gtm>pt>selective rsvp)

Full Context

configure router gtm provider-tunnel inclusive rsvp

configure router gtm provider-tunnel selective rsvp

Description

This command enables the use of P2MP RSVP as the inclusive or selective provider tunnel.

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The **no** form of this command removes the RSVP context including all the statements in the context.

Default

no rsvp

Platforms

All

rsvp

Syntax

rsvp

Context

[Tree] (config>oam-pm>session>mpls>lsp rsvp)

Full Context

configure oam-pm session mpls lsp rsvp

Description

Commands in this context configure an RSVP LSP and its attributes to be tested.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (config>router>bgp>next-hop-res>shortcut-tunn>family>res-filter rsvp)

[Tree] (config>router>bgp>next-hop-res>lbl-routes>transport-tunn>family>res-filter rsvp)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter rsvp

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter rsvp

Description

This command selects RSVP tunneling for next-hop resolution and specifies RSVP tunnels in a tunnel table to IPv4 destinations. This option allows BGP to use the best metric RSVP LSP to the address of the BGP next-hop. This address can correspond to the system interface or to another loopback interface of the

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remote BGP router. In the case of multiple RSVP LSPs with the same lowest metric, BGP selects the LSP with the lowest tunnel ID.

Platforms

All

rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (conf>router>isis>igp-sc>tunn-nh>family>res-filter rsvp)

Full Context

configure router isis igp-shortcut tunnel-next-hop family resolution-filter rsvp

Description

This command selects the RSVP-TE tunnel type in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

Platforms

All

rsvp

Syntax

[**no**] **rsvp**

Context

[Tree] (config>router>ospf>igp-sc>tunnel-nh>family>res-filter rsvp)

[Tree] (config>router>ospf3>igp-sc>tunnel-nh>family>res-filter rsvp)

Full Context

configure router ospf igp-shortcut tunnel-next-hop family resolution-filter rsvp

configure router ospf3 igp-shortcut tunnel-next-hop family resolution-filter rsvp

Description

This command selects the RSVP-TE tunnel type in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

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Platforms
All

40.101 rsvp-auto

rsvp-auto

Syntax
rsvp-auto

Context
[Tree] (config>oam-pm>session>mpls>lsp rsvp-auto)

Full Context
configure oam-pm session mpls lsp rsvp-auto

Description
Commands in this context configure the RSVP auto LSP and its attributes for testing.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.102 rsvp-resv-style

rsvp-resv-style

Syntax
rsvp-resv-style [**se** | **ff**]

Context
[Tree] (config>router>mpls>lsp rsvp-resv-style)

Full Context
configure router mpls lsp rsvp-resv-style

Description
This command specifies the RSVP reservation style, shared explicit (se) or fixed filter (ff). A reservation style is a set of control options that specify a number of supported parameters. The style information is part of the LSP configuration.

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Default

rsvp-resv-style se

Parameters

ff

Fixed filter is single reservation with an explicit scope. This reservation style specifies an explicit list of senders and a distinct reservation for each of them. A specific reservation request is created for data packets from a particular sender. The reservation scope is determined by an explicit list of senders.

se

Shared explicit is shared reservation with a limited scope. This reservation style specifies a shared reservation environment with an explicit reservation scope. This reservation style creates a single reservation over a link that is shared by an explicit list of senders. Because each sender is explicitly listed in the RESV message, different labels can be assigned to different sender-receiver pairs, thereby creating separate LSPs.

Platforms

All

40.103 rsvp-shortcut

rsvp-shortcut

Syntax

rsvp-shortcut [*ip-address*]

no rsvp-shortcut

Context

[Tree] (debug>router>ospf rsvp-shortcut)

Full Context

debug router ospf rsvp-shortcut

Description

This command debugs the OSPFv2 RSVP shortcut.

Parameters

ip-address

Specifies the IP address to debug.

Platforms

All

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40.104 rsvp-te

rsvp-te

Syntax

rsvp-te *rsvp-te*

no rsvp-te

Context

[Tree] (config>router>mpls>lsp-self-ping rsvp-te)

Full Context

configure router mpls lsp-self-ping rsvp-te

Description

This command enables LSP Self Ping on all RSVP-TE LSPs, unless an individual LSP is explicitly disabled under the **lsp**>**lsp-self-ping** command or in the LSP template.

The **no** form of this command reverts to the default value.

Default

rsvp-te disable

Parameters

rsvp-te

Specifies whether LSP Self Ping is enabled on RSVP-TE LSPs.

Values enable, disable

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rsvp-te

Syntax

rsvp-te *value*

no rsvp-te

Context

[Tree] (config>router>mpls>tunnel-table-pref rsvp-te)

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Full Context

configure router mpls tunnel-table-pref rsvp-te

Description

This command configures the tunnel table preference for RSVP-TE LSP tunnel type away from its default value.

The tunnel table preference applies to the next-hop resolution of BGP routes of the following families: EVPN, IPv4, IPv6, VPN-IPv4, VPN-IPv6, label-IPv4, and label-IPv6 in the tunnel table.

This feature does not apply to a VPRN, VPLS, or VLL service with explicit binding to an SDP that enabled the **mixed-lsp-mode** option. The tunnel preference in such an SDP is fixed and is controlled by the service manager. The configuration of the tunnel table preference parameter does not modify the behavior of such an SDP and the services that bind to it.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command reverts to the default.

Default

rsvp-te 7

Parameters

value

Specifies the tunnel table preference value for RSVP-TE LSP.

Values 1 to 255

Default 7

Platforms

All

rsvp-te

Syntax

[**no**] **rsvp-te**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter rsvp-te)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter rsvp-te

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Description

This command enables the use of RSVP-TE sourced tunnel entries in the TTM to resolve the associated static route next-hop.

The rsvp-te value instructs the code to search for the set of lowest metric RSVP-TE LSPs to the address of the indirect next-hop. The LSP metric is provided by MPLS in the tunnel table. The static route treats a set of RSVP-TE LSPs with the same lowest metric as an ECMP set. The user has the option of configuring a list of RSVP-TE LSP names to be used exclusively instead of searching in the tunnel table. In that case, all LSPs must have the same LSP metric in order for the static route to use them as an ECMP set. Otherwise, only the LSPs with the lowest common metric value will be selected.

A P2P auto-lsp that is instantiated via an LSP template can be selected in TTM when resolution is set to any. However, Nokia does not recommend configuring an auto-lsp name explicitly under the rsvp-te node as the auto-generated name can change if the node reboots, which will blackhole the traffic of the static route.

Default

no rsvp-te

Platforms

All

rsvp-te

Syntax

[**no**] **rsvp-te**

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls rsvp-te)

Full Context

configure oam-pm session ip tunnel mpls rsvp-te

Description

This command configures the specification of RSVP-TE specific tunnel information that is used to transport the test packets. Entering this context removes all other tunnel type options configured under the **configure oam-pm session ip tunnel mpls** context. Only a single **mpls** type can be configured for an OAM-PM session.

The **no** form of this command deletes the context and all configurations under it.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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40.105 rsvp-te-auto

rsvp-te-auto

Syntax

rsvp-te-auto

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls rsvp-te-auto)

Full Context

configure oam-pm session ip tunnel mpls rsvp-te-auto

Description

This command configures the specification of the RSVP-TE Auto (RSVP-TE with dynamically-created LSPs) tunnel information that is used to transport the test packets. Entering this context removes all other tunnel type options configured under the configure oam-pm session ip tunnel mpls context. Only a single mpls type can be configured for an OAM-PM session.

The **no** form of this command deletes the context and all configurations under it.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.106 rt-buffer-size

rt-buffer-size

Syntax

rt-buffer-size *rt-buffer-size*

no rt-buffer-size

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video rt-buffer-size)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video rt-buffer-size)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video rt-buffer-size

configure mcast-management multicast-info-policy bundle channel video rt-buffer-size

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Description

This command configures the retransmission buffer for channels within the bundle or channel range.

The **no** form of the command returns the parameter to the default value.

Default

300

Parameters

rt-buffer-size

Specifies the buffer size, in milliseconds, to store channel packets.

Values 300 to 8000

Platforms

7450 ESS, 7750 SR, 7750 SR-s

40.107 rt-payload-type

rt-payload-type

Syntax

rt-payload-type *payload-type*

no rt-payload-type

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if rt-payload-type)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface rt-payload-type

Description

This command describes the format to be used by Retransmission (RT) server to send retransmission packets. The RET server interface allows the payload type within the retransmission packets to be configured.

Default

rt-payload-type 99 — Indicates that the frames will be sent in the RFC 4588, *RTP Retransmission Payload Format*, format.

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Parameters

payload-type

Indicates the format expected for received retransmission packets. The value 33 indicates that the frames will be received as originally sent. A value between 96 and 127 indicates the dynamic payload type value (per RFC 3551) to be used for RFC 4588 formatted retransmission packets.

Values 33, 96 to 127

Platforms

7450 ESS, 7750 SR, 7750 SR-s

40.108 rt-rate

rt-rate

Syntax

rt-rate *rt-burst-percentage*

no rt-rate

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if rt-rate)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>hd rt-rate)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>pip rt-rate)

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if>sd rt-rate)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface rt-rate

configure mcast-management multicast-info-policy video-policy video-interface hd rt-rate

configure mcast-management multicast-info-policy video-policy video-interface pip rt-rate

configure mcast-management multicast-info-policy video-policy video-interface sd rt-rate

Description

This command sets the rate of nominal bandwidth at which retransmission packets are sent to the retransmission client for requests directed to the IP address.

The **no** form of the command returns the parameter to the default value.

Default

rt-rate 5

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Parameters

rt-burst-percentage

Specifies the percentage of nominal bandwidth to send retransmission packets.

Values 1 to 100

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-s

40.109 rt-server

rt-server

Syntax

rt-server disable

rt-server *ip-address* **port** *port-num*

no rt-server

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video rt-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video rt-server)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video rt-server)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video rt-server

configure mcast-management multicast-info-policy bundle channel video rt-server

configure mcast-management multicast-info-policy bundle video rt-server

Description

This command enables and configures the upstream retransmission server configuration parameters.

The **no** form of the command removes the upstream retransmission server configuration and implies the configuration is inherited from a higher context or from the default policy.

Default

no rt-server – The upstream retransmission server settings are inherited.

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Parameters

disable

This keyword explicitly disables the upstream retransmission server within the policy. For the default bundle within the default Multicast Information Policy, the **no** form of the command and the disable keyword have the same meaning and imply the server is disabled.

ip-address

The IP address of the upstream retransmission server.

port *num*

The UDP port to use to send RET requests to the upstream RET server.

Values 1024 to 5999, 6251 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

rt-server

Syntax

rt-server [**client** *client-ip* [**source-port** *src-port*]]

no rt-server

Context

[Tree] (debug>service>id>video-interface rt-server)

Full Context

debug service id video-interface rt-server

Description

This command enables debugging for the RET server.

Parameters

client *client-ip*

Specifies the client IP address.

source *src-port*

Specifies the source port.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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40.110 rtm

rtm

Syntax

rtm [*rp-address*]

no rtm

Context

[Tree] (debug>router>msdp rtm)

Full Context

debug router msdp rtm

Description

This command enables debugging for MSDP route table manager (RTM).

The **no** form of this command disables MSDP RTM debugging.

Parameters

rp-address

Debugs the IP multicast address for which this entry contains information.

Platforms

All

rtm

Syntax

rtm [**detail**]

no rtm

Context

[Tree] (debug>router>pim rtm)

Full Context

debug router pim rtm

Description

This command enables debugging for PIM RTM.

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The **no** form of this command disables debugging for PIM RTM.

Parameters

detail

Displays detailed RTM information.

Platforms

All

rtm

Syntax

rtm [**neighbor** *ip-address* | **group** *name*]

no rtm

Context

[Tree] (debug>router>bgp rtm)

Full Context

debug router bgp rtm

Description

This command logs RTM changes in the debug log.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

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Platforms

All

rtm

Syntax

rtm [*ip-address*]

no rtm

Context

[Tree] (debug>router>isis rtm)

Full Context

debug router isis rtm

Description

This command enables debugging for IS-IS route table manager (RTM).

The **no** form of the command disables debugging.

Parameters

ip-address

The specified IP address.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

rtm

Syntax

rtm [*ip-address*]

no rtm

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Context

[Tree] (debug>router>ospf rtm)

[Tree] (debug>router>ospf3 rtm)

Full Context

debug router ospf rtm

debug router ospf3 rtm

Description

This command enables debugging for OSPF RTM.

Parameters

ip-address

Specifies the IP address to debug.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

40.111 rtm-debounce-time

rtm-debounce-time

Syntax

rtm-debounce-time *debounce-time*

no rtm-debounce-time

Context

[Tree] (config>router>l2tp rtm-debounce-time)

[Tree] (config>service>vprn>l2tp rtm-debounce-time)

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Full Context

configure router l2tp rtm-debounce-time

configure service vprn l2tp rtm-debounce-time

Description

This command configures the amount of time, in milliseconds, that the system waits before declaring an L2TP tunnel down when the remote endpoint IP address cannot be resolved to an active IP route in the local routing table.

The default behavior is for the L2TP tunnel to not be declared down based on the remote endpoint IP address reachability.

The **no** form of this command returns the **rtm-debounce-time** to a value of 0.

Default

no rtm-debounce-time

Parameters

debounce-time

Specifies the amount of time, in milliseconds, that the system waits before declaring the associated L2TP tunnel as down.

Values 0 to 5000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.112 rtp-header

rtp-header

Syntax

[**no**] **rtp-header**

Context

[Tree] (config>mirror>mirror-dest>sap>cem rtp-header)

Full Context

configure mirror mirror-dest sap cem rtp-header

Description

This command specifies whether an RTP header is used when packets are transmitted to the packet service network (PSN) by the CEM SAP.

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Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

40.113 rtr-adv-lsa-limit

rtr-adv-lsa-limit

Syntax

rtr-adv-lsa-limit [*1..4294967295*] [**log-only**] [**threshold** *percent*]

rtr-adv-lsa-limit [*1..4294967295*] [**log-only**] [**threshold** *percent*] **overload-timeout forever**

rtr-adv-lsa-limit [*1..4294967295*] [**log-only**] [**threshold** *percent*] **overload-timeout** *seconds*

no rtr-adv-lsa-limit

Context

[Tree] (config>service>vprn>ospf rtr-adv-lsa-limit)

Full Context

configure service vprn ospf rtr-adv-lsa-limit

Description

This command configures the maximum number of LSAs OSPF can learn from another router, in order to protect the system from a router that accidentally advertises a large number of LSAs. When the number of advertised LSAs reaches the configured percentage of this limit, an SNMP trap is sent. If the limit is exceeded, OSPF goes into overload.

The **overload-timeout** option allows the administrator to control how long OSPF is in overload as a result of the advertised LSA limit being reached. At the end of this duration of time the system automatically attempts to restart OSPF. One possible value for the **overload-timeout** is **forever**, which means OSPF is never restarted automatically and this corresponds to the default behavior when the **overload-timeout** option is not configured.

The **no** form of this command removes the **rtr-adv-lsa-limit**.

Default

rtr-adv-lsa-limit forever

Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, overload is not set.

percent

The threshold value (as a percentage) that triggers a warning message to be sent.

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Values 0 to 100

seconds

Specifies duration in seconds before restarting OSPF.

Values 1 to 1800

Platforms

All

rtr-adv-lsa-limit

Syntax

rtr-adv-lsa-limit *limit* [**log-only**] [**threshold** *percent*]

rtr-adv-lsa-limit *limit* [**log-only**] [**threshold** *percent*] [**overload-timeout** {*seconds* | **forever**}]

no rtr-adv-lsa-limit

Context

[Tree] (config>router>ospf rtr-adv-lsa-limit)

[Tree] (config>router>ospf3 rtr-adv-lsa-limit)

Full Context

configure router ospf rtr-adv-lsa-limit

configure router ospf3 rtr-adv-lsa-limit

Description

This command configures the maximum number of LSAs OSPF can learn from another router, in order to protect the system from a router that accidentally advertises a large number of LSAs. When the number of advertised LSAs reaches the configured percentage of this limit, an SNMP trap is sent. If the limit is exceeded, OSPF goes into overload.

The **overload-timeout** option allows the administrator to control how long OSPF is in overload as a result of the advertised LSA limit being reached. At the end of this duration of time, the system automatically exits overload. One possible value for the **overload-timeout** is **forever**, which means OSPF is never exiting overload.

The **no** form of this command removes the **rtr-adv-lsa-limit**.

Default

no rtr-adv-lsa-limit

Parameters

log-only

Enables the warning message to be sent at the specified threshold percentage, and also when the limit is exceeded. However, overload is not set.

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percent

Specifies the threshold value (as a percentage) that triggers a warning message to be sent.

Values 0 to 100

limit

Specifies the number of LSAs, expressed as a decimal integer, that can be learned.

Values 1 to 4294967295

second

Specifies duration in minutes before restarting OSPF.

Values Values 1 to 1800

forever

Specifies that OSPF is restarted only after the **clear router ospf | ospf3 overload rtr-adv-lsa-limit** command is executed.

Platforms

All

40.114 rtr-solicit-user-db

rtr-solicit-user-db

Syntax

rtr-solicit-user-db *local-user-db*

no rtr-solicit-user-db

Context

[Tree] (config>service>vpls>sap rtr-solicit-user-db)

Full Context

configure service vpls sap rtr-solicit-user-db

Description

This command enabled access to LUDB for SLAAC hosts under the capture SAP. The name of this ludb must match the name of ludb configured under the **configure>service>vprn/ies>sub-if>group-if>ipv6>router-solicit** hierarchy.

The **no** form of this command reverts to the default.

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Parameters

local-user-db

Specifies the name of the local-user-database up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

40.115 rtsp

rtsp

Syntax

[**no**] **rtsp**

Context

[Tree] (config>service>nat>up-nat-policy>alg rtsp)

[Tree] (config>service>nat>nat-policy>alg rtsp)

[Tree] (config>service>nat>firewall-policy>alg rtsp)

Full Context

configure service nat up-nat-policy alg rtsp

configure service nat nat-policy alg rtsp

configure service nat firewall-policy alg rtsp

Description

This command enables RTSP ALG.

The **no** form of the command disables RTSP ALG.

Default

no rtsp

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy alg rtsp
- configure service nat up-nat-policy alg rtsp

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy alg rtsp

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40.116 rtt-threshold

rtt-threshold

Syntax

rtt-threshold *threshold*

no rtt-threshold

Context

[Tree] (config>app-assure>group>anl>source rtt-threshold)

[Tree] (config>app-assure>group>aa-sub-cong rtt-threshold)

Full Context

configure application-assurance group access-network-location source rtt-threshold

configure application-assurance group aa-sub-congestion-detection rtt-threshold

Description

This command configures the roundtrip delay threshold used by the DEM gateway algorithm to determine ANL congestion or subscriber congestion for NLB-DEM.

Default

rtt-threshold 173

Parameters

threshold

Specifies the maximum acceptable round trip time (RTT), in milliseconds, for TCP connections with no congestion. Any measured RTT above the threshold is considered an indication of possible congestion.

Values 0 to 500

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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40.117 rtt-threshold-rat

rtt-threshold-rat

Syntax

rtt-threshold-rat rat-type *rat-type* **rtt-threshold** *rtt-threshold*

no rtt-threshold-rat rat-type *rat-type*

Context

[Tree] (config>app-assure>group>anl>source rtt-threshold-rat)

[Tree] (config>app-assure>group>aa-sub-cong rtt-threshold-rat)

Full Context

configure application-assurance group access-network-location source rtt-threshold-rat

configure application-assurance group aa-sub-congestion-detection rtt-threshold-rat

Description

This command configures the roundtrip delay threshold for each RAT type to be used for a congestion detection algorithm (if applicable).

The **no** form of this command reverts to the default value.

Default

rtt-threshold-rat 173

Parameters

rat-type

Specifies the 3GPP RAT type.

Values utran, geran, wlan, gan, hspa-evol, eutran, virtual, eutran-nb, ehrpd, hrpd, cdma-1x, umb, wifi, nr, lte-m

rtt-threshold

Specifies the parameter used by the DEM-GW algorithm that determines ANL congestion or subscriber congestion in the case of NLB-DEM. It specifies the maximum acceptable round trip time (RTT), under no congestion, in milliseconds. Any measured RTT above the threshold is considered an indication of possible congestion.

Values 0 to 500

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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40.118 rtt-threshold-tolerance

rtt-threshold-tolerance

Syntax

rtt-threshold-tolerance *tolerance*

no rtt-threshold-tolerance

Context

[Tree] (config>app-assure>group>anl>source rtt-threshold-tolerance)

[Tree] (config>app-assure>group>aa-sub-cong rtt-threshold-tolerance)

Full Context

configure application-assurance group access-network-location source rtt-threshold-tolerance

configure application-assurance group aa-sub-congestion-detection rtt-threshold-tolerance

Description

This command configures the ANL roundtrip delay threshold tolerance used by the DEM gateway algorithm to determine ANL-level or subscriber-level congestion.

Default

rtt-threshold-tolerance 50

Parameters

tolerance

Specifies the ratio, in percentage, of RTTs above the configured threshold (**rtt-threshold**) over the total RTT measurements.

The ratio is calculated as follows, measured across a one-minute period:

rtt-threshold-tolerance = #(RTTs > **rtt-threshold**)/ (Total #RTTs)

If the **rtt-threshold-tolerance** ratio is exceeded, the ANL is declared congested.

Values 0 to 100

Default 50

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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40.119 rule-prefix

rule-prefix

Syntax

rule-prefix *rule-prefix*

no rule-prefix

Context

[Tree] (config>service>nat>map-domain>mapping-rule rule-prefix)

Full Context

configure service nat map-domain mapping-rule rule-prefix

Description

This command configures a MAP rule prefix.

Parameters

rule-prefix

Specifies the IPv6 MAP rule prefix.

Values <*ipv6-prefix/prefix-length*> :

ipv6-prefix —— *x:x:x:x:x:x:x:x* (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x—[0 to FFFF]H

d—[0 to 255]D

prefix-length—[0 to 64]

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

40.120 run-as-user

run-as-user

Syntax

run-as-user *user-name*

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no run-as-user

Context

[Tree] (config>python>python-script run-as-user)

Full Context

configure python python-script run-as-user

Description

This command configures a user that is different from the current user of the session. Script authentication, authorization, accounting, and any activity within the script, is run as the specified user.

This user must be locally configured and script authorization will use the user's local AAA profile even if remote authorization is configured.

The **no** form of this command specifies that the current user of the session is used.

Default

no run-as-user

Parameters

user-name

Specifies the name of the user, up to 32 characters, that is used to run the script.

Platforms

All

40.121 rx-discard-on-ndf

rx-discard-on-ndf

Syntax

rx-discard-on-ndf {**bm** | **bum** | **none**}

Context

[Tree] (config>service>vpls>vxlan rx-discard-on-ndf)

Full Context

configure service vpls vxlan rx-discard-on-ndf

Description

This command, supported by static and BGP-EVPN VXLAN binds, determines the type of traffic that the Non Designated Forwarder (NDF) PE discards in an EVPN multi-homed Ethernet Segment. It is only

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relevant when the VXLAN instance is associated to a network-interconnect-vxlan ES. The option BM is the default option and discards BM on reception (unicast, known and known is allowed). The option BUM discards any BUM frame on reception. Option none allows any BUM traffic on reception.

Default

rx-discard-on-ndf bm

Parameters

bm

Discards Broadcast and Multicast on the EVPN Non Designated Forwarder (NDF) router, but not Unknown Unicast.

bum

Discards Broadcast, Multicast and Unknown Unicast traffic on the NDF.

none

Allows Broadcast, Multicast or Unknown Unicast traffic on the NDF.

Platforms

All

40.122 rx-eth-ed

rx-eth-ed

Syntax

[**no**] **rx-eth-ed**

Context

[Tree] (config>port>ethernet>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>lag>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace>eth-ed rx-eth-ed)

Full Context

configure port ethernet eth-cfm mep grace eth-ed rx-eth-ed

configure lag eth-cfm mep grace eth-ed rx-eth-ed

configure eth-tunnel path eth-cfm mep grace eth-ed rx-eth-ed

configure eth-ring path eth-cfm mep grace eth-ed rx-eth-ed

Description

This command enables the reception and processing of the ITU-T Y.1731 ETH-ED PDU on the MEP.

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The **no** form of this command disables the reception of the ITU-T Y.1731 ETH-ED PDU on the MEP.

Default

rx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rx-eth-ed

Syntax

[**no**] **rx-eth-ed**

Context

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace>eth-ed rx-eth-ed)

Full Context

configure service ipipe sap eth-cfm mep grace eth-ed rx-eth-ed

configure service epipe sap eth-cfm mep grace eth-ed rx-eth-ed

configure service epipe spoke-sdp eth-cfm mep grace eth-ed rx-eth-ed

Description

This command enables the reception and processing of the ITU-T Y.1731 ETH-ED PDU on the MEP.

The **no** form of this command disables the reception of the ITU-T Y.1731 ETH-ED PDU on the MEP.

Default

rx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rx-eth-ed

Syntax

[**no**] **rx-eth-ed**

Context

[Tree] (config>service>vpls>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace>eth-ed rx-eth-ed)

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[Tree] (config>service>vpls>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace>eth-ed rx-eth-ed)

Full Context

configure service vpls eth-cfm mep grace eth-ed rx-eth-ed

configure service vpls spoke-sdp eth-cfm mep grace eth-ed rx-eth-ed

configure service vpls sap eth-cfm mep grace eth-ed rx-eth-ed

configure service vpls mesh-sdp eth-cfm mep grace eth-ed rx-eth-ed

Description

This command enables the reception and processing of the ITU-T Y.1731 ETH-ED PDU on the MEP.

The **no** form of this command disables the reception of the ITU-T Y.1731 ETH-ED PDU on the MEP.

Default

rx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rx-eth-ed

Syntax

[**no**] **rx-eth-ed**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

Full Context

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed rx-eth-ed

configure service ies interface spoke-sdp eth-cfm mep grace eth-ed rx-eth-ed

configure service ies interface sap eth-cfm mep grace eth-ed rx-eth-ed

Description

This command enables the reception and processing of the ITU-T Y.1731 ETH-ED PDU on the MEP.

The **no** form of this command disables the reception of the ITU-T Y.1731 ETH-ED PDU on the MEP.

Default

rx-eth-ed

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed rx-eth-ed

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep grace eth-ed rx-eth-ed
- configure service ies interface spoke-sdp eth-cfm mep grace eth-ed rx-eth-ed

rx-eth-ed

Syntax

[**no**] **rx-eth-ed**

Context

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed rx-eth-ed)

Full Context

configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed rx-eth-ed

configure service vprn interface sap eth-cfm mep grace eth-ed rx-eth-ed

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed rx-eth-ed

Description

This command enables the reception and processing of the ITU-T Y.1731 ETH-ED PDU on the MEP.

The **no** form of this command disables the reception of the ITU-T Y.1731 ETH-ED PDU on the MEP.

Default

rx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep grace eth-ed rx-eth-ed
- configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed rx-eth-ed

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed rx-eth-ed

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rx-eth-ed

Syntax

[**no**] **rx-eth-ed**

Context

[Tree] (config>router>if>eth-cfm>mep>grace>eth-ed rx-eth-ed)

Full Context

configure router interface eth-cfm mep grace eth-ed rx-eth-ed

Description

This command enables the reception and processing of the ITU-T Y.1731 ETH-ED PDU on the MEP.

The **no** form of this command disables the reception of the ITU-T Y.1731 ETH-ED PDU on the MEP.

Default

rx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.123 rx-eth-vsm-grace

rx-eth-vsm-grace

Syntax

[**no**] **rx-eth-vsm-grace**

Context

[Tree] (config>port>ethernet>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>lag>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

Full Context

configure port ethernet eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure lag eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure eth-ring path eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

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configure eth-tunnel path eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

Description

This command enables the reception and processing of the Nokia ETH-CFM Grace PDU on the MEP.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **no** form of this command disables the reception of the Nokia ETH-CFM Grace PDU on the MEP.

Default

rx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rx-eth-vsm-grace

Syntax

[**no**] **rx-eth-vsm-grace**

Context

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

Full Context

configure service epipe sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service epipe spoke-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service ipipe sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

Description

This command enables the reception and processing of the Nokia ETH-CFM Grace PDU on the MEP.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **no** form of this command disables the reception of the Nokia ETH-CFM Grace PDU on the MEP.

Default

rx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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rx-eth-vsm-grace

Syntax

[**no**] **rx-eth-vsm-grace**

Context

[Tree] (config>service>vpls>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

Full Context

configure service vpls eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service vpls spoke-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service vpls sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service vpls mesh-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

Description

This command enables the reception and processing of the Nokia ETH-CFM Grace PDU on the MEP.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **no** form of this command disables the reception of the Nokia ETH-CFM Grace PDU on the MEP.

Default

rx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

rx-eth-vsm-grace

Syntax

[**no**] **rx-eth-vsm-grace**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

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Full Context

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service ies interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service ies interface spoke-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

Description

This command enables the reception and processing of the Nokia ETH-CFM Grace PDU on the MEP.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **no** form of this command disables the reception of the Nokia ETH-CFM Grace PDU on the MEP.

Default

rx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace
- configure service ies interface spoke-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

rx-eth-vsm-grace

Syntax

[**no**] **rx-eth-vsm-grace**

Context

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

Full Context

configure service vprn interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service vprn interface spoke-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

Description

This command enables the reception and processing of the Nokia ETH-CFM Grace PDU on the MEP.

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The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **no** form of this command disables the reception of the Nokia ETH-CFM Grace PDU on the MEP.

Default

rx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace
- configure service vprn interface spoke-sdp eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

rx-eth-vsm-grace

Syntax

[**no**] **rx-eth-vsm-grace**

Context

[Tree] (config>router>if>eth-cfm>mep>grace>eth-vsm-grace rx-eth-vsm-grace)

Full Context

configure router interface eth-cfm mep grace eth-vsm-grace rx-eth-vsm-grace

Description

This command enables the reception and processing of the Nokia ETH-CFM Grace PDU on the MEP.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **no** form of this command disables the reception of the Nokia ETH-CFM Grace PDU on the MEP.

Default

rx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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40.124 rx-los-reaction

rx-los-reaction

Syntax

rx-los-reaction {**squelch**}

no rx-los-reaction

Context

[Tree] (config>port>dwdm>coherent rx-los-reaction)

Full Context

configure port dwdm coherent rx-los-reaction

Description

This command configures the reaction to an RX LOS.

Note:
If **rx-los-reaction squelch** is disabled for some coherent DWDM transceivers, the transceiver only reports local fault alarms when an RX LOS condition occurs; however, the port returns to service faster after the LOS condition is cleared. For these transceivers, if **rx-los-reaction squelch** is enabled, there is better visibility of individual alarms (for example, signal-fail, local fault, and no-am-lock), but the port takes longer to return to service after the LOS condition is cleared.

Parameters

squelch

Specifies to squelch (turn off) the transmit signal on RX LOS.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.125 rx-los-thresh

rx-los-thresh

Syntax

rx-los-thresh *threshold*

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Context

[Tree] (config>port>dwdm>coherent rx-los-thresh)

Full Context

configure port dwdm coherent rx-los-thresh

Description

This command configures the average input power LOS threshold.

Default

-23.00

Parameters

threshold

Specifies the RX LOS threshold.

Values -30.00 to -13.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

40.126 rx-must-be-encrypted

rx-must-be-encrypted

Syntax

[**no**] **rx-must-be-encrypted**

Context

[Tree] (config>port>ethernet>dot1x>macsec rx-must-be-encrypted)

Full Context

configure port ethernet dot1x macsec rx-must-be-encrypted

Description

When the **rx-must-be-encrypted** option is enabled, all traffic that is not MACsec-secured that is received on the port is dropped.

When the **rx-must-be-encrypted** option is disabled, all arriving traffic, whether MACsec secured or not, will be accepted.

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Note:
This command is only available on the NULL port level and does not have per-VLAN granularity.

The **no** form of this command disables the **rx-must-be encrypted** option.

Default

rx-must-be-encrypted

Platforms

All

rx-must-be-encrypted

Syntax

[**no**] **rx-must-be-encrypted**

Context

[Tree] (config>anysec>mpls>sec-term-pols>policy rx-must-be-encrypted)

Full Context

configure anysec mpls security-termination-policies policy rx-must-be-encrypted

Description

This command accepts all arriving traffic that is ANYsec secured on the port. All other traffic is dropped.

The **no** form of this command accepts all arriving traffic regardless of whether ANYsec secured or not.

Default

no rx-must-be-encrypted

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

40.127 rx-update-pacing

rx-update-pacing

Syntax

rx-update-pacing *seconds*

Context

[Tree] (config>port>ethernet>eth-cfm>mep>eth-bn rx-update-pacing)

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Full Context

configure port ethernet eth-cfm mep eth-bn rx-update-pacing

Description

This command sets the pace for update messages to and from the **eth-cfm** subsystem to the QoS subsystem. The most recent update messages are held by the ETH-CFM subsystem, but the most recent update is held until the expiration of the pacing timer.

Parameters

seconds

The time to wait before sending subsequent updates (in seconds).

Values 1 to 600

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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41 s Commands – Part I

41.1 s-pmsi

s-pmsi

Syntax

s-pmsi [{*vpnSrcAddr* [*vpnGrpAddr*]} [*mdSrcAddr*]]

no s-pmsi

Context

[Tree] (debug>router>pim s-pmsi)

Full Context

debug router pim s-pmsi

Description

This command enables debugging for PIM selective provider multicast service interface.

The **no** form of this command disables the debugging.

Parameters

vpnSrcAddr

Specifies the VPN source address.

vpnGrpAddr

Specifies the VPN group address.

mdSrcAddr

Specifies the source address of the multicast domain.

Platforms

All

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41.2 s-tag

s-tag

Syntax

s-tag *qtag1* **c-tag-range** *qtag2* [**to** *qtag2*]

no s-tag *qtag1* **c-tag-range** *qtag2*

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>qinq s-tag)

Full Context

configure service system bgp-evpn ethernet-segment qinq s-tag

Description

This command determines the inner VIDs (for a specified outer VID) associated with the virtual Ethernet Segment on a specific qinq port or LAG based on the following:

- Values *, null, 0 to 4094 are allowed.
- Any SAP for which the outer and inner service-delimiting qtags match the range is associated with the virtual ES, and only those, for example, SAP 1/1/1:10.* will not match port 1/1/1, s-tag 10 c-tag-range 10 to 100.
- A maximum of 8 ranges (including the s-tag ranges) are allowed in the qinq context.
- A c-tag range can be composed of a single qtag.
- Shutting down the ES is not required before making changes.
- A qtag included in the **s-tag-range** command cannot be included in the s-tag qtag of this command.

Note:
Not all qtag1 and qtag2 combinations are valid for values 0, *, and null. The following combinations are allowed:

- s-tag 0 c-tag-range *
- s-tag * c-tag-range *
- s-tag * c-tag-range null
- s-tag null c-tag-range null
- s-tag X c-tag-range 0 (where: X=1 to 4094)
- s-tag X c-tag-range * (where: X=1 to 4094)

The **no** form of the command removes the configured range. Only the first qtag1 value is required to remove the range.

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Parameters

qtag1

Specifies the outer VID for the c-tag range.

Values *, null, 0 to 4094

qtag2

Specifies the inner VID for the c-tag range. When configuring a range of qtags (and not a single value), the second qtag1 value must be greater than the value of the first qtag1.

Values *, null, 0 to 4094

Platforms

All

s-tag

Syntax

s-tag

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth s-tag)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet s-tag

Description

Commands in this context configure service VLAN tag (s-tag) information specification.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

41.3 s-tag-range

s-tag-range

Syntax

s-tag-range *qtag1* [**to** *qtag1*]

no s-tag-range *qtag1*

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Context

[Tree] (config>service>system>bgp-evpn>eth-seg>qinq s-tag-range)

Full Context

configure service system bgp-evpn ethernet-segment qinq s-tag-range

Description

This command determines the VIDs associated with the virtual Ethernet Segment on a specific qinq port or LAG based on the following considerations:

- Values *, 0 to 4094 are allowed.
- Any SAP for which the service-delimiting qtag matches the range is associated with the virtual ES, and only those, for example, SAP 1/1/1:0.* will not match port 1/1/1, s-tag-range 100.
- Maximum 8 ranges are allowed in the qinq context.
- A range can be composed of a single qtag.
- Shutting down the ES is not required before making changes in the q-tag-range.

The **no** form of the command removes the configured range. Only the first qtag1 value is required to remove the range.

Parameters

qtag1

Specifies the outer VID. When configuring a range of qtags (and not a single value), the second qtag1 value must be greater than the first qtag1.

Values *, 0 to 4094

Platforms

All

41.4 s1-release

s1-release

Syntax

[**no**] **s1-release**

Context

[Tree] (config>subscr-mgmt>acct-plcy>triggered-updates>gc s1-release)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change s1-release

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Description

This command configures the router to send an interim accounting update when an S1 release (idle) procedure is performed.

The **no** form of the command configures the router not to send an interim accounting update when an S1 release (idle) procedure is performed.

Default

no s1-release

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.5 s11

s11

Syntax

s11

Context

[Tree] (config>router>gtp s11)

[Tree] (config>service>vprn>gtp s11)

Full Context

configure router gtp s11

configure service vprn gtp s11

Description

This command enables GTP configuration related to S11 termination in this VRF.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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41.6 s2l-path

s2l-path

Syntax

[**no**] **s2l-path** *path-name* **to** *ip-address*

Context

[Tree] (config>router>mpls>lsp>primary-p2mp-instance s2l-path)

Full Context

configure router mpls lsp primary-p2mp-instance s2l-path

Description

This command creates a root-to-leaf (S2L) sub-LSP path for the primary instance of a P2MP LSP. The primary instance of a P2MP LSP is modeled as a set of root-to-leaf (S2L) sub-LSPs. The root, for example, head-end node, triggers signaling using one path message per S2L path. The leaf sub-LSP paths are merged at branching points.

Each S2L sub-LSP is signaled in a separate path message. Each leaf node will respond with its own RESV message. A branch LSR node will forward the path message of each S2L sub-LSP to the downstream LSR without replicating it. It will also forward the RESV message of each S2L sub-LSP to the upstream LSR without merging it with the RESV messages of other S2L sub-LSPs of the same P2MP LSP. The same is done for subsequent refreshes of the path and RESV states.

The S2L paths can be empty paths or can specify a list of explicit hops. The path name must exist and must have been defined using the **config>router>mpls>path** command. The same path name can be re-used by more than one S2L of the primary P2MP instance. However, the **to** keyword must have a unique argument per S2L as it corresponds to the address of the egress LER node.

This command is not supported on the 7450 ESS.

Parameters

path-name

Specifies the name of the path which consists of up to 32 alphanumeric characters.

to ***ip-address***

Specifies the IP address of the egress router.

Platforms

All

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41.7 sa-db

sa-db

Syntax

sa-db [**group** *grpAddr*] [**source** *srcAddr*] [**rp** *rpAddr*]

no sadb

Context

[Tree] (debug>router>msdp sa-db)

Full Context

debug router msdp sa-db

Description

This command enables debugging for MSDP SA requests.

The **no** form of this command disables the MSDP SA database debugging.

Parameters

grpAddr

Debugs the IP address of the group.

srcAddr

Debugs the source IP address.

rpAddr

Debugs the specified RP address.

Platforms

All

41.8 sa-mac

sa-mac

Syntax

sa-mac *ieee-address* **da-mac** *ieee-address*

no sa-mac

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Context

[Tree] (config>mirror>mirror-dest>sap>egress>ip-mirror sa-mac)

Full Context

configure mirror mirror-dest sap egress ip-mirror sa-mac

Description

This command configures the source and destination MAC addresses for IP mirroring.

The **no** form of this command reverts to the default.

Parameters

sa-mac ***ieee-address***

Specifies the source MAC address. Multicast, Broadcast and zeros are not allowed.

da-mac ***ieee-address***

Specifies the destination MAC address. Zeros are not allowed.

Platforms

All

41.9 sa-timeout

sa-timeout

Syntax

sa-timeout *seconds*

no sa-timeout

Context

[Tree] (config>service>vprn>msdp sa-timeout)

Full Context

configure service vprn msdp sa-timeout

Description

This command configures the value for the SA entries in the cache. If these entries are not refreshed within the timeout value, they are removed from the cache. Normally, the entries are refreshed at least once a minute. But under high load with many of MSDP peers, the refresh cycle could be incomplete. A higher timeout value (more then 90) could be useful to prevent instabilities in the MSDP cache.

Default

90

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Parameters

seconds

Specifies the time, in seconds, to wait for a response from the peer before declaring the peer unavailable.

Values 90 to 600

Platforms

All

sa-timeout

Syntax

sa-timeout *seconds*

no sa-timeout

Context

[Tree] (config>router>msdp sa-timeout)

Full Context

configure router msdp sa-timeout

Description

This command configures the timeout interval for the SA entries in the cache. If these entries are not refreshed within the timeout interval, they are removed from the cache. Normally, the entries are refreshed at least once a minute, but under high load with many MSDP peers, the refresh cycle could be incomplete. A higher timeout value (greater than 90) is useful to prevent instabilities in the MSDP cache.

The **no** form of this command reverts to the default timeout interval of 90 seconds.

Default

no sa-timeout

Parameters

seconds

Specifies the time, in seconds, to wait for a response from the peer before declaring the peer unavailable.

Values 90 to 600

Platforms

All

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41.10 saa

saa

Syntax

saa

Context

[Tree] (config saa)

Full Context

configure saa

Description

Commands in this context configure the Service Assurance Agent (SAA) tests.

Platforms

All

saa

Syntax

saa *test-name* [**owner** *test-owner*] {**start** | **stop**} [**no-accounting**]

Context

[Tree] (oam saa)

Full Context

oam saa

Description

This command starts or stops an SAA test that is not configured as continuous.

Parameters

test-name

Specifies the name of the SAA test, up to 32 characters. The test name must already be configured in the **config>saa>test** context.

test-owner

Specifies the owner of an SAA operation, up to 32 characters. If a *test-owner* value is not specified, the default owner is used.

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Default "TiMOS CLI"

start

Starts the test. A test cannot be started if the same test is still running.

A test cannot be started if it is in a shut-down state. An error message and log event is generated to indicate a failed attempt to start an SAA test run. A test cannot be started if it is in a continuous state.

stop

Stops a test in progress. A test cannot be stopped if it is not in progress. A log message is generated to indicate that an SAA test run has been aborted. A test cannot be stopped if it is in a continuous state.

no-accounting

Disables the recording results in the accounting policy. When specifying **no-accounting** the MIB record produced at the end of the test is not added to the accounting file. It uses one of the three MIB rows available for the accounting module for collection.

Platforms

All

41.11 saii-type2

saii-type2

Syntax

saii-type2 *global-id:node-id:ac-id*

no saii-type2

Context

[Tree] (config>service>cpipe>spoke-sdp>pw-path-id saii-type2)

[Tree] (config>service>epipe>spoke-sdp>pw-path-id saii-type2)

[Tree] (config>service>vpls>spoke-sdp>pw-path-id saii-type2)

Full Context

configure service cpipe spoke-sdp pw-path-id saii-type2

configure service epipe spoke-sdp pw-path-id saii-type2

configure service vpls spoke-sdp pw-path-id saii-type2

Description

This command configures the Source Individual Attachment Identifier (SAII) for an MPLS-TP spoke-sdp. If this is configured on a spoke-sdp for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the taii-type2 of the mate spoke-sdp.

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Parameters

global-id

Specifies the global ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values a.b.c.d or 0 to 4294967295

ac-id

Specifies the attachment circuit ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

saii-type2

Syntax

saii-type2 *global-id:prefix:ac-id*

no saii-type2

Context

[Tree] (config>service>epipe>spoke-sdp-fec saii-type2)

Full Context

configure service epipe spoke-sdp-fec saii-type2

Description

This command configures the source attachment individual identifier for the spoke-sdp. This is only applicable to FEC129 AII type 2.

Parameters

global-id

A Global ID of this router T-PE. This value must correspond to one of the global_id values configured for a local-prefix under **config>service>pw-routing>local-prefix** context.

Values 1 to 4294967295

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prefix

The prefix on this router T-PE that the spoke-sdp SDP is associated with. This value must correspond to one of the prefixes configured under **config>service>pw-routing>local-prefix** context.

Values an IPv4-formatted address a.b.c.d or 1 to 4294967295

ac-id

An unsigned integer representing a locally unique identifier for the spoke SDP.

Values 1 to 4294967295

Platforms

All

saii-type2

Syntax

saii-type2 *global-id:node-id:ac-id*

no saii-type2

Context

[Tree] (config>service>vprn>if>spoke-sdp>pw-path-id saii-type2)

[Tree] (config>service>vprn>red-if>spoke-sdp>pw-path-id saii-type2)

Full Context

configure service vprn interface spoke-sdp pw-path-id saii-type2

configure service vprn redundant-interface spoke-sdp pw-path-id saii-type2

Description

This command configures the source individual attachment identifier (SAII) for an MPLS-TP spoke SDP. If this is configured on a spoke SDP for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the taii-type2 of the mate spoke SDP.

Parameters

global-id

Specifies the global ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values a.b.c.d or 1 to 4294967295

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ac-id

Specifies the attachment circuit ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp pw-path-id saii-type2

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn redundant-interface spoke-sdp pw-path-id saii-type2

saii-type2

Syntax

saii-type2 *global-id:node-id:ac-id*

no saii-type2

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>pw-path-id saii-type2)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>pw-path-id saii-type2)

Full Context

configure mirror mirror-dest spoke-sdp pw-path-id saii-type2

configure mirror mirror-dest remote-source spoke-sdp pw-path-id saii-type2

Description

This command configures the source individual attachment identifier (SAII) for an MPLS-TP spoke SDP. If this is configured on a spoke SDP for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the taii-type2 of the mate spoke SDP.

Parameters

global-id

Specifies the global ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values a.b.c.d or 1 to 4294967295

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ac-id

Specifies the attachment circuit ID at the source PE or T-PE for the MPLS-TP PW for a spoke SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.12 same-recipnonce-for-pollreq

same-recipnonce-for-pollreq

Syntax

[**no**] **same-recipnonce-for-pollreq**

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 same-recipnonce-for-pollreq)

Full Context

configure system security pki ca-profile cmpv2 same-recipnonce-for-pollreq

Description

This command enables the system to use same recipNonce as the last CMPv2 response for poll request.

The **no** form of this command disables the use of the same recipNonce as the last CMPv2 response for poll request.

Default

no same-recipnonce-for-pollreq

Platforms

All

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41.13 sample-interval

sample-interval

Syntax

sample-interval *interval*

Context

[Tree] (config>router>rsvp>dbw-accounting sample-interval)

Full Context

configure router rsvp dbw-accounting sample-interval

Description

This command sets the dark bandwidth sample interval to the specified value. Changing this parameter in the course of dark bandwidth accounting restarts the accounting cycle. The user is encouraged to specify values as multiples of 10. Selecting other values may lead to inconsistent estimation of Dark Bandwidth.

Default

sample-interval 30

Parameters

interval

Specifies the sample interval, expressed in seconds.

Values 10 to 600

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

sample-interval

Syntax

sample-interval *interval*

Context

[Tree] (config>system>telemetry>persistent-subscriptions>subscription sample-interval)

Full Context

configure system telemetry persistent-subscriptions subscription sample-interval

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Description

This command configures the sample interval for persistent subscription.

This sampling interval only applies when the **mode** command is set to either **target-defined** or **sample**.

Default

sample-interval 10000

Parameters

interval

Specifies the sample interval, in milliseconds.

Values 1000 to 4294967295

Platforms

All

41.14 sample-multiplier

sample-multiplier

Syntax

sample-multiplier *multiplier*

Context

[Tree] (config>router>rsvp>dbw-accounting sample-multiplier)

Full Context

configure router rsvp dbw-accounting sample-multiplier

Description

This command sets the dark bandwidth sample interval multiplier to the specified value. Changing this parameter in the course of dark bandwidth accounting restarts the accounting cycle.

Default

sample-multiplier 3

Parameters

multiplier

Specifies the sample interval multiplier, expressed as an integer.

Values 1 to 10

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Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

41.15 sample-profile

sample-profile

Syntax

sample-profile *profile-id* [**create**]

no sample-profile *profile-id*

Context

[Tree] (config>cflowd sample-profile)

Full Context

configure cflowd sample-profile

Description

Commands in this context create and define sampling parameters.

The **no** form of this command removes the associated sample-profile. **sample-profile** 1 cannot be deleted.

Parameters

profile-id

Specifies the rate profile.

Values 1 to 5

create

Mandatory keyword when creating a sample profile. The create keyword requirement can be enabled or disabled in the **environment**>**create** context.

Platforms

All

sample-profile

Syntax

sample-profile *sample-profile-id*

no sample-profile

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Context

[Tree] (config>filter>ip-filter>entry sample-profile)

[Tree] (config>filter>ipv6-filter>entry sample-profile)

Full Context

configure filter ip-filter entry sample-profile

configure filter ipv6-filter entry sample-profile

Description

This command allows traffic matching of an IPv4 or IPv6 filter to be sampled for cflowd processing using a specific sample profile.

This command is only compatible if the associated interface is configured for interface-based sampling and is only supported for ingress sampling.

An IP filter can only specify a single alternate sample profile for cflowd sampling, but that sample profile can be used in multiple entries.

The **no** form of this command removes the specified sampling profile from the configuration. Cflowd continues to process traffic based on the default or configured interface cflowd sampling profile.

Default

no sample-profile

Parameters

sample-profile-id

Specifies the cflowd sample profile to be used for packets matching this filter entry.

Values 1 to 5

Platforms

All

41.16 sample-rate

sample-rate

Syntax

sample-rate [*rate*]

Context

[Tree] (config>cflowd>sample-profile sample-rate)

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Full Context

configure cflowd sample-profile sample-rate

Description

This command defines the cflowd sampling rate for the sample profile ID.

The sample rate indicates that the associated interface samples 1 in N packets for cflowd analysis. Only one rate profile below 1:256 with a specific IOM, IMM, or XMA can be associated.

Default

sample-rate 1000

Parameters

rate

Specifies the rate at which traffic is sampled and forwarded for cflowd analysis.

Values 1 to 60000

Platforms

All

41.17 sample-window

sample-window

Syntax

sample-window *seconds*

no sample-window

Context

[Tree] (config>oam-pm>streaming>delay-template sample-window)

Full Context

configure oam-pm streaming delay-template sample-window

Description

This command specifies the sample window duration in seconds for the template. This configuration option represents time over which the average will be calculated and subsequently streamed.

The **no** form of this command reverts to the default.

Default

sample-window 60

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Parameters

seconds

Specifies the sample window duration.

Values 10 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sample-window

Syntax

sample-window

Context

[Tree] (config>test-oam>link-meas>template sample-window)

Full Context

configure test-oam link-measurement measurement-template sample-window

Description

Commands in this context configure sample window parameters to be used when the **measurement-template** is assigned to an IP interface. The sample window is the collection of individual probe results, over a defined period.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sample-window

Syntax

sample-window

Context

[Tree] (config>test-oam>lag-meas>template sample-window)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template sample-window

Description

Commands in this context configure the sample window for LAG IP measurement.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.18 sampling

sampling

Syntax

sampling {**unicast** | **multicast**} **type** {**acl** | **interface**} [**direction** { **ingress-only** | **egress-only** | **both**}] [**sample-profile** [*profile-id*]]

no sampling {**unicast** | **multicast**}

Context

[Tree] (config>service>vprn>if>cflowd-parameters sampling)

[Tree] (config>service>ies>sub-if>grp-if>cflowd-parameters sampling)

[Tree] (config>service>ies>if>cflowd-parameters sampling)

[Tree] (config>service>vprn>sub-if>grp-if>cflowd-parameters sampling)

[Tree] (config>service>vprn>nw-if>cflowd-parameters sampling)

Full Context

configure service vprn interface cflowd-parameters sampling

configure service ies subscriber-interface group-interface cflowd-parameters sampling

configure service ies interface cflowd-parameters sampling

configure service vprn subscriber-interface group-interface cflowd-parameters sampling

configure service vprn network-interface cflowd-parameters sampling

Description

This command enables and configures the cflowd sampling behavior to collect traffic flow samples through a router for analysis.

This command can be used to configure the sampling parameters for unicast and multicast traffic separately. If sampling is not configured for either **unicast** or **multicast** traffic, then that type of traffic will not be sampled.

If cflowd is enabled without either **egress-only** or **both** keywords specified or with the **ingress-only** keyword specified, then only ingress sampling is enabled on the associated IP interface.

The **no** form of this command disables the associated type of traffic sampling.

Parameters

unicast | multicast

Specifies unicast or multicast sampling.

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type

Specifies the cflowd sampling type on the specific virtual router interface.

Values acl — Specifies ACL cflowd analysis be applied to the specified virtual router interface.

interface — Specifies interface cflowd analysis be applied to the specified virtual router interface

direction

Specifies the direction of the cflowd analysis that is applied to the specified virtual router interface.

Values ingress-only — Specifies an ingress only direction of the cflowd analysis be applied to the specified virtual router interface.

egress-only — Specifies an egress only direction of the cflowd analysis be applied to the specified virtual router interface.

both — Specifies both ingress and egress direction of the cflowd analysis be applied to the specified virtual router interface.

profile-id

Defines the sampling rate profile to be associated with this interface.

Values 1 to 5

Platforms

All

- configure service ies interface cflowd-parameters sampling
- configure service vprn interface cflowd-parameters sampling
- configure service vprn network-interface cflowd-parameters sampling

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface cflowd-parameters sampling
- configure service ies subscriber-interface group-interface cflowd-parameters sampling

sampling

Syntax

sampling {**unicast** | **multicast**} **type** {**acl** | **interface**} [**direction** { **ingress-only** | **egress-only** | **both**}] [**sample-profile** *profile*]

no sampling {**unicast** | **multicast**}

Context

[Tree] (config>router>if>cflowd-parameters sampling)

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Full Context

configure router interface cflowd-parameters sampling

Description

This command enables and configures the cflowd sampling behavior to collect traffic flow samples through a router for analysis.

This command can be used to configure the sampling parameters for unicast and multicast traffic separately. If sampling is not configured for either unicast or multicast traffic, then that type of traffic will not be sampled.

If cflowd is enabled without either **egress-only** or **both** specified or with the **ingress-only** keyword specified, then only ingress sampling will be enabled on the associated IP interface.

The **no** form of this command disables the associated type of traffic sampling on the associated interface.

Default

no sampling

Parameters

unicast

Specifies that the sampling command will control the sampling of unicast traffic on the associated interface/SAP.

multicast

Specifies that the sampling command will control the sampling of multicast traffic on the associated interface/SAP.

type

Specifies whether the traffic sampling is based on an **acl** match, or all traffic entering or exiting the associated interface.

Values **acl** — Specifies that the sampled traffic is controlled via an IP traffic filter entry with the action "filter-sample” configured.

interface — Specifies that all traffic entering or exiting the interface is subject to sampling.

direction

Specifies the direction to collect traffic flow samples.

Values **ingress-only** — Enables ingress sampling only on the associated interface.

egress-only — Enables egress sampling only on the associated interface.

both — Enables both ingress and egress cflowd sampling.

profile

Specifies the sampling profile to be associated with this interface.

Values 1 to 5

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Platforms

All

41.19 sampling-rate

sampling-rate

Syntax

sampling-rate *sampling-rate*

no sampling-rate

Context

[Tree] (config>mirror>mirror-dest sampling-rate)

Full Context

configure mirror mirror-dest sampling-rate

Description

This command configures the packet sampling rate for mirrored traffic and is supported with **config** and **debug** mirror sources. The sampling rate is common to all endpoints on a specified line card FP per mirror destination service.

The **no** form of this command disables the packet sampling rate for mirrored traffic.

Default

no sampling-rate

Parameters

sampling-rate

Specifies the sampling rate.

Values 256 to 100000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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41.20 sap

sap

Syntax

sap *sap-id* [**split-horizon-group** *group-name*] [**create**] [**capture-sap**] [**eth-ring** *ring-index*]

sap *sap-id* [**split-horizon-group** *group-name*] [**create**] [**capture-sap**] [**eth-ring** *ring-index*] **leaf-ac**

sap *sap-id* [**split-horizon-group** *group-name*] [**create**] [**capture- sap**] [**eth-ring** *ring-index*] **root-leaf-tag leaf-tag** *leaf-tag*

no sap *sap-id*

Context

[Tree] (config>service>vpls sap)

Full Context

configure service vpls sap

Description

This command creates a Service Access Point (SAP) within a service. A SAP is a combination of port and encapsulation parameters which identifies the service access point on the interface and within the 7450 ESS or 7750 SR. Each SAP must be unique. All SAPs must be explicitly created within a service or on an IP interface.

Enter an existing SAP without the **create** keyword to edit SAP parameters. The SAP is owned by the service in which it was created.

A SAP can only be associated with a single service. A SAP can only be defined on a port that has been configured as an access port using the **configure port** *port-id* **ethernet mode access** command. Channelized TDM ports are always access ports (TDM applies to the 7750 SR only).

If a port is shut down, all SAPs on that port become operationally down. When a service is shut down, SAPs for the service are not displayed as operationally down although all traffic traversing the service is discarded. The operational state of a SAP is relative to the operational state of the port on which the SAP is defined.

The **no** form of this command deletes the SAP with the specified port. When a SAP is deleted, all configuration parameters for the SAP are also deleted. For Internet Ethernet Service (IES), the IP interface must be shut down before the SAP on that interface may be removed.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

port-id

Specifies the physical port ID in the *slot/mda/port* format.

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If the card in the slot has Media Dependent Adapters (MDAs) installed, the *port-id* must be in the slot_number/MDA_number/port_number [.channel] format. For example 6/2/3 specifies port 3 on MDA 2 in slot 6.

The *port-id* must reference a valid port type. When the *port-id* parameter represents SONET/SDH and TDM channels, the port ID must include the channel ID. A period "." separates the physical port from the *channel-id*. The port must be configured as an access port.

If the SONET/SDH port is configured as clear-channel then only the port is specified.

group-name

Specifies the name of the split horizon group to which the SAP belongs. This parameter applies to the 7450 ESS or 7750 SR only.

capture-sap

Specifies a capturing SAP in which triggering packets are sent to the CPM. Non-triggering packets captured by the capture SAP are dropped. This parameter applies to the 7450 ESS or 7750 SR only.

create

Keyword used to create a SAP instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

root-leaf-tag

Specifies a SAP as a root leaf tag SAP. Only SAPs of the form dot1q (for example, 1/1/1:X) or qinq (for example, 1/1/1:X.Y, 1/1/1:X.*) are supported. The default E-Tree SAP type is a root AC, if *root-leaf-tag* **(**or *leaf-ac***)** is not specified at SAP creation. This option is only available when the VPLS is designated as an E-Tree VPLS.

leaf-tag-vid

Specifies to replace the outer SAP-ID for leaf traffic. The leaf tag VID is only significant between peering VPLS but the values must be consistent on each end.

leaf-ac

Specifies a SAP as a leaf access (AC) SAP. The default E-Tree SAP type is root AC if **leaf-ac** (or **root-leaf-tag**) is not specified at SAP creation. This option is only available when the VPLS is designated as an E-Tree VPLS.

Platforms

All

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (config>service>vpls>pbb>backbone-vpls sap)

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Full Context

configure service vpls pbb backbone-vpls sap

Description

This command configures attributes of a SAP on the B-VPLS service.

Platforms

All

sap

Syntax

sap *sap-id* [**create**] [**no-endpoint**]

sap *sap-id* [**create**] **endpoint** *endpoint-name*

sap *sap-id* [**create**] [**qtag-normalization**] [[*tag*] | [*s-tag*.*c-tag*]]

no sap *sap-id*

Context

[Tree] (config>service>epipe sap)

Full Context

configure service epipe sap

Description

This command creates a SAP within a service. A SAP is a combination of port and encapsulation parameters that identify the SAP on the interface and within the device. Each SAP must be unique.

All SAPs must be explicitly created. If no SAPs are created within a service or on an IP interface, a SAP does not exist on that object.

Enter an existing SAP without the **create** keyword to edit SAP parameters. The SAP is owned by the service in which it was created.

A SAP can only be associated with a single service. A SAP can only be defined on a port that has been configured as an access port.

If a port is shutdown, all SAPs on that port become operationally down. When a service is shutdown, SAPs for the service are not displayed as operationally down, although all traffic traversing the service is discarded.

The operational state of a SAP is relative to the operational state of the port on which the SAP is defined.

Ethernet SAPs support **null**, **dot1q**, and **qinq** for all routers.

The **no** form of this command deletes the SAP with the specified port. When a SAP is deleted, all configuration parameters for the SAP are also deleted. For IES, the IP interface must be shutdown before the SAP on that interface may be removed.

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Parameters

sap-id

Specifies the physical port identifier portion of the SAP.

port-id

Specifies the physical port ID.

If the card in the slot has MDAs installed, the *port-id* must be in the slot_number/MDA_number/port_number format. For example 6/2/3 specifies port 3 on MDA 2 in slot 6.

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

endpoint

Keyword used to add a SAP endpoint association.

no endpoint

Keyword used to remove the association of a SAP or a spoke SDP with an explicit endpoint name.

create

Keyword used to create a SAP instance. The **create** keyword requirement can be enabled or disabled in the **environment create** context.

qtag-normalization

Keyword to enable Q-tag normalization.

tag

Specifies the value for tag normalization. The tag value is pushed as the S-tag (outer tag) into the frames coming from this SAP and sent to EVPN. On network ingress, the inner and outer VLAN tags are looked up and the frames matching this value and the normalized C-tag value are sent to the associated SAP.

Values 1 to 4094

s-tag

Specifies the value for tag normalization. The tag value is pushed as the S-tag (outer tag) into the frames coming from this SAP and sent to EVPN. On network ingress, the inner and outer VLAN tags are looked up and the frames matching this value and the normalized C-tag value are sent to the associated SAP.

Values 1 to 4094

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c-tag

Specifies the value for tag normalization. The tag value is pushed as the C-tag (inner tag) into the frames coming from this SAP and sent to EVPN. On network ingress, the inner and outer VLAN tags are looked up and the frames matching this value and the normalized S-tag value are sent to the associated SAP.

Values 1 to 4094

Platforms

All

Output

The following output is an example of VLL SAP information.

Output Example

```
A:node-2>config>service>epipe 200 name "200" customer 1 info detail
===============================================================
            sap 1/1/c5/1:200.200 create
                no shutdown
            exit
            sap pw-21:200.200 create
                no shutdown
            exit
            no shutdown
        exit
    exit
===============================================================
```

sap

Syntax

sap *sap-id* [**create**] [**no-endpoint**]

sap *sap-id* [**create**] **endpoint** *endpoint-name*

no sap *sap-id*

Context

[Tree] (config>service>ipipe sap)

[Tree] (config>service>cpipe sap)

Full Context

configure service ipipe sap

configure service cpipe sap

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Description

This command creates a Service Access Point (SAP) within a service. A SAP is a combination of port and encapsulation parameters which identifies the service access point on the interface and within the device. Each SAP must be unique.

All SAPs must be explicitly created. If no SAPs are created within a service or on an IP interface, a SAP will not exist on that object.

Enter an existing SAP without the **create** keyword to edit SAP parameters. The SAP is owned by the service in which it was created.

A SAP can only be associated with a single service. A SAP can only be defined on a port that has been configured as an access port.

If a port is shutdown, all SAPs on that port become operationally down. When a service is shutdown, SAPs for the service are not displayed as operationally down although all traffic traversing the service will be discarded.

The operational state of a SAP is relative to the operational state of the port on which the SAP is defined.

Ethernet SAPs support null, dot1q, and qinq is supported for all routers.

The **no** form of this command deletes the SAP with the specified port. When a SAP is deleted, all configuration parameters for the SAP will also be deleted. For Internet Enhanced Service (IES), the IP interface must be shutdown before the SAP on that interface may be removed.

By default, no SAPs are defined.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP.

port-id

Specifies the physical port ID.

If the card in the slot has Media Dependent Adapters (MDAs) installed, the *port-id* must be in the slot_number/MDA_number/port_number format. For example 6/2/3 specifies port 3 on MDA 2 in slot 6.

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

endpoint

Adds a SAP endpoint association.

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no endpoint

Removes the association of a SAP or a spoke SDP with an explicit endpoint name.

create

Keyword to create a SAP instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

All

- configure service ipipe sap

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap

Output

The following output is an example of VLL SAP information.

Output Example

```
*A:bksim2801>config>service>apipe>sap$
===============================================================
ATM PVCs, Port 1/1/1
===============================================================
VPI/VCI     Owner     Type     Ing.TD   Egr.TD  Adm  OAM     Opr
---------------------------------------------------------------
2/102       SAP       PVC      1        1       up   ETE-AIS dn
10/100      SAP       PVC      1        1       up   ETE-AIS dn
===============================================================
*A:bksim2801#
```

sap

Syntax

sap *sap-id* [**create**]

no sap *sap-id*

Context

[Tree] (config>service>ies>if sap)

[Tree] (config>service>ies>sub-if>grp-if sap)

[Tree] (config>service>vprn>sub-if>grp-if sap)

[Tree] (config>service>vprn sap)

[Tree] (config>service>ies sap)

[Tree] (config>service>vprn>if sap)

Full Context

configure service ies interface sap

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configure service ies subscriber-interface group-interface sap

configure service vprn subscriber-interface group-interface sap

configure service vprn sap

configure service ies sap

configure service vprn interface sap

Description

This command creates a Service Access Point (SAP) within a service. A SAP is a combination of port and encapsulation parameters which identifies the service access point on the interface and within the router. Each SAP must be unique.

All SAPs must be explicitly created. If no SAPs are created within a service or on an IP interface, a SAP will not exist on that object.

Enter an existing SAP without the **create** keyword to edit SAP parameters. The SAP is owned by the service in which it was created.

A SAP can only be associated with a single service. A SAP can only be defined on a port that has been configured as an access port using the **configure port** *port-id* **ethernet mode access** command.

If a port is shutdown, all SAPs on that port become operationally down. When a service is shutdown, SAPs for the service are not displayed as operationally down although all traffic traversing the service will be discarded. The operational state of a SAP is relative to the operational state of the port on which the SAP is defined.

Note:
Configure an IES interface as a loopback interface by issuing the **loopback** command instead of the **sap** *sap-id* command. The loopback flag cannot be set on an interface where a SAP is already defined and a SAP cannot be defined on a loopback interface.

The **no** form of this command deletes the SAP with the specified port. When a SAP is deleted, all configuration parameters for the SAP are also deleted. For Internet Enhanced Service (IES), the IP interface must be shutdown before the SAP on that interface may be removed. The no form of this command causes the ptp-hw-assist to be disabled.

Default

No SAPs are defined.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

port-id

Specifies the physical port ID in the *slot/mda/port* format.

If the card in the slot has Media Dependent Adapters (MDAs) installed, the *port-id* must be in the slot_number/MDA_number/port_number format. For example 61/2/3 specifies port 3 on MDA 2 in slot 61.

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Table 110: Port ID Syntax

null	*port-id* | lag-*id*	
dot1q	{port-id | lag-id}:{qtag1 | cp-conn-prof-id	
qinq	{*port-id* | lag-*id*}:{*qtag1* | cp-*conn-prof-id*}.{*qtag2* | cp-*conn-prof-id*} cp: keyword *conn-prof-id*: 1 to 8000	
port-id	slot/mda/port [.channel]	
	eth-sat-id	esat-id/slot/port
		esat: keyword
		id: 1 to20
	pxc-id	psc-id.sub-port
		pxc psc-id.sub-port
		pxc: keyword
		id: 1 to 64
		sub-port: a, b
lag-id	lag-id	lag: keyword
		id: 1 to 800
qtag1	0 to 4094	
qtag2	* | null | 0 to 4094	

The *port-id* must reference a valid port type.

create

Keyword used to create a SAP instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

All

- configure service ies sap
- configure service vprn interface sap
- configure service vprn sap
- configure service ies interface sap

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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- configure service vprn subscriber-interface group-interface sap
- configure service ies subscriber-interface group-interface sap

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>ppp sap)

Full Context

debug service id ppp sap

Description

This command enables PPP debug output for the specified SAP, this command allow multiple instances.

The **no** form of this command disables debugging.

Parameters

sap-id

Specifies the SAP ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sap

Syntax

sap *sap-id*

no sap

Context

[Tree] (config>service>vpls>site sap)

Full Context

configure service vpls site sap

Description

This command configures a SAP for the site.

The **no** form of this command removes the SAP ID from the configuration.

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Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition

Platforms

All

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>mrp sap)

Full Context

debug service id mrp sap

Description

This command filters debug events and only shows events for the particular SAP.

The **no** form of this command removes the debug filter.

Parameters

sap-id

The SAP ID.

Platforms

All

sap

Syntax

sap *sap-id*

no sap

Context

[Tree] (config>service>epipe>site sap)

Full Context

configure service epipe site sap

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Description

This command configures a SAP for the site.

The **no** form of this command removes the SAP ID from the configuration.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

All

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>dhcp sap)

[Tree] (debug>service>id sap)

[Tree] (debug>service>id>stp sap)

Full Context

debug service id dhcp sap

debug service id sap

debug service id stp sap

Description

This command enables STP debugging for a specific SAP.

The **no** form of the command disables debugging.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

All

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sap

Syntax

sap [**split-horizon-group** *group-name*] [**create**] [**capture-sap**]

no sap *sap-id*

Context

[Tree] (config>service>vpls>mac-move>primary-ports sap)

[Tree] (config>service>vpls>mac-move>secondary-ports sap)

Full Context

configure service vpls mac-move primary-ports sap

configure service vpls mac-move secondary-ports sap

Description

This command declares a specified SAP as a primary (or secondary) VPLS port.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition

Platforms

All

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>arp-host sap)

Full Context

debug service id arp-host sap

Description

This command displays ARP host events for a particular SAP.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>igmp-snooping sap)

Full Context

debug service id igmp-snooping sap

Description

This command shows IGMP packets for a specific SAP.

The **no** form of this command disables the debugging for the SAP.

Platforms

All

sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>mld sap)

Full Context

debug service id mld-snooping sap

Description

This command shows MLD packets for a specific SAP.

The **no** form of this command disables the debugging for the SAP.

Platforms

All

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sap

Syntax

[**no**] **sap** *sap-id*

Context

[Tree] (debug>service>id>host-connectivity-verify sap)

Full Context

debug service id host-connectivity-verify sap

Description

This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular SAP.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sap

Syntax

sap *sap-id* [**create**]

no sap *sap-id*

Context

[Tree] (config>service>ies>aa-interface sap)

[Tree] (config>service>vprn>aa-if sap)

Full Context

configure service ies aa-interface sap

configure service vprn aa-interface sap

Description

This command configures the AA interface SAP.

Parameters

sap-id

specifies the physical port identifier portion of the SAP definition.

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create

creates the SAP instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

sap

Syntax

sap *sap-id* [**create**] [**no-endpoint**]

sap *sap-id* [**create**] **endpoint** *name*

no sap

Context

[Tree] (config>mirror>mirror-dest sap)

Full Context

configure mirror mirror-dest sap

Description

This command creates a service access point (SAP) within a mirror destination service. The SAP is owned by the mirror destination service ID.

The SAP is defined with port and encapsulation parameters to uniquely identify the (mirror) SAP on the interface and within the box. The specified SAP may be defined on an Ethernet access port with a dot1q, null, or q-in-q encapsulation type.

Only one SAP can be created within a **mirror-dest** service ID. If the defined SAP has not been created on any service within the system, the SAP is created and the context of the CLI will change to the newly created SAP. In addition, the port cannot be a member of a multi-link bundle, APS group or IMA bundle.

If the defined SAP exists in the context of another service ID, **mirror-dest** or any other type, an error is generated.

Mirror destination SAPs can be created on Ethernet interfaces that have been defined as an access interface. If the interface is defined as network, the SAP creation returns an error.

When the **no** form of this command is used on a SAP created by a mirror destination service ID, the SAP with the specified port and encapsulation parameters is deleted.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

no-endpoint

Removes the association of a SAP or a sdp with an explicit endpoint name.

name

Specifies the name of the endpoint associated with the SAP.

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Platforms

All

sap

Syntax

sap *sap-id* {[**egress**] [**ingress**]}

no sap *sap-id* [**egress**] [**ingress**]

Context

[Tree] (config>mirror>mirror-source sap)

Full Context

configure mirror mirror-source sap

Description

This command enables mirroring of traffic ingressing or egressing a service access port (SAP). A SAP that is defined within a mirror destination cannot be used in a mirror source. The mirror source SAP referenced by the *sap-id* is owned by the service ID of the service in which it was created. The SAP is only referenced in the mirror source name for mirroring purposes. The mirror source association does not need to be removed before deleting the SAP from its service ID. If the SAP is deleted from its service ID, the mirror association is removed from the mirror source.

More than one SAP can be associated within a single **mirror-source**. Each SAP has its own **ingress** and **egress** parameter keywords to define which packets are mirrored to the mirror destination.

The SAP must be valid and properly configured. If the associated SAP does not exist, an error occurs and the command will not execute.

The same SAP cannot be associated with multiple mirror source definitions for ingress packets.

The same SAP cannot be associated with multiple mirror source definitions for egress packets.

If a particular SAP is not associated with a mirror source name, then that SAP will not have mirroring enabled for that mirror source.

Note that the ingress and egress options cannot be supported at the same time on a CEM encap-type SAP. The options must be configured in either the ingress **or** egress contexts (applies to the 7750 SR and 7950 XRS).

The **no** form of this command disables mirroring for the specified SAP. All mirroring for that SAP on ingress and egress is terminated. Mirroring of packets on the SAP can continue if more specific mirror criteria is configured. If the **egress** or **ingress** parameter keywords are specified in the **no** command, only the ingress or egress mirroring condition is removed.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

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egress

Specifies that packets egressing the SAP should be mirrored. Egress packets are mirrored to the mirror destination after egress packet modification.

ingress

Specifies that packets ingressing the SAP should be mirrored. Ingress packets are mirrored to the mirror destination before the ingress packet modification.

Platforms

All

sap

Syntax

sap *sap-id* {[**ingress**] [**egress**]}

no sap *sap-id* [**ingress**] [**egress**]

Context

[Tree] (config>li>li-source sap)

Full Context

configure li li-source sap

Description

This command creates a service access point (SAP) within an LI configuration. The specified SAP must define a FastE, GigE, or XGigE, or XGigE access port with a dot1q, null, or q-in-q encapsulation type.

When the **no** form of this command is used on a SAP, the SAP with the specified port and encapsulation parameters is deleted.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

egress

Specifies that the router perform lawful intercept on egress traffic. Packets egressing the SAP are mirrored to the mirror destination after egress packet modification.

ingress

Specifies that the router perform lawful intercept on ingress traffic. Packets ingressing the SAP are mirrored to the mirror destination before ingress packet modification.

Platforms

All

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sap

Syntax

sap *sap-id* {[**egress**] [**ingress**]}

no sap *sap-id* [**egress**] [**ingress**]

Context

[Tree] (debug>mirror-source sap)

Full Context

debug mirror-source sap

Description

This command enables mirroring of traffic ingressing or egressing a service access port (SAP). A SAP that is defined within a mirror destination cannot be used in a mirror source. The mirror source SAP referenced by the *sap-id* is owned by the service ID of the service in which it was created. The SAP is only referenced in the mirror source name for mirroring purposes. The mirror source association does not need to be removed before deleting the SAP from its service ID. If the SAP is deleted from its service ID, the mirror association is removed from the mirror source.

More than one SAP can be associated within a single **mirror-source**. Each SAP has its own **ingress** and **egress** parameter keywords to define which packets are mirrored to the mirror destination.

The SAP must be valid and properly configured. If the associated SAP does not exist, an error occurs and the command does not execute.

The same SAP cannot be associated with multiple mirror source definitions for ingress packets.

The same SAP cannot be associated with multiple mirror source definitions for egress packets.

If a particular SAP is not associated with a mirror source name, then that SAP does not have mirroring enabled for that mirror source.

Note that the ingress and egress options cannot be supported at the same time on a CEM encap-type SAP. The options must be configured in either the ingress **or** egress contexts (applies to the 7750 SR and 7950 XRS).

The **no** form of this command disables mirroring for the specified SAP. All mirroring for that SAP on ingress and egress is terminated. Mirroring of packets on the SAP can continue if more specific mirror criteria is configured. If the **egress** or **ingress** parameter keywords are specified in the **no** command, only the ingress or egress mirroring condition is removed.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

egress

Specifies that packets egressing the SAP should be mirrored. Egress packets are mirrored to the mirror destination after egress packet modification.

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ingress

Specifies that packets ingressing the SAP should be mirrored. Ingress packets are mirrored to the mirror destination before the ingress packet modification.

Platforms

All

sap

Syntax

sap *sap-id* [**create**]

no sap *sap-id*

Context

[Tree] (config>system>satellite>local-forward sap)

Full Context

configure system satellite local-forward sap

Description

This command configures a Service Access Point (SAP) used in satellite local forward instances defined in the system.

The **no** form of this command removes the satellite access point from the local-forward instance.

Parameters

eth-sat-id

Specifies the satellite access point in the local-forward instance in the *esat-id*/*slot*/*port* format.

Values		
	esat	keyword
	id	1 to 20

lag-id

Specifies the LAG identifier, expressed as an integer,

Values		
	lag	keyword
	id	1 to 800

qtag1

Specifies the qtag value.

Values 1 to 4094

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sap

Syntax

sap *sap-id*

no sap

Context

[Tree] (config>li>li-fltr>li-mac-fltr>entry>match sap)

Full Context

configure li li-filter li-mac-filter entry match sap

Description

This command specifies the QinQ SAP to match from the Epipe or VPLS service, where the s-tag must be a value and the outer-tag must be of type *. This filter match is used in conjunction with match criteria **outer-tag** where the outer-tag must also be provisioned for the entry match on the QinQ packet to activate.

The match criteria SAP must be an exact match with the QinQ configured on the Epipe or VPLS service. An associated outer-tag must be provisioned to match on the QinQ packet. For example, SAP 1/1/1:1.*, where the outer-tag is "*", and an outer-tag of 1 would perform LI on 1/1/1:1.1 on a 1/1/1:1.* SAP.

The **no** form of this command removes the QinQ SAP as the match criterion.

Default

no sap

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

Values

null	*port-id* | *lag-id* | *eth-sat-id*	
dot1q	*port-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*]	
qinq	*port-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	

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	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | **lag**-*string*	
	lag	keyword
	id	1 to 800
	string	up to 23 characters
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	* | null | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 64
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sap

Syntax

sap *sap-id*

no sap

Context

[Tree] (config>service>vpls>proxy-arp>dynamic sap)

[Tree] (config>service>vpls>proxy-nd>dynamic sap)

Full Context

configure service vpls proxy-arp dynamic sap

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configure service vpls proxy-nd dynamic sap

Description

This command configures the proxy ARP or ND entry for creation when the ARP or neighbor advertisement (NA) packet for the configured IP address is received on the configured SAP. This command can be configured in combination with the **configure service vpls proxy-arp dynamic mac-list** or **configure service vpls proxy-nd dynamic mac-list** command for the entry. In this case, the MAC of the ARP or NA message and the SAP on which the ARP or NA packet is received are both checked before creating the entry.

The **no** form of this command removes the SAP as the match criterion.

Default

no sap

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

Values

null	*port-id* | *lag-id* | *eth-sat-id*	
dot1q	*port-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*]	
qinq	*port-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | **lag**-*string*	
	lag	keyword
	id	1 to 800
	string	up to 23 characters
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	* | null | 0 to 4094	
qtag2	* | null | 0 to 4094	

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tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 64
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20

Platforms

All

41.21 sap-egress

sap-egress

Syntax

sap-egress {*policy-id* | *policy-name*} [**create**] [**name** *name*]

no sap-egress {*policy-id* | *policy-name*}

Context

[Tree] (config>qos sap-egress)

Full Context

configure qos sap-egress

Description

This command is used to create or edit a Service Egress QoS policy. The egress policy defines the SLA for service packets as they egress on the SAP.

Policies are templates that can be applied to multiple services as long as the scope of the policy is template. The queues defined in the policy are not instantiated until a policy is applied to a service.

Sap-egress policies determine queue mappings based on ingress DSCP, IP precedence, dot1p, and IPv4 or IPv6 match criteria. Multiple queues can be created per forwarding class and each queue can have different CIR or PIR parameters.

Egress SAP QoS policies allow the definition of queues and the mapping of forwarding classes to those queues. Each queue needs to have a relative CIR for determining its allocation of QoS resources during periods of congestion. A PIR can also be defined that forces a hard limit on the packets transmitted through the queue. When the forwarding class is mapped to the queue, a DSCP, IP precedence, or dot1p value can optionally be specified.

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The sap-egress policy with *policy-id* 1 is the default sap-egress QoS policy and is applied to service egress SAPs when an explicit policy is not specified or removed. The default sap-egress policy cannot be modified or deleted.

By default, all forwarding classes map to queue 1.

Any changes made to an existing policy, using any of the sub-commands, will be applied immediately to all egress SAPs where this policy is applied. For this reason, when many changes are required on a policy, it is highly recommended that the policy be copied to a work area *policy-id*. That work-in-progress policy can be modified until complete, then written over the original policy-id. Use the **config qos copy** command to maintain policies in this manner.

The **no** form of this command deletes the sap-egress policy. A policy cannot be deleted until it is removed from all service SAPs where it is applied. When a sap-egress policy is removed from a SAP, the SAP will revert to the default sap-egress *policy-id* 1.

Parameters

policy-id

The *policy-id* uniquely identifies the policy on the router.

Values 1 to 65535

policy-name

The *policy-name* uniquely identifies the policy.

Values 64 characters maximum.

create

Required parameter when creating a SAP QoS egress policy.

name

Configures an optional policy name which adds a name identifier to a specific policy to then use that policy name in configuration references as well as display and use policy names in show commands throughout the system. This helps the service provider or administrator to identify and manage sap-egress policies within the SR OS platforms.

All sap-egress policies are required to assign a policy ID to initially create a policy. However, either the policy ID or the policy name can be used to identify and reference a specific policy once it is initially created.

If a name is not specified at creation time, then SR OS assigns a string version of the *policy-id* as the name.

Values 64 characters maximum

Platforms

All

sap-egress

Syntax

sap-egress *src-pol dst-pol* [**overwrite**]

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Context

[Tree] (config>qos>copy sap-egress)

Full Context

configure qos copy sap-egress

Description

This command copies existing QoS policy entries for a QoS policy-id to another QoS policy-id.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy will be overwritten with the contents of the source policy. If **overwrite** is not specified, an error will occur if the destination policy ID exists.

Example:

```
– SR>config>qos# copy sap-egress 1 1010
– MINOR: CLI Destination "1010" exists use {overwrite}.
– SR>config>qos# copy sap-egress 1 1010 overwrite
```

src-pol dst-pol

Indicates that the source policy ID and the destination policy ID are SAP egress policy IDs. Specify the source policy ID that the copy command will attempt to copy from and specify the destination policy ID to which the command will copy a duplicate of the policy.

Values 1 to 65535

Platforms

All

41.22 sap-host-limit

sap-host-limit

Syntax

sap-host-limit *max-num-hosts-sap*

no sap-host-limit

Context

[Tree] (config>service>ies>sub-if>grp-if>arp-host sap-host-limit)

[Tree] (config>service>vprn>sub-if>grp-if>arp-host sap-host-limit)

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Full Context

configure service ies subscriber-interface group-interface arp-host sap-host-limit

configure service vprn subscriber-interface group-interface arp-host sap-host-limit

Description

This command configures the maximum number of ARP hosts per SAP.

The **no** form of this command reverts to the default.

Default

sap-host-limit 1

Parameters

max-num-hosts-sap

Specifies the maximum number of ARP hosts per SAP allowed on this interface.

Note:
The operational maximum value may be smaller because of equipped hardware dependencies.

Values 1 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.23 sap-id

sap-id

Syntax

sap-id *sap-id*

no sap-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-identification sap-id)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident sap-id)

Full Context

configure subscriber-mgmt local-user-db ppp host host-identification sap-id

configure subscriber-mgmt local-user-db ipoe host host-identification sap-id

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Description

This command specifies the SAP ID to match for a host lookup. When the LUDB is accessed using a DHCPv4 server, the SAP-ID is matched against the Nokia vendor-specific sub-option in DHCP Option 82.

Note:
This command is used only when **sap-id** is configured as one of the **match-list** parameters.

The **no** form of this command removes the SAP ID from the configuration.

Parameters

sap-id

Specifies a SAP ID, up to 255 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sap-id

Syntax

[**no**] **sap-id**

Context

[Tree] (config>service>vpls>sap>dhcp>option>vendor sap-id)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option>vendor sap-id)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option>vendor sap-id)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option>vendor sap-id)

[Tree] (config>service>vprn>if>dhcp>option>vendor sap-id)

Full Context

configure service vpls sap dhcp option vendor-specific-option sap-id

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option sap-id

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option sap-id

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option sap-id

configure service vprn interface dhcp option vendor-specific-option sap-id

Description

This command enables the sending of the SAP ID in the Nokia vendor-specific sub-option of the DHCP relay packet.

The **no** form of this command disables the sending of the SAP ID in the Nokia vendor-specific sub-option of the DHCP relay packet.

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Platforms

All

- configure service vprn interface dhcp option vendor-specific-option sap-id
- configure service vpls sap dhcp option vendor-specific-option sap-id

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option sap-id
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option sap-id
- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option sap-id

sap-id

Syntax

sap-id *sap-string*

no sap-id

Context

[Tree] (config>service>dynsvc>ladb>user>idx sap-id)

Full Context

configure service dynamic-services local-auth-db user-name index sap-id

Description

This command specifies the dynamic data service SAP that is created. A dynamic service SAP ID uniquely identifies a dynamic data service instance. For a local authenticated dynamic service data trigger, one of the dynamic service SAP IDs must be the data trigger SAP.

The **no** form of this command removes the **sap-id** from the configuration.

Parameters

sap-string

Specifies a string representing the dynamic service SAP ID (only SAPs on Ethernet ports and LAGs are valid), up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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41.24 sap-ingress

sap-ingress

Syntax

sap-ingress {*policy-id* | *policy-name*} [**create**] [**name** *name*]

no sap-ingress {*policy-id* | *policy-name*}

Context

[Tree] (config>qos sap-ingress)

Full Context

configure qos sap-ingress

Description

This command is used to create or edit the ingress policy. The ingress policy defines the SLA enforcement that service packets receive as they ingress a SAP. SLA enforcement is accomplished through the definition of queues that have Forwarding Class (FC), Fair Information Rate (FIR), Committed Information Rate (CIR), Peak Information Rate (PIR), Committed Burst Size (CBS), and Maximum Burst Size (MBS) characteristics.

Policies in effect are templates that can be applied to multiple services as long as the **scope** of the policy is template. Queues defined in the policy are not instantiated until they are assigned to at least one forwarding class and a policy is applied to a service SAP.

It is possible that a SAP ingress policy will include the **dscp** map command, the **dot1p** map command, and an IP or MAC match criteria. When multiple matches occur for the traffic, the order of precedence will be used to arrive at the final action. The order of precedence is as follows:

1. 802.1p bits
2. DSCP
3. IP quintuple or MAC headers

The SAP ingress policy with *policy-id* 1 is a system-defined policy applied to services when no other policy is explicitly specified. The system SAP ingress policy cannot be modified or deleted. The default SAP ingress policy defines one unicast and one multipoint queue associated with all forwarding classes, with an FIR of zero, a CIR of zero, and a PIR of line rate.

Any changes made to the existing policy, using any of the sub-commands, are applied immediately to all services where this policy is applied. For this reason, when many changes are required on a policy, it is recommended that the policy be copied to a work area policy ID. That work-in-progress policy can be modified until complete, then written over the original policy-id. Use the **config>qos>copy** command to maintain policies in this manner.

The **no** form of this command deletes the SAP ingress policy. A policy cannot be deleted until it is removed from all services where it is applied.

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Parameters

policy-id

The *policy-id* uniquely identifies the policy.

Values 1 to 65535

policy-name

The *policy-name* uniquely identifies the policy.

Values 64 characters maximum

create

Required parameter when creating a SAP QoS ingress policy.

name *name*

Configures an optional policy name which adds a name identifier to a specific policy to then use that policy name in configuration references as well as display and use policy names in show commands throughout the system. This helps the service provider and administrator to identify and manage sap-ingress policies within the SR OS platforms.

All sap-ingress policies are required to assign a policy ID to initially create a policy. However, either the policy ID or the policy name can be used to identify and reference a specific policy after it is initially created.

If a name is not specified at creation time, then SR OS assigns a string version of the *policy-id* as the name.

Values 64 characters

Platforms

All

sap-ingress

Syntax

sap-ingress *src-pol dst-pol* [**overwrite**]

Context

[Tree] (config>qos>copy sap-ingress)

Full Context

configure qos copy sap-ingress

Description

This command copies existing QoS policy entries for a QoS policy-id to another QoS policy-id.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

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Parameters

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy will be overwritten with the contents of the source policy. If **overwrite** is not specified, an error will occur if the destination policy ID exists.

Example:

```
– SR>config>qos# copy sap-egress 1 1010
– MINOR: CLI Destination "1010" exists use {overwrite}.
– SR>config>qos# copy sap-egress 1 1010 overwrite
```

src-pol dst-pol

Indicates that the source policy ID and the destination policy ID are SAP ingress policy IDs. Specify the source policy ID that the copy command will attempt to copy from and specify the destination policy ID to which the command will copy a duplicate of the policy.

Values 1 to 65535

Platforms

All

41.25 sap-limit

sap-limit

Syntax

sap-limit [*limit*]

no sap-limit

Context

[Tree] (config>service>dynsvc>policy sap-limit)

Full Context

configure service dynamic-services dynamic-services-policy sap-limit

Description

This command specifies a limit for the number of dynamic data service instances (SAPs) that can be setup simultaneously using a specific dynamic services policy.

A value of zero (0) means the policy is drained: existing dynamic data services can be modified and torn down but no new dynamic data services can be setup.

Default

sap-limit 1

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Parameters

limit

Specifies the number of dynamic data service SAPs that can be setup simultaneously using this dynamic services policy.

Values 0 to 131072

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.26 sap-parameters

sap-parameters

Syntax

sap-parameters

Context

[Tree] (config>service>vprn>sub-if>grp-if sap-parameters)

[Tree] (config>service>ies>sub-if>grp-if sap-parameters)

Full Context

configure service vprn subscriber-interface group-interface sap-parameters

configure service ies subscriber-interface group-interface sap-parameters

Description

Commands in this context configure parameters that can be applied to automatically-generated internal SAPs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.27 sap-session-index

sap-session-index

Syntax

[**no**] **sap-session-index**

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Context

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute sap-session-index)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute sap-session-index

Description

This command includes **sap-session-index** attributes.

The **no** form of this command excludes **sap-session-index** attributes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.28 sap-session-limit

sap-session-limit

Syntax

sap-session-limit *sap-session-limit*

no sap-session-limit

Context

[Tree] (config>service>vprn>sub-if>grp-if>pppoe sap-session-limit)

[Tree] (config>service>ies>sub-if>grp-if>pppoe sap-session-limit)

Full Context

configure service vprn subscriber-interface group-interface pppoe sap-session-limit

configure service ies subscriber-interface group-interface pppoe sap-session-limit

Description

This command specifies the number of PPPoE hosts per SAP allowed for this group-interface.

The **no** form of this command reverts to the default.

Default

sap-session-limit 1

Parameters

sap-session-limit

Specifies the number of PPPoE hosts per SAP allowed.

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Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 1 to 131071

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sap-session-limit

Syntax

sap-session-limit *sap-session-limit*

no sap-session-limit

Context

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session sap-session-limit)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session sap-session-limit)

Full Context

configure service ies subscriber-interface group-interface ipoe-session sap-session-limit

configure service vprn subscriber-interface group-interface ipoe-session sap-session-limit

Description

This command specifies the number of IPoE sessions per SAP allowed for this group-interface.

The **no** form of this command reverts to the default.

Default

sap-session-limit 1

Parameters

sap-session-limit

Specifies the number of allowed IPoE sessions.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 1 to 131071 131071 on wlan-gw group interfaces

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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41.29 sap-template

sap-template

Syntax

sap-template *sap-template*

no sap-template

Context

[Tree] (config>service>vpls>wlan-gw sap-template)

Full Context

configure service vpls wlan-gw sap-template

Description

This command specifies the VPLS SAP template that is applied on the internal SAPs created for communication between the VPLS and the ISAs.

The **no** form of this command removes the SAP template.

Parameters

sap-template

Specifies the existing SAP template to apply. The template is created in the **config>service>template** context.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

sap-template

Syntax

sap-template *name* [**create**]

no sap-template *name*

Context

[Tree] (config>subscr-mgmt sap-template)

Full Context

configure subscriber-mgmt sap-template

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Description

This command configures a template that specifies parameters for automatically generated subscriber SAPs, for example, when creating CUPS sessions. A template with the name "default" is used if no specific name is provided, but this must be manually provisioned.

The **no** form of this command removes the template.

Parameters

name

Specifies the name of the PFCP association, up to 32 characters.

create

Keyword used to create the SAP template.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.30 sap-template-binding

sap-template-binding

Syntax

sap-template-binding *name/id*

no sap-template-binding

Context

[Tree] (config>service>vpls>vpls-group sap-template-binding)

Full Context

configure service vpls vpls-group sap-template-binding

Description

This command configures the binding to a SAP template to be used to instantiate SAPs in the data VPLS using as input variables the VLAN IDs generated by the vid-range command.

The **no** form of this command removes the binding and deletes the related SAP instances. The command will fail if any of the affected VPLS instances have either a provisioned SAP or an active MVRP declaration/registration or if the related vpls-group is in no shutdown state. Any changes to the **sap-template-binding** require the **vpls-group** to be in **shutdown** state. New control SAP additions to the management VPLS are allowed as long as data VPLS instantiations/removals for vpls-groups are not in progress. Control SAPs can be removed at any time generating the removal of related data SAPs from the data VPLS. The **shutdown** or **no shutdown** state for the control SAPs does not have any effect on data SAPs instantiated with this command.

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Default

no sap-template-binding

Parameters

name

Specifies the name of the VPLS template

Values ASCII character string

id

Specifies the ID of the VPLS template

Values 1 to 8196

Platforms

All

41.31 saps

saps

Syntax

saps {qset-size *size* **| non-shaper-queues}**

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers>queue-sets>default-size saps)

Full Context

configure qos fp-resource-policy aggregate-shapers queue-sets default-size saps

Description

This command configures the default queue-set size for SAPs.

Parameters

size

Specifies the size of the queue sets.

Values 2 to 8

non-shaper-queues

Specifies that subscribers will not use hardware aggregate shapers on FPs where the FP resource policy is applied.

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Platforms

7750 SR-1, 7750 SR-s

41.32 sat-type

sat-type

Syntax

sat-type *sat-type* [**port-template** *template-name*] **dynamic-uplink uplink-distribution** *maximum uplink distribution for resiliency*

sat-type *sat-type* [**port-template** *template-name*]

no sat-type

Context

[Tree] (config>system>satellite>eth-sat sat-type)

Full Context

configure system satellite eth-sat sat-type

Description

This command configures the type of satellite variant for the associated satellite chassis.

The **no** form of this command deletes the **sat-type** configuration.

Default

no sat-type

Parameters

sat-type

Specifies the satellite type. Configuration of the following variants is supported:

es24-1gb-sfp

Specifies the 24xGE (SFP) + 4x10GE Ethernet satellite.

es24-1gb-tx

Specifies the 24xGE (copper) + 4x10GE Ethernet satellite or the 24-port copper + PoE Ethernet satellite.

es24-sasmxp-1gb-sfp

Specifies the 7210 SAS-Mxp as an Ethernet satellite.

es24-sass-1gb-sfp

Specifies the 7210 SAS-S 24xGE (SFP) + 4x10GE Ethernet satellite.

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es24-sfpp+8-sfp28+2-qsfp28

Specifies the 7250 IXR-e 24SFP+ 8SFP28 2QSFP28 satellite.

es32-qsfp28+4-qsfpdd

Specifies the 7250 IXR-X1 satellite.

es48-1gb-sfp

Specifies the 48xGE (SFP) + 4x10GE Ethernet satellite.

es48-1gb-tx

Specifies the 48xGE (copper) + 4x10GE Ethernet satellite or the 48-port copper + PoE Ethernet satellite.

es48-sass-1gb-sfp

Specifies the 7210 SAS-S 48xGE (SFP) + 4x10GE Ethernet satellite.

es48-sfpp+6-qsfp28

Specifies the 7250 IXR-s satellite.

es6-qsfpdd+48-sfp56

Specifies the 7250 IXR-Xs satellite.

es64-10gb-sfpp+4-100gb-qsfp28

Specifies the 64x10GE + 4xQSFP28 Ethernet satellite.

template-name

Specifies the name for the associated port template.

dynamic-uplink

Keyword to enable dynamic uplink resilience for the Ethernet satellite.

maximum uplink distribution for resiliency

Specifies the forwarding complex used for satellite uplink association to the ports.

Values single-complex – all uplinks for the associated satellite must be connected to ports using a single forwarding complex.

dual-complex – all uplinks for the associated satellite can be connected to ports using at the most two forwarding complexes. This value optimizes the resources across the two complexes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.33 satellite

satellite

Syntax

satellite

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Context

[Tree] (config>system satellite)

Full Context

configure system satellite

Description

This command enables the satellite configuration context. Within the satellite context, the administrator can specify the configuration details for a satellite chassis that is hosted by the associated local system.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

satellite

Syntax

satellite

Context

[Tree] (admin satellite)

Full Context

admin satellite

Description

This command performs satellite operations.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.34 save

save

Syntax

save

Context

[Tree] (config>li save)

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Full Context

configure li save

Description

This command is required to save LI configuration parameters.

Platforms

All

save

Syntax

save [*cflash-id*]

Context

[Tree] (bof save)

Full Context

bof save

Description

This command uses the boot option parameters currently in memory and writes them from the boot option file to the specified compact flash.

The BOF must be located in the root directory of the internal or external compact flash drives local to the system and have the mandatory filename of *bof.cfg*.

If a location is not specified, the BOF is saved to the default compact flash drive (cf3:) on the active CPM (typically the CPM in slot A, but the CPM in slot B could also be acting as the active CPM). The slot name is not case-sensitive. You can use upper or lowercase "A" or "B".

Command usage:

- **bof save** — saves the BOF to the default drive (cf3:) on the active CPM (either in slot A or B)
- **bof save cf3:** — saves the BOF to cf3: on the active CPM (either in slot A or B)

To save the BOF to a compact flash drive on the standby CPM (for example, the redundant (standby) CPM is installed in slot B), specify -A or -B option.

Command usage:

- **bof save cf3-A:** — saves the BOF to cf3: on CPM in slot A whether it is active or standby
- **bof save cf3-B:** — saves the BOF to cf3: on CPM in slot B whether it is active or standby

The slot name is not case-sensitive. You can use upper or lowercase "A" or "B".

The **bof save** and **show bof** commands allow you to save to or read from the compact flash of the standby CPM. Use the **show card** command to determine the active and standby CPM (A or B).

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Default

Saves must be explicitly executed. The BOF is saved to cf3: if a location is not specified.

Parameters

flash-id

Specifies the compact flash ID where the *bof.cfg* is to be saved.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Default cf3:

Platforms

All

save

Syntax

save *file-url*

Context

[Tree] (candidate save)

Full Context

candidate save

Description

This command saves the current candidate to a file.

Parameters

file-url

Specifies the directory and filename.

Platforms

All

save

Syntax

save [**comment** *comment*] [**rescue**]

Context

[Tree] (admin>rollback save)

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Full Context

admin rollback save

Description

If the optional **rescue** keyword is not used, this command saves a rollback checkpoint at the location and with the filename specified by the rollback-location with a suffix of .rb. The previously saved checkpoints will have their suffixes incremented by one (.rb.1 becomes .rb.2, and so on). If there are already as many checkpoint files as the maximum number supported, then the last checkpoint file is deleted.

If the **rescue** keyword is used, then this command saves the current operational configuration as a rescue configuration at the location and with the filename specified by the rescue location. The filename will have the suffix .rc appended.

Parameters

comment-string

Specifies a comment, up to 255 characters, that is associated with the checkpoint.

rescue

Saves the rescue checkpoint instead of a normal rollback checkpoint.

Platforms

All

save

Syntax

save [*file-url*] [**detail**] [**index**]

Context

[Tree] (admin save)

Full Context

admin save

Description

This command saves the running configuration to a configuration file. For example:

```
A:ALA-1>admin# save ftp://test:test@192.168.x.xx/./100.cfg
Saving configuration .........Completed.
```

By default, the running configuration is saved to the primary configuration file.

Parameters

file-url

Specifies the file URL location to save the configuration file.

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Values

local-url | *remote-url*	
local-url	[*cflash-id*/][*file-path*] 200 chars max, including cflash-id
	directory length 99 chars max each
remote-url	[{ftp:// | tftp://}*login:pswd@remote-locn*/][*file-path*]
	243 chars max
	directory length 99 chars max each
remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Default the primary configuration file location

detail

Saves both default and non-default configuration parameters.

index

Forces a save of the persistent index file regardless of the persistent status in the BOF file. The index option can also be used to avoid an additional boot required while changing your system to use the persistence indexes.

Platforms

All

41.35 save-deterministic-script

save-deterministic-script

Syntax

save-deterministic-script

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Context

[Tree] (admin>nat save-deterministic-script)

Full Context

admin nat save-deterministic-script

Description

This command saves the script that calculates Deterministic NAT map entries.

Once the location for the Python deterministic NAT script is configured, the script is generated/updated every time deterministic NAT configuration is modified. However, the script must be manually exported to the remote location. This command triggers the export of the script to a remote location.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.36 save-when-restricted

save-when-restricted

Syntax

[no] save-when-restricted

Context

[Tree] (config>system>security>user save-when-restricted)

[Tree] (config>system>security>user-template save-when-restricted)

Full Context

configure system security user save-when-restricted

configure system security user-template save-when-restricted

Description

This command specifies whether the system permits configuration save operations for all configuration regions (bof, debug, configure, li) via any management interface (such as CLI and NETCONF) even if **restricted-to-home** is enabled.

The configuration for a region can be saved with CLI commands such as **bof save**, **admin debug-save**, **admin save**, or **configure li save**.

The **no** form of this command denies saving the configuration when **restricted-to-home** is enabled.

Default

save-when-restricted

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Platforms

All

41.37 saved-ind-prompt

saved-ind-prompt

Syntax

[**no**] **saved-ind-prompt**

Context

[Tree] (environment saved-ind-prompt)

Full Context

environment saved-ind-prompt

Description

This command enables the configuration saved indicator in the prompt. When changes are made to the configuration file a "*" appears in the prompt string indicating that the changes have not been saved. When an **admin save** command is executed the "*" disappears.

```
*A:ALA-48# admin save
Writing file to ftp://192.0.2.43/./sim48/sim48-config.cfg
Saving configuration .... Completed.
A:ALA-48#
```

Platforms

All

41.38 scaling-profile

scaling-profile

Syntax

scaling-profile *scaling-profile-id*

Context

[Tree] (config>isa>nat-group scaling-profile)

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Full Context

configure isa nat-group scaling-profile

Description

This command determines profiles for NAT scaling. Lower profile numbers allocate less resources, therefore, supporting lower scaling.

Contact your Nokia representative for more information about NAT scaling figures in each profile.

Default

scaling-profile profile1

Parameters

scaling-profile-id

Specifies the name of the profile, up to 32 characters.

Values ESA-VM supports three scaling profiles, while VSR-I supports only two.

- profile1 is a low scaling profile that requires 8 CPU cores and 32 GB of DRAM memory per ESA-VM
- profile2 is a medium scaling profile that requires 11 CPU cores and 96 GB of DRAM memory per ESA-VM
- profile3 is a high scaling profile that requires 15 CPU cores and 115 GB of DRAM memory per ESA-VM

For the number of required CPU control cores on a VSR-I in relation to profiles, see the Sysinfo section in the Virtualized Service Router Installation and Setup Guide.

For the amount of required memory on VSR-I in relation to profiles, see the Software Release Notes, section VM Memory Requirements by Function Mix.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.39 sched-class

sched-class

Syntax

sched-class *sched-class* **group** *name* **[weight** *weight***]**

no sched-class *sched-class*

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Context

[Tree] (config>qos>hw-agg-shap-sched-plcy sched-class)

Full Context

configure qos hw-agg-shaper-scheduler-policy sched-class

Description

This command configures the scheduling class for the hardware aggregate shaper scheduler policy.

The **no** form of this command removes the scheduling class configuration.

Parameters

sched-class

Specifies the scheduling class ID.

Values 3 to 6

name

Assigns the specified scheduling class to a group within the hardware aggregate shaper scheduler policy.

weight

Specifies the weight for a scheduling class within the specified group.

Values 3 to 8

Default 1

Platforms

7750 SR-1, 7750 SR-s

sched-class

Syntax

sched-class *sched-class*

no sched-class

Context

[Tree] (config>qos>sap-egress>queue sched-class)

Full Context

configure qos sap-egress queue sched-class

Description

This command configures the scheduling class for the hardware aggregate shaper scheduler policy.

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The **no** form of this command removes the scheduling class configuration.

Parameters

sched-class

Specifies the scheduling class ID.

Values 3 to 6

Platforms

7750 SR-1, 7750 SR-s

sched-class

Syntax

sched-class *class*

no sched-class

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue sched-class)

Full Context

configure qos queue-group-templates egress queue-group queue sched-class

Description

This command configures the scheduling class for the hardware aggregate shaper scheduler policy.

The **no** form of this command removes the scheduling class configuration.

Default

no sched-class

Parameters

sched-class

Specifies the scheduling class ID.

Values 1 to 6

Platforms

7750 SR-1, 7750 SR-s

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41.40 sched-class-elevation

sched-class-elevation

Syntax

sched-class-elevation sched-class *sched-class* **weight** *weight*

no sched-class-elevation sched-class *sched-class*

Context

[Tree] (config>qos>sap-egress sched-class-elevation)

Full Context

configure qos sap-egress sched-class-elevation

Description

This command configures the scheduling class elevation.

The **no** form of this command removes the scheduling class elevation configuration.

Parameters

sched-class

Specifies the scheduling class ID.

Values 3 to 6

weight

Specifies the weight for the scheduling class.

Values 3 to 8

Platforms

7750 SR-1, 7750 SR-s

sched-class-elevation

Syntax

sched-class-elevation sched-class *sched-class* **weight** *weight*

no sched-class-elevation sched-class *sched-class*

Context

[Tree] (cfg>qos>qgrps>egr>qgrp sched-class-elevation)

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Full Context

configure qos queue-group-templates egress queue-group sched-class-elevation

Description

This command configures the scheduling class elevation.

The **no** form of this command removes the scheduling class elevation configuration.

Parameters

sched-class

Specifies the scheduling class ID.

Values 1 to 6

weight

Specifies the weight for the scheduling class.

Values 1 to 8

Platforms

7750 SR-1, 7750 SR-s

41.41 sched-run-min-int

sched-run-min-int

Syntax

sched-run-min-int *percent-of-default*

no sched-run-min-int

Context

[Tree] (config>card>virt-sched-adj sched-run-min-int)

Full Context

configure card virtual-scheduler-adjustment sched-run-min-int

Description

This command overrides the default minimum time that must elapse before a virtual scheduler may redistribute bandwidth based on changes to the offered rates of member policers or queues. A minimum run interval is enforced to allow a minimum amount of "batching" queue changes before reacting to the changed rates. This minimum interval is beneficial since the periodic function of determining policer or queue offered rates is performed sequentially and the interval allows a number policer and queue rates to be determined before determining the distribution of bandwidth to the policers and queues.

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The default minimum scheduler run interval is 0.5 seconds. The sched-run-min-int command uses a percent value to modify the default interval.

The **no** form of this command restores the default minimum scheduler run interval for all virtual schedulers on the card.

Default

no sched-run-min-int

Parameters

percent-of-default

Specifies that the percent-of-default parameter is required and is used to modify the default minimum scheduler run interval for all virtual schedulers on the card. Defining 100.00 percent is equivalent to removing the override (restoring the default) for the minimum scheduler run interval.

Values 0.01% to 1000.00%

Default 100.00%

Platforms

All

41.42 schedule

schedule

Syntax

[**no**] **schedule** *schedule-name* [**owner** *schedule-owner*]

Context

[Tree] (config>system>cron schedule)

Full Context

configure system cron schedule

Description

This command configures the type of schedule to run, including one-time only (oneshot), periodic or calendar-based runs. All runs are determined by month, day of month or weekday, hour, minute and interval (seconds).

The **no** form of the command removes the context from the configuration.

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Parameters

schedule-name

Specifies the name of the schedule. The name can be up to 32 characters.

schedule-owner

Specifies the owner name of the schedule. The name can be up to 32 characters.

Default TiMOS CLI

Platforms

All

41.43 schedule-type

schedule-type

Syntax

schedule-type *schedule-type*

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update schedule-type)

Full Context

configure system security pki ca-profile auto-crl-update schedule-type

Description

This command specifies the schedule type for auto CRL update. The system supports two types:

- **periodic**: — The system will download a CRL periodically at the interval configured via the **periodic-update-interval** command. For example, if the periodic-update-interval is 1 day, then the system will download a CRL every 1 day. The minimal periodic-update-interval is 1 hour.
- **next-update-based** — The system will download a CRL at the time = Next_Update_of_existing_CRL *minus* pre-update-time. For example, if the Next-Update of the existing CRL is 2015-06-30 06:00 and pre-update-time is 1 hour, then the system will start downloading at 2015-06-30, 05:00.

Default

schedule-type next-update-based

Parameters

schedule-type

Specifies the type of time scheduler to update the CRL.

Values periodic, next-update-based

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Platforms

All

41.44 scheduler

scheduler

Syntax

scheduler *scheduler-name* **rate** *pir-rate* [**cir** *cir-rate*]

no scheduler *scheduler-name*

Context

[Tree] (config>subscr-mgmt>sub-prof>egr>sched scheduler)

[Tree] (config>subscr-mgmt>sub-prof>ing>sched scheduler)

Full Context

configure subscriber-mgmt sub-profile egress scheduler-policy scheduler

configure subscriber-mgmt sub-profile ingress scheduler-policy scheduler

Description

This command provides a way to override parameters of the existing scheduler associated with the egress or ingress scheduler policy. A scheduler defines bandwidth controls that limit each child (other schedulers and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have queues or other schedulers defined as child associations. The scheduler can be a child (take bandwidth from a scheduler in a higher tier).

The **no** form of this command reverts to the default.

Parameters

scheduler-policy-name

Specify an existing scheduler policy name.

pir-rate

Specify the pir-rate, in kilobits, to override the administrative PIR used by the scheduler. When the **rate** command is executed, a valid PIR setting must be explicitly defined. Fractional values are not allowed and must be specified as a positive integer.

Values 1 to 3200000000, max

cir-rate

The **cir** parameter overrides the administrative CIR used by the scheduler. When the **rate** command is executed, a CIR setting is optional. The sum keyword specifies that the CIR be used as the summed CIR values of the children schedulers or queues. Fractional values are not allowed and must be given as a positive integer.

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Values	0 to 3200000000, sum, max
Default	sum

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>service>vpls>sap>egress>sched-override scheduler)

Full Context

configure service vpls sap egress scheduler-override scheduler

Description

This command overrides specific attributes of the specified scheduler name.

A scheduler defines a bandwidth control that limits each child (other schedulers, policers and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created has policers, queues or other schedulers defined as child associations. The scheduler can be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers.

Each scheduler must have a unique name within the context of the scheduler policy; however the same name can be reused in multiple scheduler policies. If *scheduler-name* already exists within the policy tier level (regardless of the inclusion of the keyword **create**), the context changes to that scheduler name for the purpose of editing the scheduler parameters. Modifications made to an existing scheduler are executed on all instantiated schedulers created through association with the policy of the edited scheduler. This can cause policers, queues or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce service level agreements (SLAs).

If the *scheduler-name* exists within the policy on a different tier (regardless of the inclusion of the keyword create), an error occurs and the current CLI context does not change.

If the *scheduler-name* does not exist in this or another tier within the scheduler policy, it is assumed that an attempt is being made to create a scheduler of that name. The success of the command execution is dependent on the following:

1. The maximum number of schedulers has not been configured.
2. The provided *scheduler-name* is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

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When the maximum number of schedulers has been exceeded on the policy, a configuration error occurs and the command does not execute, nor does the CLI context change.

If the provided scheduler-name is invalid according to the criteria below, a name syntax error occurs, the command does not execute, and the CLI context does not change.

The **no** form of this command removes the scheduler name from the configuration.

Parameters

scheduler-name

Specifies name of the scheduler

Values Valid names consist of any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

This optional keyword explicitly specifies that it is acceptable to create a scheduler with the given *scheduler-name*. If the **create** keyword is omitted, **scheduler-name** is not created when the system environment variable create is set to true. This safeguard is meant to avoid accidental creation of system objects (such as schedulers) while attempting to edit an object with a mistyped name or ID. The keyword has no effect when the object already exists.

Platforms

All

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>port>ethernet>access>ing>qgrp>sched-override scheduler)

[Tree] (config>port>ethernet>access>egr>qgrp>sched-override scheduler)

Full Context

configure port ethernet access ingress queue-group scheduler-override scheduler

configure port ethernet access egress queue-group scheduler-override scheduler

Description

This command can be used to override specific attributes of the specified scheduler name. A scheduler defines bandwidth controls that limit each child (other schedulers and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have queues or other schedulers defined as child associations. The scheduler can

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be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers. The *scheduler-name* must exist in the applied scheduler policy.

The **no** form of this command removes the scheduler overrides for the specified scheduler and returns the scheduler's parent weight and CIR weight, and its PIR and CIR to the values configured in the applied scheduler policy.

Parameters

scheduler-name

Specifies the name of the scheduler.

Values Valid names consist of any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

Creates a new scheduler for this port.

Platforms

All

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>service>epipe>sap>ingress>sched-override scheduler)

[Tree] (config>service>ipipe>sap>egress>sched-override scheduler)

[Tree] (config>service>cpipe>sap>ingress>sched-override scheduler)

[Tree] (config>service>epipe>sap>egress>sched-override scheduler)

[Tree] (config>service>ipipe>sap>ingress>sched-override scheduler)

[Tree] (config>service>cpipe>sap>egress>sched-override scheduler)

Full Context

configure service epipe sap ingress scheduler-override scheduler

configure service ipipe sap egress scheduler-override scheduler

configure service cpipe sap ingress scheduler-override scheduler

configure service epipe sap egress scheduler-override scheduler

configure service ipipe sap ingress scheduler-override scheduler

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configure service cpipe sap egress scheduler-override scheduler

Description

This command can be used to override specific attributes of the specified scheduler name. A scheduler defines bandwidth controls that limit each child (other schedulers, policers, and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have policers, queues or other schedulers defined as child associations. The scheduler can be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers.

Each scheduler must have a unique name within the context of the scheduler policy; however the same name can be reused in multiple scheduler policies. If *scheduler-name* already exists within the policy tier level (regardless of the inclusion of the keyword create), the context changes to that scheduler name for the purpose of editing the scheduler parameters. Modifications made to an existing scheduler are executed on all instantiated schedulers created through association with the policy of the edited scheduler. This can cause policers, queues, or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce service level agreements (SLAs).

If the *scheduler-name* exists within the policy on a different tier (regardless of the inclusion of the keyword create), an error occurs and the current CLI context will not change.

If the *scheduler-name* does not exist in this or another tier within the scheduler policy, it is assumed that an attempt is being made to create a scheduler of that name. The success of the command execution is dependent on the following:

1. The maximum number of schedulers has not been configured.
2. The provided *scheduler-name* is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

When the maximum number of schedulers has been exceeded on the policy, a configuration error occurs and the command will not execute, nor will the CLI context change.

If the provided scheduler-name is invalid according to the following criteria, a name syntax error will occur, the command will not execute, and the CLI context will not change.

Parameters

scheduler-name

The name of the scheduler. Each scheduler must be explicitly created.

Values Valid names consist of any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

This optional keyword explicitly specifies that it is acceptable to create a scheduler with the given *scheduler-name*. If the **create** keyword is omitted, **scheduler-name** is not created when the system environment variable create is set to true. This safeguard is meant to avoid accidental creation of system objects (such as schedulers) while attempting to edit an object with a mistyped name or ID. The keyword has no effect when the object already exists.

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Platforms

All

- configure service epipe sap ingress scheduler-override scheduler
- configure service ipipe sap egress scheduler-override scheduler
- configure service epipe sap egress scheduler-override scheduler
- configure service ipipe sap ingress scheduler-override scheduler

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress scheduler-override scheduler
- configure service cpipe sap ingress scheduler-override scheduler

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>service>vprn>if>sap>egress>sched-override scheduler)

[Tree] (config>service>vprn>if>sap>ingress>sched-override scheduler)

Full Context

configure service vprn interface sap egress scheduler-override scheduler

configure service vprn interface sap ingress scheduler-override scheduler

Description

This command can be used to override specific attributes of the specified scheduler name.

A scheduler defines a bandwidth controls that limit each child (other schedulers, policers, and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have policers, queues, or other schedulers defined as child associations. The scheduler can be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers.

Each scheduler must have a unique name within the context of the scheduler policy; however the same name can be reused in multiple scheduler policies. If *scheduler-name* already exists within the policy tier level (regardless of the inclusion of the keyword create), the context changes to that scheduler name for the purpose of editing the scheduler parameters. Modifications made to an existing scheduler are executed on all instantiated schedulers created through association with the policy of the edited scheduler. This can cause queues or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce service level agreements (SLAs).

If the *scheduler-name* exists within the policy on a different tier (regardless of the inclusion of the keyword create), an error occurs and the current CLI context will not change.

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If the *scheduler-name* does not exist in this or another tier within the scheduler policy, it is assumed that an attempt is being made to create a scheduler of that name. The success of the command execution is dependent on the following:

1. The maximum number of schedulers has not been configured.
2. The provided *scheduler-name* is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

When the maximum number of schedulers has been exceeded on the policy, a configuration error occurs and the command will not execute, nor will the CLI context change.

If the provided scheduler-name is invalid according to the criteria below, a name syntax error will occur, the command will not execute, and the CLI context will not change.

Parameters

scheduler-name

Specifies the name of the scheduler.

Values Valid names consist of any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

create

Specifies that it is acceptable to create a scheduler with the given *scheduler-name.* If the **create** keyword is omitted, **scheduler-name** is not created when the system environment variable create is set to true. This safeguard is meant to avoid accidental creation of system objects (such as schedulers) while attempting to edit an object with a mistyped name or ID. The keyword has no effect when the object already exists.

Platforms

All

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>service>ies>if>sap>ingress>sched-override scheduler)

[Tree] (config>service>ies>if>sap>egress>sched-override scheduler)

Full Context

configure service ies interface sap ingress scheduler-override scheduler

configure service ies interface sap egress scheduler-override scheduler

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Description

This command can be used to override specific attributes of the specified scheduler name.

A scheduler defines a bandwidth controls that limit each child (other schedulers, policers, and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have policers, queues, or other schedulers defined as child associations. The scheduler can be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers.

Each scheduler must have a unique name within the context of the scheduler policy; however the same name can be reused in multiple scheduler policies. If *scheduler-name* already exists within the policy tier level (regardless of the inclusion of the keyword create), the context changes to that scheduler name for the purpose of editing the scheduler parameters. Modifications made to an existing scheduler are executed on all instantiated schedulers created through association with the policy of the edited scheduler. This can cause queues or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce service level agreements (SLAs).

If the *scheduler-name* exists within the policy on a different tier (regardless of the inclusion of the keyword create), an error occurs and the current CLI context will not change.

If the *scheduler-name* does not exist in this or another tier within the scheduler policy, it is assumed that an attempt is being made to create a scheduler of that name. The success of the command execution is dependent on the following:

1. The maximum number of schedulers has not been configured.
2. The provided *scheduler-name* is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

When the maximum number of schedulers has been exceeded on the policy, a configuration error occurs and the command will not execute, nor will the CLI context change.

If the provided scheduler-name is invalid according to the criteria below, a name syntax error will occur, the command will not execute, and the CLI context will not change.

Parameters

scheduler-name

The name of the scheduler. Each scheduler must be explicitly created.

Values Valid names consist of any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

This optional keyword explicitly specifies that it is acceptable to create a scheduler with the given *scheduler-name*. If the **create** keyword is omitted, **scheduler-name** is not created when the system environment variable create is set to true. This safeguard is meant to avoid accidental creation of system objects (such as schedulers) while attempting to edit an object with a mistyped name or ID. The keyword has no effect when the object already exists.

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Platforms

All

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>qos>scheduler-policy>tier scheduler)

Full Context

configure qos scheduler-policy tier scheduler

Description

This command creates a new scheduler or edits an existing scheduler within the scheduler policy tier. A scheduler defines bandwidth controls that limit each child (other schedulers and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have queues or other schedulers defined as child associations. The scheduler can be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers.

Each scheduler must have a unique name within the context of the scheduler policy; however, the same name can be reused in multiple scheduler policies. If *scheduler-name* already exists within the policy tier level (regardless of the inclusion of the keyword create), the context changes to that scheduler name for the purpose of editing the scheduler parameters. Modifications made to an existing scheduler are executed on all instantiated schedulers created through association with the policy of the edited scheduler. This can cause queues or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce SLAs.

If the *scheduler-name* exists within the policy on a different tier (regardless of the inclusion of the keyword create), an error occurs and the current CLI context will not change.

If the *scheduler-name* does not exist in this or another tier within the scheduler policy, it is assumed that an attempt is being made to create a scheduler of that name. The success of the command execution is dependent on the following:

1. The maximum number of schedulers has not been configured.
2. The provided *scheduler-name* is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

When the maximum number of schedulers has been exceeded on the policy, a configuration error occurs, the command will not execute, nor will the CLI context change.

If the provided scheduler-name is invalid according to the criteria below, a name syntax error will occur, the command will not execute, and the CLI context will not change.

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Parameters

scheduler-name

Specifies the scheduler name.

Values Valid names consist of any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

create

This optional keyword explicitly specifies that it is acceptable to create a scheduler with the given *scheduler-name*. If the **create** keyword is omitted, **scheduler-name** is not created when the system environment variable create is set to true. This safeguard is meant to avoid accidental creation of system objects (such as schedulers) while attempting to edit an object with a mistyped name or ID. The keyword has no effect when the object already exists.

Platforms

All

scheduler

Syntax

scheduler *scheduler-name* [**create**]

no scheduler *scheduler-name*

Context

[Tree] (config>service>cust>multi-service-site>ingress>sched-override scheduler)

[Tree] (config>service>cust>multi-service-site>egress>sched-override scheduler)

Full Context

configure service customer multi-service-site ingress scheduler-override scheduler

configure service customer multi-service-site egress scheduler-override scheduler

Description

This command override specifics attributes of the specified scheduler name.

A scheduler defines bandwidth controls that limit each child (other schedulers, policers and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have policers, queues or other schedulers defined as child associations. The scheduler can be a child which takes bandwidth from a scheduler in a higher tier. A total of 32 schedulers can be created within a single scheduler policy with no restriction on the distribution between the tiers.

Each scheduler must have a unique name within the context of the scheduler policy; however the same name can be reused in multiple scheduler policies. If *scheduler-name* already exists within the policy tier level (regardless of the inclusion of the keyword create), the context changes to that scheduler name for

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the purpose of editing the scheduler parameters. Modifications made to an existing scheduler are executed on all instantiated schedulers created through association with the policy of the edited scheduler. This can cause policer, queues or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce service level agreements (SLAs).

If the *scheduler-name* exists within the policy on a different tier (regardless of the inclusion of the keyword create), an error occurs and the current CLI context will not change.

If the *scheduler-name* does not exist in this or another tier within the scheduler policy, it is assumed that an attempt is being made to create a scheduler of that name. The success of the command execution is dependent on the following:

1. The maximum number of schedulers has not been configured.
2. The provided *scheduler-name* is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

When the maximum number of schedulers has been exceeded on the policy, a configuration error occurs and the command will not execute, nor will the CLI context change.

If the provided scheduler-name is invalid according to the criteria below, a name syntax error will occur, the command will not execute, and the CLI context will not change.

The **no** form of the command disables the scheduler override.

Parameters

scheduler-name

Specifies the name of the scheduler.

Values Valid names consist of any string up to 32 characters in length, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

This optional keyword explicitly specifies that it is acceptable to create a scheduler with the given *scheduler-name*. If the **create** keyword is omitted, **scheduler-name** is not created when the system environment variable create is set to true. This safeguard is meant to avoid accidental creation of system objects (such as schedulers) while attempting to edit an object with a mistyped name or ID. The keyword has no effect when the object already exists.

Platforms

All

scheduler

Syntax

scheduler *scheduler-name* **rate** *pir-rate* [**cir** *cir-rate*]

no scheduler *scheduler-name*

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Context

[Tree] (config>subscr-mgmt>sla-prof>egress>sched scheduler)

Full Context

configure subscriber-mgmt sla-profile egress scheduler-policy scheduler

Description

This command provides a way to override parameters of the existing scheduler associated with the egress scheduler policy. A scheduler defines bandwidth controls that limit each child (other schedulers and queues) associated with the scheduler. Scheduler objects are created within the hierarchical tiers of the policy. It is assumed that each scheduler created will have queues or other schedulers defined as child associations. The scheduler can be a child (take bandwidth from a scheduler in a higher tier).

The **no** form of this command reverts to the default.

Parameters

scheduler-name

Specify an existing scheduler policy name up to 32 characters.

pir-rate

Specifies the PIR rate in kb/s. This parameter overrides the administrative PIR used by the scheduler. When the rate command is executed, a valid PIR setting must be explicitly defined. Fractional values are not allowed and must be given as a positive integer.

Values 1 to 3200000000, max

cir-rate

Specifies the CIR rate in kb/s. This parameter overrides the administrative CIR used by the scheduler. When the rate command is executed, a CIR setting is optional. The **sum** keyword specifies that the CIR be used as the summed CIR values of the children schedulers or queues. Fractional values are not allowed and must be given as a positive integer.

Values 0 to 3200000000, sum, max

Default sum

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.45 scheduler-override

scheduler-override

Syntax

[**no**] **scheduler-override**

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Context

[Tree] (config>service>vpls>sap>ingress scheduler-override)

[Tree] (config>service>vpls>sap>egress scheduler-override)

Full Context

configure service vpls sap ingress scheduler-override

configure service vpls sap egress scheduler-override

Description

Commands in this context configure the set of attributes whose values have been overridden via management on this virtual scheduler. Clearing a given flag returns the corresponding overridden attribute to the value defined on the SAP's ingress scheduler policy.

The **no** form of this command removes scheduler parameters from the configuration.

Platforms

All

scheduler-override

Syntax

[**no**] **scheduler-override**

Context

[Tree] (config>port>ethernet>access>egr>qgrp scheduler-override)

[Tree] (config>port>ethernet>access>ing>qgrp scheduler-override)

Full Context

configure port ethernet access egress queue-group scheduler-override

configure port ethernet access ingress queue-group scheduler-override

Description

This command specifies the set of attributes whose values have been overridden by management on this virtual scheduler. Clearing a given flag will return the corresponding overridden attribute to the value defined on the ingress or egress queue group template.

The **no** form of this command removes all of the scheduler overrides and returns the scheduler’s parent weight and CIR weight, and its PIR and CIR to the values configured in the applied scheduler policy.

Platforms

All

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scheduler-override

Syntax

[**no**] **scheduler-override**

Context

[Tree] (config>service>cpipe>sap>ingress scheduler-override)

[Tree] (config>service>epipe>sap>ingress scheduler-override)

[Tree] (config>service>epipe>sap>egress scheduler-override)

[Tree] (config>service>cpipe>sap>egress scheduler-override)

[Tree] (config>service>ipipe>sap>egress scheduler-override)

[Tree] (config>service>ipipe>sap>ingress scheduler-override)

Full Context

configure service cpipe sap ingress scheduler-override

configure service epipe sap ingress scheduler-override

configure service epipe sap egress scheduler-override

configure service cpipe sap egress scheduler-override

configure service ipipe sap egress scheduler-override

configure service ipipe sap ingress scheduler-override

Description

This command specifies the set of attributes whose values have been overridden by management on this virtual scheduler. Clearing a given flag will return the corresponding overridden attribute to the value defined on the SAP's ingress scheduler policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress scheduler-override
- configure service cpipe sap ingress scheduler-override

All

- configure service ipipe sap ingress scheduler-override
- configure service epipe sap egress scheduler-override
- configure service epipe sap ingress scheduler-override
- configure service ipipe sap egress scheduler-override

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scheduler-override

Syntax

[**no**] **scheduler-override**

Context

[Tree] (config>service>ies>if>sap>egress scheduler-override)

[Tree] (config>service>ies>if>sap>ingress scheduler-override)

Full Context

configure service ies interface sap egress scheduler-override

configure service ies interface sap ingress scheduler-override

Description

This command specifies the set of attributes whose values have been overridden via management on this virtual scheduler. Clearing a given flag will return the corresponding overridden attribute to the value defined on the SAP's ingress scheduler policy.

Platforms

All

scheduler-override

Syntax

[**no**] **scheduler-override**

Context

[Tree] (config>service>vprn>if>sap>egress scheduler-override)

[Tree] (config>service>vprn>if>sap>ingress scheduler-override)

Full Context

configure service vprn interface sap egress scheduler-override

configure service vprn interface sap ingress scheduler-override

Description

This command specifies the set of attributes whose values have been overridden via management on this virtual scheduler. Clearing a given flag will return the corresponding overridden attribute to the value defined on the SAP's ingress scheduler policy.

Platforms

All

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scheduler-override

Syntax

[**no**] **scheduler-override**

Context

[Tree] (config>service>cust>multi-service-site>ingress scheduler-override)

[Tree] (config>service>cust>multi-service-site>egress scheduler-override)

Full Context

configure service customer multi-service-site ingress scheduler-override

configure service customer multi-service-site egress scheduler-override

Description

This command specifies the set of attributes whose values have been overridden by management on this virtual scheduler. Clearing a given flag will return the corresponding overridden attribute to the value defined on the SAP's ingress and egress scheduler policy.

The **no** form of the command disables the override.

Platforms

All

41.46 scheduler-parent

scheduler-parent

Syntax

scheduler-parent *scheduler-name* [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no scheduler-parent

Context

[Tree] (config>qos>sap-egress>policer scheduler-parent)

Full Context

configure qos sap-egress policer scheduler-parent

Description

This command defines an optional parent scheduler that governs the available bandwidth given to a policer in addition to the PIR setting of the policer. When multiple schedulers, queues, or policers share a child status with the parent scheduler, the **weight** or **level** parameters define how this policer contends with the

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other children for the bandwidth of the parent. This command and the configuration of a SAP policer **port-parent** or **parent** arbiter are mutually exclusive.

Multiple schedulers can exist in different scheduler policies with the same *scheduler-name*; in this command, the associated *scheduler-name* pertains to a scheduler that should exist on the SAP as the policy is applied and the policer is created. When the policer is created on the SAP, the existence of the *scheduler-name* is dependent on a scheduler policy containing the *scheduler-name* being directly applied or indirectly applied (through a multiservice customer site) to the SAP. The policer accepts packets, but is not bandwidth limited by a virtual scheduler or the scheduler hierarchy applied to the SAP. The SAP to which the policer belongs displays an orphan policer status with the SapEgressPolicerMismatch flag in the **show service sap-using** output. The orphaned state of the policer is automatically cleared when the *scheduler-name* becomes available on the SAP.

The parent scheduler can be made unavailable by the removal of a scheduler policy or scheduler. When an existing parent scheduler is removed or inoperative, the policer enters the orphaned state. The policer automatically returns to normal operation when the parent scheduler is available again.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and no error message is returned. When a parent association has been removed, the former child policer attempts to operate based on its configured rate parameter.

Removing the parent association on the policer within the policy takes effect immediately on all policers using the SAP QoS policy.

Default

no scheduler-parent

Parameters

scheduler-name

Scheduler names are configured in the **config>qos>scheduler-policy>tier** context. There are no checks performed at the time of definition to ensure that the *scheduler-name* exists within an existing scheduler policy. For the policer to use the defined *scheduler-name*, the scheduler must exist on each SAP that the policer is created on. If a *scheduler-name* does not exist on the SAP, the policer operates in an orphaned state. Each parental association must be explicitly defined.

Values Any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

weight

Defines the relative weight of this policer in comparison with other child policers, queues, and schedulers when competing for bandwidth on the parent *scheduler-name* at the above-CIR priority level defined by the **level** parameter.

All weight values from all weighted active policers, queues, and schedulers with a common port parent are added together. Then, each individual active weight is divided by the total to determine the percentage of remaining bandwidth provided to the policer, queue, or scheduler after the higher priority level children have been serviced. A weight is considered to be active when the applicable policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit. All child policers, queues, and schedulers with a weight of 0 are considered to have the lowest priority at the configured level and are not

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serviced until all non-zero weighted policers, queues, and schedulers at that level are operating at the maximum bandwidth or are idle.

Values 0 to 100

Default 1

level

Defines the level of hierarchy when compared with other policers, queues, and schedulers when competing for bandwidth on the parent *scheduler-name*.

Children of the parent scheduler with a lower priority will not receive bandwidth until all children with a higher priority have either reached their maximum bandwidth or are idle. Children with the same level are serviced in relation to their relative weights.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight

Defines the relative weight of this policer in comparison with other child policers, queues, or schedulers competing for bandwidth on the parent *scheduler-name* at the within-CIR priority level defined by the **cir-level** parameter.

All **cir-weight** values from all weighted active policers, queues, and schedulers with a common parent are added together. Then, each individual active weight is divided by the total to determine the percentage of remaining bandwidth provided to the policer, queue, or scheduler after the higher priority level children have been serviced. A weight is considered to be active when the applicable policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit.

The weight is specified as an integer value from 0 to 100, with 100 being the highest weight. When the **cir-weight** parameter is set to a value of 0, the policer receives bandwidth only after the other children with a non-zero weight at this level.

Values 0 to 100

Default 1

cir-level

Defines the level of hierarchy when compared with other policers, queues, and schedulers that the policer uses to receive bandwidth for its within-CIR offered load. If the **cir-level** parameter is set to a value of 0 (the default value), the policer does not receive bandwidth during the schedulers within-CIR pass and the **cir-weight** parameter is ignored. If the **cir-level** parameter is 1 or greater, the **cir-weight** parameter is used.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-1s, 7750 SR-1se, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, VSR

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scheduler-parent

Syntax

scheduler-parent *scheduler-name* [**weight** *weight*] [**level** *level*] [**cir-weight** *cir-weight*] [**cir-level** *cir-level*]

no scheduler-parent

Context

[Tree] (config>qos>sap-ingress>policer scheduler-parent)

Full Context

configure qos sap-ingress policer scheduler-parent

Description

This command defines an optional parent scheduler that governs the available bandwidth given to a policer in addition to the PIR setting of the policer. When multiple schedulers, queues, or policers share a child status with the parent scheduler, the **weight** or **level** parameters define how this policer contends with the other children for the bandwidth of the parent. This command and the configuration of a SAP policer **scheduler-parent** or **parent** arbiter are mutually exclusive.

Multiple schedulers can exist in different scheduler policies with the same *scheduler-name*; in this command, the associated *scheduler-name* pertains to a scheduler that should exist on the SAP as the policy is applied and the policer is created. When the policer is created on the SAP, the existence of the *scheduler-name* is dependent on a scheduler policy containing the *scheduler-name* being directly applied or indirectly applied (through a multiservice customer site) to the SAP. The policer accepts packets, but is not bandwidth limited by a virtual scheduler or the scheduler hierarchy applied to the SAP.

The parent scheduler can be made unavailable by the removal of a scheduler policy or scheduler. When an existing parent scheduler is removed or inoperative, the policer enters the orphaned state. The policer automatically returns to normal operation when the parent scheduler is available again.

The **no** form of this command removes a child association with a parent scheduler. If a parent association does not currently exist, the command has no effect and no error message is returned. When a parent association has been removed, the former child policer attempts to operate based on its configured rate parameter.

Removing the parent association on the policer within the policy takes effect immediately on all policers using the SAP QoS policy.

Default

no scheduler-parent

Parameters

scheduler-name

Scheduler names are configured in the **config>qos>scheduler-policy>tier** context. There are no checks performed at the time of definition to ensure that the *scheduler-name* exists within an existing scheduler policy. For the policer to use the defined *scheduler-name*, the scheduler must exist on each SAP that the policer is created on. If a *scheduler-name* does

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not exist on the SAP, the policer operates in an orphaned state. Each parental association must be explicitly defined.

Values Any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

weight

Defines the relative weight of this policer in comparison with other child policers, queues, and schedulers when competing for bandwidth on the parent *scheduler-name* at the above-CIR priority level defined by the **level** parameter.

All weight values from all weighted active policers, queues, and schedulers with a common port parent are added together. Then, each individual active weight is divided by the total to determine the percentage of remaining bandwidth provided to the policer, queue, or scheduler after the higher priority level children have been serviced. A weight is considered to be active when the applicable policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit. All child policers, queues, and schedulers with a weight of 0 are considered to have the lowest priority at the configured level and are not serviced until all non-zero weighted policers, queues, and schedulers at that level are operating at the maximum bandwidth or are idle.

Values 0 to 100

Default 1

level

Defines the level of hierarchy when compared with other policers, queues, and schedulers when competing for bandwidth on the parent *scheduler-name*.

Children of the parent scheduler with a lower priority will not receive bandwidth until all children with a higher priority have either reached their maximum bandwidth or are idle. Children with the same level are serviced in relation to their relative weights.

Values 1 to 8 (8 is the highest priority)

Default 1

cir-weight

Defines the relative weight of this policer in comparison with other child policers, queues, or schedulers competing for bandwidth on the parent *scheduler-name* at the within-CIR priority level defined by the **cir-level** parameter.

All **cir-weight** values from all weighted active policers, queues, and schedulers with a common parent are added together. Then, each individual active weight is divided by the total to determine the percentage of remaining bandwidth provided to the policer, queue, or scheduler after the higher priority level children have been serviced. A weight is considered to be active when the applicable policer, queue, or scheduler has not reached its maximum rate and still has packets to transmit.

The weight is specified as an integer value from 0 to 100, with 100 being the highest weight. When the **cir-weight** parameter is set to a value of 0, the policer receives bandwidth only after the other children with a non-zero weight at this level.

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Values 0 to 100

Default 1

cir-level

Defines the level of hierarchy when compared with other policers, queues, and schedulers that the policer uses to receive bandwidth for its within-CIR offered load. If the **cir-level** parameter is set to a value of 0 (the default value), the policer does not receive bandwidth during the schedulers within-CIR pass and the **cir-weight** parameter is ignored. If the **cir-level** parameter is 1 or greater, the **cir-weight** parameter is used.

Values 0 to 8 (8 is the highest priority)

Default 0

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-1s, 7750 SR-1se, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s

41.47 scheduler-policy

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>subscr-mgmt>sla-prof>egress scheduler-policy)

Full Context

configure subscriber-mgmt sla-profile egress scheduler-policy

Description

This command specifies a scheduler policy to associate to the sla profile. Scheduler policies are configured in the **configure>qos>scheduler>policy** context. Each scheduler policy is divided up into groups of schedulers based on the tier each scheduler is created under. A tier is used to give structure to the schedulers within a policy and define rules for parent scheduler associations. The policy defines the hierarchy and operating parameters for virtual schedulers.

The **no** form of this command removes the scheduler-policy-name from the configuration.

Parameters

scheduler-policy-name

Specifies an existing scheduler policy name up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>subscr-mgmt>sub-profile>egress scheduler-policy)

[Tree] (config>subscr-mgmt>sub-profile>ingress scheduler-policy)

Full Context

configure subscriber-mgmt sub-profile egress scheduler-policy

configure subscriber-mgmt sub-profile ingress scheduler-policy

Description

This command specifies a scheduler policy to associate to the subscriber profile. Scheduler policies are configured in the **configure>qos>scheduler>policy** context. Each scheduler policy is divided up into groups of schedulers based on the tier each scheduler is created under. A tier is used to give structure to the schedulers within a policy and define rules for parent scheduler associations. The policy defines the hierarchy and operating parameters for virtual schedulers.

The **no** form of this command reverts to the default.

Parameters

scheduler-policy-name

Specify an existing scheduler policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>egress scheduler-policy)

[Tree] (config>service>ies>sap>ingress scheduler-policy)

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[Tree] (config>service>ies>sap>egress scheduler-policy)

[Tree] (config>service>ies>sub-if>grp-if>sap>ingress scheduler-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap>ingress scheduler-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress scheduler-policy)

Full Context

configure service ies subscriber-interface group-interface sap egress scheduler-policy

configure service ies sap ingress scheduler-policy

configure service ies sap egress scheduler-policy

configure service ies subscriber-interface group-interface sap ingress scheduler-policy

configure service vprn subscriber-interface group-interface sap ingress scheduler-policy

configure service vprn subscriber-interface group-interface sap egress scheduler-policy

Description

This command applies an existing scheduler policy to an ingress or egress scheduler used by ingress SAP queues or egress SAP policers and queues associated with this multi-service customer site. The schedulers defined in the scheduler policy can only be created once the customer site has been appropriately assigned to a chassis port, channel or slot. Scheduler policies are defined in the **config>qos>scheduler-policy** *scheduler-policy-name* context.

The **no** form of this command removes the configured ingress or egress scheduler policy from the multi-service customer site. When the policy is removed, the schedulers created due to the policy are removed also making them unavailable for the SAP policers or queues associated with the customer site. Policers and queues that lose their parent scheduler association are deemed to be orphaned and are no longer subject to a virtual scheduler. The SAPs that have policers or queues reliant on the removed schedulers enter into an operational state depicting the orphaned status of one or more policers or queues. When the **no** form of this command executed, the customer site ingress or egress node will not contain an applied scheduler policy.

Parameters

scheduler-policy-name:

Specifies the scheduler policy name to apply to an existing scheduler policy that was created in the **config>qos>scheduler-policy** *scheduler-policy-name* context to create the hierarchy of ingress or egress virtual schedulers. The scheduler names defined within the policy are created and made available to any ingress queues or egress policers and queues created on associated SAPs.

Values Any existing valid scheduler policy name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>port>ethernet>access>egress>vport scheduler-policy)

Full Context

configure port ethernet access egress vport scheduler-policy

Description

This command specifies a scheduler policy to associate to the Vport. Scheduler policies are configured in the **configure>qos>scheduler>policy** context. Each scheduler policy is divided up into groups of schedulers based on the tier each scheduler is created under. A tier is used to give structure to the schedulers within a policy and define rules for parent scheduler associations. The policy defines the hierarchy and operating parameters for virtual schedulers.

The **no** form of this command removes the configured egress scheduler policy from the Vport.

The **agg-rate rate**, **port-scheduler-policy** and **scheduler-policy** commands are mutually exclusive. Changing between the use of a scheduler policy and the use of an agg-rate/port-scheduler-policy involves removing the existing command and applying the new command.

The configuration of a scheduler policy under a Vport is mutually exclusive with the configuration of the egress-rate-modify parameter.

The **no** form of this command reverts to the default.

Parameters

scheduler-policy-name

Specifies the *scheduler-policy-name* parameter applies an existing scheduler policy that was created in the **config>qos>scheduler-policy** *scheduler-policy-name* context to create the hierarchy of egress virtual schedulers.

Platforms

All

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

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Context

[Tree] (config>service>vpls>sap>egress scheduler-policy)

[Tree] (config>service>vprn>if>sap>egress scheduler-policy)

[Tree] (config>service>vprn>if>sap>ingress scheduler-policy)

[Tree] (config>service>ies>if>sap>egress scheduler-policy)

[Tree] (config>service>vpls>sap>ingress scheduler-policy)

[Tree] (config>service>ies>if>sap>ingress scheduler-policy)

Full Context

configure service vpls sap egress scheduler-policy

configure service vprn interface sap egress scheduler-policy

configure service vprn interface sap ingress scheduler-policy

configure service ies interface sap egress scheduler-policy

configure service vpls sap ingress scheduler-policy

configure service ies interface sap ingress scheduler-policy

Description

This command applies an existing scheduler policy to an ingress or egress scheduler used by SAP queues associated with this multi-service customer site. The schedulers defined in the scheduler policy can only be created once the customer site has been appropriately assigned to a chassis port, channel or slot. Scheduler policies are defined in the **config>qos>scheduler-policy** *scheduler-policy-name* context.

The **no** form of this command removes the configured ingress or egress scheduler policy from the multi-service customer site. When the policy is removed, the schedulers created due to the policy are removed also making them unavailable for the ingress SAP queues and egress SAP policers and queues associated with the customer site. Policers and queues that lose their parent scheduler association are deemed to be orphaned and are no longer subject to a virtual scheduler. The SAPs that have policers or queues reliant on the removed schedulers enter into an operational state depicting the orphaned status of one or more policers or queues. When the **no scheduler-policy** command is executed, the customer site's ingress or egress node will not contain an applied scheduler policy.

Parameters

scheduler-policy-name

Specifies that the *scheduler-policy-name* is applied to an existing scheduler policy that was created in the **config>qos>scheduler-policy** *scheduler-policy-name* context to create the hierarchy of ingress or egress virtual schedulers. The scheduler names defined within the policy are created and made available to any ingress or egress queues created on associated SAPs.

Values Any existing valid scheduler policy name.

Platforms

All

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scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>egress scheduler-policy)

Full Context

configure service ies subscriber-interface group-interface wlan-gw egress scheduler-policy

Description

This command configures the identifier of the egress scheduler policy associated with each wlan-gw tunnel of this interface.

The **no** form of this command removes the scheduler policy name from the configuration.

Parameters

scheduler-policy-name

Specifies the identifier of the egress scheduler policy associated with each wlan-gw tunnel of this interface.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>port>ethernet>ingress>queue-group scheduler-policy)

[Tree] (config>port>ethernet>network>egress>queue-group scheduler-policy)

[Tree] (config>port>ethernet>egress>queue-group scheduler-policy)

Full Context

configure port ethernet ingress queue-group scheduler-policy

configure port ethernet network egress queue-group scheduler-policy

configure port ethernet egress queue-group scheduler-policy

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Description

This command configures a scheduler policy for the egress queue group.

Parameters

scheduler-policy-name

Specifies the scheduler policy name, up to 32 characters.

Platforms

All

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>service>epipe>sap>egress scheduler-policy)

[Tree] (config>service>ipipe>sap>ingress scheduler-policy)

[Tree] (config>service>epipe>sap>ingress scheduler-policy)

[Tree] (config>service>cpipe>sap>egress scheduler-policy)

[Tree] (config>service>ipipe>sap>egress scheduler-policy)

[Tree] (config>service>cpipe>sap>ingress scheduler-policy)

Full Context

configure service epipe sap egress scheduler-policy

configure service ipipe sap ingress scheduler-policy

configure service epipe sap ingress scheduler-policy

configure service cpipe sap egress scheduler-policy

configure service ipipe sap egress scheduler-policy

configure service cpipe sap ingress scheduler-policy

Description

This command applies an existing scheduler policy to an ingress or egress scheduler used by SAP queues associated with this multi-service customer site. The schedulers defined in the scheduler policy can only be created when the customer site has been appropriately assigned to a chassis port, channel or slot. Scheduler policies are defined in the **config>qos>scheduler-policy** *scheduler-policy-name* context.

The **no** form of this command removes the configured ingress or egress scheduler policy from the multi-service customer site. When the policy is removed, the schedulers created due to the policy are removed also making them unavailable for the ingress SAP queues associated with the customer site. Policers or queues that lose their parent scheduler association are deemed to be orphaned and are no longer subject

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to a virtual scheduler. The SAPs that have policers or queues reliant on the removed schedulers enter into an operational state depicting the orphaned status of one or more policers or queues. When the **no scheduler-policy** command is executed, the customer site ingress or egress node will not contain an applied scheduler policy.

Parameters

scheduler-policy-name

The *scheduler-policy-name* parameter applies an existing scheduler policy that was created in the **config>qos>scheduler-policy** *scheduler-policy-name* context to create the hierarchy of ingress or egress virtual schedulers. The scheduler names defined within the policy are created and made available to any ingress or egress queues and to egress policers managed by HQoS created on associated SAPs.

Platforms

All

- configure service ipipe sap egress scheduler-policy
- configure service ipipe sap ingress scheduler-policy
- configure service epipe sap egress scheduler-policy
- configure service epipe sap ingress scheduler-policy

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap ingress scheduler-policy
- configure service cpipe sap egress scheduler-policy

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>service>vpls>sap>egress>encap-defined-qos>encap-group scheduler-policy)

Full Context

configure service vpls sap egress encap-defined-qos encap-group scheduler-policy

Description

This command configures the scheduler policy.

Platforms

All

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scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name* [**create**]

no scheduler-policy *scheduler-policy-name*

Context

[Tree] (config>qos scheduler-policy)

Full Context

configure qos scheduler-policy

Description

Each scheduler policy is divided up into groups of schedulers based on the tier each scheduler is created under. A tier is used to give structure to the schedulers within a policy and define rules for parent scheduler associations.

The **scheduler-policy** command creates a scheduler policy or allows editing of an existing policy. The policy defines the hierarchy and operating parameters for virtual schedulers. Creating a policy does not create the schedulers; it only provides a template for the schedulers to be created when the policy is associated with a SAP or multiservice site.

Each scheduler policy must have a unique name within the context of the system. Modifications made to an existing policy are executed on all schedulers that use the policy. This can cause queues or schedulers to become orphaned (invalid parent association) and adversely affect the ability of the system to enforce SLAs.

If a *scheduler-policy-name* does not exist, it is assumed that an attempt is being made to create a new policy. The success of the command execution is dependent on the following:

1. The maximum number of scheduler policies has not been configured.
2. The provided scheduler-policy-name is valid.
3. The **create** keyword is entered with the command if the system is configured to require it (enabled in the **environment create** command).

When the maximum number of scheduler policies has been exceeded, a configuration error occurs, the command will not execute, and the CLI context will not change.

If the provided scheduler-policy-name is invalid according to the criteria below, a name syntax error occurs, the command will not execute, and the CLI context will not change.

Parameters

scheduler-policy-name

The name of the scheduler policy.

Values Valid names consist of any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

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Platforms

All

scheduler-policy

Syntax

scheduler-policy *scheduler-policy-name*

no scheduler-policy

Context

[Tree] (config>service>cust>multi-service-site>egress scheduler-policy)

[Tree] (config>service>cust>multi-service-site>ingress scheduler-policy)

Full Context

configure service customer multi-service-site egress scheduler-policy

configure service customer multi-service-site ingress scheduler-policy

Description

This command applies an existing scheduler policy to an ingress or egress scheduler used by SAP queues or, at egress only, policers associated with this multi-service customer site. The schedulers defined in the scheduler policy can only be created once the customer site has been appropriately assigned to a chassis port, channel or slot. Scheduler policies are defined in the **config>qos>scheduler-policy** *scheduler-policy-name* context.

The **no** form of this command removes the configured ingress or egress scheduler policy from the multi-service customer site. When the policy is removed, the schedulers created due to the policy are removed also making them unavailable for the SAP policers and queues associated with the customer site. Policers and queues that lose their parent scheduler association are deemed to be orphaned and are no longer subject to a virtual scheduler.

The SAPs that have ingress queues reliant on the removed schedulers enter into an operational state depicting the orphaned status of one or more policers and queues. When the **no scheduler-policy** command is executed, the customer site ingress or egress node will not contain an applied scheduler policy.

Parameters

scheduler-policy-name

Applies an existing scheduler policy that was created in the **config>qos>scheduler-policy** *scheduler-policy-name* context to create the hierarchy of ingress or egress virtual schedulers. The scheduler names defined within the policy are created and made available to any ingress or egress queues and egress policers managed by HQoS created on associated SAPs.

Values Any existing valid scheduler policy name up to 32 characters in length.

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Platforms

All

scheduler-policy

Syntax

scheduler-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy scheduler-policy)

Full Context

configure qos copy scheduler-policy

Description

This command copies existing QoS policy entries for a QoS policy to another QoS policy.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

If **overwrite** is not specified, an error will occur if the destination policy exists.

Parameters

src-name dst-name

Indicates that the source policy and the destination policy are scheduler policy. Specify the source policy that the copy command will attempt to copy from and specify the destination policy to which the command will copy a duplicate of the policy.

overwrite

Forces the destination policy name to be copied as specified. When forced, everything in the existing destination policy will be completely overwritten with the contents of the source policy.

Platforms

All

41.48 scheduling-class

scheduling-class

Syntax

scheduling-class *class* **rate** *rate*

scheduling-class *class* **weight** *weight-in-group*

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no scheduling-class *class*

Context

[Tree] (config>port>ethernet>egress>hs-sched-ovr scheduling-class)

Full Context

configure port ethernet egress hs-scheduler-overrides scheduling-class

Description

This command overrides the scheduling class configuration in the HS scheduler policy applied to the port egress. The scheduling class rate or weight within the WRR group can be overridden.

The **no** form of this command removes the scheduling class override parameters from the port egress configuration.

Parameters

class

Specifies the scheduling class.

Values 1 to 6

rate

Specifies the explicit maximum frame based bandwidth limit, in megabits per second, for this HS scheduler policy scheduling class. The **rate** keyword must be followed by either the keyword **max** or a rate specified in megabits per second.

Values 1 to 100000, max

The **max** keyword specifies that a limit is not enforced for the specified class. The **max** keyword is mutually exclusive to the rate value and when specified, must directly follow the **rate** keyword. Setting the rate of the class will fail when the class is currently a member of a group.

weight-in-group

Specifies the weight the HS scheduler policy should apply to this scheduling class within the group in which it belongs. The *weight-in-group* parameter must follow the **weight** keyword and is used to specify the relative weight of class to the other scheduling classes within the group. Setting the weight will fail if the scheduling class is not currently configured in a group.

Values 1 to 127

Platforms

7750 SR-7/12/12e

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scheduling-class

Syntax

scheduling-class *class-id*

no scheduling-class

Context

[Tree] (config>service>vprn>if>sap scheduling-class)

Full Context

configure service vprn interface sap scheduling-class

Description

This command specifies the scheduling class to use for this SAP.

Parameters

class-id

Specifies the scheduling class to use for this SAP.

Values 0 to 3

Default 0

Platforms

All

scheduling-class

Syntax

scheduling-class *class-id* **group** *group-id* [**weight** *weight-in-group*]

scheduling-class *class-id* **rate** *rate*

no scheduling-class *class-id*

Context

[Tree] (config>qos>hs-scheduler-policy scheduling-class)

Full Context

configure qos hs-scheduler-policy scheduling-class

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Description

This command configures the behavior of a specific scheduling class on all HSQ schedulers associated with the policy. The **scheduler-class** command performs one of two operations: it configures a maximum rate for the scheduling class or places the scheduling class into the weighted scheduling group. The two operations are mutually exclusive.

By default, none of the scheduling classes are members of the weighted scheduling group and each class is set to a rate limit of **max** (no rate limit applied).

Specifying Scheduling Class Rate (or Removing the Scheduling Class from Group) — If the **scheduling-class** command is executed with the **rate** keyword specified, either **max** or a specified rate value must follow. If a *class-id was* previously mapped into the weighted scheduling group, the class is removed from the group. However, if removing the class from the group causes the group to no longer have contiguous class members, the command fails with no effect on the specified class. A "non-contiguous grouping error" is returned. The lowest or highest members within a weighted group must be removed prior to removing the middle members. For example, if scheduling classes 3, 4, and 5 were members of weighted group 1, class 4 cannot be removed first.

This command using the **rate** keyword also fails when an override for the group weight is in place on the scheduling class within a scheduler associated with the policy. The override expects the class to be associated with a weighted scheduling group and the policy rate definition is attempting to remove the class from the group. An "override mismatch" error is generated, specifying the scheduling object where the override exists.

After a rate has been successfully defined for a scheduling class, the specified rate is automatically updated on all HSQ scheduler instances associated with the scheduling policy. The exception is where the scheduler instance has a local override for the rate on the scheduling class.

Specifying Scheduling Class Weighted Group Membership — If the **scheduling-class** command is executed with the **group** keyword specified, the group ID value of 1 must follow. The corresponding optional **weight** keyword is used to specify the weight of the scheduling class within the group. If weight is not specified, the default weight of 1 is used. If the specified scheduling class is not contiguous with the other scheduling classes in the group, the command fails with no change to the current state of the scheduling class and a "non-contiguous grouping" error is returned, specifying the weighted scheduling group and the current group members.

The **scheduling-class** command fails using the **group** keyword when a rate override for the scheduling class exists on an HSQ scheduler instance associated with the policy. The rate override for the scheduling class indicates the class is directly attached to a strict priority level, conflicting with the policy **group** keyword trying to place the class in the specified group. The command fails without affecting the scheduling class definition on the policy and returns an error specifying the scheduling object where the override exists.

Other Override Constraints — The scheduling overrides cannot change or remove a scheduling class from a policy-defined weighted group membership.

The **no** form of the command returns the scheduling class represented by *class-id* to the default behavior. The default behavior for a scheduling class is to not be a member of the weighted scheduling class group and have a rate set to **max**. The **no scheduling-class** command fails if the scheduling class is currently a member of the weighted scheduling class group and a weight override is in effect on a scheduling object for the class, in which case an error is returned.

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Parameters

class-id

Specifies the scheduling class for HS scheduler policy. The *class-id* value is a required parameter that specifies which scheduling class the scheduling-class command is acting upon.

Values 1 to 6

group-id

Specifies the group this HS scheduler policy scheduling class belongs to. The **group** and the **rate** keywords are mutually exclusive when executing this command. A group ID value of 1 must follow the **group** keyword. The **group** keyword removes the class ID from its inherent strict scheduling level and places it into the specified group ID. The associated **weight** parameter is optional and is used to specify the weight of a class ID within the weighted scheduling class group. Specifying the **group** parameter while an override for the scheduling class exists for rate causes the **scheduling-class** command to fail.

Values 1

weight-in-group

Specifies the weight the HS scheduler policy should apply to this scheduling class within the group in which it belongs. This keyword is optional and must follow the **group** parameter when specified. The *weight-in-group* parameter must follow the **weight** keyword and is used to specify the relative weight of the *class-id* to the other scheduling classes within the group. If the group is specified without the **weight** parameter, a default weight of 1 is used.

Values 1 to 127

rate

Specifies the explicit maximum frame-based bandwidth limit, in megabits per second, for this HS scheduler policy scheduling class. The **rate** and **group** keywords are mutually exclusive. Either the **rate** or **group** keyword must be specified when executing this command. When specified, the **rate** keyword must be followed by either the keyword **max** or a rate specified in megabits per second. The specified rate can be overridden at the port Ethernet egress using the scheduler override functions. A newly-created HS scheduler policy defaults each scheduling class to have its rate set to **max** and the weighted scheduling class group has no members.

Values 1 to 100000, max

The **max** keyword specifies that a limit is not enforced for the specified class ID and that the class ID is not a member of a weighted scheduling class group. The **max** keyword and the *rate* value are mutually exclusive; when **max** is specified, it must directly follow the **rate** keyword. Setting the rate of the class fails when the class currently has a group weight override defined on a scheduling object.

Platforms

7750 SR-7/12/12e

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41.49 schema-path

schema-path

Syntax

schema-path *url-string*

no schema-path

Context

[Tree] (config>system>management-interface schema-path)

Full Context

configure system management-interface schema-path

Description

This command specifies the schema path where the SR OS YANG modules can be placed by the user before using a <get-schema> request. Nokia recommends that the URL string not exceed 135 characters for the <get-schema> request to work correctly with all schema files.

If this command is not configured, the software upgrade process manages the YANG schema files to ensure the schema files are synchronized with the software image on both the primary and standby CPM.

The **no** form of this command reverts to the default value.

Default

no schema-path

Parameters

url-string

Specifies the schema path URL up to 180 characters. However, Nokia recommends that the string shall not exceed 135 characters to ensure that the <get-schema> request works properly with *all* schema files.

Platforms

All

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41.50 scope

scope

Syntax

scope *scope*

no scope

Context

[Tree] (config>filter>policer scope)

Full Context

configure filter policer scope

Description

This command configures the policer scope.

The **no** form of this command removes the configuration.

Parameters

scope

Specifies the policer scope.

Value

system – Creates an instance of the policer for each direction immediately after the policer is configured and shares the instance with all filter entries that reference that policer name applied in the same direction.

filter – Configures the policer instance to be shared by rate-limit entries that are part of the same filter policy and are applied in the same direction.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

scope

Syntax

scope {**exclusive** | **template**}

no scope

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Context

[Tree] (config>service>mrp>mrp-policy scope)

Full Context

configure service mrp mrp-policy scope

Description

This command configures the filter policy scope as exclusive or template. If the scope of the policy is template and is applied to one or more services, the scope cannot be changed.

The **no** form of this command sets the scope of the policy to the default of template.

Default

scope template

Parameters

exclusive

When the scope of a policy is defined as exclusive, the policy can only be applied to a single entity (SAP or SDP). Attempting to assign the policy to a second entity will result in an error message. If the policy is removed from the entity, it will become available for assignment to another entity.

template

When the scope of a policy is defined as template, the policy can be applied to multiple SAPs or network ports.

Platforms

All

scope

Syntax

scope {**exclusive** | **template**}

no scope

Context

[Tree] (config>qos>sap-ingress scope)

Full Context

configure qos sap-ingress scope

Description

This command configures the Service Ingress QoS policy scope as exclusive or template.

The policy's scope cannot be changed if the policy is applied to a service.

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The **no** form of this command sets the scope of the policy to the default of **template**.

Default

scope template

Parameters

exclusive

When the scope of a policy is defined as exclusive, the policy can only be applied to one SAP. If a policy with an exclusive scope is assigned to a second SAP, an error message is generated. If the policy is removed from the exclusive SAP, it will become available for assignment to another exclusive SAP.

The system default policies cannot be put into the exclusive scope. An error will be generated if scope exclusive is executed in any policies with a policy-id equal to 1.

template

When the scope of a policy is defined as template, the policy can be applied to multiple SAPs on the router.

Default QoS policies are configured with template scopes. An error is generated when the template scope parameter to exclusive scope on default policies is modified.

Platforms

All

scope

Syntax

scope {**exclusive** | **template**}

no scope

Context

[Tree] (config>qos>sap-egress scope)

Full Context

configure qos sap-egress scope

Description

Enter the scope of this policy. The scope of the policy cannot be changed if the policy is applied to one or more services.

The no form of this command sets the scope of the policy to the default of template.

Default

scope template

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Parameters

exclusive

When the scope of a policy is defined as exclusive, the policy can only be applied to a single SAP. Attempting to assign the policy to a second SAP will result in an error message. If the policy is removed from the exclusive SAP, it will become available for assignment to another exclusive SAP.

The system default policies cannot be put into the exclusive scope. An error will be generated if scope exclusive is executed in any policies with a policy-id equal to 1.

template

When the scope of a policy is defined as template, the policy can be applied to multiple SAPs on the router.

Platforms

All

scope

Syntax

scope {**exclusive** | **template**}

no scope

Context

[Tree] (config>qos>network scope)

Full Context

configure qos network scope

Description

This command configures the network policy scope as exclusive or template. The policy's scope cannot be changed if the policy is applied to an interface.

The **no** form of this command sets the scope of the policy to the default of **template**.

Default

scope template

Parameters

exclusive

When the scope of a policy is defined as exclusive, the policy can only be applied to one interface. If a policy with an exclusive scope is assigned to a second interface, an error message is generated. If the policy is removed from the exclusive interface, it will become available for assignment to another exclusive interface.

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The system default policies cannot be put into the exclusive scope. An error will be generated if the **scope exclusive** command is executed in any policies with a policy-id equal to 1.

template

When the scope of a policy is defined as template, the policy can be applied to multiple interfaces on the router.

Default QoS policies are configured with template scopes. An error is generated if the template scope parameter is modified to exclusive scope on default policies.

Platforms

All

scope

Syntax

scope {**exclusive** | **template** | **embedded** | **system**}

scope {**exclusive** | **template**}

no scope

Context

[Tree] (config>filter>mac-filter scope)

[Tree] (config>filter>ipv6-filter scope)

[Tree] (config>filter>ip-exception scope)

[Tree] (config>filter>ip-filter scope)

Full Context

configure filter mac-filter scope

configure filter ipv6-filter scope

configure filter ip-exception scope

configure filter ip-filter scope

Description

This command configures the filter policy scope as exclusive, template, embedded or system.

The scope of the policy cannot be changed when:

- the scope is **template** and the policy is applied to one or more services or network interfaces
- the scope is **embedded** and the policy is embedded by another policy

Changing the scope to/from system is only allowed when a policy is not active and the policy has no entries configured.

The **no** form of the command sets the scope of the policy to the default of **template**.

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Default

scope template

Parameters

exclusive

Specifies that the policy can only be applied to a single entity. Attempting to assign the policy to a second entity will result in an error message.

template

Specifies that the policy can be applied to multiple entities.

embedded

Specifies that the policy cannot be applied directly. The policy defines embedded filter rules, which are embedded by other exclusive/template/system filter policies. The **embedded** scope is supported for IPv4 and IPv6 filter policies only.

system

Specifies that the policy defines system-wide filter rules. To apply system policy rules, activate system filter and chain exclusive/template ACL filter policy to the system filter. The **system** scope is supported for IPv4 and IPv6 filter policies only.

Platforms

All

- configure filter mac-filter scope
- configure filter ip-filter scope
- configure filter ipv6-filter scope

VSR

- configure filter ip-exception scope

41.51 scp

scp

Syntax

scp *local-file-url destination-file-url* [**router** *router-instance*] [**force**]

scp *local-file-url destination-file-url* [**force**] **service** *service-name*

Context

[Tree] (file scp)

Full Context

file scp

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Description

This command copies a local file to a remote host file system. It uses ssh for data transfer, and uses the same authentication and provides the same security as ssh. The following prompt appears:

"Are you sure (y/n)?" The destination must specify a user and a host.

Parameters

local-file-url

Specifies the local source file or directory.

Values

[*cflash-id/*] *file-path*	up to 200 characters
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

destination-file-url

Specifies the destination file.

Values

*destination-file-**: *user@hostname:file-path* - up to 255 characters

user	up to 32 characters
hostname	[*dns-name* | *ipv4-address* | "["*ipv6-address*"]"]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
dns-name	up to 128 characters
file-path	up to 200 characters, directory length up to 99 characters

user

Specifies the SSH user.

hostname

Specifies the remote host IP address of DNS name.

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file-path

Specifies the destination path.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance: *router-name* | *vprn-svc-id*

router-name: "Base" | "management" | "vpls-management"

vprn-svc-id: 1 to 2147483647

force

Keyword that forces an immediate copy of the specified file. The command **file scp** *local-file-url destination-file-url* [**router** *router-instance*] **force** executes the command without displaying a user prompt message.

service-name

Specifies the service name used to identify the router instance. The service name can be a maximum of 64 characters long.

Platforms

All

41.52 scramble

scramble

Syntax

[**no**] **scramble**

Context

[Tree] (config>port>tdm>ds3 scramble)

[Tree] (config>port>tdm>e3 scramble)

Full Context

configure port tdm ds3 scramble

configure port tdm e3 scramble

Description

This command enables payload scrambling on channel groups.

Scrambling randomizes the pattern of 1s and 0s carried in a SONET frame. Rearranging or scrambling the pattern prevents continuous strings of all 1s or all 0s and meets the needs of physical layer protocols that rely on sufficient transitions between 1s and 0s to maintain clocking.

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The **no** form of this command disables scrambling.

Default

no scramble

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

41.53 script

script

Syntax

script *script*

Context

[Tree] (debug>dynsvc>scripts script)

Full Context

debug dynamic-services scripts script

Description

Commands in this context configure dynamic services script debugging for a specific script.

Parameters

script

Specifies the script name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

script

Syntax

script *script-name* [**owner** *script-owner*]

no script

Context

[Tree] (config>system>script-control script)

[Tree] (config>system>script-control>script-policy script)

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Full Context

configure system script-control script

configure system script-control script-policy script

Description

This command is used to configure a script to be run.

The **no** form of the command removes the script.

Default

no script

Parameters

script-name

Specifies the name of the script. Can be up to 32 characters.

script-owner

Specifies the name of the script owner. Can be up to 32 characters.

The owner is an arbitrary name and not necessarily a user name. Commands in the scripts are not authorized against the owner. The **configure system security cli-script authorization** *x* **cli-user** command determines the user context against which commands in the scripts are authorized.

Default "TiMOS CLI”

Platforms

All

41.54 script-all-info

script-all-info

Syntax

script-all-info

Context

[Tree] (debug>python>py-script script-all-info)

Full Context

debug python python-script script-all-info

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Description

This command enables the script-compile-error, script-export-variables, script-output, script-output-on-error, and script-runtime-error functionalities.

Platforms

All

script-all-info

Syntax

script-all-info

Context

[Tree] (debug>subscr-mgmt>sub-ident-plcy script-all-info)

Full Context

debug subscriber-mgmt sub-ident-policy script-all-info

Description

This command enables the script-compile-error, script-export-variables, script-output, script-output-on-error, and script-runtime-error functionalities.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.55 script-compile-error

script-compile-error

Syntax

[**no**] **script-compile-error**

Context

[Tree] (debug>python>py-script script-compile-error)

Full Context

debug python python-script script-compile-error

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Description

This command sends the traceback of the compile error to the logger. The traceback contains detailed information about where and why the compilation fails. The compilation takes place when the CLI user changes the admin state of the Python script from **shutdown** to **no shutdown**.

Platforms

All

script-compile-error

Syntax

[**no**] **script-compile-error**

Context

[Tree] (debug>subscr-mgmt>sub-ident-plcy script-compile-error)

Full Context

debug subscriber-mgmt sub-ident-policy script-compile-error

Description

This command send the traceback of the compile error to the logger. The traceback contains detailed information about where and why the compilation fails. The compilation takes place when the CLI user changes the admin state of the Python URL from shutdown to no-shutdown.

The **no** form of this command disables debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.56 script-control

script-control

Syntax

script-control

Context

[Tree] (config>system script-control)

Full Context

configure system script-control

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Description

Commands in this context configure command script parameters.

Platforms

All

41.57 script-export-variables

script-export-variables

Syntax

[**no**] **script-export-variables**

Context

[Tree] (debug>python>py-script script-export-variables)

Full Context

debug python python-script script-export-variables

Description

This command sends the output variables of the Python script to the logger when the script ran successfully.

Platforms

All

script-export-variables

Syntax

[**no**] **script-export-variables**

Context

[Tree] (debug>subscr-mgmt>sub-ident-plcy script-export-variables)

Full Context

debug subscriber-mgmt sub-ident-policy script-export-variables

Description

This command sends the result (the three output variables) of the Python script to the logger when the script ran successfully.

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The **no** form of this command disables debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.58 script-output

script-output

Syntax

[**no**] **script-output**

Context

[Tree] (debug>python>py-script script-output)

Full Context

debug python python-script script-output

Description

This command sends the output (such as from **print** statements) of the Python script to the logger.

Platforms

All

script-output

Syntax

[**no**] **script-output**

Context

[Tree] (debug>subscr-mgmt>sub-ident-plcy script-output)

Full Context

debug subscriber-mgmt sub-ident-policy script-output

Description

This command sends the output (such as from 'print' statements) of the Python script to the logger.

The **no** form of this command disables debugging.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.59 script-output-on-error

script-output-on-error

Syntax

[**no**] **script-output-on-error**

Context

[Tree] (debug>python>py-script script-output-on-error)

Full Context

debug python python-script script-output-on-error

Description

This command sends the output (such as traceback data) of the Python script to the logger, only when the script fails.

Platforms

All

script-output-on-error

Syntax

[**no**] **script-output-on-error**

Context

[Tree] (debug>subscr-mgmt>sub-ident-plcy script-output-on-error)

Full Context

debug subscriber-mgmt sub-ident-policy script-output-on-error

Description

This command sends the output (such as from print statements) of the Python script to the logger, but only when the script fails.

The **no** form of this command disables debugging.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.60 script-parameters-1

script-parameters-1

Syntax

script-parameters-1 *param-string1*

no script-parameters-1

Context

[Tree] (config>service>dynsvc>ladb>user>idx script-parameters-1)

Full Context

configure service dynamic-services local-auth-db user-name index script-parameters-1

Description

This command specifies the first part of parameters as input to the dynamic data service Python script. The concatenation of all four script-parameters strings are passed to the Python script and must be formatted as function-key <dictionary>. The function-key specifies which Python functions is called, and <dictionary> contains the actual parameters in a Python dictionary structure format. The **no** form of this command removes **script-parameters-1** from the configuration.

Parameters

param-string1

Specifies a string representing parameters that are used as input for the dynamic service Python script, up to 250 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.61 script-parameters-2

script-parameters-2

Syntax

script-parameters-2 *param-string2*

no script-parameters-2

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Context

[Tree] (config>service>dynsvc>ladb>user>idx script-parameters-2)

Full Context

configure service dynamic-services local-auth-db user-name index script-parameters-2

Description

This command specifies the second part of parameters as input to the dynamic data service Python script. The concatenation of all four script-parameters strings are passed to the Python script and must be formatted as function-key <dictionary>. The function-key specifies which Python functions is called, and <dictionary> contains the actual parameters in a Python dictionary structure format. The **no** form of this command removes the **script-parameters-2** from the configuration.

Parameters

param-string2

Specifies a string representing parameters that are used as input for the dynamic service Python script, up to 250 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.62 script-parameters-3

script-parameters-3

Syntax

script-parameters-3 *param-string3*

no script-parameters-3

Context

[Tree] (config>service>dynsvc>ladb>user>idx script-parameters-3)

Full Context

configure service dynamic-services local-auth-db user-name index script-parameters-3

Description

This command specifies the third part of parameters as input to the dynamic data service Python script. The concatenation of all four script-parameters strings are passed to the Python script and must be formatted as function-key <dictionary>. The function-key specifies which Python functions is called, and <dictionary> contains the actual parameters in a Python dictionary structure format. The **no** form of this command removes the **script-parameters-3** from the configuration.

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Parameters

param-string3

Specifies string representing parameters that are used as input for the dynamic service Python script, up to 250 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.63 script-parameters-4

script-parameters-4

Syntax

script-parameters-4 *param-string4*

no script-parameters-4

Context

[Tree] (config>service>dynsvc>ladb>user>idx script-parameters-4)

Full Context

configure service dynamic-services local-auth-db user-name index script-parameters-4

Description

This command specifies the fourth part of parameters as input to the dynamic data service Python script. The concatenation of all four script-parameters strings are passed to the Python script and must be formatted as function-key <dictionary>. The function-key specifies which Python functions is called, and <dictionary> contains the actual parameters in a Python dictionary structure format. The **no** form of this command removes the **script-parameters-4** from the configuration.

Parameters

param-string4

Specifies a string representing parameters that are used as input for the dynamic service Python script, up to 250 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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41.64 script-policy

script-policy

Syntax

script-policy *name*

no script-policy

Context

[Tree] (config>service>dynsvc>policy script-policy)

Full Context

configure service dynamic-services dynamic-services-policy script-policy

Description

This command specifies the radius script policy to be used to setup the dynamic data services. The script-policy configuration cannot be changed when there are active dynamic data services referencing the policy.

The **no** form of this command removes the script-policy from the configuration. This is only allowed when there are no active dynamic data services referencing this policy.

Parameters

name

Specifies the RADIUS script policy name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

script-policy

Syntax

script-policy *policy-name* [**owner** *policy-owner*]

no script-policy

Context

[Tree] (config>system>cron>schedule script-policy)

Full Context

configure system cron schedule script-policy

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Description

This command is used to configure the CLI script policy.

Parameters

policy-name

Specifies the name of the policy. Can be up to 32 characters.

policy-owner

Specifies the name of the policy owner. Can be up to 32 characters.

The owner is an arbitrary name and not necessarily a user name. Commands in the scripts are not authorized against the owner. The **configure system security cli-script authorization** *x* **cli-user** command determines the user context against which commands in the scripts are authorized.

Default "TiMOS CLI”

Platforms

All

script-policy

Syntax

[**no**] **script-policy** *policy-name* [**owner** *policy-owner*]

Context

[Tree] (config>system>script-control script-policy)

Full Context

configure system script-control script-policy

Description

This command is used to configure the CLI script policy.

Parameters

policy-name

Specifies the name of the policy, up to 32 characters.

policy-owner

Specifies the name of the policy owner, up to 32 characters.

The owner is an arbitrary name and not necessarily a user name. Commands in the scripts are not authorized against the owner. The **configure system security cli-script authorization** *x* **cli-user** command determines the user context against which commands in the scripts are authorized.

Default "TiMOS CLI”

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Platforms

All

script-policy

Syntax

script-policy *policy-name* [**owner** *policy-owner*]

no script-policy

Context

[Tree] (config>log>event-handling>handler>action-list>entry script-policy)

Full Context

configure log event-handling handler action-list entry script-policy

Description

This command configures the script policy parameters to use for this EHS handler action-list entry. The associated script is launched when the handler is triggered.

Default

no script-policy

Parameters

policy-name

Specifies the script policy name. Can be up to 32 characters maximum.

owner policy-owner

Specifies the script policy owner. Can be up to 32 characters maximum.

Default "TiMOS CLI”

Platforms

All

41.65 script-runtime-error

script-runtime-error

Syntax

[**no**] **script-runtime-error**

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Context

[Tree] (debug>python>py-script script-runtime-error)

Full Context

debug python python-script script-runtime-error

Description

This command generates log information when detecting a script runtime error.

Platforms

All

script-runtime-error

Syntax

[**no**] **script-runtime-error**

Context

[Tree] (debug>subscr-mgmt>sub-ident-plcy script-runtime-error)

Full Context

debug subscriber-mgmt sub-ident-policy script-runtime-error

Description

This command sends the traceback of the Python script failure to the logger.

The **no** form of this command disables debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.66 script-url

script-url

Syntax

script-url *primary-script-url*

no script-url

Context

[Tree] (config>aaa>radius-scr-plcy>primary script-url)

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Full Context

configure aaa radius-script-policy primary script-url

Description

This command configures the URL of the primary script.

The **no** form of this command removes the URL from the configuration.

Parameters

primary-script-url

Specifies the URL of the secondary script to change RADIUS attributes of the RADIUS message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

script-url

Syntax

script-url *secondary-script-url*

no script-url

Context

[Tree] (config>aaa>radius-scr-plcy>secondary script-url)

Full Context

configure aaa radius-script-policy secondary script-url

Description

Specifies the URL of the secondary script to change RADIUS attributes of the RADIUS message.

The **no** form of this command removes the URL from the configuration.

Parameters

secondary-script-url

Specifies the URL of the secondary script to change RADIUS attributes of the RADIUS message.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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script-url

Syntax

script-url *dhcp-script-url*

no script-url

Context

[Tree] (config>subscr-mgmt>sub-ident-pol>secondary script-url)

[Tree] (config>subscr-mgmt>sub-ident-pol>tertiary script-url)

[Tree] (config>subscr-mgmt>sub-ident-pol>primary script-url)

Full Context

configure subscriber-mgmt sub-ident-policy secondary script-url

configure subscriber-mgmt sub-ident-policy tertiary script-url

configure subscriber-mgmt sub-ident-policy primary script-url

Description

This command specifies the URL of the identification scripts.

The **no** form of this command reverts to the default.

Parameters

dhcp-primary-script-url

Specifies the URL of the primary identification script up to 180 characters.

dhcp-secondary-script-url

Specifies the URL of the secondary identification script up to 180 characters.

dhcp-tertiary-script-url

Specifies the URL of the tertiary identification script up to 180 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

script-url

Syntax

script-url *script-url-name*

no script-url

Context

[Tree] (config>app-assure>group>http-notif script-url)

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Full Context

configure application-assurance group http-notification script-url

Description

This command configures the URL of the script used by the http notification policy.

The **no** form of this command removes the script URL from the http-notification policy.

Default

no script-url

Parameters

script-url-name

Specifies the string representing the URL of the script used in the http notification policy, up to 255 characters.

create

Keyword to create the script URL.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.67 scripts

scripts

Syntax

scripts

Context

[Tree] (debug>dynsvc scripts)

Full Context

debug dynamic-services scripts

Description

Commands in this context configure dynamic services script debugging.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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41.68 scte35-action

scte35-action

Syntax

scte35-action {**forward** | **drop**}

Context

[Tree] (config>service>vprn>video-interface>channel scte35-action)

[Tree] (config>service>ies>video-interface>channel scte35-action)

Full Context

configure service vprn video-interface channel scte35-action

configure service ies video-interface channel scte35-action

Description

This command specifies whether the Society of Cable Telecommunications Engineers 35 (SCTE 35) cue avails in the stream need to be forwarded or not. When specified to forward, SCTE 35 messages will be forwarded downstream. When specified to drop, SCTE 35 messages will not be forwarded downstream. They will be still be processed for local splicing decisions.

Parameters

forward

Forwards SCTE 35 messages downstream.

drop

Drops SCTE 35 messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

41.69 sctp-filter

sctp-filter

Syntax

sctp-filter *sctp-filter-name*

no sctp-filter

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Context

[Tree] (config>app-assure>group>policy>aqp>entry>action sctp-filter)

Full Context

configure application-assurance group policy app-qos-policy entry action sctp-filter

Description

This command assigns an existing SCTP filter as an action on flows matching this AQP entry.

The **no** form of this command removes this SCTP filter from actions on flows matching this AQP entry.

Default

no sctp-filter

Parameters

sctp-filter-name

Specifies the name of the existing SCTP filter for this application assurance profile. The *sctp-filter-name* is configured in the **config>app-assure>group[:partition]>sctp-filter** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

sctp-filter

Syntax

sctp-filter *sctp-filter-name*

Context

[Tree] (config>app-assure>group>statistics>tca sctp-filter)

Full Context

configure application-assurance group statistics threshold-crossing-alert sctp-filter

Description

This command configures TCA generation for an SCTP filter.

Parameters

sctp-filter-name

Specifies the name of the SCTP filter, up to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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sctp-filter

Syntax

sctp-filter *sctp-filter-name* [**create**]

no sctp-filter *sctp-filter-name*

Context

[Tree] (config>app-assure>group sctp-filter)

Full Context

configure application-assurance group sctp-filter

Description

Commands in this context configure Stream Control Transmission Protocol (SCTP) parameters.

The **no** form of this command removes this filter.

Parameters

sctp-filter-name

Specifies the SCTP filter name, up to 32 characters.

create

Keyword used to create the SCTP filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.70 sctp-filter-stats

sctp-filter-stats

Syntax

[**no**] **sctp-filter-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny sctp-filter-stats)

Full Context

configure application-assurance group statistics aa-admit-deny sctp-filter-stats

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Description

This command configures whether to include or exclude SCTP filter admit-deny statistics in accounting records.

Default

no sctp-filter-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.71 sd

sd

Syntax

sd

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if sd)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface sd

Description

Commands in this context configure within a video interface policy the properties relating to requests received by the video interface for Standard Definition (SD) channel requests.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

41.72 sd-offset

sd-offset

Syntax

sd-offset *offset-value*

no sd-offset

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Context

[Tree] (config>service>vprn>isis>if>level sd-offset)

Full Context

configure service vprn isis interface level sd-offset

Description

If the pre-FEC error rate of the associated DWDM port crosses the configured **sd-threshold**, this offset-value is added to the IS-IS interface metric. This parameter is only effective if the interface is associated with a DWDM port and the **sd-threshold** value is configured under that port.

The **no** form of this command reverts the offset value to 0.

Default

no sd-offset

Parameters

offset-value

Specifies the amount the interface metric is increased by if the **sd-threshold** is crossed.

Values 0 to 16777215

Platforms

All

sd-offset

Syntax

sd-offset *sd-offset*

no sd-offset

Context

[Tree] (config>router>isis>if>level sd-offset)

Full Context

configure router isis interface level sd-offset

Description

If the pre-FEC error rate of the associated DWDM port crosses the configured **sd-threshold**, this offset-value is added to the IS-IS interface metric. This parameter is only effective if the interface is associated with a DWDM port and the **sd-threshold** value is configured under that port.

The **no** form of this command reverts the offset value to 0.

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Default

no sd-offset

Parameters

sd-offset

Specifies the amount the interface metric is increased by if the **sd-threshold** is crossed.

Values 0 to 16777215

Platforms

All

41.73 sd-threshold

sd-threshold

Syntax

sd-threshold *threshold* [**multiplier** *multiplier*]

no sd-threshold

Context

[Tree] (config>esa>crc-monitor sd-threshold)

Full Context

configure esa crc-monitor sd-threshold

Description

This command configures the error rate at which to declare the signal degrade (SD) condition on an Ethernet interface. The value represents M*10E-N, a ratio of errored frames over total frames received over W seconds of the sliding window. The CRC errors on the interface are sampled once per second. A default of 10 seconds is used when no additional **window-size** is configured. If you ommit the **multiplier** value or configure **no sd-threshold**, the multiplier returns to the default value of 1.

Note: Crossing the configured SD threshold raises a log event.

The **no** form of this command removes the configuration.

Default

no sd-threshold

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Parameters

threshold

Specifies the SD threshold.

Values 1 to 9

multiplier

Specifies the SD multiplier.

Values 1

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

sd-threshold

Syntax

sd-threshold *threshold* [**coefficient** *coefficient*]

Context

[Tree] (config>port>otu sd-threshold)

Full Context

configure port otu sd-threshold

Description

This command defines the error rate at which to declare the signal degrade (SD) condition.

The parameters define an error rate of (*coefficient*/10) * 10E-*threshold*. For example, **sd-threshold 5 coefficient 20** defines an error rate of (20/10) * 10E-5, or 2 * 10E-5, or 0.000 02.

The SD threshold must be:

- greater than the SF threshold.
- 5 or higher before setting **sf-sd-method** to **bip8**.

The **coefficient** parameter is only used when **sf-sd-method** is set to **fec**. When **sf-sd-method** is set to **bip8**, **coefficient** is considered to have the value of 10.

Parameters

threshold

Specifies the exponent for the SD threshold value.

Values 5 to 9 when **sf-sd-method** is **bip8**

3 to 9 when **sf-sd-method** is **fec**

Default 7

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coefficient

Specifies the coefficient for the SD threshold value.

Values 10 to 99

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sd-threshold

Syntax

sd-threshold *errored-frames*

no sd-threshold

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame sd-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame sd-threshold

Description

The option defines the number of errored frames within the configured window which indicates the port has gone beyond an acceptable error rate and should be considered degraded. This is a first level warning that a port may be suspect. This generates an information log event message only and will be recorded in the Port event index but has no port level actions when the error count is equal to or greater than the threshold. This value must be lower than or equal to the sf-threshold value.

The **no** value of this option disables the sd-threshold.

Default

no sd-threshold

Parameters

errored-frames

Specifies the number of errored frames within the configured window which indicates the port has become degraded.

Values 1 to 1000000

Platforms

All

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sd-threshold

Syntax

sd-threshold *errored-frames*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-period sd-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-period sd-threshold

Description

The option defines the number of errored frames within the configured window which indicates the port has gone beyond an acceptable error rate and should be considered degraded. This is a first level warning that a port may be suspect. This generates an information log event message only and will be recorded in the Port event index but has no port level actions when the error count is equal to or greater than the threshold. This value must be lower than or equal to the sf-threshold value.

The **no** value of this option disables the sd-threshold

Default

no sd-threshold

Parameters

errored-frames

Specifies the number of errored frames within the configured window which indicates the port has become degraded.

Values 1 to 1000000

Platforms

All

sd-threshold

Syntax

sd-threshold *errored-frames*

no sd-threshold

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-seconds sd-threshold)

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Full Context

configure port ethernet efm-oam link-monitoring errored-frame-seconds sd-threshold

Description

This command defines the number of errored frame seconds within the configured window which indicates the port has gone beyond an acceptable error rate and should be considered degraded. This is a first level warning that a port may be suspect. This event is raised when the error count is equal to or greater than the configured threshold. This is an information log event message only and will be recorded in the Port event index but has no port level actions. This value must be lower than or equal to the sf-threshold value.

The **no** version of this command disables the sd-threshold.

Parameters

errored-frames

Specifies the number of errored seconds within the configured window which indicates the port has become degraded.

Values 1 to 900

Platforms

All

sd-threshold

Syntax

sd-threshold *errored-symbols*

no sd-threshold

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-symbols sd-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-symbols sd-threshold

Description

This command defines the number of errored frames within the configured window which indicates the port has gone beyond an acceptable error rate and should be considered degraded. This is a first level warning that a port may be suspect. An event is raised when the error count is equal to or greater than this value. This is an information log event message only and will be recorded in the Port event index but has no port level actions. This value must be lower than or equal to the sf-threshold value. Specific to symbol errors, this value must be configured with the value that indicates anything less is acceptable and the port can be returned to service. If this value is not configured then manual operation is required to return the port to service.

The **no** value of this option means there is there is no automatic return to service.

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Default

no sd-threshold

Parameters

errored-symbols

Specifies the number of errored symbols which indicates the port has become degraded.

Values 1 to1000000

Platforms

All

sd-threshold

Syntax

sd-threshold *threshold* [**multiplier** *multiplier*]

no sd-threshold

Context

[Tree] (config>port>ethernet>sym-mon sd-threshold)

Full Context

configure port ethernet symbol-monitor sd-threshold

Description

This command specifies the error rate at which to declare the Signal Degrade condition on an Ethernet interface. The value represents M*10E-N a ratio of symbol errors over total symbols received over W seconds of the sliding window. The symbol errors on the interface are sampled once per second. A default of 10 seconds is used when there is no additional window-size configured. The multiplier keyword is optional. If the multiplier keyword is omitted or no sd-threshold is specified the multiplier will return to the default value of 1.

Default

no sd-threshold

Parameters

threshold

Specifies the rate of symbol errors.

Values 1 to 9

multiplier

Specifies the multiplier used to scale the symbol error ratio.

Values 1 to 9

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sd-threshold

Syntax

sd-threshold *threshold* [**multiplier** *multiplier*]

no sd-threshold

Context

[Tree] (config>port>ethernet>crc-monitor sd-threshold)

Full Context

configure port ethernet crc-monitor sd-threshold

Description

This command specifies the error rate at which to declare the Signal Degrade condition on an Ethernet interface. The value represents M*10E-N a ratio of errored frames over total frames received over W seconds of the sliding window. The CRC errors on the interface are sampled once per second. A default of 10 seconds is used when there is no additional window-size configured. The multiplier keyword is optional. If the multiplier keyword is omitted or **no sd-threshold** is specified the multiplier will return to the default value of 1.

Default

no sd-threshold

Parameters

threshold

Specifies the threshold value.

Values 1 to 9

multiplier

Specifies the multiplier value.

Values 1 to 9

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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41.74 sd-threshold-clear

sd-threshold-clear

Syntax

sd-threshold-clear *threshold* [**coefficient** *coefficient*]

Context

[Tree] (config>port>otu sd-threshold-clear)

Full Context

configure port otu sd-threshold-clear

Description

This command defines the signal degrade (SD) threshold clear value.

When the bit error rate falls below this value, the SD condition is cleared. The parameters define an error rate of (*coefficient*/10) * 10E-*threshold*. For example, **sd-threshold-clear 7 coefficient 10** defines an error rate of (10/10) * 10E-7, or 10E-7, or 0.000 000 1.

This SD threshold clear setting is valid only when **sf-sd-method** is set to **fec**.

Parameters

threshold

Specifies the exponent for the SD threshold clear value.

Values 3 to 10

Default 8

coefficient

Specifies the coefficient for the SD threshold clear value.

Values 10 to 99

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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41.75 sdp

sdp

Syntax

sdp *sdp-id* [**sync-tag** *sync-tag*] [**create**]

no sdp *sdp-id*

Context

[Tree] (config>redundancy>multi-chassis>peer>sync sdp)

Full Context

configure redundancy multi-chassis peer sync sdp

Description

This command specifies the manually configured spoke SDPs to be synchronized with the multi-chassis peer and a synchronization tag to be used while synchronizing these spoke SDPs with the multi-chassis peer.

Manually configured spoke SDPs with the specified *sdp-id* are synchronized according to the synchronization tag. If synchronization is required only for a subset of the spoke SDPs using the configured SDP, the **range** sub-command should be used. The **range** command and the **sync-tag** parameters are mutually exclusive.

The synchronization of PIM snooping is only supported for manually configured spoke SDPs but is not supported for spoke SDPs configured within an endpoint.

The synchronization of PIM snooping is not supported on any of the following when used with the configured *sdp-id*:

- Mesh SDPs
- Spoke SDPs in non-VPLS services
- BGP-AD/BGP-VPLS (FEC 129) spoke SDPs
- Spoke SDPs configured in endpoints
- Pseudowire SAPs
- ESM-over-MPLS Pseudowires

Non-existent spoke SDPs may be specified. If these spoke SDPs are created at a later time, then all states on the spoke SDPs are synchronized according to the synchronization tag and the synchronization protocols enabled.

A synchronization tag can be changed by entering the same command with a different synchronization tag. Changing the synchronization tag removes all states relating to the previous synchronization tag for the SDP and a new synchronization tag state is created.

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Parameters

sdp-id

Specifies the SDP of the spoke SDPs to be synchronized with the multi-chassis peer.

Values 1 to 32767

sync-tag

Specifies a synchronization tag, up to 32 characters, to be used when synchronizing with the multi-chassis peer.

create

Creates the SDP instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

sdp

Syntax

sdp *sdp-id*

no sdp

Context

[Tree] (config>service>system>bgp-evpn>eth-seg sdp)

Full Context

configure service system bgp-evpn ethernet-segment sdp

Description

This command configures an *sdp-id* associated to the Ethernet-Segment. If the Ethernet-Segment is configured as **all-active**, then only a lag or PW port can be associated to the Ethernet-Segment. If the Ethernet-Segment is configured as **single-active**, then lag, port or sdp can be associated to the Ethernet-Segment. In any case, only one of the four objects can be configured in the Ethernet-Segment. A specified SDP can be part of only one Ethernet-Segment. Only user-configured SDPs can be added to an Ethernet-Segment.

Default

no sdp

Parameters

sdp-id

Specifies the IP address.

Values 1 to 17407

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Platforms

All

sdp

Syntax

[**no**] **sdp** *sdp-id:vc-id*

Context

[Tree] (config>service>vpls>pbb>backbone-vpls sdp)

Full Context

configure service vpls pbb backbone-vpls sdp

Description

This command configures attributes of a SDP binding on the B-VPLS service.

Parameters

sdp-id

Specifies the SDP ID.

Values 1 to 17407

vc-id

Specifies the VC ID.

Values 1 to 4294967295

Platforms

All

sdp

Syntax

[**no**] **sdp** *sdp-id:vc-id*

Context

[Tree] (debug>service>id>mrp sdp)

Full Context

debug service id mrp sdp

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Description

This command filters debug events and only shows events for the particular SDP.

The **no** form of this command removes the debug filter.

Parameters

sdp-id

Specifies the SDP ID for which to display information

Default All SDPs

Values 1 to 17407

vc-id

Displays information about the virtual circuit identifier.

Values 1 to 4294967295

Platforms

All

sdp

Syntax

[**no**] **sdp** *sdp-id:vc-id*

Context

[Tree] (debug>service>id>stp sdp)

[Tree] (debug>service>id>dhcp sdp)

[Tree] (debug>service>id sdp)

Full Context

debug service id stp sdp

debug service id dhcp sdp

debug service id sdp

Description

This command enables STP debugging for a specific SDP.

The **no** form of the command disables debugging.

Parameters

sdp-id:vc-id

Specifies the SDP ID and VC ID.

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Values sdp-id: 1 to 17407
vc-id: 1 to 4294967295

Platforms

All

sdp

Syntax

[**no**] **sdp** *sdp-id:vc-id*

Context

[Tree] (debug>service>id>igmp-snooping sdp)

Full Context

debug service id igmp-snooping sdp

Description

This command shows IGMP packets for a specific SDP.

The **no** form of this command disables the debugging for the SDP.

Parameters

sdp-id

Displays only IGMP snooping entries associated with the specified mesh SDP or spoke-SDP. For a spoke-SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

Values 1 to 17407

vc-id

Displays information for the specified virtual circuit ID on the SDP ID

Values 1 to 4294967295

Platforms

All

sdp

Syntax

[**no**] **sdp** *sdp-id:vc-id*

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Context

[Tree] (debug>service>id>mld sdp)

Full Context

debug service id mld-snooping sdp

Description

This command shows MLD packets for a specific SDP.

The **no** form of this command disables the debugging for the SDP.

Parameters

sdp-id

Displays only MLD entries associated with the specified mesh SDP or spoke-SDP

Values 1 to 17407

vc-id

Displays information for the specified virtual circuit ID on the SDP ID

Values 1 to 4294967295

Platforms

All

sdp

Syntax

sdp *sdp-id* [*delivery-type*] [**create**]

no sdp *sdp-id*

Context

[Tree] (config>service sdp)

Full Context

configure service sdp

Description

This command creates or edits a service destination point (SDP). SDPs must be explicitly configured.

An SDP is a logical mechanism that ties a far-end router to a particular service without having to specifically define far-end SAPs. Each SDP represents a method to reach another router.

One method is IP Generic Router Encapsulation (GRE), which has no state in the core of the network. GRE does not specify a specific path to the far-end router. A GRE-based SDP uses the underlying IGP routing table to find the best next hop to the far-end router.

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The second method is Multi-Protocol Label Switching (MPLS) encapsulation. A router supports both signaled and non-signaled Label Switched Paths (LSPs) through the network. Non-signaled paths are defined at each hop through the network. Signaled paths are communicated by protocol from end-to-end using Resource Reservation Protocol (RSVP). Paths may be manually defined or a constraint-based routing protocol (such as OSPF-TE or CSPF) can be used to determine the best path with specific constraints. An LDP LSP can also be used for an SDP when the encapsulation is MPLS. The use of an LDP LSP type or an RSVP/Static LSP type are mutually exclusive except when the mixed-lsp option is enabled on the SDP.

Segment routing is another MPLS tunnel type and is used to allow service binding to an SR tunnel programmed in TTM by OSPF or IS-IS. The SDP of type **sr-isis** or **sr-ospf** can be used with the **far-end** option. The **tunnel-far-end** option is not supported. In addition, the **mixed-lsp-mode** option does not support the **sr-isis** and **sr-ospf** tunnel types.

L2TPv3-over-IPv6 transport is also an option for 7750 SR and 7950 XR Ethernet Pipe (Epipe) Services. Like GRE, L2TPv3 is stateless in the core of the network, as well as on the service nodes as the L2TPv3 control plane functionality is disabled for this SDP type. A unique source and destination IPv6 address combined with TX and RX Cookie values are used to ensure that the SDP is bound to the correct service.

SDPs are created and then bound to services. Many services may be bound to a single SDP. The operational and administrative state of the SDP controls the state of the SDP binding to the service.

If the *sdp-id* does not exist, a new SDP is created. When creating an SDP, either the **gre, mpls, or l2tpv3** keyword must be specified. SDPs are created in the admin down state (**shutdown**) and the **no shutdown** command must be executed once all relevant parameters are defined and before the SDP can be used.

If *sdp-id* exists, the current CLI context is changed to that SDP for editing and modification. For editing an existing SDP, neither the **gre, mpls**, or **l2tpv3** keyword is specified. If a keyword is specified for an existing *sdp-id*, an error is generated and the context of the CLI will not be changed to the specified *sdp-id*.

The **no** form of this command deletes the specified SDP. Before an SDP can be deleted, it must be administratively down (shutdown) and not bound to any services. If the specified SDP is bound to a service, the **no sdp** command will fail generating an error message specifying the first bound service found during the deletion process. If the specified *sdp-id* does not exist an error will be generated.

Parameters

sdp-id

Specifies the SDP identifier.

Values 1 to 32767

gre

Specifies the SDP will use GRE to reach the far-end router. The GRE encapsulation of the MPLS service packet uses the base 4-byte header as per RFC 2890. The optional fields Checksum (plus Reserved field), Key, and Sequence Number are not inserted. Only one GRE SDP can be created to a given destination address. Multiple GRE SDPs to a single destination address serve no purpose as the path taken to reach the far end is determined by the IGP which will be the same for all SDPs to a given destination and there is no bandwidth reservation in GRE tunnels.

mpls

Specifies the SDP will use MPLS encapsulation and one or more LSP tunnels to reach the far-end device. Multiple MPLS SDPs may be created to a given destination device. Multiple MPLS SDPs to a single destination device are helpful when they use divergent paths.

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l2tpv3

Specifies the SDP will use L2TPv3-over-IPv6 encapsulation for the 7750 SR or 7950 XRS. One SDP is created per service, regardless of whether the far-end node is common or not. Unique local and far-end addresses are configured for every L2TPv3 SDP type. The local address must exist on the local node.

eth-gre-bridged

Configures the SDP as an L2oGRE tunnel that is terminated on an FPE-based PW port. Only the end-points of such a tunnel (the far-end IPv4/IPv6 address or local-end IPv4/IPv6 address) are allowed to be configured under this SDP.

Platforms

All

41.76 sdp-exclude

sdp-exclude

Syntax

[**no**] **sdp-exclude** *group-name*

Context

[Tree] (config>service>pw-template sdp-exclude)

Full Context

configure service pw-template sdp-exclude

Description

This command configures SDP admin group constraints for a pseudowire template.

The admin group name must have been configured or the command is failed. The user can execute the command multiple times to include or exclude more than one admin group. The sdp-include and sdp-exclude commands can only be used with the **use-provisioned-sdp** or **prefer-provisioned-sdp** options. If the same group name is included and excluded within the same pseudowire template, only the exclude option will be enforced.

Any changes made to the admin group sdp-include and sdp-exclude constraints will only be reflected in existing spoke-sdps after the following command has been executed:

tools>perform>service>eval-pw-template>allow-service-impact

When the service is bound to the pseudowire template, the SDP selection rules will enforce the admin group constraints specified in the sdp-include and sdp-exclude commands.

In the SDP selection process, all provisioned SDPs with the correct far-end IP address, the correct tunnel-far-end IP address, and the correct service label signaling are considered. The SDP with the lowest admin metric is selected. If more than one SDP with the same lowest metric are found then the SDP with the

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highest sdp-id is selected. The type of SDP, GRE or MPLS (BGP/RSVP/LDP) is not a criterion in this selection.

The selection rule with SDP admin groups is modified such that the following admin-group constraints are applied upfront to prune SDPs that do not comply:

- if one or more **sdp-include** statement is part of the PW template, then an SDP that is a member of one or more of the included groups will be considered. With the **sdp-include** statement, there is no preference for an SDP that belongs to all included groups versus one that belongs to one or fewer of the included groups. All SDPs satisfying the admin-group constraint will be considered and the selection above based on the lowest metric and highest sdp-id is applied.
- if one or more **sdp-exclude** statement is part of the PW template, then an sdp that is a member of any of the excluded groups will not be considered.

SDP admin group constraints can be configured on all router services that makes use of the pseudowire template (BGP-AD VPLS service, BGP-VPLS service, and FEC129 VLL service). In the latter case, only support at a T-PE node is provided.

The **no** form of this command removes the SDP admin group constraints from the pseudowire template.

Parameters

group-name

Specifies the name of the SDP admin group. A maximum of 32 characters can be entered.

Platforms

All

41.77 sdp-group

sdp-group

Syntax

sdp-group

Context

[Tree] (config>service sdp-group)

Full Context

configure service sdp-group

Description

This command configures the SDP membership in admin groups.

The user can enter a maximum of one (1) admin group name at once. The user can execute the command multiple times to add membership to more than one admin group. The admin group name must have been configured or the command is failed. Admin groups are supported on an SDP of type GRE and of type MPLS (BGP/RSVP/LDP). They are also supported on an SDP with the mixed-lsp-mode option enabled.

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The **no** form of this command removes this SDP membership to the specified admin group.

Platforms

All

41.78 sdp-id-range

sdp-id-range

Syntax

sdp-id-range from *id* **to** *id*

no sdp-id-range

Context

[Tree] (config>fwd-path-ext sdp-id-range)

Full Context

configure fwd-path-ext sdp-id-range

Description

This command reserves an SDP ID range used by the FPE based PW-Port and VXLAN termination applications.

Each configured FPE based PW-Port is associated with two internal SDPs (one in each direction) whose id(s) are allocated from the configured sdp-id-range.

When the FPE is associated to VXLAN termination, an internal SDP is allocated from the configured sdp-id-range and is used for R-VPLS services that terminate VXLAN IPv6. A spoke-sdp per VXLAN IPv6 R-VPLS service is created on that SDP for egress processing of the packets. Sdp-id-range cannot be modified if any of its IDs are currently in use.

Default

no sdp-id-range

Parameters

from *id*

Specifies the start of the SDP ID range (inclusive).

Values 1 to 32767

to *id*

Specifies the end of the SDP ID range.

Values 1 to 32767

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Platforms

All

41.79 sdp-include

sdp-include

Syntax

[**no**] **sdp-include** *group-name*

Context

[Tree] (config>service>pw-template sdp-include)

Full Context

configure service pw-template sdp-include

Description

This command configures SDP admin group constraints for a pseudowire template.

The admin group name must have been configured or the command is failed. The user can execute the command multiple times to include or exclude more than one admin group. The sdp-include and sdp-exclude commands can only be used with the **use-provisioned-sdp** or **prefer-provisioned-sdp** options. If the same group name is included and excluded within the same pseudowire template, only the exclude option will be enforced.

Any changes made to the admin group sdp-include and sdp-exclude constraints will only be reflected in existing spoke-sdps after the following command has been executed:

tools>perform>service>eval-pw-template>allow-service-impact

When the service is bound to the pseudowire template, the SDP selection rules will enforce the admin group constraints specified in the sdp-include and sdp-exclude commands.

In the SDP selection process, all provisioned SDPs with the correct far-end IP address, the correct tunnel-far-end IP address, and the correct service label signaling are considered. The SDP with the lowest admin metric is selected. If more than one SDP with the same lowest metric are found then the SDP with the highest sdp-id is selected. The type of SDP, GRE or MPLS (BGP/RSVP/LDP) is not a criterion in this selection.

The selection rule with SDP admin groups is modified such that the following admin-group constraints are applied upfront to prune SDPs that do not comply:

- if one or more **sdp-include** statement is part of the PW template, then an SDP that is a member of one or more of the included groups will be considered. With the **sdp-include** statement, there is no preference for an SDP that belongs to all included groups versus one that belongs to one or fewer of the included groups. All SDPs satisfying the admin-group constraint will be considered and the selection above based on the lowest metric and highest sdp-id is applied.
- if one or more **sdp-exclude** statement is part of the PW template, then an sdp that is a member of any of the excluded groups will not be considered.

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SDP admin group constraints can be configured on all router services that make use of the pseudowire template (BGP-AD VPLS service, BGP-VPLS service, and FEC129 VLL service). In the latter case, only support at a T-PE node is provided.

The **no** form of this command removes the SDP admin group constraints from the pseudowire template.

Parameters

group-name

Specifies the name of the SDP admin group. A maximum of 32 characters can be entered.

Platforms

All

41.80 sdp-mtu

sdp-mtu

Syntax

sdp-mtu *orig-sdp-id* **size-inc** *start-octets end-octets* [**step** *step-size*] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (oam sdp-mtu)

Full Context

oam sdp-mtu

Description

Performs MTU Path tests on an SDP to determine the largest path-mtu supported on an SDP. The **size-inc** parameter can be used to easily determine the **path-mtu** of a given SDP-ID. The forwarding class is assumed to be Best-Effort Out-of-Profile. The message reply is returned with IP/GRE encapsulation from the far-end router. OAM request messages sent within an IP/GRE SDP must have the 'DF' IP header bit set to 1 to prevent message fragmentation.

To terminate an **sdp-mtu** in progress, use the CLI break sequence <Ctrl-C>.

Parameters

orig-sdp-id

Specifies the *sdp-id* to be used by **sdp-ping,** expressed as a decimal integer. The far-end address of the specified **sdp-id** is the expected *responder-id* within each reply received. The specified *sdp-id* defines the encapsulation of the SDP tunnel encapsulation used to reach the far end. This can be IP/GRE or MPLS. If *orig-sdp-id* is invalid or administratively down or unavailable, the SDP echo request message is not sent and an appropriate error message is displayed (once the **interval** timer expires, **sdp-ping** attempts to send the next request, if required).

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Values 1 to 32767

start-octets

Specifies the beginning size in octets of the first message sent for an incremental MTU test, expressed as a decimal integer.

Values 40 to 9786

end-octets

Specifies the ending size in octets of the last message sent for an incremental MTU test, expressed as a decimal integer. The specified value must be greater than *start-octets*.

Values 40 to 9786

step-size

Specifies the number of octets to increment the message size request for each message sent for an incremental MTU test, expressed as a decimal integer. The next size message is not sent until a reply is received or three messages have timed out at the current size.

If the incremented size exceeds the *end-octets* value, no more messages are sent.

Values 1 to 512

Default 32

timeout

Specifies the *timeout* parameter in seconds, expressed as a decimal integer. This value is used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response is not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

Values 1 to 10

Default 5

interval

Specifies the *interval* parameter in seconds, expressed as a decimal integer. This parameter is used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the *interval* is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

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Platforms

All

Output

Output Example: SDP MTU Path Test

```
*A:Dut-A# oam sdp-mtu 1201 size-inc 512 3072 step 256
Size    Sent    Response
---------------------------
512     .        Success
768     .        Success
1024    .        Success
1280    .        Success
1536    .        Success
1792    .        Success
2048    .        Success
2304    .        Success
2560    .        Success
2816    .        Success
3072    .        Success

Maximum Response Size: 3072
*A:Dut-A#
```

41.81 sdp-ping

sdp-ping

Syntax

sdp-ping *orig-sdp-id* [**resp-sdp** *resp-sdp-id*] [**fc** *fc-name* [**profile** { **in** | **out**}]] [**size** *octets*] [**count** *send-count*] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (oam sdp-ping)

[Tree] (config>saa>test>type sdp-ping)

Full Context

oam sdp-ping

configure saa test type sdp-ping

Description

This command tests SDPs for uni-directional or round trip connectivity and performs SDP MTU Path tests.

The **sdp-ping** command accepts an originating SDP-ID and an optional responding SDP-ID. The size, number of requests sent, message time-out and message send interval can be specified. All **sdp-ping** requests and replies are sent with PLP OAM-Label encapsulation, as a *service-id* is not specified.

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For round trip connectivity testing, the **resp-sdp** keyword must be specified. If **resp-sdp** is not specified, a uni-directional SDP test is performed.

To terminate an **sdp-ping** in progress, use the CLI break sequence <Ctrl-C>.

An **sdp-ping** response message indicates the result of the **sdp-ping** message request. When multiple response messages apply to a single SDP echo request/reply sequence, the response message with the highest precedence is displayed. Table 111: sdp-ping Response Messages shows the response messages sorted by precedence.

Table 111: sdp-ping Response Messages

Result of Request	Displayed Response Message	Precedence
Request time out without reply	Request Timeout	1
Request not sent due to non-existent *orig-sdp-id*	Orig-SDP Non-Existent	2
Request not sent due to administratively down *orig-sdp-id*	Orig-SDP Admin-Down	3
Request not sent due to operationally down *orig-sdp-id*	Orig-SDP Oper-Down	4
Request terminated by user before reply or time out	Request Terminated	5
Reply received, invalid *origination-id*	Far End: Originator-ID Invalid	6
Reply received, invalid *responder-id*	Far End: Responder-ID Error	7
Reply received, non-existent *resp-sdp-id*	Far End: Resp-SDP Non-Existent	8
Reply received, invalid *resp-sdp-id*	Far End: Resp-SDP Invalid	9
Reply received, *resp-sdp-id* down (admin or oper)	Far-end: Resp-SDP Down	10
Reply received, No Error	Success	11

Parameters

orig-sdp-id

Specifies the SDP ID to be used by **sdp-ping,** expressed as a decimal integer. The far-end address of the specified SDP-ID is the expected *responder-id* within each reply received. The specified SDP-ID defines the encapsulation of the SDP tunnel encapsulation used to reach the far end. This can be IP/GRE or MPLS. If *orig-sdp-id* is invalid or administratively down or unavailable for some reason, the SDP Echo Request message is not sent and an appropriate error message is displayed (once the **interval** timer expires, **sdp-ping** attempts to send the next request if required).

Values 1 to 32767

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resp-sdp-id

Specifies the return SDP-ID to be used by the far-end router for the message reply for round trip SDP connectivity testing. If *resp-sdp-id* does not exist on the far-end router, terminates on another router different than the originating router, or another issue prevents the far-end router from using *resp-sdp-id*, the SDP echo reply is sent using generic IP/GRE OAM encapsulation. The received forwarding class (as mapped on the ingress network interface for the far end) defines the forwarding class encapsulation for the reply message.

Values 1 to 32767

Default null. Use the non-SDP return path for message reply.

fc-name

Specifies the parameter to be used to indicate the forwarding class of the SDP encapsulation. The actual forwarding class encoding is controlled by the network egress DSCP or LSP-EXP mappings.

The DSCP or LSP-EXP mappings on the receive network interface controls the mapping back to the internal forwarding class used by the far-end router that receives the message request. The egress mappings of the egress network interface on the far-end router controls the forwarding class markings on the return reply message.

The DSCP or LSP-EXP mappings on the receive network interface controls the mapping of the message reply at the originating router. This is displayed in the response message output upon receipt of the message reply.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the SDP encapsulation.

Default out

octets

Specifies the **size** parameter in octets. This parameter is used to override the default message size for the **sdp-ping** request. Changing the message size is a method of checking the ability of an SDP to support a **path-mtu**. The size of the message does not include the SDP encapsulation, VC-Label (if applied) or any DLC headers or trailers.

When the OAM message request is encapsulated in an IP/GRE SDP, the IP 'DF' (Do Not Fragment) bit is set. If any segment of the path between the sender and receiver cannot handle the message size, the message is discarded. MPLS LSPs are not expected to fragment the message either, as the message contained in the LSP is not an IP packet.

Values 72 to 9786

Default 72

send-count

Specifies the number of messages to send. The **count** parameter is used to override the default number of message requests sent. Each message request must either time out or

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receive a reply before the next message request is sent. The message **interval** value must have expired before the next message request is sent.

Values 1 to 100

Default 1

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of time out, the test is marked complete and no more packets is processed for any of those request probes.

Values 1 to 10

Default 5

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

Values 1 to 10

Default 1

Platforms

All

Output

Single Response Round Trip Connectivity Test Output Example

```
A:router1> sdp-ping 10 resp-sdp 22 fc ef
Request Result: Sent - Reply Received
RTT:30ms

Err  SDP-ID Info            Local     Remote
__   SDP-ID:                10        22
__   Administrative State:  Up        Up
__   Operative State:       Up        Up
__   Path MTU               4470      4470
__   Response SDP Used:                Yes

Err  System IP Interface Info
Local Interface Name: "ESR-System-IP-Interface (Up to 32 chars)…"
__   Local IP Interface State:          Up
__   Local IP Address:                  10.10.10.11
__   IP Address Expected By Remote:     10.10.10.11
__   Expected Remote IP Address:        10.10.10.10
__   Actual Remote IP Address:          10.10.10.10

Err   FC Mapping Info      Local        Remote
__    Forwarding Class     Assured      Assured
__    Profile              In           In
```


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Multiple Response Connectivity Tests — When the connectivity test count is greater than one (1), a single line is displayed per SDP echo request send attempt.

The request number is a sequential number starting with 1 and ending with the last request sent, incrementing by one (1) for each request. This should not be confused with the *message-id* contained in each request and reply message.

A response message indicates the result of the message request. Following the response message is the round trip time value. If any reply is received, the round trip time is displayed.

After the last reply has been received or response timed out, a total is displayed for all messages sent and all replies received. A maximum, minimum and average round trip time is also displayed. Error response and timed out requests do not apply towards the average round trip time.

Multiple Response Round Trip Connectivity Test Output Example

```
A:router1> sdp-ping 6 resp-sdp 101size 1514 count 5
Request        Response       RTT
----------     ----------     -------
     1         Success        10ms
     2         Success        15ms
     3         Success        10ms
     4         Success        20ms
     5         Success        5ms
Sent:    5    Received:    5
Min: 5ms       Max: 20ms      Avg: 12ms
```

41.82 seamless-bfd

seamless-bfd

Syntax

seamless-bfd

Context

[Tree] (config>bfd seamless-bfd)

Full Context

configure bfd seamless-bfd

Description

This command specifies the context for the configuration of a seamless BFD reflector.

Platforms

All

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seamless-bfd

Syntax

seamless-bfd

Context

[Tree] (config>router>bfd seamless-bfd)

Full Context

configure router bfd seamless-bfd

Description

This command specifies the context for the configuration of seamless BFD initiator parameters that are global to this router.

The **no** form of this command removes the context.

Platforms

All

41.83 search

search

Syntax

search *base-dn*

no search

Context

[Tree] (config>system>security>ldap>server search)

Full Context

configure system security ldap server search

Description

This command configures the LDAP **search** command. The search *base-dn* tells the server which part of the external directory tree to search. The search DN uses the same LDAP attribute as *root-dn*. For example, to search a public-key for an SSH generated for a Nokia vendor, one might use "dc=public-key,dc=nokia,dc=com”.

The **no** version of this command removes the search DN; as such, no search is possible on the LDAP server.

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Parameters

base-dn

Specifies the base domain name used in the search, up to 512 characters.

Platforms

All

41.84 secondary

secondary

Syntax

secondary

Context

[Tree] (config>aaa>radius-scr-plcy secondary)

Full Context

configure aaa radius-script-policy secondary

Description

Commands in this context configure a secondary script.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

secondary

Syntax

secondary

Context

[Tree] (config>subscr-mgmt>sub-ident-pol secondary)

Full Context

configure subscriber-mgmt sub-ident-policy secondary

Description

Commands in this context configure secondary identification script parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

secondary

Syntax

secondary *ip-address[/mask]* [*netmask* **]** [**broadcast** {**all-ones** | **host-ones**}] [**igp-inhibit**] [**tag** *tag-value*] [**track-srrp** *srrp-instance*]

no secondary *ip-address[/mask]*

Context

[Tree] (config>service>ies>if secondary)

Full Context

configure service ies interface secondary

Description

This command assigns a secondary IP address or IP subnet/broadcast address format to the interface.

The **no** form of this command reverts to the default.

Default

no secondary

Parameters

ip-address

Specifies the IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that is used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

mask

Specifies the subnet mask in dotted decimal notation. When the IP prefix is not specified in CIDR notation, a space separates the *ip-address* from a traditional dotted decimal mask. The *mask* parameter indicates the complete mask that is used in a logical and function to derive the local subnet of the IP address. Allowed values are dotted decimal addresses in the range 128.0.0.0 – 255.255.255.254.

Note:
A mask of 255.255.255.255 is reserved for system IP addresses.

netmask

Specifies a string of 0s and 1s that mask or screen out the network part of an IP address so that only the host computer part of the address remains.

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broadcast

Overrides the default broadcast address used by the IP interface when sourcing IP broadcasts on the IP interface. If no broadcast format is specified for the IP address, the default value is **host-ones** which indicates a subnet broadcast address. Use this parameter to change the broadcast address to **all-ones** or revert back to a broadcast address of **host-ones**.

The broadcast format on an IP interface can be specified when the IP address is assigned or changed.

This parameter does not affect the type of broadcasts that can be received by the IP interface. A host sending either the local broadcast (**all-ones**) or the valid subnet broadcast address (**host-ones**) is received by the IP interface. (Default: host-ones)

all-ones

Specifies the broadcast address used by the IP interface for this IP address is 255.255.255.255, also known as the local broadcast.

host-ones

Specifies that the broadcast address used by the IP interface for this IP address is the subnet broadcast address. This is an IP address that corresponds to the local subnet described by the *ip-address* and the *mask-length* or *mask* with all the host bits set to binary one. This is the default broadcast address used by an IP interface. The **broadcast** parameter within the **address** command does not have a negate feature, which is usually used to revert a parameter to the default value. To change the **broadcast** type to **host-ones** after being changed to **all-ones**, the **address** command must be executed with the **broadcast** parameter defined.

igp-inhibit

Signals that the given secondary IP interface should not be recognized as a local interface by the running IGP. For OSPF and IS-IS, this means that the specified secondary IP interfaces are not injected and used as passive interfaces and are not advertised as internal IP interfaces into the IGP's link state database. For RIP, this means that these secondary IP interfaces do not source RIP updates.

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

srrp-instance

Specifies the SRRP instance ID that this interface route needs to track.

Values 1 to 4294967295

Platforms

All

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secondary

Syntax

secondary *ip-address*[/*mask*] [*netmask*] [**broadcast** {**all-ones** | **host-ones**}] [**igp-inhibit**] [**tag** *tag-value*] [**track-srrp** *srrp-instance*]

no secondary *ip-address*[/*mask*]

Context

[Tree] (config>service>vprn>nw-if secondary)

[Tree] (config>service>vprn>if secondary)

Full Context

configure service vprn network-interface secondary

configure service vprn interface secondary

Description

This command assigns a secondary IP address to the interface. Up to 16 total primary and secondary IPv4 and IPv6 addresses can be assigned to network interfaces, and up to 256 to access interfaces. Each address can be configured in an IP address, IP subnet, or broadcast address format.

Caution:
Configurations must not exceed 16 secondary IP addresses when IPsec, GRE, L2TPv3, or IP in IP protocols are active on an access interface.

Default

no secondary

Parameters

ip-address

Specifies the IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

mask

Specifies the subnet mask in dotted decimal notation. When the IP prefix is not specified in CIDR notation, a space separates the *ip-address* from a traditional dotted decimal mask. The *mask* parameter indicates the complete mask that will be used in a logical 'AND' function to derive the local subnet of the IP address. Allowed values are dotted-decimal addresses in the range 128.0.0.0 – 255.255.255.254. A mask of 255.255.255.255 is reserved for system IP addresses.

netmask

Specifies a string of 0s and 1s that mask or screen out the network part of an IP address so that only the host computer part of the address remains.

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broadcast

Optional parameter that overrides the default broadcast address used by the IP interface when sourcing IP broadcasts on the IP interface. If no broadcast format is specified for the IP address, the default value is **host-ones** which indicates a subnet broadcast address. Use this parameter to change the broadcast address to **all-ones** or revert back to a broadcast address of **host-ones**.

The broadcast format on an IP interface can be specified when the IP address is assigned or changed. This parameter does not affect the type of broadcasts that can be received by the IP interface. A host sending either the local broadcast (**all-ones**) or the valid subnet broadcast address (**host-ones**) will be received by the IP interface. *(Default: host-ones)*

all-ones

The **all-ones** keyword following the **broadcast** parameter specifies the broadcast address used by the IP interface for this IP address will be 255.255.255.255, also known as the local broadcast.

host-ones

The **host-ones** keyword following the **broadcast** parameter specifies that the broadcast address used by the IP interface for this IP address will be the subnet broadcast address. This is an IP address that corresponds to the local subnet described by the *ip-address* and the *mask-length* or *mask* with all the host bits set to binary one. This is the default used by an IP interface.

The **broadcast** parameter within the **address** command does not have a negate feature, which is usually used to revert a parameter to the default value. To change the **broadcast** type to **host-ones** after being changed to **all-ones**, the **address** command must be executed with the **broadcast** parameter defined.

igp-inhibit

Optional parameter that signals that the given secondary IP interface should not be recognized as a local interface by the running IGP. For OSPF and IS-IS, this means that the specified secondary IP interfaces will not be injected and used as passive interfaces, and will not be advertised as internal IP interfaces into the IGP's link-state database. For RIP, this means that these secondary IP interfaces will not source RIP updates.

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

srrp-instance

Specifies the SRRP instance ID that this interface route needs to track.

Platforms

All

secondary

Syntax

[**no**] **secondary** *path-name*

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Context

[Tree] (config>router>mpls>lsp secondary)

Full Context

configure router mpls lsp secondary

Description

This command specifies an alternative path that the LSP uses if the primary path is not available. This command is optional and is not required if the **config router mpls lsp** *lsp-name* **primary** *path-name* command is specified. After the switch over from the primary to the secondary, the system continuously tries to revert to the primary path. The switch back to the primary path is based on the **retry-timer** interval.

For RSVP-TE LSPs, up to eight secondary paths can be specified (or seven if a primary is configured). For SR-TE LSPs, up to three paths of any type (with a maximum of one primary) can be configured. By default, a secondary path is non-standby unless the **standby** keyword is configured. All non-standby secondary paths are considered equal and the first available path is used.

The system does not switch among secondary paths. The system starts the signaling (RSVP-TE) or programming (SR-TE) of all non-standby secondary paths at the same time. Retry counters are maintained for each unsuccessful attempt. After the retry limit is reached on a path, the system does not attempt to signal the path and administratively shuts down the path. The first successfully established non-standby secondary path is made the active path for the LSP.

The **no** form of this command removes the association between this *path-name* and *lsp-name*. All specific configurations for this association are deleted. The secondary path must be shut down prior to deleting it. The **no secondary** *path-name* command does not result in any action except a warning message on the console indicating that the secondary path is administratively up.

Parameters

path-name

Specifies the case-sensitive alphanumeric name label for the LSP path, up to 64 characters.

Platforms

All

secondary

Syntax

secondary {*ip-address*/*mask* | *ip-address netmask*} [**broadcast** {**all-ones** | **host-ones**}] [**igp-inhibit**] [**track-srrp** *srrp-instance*] [**tag** *tag-value*]

no secondary {*ip-address/mask* | *ip-address netmask*}

Context

[Tree] (config>router>if secondary)

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Full Context

configure router interface secondary

Description

This command assigns additional IP addresses to the interface. Up to 16 total primary and secondary IPv4 and IPv6 addresses can be assigned to network interfaces, and up to 256 to access interfaces. Each address can be configured in an IP address, IP subnet, or broadcast address format.

Caution:
Configurations must not exceed 16 secondary IP addresses when IPsec, GRE, L2TPv3, or IP-in-IP protocols are active on an access interface.

The **no** form of this command removes the secondary address from the interface.

Default

no secondary

Parameters

ip-address

Specifies the IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values 1.0.0.0 to 223.255.255.255

/

The forward slash is a parameter delimiter that separates the *ip-address* portion of the IP address from the mask that defines the scope of the local subnet. No spaces are allowed between the *ip-addr*, the "*/*" and the *mask-length* parameter. If a forward slash does not immediately follow the *ip-addr*, a dotted decimal mask must follow the prefix.

mask

Specifies the subnet mask length when the IP prefix is specified in CIDR notation. When the IP prefix is specified in CIDR notation, a forward slash (/) separates the *ip-address* from the *mask* parameter. The *mask* parameter indicates the number of bits used for the network portion of the IP address; the remainder of the IP address is used to determine the host portion of the IP address. Allowed values are integers in the range 1 to 32. A mask length of 32 is reserved for system IP addresses.

Values 1 to 32

netmask

Specifies the subnet mask in dotted decimal notation. When the IP prefix is not specified in CIDR notation, a space separates the *ip-address* from a traditional dotted decimal mask. The *mask* parameter indicates the complete mask that will be used in a logical 'AND' function to derive the local subnet of the IP address. A mask of 255.255.255.255 is reserved for system IP addresses.

Values 128.0.0.0 to 255.255.255.255

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broadcast

Optional parameter that overrides the default broadcast address used by the IP interface when sourcing IP broadcasts on the IP interface. If no broadcast format is specified for the IP address, the default value is **host-ones,** which indicates a subnet broadcast address. Use this parameter to change the broadcast address to **all-ones** or revert back to a broadcast address of **host-ones**.

The **broadcast** parameter within the **address** command does not have a negate feature, which is usually used to revert a parameter to the default value. To change the **broadcast** type to **host-ones** after being changed to **all-ones**, the **address** command must be executed with the **broadcast** parameter defined.

The broadcast format on an IP interface can be specified when the IP address is assigned or changed.

This parameter does not affect the type of broadcasts that can be received by the IP interface. A host sending either the local broadcast (**all-ones**) or the valid subnet broadcast address (**host-ones**) will be received by the IP interface.

all-ones

The **all-ones** keyword following the **broadcast** parameter specifies that the broadcast address used by the IP interface for this IP address will be 255.255.255.255, also known as the local broadcast.

host-ones

The **host-ones** keyword following the **broadcast** parameter specifies that the broadcast address used by the IP interface for this IP address will be the subnet broadcast address. This is an IP address that corresponds to the local subnet described by the *ip-address* and the *mask* with all the host bits set to binary 1. This is the default broadcast address used by an IP interface.

igp-inhibit

The secondary IP address should not be recognized as a local interface by the running IGP.

tag-value

Specifies the administrative tag value associated with an interface IP address.

Values 1 to 4294967295

srrp-instance

Specifies the SRRP instance ID that this interface route needs to track.

Platforms

All

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41.85 secondary-config

secondary-config

Syntax

secondary-config *file-url*

no secondary-config

Context

[Tree] (bof secondary-config)

Full Context

bof secondary-config

Description

This command specifies the name and location of the secondary configuration file.

The system attempts to use the configuration as specified in **secondary-config** if the primary config cannot be located. If the **secondary-config** file cannot be located, the system attempts to obtain the configuration from the location specified in the **tertiary-config**.

Note that if an error in the configuration file is encountered, the boot process aborts.

The **no** form of this command removes the **secondary-config** configuration.

Parameters

file-url

Specifies the secondary configuration file location, expressed as a file URL.

Values

file-url	[*local-url* | *remote-url*] (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]
remote-url	[{ftp://| tftp://} *login:pswd@remote-locn*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

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41.86 secondary-dns

secondary-dns

Syntax

secondary-dns *ip-address*

no secondary-dns

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp secondary-dns)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp secondary-dns)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp secondary-dns

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp secondary-dns

Description

This command configures the secondary DNS address to be returned via DHCP on WLAN-GW ISA.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the secondary DNS address.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

secondary-dns

Syntax

secondary-dns *ip-address*

no secondary-dns

Context

[Tree] (config>service>vprn>dns secondary-dns)

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Full Context

configure service vprn dns secondary-dns

Description

This command configures the secondary DNS server for DNS name resolution. The secondary DNS server is used only if the primary DNS server does not respond.

DNS name resolution can be used when executing ping, traceroute, and service-ping, and also when defining file URLs. DNS name resolution is not supported when DNS names are embedded in configuration files.

The **no** form of this command removes the secondary DNS server from the configuration.

Default

no secondary-dns — No secondary DNS server is configured.

Parameters

ip-address

The IP or IPv6 address of the secondary DNS server.

Values

ipv4-address -a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x: [0 to FFFF]H

d: [0 to 255]D

interface - 32 characters max, for link local addresses.

Platforms

All

secondary-dns

Syntax

secondary-dns *ip-address*

no secondary-dns [*ip-address*]

Context

[Tree] (bof secondary-dns)

Full Context

bof secondary-dns

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Description

This command configures the secondary DNS server for DNS name resolution. The secondary DNS server is used only if the primary DNS server does not respond.

DNS name resolution can be used when executing ping, traceroute, and service-ping, and also when defining file URLs. DNS name resolution is not supported when DNS names are embedded in configuration files.

The **no** form of this command removes the secondary DNS server from the configuration.

Default

no secondary-dns

Parameters

ip-address

Specifies the IP or IPv6 address of the secondary DNS server.

Values

ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H
	d: [0 to 255]D
interface	up to 32 characters for link local addresses

Note:
IPv6 is applicable to the 7750 SR and 7950 XRS only.

Platforms

All

41.87 secondary-fast-retry-timer

secondary-fast-retry-timer

Syntax

secondary-fast-retry-timer *seconds*

no secondary-fast-retry-timer

Context

[Tree] (config>router>mpls secondary-fast-retry-timer)

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Full Context

configure router mpls secondary-fast-retry-timer

Description

This command specifies the value used as the fast retry timer for a secondary path. If the first attempt to set up a secondary path fails due to a path error, the fast retry timer will be started for the secondary path so that the path can be retried sooner. If the next attempt also fails, further retries for the path will use the configured value for LSP retry timer.

If retry-timer for the LSP is configured to be less than the MPLS secondary-fast-retry-timer, all retries for the secondary path will use the LSP retry-timer.

The **no** form of this command reverts to the default.

Default

no secondary-fast-retry-timer

Parameters

seconds

Specifies the value (in seconds), used as the fast retry timer for a secondary path

Values 1 to 10

Platforms

All

41.88 secondary-image

secondary-image

Syntax

secondary-image *file-url*

no secondary-image

Context

[Tree] (bof secondary-image)

Full Context

bof secondary-image

Description

This command specifies the secondary directory location for runtime image file loading.

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The system attempts to load all runtime image files configured in the **primary-image** first. If this fails, the system attempts to load the runtime images from the location configured in the **secondary-image**. If the secondary image load fails, the tertiary image specified in **tertiary-image** is used.

All runtime image files (*.tim files) must be located in the same directory.

The **no** form of this command removes the **secondary-image** configuration.

Parameters

file-url

Specifies the file URL; can be either local (this CPM) or a remote FTP server.

Values

file-url	{*local-url* | *remote-url*} (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]
remote-url	[{ftp://| tftp://} *login:pswd@remote-locn*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

41.89 secondary-ip-address

secondary-ip-address

Syntax

secondary-ip-address *ipv4-address*

no secondary-ip-address

Context

[Tree] (config>router>bgp>orr>location secondary-ip-address)

Full Context

configure router bgp optimal-route-reflection location secondary-ip-address

Description

This command specifies the secondary IP address of a reference location used for BGP optimal route reflection. Up to three IPv4 addresses and three IPv6 addresses can be specified per location.

If the TE DB is unable to find a node in its topology database that matches the primary address, then the TE DB tries to find a node with the matching secondary address. If this attempt also fails, the TE DB then tries to find a node with the matching tertiary address.

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The IP addresses specified for a location should be topologically "close” to a set of clients that should all receive the same optimal path for that location.

The **no** form of this command removes the secondary IP address information.

Default

no secondary-ip-address

Parameters

ipv4-address

Specifies the secondary IPv4 address of a location, expressed in dotted decimal notation.

Values a.b.c.d

Platforms

All

41.90 secondary-ipv6-address

secondary-ipv6-address

Syntax

secondary-ipv6-address *ipv6-address*

no secondary-ipv6-address

Context

[Tree] (config>router>bgp>orr>location secondary-ipv6-address)

Full Context

configure router bgp optimal-route-reflection location secondary-ipv6-address

Description

This command specifies the secondary IPv6 address of a reference location used for BGP optimal route reflection. Up to three IPv4 addresses and three IPv6 addresses can be specified per location.

If the TE DB is unable find a node in its topology database that matches a primary address of the location, then it tries to find a node matching a secondary address. If this attempt also fails, the TE DB tries to find a node matching a tertiary address.

The IP addresses specified for a location should be topologically "close” to a set of clients that should all receive the same optimal path for that location.

The **no** form of this command removes the secondary IPv6 address information.

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Default

no secondary-ipv6-address

Parameters

ipv6-address

Specifies the secondary IPv6 address of a location.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

41.91 secondary-location

secondary-location

Syntax

secondary-location *file-url*

no secondary-location

Context

[Tree] (config>system>software-repository secondary-location)

Full Context

configure system software-repository secondary-location

Description

This command configures the secondary location for the files in the software repository. See the **software-repository** command description for more information.

The **no** form of the command removes the secondary location.

Parameters

file-url

Specifies the secondary location to be used to access the files in the software repository.

Values *file url* *local-url* | *remote-url*

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local-url	[*cflash-id/*][*file-path*]	200 chars maximum, including cflash-id directory length 99 characters maximum each
remote-url	[{ftp://} *login:pswd@remote-locn/*][*file-path*]	
	243 characters maximum	
	directory length 99 characters maximum each	
	remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
		x:x:x:x:x:x:d.d.d.d[*-interface*]
		x - [0 to FFFF]H
		d - [0 to 255]D
		interface - 32 characters max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:	

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.92 secondary-nbns

secondary-nbns

Syntax

secondary-nbns *ip-address*

no secondary-nbns

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp secondary-nbns)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp secondary-nbns)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp secondary-nbns

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configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dhcp secondary-nbns

Description

This command configures the secondary NBNS address to be returned via DHCP on WLAN-GW ISA.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the secondary NBNS address.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.93 secondary-path

secondary-path

Syntax

secondary-path

Context

[Tree] (config>mcast-mgmt>bw-plcy>t2-paths secondary-path)

Full Context

configure mcast-management bandwidth-policy t2-paths secondary-path

Description

Commands in this context configure secondary path queue parameters. This command overrides the default path limit for the secondary path, which is one of the three ingress multicast paths into the switch fabric.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

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41.94 secondary-ports

secondary-ports

Syntax

secondary-ports

Context

[Tree] (config>service>vpls>mac-move secondary-ports)

[Tree] (config>service>template>vpls-template>mac-move secondary-ports)

Full Context

configure service vpls mac-move secondary-ports

configure service template vpls-template mac-move secondary-ports

Description

This command opens configuration context for defining secondary vpls-ports. VPLS ports that were declared as primary prior to the execution of this command will be moved from primary port-level to secondary port-level. Changing a port to the tertiary level can only be done by first removing it from the primary port-level.

Platforms

All

41.95 secondary-shaper-hashing

secondary-shaper-hashing

Syntax

[**no**] **secondary-shaper-hashing**

Context

[Tree] (config>subscr-mgmt>sub-prof secondary-shaper-hashing)

Full Context

configure subscriber-mgmt sub-profile secondary-shaper-hashing

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Description

This command enables LAG secondary shaper ID hashing. With this feature enabled, secondary shaper ID hashing can span multiple forwarding complexes on egress LAG. The default is to perform secondary shaper ID hashing on egress and requires all active LAG members to be on the same forwarding complex.

The **no** form of this command enables the default behavior.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

41.96 secondary-url

secondary-url

Syntax

secondary-url *url*

no secondary-url

Context

[Tree] (config>python>py-script secondary-url)

Full Context

configure python python-script secondary-url

Description

This command specifies the location of secondary Python script. The system supports three locations for each Python-script. Users can store scripts file on either a local CF card or a FTP server.

The **no** form of this command removes the URL.

Parameters

url

Specifies the secondary URL of the Python script, up to 180 characters, either a local CF card URL or a FTP server URL.

Platforms

All

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41.97 seconds

seconds

Syntax

seconds

Context

[Tree] (config>test-oam>sath>svc-test>dur>policing seconds)

[Tree] (config>test-oam>sath>svc-test>dur>cir-pir seconds)

[Tree] (config>test-oam>sath>svc-test>dur>perf seconds)

[Tree] (config>test-oam>sath>svc-test>dur>cir seconds)

Full Context

configure test-oam service-activation-testhead service-test test-duration policing seconds

configure test-oam service-activation-testhead service-test test-duration cir-pir seconds

configure test-oam service-activation-testhead service-test test-duration performance seconds

configure test-oam service-activation-testhead service-test test-duration cir seconds

Description

This command configures the seconds portion of the overall duration of a CIR, CIR-PIR, performance, or policing test.

Parameters

seconds

Specifies the number of seconds to run the test. This parameter applies to all test types.

Values 0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

41.98 secret

secret

Syntax

secret *secret* [**hash** | **hash2** | **custom**]

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no secret

Context

[Tree] (config>service>vprn>wpp>portals>portal secret)

[Tree] (config>router>wpp>portals>portal secret)

Full Context

configure service vprn wpp portals portal secret

configure router wpp portals portal secret

Description

This command configures the secret that is used by WPPv2 to authenticate the messages between portal and BRAS.

The **no** form of this command removes the secret and hash from the configuration.

Parameters

secret

Specifies the secret key to access the server, up to 64 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

secret

Syntax

secret *secret* [**hash** | **hash2** | **custom**]

no secret

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Context

[Tree] (config>service>vprn>radius-proxy>server secret)

[Tree] (config>router>radius-proxy>server secret)

Full Context

configure service vprn radius-proxy server secret

configure router radius-proxy server secret

Description

This command configures the shared secret key. The RADIUS client must have the same key to communicate with the RADIUS-proxy server.

The **no** form of this command removes the parameters from the configuration.

Parameters

secret *key*

Specifies the secret key up to 64 characters to access the RADIUS server. This secret key must match the password on the RADIUS server.

Values hash-key: Up to 33 characters

hash2-key: Up to 55 characters.

hash

Specifies that the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies that the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

secret

Syntax

secret *secret-key* | *hash-key* [**hash** | **hash2** | **custom**]

no secret

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Context

[Tree] (config>aaa>isa-radius-plcy>servers>server secret)

Full Context

configure aaa isa-radius-policy servers server secret

Description

This command configures the secret key to access the RADIUS server. This secret key must match the password on the RADIUS server.

Default

no secret

Parameters

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.99 secure-boot

secure-boot

Syntax

secure-boot

Context

[Tree] (admin>system>security secure-boot)

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Full Context

admin system security secure-boot

Description

Commands in this context administratively provision secure boot.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.100 secure-erase

secure-erase

Syntax

secure-erase [*cflash-id*]

Context

[Tree] (file secure-erase)

Full Context

file secure-erase

Description

This command secure erases and formats a storage device with a new file system. The device must be administratively disabled first.

Parameters

cflash-id

Specifies the compact flash slot ID to be securely erased. When a specific *cflash-id* is specified, that drive is erased. If no *cflash-id* is specified, the drive referred to by the current working directory is assumed. If a slot number is not specified, the active control processing module is assumed.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Default the current compact flash device

Platforms

All

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41.101 secure-nd

secure-nd

Syntax

[**no**] **secure-nd**

Context

[Tree] (config>service>ies>if>ipv6 secure-nd)

Full Context

configure service ies interface ipv6 secure-nd

Description

This command enables Secure Neighbor Discovery (SeND) on the IPv6 interface.

The **no** form of this command reverts to the default and disabled SeND.

Platforms

All

secure-nd

Syntax

[**no**] **secure-nd**

Context

[Tree] (config>service>vprn>if>ipv6 secure-nd)

Full Context

configure service vprn interface ipv6 secure-nd

Description

This command enables Secure Neighbor Discovery (SeND) on the IPv6 interface.

The **no** form of this command reverts to the default and disabled SeND.

Platforms

All

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secure-nd

Syntax

[**no**] **secure-nd**

Context

[Tree] (config>router>if>ipv6 secure-nd)

Full Context

configure router interface ipv6 secure-nd

Description

This command enables Secure Neighbor Discovery (SeND) on the IPv6 interface.

The **no** form of this command reverts to the default and disabled SeND.

Platforms

All

41.102 secure-nd-export

secure-nd-export

Syntax

secure-nd-export

Context

[Tree] (admin>certificate secure-nd-export)

Full Context

admin certificate secure-nd-export

Description

This command exports IPv6 Secure Neighbor Discovery (SeND) certificates to the file cf[1..3]:\system-pki \secureNdKey in PKCS #7 DER format.

Platforms

All

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41.103 secure-nd-import

secure-nd-import

Syntax

secure-nd-import input *url-string* **format** *input-format* [**password** *password*] [**key-rollover**]

Context

[Tree] (admin>certificate secure-nd-import)

Full Context

admin certificate secure-nd-import

Description

This command imports IPv6 Secure Neighbor Discovery (SeND) certificates from a file, and saves them to cf[1..3]:\system-pki\secureNdKey in PKCS #7 DER format.

Parameters

url-string

Specifies the name of an input file up to 99 characters.

Values

local-url	<cflash-id>\<file-path>
cflash-id	cf1:| cf2:| cf3:

input-format

Specifies the input file format.

Values pkcs12, pem, or der

password

Specifies the password to decrypt the input file if it is an encrypted PKCS#12 file.

Values 32 characters maximum

Platforms

All

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41.104 security

security

Syntax

security

Context

[Tree] (config>system security)

Full Context

configure system security

Description

Commands in this context configure a number of central security settings, such as DDoS protection, users, authorization profiles, and certificates. Access to these commands should be restricted to highly trusted users and device administrators.

Platforms

All

security

Syntax

security

Context

[Tree] (admin>system security)

Full Context

admin system security

Description

Commands in this context configure system security operations.

Note: Restrict access to these commands to highly trusted users and device administrators.

Platforms

All

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41.105 security-association

security-association

Syntax

security-association *security-entry-id* **authentication-key** *hex-string* **encryption-key** *hex-string* **spi** *spi* **transform** *transform-id* **direction** *direction*

no security-association *security-entry-id* **direction** *direction*

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>manual-keying security-association)

[Tree] (config>router>if>ipsec>ipsec-tunnel>manual-keying security-association)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>manual-keying security-association)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>manual-keying security-association)

Full Context

configure service vprn interface ipsec ipsec-tunnel manual-keying security-association

configure router interface ipsec ipsec-tunnel manual-keying security-association

configure service vprn interface sap ipsec-tunnel manual-keying security-association

configure service ies interface ipsec ipsec-tunnel manual-keying security-association

Description

This command configures the information required for manual keying SA creation.

The **no** form of this command removes the **security-association** parameters from the configuration.

Parameters

security-entry-id

Specifies the ID of an SA entry.

Values 1 to 16

authentication-key ***hex-string***

Specifies an authentication key.

Values none or 0x0 to 0xFFFFFFFF...(max 128 hex nibbles)

encryption-key ***hex-string***

Specifies the key used for the encryption algorithm.

Values none or 0x0 to 0xFFFFFFFF...(max 64 hex nibbles)

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spi *spi*

Specifies the Security Parameter Index (SPI) used to look up the instruction to verify and decrypt the incoming IPsec packets when the direction is inbound. When the direction is outbound, the SPI that will be used in the encoding of the outgoing packets. The remote node can use this SPI to lookup the instruction to verify and decrypt the packet.

Values 256 to 16383

transform *transform-id*

Specifies the transform entry that will be used by this SA entry. This object should be specified for all the entries created which are manual SAs. If the value is dynamic, then this value is irrelevant and will be zero.

Values 1 to 2048

direction

Specifies the direction of an IPsec tunnel.

Platforms

VSR

- configure router interface ipsec ipsec-tunnel manual-keying security-association
- configure service ies interface ipsec ipsec-tunnel manual-keying security-association
- configure service vprn interface ipsec ipsec-tunnel manual-keying security-association

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel manual-keying security-association

security-association

Syntax

security-association spi *spi* **authentication-key** *authentication-key* **encryption-key** *encryption-key* [**crypto**]

no security-association spi *spi*

Context

[Tree] (config>grp-encryp>encryp-keygrp security-association)

Full Context

configure group-encryption encryption-keygroup security-association

Description

This command is used to create a security association for a specific SPI value in a key group. The command is also used to enter the authentication and encryption key values for the security association, or to delete a security association.

The SPI value used for the security association is a node-wide unique value, meaning that no two security associations in any key group on the node may share the same SPI value.

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Keys are entered in cleartext. After configuration, they are never displayed in their original, cleartext form. Keys are displayed in an encrypted form, which is indicated by the system-appended **crypto** keyword when an **info** or an **admin>save** command is run. For security reasons, keys encrypted on one node are not usable on other nodes (that is, keys are not exchangeable between nodes).

The **no** form of the command removes the security association and related key values from the list of security associations for the key group. If the **no** form of the command is attempted using the same SPI value that is configured for **active-outbound-sa**, then a warning is issued and the command is blocked. If the **no** form of the command is attempted on the last SPI in the key group and the key group is configured on a service, then the command is blocked.

Parameters

spi

Specifies the SPI ID of the SPI being referenced for the security association.

Values 1 to 127

authentication-key

Specifies the authentication key for the SPI, in hexadecimal format. The number of characters in the hexadecimal string must be 64 or 128, depending on whether the authentication algorithm is set to sha256 or sha512, respectively.

encryption-key

Specifies the encryption key for the SPI, in hexadecimal format. The number of characters in the hexadecimal string must be 32 or 64, depending on whether the encryption algorithm is set to aes128 or aes256, respectively.

crypto

Displays the keys showing on the CLI **info** display in an encrypted form.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.106 security-param-index

security-param-index

Syntax

security-param-index *security-parameter-index*

no security-param-index

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>ipsec-auth security-param-index)

[Tree] (config>test-oam>build-packet>header>ipsec-auth security-param-index)

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Full Context

debug oam build-packet packet field-override header ipsec-auth security-param-index

configure test-oam build-packet header ipsec-auth security-param-index

Description

This command defines the security index to be used in the IPsec header. This same context can be used for IPv4 and IPv6 packets.

The **no** form of this command removes the security parameter index value.

Default

security-param-index 1

Parameters

security-parameter-index

Specifies the IPsec security parameter index to be used in the IPsec header.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.107 security-parameter

security-parameter

Syntax

security-parameter *sec*

no security-parameter

Context

[Tree] (config>service>ies>if>ipv6>secure-nd security-parameter)

Full Context

configure service ies interface ipv6 secure-nd security-parameter

Description

This command configures the security parameter used in the generation of a Cryptographically Generated Address (CGA).

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Parameters

sec

Specifies the security parameter.

Values 0 to 1

Platforms

All

security-parameter

Syntax

security-parameter *sec*

[**no**] **security-parameter**

Context

[Tree] (config>service>vprn>if>send security-parameter)

Full Context

configure service vprn interface ipv6 secure-nd security-parameter

Description

This command configures the security parameter used in the generation of a Cryptographically Generated Address (CGA).

Parameters

sec

Specifies the security parameter.

Values 0 to 1

Platforms

All

security-parameter

Syntax

security-parameter *sec*

no security-parameter

Context

[Tree] (config>router>if>ipv6>secure-nd security-parameter)

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Full Context

configure router interface ipv6 secure-nd security-parameter

Description

This command configures the security parameter used in the generation of a Cryptographically Generated Address (CGA).

Parameters

sec

Specifies the security parameter.

Values 0 to 1

Platforms

All

41.108 security-policy

security-policy

Syntax

security-policy *security-policy-id* [**create**]

no security-policy *security-policy-id*

Context

[Tree] (config>router>ipsec security-policy)

[Tree] (config>service>vprn>ipsec security-policy)

Full Context

configure router ipsec security-policy

configure service vprn ipsec security-policy

Description

This command configures a security policy to use for an IPsec tunnel.

The **no** form of this command removes the security policy ID from the configuration.

Parameters

security-policy-id

specifies a value to be assigned to a security policy.

Values 1 to 32768

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create

Keyword used to create the security policy instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

VSR

- configure router ipsec security-policy

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn ipsec security-policy

security-policy

Syntax

security-policy *security-policy-id* [**strict-match**]

no security-policy

Context

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel security-policy)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel security-policy)

[Tree] (config>router>if>ipsec>ipsec-tunnel security-policy)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel security-policy)

Full Context

configure service ies interface ipsec ipsec-tunnel security-policy

configure service vprn interface ipsec ipsec-tunnel security-policy

configure router interface ipsec ipsec-tunnel security-policy

configure service vprn interface sap ipsec-tunnel security-policy

Description

This command configures an IPsec security policy. The policy may then be associated with static IPsec tunnels defined in the same routing instance.

With **strict-match** parameter enabled, when a CREATE_CHILD exchange request is received for a static IPsec tunnel, and this request is not a re-key request, then ISA matches the received TSi and TSr with the configured security policy. This can be a match only when a received TS (in TSi or TSr) address range matches exactly with the subnet in a security policy entry.

If there is no match, then the setup fails, and TS_UNACCEPTABLE is sent.

If there is a match, but there is an existing CHILD_SA for the matched security policy, then the setup fails, and NO_PROPOSAL_CHOSEN.

If there is a match, and there is not CHILD_SA for the matched entry, then the subnet is sent in the matched security-policy entry as TSi and TSr, and the CHILD_SA is created.

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Default

no security-policy

Parameters

security-policy-id

Specifies the IPsec security policy entry that the tunnel will use.

Values 1 to 32768

strict-match

Enables strict match of security-policy entry.

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel security-policy
- configure router interface ipsec ipsec-tunnel security-policy
- configure service vprn interface ipsec ipsec-tunnel security-policy

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-tunnel security-policy

41.109 security-termination-policies

security-termination-policies

Syntax

security-termination-policies

Context

[Tree] (config>anysec>mpls security-termination-policies)

Full Context

configure anysec mpls security-termination-policies

Description

Commands in this context configure local security termination policies

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

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41.110 security-termination-policy

security-termination-policy

Syntax

security-termination-policy *policy*

no security-termination-policy

Context

[Tree] (config>anysec>mpls>svc-enc>enc-grp security-termination-policy)

Full Context

configure anysec mpls service-encryption encryption-group security-termination-policy

Description

This command configures the security termination policy that identifies the set of attributes for locally terminating tunnels for the specified encryption group.

The security termination policy (secTP) for tunnel encryption contains the tunnel protocol information, IGP instance, and flex algorithm, in addition to the local IP address, which identifies the system IP or loopback IP used to identify the local underlaying tunnel for the encrypted service. This local IP must match the BGP source IP or TLDP source IP and is the IP address that identifies the SR tunnel terminating on the router for the service that is using the specified secTP.

Multiple encryption groups can have the same secTP.

The **no** form of this command removes the security termination policy.

Default

no security-termination-policy

Parameters

policy

Specifies the security termination policy name, up to 64 characters.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

security-termination-policy

Syntax

security-termination-policy *policy*

no security-termination-policy

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Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp security-termination-policy)

Full Context

configure anysec mpls tunnel-encryption encryption-group security-termination-policy

Description

This command configures the local security termination policy parameters.

The **no** form of this command removes the security termination policy.

Default

no security-termination-policy

Parameters

policy

Specifies the local security termination policy name, up to 32 characters.

create

Keyword used to create the security termination policy.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

41.111 seen-ip-radius-acct-policy

seen-ip-radius-acct-policy

Syntax

seen-ip-radius-acct-policy *rad-acct-plcy-name*

no seen-ip-radius-acct-policy

Context

[Tree] (config>app-assure>group>transit-ip-policy>radius seen-ip-radius-acct-policy)

Full Context

configure application-assurance group transit-ip-policy radius seen-ip-radius-acct-policy

Description

This command refers to a RADIUS accounting-policy to enable seen-IP notification.

The no form of this command removes the policy.

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Default

no seen-ip-radius-acct-policy

Parameters

rad-acct-plcy-name

Specifies the RADIUS accounting policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

41.112 segment

segment

Syntax

segment [*segment-id*] [**create**]

no segment *segment-id*

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>seg-list segment)

Full Context

configure router segment-routing sr-policies static-policy segment-list segment

Description

This command creates the context to configure a segment inside a segment-list of a statically-defined segment routing policy candidate path.

A segment list of a statically-defined SR policy candidate path of type **sr-mpls** can only accept a segment of type **mpls-label**.

A segment list of a statically-defined SR policy candidate path of type **srv6** can only accept a segment of type **srv6-sid**. However, you can mix SRv6 segments derived from both classic SRv6 and micro-segment SRv6 locators.

The **no** form of this command deletes the segment context.

Default

no segment

Parameters

segment-id

Specifies the segment ID number.

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Values 1 to 11 (for segment ID type **mpls-label**)

1 to 7 (for segment ID type **srv6-sid**) in a classic SRv6 policy candidate path

1 to 24 (for segment ID type **srv6-sid**) in a micro-segment SRv6 policy candidate path

create

Keyword used to create the list.

Platforms

All

41.113 segment-list

segment-list

Syntax

segment-list *segment-list*

no segment-list

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy segment-list)

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy segment-list)

Full Context

configure saa test type-multi-line lsp-ping sr-policy segment-list

configure saa test type-multi-line lsp-trace sr-policy segment-list

Description

This command configures the segment list ID.

The **no** form of this command removes the configuration.

Parameters

segment-list

Specifies the segment list number.

Values 1 to 32

Platforms

All

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segment-list

Syntax

segment-list [1..32] [**create**]

no segment-list *list*

Context

[Tree] (conf>router>segment-routing>sr-policies>policy segment-list)

Full Context

configure router segment-routing sr-policies static-policy segment-list

Description

This command creates the context to configure a segment list for the statically-defined segment routing policy candidate path.

Up to 32 segment lists are supported per policy.

The **no** form of this command deletes the segment list.

Parameters

create

Keyword used to create the segment list.

Platforms

All

segment-list

Syntax

segment-list *segment-list-id*

no segment-list

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>sr-policy segment-list)

Full Context

configure oam-pm session ip tunnel mpls sr-policy segment-list

Description

This command configures the segment list ID for the specific policy.

The **no** form of this command removes segment list ID.

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Default

no segment-list

Parameters

segment-list-id

Specifies the segment list ID.

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

41.114 segment-routing

segment-routing

Syntax

segment-routing

Context

[Tree] (config>router>bgp segment-routing)

Full Context

configure router bgp segment-routing

Description

Commands in this context configure options related to BGP segment routing (prefix SID support).

Platforms

All

segment-routing

Syntax

segment-routing

no segment-routing

Context

[Tree] (config>router>isis segment-routing)

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Full Context

configure router isis segment-routing

Description

Commands in this context configure segment routing parameters within a given IGP instance.

Segment routing adds to IS-IS and OSPF routing protocols the ability to perform shortest path routing and source routing using the concept of abstract segment. A segment can represent a local prefix of a node, a specific adjacency of the node (interface or next-hop), a service context, or a specific explicit path over the network. For each segment, the IGP advertises an identifier referred to as Segment ID (SID).

When segment routing is used together with MPLS data plane, the SID is a standard MPLS label. A router forwarding a packet using segment routing will thus push one or more MPLS labels.

Segment routing using MPLS labels can be used in both shortest path routing applications and in traffic engineering applications. This feature implements the shortest path forwarding application.

After segment routing is successfully enabled in the IS-IS or OSPF instance, the router will perform the following operations:

1. Advertise the Segment Routing Capability Sub-TLV to routers in all areas/levels of this IGP instance. However, only neighbors with which it established an adjacency interprets the SID or label range information and use it for calculating the label to swap to or push for a given resolved prefix SID.
2. Advertise the assigned index for each configured node SID in the new prefix SID sub-TLV with the N-flag (node-SID flag) set. Then the segment routing module programs the incoming label map (ILM) with a pop operation for each local node SID in the data path.
3. Assign and advertise automatically an adjacency SID label for each formed adjacency over a network IP interface in the new adjacency SID sub-TLV. The segment routing module programs the incoming label map (ILM) with a pop operation, in effect with a swap to an implicit null label operation, for each advertised adjacency SID.
4. Resolve received prefixes and if a prefix SID sub-TLV exists, the Segment Routing module programs the ILM with a swap operation and also an LTN with a push operation both pointing to the primary/LFA NHLFE. An SR tunnel is also added to the TTM.

When the user enables segment routing in a given IGP instance, the main SPF and LFA SPF are computed normally and the primary next-hop and LFA backup next-hop for a received prefix are added to RTM without the label information advertised in the prefix SID sub-TLV.

Platforms

All

segment-routing

Syntax

[**no**] **segment-routing**

Context

[Tree] (config>router>ospf segment-routing)

[Tree] (config>router>ospf3 segment-routing)

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Full Context

configure router ospf segment-routing

configure router ospf3 segment-routing

Description

Commands in this context configure segment routing parameters within an IGP instance.

Segment routing adds to IS-IS, OSPF, or OSPF3 routing protocols the ability to perform shortest path routing and source routing using the concept of abstract segment. A segment can represent a local prefix of a node, a specific adjacency of the node (interface or next hop), a service context, or a specific explicit path over the network. For each segment, the IGP advertises an identifier referred to as a segment ID (SID).

When segment routing is used together with the MPLS data plane, the SID is a standard MPLS label. A router forwarding a packet using segment routing will thus push one or more MPLS labels.

Segment routing using MPLS labels can be used in both shortest path routing applications and traffic engineering applications. This feature implements the shortest path forwarding application.

After segment routing is successfully enabled in the IS-IS, OSPF, or OSPF3 instance, the router will perform the following operations:

- Advertise the Segment Routing Capability sub-TLV to routers in all areas or levels of the IGP instance. However, only neighbors with which the IGP instance established an adjacency will interpret the SID and label range information and use it for calculating the label to swap to or push for a particular resolved prefix SID.
- Advertise the assigned index for each configured node SID in the new prefix SID sub-TLV with the N-flag (node SID flag) set. The segment routing module then programs the incoming label map (ILM) with a pop operation for each local node SID in the data path.
- Automatically assign and advertise an adjacency SID label for each formed adjacency over a network IP interface in the new adjacency SID sub-TLV. The segment routing module programs the incoming label map (ILM) with a pop operation, in effect with a swap to an implicit null label operation, for each advertised adjacency SID.
- Resolve received prefixes, and if a prefix SID sub-TLV exists, the segment routing module programs the ILM with a swap operation and programs an LSP ID to NHLFE (LTN) with a push operation, both pointing to the primary/LFA NHLFE. An SR tunnel is also added to the TTM.

When the user enables segment routing in an IGP instance, the main SPF and LFA SPF are computed normally and the primary next hop and LFA backup next hop for a received prefix are added to the RTM without the label information advertised in the prefix SID sub-TLV.

Platforms

All

segment-routing

Syntax

segment-routing

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Context

[Tree] (config>router segment-routing)

Full Context

configure router segment-routing

Description

This command creates a context to configure protocol-independent parameters relating to segment routing.

Platforms

All

41.115 segment-routing-mpls

segment-routing-mpls

Syntax

segment-routing-mpls

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment segment-routing-mpls)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls

Description

Commands in this context configure SR-MPLS replication-segment entries for the P2MP tree.

Platforms

All

41.116 segment-routing-v6

segment-routing-v6

Syntax

[**no**] **segment-routing-v6**

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Context

[Tree] (conf>router>segment-routing>sr-policies>policy segment-routing-v6)

Full Context

configure router segment-routing sr-policies static-policy segment-routing-v6

Description

Commands in this context configure parameters of an SRv6 policy.

The **no** form of this command removes the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

[**no**] **segment-routing-v6**

Context

[Tree] (config>router>segment-routing segment-routing-v6)

Full Context

configure router segment-routing segment-routing-v6

Description

Commands in this context configure global SRv6 parameters.

The **no** form of this command deletes the context.

Default

no segment-routing-v6

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

[**no**] **segment-routing-v6**

Context

[Tree] (config>router>isis segment-routing-v6)

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Full Context

configure router isis segment-routing-v6

Description

Commands in this context configure SRv6 parameters specific to this IS-IS instance.

Note:
This context has its own **shutdown** command.The **config>router>segment-routing>shutdown** command only applies to SR-MPLS and does not impact this context.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

[**no**] **segment-routing-v6** [**bgp** *bgp-instance*]

Context

[Tree] (config>service>vprn>bgp-evpn segment-routing-v6)

[Tree] (config>service>vprn>bgp-ipvpn segment-routing-v6)

Full Context

configure service vprn bgp-evpn segment-routing-v6

configure service vprn bgp-ipvpn segment-routing-v6

Description

Commands in this context configure SRv6 parameters specific to this BGP-IPVPN or BGP-EVPN instance.

The **no** form of this command deletes the context.

Default

no segment-routing-v6

Parameters

bgp *bgp-instance*

Specifies the BGP instance. If this parameter is not specified, the value of "1" is used by default.

Values 1 to 2

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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segment-routing-v6

Syntax

[**no**] **segment-routing-v6**

Context

[Tree] (config>router>bgp segment-routing-v6)

Full Context

configure router bgp segment-routing-v6

Description

Commands in this context configure SRv6 parameters specific to this BGP instance.

The **no** form of this command deletes the context.

Default

no segment-routing-v6

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

[no] segment-routing-v6

Context

[Tree] (config>router>bgp>group>neighbor segment-routing-v6)

[Tree] (config>router>bgp>group segment-routing-v6)

Full Context

configure router bgp group neighbor segment-routing-v6

configure router bgp group segment-routing-v6

Description

Commands in this context configure SRv6 parameters.

The **no** form of this command deletes the context.

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Note:
When configuring this command at the neighbor level, by default, the neighbor inherits route advertisement options from its BGP peer group. However, after this command is configured, there is no inheritance of any route advertisement options from the group level.

Default

no segment-routing-v6

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

segment-routing-v6 *instance* [**create**]

no segment-routing-v6 *instance*

Context

[Tree] (config>service>vpls segment-routing-v6)

[Tree] (config>service>vprn segment-routing-v6)

Full Context

configure service vpls segment-routing-v6

configure service vprn segment-routing-v6

Description

Commands in this context configure the SRv6 instance that is used in the service.

The **no** form of this command removes the configured SRv6 instance.

Parameters

instance

Specifies the SRv6 instance number enabled in the service.

Values 1, 2 (for VPRN)
1 (for VPLS)

create

Keyword used to create the SRv6 instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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segment-routing-v6

Syntax

segment-routing-v6 *instance* [**create**]

no segment-routing-v6 *instance*

Context

[Tree] (config>service>epipe segment-routing-v6)

Full Context

configure service epipe segment-routing-v6

Description

Commands in this context configure the SRv6 instance that is used in the service.

The **no** form of this command removes the configured SRv6 instance.

Parameters

instance

Specifies the SRv6 instance number enabled in the service.

Values 1

create

Keyword used to create the SRv6 instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

segment-routing-v6 [**bgp** *bgp-instance*][**srv6-instance** *srv6-instance*][**default-locator** *name*] [**create**]

no segment-routing-v6 [**bgp** *bgp-instance*]

Context

[Tree] (config>service>epipe>bgp-evpn segment-routing-v6)

[Tree] (config>service>vpls>bgp-evpn segment-routing-v6)

Full Context

configure service epipe bgp-evpn segment-routing-v6

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configure service vpls bgp-evpn segment-routing-v6

Description

Commands in this context configure the SRv6 instance that is used in the service.

The **no** form of this command removes the configured SRv6 instance.

Parameters

bgp-instance

Specifies the SRv6 instance that is configured in the service and associated to an EVPN control plane.

Values 1, 2 (for Epipe)

1 (for VPLS)

srv6-instance

Specifies the SRv6 instance ID that exists in the service and is associated to a BGP EVPN control plane.

Values 1

default-locator

Keyword that refers to a regular or micro-segment locator that exists in the service SRv6 instance and is used as the default locator for the service.

name

Specifies a locator that exists in the service SRv6 instance and is used as the default locator for the service, up to 64 characters.

create

Keyword used to create the SRv6 instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

segment-routing-v6 *name*

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment segment-routing-v6)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-v6

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Description

Commands in this context configure SRv6 replication-segment entries for the P2MP SR tree.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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42 s Commands – Part II

42.1 sel-mcast-advertisement

sel-mcast-advertisement

Syntax

[**no**] **sel-mcast-advertisement**

Context

[Tree] (config>service>vpls>bgp-evpn sel-mcast-advertisement)

Full Context

configure service vpls bgp-evpn sel-mcast-advertisement

Description

This command enables the advertisement of BGP EVPN Selective Multicast Ethernet Tag (SMET) routes.

The **no** form of this command disables the advertisement of BGP EVPN SMET routes.

Default

no sel-mcast-advertisement

Platforms

All

42.2 selection-criteria

selection-criteria

Syntax

selection-criteria [**best-port** | **highest-count** | **highest-weight**] [**slave-to-partner**] [**subgroup-hold-time** *hold-time*]

no selection-criteria

Context

[Tree] (config>lag selection-criteria)

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Full Context

configure lag selection-criteria

Description

This command specifies which selection criteria should be used to select the active sub-group. If there is a tie for highest-count or highest-weight, the LAG will prefer the port with the lowest priority. If that does not break the tie, the currently active subgroup will stay active (that is, non-revertive behavior).

The **no** form of this command reverts to the default value.

Default

selection-criteria highest-count

Parameters

highest-count

Selects a sub-group with the highest number of eligible members as an active sub-group (not applicable to "power-off" mode of operations).

highest-weight

Selects a sub-group with the highest aggregate weight as an active subgroup (not applicable to "power-off" mode of operations). Aggregate weight is calculated as the sum of (65535 - port priority) all ports within a sub-group.

best-port

Selects a sub-group containing the port with highest priority port as an active subgroup. In case of equal port priorities, the sub-group containing the port with the lowest port-id is chosen.

slave-to-partner

The **slave-to-partner** keyword specifies that it, together with the selection criteria, should be used to select the active sub-group. An eligible member is a LAG-member link which can potentially become active. This means it is operationally up (not disabled) for use by the remote side. The **slave-to-partner** keyword can be used to control whether or not this latter condition is taken into account.

hold-time

Applicable with LACP enabled. Specifies the optional delay timer for switching to a newly selected active sub-group from the existing active sub-group. The timer delay applies only if the existing sub-group remains operationally up.

Values

not specified	Equivalent to specifying a value of 0. Specifies no delay and to switchover immediately to a new candidate active sub-group.
0 to 2000	Integer specifying the timer value in 10ths of a second.
infinite	Do not switchover from existing active sub-group if the subgroup remains UP. Manual switchover possible using tools perform lag force command.

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Platforms
All

42.3 selective

selective

Syntax
selective

Context
[Tree] (config>service>vprn>mvpn>provider-tunnel selective)

[Tree] (config>service>vpls>provider-tunnel selective)

Full Context
configure service vprn mvpn provider-tunnel selective

configure service vpls provider-tunnel selective

Description
Commands in this context specify selective provider tunnel parameters.

Platforms
All

selective

Syntax
selective

Context
[Tree] (config>router>gtm>provider-tunnel selective)

Full Context
configure router gtm provider-tunnel selective

Description
Commands in this context configure selective provider tunnel parameters.

Platforms
All

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42.4 selective-label-ip

selective-label-ip

Syntax

selective-label-ip {**no-install** | **route-table-install-only**}

no selective-label-ip

Context

[Tree] (config>router>bgp selective-label-ip)

Full Context

configure router bgp selective-label-ip

Description

This command configures **selective-label-ip** for the BGP level.

The **no-install** option conserves labeled route table space on BGP-LU **next-hop-self** route reflectors. This option causes BGP-LU routes to be reflected downstream via the ABR with the **next-hop-self** update. BGP-LU routes are not installed to local MPLS tables or routing tables for use by local services.

The **route-table-install-only** option conserves labeled route table space on BGP-LU **next-hop-self** route reflectors and allows these routes to be used for IP transport, unlike the **no-install** option. When the **route-table-install-only** option is used, learned BGP-LU routes are also reflected downstream via the ABR with the **next-hop-self** update. BGP-LU routes are not installed to local MPLS tables for use by local services. These routes are installed to the RTM and used for the best route selection process.

Note: If local services need to use BGP-LU routes, the **no-install** and **route-table-install-only** options should not be used.

The default **no** form of this command installs BGP-LU routes to the datapath for local services and makes them available to the RTM for IP next-hop selection.

Default

no selective-label-ip

Parameters

no-install

Specifies that BGP-LU routes are not installed to local MPLS tables or routing tables.

route-table-install-only

Specifies the installation of BGP-LU routes to the RTM. BGP-LU routes are not installed to local MPLS tables for use by local services.

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Platforms

All

42.5 selective-label-ip-prioritization

selective-label-ip-prioritization

Syntax

[**no**] **selective-label-ip-prioritization**

Context

[Tree] (config>router>bgp selective-label-ip-prioritization)

Full Context

configure router bgp selective-label-ip-prioritization

Description

This command enables selective-label IP prioritization for BGP labeled IPv4 and IPv6 routes.

When this command is configured, every received labeled IPv4 and IPv6 route that is potentially usable by a local service is automatically prioritized for fast control plane reconvergence. When the reachability of a BGP next-hop changes, these labeled IPv4 and IPv6 routes are updated into the route table first, along with other routes manually tagged as high priority by import policies.

A /32 or /128 labeled unicast route (and associated BGP-LU tunnel) is determined to be potentially usable by a local service if one of the following conditions is met:

- the route matches the far-end address of a user-provisioned SDP of an Layer 2 service and the SDP is configured to use BGP tunnels as transport
- the route matches the BGP next-hop address of a BGP-EVPN or IP VPN route, and this VPN route is either imported into a local service or readvertised by the router acting as a next-hop-self route-reflector or a model-B ASBR

The **no** form of this command disables selective-label IP prioritization for BGP.

Default

no selective-label-ip-prioritization

Platforms

All

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42.6 selective-label-ipv4-install

selective-label-ipv4-install

Syntax

[**no**] **selective-label-ipv4-install**

Context

[Tree] (config>router>bgp>group selective-label-ipv4-install)

[Tree] (config>router>bgp selective-label-ipv4-install)

[Tree] (config>router>bgp>group>neighbor selective-label-ipv4-install)

Full Context

configure router bgp group selective-label-ipv4-install

configure router bgp selective-label-ipv4-install

configure router bgp group neighbor selective-label-ipv4-install

Description

This command enables selective download for BGP label-ipv4 routes.

When this command is configured so that it applies to a BGP session, label-ipv4 routes received on this session are marked as invalid if they are not needed for any eligible service. A /32 label-ipv4 route is determined to be required if one of the following applies:

1. It matches the far-end address of a manually configured or auto-created SDP Layer 2 VLL or VPLS service and the SDP is configured to use BGP tunnels as transport.
2. It matches the IPv4 BGP next hop of a BGP-EVPN route and this EVPN route is either imported into a VPLS service or re-advertised by the router acting as a next-hop-self route-reflector or a model-B ASBR.
3. It matches the IPv4 BGP next hop of a VPN-IPv4 route and this VPN-IP route is either imported into a VPRN service or re-advertised by the router acting as a next-hop-self route-reflector or a model-B ASBR.
4. It matches the IPv4 address in the IPv4-mapped IPv6 address of a VPN IPv6 route and this VPN-IP route is either imported into a VPRN service or re-advertised by the router acting as a next-hop-self route-reflector or a model-B ASBR.

The **no** form of this command at the top (**config>router>bgp**) level disables the selective installation functionality. The **no** form of this command at the **group** or **neighbor** level causes the setting to be inherited from a higher level configuration.

Default

no selective-label-ipv4-install

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Platforms

All

42.7 selective-learned-fdb

selective-learned-fdb

Syntax

[**no**] **selective-learned-fdb**

Context

[Tree] (config>service>vpls selective-learned-fdb)

Full Context

configure service vpls selective-learned-fdb

Description

This command determines which line cards FDB entries are allocated on for MAC addresses in the VPLS service in which the command is configured.

By default, FDB entries for MAC addresses in VPLS services are allocated on all line cards in the system. Enabling **selective-learned-fdb** causes FDB entries to be allocated only on the line cards on which the service has a configured object, which includes all line cards:

- on which a SAP is configured
- which have ports configured in a LAG SAP
- which have ports configured in an Ethernet tunnel SAP
- which have ports configured on a network interface (which also may be on a LAG) when the service has a mesh or spoke-SDP, VXLAN or EVPN-MPLS configured

Only MAC addresses with a type "L" or "Evpn" in the **show** output displaying the FDB can be allocated selectively, unless a MAC address configured as a conditional static MAC address is learned dynamically on an object other than its monitored object; this can be displayed with type "L" or "Evpn" but is allocated as global because of the conditional static MAC configuration.

The **no** form of this command returns the FDB MAC address entry allocation mode to its default where FDB entries for MAC addresses are allocated on all line cards in the system.

Default

no selective-learned-fdb

Platforms

All

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42.8 send

send

Syntax

send {**broadcast** | **multicast** | **none** | **version-1** | **both**}

no send

Context

[Tree] (config>service>vprn>rip send)

[Tree] (config>service>vprn>rip>group send)

[Tree] (config>service>vprn>ripng>group send)

[Tree] (config>service>vprn>ripng>group>neighbor send)

[Tree] (config>service>vprn>ripng send)

[Tree] (config>service>vprn>rip>group>neighbor send)

Full Context

configure service vprn rip send

configure service vprn rip group send

configure service vprn ripng group send

configure service vprn ripng group neighbor send

configure service vprn ripng send

configure service vprn rip group neighbor send

Description

This command configures the type of RIP messages sent to RIP neighbors. This control can be issued at the global, group or interface level. The default behavior sends RIPv2 messages with the multicast (224.0.0.9) destination address.

If **version-1** is specified, the router only listens for and accepts packets sent to the broadcast address.

The **no** form of this command resets the type of messages sent back to the default value.

Default

no send

Parameters

broadcast

Send RIPv2 formatted messages to the broadcast address.

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multicast

Send RIPv2 formatted messages to the multicast address.

none

Do not send any RIP messages (i.e. silent listener).

version-1

Send RIPv1 formatted messages to the broadcast address.

both

Send both RIP v1 & RIP v2 updates to the broadcast address.

Platforms

All

send

Syntax

send

Context

[Tree] (config>system>security>keychain>direction>uni send)

Full Context

configure system security keychain direction uni send

Description

This command specifies the send nodal context to sign TCP segments that are being sent by the router to another device.

Platforms

All

send

Syntax

send *option-number*

no send

Context

[Tree] (config>system>security>keychain>tcp-option-number send)

Full Context

configure system security keychain tcp-option-number send

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Description

This command configures the TCP option number accepted in TCP packets sent.

Default

send 254

Parameters

option-number

Specifies an enumerated integer that indicates the TCP option number to be used in the TCP header.

Values 253, 254, tcp-ao

Platforms

All

send

Syntax

send {**broadcast** | **multicast** | **none** | **version-1**}

no send

Context

[Tree] (config>router>rip send)

[Tree] (config>router>rip>group>neighbor send)

[Tree] (config>router>rip>group send)

Full Context

configure router rip send

configure router rip group neighbor send

configure router rip group send

Description

This command specifies the type of RIP messages sent to RIP neighbors.

If **version-1** is specified, the router need only listen for and accept packets sent to the broadcast address.

This control can be issued at the global, group or interface level.

The **no** form of the command reverts to the default value.

Default

send version-1

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Parameters

broadcast

Specifies send RIPv2 formatted messages to the broadcast address.

multicast

Specifies send RIPv2 formatted messages to the multicast address.

none

Specifies not to send any RIP messages (i.e. silent listener).

version-1

Specifies send RIPv1 formatted messages to the broadcast address.

Platforms

All

send

Syntax

send {**none** | **ripng** | **unicast**}

no send

Context

[Tree] (config>router>ripng>group send)

[Tree] (config>router>ripng>group>neighbor send)

[Tree] (config>router>ripng send)

Full Context

configure router ripng group send

configure router ripng group neighbor send

configure router ripng send

Description

This command specifies if RIPng are sent to RIP neighbors or not and what type of IPv6 address is to be used to deliver the messages.

This control can be issued at the global, group or interface level.

The **no** form of the command reverts to the default value.

Default

send ripng

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Parameters

ripng

Specifies RIPng messages to be sent to the standard multicast address (FF02::9).

none

Specifies not to send any RIPng messages (i.e. silent listener).

unicast

Specifies to send RIPng updates as unicast messages to the defined unicast address configured through the **unicast-address** command. This option is only allowed within the neighbor context.

Platforms

All

42.9 send-accounting-response

send-accounting-response

Syntax

[**no**] **send-accounting-response**

Context

[Tree] (config>router>radius-proxy>server send-accounting-response)

[Tree] (config>service>vprn>radius-proxy>server send-accounting-response)

Full Context

configure router radius-proxy server send-accounting-response

configure service vprn radius-proxy server send-accounting-response

Description

This command results in the system to always generate RADIUS accounting-response to acknowledge RADIUS accounting-request received from the RADIUS client.

The **no** form of this command disables the command.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.10 send-acct-stop-on-fail

send-acct-stop-on-fail

Syntax

send-acct-stop-on-fail {[**on-request-failure**] [**on-reject**] [**on-accept-failure**]}

no send-acct-stop-on-fail

Context

[Tree] (config>subscr-mgmt>auth-policy send-acct-stop-on-fail)

Full Context

configure subscriber-mgmt authentication-policy send-acct-stop-on-fail

Description

This command activates the reporting of RADIUS authentication failures of a PPPoE session to a RADIUS accounting server with an Accounting Stop message.

Three failure categories can be enabled separately:

- **on-request-failure**: All failure conditions between the sending of an Access-Request and the reception of an Access-Accept or Access-Reject.
- **on-reject**:
- **on-accept-failure**: All failure conditions that appear after receiving an Access-Accept and before successful instantiation of the host or session.

The RADIUS accounting policy to be used for sending the Accounting Stop messages must be obtained prior to RADIUS authentication via local user database pre-authentication.

The **no** form of this command reverts to the default.

Parameters

on-request-failure

Specifies that an accounting stop message is sent when a RADIUS Access-Request message could not be sent (for example, there is no server configured, or timeout).

on-reject

Specifies that an accounting stop message is sent when an Access-Reject is received.

on-accept-failure

Specifies that an accounting stop message is sent a failure occurred after the reception of a RADIUS Access-Accept message (such as a duplicate IP address).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.11 send-bvpls-evpn-flush

send-bvpls-evpn-flush

Syntax

[**no**] **send-bvpls-evpn-flush**

Context

[Tree] (config>service>vpls>pbb send-bvpls-evpn-flush)

Full Context

configure service vpls pbb send-bvpls-evpn-flush

Description

This command triggers ISID-based C-MAC flush signaling in the PBB-EVPN. When the command is enabled in an I-VPLS service, a B-MAC/ISID route is sent for the I-VPLS ISID.

Default

no send-bvpls-evpn-flush

Platforms

All

42.12 send-bvpls-flush

send-bvpls-flush

Syntax

send-bvpls-flush {[**all-but-mine**] [**all-from-me**]}

no send-bvpls-flush

Context

[Tree] (config>service>vpls>pbb send-bvpls-flush)

Full Context

configure service vpls pbb send-bvpls-flush

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Description

This command enables generation of LDP MAC withdrawal "flush-all-from-me” in the B-VPLS domain when the following triggers occur in the related IVPLS:

- MC-LAG failure
- Failure of a local SAP
- Failure of a local pseudowire/SDP binding

A failure means transition of link SAP/pseudowire to either down or standby status.

This command does not require send-flush-on-failure in B-VPLS to be enabled on an IVPLS trigger to send an MAC flush into the BVPLS.

Default

no send-bvpls-flush

Parameters

all-but-mine

Specifies to send an LDP flush all-but-mine and also sent into the B-VPLS. Both parameters can be set together.

all-from-me

Specifies to send an LDP flush-all-from and when STP initiates a flush, it is sent into the B-VPLS using LDP MAC flush all-from-me. Both parameters can be set together.

Platforms

All

42.13 send-chain

send-chain

Syntax

[**no**] **send-chain**

Context

[Tree] (config>ipsec>cert-profile>entry send-chain)

Full Context

configure ipsec cert-profile entry send-chain

Description

Commands in this context configure the send-chain in the **cert-profile entry**.

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The configuration of this command is optional, by default system will only send the certificate specified by **cert** command in the selected entry to the peer. This command allows system to send additional CA certificates to the peer. These additional CA certificates must be in the certificate chain of the certificate specified by the **cert** command in the same entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

send-chain

Syntax

[**no**] **send-chain**

Context

[Tree] (config>system>security>tls>cert-profile>entry send-chain)

Full Context

configure system security tls cert-profile entry send-chain

Description

This command enables the sending of certificate authority (CA) certificates, and enters the context to configure send-chain information.

By default, the system only sends the TLS server certificate or TLS client certificate specified by the **cert** command. If CA certificates are to be sent using send-chain, they must be in the chain of certificates specified by the **config**>**system**>**security**>**pki**>**ca-profile** command. The specification of the send-chain is not necessary for a working TLS profile if the TLS peer has the CA certificate used to sign the server or client certificate in its own trust anchor.

For example, given a TLS client running on SR OS, the ROOT CA certificate resides on the TLS server, but the subsequent SUB-CA certificate needed to complete the chain resides within SR OS. The **send-chain** command allows these SUB-CA certificates to be sent from SR OS to the peer to be authenticated using the ROOT CA certificate that resides on the peer.

The **no** form of the command disables the send-chain.

Default

no send-chain

Platforms

All

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42.14 send-count

send-count

Syntax

send-count *send-count*

no send-count

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy send-count)

[Tree] (config>saa>test>type-multi-line>lsp-ping send-count)

Full Context

configure saa test type-multi-line lsp-ping sr-policy send-count

configure saa test type-multi-line lsp-ping send-count

Description

This command configures the number of messages to send. The *send-count* value is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message *interval* value must be expired before the next message request is sent.

The **no** form of this command reverts to the default value.

Default

send-count 1

Parameters

send-count

Specifies the send count in number of packets.

Values 1 to 100

Default 1

Platforms

All

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42.15 send-default

send-default

Syntax

send-default [**ipv4**] [**ipv6**] [**export-policy** *export-policy*]

no send-default

Context

[Tree] (config>router>bgp send-default)

[Tree] (config>router>bgp>group send-default)

[Tree] (config>router>bgp>group>neighbor send-default)

Full Context

configure router bgp send-default

configure router bgp group send-default

configure router bgp group neighbor send-default

Description

This command enables the advertisement of a default route. When this command is configured to apply to an IBGP or EBGP session, the default route for IPv4 or IPv6 is automatically added to the Adj_RIB-OUT of that peer. The advertised default routes are unrelated to any default routes installed in the FIB of the local router.

If a BGP export policy allows an active default route in the FIB of the local router to be advertised and conflict with this command, the artificially generated default route overrides the advertisement of the installed default route.

The artificially generated default route is not matched by BGP export policies. To modify its attributes or decide whether it should be advertised (based on a conditional expression), a route policy must be created and referenced by the **export-policy** parameter. Only conditional entries with an action and no from or to criteria are parsed. If there are no such entries, only the default action is applied.

The **no** form of this command restores the default behavior. At the group and neighbor levels, the default behavior is to inherit the configuration from a higher level. At the instance level, the default behavior is to neither generate nor inject a default route.

Default

no send-default

Parameters

ipv4

Generates and advertises an IPv4 default route (0/0).

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ipv6

Generates and advertises an IPv6 default route (::/0).

export-policy

Specifies the name of a route policy, up to 64 characters. Only the route modifications in the matching conditional-expression entry or the default action are applied. These modifications change the attributes of the advertised default routes.

Platforms

All

42.16 send-fib-population-packets

send-fib-population-packets

Syntax

send-fib-population-packets *mode*

no send-fib-population-packets

Context

[Tree] (config>service>vprn>sub-if>grp-if>srrp send-fib-population-packets)

[Tree] (config>service>ies>sub-if>grp-if>srrp send-fib-population-packets)

Full Context

configure service vprn subscriber-interface group-interface srrp send-fib-population-packets

configure service ies subscriber-interface group-interface srrp send-fib-population-packets

Description

This command configures the mode used to send Fib population packets. When SRRP becomes master it generates gratuitous ARPs (GARPs) used by the Layer 2 access network to populate the correct SRRP gateway.

The **no** form of this command disables sending FDB population packets.

Default

send-fib-population-packets all

Parameters

mode

Specifies on which VLANs the gratuitous ARPs are sent.

Values **all**: Generates, on SSRP master assignment, the GARPs on all VLANs

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out-tag-only: Generates, on SRRP master assignment, the GARPs only on SAPs with unique outer VLAN and lowest VLAN tags

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.17 send-flush-on-bvpls-failure

send-flush-on-bvpls-failure

Syntax

[**no**] **send-flush-on-bvpls-failure**

Context

[Tree] (config>service>vpls>pbb send-flush-on-bvpls-failure)

Full Context

configure service vpls pbb send-flush-on-bvpls-failure

Description

This command enables the generation in the local I-VPLS of an LDP MAC flush-all-from-me following a failure of SAP/the whole endpoint/spoke-SDP in the related B-VPLS. The failure of mesh-SDP in B-VPLS does not generate the I-VPLS MAC flush.

The **no** form of this command disables the generation of LDP MAC flush in I-VPLS on failure of SAP/endpoint/spoke-SDP in the related B-VPLS.

Default

no send-flush-on-bvpls-failure

Platforms

All

42.18 send-flush-on-failure

send-flush-on-failure

Syntax

[**no**] **send-flush-on-failure**

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Context

[Tree] (config>service>vpls send-flush-on-failure)

Full Context

configure service vpls send-flush-on-failure

Description

This command enables sending out flush-all-from-me messages to all LDP peers included in affected VPLS, in the event of physical port failures or "operationally down" events of individual SAPs. This feature provides an LDP-based mechanism for recovering a physical link failure in a dual-homed connection to a VPLS service. This method provides an alternative to RSTP solutions where dual homing redundancy and recovery, in the case of link failure, is resolved by RSTP running between a PE router and CE devices. If the endpoint is configured within the VPLS and send-flush-on-failure is enabled, flush-all-from-me messages will be sent out only when all spoke-SDPs associated with the endpoint go down.

This feature cannot be enabled on management VPLS.

Default

no send-flush-on-failure

Platforms

All

42.19 send-idr-after-eap-success

send-idr-after-eap-success

Syntax

[**no**] **send-idr-after-eap-success**

Context

[Tree] (config>ipsec>ike-policy send-idr-after-eap-success)

Full Context

configure ipsec ike-policy send-idr-after-eap-success

Description

This command enables the system to add the Identification Responder (IDr) payload in the last IKE authentication response after an Extensible Authentication Protocol (EAP) Success packet is received. When disabled, the system will not include IDr payload.

The **no** form of this command disables sending the IDr payload in the last IKE.

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Default

send-idr-after-eap-success

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.20 send-imet-ir-on-ndf

send-imet-ir-on-ndf

Syntax

send-imet-ir-on-ndf

no send-imet-ir-on-ndf

Context

[Tree] (config>service>vpls>bgp-evpn>vxlan send-imet-ir-on-ndf)

Full Context

configure service vpls bgp-evpn vxlan send-imet-ir-on-ndf

Description

This command controls the advertisement of Inclusive Multicast Ethernet Tag (IMET) routes for ingress replication in the case where the PE is Non-DF for a specified network interconnect VXLAN virtual ES. When enabled, the router will advertise IMET-IR routes even if the PE is NDF. This attracts BUM traffic but also speeds up convergence in case of DF failure.

The **no** form of this command withdraws the advertisement of the IMET-IR route on the network interconnect VXLAN NDF router.

Default

send-imet-ir-on-ndf

Platforms

All

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42.21 send-orf

send-orf

Syntax

send-orf [*comm-id*]

no send-orf [*comm-id*]

Context

[Tree] (config>router>bgp>group>neighbor>outbound-route-filtering>extended-community send-orf)

[Tree] (config>router>bgp>group>outbound-route-filtering>extended-community send-orf)

[Tree] (config>router>bgp>outbound-route-filtering>extended-community send-orf)

Full Context

configure router bgp group neighbor outbound-route-filtering extended-community send-orf

configure router bgp group outbound-route-filtering extended-community send-orf

configure router bgp outbound-route-filtering extended-community send-orf

Description

This command instructs the router to negotiate the send capability in the BGP outbound route filtering (ORF) negotiation with a peer.

This command also causes the router to send a community filter, prefix filter, or AS path filter configured as an inbound filter on the BGP session to its peer as an ORF Action ADD.

The **no** form of this command causes the router to remove the send capability in the BGP ORF negotiation with a peer.

The **no** form also causes the router to send an ORF remove action for a community filter, prefix filter, or AS path filter configured as an inbound filter on the BGP session to its peer.

If the *comm-id* parameters are not exclusively route target communities then the router will extract appropriate route targets and use those. If, for some reason, the *comm-id* parameters specified contain no route targets, then the router will not send an ORF.

Default

no send-orf

Parameters

comm-id

Specifies up to 32 community policies, which must consist exclusively of route target extended communities. If it is not specified, then the ORF policy is automatically generated from configured route target lists, accepted client route target ORFs and locally configured route targets.

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Values [**target:** {*ip-address*:*comm-val* | *2byte-asnumber*:*ext-comm-val* | *4byte-asnumber*:*comm-val*}

where:

- *ip-address* — a.b.c.d
- *comm-val* — 0 to 65535
- *2byte-asnumber* — 0 to 65535
- *ext-comm-val* — 0 to 4294967295
- *4byte-asnumber* — 0 to 4294967295

Platforms

All

42.22 send-queries

send-queries

Syntax

[**no**] **send-queries**

Context

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping send-queries)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping send-queries)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping send-queries)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping send-queries)

[Tree] (config>service>vpls>sap>mld-snooping send-queries)

[Tree] (config>service>vpls>sap>igmp-snooping send-queries)

Full Context

configure service vpls spoke-sdp igmp-snooping send-queries

configure service vpls mesh-sdp mld-snooping send-queries

configure service vpls spoke-sdp mld-snooping send-queries

configure service vpls mesh-sdp igmp-snooping send-queries

configure service vpls sap mld-snooping send-queries

configure service vpls sap igmp-snooping send-queries

Description

This command specifies whether to send IGMP general query messages on the SAP or SDP.

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When send-queries is configured, all type of queries generate ourselves are of the configured version. If a report of a version higher than the configured version is received, the report will get dropped and a new wrong version counter will get incremented. If send-queries is not configured, the version command has no effect. The version used will be the version of the querier. This implies that, for example, when we have a v2 querier, we will never send out a v3 group or group-source specific query when a host wants to leave a certain group.

If **mrouter-port** is enabled on this SAP or spoke SDP, the **send-queries** command parameter cannot be set.

The **no** form of this command disables the IGMP general query messages.

Default

no send-queries

Platforms

All

send-queries

Syntax

[**no**] **send-queries**

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp send-queries)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping send-queries

Description

This command specifies whether to send IGMP general query messages on the managed SAP. When send-queries is configured, all type of queries generated are of the configured version. If a report of a version higher than the configured version is received, the report will get dropped and a new wrong version counter will get incremented.

If send-queries is not configured, the version command has no effect. The version used on that SAP/SDP is the version of the querier. This implies that, for example, when there is a v2 querier, a v3 group or group-source specific query is never sent when a host wants to leave a certain group.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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send-queries

Syntax

[**no**] **send-queries**

Context

[Tree] (config>service>pw-template>igmp-snooping send-queries)

Full Context

configure service pw-template igmp-snooping send-queries

Description

This command specifies whether to send IGMP general query messages.

When **send-queries** is configured, all type of queries generated are of the configured version. If a report of a version higher than the configured version is received, the report will get dropped and a new wrong version counter will get incremented.

If **send-queries** is not configured, the version command has no effect. The version used on that SAP or SDP will be the version of the querier. This implies that, for example, when we have a v2 querier, we will never send out a v3 group or group-source specific query when a host wants to leave a certain group.

Default

no send-queries

Platforms

All

42.23 send-refresh

send-refresh

Syntax

send-refresh *seconds*

no send-refresh

Context

[Tree] (config>service>vpls>proxy-nd send-refresh)

[Tree] (config>service>vpls>proxy-arp send-refresh)

Full Context

configure service vpls proxy-nd send-refresh

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configure service vpls proxy-arp send-refresh

Description

If enabled, this command will make the system send a refresh at the configured time. A refresh message is an ARP-request message that uses 0s as sender's IP for the case of a proxy-ARP entry. For proxy-ND entries, a refresh is a regular NS message using the chassis-mac as MAC source-address.

Default

no send-refresh

Parameters

seconds

Specifies the send-refresh in seconds.

Values 120 to 86400

Platforms

All

42.24 send-release

send-release

Syntax

[**no**] **send-release**

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp send-release)

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp6 send-release)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp send-release)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp6 send-release)

Full Context

configure service vprn interface sap ipsec-gw dhcp send-release

configure service vprn interface sap ipsec-gw dhcp6 send-release

configure service ies interface sap ipsec-gw dhcp send-release

configure service ies interface sap ipsec-gw dhcp6 send-release

Description

This command enables the system to send a DHCPv4/v6 release message when the IPsec tunnel is removed.

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Default

no send-release

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.25 send-to-ebgp

send-to-ebgp

Syntax

send-to-ebgp *family* [*family*]

no send-to-ebgp

Context

[Tree] (config>service>vprn>bgp>group>neighbor>link-bandwidth send-to-ebgp)

[Tree] (config>service>vprn>bgp>group>link-bandwidth send-to-ebgp)

Full Context

configure service vprn bgp group neighbor link-bandwidth send-to-ebgp

configure service vprn bgp group link-bandwidth send-to-ebgp

Description

This command configures BGP to allow link-bandwidth extended community to be sent in routes advertised to EBGP peers in the scope of the command, as long the routes belong to one of the listed address families.

The link-bandwidth extended community is encoded as a non-transitive type. This means that by default it should not be attached to any route advertised to an EBGP peer and it should be discarded when received in any route from an EBGP peer. This command overrides the standard behavior.

Up to three families may be configured.

The **no** form of this command restores the default behavior of stripping the link-bandwidth extended community from any route advertised to an EBGP peer.

Default

no send-to-ebgp

Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

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Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

Platforms

All

send-to-ebgp

Syntax

send-to-ebgp *family* [*family*]

no send-to-ebgp

Context

[Tree] (config>router>bgp>group>link-bandwidth send-to-ebgp)

[Tree] (config>router>bgp>group>neighbor>link-bandwidth send-to-ebgp)

Full Context

configure router bgp group link-bandwidth send-to-ebgp

configure router bgp group neighbor link-bandwidth send-to-ebgp

Description

This command configures BGP to allow link-bandwidth extended community to be sent in routes advertised to EBGP peers in the scope of the command, as long the routes belong to one of the listed address families.

The link-bandwidth extended community is encoded as a non-transitive type. This means that by default it should not be attached to any route advertised to an EBGP peer and it should be discarded when received in any route from an EBGP peer. This command overrides the standard behavior.

Up to six families may be configured.

The **no** form of this command restores the default behavior of stripping the link-bandwidth extended community from any route advertised to an EBGP peer.

Default

no send-to-ebgp

Parameters

family

Specifies the address families for which receiving the link-bandwidth extended community from EBGP peers should be supported.

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Values ipv4 — Adds a link-bandwidth extended community to unlabeled unicast IPv4 routes.

label-ipv4 — Adds a link-bandwidth extended community to labeled-unicast IPv4 routes.

vpn-ipv4 — Adds a link-bandwidth extended community to IPv4 VPN (SAFI 128) routes.

ipv6 — Adds a link-bandwidth extended community to unlabeled unicast IPv6 routes.

label-ipv6 — Adds a link-bandwidth extended community to labeled-unicast IPv6 routes.

vpn-ipv6 — Adds a link-bandwidth extended community to IPv6 VPN (SAFI 128) routes.

Platforms

All

42.26 send-tunnel-encap

send-tunnel-encap

Syntax

send-tunnel-encap [**mpls**] [**mplsoudp**]

no send-tunnel-encap

Context

[Tree] (config>service>epipe>bgp-evpn>mpls send-tunnel-encap)

[Tree] (config>service>vpls>bgp-evpn>vxlan send-tunnel-encap)

[Tree] (config>service>vpls>bgp-evpn>mpls send-tunnel-encap)

[Tree] (config>service>vprn>bgp-evpn>mpls send-tunnel-encap)

[Tree] (config>service>epipe>bgp-evpn>vxlan send-tunnel-encap)

Full Context

configure service epipe bgp-evpn mpls send-tunnel-encap

configure service vpls bgp-evpn vxlan send-tunnel-encap

configure service vpls bgp-evpn mpls send-tunnel-encap

configure service vprn bgp-evpn mpls send-tunnel-encap

configure service epipe bgp-evpn vxlan send-tunnel-encap

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Description

This command configures the encapsulation to be advertised with the EVPN routes for the service. The encapsulation is encoded in RFC 5512-based tunnel encapsulation extended communities.

When used in the **bgp-evpn**>**mpls** context, the supported options are none (**no send-tunnel-encap**), **mpls**, **mplsoudp** or both.

When used in the **bgp-evpn**>**vxlan** context, the supported options are **send-tunnel-encap** (the router signals a VXLAN value) or **no send-tunnel-encap** (no encapsulation extended community is sent).

Default

send-tunnel-encap mpls (in the **config**>**service**>**vpls**>**bgp-evpn**>**mpls** context)

send-tunnel-encap (in the **config**>**service**>**vpls**>**bgp-evpn**>**vxlan** context)

Parameters

mpls

Specifies the MPLS-over-UDP encapsulation value in the RFC 5512 encapsulation extended community.

mplsoudp

Specifies the MPLS encapsulation value in the RFC 5512 encapsulation extended community.

Platforms

All

42.27 send-unrestricted-portal-url

send-unrestricted-portal-url

Syntax

[no] send-unrestricted-portal-url

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm send-unrestricted-portal-url)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm send-unrestricted-portal-url)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt send-unrestricted-portal-url

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt send-unrestricted-portal-url

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Description

This command enables the router to send the special URL indicator urn:ietf:params:capport:unrestricted in DHCP, DHCPv6, and RA messages, to indicate to the client that no captive portal is enabled. This allows the client to disable all portal detection logic, thereby optimizing the user experience.

The **no** form of this command disables the sending of the special indicator when no captive portal is enabled.

Default

no send-unrestricted-portal-url

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.28 sender-id

sender-id

Syntax

sender-id local *local-name*

sender-id system

no sender-id

Context

[Tree] (config>eth-cfm>system sender-id)

Full Context

configure eth-cfm system sender-id

Description

This command allows the operator to include the configured "system name” (chassis3) or a locally configured value in ETH-CFM PDUs sent from MEPs and MIPs. The operator may only choose one of these options to use for ETH-CFM. MEPs include the **sender-id** TLV for CCM (not sub second CCM enabled MEPs), LBM/LBR, and LTM/LTR. MIPs include this value in the LBR and LTR PDUs.

Note:
LBR functions reflect all TLVs received in the LBM unchanged, including the SenderID TLV.

Parameters

local-name

Specifies a local alphanumeric string different from the "system name” chassis(3) value that can be used for other means, up to 45 characters.

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system

Allows ETH-CFM to use the configured "system name" value as the chassis(3).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.29 sensor-group

sensor-group

Syntax

sensor-group *name* [**create**]

no sensor-group *name*

Context

[Tree] (config>system>telemetry>sensor-groups sensor-group)

Full Context

configure system telemetry sensor-groups sensor-group

Description

Commands in this context configure sensor-related commands.

The **no** form of this command removes the configuration.

Parameters

name

Specifies the sensor group name, up to 32 characters.

create

Keyword used to create a sensor group.

Platforms

All

sensor-group

Syntax

sensor-group *name*

no sensor-group

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Context

[Tree] (config>system>telemetry>persistent-subscriptions>subscription sensor-group)

Full Context

configure system telemetry persistent-subscriptions subscription sensor-group

Description

This command assigns an existing sensor group to the specified persistent subscription. If no valid paths exist in the sensor group, the configuration is accepted; however, no gRPC connection is established when persistent subscription is activated.

The **no** form of this command removes the configuration.

Parameters

name

Specifies the sensor group name, up to 32 characters.

Platforms

All

42.30 sensor-groups

sensor-groups

Syntax

sensor-groups

Context

[Tree] (config>system>telemetry sensor-groups)

Full Context

configure system telemetry sensor-groups

Description

Commands in this context configure a sensor group.

Platforms

All

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42.31 sequence

sequence

Syntax

sequence *lower-case-letters*

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-mix sequence)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-mix sequence

Description

This command configures the frame sequence for the specified service stream by referencing the **frame-size-template** configuration.

Default

sequence a

Parameters

lower-case-letters

Specifies a string, up to 16 characters, that denotes the sequence of frames to be generated by the service activation testhead using the alphabetical characters in the referenced **frame-size-template** (for example, a, b, and c).

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

42.32 sequence-group

sequence-group

Syntax

sequence-group *group*

no sequence-group

Context

[Tree] (config>li>x-interfaces>lics>lic>authentication sequence-group)

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Full Context

configure li x-interfaces lics lic authentication sequence-group

Description

This command configures the sequence group for the X1 and X2 interfaces.

The **no** form of this command reverts to the default.

Parameters

group

Specifies the group number.

Values 2 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.33 serial-notify

serial-notify

Syntax

[**no**] **serial-notify**

Context

[Tree] (debug>router>rpki-session>packet serial-notify)

Full Context

debug router rpki-session packet serial-notify

Description

This command enables debugging for serial notify RPKI packets.

The **no** form of this command disables debugging for serial notify RPKI packets.

Platforms

All

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42.34 serial-query

serial-query

Syntax

[**no**] **serial-query**

Context

[Tree] (debug>router>rpki-session>packet serial-query)

Full Context

debug router rpki-session packet serial-query

Description

This command enables debugging for serial query RPKI packets.

The **no** form of this command disables debugging for serial query RPKI packets.

Platforms

All

42.35 server

server

Syntax

radius-accounting-server

Context

[Tree] (config>subscr-mgmt>acct-plcy>server server)

Full Context

configure subscriber-mgmt radius-accounting-policy radius-accounting-server server

Description

Commands in this context define RADIUS server attributes under a given session authentication policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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server

Syntax

server *server-index* **address** *ip-address* **secret** *key* [**hash** | **hash2** | **custom**] [**port** *port-num*] [**coa-only**] [**pending-requests-limit** *limit*]

no server *index*

Context

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server server)

Full Context

configure subscriber-mgmt authentication-policy radius-authentication-server server

Description

This command adds a RADIUS server and configures the RADIUS server IP address, index, and key values.

Up to sixteen RADIUS servers can be configured at any one time in a RADIUS authentication policy. Only five can be used for authentication, all other servers should be configured as coa-only servers. RADIUS servers are accessed in order from lowest to highest index for authentication or accounting requests until a response from a server is received. A higher indexed server is only queried if no response is received from a lower indexed server (which implies that the server is not available). If a response from a server is received, no other RADIUS servers are queried.

The **no** form of this command removes the server index from the configuration.

Parameters

server-index

Specifies the index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

Values 1 to 16 (a maximum of 5 authentication servers)

ip-address

Specifies the IP address of the RADIUS server. Two RADIUS servers cannot have the same IP address. An error message is generated if the server address is a duplicate.

key

Specifies the secret key to access the RADIUS server. This secret key must match the password on the RADIUS server.

Values secret-key: Up to 20 characters.

hash-key: Up to 33 characters.

hash2-ke: Up to 55 characters.

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hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

port-num

Specifies the UDP port number on which to contact the RADIUS server for authentication.

Values 1 to 65535

coa-only

Specifies Change-of-Authorization Messages only. Servers that are marked with the coa-only flag will not be used for authentication, but they is able to accept RADIUS CoA messages, independent of the accept-authorization-change setting in the authentication policy.

For authentication purposes, the maximum number of servers is 5. All other servers may only be used as coa-only servers.

limit

Specifies the maximum number of outstanding RADIUS authentication requests for this authentication server.

Values 1 to 4096

Default The default value when not configured is 4096

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *ip-address*

no server

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host server)

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Full Context

configure subscriber-mgmt local-user-db ipoe host server

Description

This command configures the IP address of the DHCP server to relay to.

The configured DHCP server IP address must reference one of the addresses configured under the DHCP CLI context of an IES/VPRN subscriber or group interface.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the IP address of the DHCP server.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *ip-address*

no server

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay server)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay server

Description

This command configures the IPv6 address of the DHCP6 server to relay to.

The configured DHCP6 server IPv6 address must reference one of the addresses configured under the DHCP6 CLI context of an IES/VPRN subscriber or group interface.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies up to eight IPv6 addresses of the DHCP6 server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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server

Syntax

server [**service** *service-id*] **name** *server-name*

no server

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>match-radprox-cache server)

Full Context

configure subscriber-mgmt local-user-db ipoe host match-radius-proxy-cache server

Description

This command specifies the name of radius-proxy-server and optionally id of the service that the radius-proxy-server resides in.

The **no** form of this command removes the parameters from the configuration.

Parameters

service *service-id*

Specifies the ID or name of the service.

Values 1 to 214748365

svc-name up to 64 char maximum

name *server-name*

Specifies the name of radius-proxy-server up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *ipv6z-address* [*ipv6z-address*]

no server [*ipv6z-address*]

Context

[Tree] (config>service>ies>if>ipv6>dhcp6-relay server)

Full Context

configure service ies interface ipv6 dhcp6-relay server

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Description

This command specifies a list of servers where DHCP6 requests are forwarded. The list of servers can be entered as either IP addresses or fully qualified domain names. There must be at least one server specified for DHCP6 relay to work. If there are multiple servers, the request is forwarded to all servers in the list.

The **no** form of this command reverts to the default.

Parameters

ipv6z-address

Specifies up to eight non-global IPv4 addresses including a zone index as defined by the InetAddressIPv4z textual convention.

Values

ipv6z-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

All

server

Syntax

server *server1* [*server2*]

Context

[Tree] (config>service>vprn>if>dhcp server)

[Tree] (config>service>ies>if>dhcp server)

[Tree] (config>service>ies>sub-if>grp-if>dhcp server)

Full Context

configure service vprn interface dhcp server

configure service ies interface dhcp server

configure service ies subscriber-interface group-interface dhcp server

Description

This command specifies a list of servers where requests are forwarded. The list of servers can be entered as either IP addresses or fully qualified domain names. There must be at least one server specified for DHCP relay to work. If there are multiple servers then the request is forwarded to all servers in the list.

There can be a maximum of 8 DHCP servers configured.

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The **no** form of this command reverts to the default.

Parameters

server

Specifies up to eight DHCP server IP addresses.

Platforms

All

- configure service ies interface dhcp server
- configure service vprn interface dhcp server

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp server

server

Syntax

server *server-name*

no server

Context

[Tree] (config>service>ies>sub-if>grp-if>local-address-assignment server)

[Tree] (config>service>ies>sub-if>local-address-assignment server)

[Tree] (config>service>vprn>sub-if>local-address-assignment server)

[Tree] (config>service>vprn>sub-if>grp-if>local-address-assignment server)

Full Context

configure service ies subscriber-interface group-interface local-address-assignment server

configure service ies subscriber-interface local-address-assignment server

configure service vprn subscriber-interface local-address-assignment server

configure service vprn subscriber-interface group-interface local-address-assignment server

Description

This command designates a local DHCPv4 server for local pools management where IPv4 addresses for PPPoXv4 clients are allocated without the need for the internal DHCP relay-agent. Those addresses are tied to PPPoX sessions and they are de-allocated when the PPPoX session is terminated.

Parameters

server-name

Specifies the name of the local DHCP server.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-index* **address** *ip-address* **secret** *key* [**hash** | **hash2** | **custom**] [**port** *port*] [**create**]

no server *server-index*

Context

[Tree] (config>aaa>l2tp-acct-plcy>radius-acct-server server)

Full Context

configure aaa l2tp-accounting-policy radius-accounting-server server

Description

This command adds a RADIUS server and configures the RADIUS server IP address, index, and key values.

Up to five RADIUS servers can be configured at any one time. RADIUS servers are accessed in order from lowest to highest index for authentication requests until a response from a server is received. A higher indexed server is only queried if no response is received from a lower indexed server (which implies that the server is not available). If a response from a server is received, no other RADIUS servers are queried.

The **no** form of this command removes the server from the configuration.

Parameters

server-index

The index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

Values 1 to 16 (a maximum of 5 accounting servers)

address ip-address

The IP address of the RADIUS server. Two RADIUS servers cannot have the same IP address. An error message is generated if the server address is a duplicate.

secret *key*

The secret key to access the RADIUS server. This secret key must match the password on the RADIUS server.

Values secret-key — A string up to 20 characters.

hash-key — A string up to 33 characters.

hash2-key — A string up to 55 characters.

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hash

Specifies the key is entered in an encrypted form. If the hash parameter is not used, the key is assumed to be in a non-encrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the hash parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form. If the hash2 parameter is not used, the less encrypted hash form is assumed.

custom

Specifies the custom encryption to management interface.

port

Specifies the UDP port number on which to contact the RADIUS server for authentication.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-index* **address** *ip-address* **secret** *key* [**hash** | **hash2** | **custom**] [**port** *port*] [**create**]

no server *server-index*

Context

[Tree] (config>app-assure>rad-acct-plcy>server server)

Full Context

configure application-assurance radius-accounting-policy radius-accounting-server server

Description

This command adds a RADIUS server and configures the RADIUS server IP address, index, and key values.

Up to five RADIUS servers can be configured at any one time. RADIUS servers are accessed in order from lowest to highest index for authentication requests until a response from a server is received. A higher indexed server is only queried if no response is received from a lower indexed server (which implies that the server is not available). If a response from a server is received, no other RADIUS servers are queried.

The **no** form of this command removes the server from the configuration.

Parameters

server-index

The index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

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Values 1 to 16 (a maximum of 5 accounting servers)

ip-address

The IP address of the RADIUS server. Two RADIUS servers cannot have the same IP address. An error message is generated if the server address is a duplicate.

secret *key*

The secret key to access the RADIUS server. This secret key must match the password on the RADIUS server.

Values secret-key — A string up to 20 characters

hash-key — A string up to 33 characters

hash2-key — A string up to 55 characters

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

port

Specifies the UDP port number on which to contact the RADIUS server for authentication.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-name*

no server

Context

[Tree] (config>service>ies>sub-if>grp-if>lcl-addr-assign>ipv6 server)

[Tree] (config>service>vprn>sub-if>grp-if>lcl-addr-assign>ipv6 server)

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Full Context

configure service ies subscriber-interface group-interface local-address-assignment ipv6 server

configure service vprn subscriber-interface group-interface local-address-assignment ipv6 server

Description

This command designates a local router DHCPv6 server for local pools management where IPv6 prefixes or address for PPPoXv6 clients or IPoEv6 clients are allocated without the need for the internal router DHCP relay-agent. Those addresses are tied to PPPoX or IPoE sessions and they are de-allocated when the PPPoX or IPoE session is terminated.

Parameters

server-name

The name of the local router DHCPv6 server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-index* **name** *server-name*

no server *server-index*

Context

[Tree] (config>aaa>radius-srv-plcy>servers server)

Full Context

configure aaa radius-server-policy servers server

Description

This command adds a RADIUS server.

The **no** form of this command removes a RADIUS server.

Parameters

index

Specifies the index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

Values 1 to 5

server-name

Specifies the server name, up to 32 characters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-name* [**address** *ip-address*] [**secret** *key*] [**hash** | **hash2**| **custom**] [**create**]

no server *server-name*

Context

[Tree] (config>router>radius-server server)

[Tree] (config>service>vprn>radius-server server)

Full Context

configure router radius-server server

configure service vprn radius-server server

Description

This command either specifies an external RADIUS server in the corresponding routing instance or enters configuration context of an existing server. The configured server could be referenced in the radius-server-policy.

The **no** form of this command removes the parameters from the server configuration.

Parameters

server-name

Specifies the name of the external RADIUS server.

ip-address

Specifies the IPv4 or IPv6 IP address of the external RADIUS server.

key

Specifies the shared secret key of the external RADIUS server, up to 64 characters.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

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custom

Specifies the custom encryption to management interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-name* [**create**] [**purpose** {[**accounting** | **authentication**]}] [**wlan-gw-group** *group-id*]

no server *server-name*

Context

[Tree] (config>service>vprn>radius-proxy server)

[Tree] (config>router>radius-proxy server)

Full Context

configure service vprn radius-proxy server

configure router radius-proxy server

Description

This command creates a RADIUS-proxy server in the corresponding routing instance. The proxy server can be configured for the purpose of proxying authentication or accounting or both.

If a WLAN-GW ISA group is specified, then the RADIUS proxy server is instantiated on the set of ISAs in the specified wlan-gw group. The RADIUS messages from the AP are load-balanced to these ISAs. The ISA that processes the RADIUS message then hashes this message to the ISA that anchors the UE. The hash is based on UE MAC address (required to be present in the calling-station-id attribute) in the RADIUS message.

If the **create** parameter is not specified, then this command enters configuration context of the specified RADIUS-proxy server.

The **no** form of this command removes the server-name and parameters from the radius-proxy configuration.

Parameters

server-name

Specifies the name of the RADIUS-proxy server.

create

Specifies that the system will create the specified RADIUS-proxy server.

purpose

Specifies the purpose the RADIUS-proxy server.

Values accounting — proxy accounting packets

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authentication — proxy authentication packets

group-id

Specifies the WLAN-GW ISA group.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *ipv6-address* [*ipv6-address*]

no server [*ipv6-address* [*ipv6-address*]]

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client server)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client server)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client server

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client server

Description

This specifies the DHCPv6 servers that are used for requesting addresses.

The **no** form of this command removes the server. This cannot be executed while any DHCPv6 client application is not shut down.

Parameters

ipv6-address

Specifies up to 8 unicast IPv6 addresses of a DHCP6 server.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *index* **address** *ip-address* **secret** *key* [{**hash** | **hash2** | **custom**}] [**port** *port*]

no server *index*

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Context

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus server)

[Tree] (config>system>security>tacplus server)

Full Context

configure service vprn aaa remote-servers tacplus server

configure system security tacplus server

Description

This command adds a TACACS+ server and configures the TACACS+ server IP address, index, and key values.

Up to five TACACS+ servers can be configured at any one time. TACACS+ servers are accessed in order from lowest index to the highest index for authentication requests.

The **no** form of this command removes the server from the configuration.

Default

No TACACS+ servers are configured.

Parameters

index

Specifies the index for the TACACS+ server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from the lowest index to the highest index.

Values 1 to 5

ip-address

Specifies the IP address of the TACACS+ server. Two TACACS+ servers cannot have the same IP address. An error message is generated if the server address is a duplicate.

Values

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0..FFFF]H
	d: [0..255]D

key

Specifies the secret key, up to 128 characters, for access to the TACACS+ server. This secret key must match the password on the TACACS+ server.

Values Up to 128 characters in length.

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hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

port

Specifies the port ID.

Values 0 to 65535

Platforms

All

server

Syntax

server *ipv6-address* [*ipv6-address*]

no server

Context

[Tree] (config>service>vprn>router-advert>dns-options server)

[Tree] (config>service>vprn>router-advert>if>dns-options server)

Full Context

configure service vprn router-advertisement dns-options server

configure service vprn router-advertisement interface dns-options server

Description

This command specifies the IPv6 DNS servers to include in the RDNSS option in Router Advertisements. When specified at the router advertisement level this applies to all interfaces that have **include-dns** enabled, unless the interfaces have more specific **dns-options** configured.

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Parameters

ipv6-address

Specifies the IPv6 address of the DNS server(s), up to a maximum of four, specified as eight 16-bit hexadecimal pieces.

Platforms

All

server

Syntax

server *ip-address*[**:***port*] [**create**]

no server *ip-address*[**:***port*]

Context

[Tree] (config>app-assure>group>url-filter>icap server)

Full Context

configure application-assurance group url-filter icap server

Description

This command configures the IP address and server port of the ICAP server.

Parameters

ip-address[:port]

Specifies the ICAP server IP address and port.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *ip-address* [*ip-address*] **router** *router-instance*

server *ip-address* [*ip-address*] **service-name** *service-name*

no server

Context

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp server)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp server)

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Full Context

configure service vprn interface sap ipsec-gw dhcp server

configure service ies interface sap ipsec-gw dhcp server

Description

This command specifies up to eight DHCPv4 server addresses for DHCPv4-based address assignment. If multiple server addresses are specified, the first advertised DHCPv4 address received is chosen.

Default

no server

Parameters

ip-address

Specifies up to eight unicast IPv4 addresses.

Values ipv4-address a.b.c.d

router-instance

Specifies the router instance ID used to reach the configured server address.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **server** *ip-address* **service-name** *service-name* variant can be used in all configuration modes.

Values {router-name | *vprn-svc-id*}

vprn-svc-id: 1 to 2147483647

router-name: *router-name* is an alias for input only. The *router-name* gets replaced with an id automatically by SR OS in the configuration).

Default Base

service-name

Specifies the name of the IES or VPRN service used to reach the configured server address, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *ipv6-address* [*ipv6-address*] **router** *router-instance*

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server *ipv6-address* [*ipv6-address*] **service-name** *service-name*

no server

Context

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp6 server)

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp6 server)

Full Context

configure service ies interface sap ipsec-gw dhcp6 server

configure service vprn interface sap ipsec-gw dhcp6 server

Description

This command specifies up to eight DHCPv6 server addresses for DHCPv6-based address assignment. If multiple server addresses are specified, the first advertised DHCPv6 address received is chosen.

Default

no server

Parameters

ipv6-address

Specifies up to eight unicast global unicast IPv6 addresses.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D

router-instance

Specifies the router instance ID used to reach the configured server address.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **server** *ip-address* **service-name** *service-name* variant can be used in all configuration modes.

Values {router-name | *vprn-svc-id*}

vprn-svc-id:	1 to 2147483647
router-name:	*router-name* is an alias for input only. The *router-name* gets replaced with an id automatically by SR OS in the configuration).

Default Base

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service-name

Specifies the name of the IES or VPRN service used to reach the configured server address, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server *server-index* [**create**]

no server *server-index*

Context

[Tree] (config>aaa>isa-radius-plcy>servers server)

Full Context

configure aaa isa-radius-policy servers server

Description

This command adds a RADIUS server and configures the RADIUS server IP address, index, and key values.

Up to five RADIUS servers can be configured at any one time. RADIUS servers are accessed in order from lowest to highest index for authentication requests until a response from a server is received. A higher indexed server is only queried if no response is received from a lower indexed server (which implies that the server is not available). If a response from a server is received, no other RADIUS servers are queried.

The **no** form of the command removes the server from the configuration.

Parameters

server-index

The index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

Values 1 to 10 (a maximum of 5 accounting servers)

create

Keyword used to create the server index.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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server

Syntax

server

Context

[Tree] (config>test-oam>twamp server)

Full Context

configure test-oam twamp server

Description

This command configures the node for TWAMP server functionality.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

server

Syntax

server *server* [*server*]

Context

[Tree] (config>router>if>dhcp server)

Full Context

configure router interface dhcp server

Description

This command specifies a list of servers where requests will be forwarded. The list of servers can be entered as either IP addresses or fully qualified domain names. There must be at least one server specified for DHCP relay to work. If there are multiple servers then the request is forwarded to all of the servers in the list. There can be a maximum of eight DHCP servers configured.

The flood command is applicable only in the VPLS case. There is a scenario with VPLS where the VPLS node only wants to add Option 82 information to the DHCP request to provider per-subscriber information, but it does not do full DHCP relay. In this case, the server is set to "flood". This means the DHCP request is still a broadcast and is sent through the VPLS domain. A node running at Layer 3 further upstream then can perform the full Layer 3 DHCP relay function.

Default

no server

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Parameters

server

Specifies the DHCP server IP address. A maximum of eight servers can be specified in a single statement.

Platforms

All

server

Syntax

server *ipv6-address* [*ipv6-address*]

no server

Context

[Tree] (config>router>router-advert>if>dns-options server)

[Tree] (config>router>router-advert>dns-options server)

Full Context

configure router router-advertisement interface dns-options server

configure router router-advertisement dns-options server

Description

This command specifies the IPv6 DNS servers to include in the RDNSS option in Router Advertisements. When specified at the router advertisement level this applies to all interfaces that have **include-dns** enabled, unless the interfaces have more specific **dns-options** configured.

Parameters

ipv6-address

Specifies the IPv6 address of the DNS servers as eight 16-bit hexadecimal pieces. A maximum of four ipv6 addresses can be specified in a single statement.

Platforms

All

server

Syntax

server *pcp-server-name* [**create**]

no server *pcp-server-name*

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Context

[Tree] (config>router>pcp-server server)

Full Context

configure router pcp-server server

Description

Commands in this context configure a PCP server.

The **no** form of this command deletes the specified PCP server.

Parameters

pcp-server-name

Specifies the PCP server name, up to 32 characters.

create

Creates a PCP server before entering the context to configure it.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

server [**router** *router-instance* | **service-name** *service-name*] {*ip-address* | *ipv6-address* | **ptp**} [**key-id** *key-id* | **authentication-keychain** *keychain-name*] [**version** *version*] [**prefer**]

no server [**router** *router-instance* | **service-name** *service-name*] {*ip address* | *ipv6-address* | **ptp**}

Context

[Tree] (config>system>time>ntp server)

Full Context

configure system time ntp server

Description

This command configures the node to operate in client mode with the NTP server specified in the address field of this command.

If the internal PTP process is used as a source of time for System Time and OAM time then it must be specified as a server for NTP. If PTP is specified, the **prefer** parameter must be specified. After PTP has established a UTC traceable time from an external grandmaster it is always the source for time into NTP, even if PTP goes into time holdover. PTP applies only to the 7450 ESS and 7750 SR.

Using the internal PTP time source for NTP promotes the internal NTP server to stratum 1 level, which may impact the NTP network topology.

The **no** form of this command removes the server with the specified address from the configuration.

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Parameters

router-instance

Specifies the routing context that contains the interface in the form of *router-name* or *service-id*.

Values *router-name* — Base | Management

service-id — 1 to 2147483647

Default Base

service name

Specifies the service name for the VPRN, up to 64 characters. CPM routing instances are not supported.

ip-address

Configures the IPv4 address of an external NTP server.

Values a.b.c.d

ipv6-address

Configures the IPv6 address of an external NTP server.

Values
- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

key-id

Specifies the key ID that identifies the configured authentication key and authentication type used by this node to transmit NTP packets to an NTP server. If an NTP packet is received by this node, the authentication key-id, type, and key value must be valid, otherwise the packet is rejected and an event/trap generated. This is an optional parameter.

Values 1 to 255

keychain-name

Identifies the keychain name, up to 32 characters.

version

Configures the NTP version number that is expected by this node. This is an optional parameter.

Values 2 to 4

Default 4

ptp

Configures the internal PTP process as a time server into the NTP process. The **prefer** parameter is mandatory with this server option.

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prefer

Specifies that, when configuring more than one peer, one remote system can be configured as the preferred peer. When a second peer is configured as preferred, the new entry overrides the old entry.

Platforms

All

server

Syntax

server

Context

[Tree] (config>system>security>ssh>key-re-exchange server)

Full Context

configure system security ssh key-re-exchange server

Description

This command enables the key re-exchange context for the SSH server.

Platforms

All

server

Syntax

server *index* **address** *ip-address* **secret** *key* [**hash** | **hash2** | **custom**] [**tls-client-profile** *profile*] [**authenticator** {**md5** | **sm3**}]

no server *index*

Context

[Tree] (config>service>vprn>aaa>rmt-srv>radius server)

[Tree] (config>system>security>radius server)

Full Context

configure service vprn aaa remote-servers radius server

configure system security radius server

Description

This command adds a RADIUS server and configures the IP address, index, and key values.

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Up to five RADIUS servers can be configured at any one time. For authentication requests, RADIUS servers are accessed in order from the lowest to highest index until a response from a server is received. A higher indexed server is only queried if no response is received from a lower indexed server (which implies that the server is not available). If a response from a server is received, no other RADIUS servers are queried. It is assumed that there are multiple identical servers configured as backups and that the servers do not have redundant data.

The **no** form of this command removes the server from the configuration.

Default

no server

Parameters

index

Specifies the index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

Values 1 to 5

ip-address

Specifies the IP address of the RADIUS server. Two RADIUS servers cannot have the same IP address. An error message is generated if the server address is a duplicate.

Values		
	ipv4-address	a.b.c.d (host bits must be 0)
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0..FFFF]H
		d: [0..255]D

key

Specifies the secret key to access the RADIUS server, up to 64 characters. This secret key must match the password on the RADIUS server.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

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custom

Specifies the custom encryption to management interface.

tls-client-profile

Specifies the TLS profile for the RADIUS server.

profile

Specifies the TLS profile name, up to 32 characters.

md5

Specifies the MD5 hash algorithm for the RADIUS server.

sm3

Specifies the SM3 hash algorithm for the RADIUS server.

Platforms

All

server

Syntax

server *server-index* [**create**]

no server *server-index*

Context

[Tree] (config>system>security>ldap server)

Full Context

configure system security ldap server

Description

This command configures an LDAP server. Up to five servers can be configured, which can then work in a redundant manner.

The **no** version of this command removes the server connection.

Parameters

server-index

Specifies a unique LDAP server connection.

Values 1 to 5

Platforms

All

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server

Syntax

server *server-index* **address** *ip-address* **secret** *key* [**hash** | **hash2** | **custom**] [**auth-port** *auth-port*] [**acct-port** *acct-port*] [**type** *server-type*]

Context

[Tree] (config>system>security>dot1x>radius-plcy server)

Full Context

configure system security dot1x radius-plcy server

Description

This command adds a Dot1x server and configures the Dot1x server IP address, index, and key values.

Up to five Dot1x servers can be configured at any one time. Dot1x servers are accessed in order from lowest to highest index for authentication requests until a response from a server is received. A higher indexed server is only queried if no response is received from a lower indexed server (which implies that the server is not available). If a response from a server is received, no other Dot1x servers are queried. It is assumed that there are multiple identical servers configured as backups and that the servers do not have redundant data.

The **no** form of this command removes the server from the configuration.

Default

no server

Parameters

server-index

Specifies the index for the Dot1x server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index.

Values 1 to 5

ip-address

Specifies the IP address of the Dot1x server. Two Dot1x servers cannot have the same IP address. An error message is generated if the server address is a duplicate.

key

Specifies the secret key, up to 128 characters, to access the Dot1x server. This secret key must match the password on the Dot1x server.

hash

Specifies the key is entered in an encrypted form. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

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hash2

Specifies the key is entered in a more complex encrypted form that involves more variables than the key value alone, meaning that the **hash2** encrypted variable cannot be copied and pasted. If the **hash** or **hash2** parameter is not used, the key is assumed to be in an unencrypted, cleartext form. For security, all keys are stored in encrypted form in the configuration file with the **hash** or **hash2** parameter specified.

custom

Specifies the custom encryption to management interface.

acct-port

Specifies the UDP port number on which to contact the RADIUS server for accounting requests.

auth-port

Specifies a UDP port number to be used as a match criteria.

Values 1 to 65535

server-type

Specifies the server type.

Values authorization, accounting, combined

Platforms

All

server

Syntax

[**no**] **server** *ip-address* [*ip-address*]

Context

[Tree] (config>service>vprn>sub-if>dhcp>offer-selection server)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>offer-selection server)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>offer-selection server)

Full Context

configure service vprn subscriber-interface dhcp offer-selection server

configure service ies subscriber-interface group-interface dhcp offer-selection server

configure service vprn subscriber-interface group-interface dhcp offer-selection server

Description

This command configures a DHCPv4 server destination for which a discover delay must be configured. Up to eight DHCPv4 server destinations can be configured.

The **no** form of this command removes the DHCPv4 server destination.

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Parameters

ip-address

Specifies the IPv4 address of the DHCP server, in dotted notation a.b.c.d.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

server

Syntax

[**no**] **server** *ipv6-address* [*ipv6-address*]

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection server)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection server)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>advertise-selection server)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection server

Description

This command configures a DHCPv6 server destination for which a solicit delay or a preference option value must be configured. Up to eight DHCPv6 server destinations can be configured.

The **no** form of this command removes the DHCPv6 server destination.

Parameters

ipv6-address

Specifies the IPv6 address of the DHCPv6 server.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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server

Syntax

server [*ip-address* | **fqdn**] [**port** *port*]

no server

Context

[Tree] (config>system>security>pki>est-profile server)

Full Context

configure system security pki est-profile server

Description

Commands in this context configure EST server parameters.

The **no** form of the command reverts to the default value.

Parameters

ip-address

Specifies the IP address of the server.

Values	ipv4-address	a.b.c.d (host bits must be 0)
	ipv6-address	x:x:x:x:x:x:x:x
		x:x:x:x:x:x:d.d.d.d
		x: [0..FFFF]H
		d: [0..255]D

fqdn

Specifies to use the Fully Qualified Domain Name (FQDN) of the EST server, up to 255 characters.

port

Specifies the port number of the EST server.

Values 1 to 65535

Default 443

Platforms

All

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server

Syntax

server

Context

[Tree] (config>system>security>ssh>authentication-method server)

Full Context

configure system security ssh authentication-method server

Description

Commands in this context configure, at the system level, the authentication method that the SSH server accepts for the session.

Platforms

All

server

Syntax

server

Context

[Tree] (config>system>security>user>ssh-auth-method server)

Full Context

configure system security user ssh-authentication-method server

Description

Commands in this context configure, at the user level, the authentication method accepted by the SSH server for the session. The user-level configuration overrides the system-level configuration.

Platforms

All

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42.36 server-address

server-address

Syntax

server-address *server-address* [**name** *server-name*]

no server-address *server-address*

Context

[Tree] (config>app-assure>group>dns-ip-cache>dns-match server-address)

Full Context

configure application-assurance group dns-ip-cache dns-match server-address

Description

7

This command configures a DNS server address. DNS responses from this DNS server are used to populate the dns-ip-cache. Up to 64 server addresses can be configured.

Parameters

server-address

Specifies the IPv4 or IPv6 address of the DNS.

Values	ipv4-address	a.b.c.d[/mask]	
			mask - [1 to 32]
	ipv6-address	x:x:x:x:x:x:x:x/prefix-length	
			x:x:x:x:x:x:d.d.d.d
			x - [0 to FFFF]H
			d - [0 to 255]D
		prefix-length	[1 to 128]

server-name

Specifies an optional server name for a given server address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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server-address

Syntax

server-address {eq | neq} *ip-address*

server-address {**eq** | **neq**} **ip-address** *masked-ip-address* **netmask** *netmask*

server-address {**eq** | **neq**} **dns-ip-cache** *dns-ip-cache-name*

server-address {**eq** | **neq**} **ip-prefix-list** *ip-prefix-list-name*

no server-address

Context

[Tree] (config>app-assure>group>policy>app-filter>entry server-address)

Full Context

configure application-assurance group policy app-filter entry server-address

Description

This command configures the server address to use in application definition. The server IP address may be the source or destination, network or subscriber IP address and may include the use of netmasks.

The **no** form of this command restores the default (removes the server address from application criteria defined by this entry).

Default

no server-address

Parameters

eq

Specifies a comparison operator that the value configured and the value in the flow are equal.

neq

Specifies a comparison operator that the value configured differs from the value in the flow.

ip-address

Specifies a valid unicast address.

Values		
	ipv4-address	a.b.c.d[/mask]
		mask - [1..32]
	ipv6-address	x:x:x:x:x:x:x:x/prefix-length
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H
		d - [0..255]D

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prefix-length [1..128]

netmask

Specifies an IPv4 or IPv6 address mask.

Values		
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit)
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H
		d - [0..255]D

masked-ip-address

Specifies a valid unicast IPv4 or IPv6 address.

Values		
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit)
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H
		d - [0..255]D

dns-ip-cache-name

Specifies a DNS IP cache name, up to 32 characters.

ip-prefix-list-name

Specifies the name of an IP prefix list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server-address

Syntax

server-address *ip-address* [**version** *version-number*] [**normal** | **preferred**]

[**interval** *seconds*]

no server-address *ip-address*

Context

[Tree] (config>system>time>sntp server-address)

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Full Context

configure system time sntp server-address

Description

This command creates an SNTP server for unicast client mode.

Parameters

ip-address

Specifies the IP address of the SNTP server.

Values a.b.c.d

version-number

Specifies the SNTP version supported by this server.

Values 1 to 3

Default 3

normal | preferred

Specifies the preference value for this SNTP server. When more than one time-server is configured, one server can have preference over others. The value for that server should be set to **preferred**. Only one server in the table can be a preferred server.

Default normal

seconds

Specifies the frequency at which this server is queried.

Values 64 to 1024

Default 64

Platforms

All

42.37 server-cipher-list

server-cipher-list

Syntax

server-cipher-list

Context

[Tree] (config>system>security>ssh server-cipher-list)

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Full Context

configure system security ssh server-cipher-list

Description

Commands in this context configure a list of allowed ciphers by the SSH server.

Platforms

All

server-cipher-list

Syntax

server-cipher-list *name* [**create**]

no server-cipher-list *name*

Context

[Tree] (config>system>security>tls server-cipher-list)

Full Context

configure system security tls server-cipher-list

Description

This command creates the cipher list that is compared against cipher lists sent by the client to the server in the client hello message. The list contains all ciphers that are supported and desired by SR OS for use in the TLS session. The first common cipher found in both the server and client cipher lists will be chosen. As such, the most desired ciphers should be added at the top of the list.

The **no** form of the command removes the cipher list.

Parameters

name

Specifies the name of the server cipher list, up to 32 characters in length.

create

Keyword used to create the server cipher list.

Platforms

All

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42.38 server-group-list

server-group-list

Syntax

server-group-list *name* [**create**]

no server-group-list *name*

Context

[Tree] (config>system>security>tls server-group-list)

Full Context

configure system security tls server-group-list

Description

This command configures a list of TLS 1.3-supported group suite codes that the server sends in a server Hello message.

The **no** form of this command removes the server group list.

Parameters

name

Specifies the name of the server group list, up to 32 characters.

create

Keyword used to create the server group list.

Platforms

All

42.39 server-host-key-list

server-host-key-list

Syntax

server-host-key-list

Context

[Tree] (config>system>security>ssh server-host-key-list)

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Full Context

configure system security ssh server-host-key-list

Description

Commands in this context configure the list of host key algorithms negotiated by the SR OS acting as the SSH server.

Platforms

All

42.40 server-id

server-id

Syntax

server-id duid-en hex *hex-string*

server-id duid-en string *ascii-string*

server-id duid-ll

no server-id

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy server-id)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy server-id)

[Tree] (config>router>dhcp6>server server-id)

[Tree] (config>service>vprn>dhcp6>server server-id)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server server-id

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server server-id

configure router dhcp6 local-dhcp-server server-id

configure service vprn dhcp6 local-dhcp-server server-id

Description

This command allows the operator to customize the **server-id** attribute of a DHCPv6 message (such as DHCPv6 advertise and reply). By default, the **server-id** uses DUID-ll derived from the chassis link layer address. Operators have the option to use a unique identifier by using the **duid-en** (vendor based on an enterprise number). There is a maximum length associated with the customizable hex-string and ascii-string.

The **no** form of this command reverts to the default.

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Default

server-id duid-ll

Parameters

hex-string

Specifies a DUID system ID in a hex format.

Values 0x0 to 0xFFFFFFFF (maximum 116 hex nibbles)

ascii-string

Specifies a DUID system ID in an ASCII format, up to 58 characters.

duid-ll

Specifies that the DUID system ID is derived from the system link layer address.

duid-en

Specifies the enterprise number.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.41 server-ip

server-ip

Syntax

server-ip {**eq** | **neq**} *ip-address*

no server-ip

Context

[Tree] (debug>app-assure>group>traffic-capture>match server-ip)

Full Context

debug application-assurance group traffic-capture match server-ip

Description

This command configures debugging on a servicer IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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42.42 server-kex-list

server-kex-list

Syntax

server-kex-list

Context

[Tree] (config>system>security>ssh server-kex-list)

Full Context

configure system security ssh server-kex-list

Description

This command configures SSH KEX algorithms for SR OS as an SSH server.

An empty list is the default list that the SSH KEX advertises. The default list contains the following:

ecdh-sha2-nistp512

ecdh-sha2-nistp384

ecdh-sha2-nistp256

diffie-hellman-group16-sha512

diffie-hellman-group14-sha256

diffie-hellman-group14-sha1

diffie-hellman-group-exchange-sha1

diffie-hellman-group1-sha1

Platforms

All

42.43 server-mac-list

server-mac-list

Syntax

server-mac-list

Context

[Tree] (config>system>security>ssh server-mac-list)

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Full Context

configure system security ssh server-mac-list

Description

This command allows the user to configure SSH MAC algorithms for SR OS as an SSH server.

Platforms

All

42.44 server-policy

server-policy

Syntax

server-policy *policy-name*

no server-policy

Context

[Tree] (config>service>dynsvc>acct-1 server-policy)

[Tree] (config>service>dynsvc>acct-2 server-policy)

Full Context

configure service dynamic-services dynamic-services-policy accounting-1 server-policy

configure service dynamic-services dynamic-services-policy accounting-2 server-policy

Description

This command configures the radius server policy to be used for dynamic data services RADIUS accounting.

The **no** form of this command removes the radius server policy from the configuration. This is only allowed when there are no active dynamic data services referencing this policy.

Parameters

policy-name

Specifies the name of the radius server policy.

Values Up to 32 characters maximum

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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server-policy

Syntax

server-policy *policy-name*

no server-policy

Context

[Tree] (config>service>dynsvc>plcy>auth server-policy)

Full Context

configure service dynamic-services dynamic-services-policy authentication server-policy

Description

This command configures the RADIUS server policy to be used for RADIUS authentication of data-triggered dynamic services.

Local authentication and RADIUS authentication are mutually exclusive.

The **no** form of this command removes the server policy from the configuration and disables RADIUS authentication.

Parameters

policy-name

Specifies a RADIUS server policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.45 server-port

server-port

Syntax

server-port {**eq** | **neq** | **gt** | **lt**} *port-num*

server-port {**eq** | **neq**} **range** *start-port-num end-port-num*

server-port {**eq**} {*port-num* | **range** *start-port-num end-port-num*} {**first-packet-trusted** | **first-packet-validate**}

server-port {**eq** | **neq**} **port-list** *port-list-name*

server-port {**eq**} **port-list** *port-list-name* {**first-packet-trusted** | **first-packet-validate**}

no server-port

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Context

[Tree] (config>app-assure>group>policy>app-filter>entry server-port)

Full Context

configure application-assurance group policy app-filter entry server-port

Description

This command specifies the server TCP or UDP port number to use in the application definition.

The **no** form of this command restores the default (removes server port number from application criteria defined by this app-filter entry).

Default

no server-port (the server port is not used in the application definition)

Parameters

eq

Specifies that the value configured and the value in the flow are equal.

neq

Specifies that the value configured differs from the value in the flow.

gt

Specifies all port numbers greater than server-port-number match.

lt

Specifies all port numbers less than server-port-number match.

port-list-name

Specifies a named port list containing a set or range of ports.

port-num

Specifies a valid server port number.

Values 0 to 65535

start-port-num, end-port-num

Specifies the starting or ending port number.

Values 0 to 65535

Server Port Options:

The following options are available:

- **No option specified:** TCP/UDP port applications with full signature verification:
  - AA ensures that other applications that can be identified do not run over a well-known port.
  - Application-aware policy applied once signature-based identification completes (likely requiring several packets).
- **first-packet-validate:** TCP/UDP trusted port applications with signature verification:

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- Application identified using well known TCP/UDP port based filters and re-identified once signature identification completes.
- AA policy applied from the first packet of a flow while continuing signature-based application identification. Policy re-evaluated once the signature identification completes, allowing to detect improper/unexpected applications on a well-known port.

- **first-packet-trusted:** TCP/UDP trusted port applications - no signature verification:
  - Application identified using well known TCP/UDP port based filters only.
  - Application Aware policy applied from the first packet of a flow.
  - No signature processing assumes operator/customer trusts that no other applications can run on the well-known TCP/UDP port (statistics collected against trusted_tcp or trusted_udp protocol).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

server-port

Syntax

server-port {**eq** | **neq**} *port-num*

no server-port

Context

[Tree] (debug>app-assure>group>traffic-capture>match server-port)

Full Context

debug application-assurance group traffic-capture match server-port

Description

This command configures debugging on a server port.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.46 server-shutdown

server-shutdown

Syntax

[**no**] **server-shutdown**

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Context

[Tree] (config>system>security>ssh server-shutdown)

Full Context

configure system security ssh server-shutdown

Description

This command enables the SSH servers running on the system.

Default

no server-shutdown

Platforms

All

42.47 server-signature-list

server-signature-list

Syntax

server-signature-list *name* [**create**]

no server-signature-list *name*

Context

[Tree] (config>system>security>tls server-signature-list)

Full Context

configure system security tls server-signature-list

Description

This command configures a list of TLS 1.3-supported signature suite codes for the digital signature that the server sends in a server Hello message.

The **no** form of this command removes the server signature list.

Parameters

name

Specifies the name of the server signature list, up to 32 characters.

create

Keyword used to create the server signature list.

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Platforms

All

42.48 server-timeout

server-timeout

Syntax

server-timeout *seconds*

no server-timeout

Context

[Tree] (config>port>ethernet>dot1x server-timeout)

Full Context

configure port ethernet dot1x server-timeout

Description

This command configures the period during which the router waits for the RADIUS server to respond to its access request message. When this timer expires, the router will re-send the access request message, up to the specified number times.

The **no** form of this command returns the value to the default.

Default

server-timeout 30

Parameters

seconds

Specifies the server timeout period, in seconds.

Values 1 to 300

Platforms

All

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42.49 server-tls-profile

server-tls-profile

Syntax

server-tls-profile *name* [**create**]

no server-tls-profile *name*

Context

[Tree] (config>system>security>tls server-tls-profile)

Full Context

configure system security tls server-tls-profile

Description

This command creates a TLS server profile. This profile can be used by applications that support TLS for encryption. The applications should not send any PDUs until the TLS handshake has been successful.

The **no** form of the command removes the TLS server profile.

Parameters

name

Specifies the name of the TLS server profile, up to 32 characters in length.

create

Keyword used to create the TLS server profile.

Platforms

All

42.50 server6

server6

Syntax

server6 *ipv6-address*

no server6

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host server6)

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Full Context

configure subscriber-mgmt local-user-db ipoe host server6

Description

This command allows DHCP6 server selection based on the host entry in LUDB.

The configured DHCP6 server IP address must reference one of the v6 addressees configured under the **config>service>vprn>sub-if>grp-if>ipv6>dhcpv6>relay** or **config>service>ies>sub-if>grp-if>ipv6>dhcpv6>relay** context.

The **no** form of this command reverts to the default.

Parameters

ipv6-address

Specifies the retailer service ID.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.51 servers

servers

Syntax

servers

Context

[Tree] (config>aaa>radius-srv-plcy servers)

Full Context

configure aaa radius-server-policy servers

Description

Commands in this context configure radius-server-policy parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

servers

Syntax

servers *ip-address* [*ip-address*]

no servers

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host servers)

Full Context

configure subscriber-mgmt local-user-db ipoe host servers

Description

This command configures multiple DHCPv4 servers for each LUDB IPoE host entry.

The configured DHCP server IPv4 address must reference one of the addresses configured under the DHCP context of an IES/VPRN subscriber or group interface.

The **no** form of this command reverts to the default.

Default

no servers

Parameters

ip-address

Specifies the IPv4 address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.52 servers6

servers6

Syntax

servers6 *ipv6-address* [*ipv6-address*]

no servers6

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Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host servers6)

Full Context

configure subscriber-mgmt local-user-db ipoe host servers6

Description

This command configures multiple DHCPv6 servers for each LUDB IPoE host entry.

The configured DHCP server IPv6 address must reference one of the addresses configured under the DHCP context of an IES/VPRN subscriber or group interface.

The **no** form of this command reverts to the default.

Default

no servers6

Parameters

ipv6-address

Specifies the IPv6 address.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.53 service

service

Syntax

service *service-id*

no service

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>msap-defaults service)

[Tree] (config>service>vpls>sap>msap-defaults service)

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[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>msap-defaults service)

Full Context

configure subscriber-mgmt local-user-db ipoe host msap-defaults service

configure service vpls sap msap-defaults service

configure subscriber-mgmt local-user-db ppp host msap-defaults service

Description

This command sets default service for all subscribers created based on trigger packets received on the given capture SAP in case the corresponding VSA is not included in the RADIUS authentication response. This command is applicable to capture SAP only.

The **no** form of this command reverts to the default.

Parameters

service-id

Specifies the service ID as an integer or a name.

Values *service-id* - 1 to 2147483648

service-name - up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt local-user-db ipoe host msap-defaults service
- configure subscriber-mgmt local-user-db ppp host msap-defaults service

All

- configure service vpls sap msap-defaults service

service

Syntax

service

Context

[Tree] (config>cflowd>collector>exp-filter>if-list service)

Full Context

configure cflowd collector export-filter interface-list service

Description

Commands in this context configure which service interfaces' flow data is being sent to this collector

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Platforms

All

service

Syntax

service *service-id* **preference** *preference*

no service *service-id*

Context

[Tree] (config>router>dns>redirect-vprn service)

Full Context

configure router dns redirect-vprn service

Description

This command configures the VPRN DNS redirection for the specified service.

The **no** form of this command removes the service from the VPRN DNS resolution configuration.

Parameters

service-id

Specifies the unique service identification number or string identifying the service in the service domain.

Values *service-id*: 1 to 2147483647

svc-name: 64 characters maximum

preference

Specifies the service preference.

Values 0 to 255

Platforms

All

service

Syntax

[**no**] **service** *service-id*

Context

[Tree] (config>log>services-all-events service)

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Full Context

configure log services-all-events service

Description

This command enables access to the entire system-wide set of log events (VPRN and non-VPRN) in the logs configured within the management VPRN specified by the service ID.

The **no** form of the command enables the display of VPRN events only.

Parameters

service-id

Identifies the VPRN.

Values {*id* | *svc-name*}

id: 1 to 2147483647

svc-name: up to 64 characters

Platforms

All

service

Syntax

service *service-id*

service name *service-name*

no service

Context

[Tree] (config>system>security>pki>ca-profile>ocsp service)

Full Context

configure system security pki ca-profile ocsp service

Description

This command specifies the service or routing instance that used to contact OCSP responder. This applies to OCSP responders that either configured in CLI or defined in AIA extension of the certificate to be verified.

The responder-url will also be resolved by using the DNS server configured in the configured routing instance.

With VPRN services, the system checks whether the specified service ID or service name is an existing VPRN service at the time of CLI configuration. Otherwise the configuration fails.

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Parameters

service-id

Specifies an existing service ID to be used in the match criteria.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **service name** *service-name* variant can be used in all configuration modes.

Values service-id: 1 to 2147483647 base-router: 0

name service-name

Identifies the service, up to 64 characters.

Platforms

All

42.54 service-activation-testhead

service-activation-testhead

Syntax

service-activation-testhead service-test *service-test-name* { **start** | **stop**}

Context

[Tree] (oam service-activation-testhead)

Full Context

oam service-activation-testhead

Description

This command start or stops a service activation testhead service test.

Parameters

service-test-name

Specifies a preconfigured service test name, up to 64 characters.

start

Keyword to start a service test. The software allows only one instance of a service test to be run for the specified *service-test-name*. If the user attempts to start another instance of a service test for the same *service-test-name* while the current instance is still running, the following error message is displayed: "MINOR: CLI #238 Configuration change failed validation - service test is already executing”.

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stop

Keyword to stop a service test. If the user attempts to stop a service test that is already complete, the following error message is displayed: "MINOR: CLI #238 Configuration change failed validation - service test is not executing”.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

service-activation-testhead

Syntax

service-activation-testhead

Context

[Tree] (config>test-oam service-activation-testhead)

Full Context

configure test-oam service-activation-testhead

Description

Commands in this context configure service activation launch parameters for the testhead function. Service Activation Testhead is supported on FP4 and later platforms.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

42.55 service-carving

service-carving

Syntax

service-carving

Context

[Tree] (config>service>system>bgp-evpn>eth-seg service-carving)

Full Context

configure service system bgp-evpn ethernet-segment service-carving

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Description

Commands in this context configure service-carving in the Ethernet-Segment. The service-carving algorithm determines which PE is the Designated Forwarder (DF) in a specified Ethernet Segment and for a specific service.

Platforms

All

42.56 service-context-id

service-context-id

Syntax

service-context-id *name*

no service-context-id

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>include-avp service-context-id)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp service-context-id

Description

This command configures the value of the service context ID AVP.

The **no** form of this command returns the command to the default setting.

Parameters

name

Specifies the service context ID AVP value, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.57 service-encryption

service-encryption

Syntax

service-encryption

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Context

[Tree] (config>anysec>mpls service-encryption)

Full Context

configure anysec mpls service-encryption

Description

Commands in this context configure ANYsec for service encryption.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

42.58 service-id

service-id

Syntax

service-id *service-id*

no service-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident service-id)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification service-id

Description

This command specifies the service ID to match for a host lookup. When the LUDB is accessed using a DHCPv4 server, the SAP ID is matched against the Nokia vendor-specific sub-option in DHCP Option 82.

The **no** form of this command removes the service ID from the configuration.

Parameters

service-id

Specifies an existing service ID or service name.

Values *service-id* — 1 to 2147483647

service-name — up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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service-id

Syntax

[**no**] **service-id**

Context

[Tree] (config>service>vpls>sap>dhcp>option>vendor service-id)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option>vendor-specific-option service-id)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option>vendor service-id)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option>vendor service-id)

[Tree] (config>service>vprn>if>dhcp>option>vendor service-id)

Full Context

configure service vpls sap dhcp option vendor-specific-option service-id

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option service-id

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option service-id

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option service-id

configure service vprn interface dhcp option vendor-specific-option service-id

Description

This command enables the sending of the service ID in the Nokia vendor-specific sub-option of the DHCP relay packet.

The **no** form of this command disables the sending of the service ID in the Nokia vendor-specific sub-option of the DHCP relay packet.

Platforms

All

- configure service vpls sap dhcp option vendor-specific-option service-id
- configure service vprn interface dhcp option vendor-specific-option service-id

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option service-id
- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option service-id
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option service-id

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service-id

Syntax

[**no**] **service-id**

Context

[Tree] (config>router>if>dhcp>option>vendor-specific-option service-id)

Full Context

configure router interface dhcp option vendor-specific-option service-id

Description

This command enables the sending of the service ID in the Nokia vendor-specific sub-option of the DHCP relay packet.

The **no** form of this command disables the sending of the service ID in the Nokia vendor-specific sub-option of the DHCP relay packet.

Default

no service-id

Platforms

All

service-id

Syntax

service-id *service-id*

no service-id

Context

[Tree] (config>redundancy>mc>peer>mcr>ring>ibc service-id)

[Tree] (config>redundancy>mc>peer>mcr>l3-ring>ibc service-id)

Full Context

configure redundancy multi-chassis peer mc-ring ring in-band-control-path service-id

configure redundancy multi-chassis peer mc-ring l3-ring in-band-control-path service-id

Description

This command specifies the service ID if the interface used for the inband control connection belongs to a VPRN service. If not specified, the service-id is zero and the interface must belong to the Base router. This command supersedes the configuration of a service name.

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The no form of this command removes the service ID from the IBC configuration.

Parameters

service-id

Specifies a service ID or an existing service name.

Values 1 to 214748364 - Only supported in 'classic' configuration-mode (**configure>system>management-interface>configuration-mode classic**)

Platforms

All

service-id

Syntax

service-id *service-id*

no service-id

Context

[Tree] (config>redundancy>mc>peer>mcr>node>cv service-id)

[Tree] (config>redundancy>mc>peer>mcr>l3-ring>node>cv service-id)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify service-id

configure redundancy multi-chassis peer mc-ring l3-ring ring-node connectivity-verify service-id

Description

This command specifies the service ID of the SAP used for the ring-node connectivity verification of this ring node. This command supersedes the configuration of a service name.

The **no** form of the command removes the service ID from the CV configuration.

Default

no service-id

Parameters

service-id

Specifies the service ID or an existing service name.

Values 1 to 2147483647- Only supported in "classic" configuration mode (**configure system management-interface configuration-mode classic**)

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Platforms

All

service-id

Syntax

service-id

Context

[Tree] (config>service>system>bgp-evpn>eth-seg service-id)

Full Context

configure service system bgp-evpn ethernet-segment service-id

Description

This command enables the **service-id** context within the virtual **ethernet-segment** configuration.

Platforms

All

42.59 service-id-lag-hashing

service-id-lag-hashing

Syntax

[**no**] **service-id-lag-hashing**

Context

[Tree] (config>system>load-balancing service-id-lag-hashing)

Full Context

configure system load-balancing service-id-lag-hashing

Description

This command enables enhanced VLL LAG service ID hashing. This command improves the LAG spraying of VLL service packets and is applied only when both ECMP and LAG hashing are performed by the same router. By default, the ECMP interface and LAG link for all packets on the VLL service are selected based on a direct modulo operation of the service ID. This command enhances distribution and hashes the service ID prior to the LAG link modulo operation when an ECMP link modulo operation is performed.

The **no** form of the command preserves the default behavior of VLL LAG service ID hashing.

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Default

no service-id-lag-hashing

Platforms

All

42.60 service-id-range

service-id-range

Syntax

service-id-range start *service-id* **end** *service-id*

no service-id-range

Context

[Tree] (config>service>md-auto-id service-id-range)

Full Context

configure service md-auto-id service-id-range

Description

This command specifies the range of IDs used by SR OS to automatically assign an ID to services that are created in model-driven interfaces without an ID explicitly specified by the user or client.

A service created with an explicitly-specified ID cannot use an ID in this range. In the classic CLI and SNMP, the ID range cannot be changed while objects exist inside the previous or new range. In MD interfaces, the range can be changed, which causes any previously existing objects in the previous ID range to be deleted and re-created using a new ID in the new range.

The **no** form of this command removes the range values.

See the **config>service md-auto-id** command for further details.

Default

no service-id-range

Parameters

start *service-id*

Specifies the lower value of the ID range. The value must be less than or equal to the **end** value.

Values 1 to 2147483647

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end ***service-id***

Specifies the upper value of the ID range. The value must be greater than or equal to the **start** value.

Values 1 to 2147483647

Platforms

All

42.61 service-mtu

service-mtu

Syntax

service-mtu *octets*

no service-mtu

Context

[Tree] (config>service>vpls service-mtu)

[Tree] (config>service>template>vpls-template service-mtu)

Full Context

configure service vpls service-mtu

configure service template vpls-template service-mtu

Description

This command configures the service payload (Maximum Transmission Unit – MTU), in bytes, for the service. This MTU value overrides the service-type default MTU. The **service-mtu** defines the payload capabilities of the service. It is used by the system to validate the SAP and SDP binding's operational state within the service.

The service MTU and a SAP's service delineation encapsulation overhead (4 bytes for a dot1q tag) is used to derive the required MTU of the physical port or channel on which the SAP was created. If the required payload is larger than the port or channel MTU, then the SAP will be placed in an inoperative state. If the required MTU is equal to or less than the port or channel MTU, the SAP will be able to transition to the operative state.

When binding an SDP to a service, the service MTU is compared to the path MTU associated with the SDP. The path MTU can be administratively defined in the context of the SDP. The default or administrative path MTU can be dynamically reduced due to the MTU capabilities discovered by the tunneling mechanism of the SDP or the egress interface MTU capabilities based on the next hop in the tunnel path. If the service MTU is larger than the path MTU, the SDP binding for the service will be placed in an inoperative state. If the service MTU is equal to or less than the path MTU, then the SDP binding will be placed in an operational state.

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If a service MTU, port or channel MTU, or path MTU is dynamically or administratively modified, then all associated SAP and SDP binding operational states are automatically re-evaluated.

For i-VPLS and Epipes bound to a b-VPLS, the service-mtu must be at least 18 bytes smaller than the b-VPLS service MTU to accommodate the PBB header.

The **no** form of this command returns the default **service-mtu** for the indicated service type to the default value.

Default

service-mtu 1514

Parameters

octets

The following table displays MTU values for specific VC types.

Table 112: MTU Values

VC-Type	Example Service MTU	Advertised MTU
Ethernet	1514	1500
Ethernet (with preserved dot1q)	1518	1504
VPLS	1514	1500
VPLS (with preserved dot1q)	1518	1504
VLAN (dot1p transparent to MTU value)	1514	1500
VLAN (qinq with preserved bottom qtag)	1518	1504

The size of the MTU in octets, expressed as a decimal integer

Values 1 to 9194

Platforms

All

service-mtu

Syntax

service-mtu *octets*

no service-mtu

Context

[Tree] (config>service>cpipe service-mtu)

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[Tree] (config>service>ipipe service-mtu)

[Tree] (config>service>epipe service-mtu)

Full Context

configure service cpipe service-mtu

configure service ipipe service-mtu

configure service epipe service-mtu

Description

This command configures the service payload in bytes, for the service. The configured Maximum Transmission Unit (MTU) value overrides the service-type default MTU. The **service-mtu** command defines the payload capabilities of the service. It is used by the system to validate the operational state of the SAP and SDP binding within the service.

The service MTU and a SAP's service delineation encapsulation overhead (4 bytes for a dot1q tag) is used to derive the required MTU of the physical port or channel on which the SAP was created. If the required payload is larger than the port or channel MTU, the SAP is placed in an inoperative state. If the required MTU is equal to or less than the port or channel MTU, the SAP transitions to the operative state.

When binding an SDP to a service, the service MTU is compared to the path MTU associated with the SDP. The path MTU can be administratively defined in the context of the SDP. The default or administrative path MTU can be dynamically reduced due to the MTU capabilities discovered by the tunneling mechanism of the SDP or the egress interface MTU capabilities based on the next hop in the tunnel path. If the service MTU is larger than the path MTU, the SDP binding for the service is placed in an inoperative state. If the service MTU is equal to or less than the path MTU, the SDP binding is placed in an operational state.

If a service MTU, port or channel MTU, or path MTU is dynamically or administratively modified, all associated SAP and SDP binding operational states are automatically reevaluated.

Binding operational states are automatically reevaluated.

For I-VPLS and Epipes bound to a B-VPLS, the service MTU must be at least 18 bytes smaller than the B-VPLS service MTU to accommodate the PBB header.

Because this connects a Layer 2 to a Layer 3 service, adjust the service MTU under the Epipe service. The MTU that is advertised from the Epipe side is service MTU minus EtherHeaderSize.

Note:
In the **configure**>**service**>**epipe** context, the **adv-service-mtu** command can be used to override the configured MTU value used in T-LDP signaling to the far-end of an Epipe spoke-sdp. The **adv-service-mtu** command is also used to validate the value signaled by the far-end PE. For more information, see **adv-service-mtu** command.

The **no** form of this command returns the default **service-mtu** for the indicated service type to the default value.

By default, if **no service-mtu** is configured, the MTU value is (1514 - 14) = 1500.

Default

no service-mtu 1508 (for Apipe, Fpipe)

no service-mtu 1500 (for Ipipe)

no service-mtu 1524 (for Epipe)

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Table 113: MTU Values lists the MTU values for specific VC types.

Table 113: MTU Values

SAP VC-Type	Example: Service MTU	Advertised MTU
Ethernet	1514	1500
Ethernet (with preserved dot1q)	1518	1504
VPLS	1514	1500
VPLS (with preserved dot1q)	1518	1504
VLAN (dot1p transparent to MTU value)	1514	1500
VLAN (qinq with preserved bottom qtag)	1518	1504

Parameters

octets

Specifies the MTU size in octets, expressed as a decimal integer.

Values 1 to 9782
1 to 9800 (for Epipe only)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe service-mtu

All

- configure service ipipe service-mtu
- configure service epipe service-mtu

42.62 service-name

service-name

Syntax

service-name *service-name*

no service-name

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident service-name)

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Full Context

configure subscriber-mgmt local-user-db ppp host host-identification service-name

Description

This command specifies the service name tag in PADI and/or PADR packets to match for PPPoE hosts.

Note:
This command is only used when **service-name** is configured as one of the **match-list** parameters.

The **no** form of this command removes the service-name from the configuration.

Parameters

service-name

Specifies a PPPoE service name, up to 255 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

service-name

Syntax

service-name *service-name*

no service-name

Context

[Tree] (config>redundancy>mc>peer>mc>l3-ring>ibc service-name)

[Tree] (config>redundancy>mc>peer>mcr>ring>ibc service-name)

Full Context

configure redundancy multi-chassis peer multi-chassis l3-ring ibc service-name

configure redundancy multi-chassis peer mc-ring ring in-band-control-path service-name

Description

This command specifies the service name if the interface used for the inband control connection belongs to a VPRN service. If not specified the interface must belong to the Base router. This command supersedes the configuration of a service ID.

The **no** form of this command removes the service name from the IBC configuration.

Default

no service-name

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Parameters

service-name

Specifies the service name, up to 64 characters.

Platforms

All

service-name

Syntax

service-name *service-name*

no service-name

Context

[Tree] (config>redundancy>mc>peer>mcr>node>cv service-name)

[Tree] (config>redundancy>mc>peer>mcr>l3-ring>cv service-name)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify service-name

configure redundancy multi-chassis peer mc-ring l3-ring ring-node connectivity-verify service-name

Description

This command specifies the service name of the SAP used for ring-node connectivity verification of this ring node. This command supersedes the configuration of a service ID.

The **no** form of this command removes the service name from the CV configuration.

Default

no service-name

Parameters

service-name

Specifies a service name, up to 64 characters.

Platforms

All

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42.63 service-range

service-range

Syntax

service-range *service-id service-id*

no service-range

Context

[Tree] (config>service>dynsvc service-range)

Full Context

configure service dynamic-services service-range

Description

This command specifies the service ID range that is reserved for dynamic data service creation. The range cannot overlap with existing static configured services. Once configured with active dynamic services in the range, the service range can only be extended at the end.

The **no** form of this command removes the service-range from the configuration. This is only allowed when there are no active dynamic data services.

When **no service-range** is specified, the setup of dynamic data services fails.

Parameters

service-id

Specifies the start and end service IDs to define the service range for dynamic services.

Values 1 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

service-range

Syntax

service-range *svc-id* [**to** *svc-id*]

no service-range *svc-id*

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-id service-range)

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Full Context

configure service system bgp-evpn ethernet-segment service-id service-range

Description

This command associates a specified service range to a virtual ES, along with the **network-interconnect-vxlan** command. Up to eight service ranges per VXLAN instance can be configured, where the ranges may overlap. The service range may be configured before the service.

The **no** form of this command removes the association of the service range to the virtual ES for the configured VXLAN instance.

Parameters

svc-id

Specifies which service range will be associated with the virtual Ethernet Segment.

Values 1 to 2147483647

Platforms

All

service-range

Syntax

service-range *startid-endid* [**start-vlan-id** *startvid*]

no service-range

Context

[Tree] (config>service>vpls>vpls-group service-range)

Full Context

configure service vpls vpls-group service-range

Description

This command configures the service ID and implicitly the VLAN ID ranges to be used as input variables for related VPLS and SAP templates to pre-provision "data" VPLS instances and related SAPs using the service ID specified in the command. If the **start-vlan-id** is not specified then the service-range values are used for vlan-ids. The data SAPs will be instantiated on all the ports used to specify SAP instances under the related control VPLS.

Modifications of the service id and vlan ranges are allowed with the following restrictions.

- service-range increase can be achieved in two ways:
  - Allowed when vpls-group is in shutdown state
  - By creating a new vpls-group
- service-range decrease can be achieved in two ways:

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  - Allowed when vpls-group is in shutdown state; when **shutdown** command is executed the associated service instances are deleted.
  - Allowed when vpls-group is in no shutdown state and has completed successfully instantiating services.
  - In both cases, only the services that do not have user configured SAPs will be deleted. Otherwise the above commands are rejected. Existing declarations or registrations do not prevent service deletion.
- start-vlan-id change can be achieved in two ways:
  - Allowed when vpls-group is in shutdown state
  - At the time of range decrease by increasing the start-vlan-id which can be done when vpls-group is in no shutdown state and has completed successfully instantiating services

The **no** form of this command removes the specified ranges and deletes the pre-provisioned VPLS instances and related SAPs. The command will fail if any of the VPLS instances in the affected ranges have a provisioned SAP.

Default

no service-range

Parameters

startid-endid

Specifies the range of service IDs

Values 1 to 2147483647

startvid

Specifies the starting VLAN ID; it provides a way to set aside a service ID range that is not the same as the VLAN range and allows for multiple MVRP control-VPLSs to control same VLAN range on different ports.

Values 1 to 4094

Platforms

All

42.64 service-request

service-request

Syntax

[**no**] **service-request**

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Context

[Tree] (config>subscr-mgmt>acct-plcy>triggered-updates>gc service-request)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change service-request

Description

This command configures the router to send an interim accounting update when a service request (reactivation) procedure is performed.

The **no** form of the command configures the router not to send an interim accounting update when a service request (reactivation) procedure is performed.

Default

no service-request

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

service-request

Syntax

[**no**] **service-request**

Context

[Tree] (config>service>vprn>aaa>remote-servers>tacplus service-request)

[Tree] (config>system>security>tacplus service-request)

Full Context

configure service vprn aaa remote-servers tacplus service-request

configure system security tacplus service-request

Description

This command enables Nokia services to be requested from the TACACS+ server when a user authenticates.

The **no** form of this command disables Nokia services from being requested from the TACACS+ server.

Default

no service-request

Platforms

All

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42.65 service-reserved-label

service-reserved-label

Syntax

service-reserved-label *label* [**create**]

no service-reserved-label

Context

[Tree] (config>service>vprn>mvpn service-reserved-label)

Full Context

configure service vprn mvpn service-reserved-label

Description

This command configures a static service label for this MVPN. The same label should be used on all the peer MVPNs with same route target.

Note: When this command is configured, S-PMSI is not configurable. Only I-PMSI is configurable.

The **no** form of this command removes the service label.

Parameters

label

Specifies the service reserved label.

Values 32 to 1048575

Platforms

All

42.66 service-reserved-label-block

service-reserved-label-block

Syntax

service-reserved-label-block *label-block*

no service-reserved-label-block

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Context

[Tree] (config>router>bier service-reserved-label-block)

Full Context

configure router bier service-reserved-label-block

Description

This command reserves a Domain-wide Common Block (DCB) for MVPN Service Label as described in RFC 9573. This DCB is reserved from the SR OS MPLS label reserved block.

The **no** form of this command removes the service reserved label block.

Default

no service-reserved-label-block

Parameters

label-block

Specifies the service reserved label block, up to 64 characters.

Platforms

All

42.67 service-stream

service-stream

Syntax

service-stream *stream-id* [**create**]

no service-stream *stream-id*

Context

[Tree] (config>test-oam>sath>svc-test service-stream)

Full Context

configure test-oam service-activation-testhead service-test service-stream

Description

This command configures a service stream profile for the specified service test.

A service test must be in a **shutdown** state before a new service stream can be configured or before parameters can be modified on an existing stream. All active tests that reference the specified service test must be stopped before running the **shutdown** command.

The **no** form of this command removes the specified profile.

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Parameters

stream-id

Specifies an identifier for the service stream profile.

Values 1 to 8

create

Mandatory keyword to instantiate the template.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

42.68 service-stream-completion-notification

service-stream-completion-notification

Syntax

[**no**] **service-stream-completion-notification**

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream service-stream-completion-notification)

Full Context

configure test-oam service-activation-testhead service-test service-stream service-stream-completion-notification

Description

This command enables the test completion notification for a service stream.

The **no** form of this command disables the test completion notification for a service stream.

Default

no service-stream-completion-notification

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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42.69 service-test

service-test

Syntax

service-test *name* [**create**]

no service-test

Context

[Tree] (config>test-oam>sath service-test)

Full Context

configure test-oam service-activation-testhead service-test

Description

This command creates a service test. Commands in this context configure the service test parameters.

The service test must be in the **shutdown** state before any commands under the **service-test** context can be configured or modified. If the service test is in the **no shutdown** state, command parameters cannot be modified.

The **no** form of this command removes the service test.

Parameters

name

Specifies a name, up to 64 characters, for the service test profile.

create

Mandatory keyword to instantiate the template.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

42.70 service-test-completion-notification

service-test-completion-notification

Syntax

[**no**] **service-test-completion-notification**

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Context

[Tree] (config>test-oam>sath>svc-test service-test-completion-notification)

Full Context

configure test-oam service-activation-testhead service-test service-test-completion-notification

Description

This command enables the test completion notification for a service test.

The **no** form of this command disables the service test completion notification.

Default

no service-test-completion-notification

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

42.71 services-all-events

services-all-events

Syntax

services-all-events

Context

[Tree] (config>log services-all-events)

Full Context

configure log services-all-events

Description

Commands in this context control which log events are present in VPRN logs.

By default, the event streams for VPRN logs contain only events that are associated with the particular VPRN.

Access to the entire system-wide set of events (VPRN and non-VPRN) can be enabled using the **services-all-events** command.

Platforms

All

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42.72 serving-network

serving-network

Syntax

serving-network mcc *mcc-value* **mnc** *mnc-value*

no serving-network

Context

[Tree] (config>subscr-mgmt>gtp serving-network)

Full Context

configure subscriber-mgmt gtp serving-network

Description

This command configures the Operator Identifier part (MCC and MNC) of the APN.

The **no** form of this command removes the values from the profile.

Default

no serving-network

Parameters

mcc-value

Specifies the Mobile Country Code (MCC) portion of the Serving Network.

Values 3 digits

mnc-value

Specifies the Mobile Network Code (MNC) portion of the Serving Network.

Values 2 or 3 digits

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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42.73 session

session

Syntax

session

Context

[Tree] (config>isa>video-group>watermark session)

Full Context

configure isa video-group watermark session

Description

Commands in this context configure watermark parameters based on the session.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

session

Syntax

session *session-name* [**test-family** [**ethernet** | **ip** | **mpls**] [**session-type** {**proactive** | **on-demand**}] **create**]

no session *session-name*

Context

[Tree] (config>oam-pm session)

Full Context

configure oam-pm session

Description

This command creates the individual session containers that house the test-specific configuration parameters. As this session context provides only a container abstract to house the individual test functions, it cannot be shut down. Individual test sessions within the container may be shut down. No values, parameters, or configuration within this context may be changed if any individual test is active. In the classic CLI, changes can only be made when all tests within the context are shut down. The description configuration is an exception to this requirement.

The **no** form of this command deletes the session.

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Parameters

session-name

Specifies the session name, up to 32 characters.

test-family

Specifies the type family and sets the context for the individual parameters.

Values **ethernet** — Specifies that the test is based on the Ethernet layer.

ip — Specifies that the test is based on the IP layer.

mpls — Specifies that the test is based on the MPLS layer.

session-type

Specifies the test session test type.

Values **proactive** — Sets the type to always on, with an immediate start and no stop.

on-demand — Sets the type to on-demand, with an immediate start and no stop, or a stop based on the offset.

Default proactive

create

Keyword to create the PM session.

Platforms

All

42.74 session-accounting

session-accounting

Syntax

session-accounting [**interim-update**] [**host-update**]

no session-accounting

Context

[Tree] (config>subscr-mgmt>acct-plcy session-accounting)

Full Context

configure subscriber-mgmt radius-accounting-policy session-accounting

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Description

This command enables per session accounting mode. In per session accounting mode, the acct-session-id is generated per session. This acct-session-id is uniformly included in all accounting messages (START/INTERIM-UPDATE/STOP) and it can be included in RADIUS Access-Request message.

This accounting mode of operation can be used only in PPPoE environment with dual-stack host in which case both hosts (IPv4 and IPv6) are considered part of the same session. In addition to regular interim-updates, *triggered* interim-updates are sent by a host joining or leaving the session.

When an IPv4/v6 address is allocated, or released from a dual-stack host, a triggered interim-update message is immediately sent. This triggered interim-update message reflects the change in the IP address. The triggered interim-update has no effect on the interval at which the regular interim updates are scheduled.

Accounting counters are based on the queue counters and as such are aggregated for all host sharing the queues within an sla-profile instance.

CoA and LI is supported based on the acct-session-id of the session.

The **no** form of this command reverts to the default.

Parameters

interim-update

Specifies to enable interim updates. Without this keyword only START and STOP accounting messages are generated when the session is established or terminated. This is equivalent to a time-based accounting where only the duration of the session is required.

host-update

Indicates that host updates messages are sent. INTERIM-UPDATE messages can be generated (volume based accounting) by selecting this keyword.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.75 session-assign-method

session-assign-method

Syntax

session-assign-method {**weighted** | **weighted-random**}

no session-assign-method

Context

[Tree] (config>router>l2tp session-assign-method)

[Tree] (config>service>vprn>l2tp session-assign-method)

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Full Context

configure router l2tp session-assign-method

configure service vprn l2tp session-assign-method

Description

This command configures the session assignment method.

The **no** form of this command reverts to the default value.

Default

no session-assign-method

Parameters

weighted

Specifies that the sessions are shared between the available tunnels. If necessary, new tunnels are set up until the maximum number is reached. The distribution aims at an equal ratio of the actual number of sessions to the maximum number of sessions.

weighted-random

Enhances the weighted algorithm such that when there are multiple tunnels with an equal number of sessions (equal weight), LAC randomly selects a tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

session-assign-method

Syntax

session-assign-method {**existing-first** | **weighted** | **weighted-random**}

no session-assign-method

Context

[Tree] (config>service>vprn>l2tp>group session-assign-method)

[Tree] (config>router>l2tp>group session-assign-method)

Full Context

configure service vprn l2tp group session-assign-method

configure router l2tp group session-assign-method

Description

This command specifies how new sessions are assigned to one of the set of suitable tunnels that are available or could be made available.

The **no** form of this command reverts to the default value.

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Default

session-assign-method existing-first

Parameters

existing-first

Specifies that all new sessions are placed by preference in the existing tunnels.

weighted

Specifies that the sessions are shared between the available tunnels. If necessary, new tunnels are set up until the maximum number is reached. The distribution aims at an equal ratio of the actual number of sessions to the maximum number of sessions.

weighted-random

Enhances the weighted algorithm such that when there are multiple tunnels with an equal number of sessions (equal weight), LAC randomly selects a tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.76 session-filter

session-filter

Syntax

session-filter *session-filter-name*

no session-filter

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action session-filter)

Full Context

configure application-assurance group policy app-qos-policy entry action session-filter

Description

This command specifies the Application-Assurance session filter that will be evaluated. If no session filters are specified then no session filters will be evaluated.

Default

no session-filter

Parameters

session-filter-name

Specifies the session filter to be applied.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

session-filter

Syntax

session-filter *session-filter-name* [**create**]

no session-filter *session-filter-name*

Context

[Tree] (config>app-assure>group session-filter)

Full Context

configure application-assurance group session-filter

Description

This command creates a session filter.

Parameters

session-filter-name

Creates a session filter name up to 32 characters.

create

Keyword used to create the session filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

session-filter

Syntax

session-filter *session-filter-name*

Context

[Tree] (config>app-assure>group>statistics>tca session-filter)

Full Context

configure application-assurance group statistics threshold-crossing-alert session-filter

Description

This command configures TCA generation for a session filter.

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Parameters

session-filter-name

Specifies the name of the session filter, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.77 session-filter-stats

session-filter-stats

Syntax

[**no**] **session-filter-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny session-filter-stats)

Full Context

configure application-assurance group statistics aa-admit-deny session-filter-stats

Description

This command configures whether to include or exclude session filter admit-deny statistics in accounting records.

Default

no session-filter-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.78 session-hold-time

session-hold-time

Syntax

session-hold-time remaining-lease-time

session-hold-time *seconds*

no session-hold-time

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Context

[Tree] (config>subscr-mgmt>gtp>peer-profile session-hold-time)

Full Context

configure subscriber-mgmt gtp peer-profile session-hold-time

Description

This command configures, in seconds, the time that a GTP session context is held after the corresponding UE is disconnected. If the same UE re-connects to this system before this time has elapsed, its GTP session context is re-used. When the timer expires, the GTP session context is cleared.

The **no** form of this command reverts to the default.

Default

session-hold-time 30

Parameters

remaining-lease-time

Specifies that the timer is equal to the UE's DHCP remaining lease time.

seconds

Specifies the time, in seconds, to hold a GTP session after its UE is disconnected.

Values 0 to 3600

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.79 session-id

session-id

Syntax

session-id *session-id*

no session-id

Context

[Tree] (config>li>li-source>nat>classic-lsn-sub session-id)

[Tree] (config>li>li-source>nat>ethernet-header session-id)

[Tree] (config>li>li-source>nat>dslite-lsn-sub session-id)

[Tree] (config>li>li-source>nat>nat64-lsn-sub session-id)

[Tree] (config>li>li-source>nat>l2-aware-sub session-id)

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Full Context

configure li li-source nat classic-lsn-sub session-id

configure li li-source nat ethernet-header session-id

configure li li-source nat dslite-lsn-sub session-id

configure li li-source nat nat64-lsn-sub session-id

configure li li-source nat l2-aware-sub session-id

Description

This command configures the session ID that is inserted into the packet header for all mirrored packets of the associated LI source entry. This session ID can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs.

The session ID is only valid and used for mirror services that are configured with **ip-udp-shim** routable encapsulation (**config>mirror>mirror-dest>encap>ip-gre-shim**).

For all types of li-source entries (filter, nat, sap, or subscriber), when the mirror service is configured with **ip-udp-shim** routable encapsulation, a session-id field (as part of the routable encapsulation) is always present in the mirrored packets. If there is no *session-id* configured for an **li-source** entry, then the default value is inserted. When a mirror service is configured with **ip-gre** routable encapsulation, no *session-id* is inserted and none should be specified against the **li-source** entries.

The **no** form of this command removes the *session-id* from the configuration which results in the default value being used.

Default

no session-id (an id of 0, or no id)

Parameters

session-id

Specifies the value to insert into the header of the mirrored packets.

Values 1 to 4,294,967,295 (32b)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

session-id

Syntax

session-id [*session-id*]

no session-id

Context

[Tree] (config>li>li-source>wlan-gw session-id)

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Full Context

configure li li-source wlan-gw session-id

Description

This command configures the session ID inserted in the packet header for all mirrored packets of the associated li-source. When the mirror-service is configured with the **ip-udp-shim** routable encapsulation, session-id field (as part of the routable encapsulation) is always present in the mirrored packets. The session-id can be used by the LIG to identify a particular LI session to which the packet belongs.

Parameters

session-id

Specifies the session ID inserted in the LI header.

Values 1 to 4294967295

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

session-id

Syntax

session-id *session-id*

no session-id

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>l2tp session-id)

[Tree] (config>test-oam>build-packet>header>l2tp session-id)

Full Context

debug oam build-packet packet field-override header l2tp session-id

configure test-oam build-packet header l2tp session-id

Description

This command defines the session ID to be used in the L2TP header.

The **no** form of this command removes the session ID value.

Default

session-id 0

Parameters

session-id

Specifies the L2TP session ID to be used in the L2TP header.

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Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.80 session-id-format

session-id-format

Syntax

session-id-format {**description** | **number**}

no session-id-format

Context

[Tree] (config>subscr-mgmt>acct-plcy session-id-format)

Full Context

configure subscriber-mgmt radius-accounting-policy session-id-format

Description

This command specifies the format for the acct-session-id attribute used in RADIUS accounting requests.

The **no** form of this command reverts to the default.

Default

session-id-format description

Parameters

description

Specifies to use a string containing following information: <subscriber>@<sap-id>@<SLA-profile>_<creation-time>

number

Specifies to use a unique number generated by the OS to identify a given session.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.81 session-key

session-key

Syntax

session-key sap mac [**cid**] [**rid**]

no session-key

Context

[Tree] (config>subscr-mgmt>ipoe-plcy session-key)

Full Context

configure subscriber-mgmt ipoe-session-policy session-key

Description

This command configures the key to logically group subscriber hosts that belong to the same dual stack end device in an IPoE session.

The SAP and MAC address are always part of the IPoE session key. Optionally the Circuit-Id/Interface-Id or Remote-Id can be added to the session key.

The **no** form of this command reverts to the default.

Default

session-key sap mac

Parameters

sap

Includes the SAP as part of the IPoE session key. The **sap** parameter is mandatory and cannot be removed from the key.

mac

Includes the MAC address as part of the IPoE session key. The **mac** parameter is mandatory and cannot be removed from the key.

cid

Optionally adds the DHCPv4 Relay Agent Circuit-Id (Option 82, sub Option 1) and DHCPv6 Interface-Id (Option 18) field to the IPoE session key.

rid

Optionally adds the DHCPv4 Relay Agent Remote-Id (Option 82, sub Option 2) and DHCPv6 Remote-Id (Option 37) field to the IPoE session key. For DHCPv6, the enterprise number is excluded from the key.

sap and **mac** are mandatory parameters while **cid** and **rid** are optional and mutually exclusive. Valid IPoE session key parameters are: **sap mac**, **sap mac cid** and **sap mac rid**.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.82 session-limit

session-limit

Syntax

session-limit *session-limit*

session-limit unlimited

no session-limit

Context

[Tree] (config>service>vprn>l2tp>group>tunnel session-limit)

[Tree] (config>service>vprn>l2tp>group session-limit)

[Tree] (config>router>l2tp>group>tunnel session-limit)

[Tree] (config>router>l2tp>group session-limit)

[Tree] (config>router>l2tp session-limit)

[Tree] (config>service>vprn>l2tp session-limit)

Full Context

configure service vprn l2tp group tunnel session-limit

configure service vprn l2tp group session-limit

configure router l2tp group tunnel session-limit

configure router l2tp group session-limit

configure router l2tp session-limit

configure service vprn l2tp session-limit

Description

This command configures the session limit.

This command configures the L2TP session limit for the router. The value controls how many L2TP sessions will be allowed within a given context (system, group, tunnel).

L2TP is connection-oriented. The L2TP Network Server (LNS) and LAC maintain state for each call that is initiated or answered by an LAC. An L2TP session is created between the LAC and LNS when an end-to-end PPP connection is established between a remote system and the LNS. Datagrams related to the PPP connection are sent over the tunnel between the LAC and LNS. There is a one-to-one relationship between established L2TP sessions and their associated calls.

The **no** form of this command removes the value from the configuration.

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Default

no session-limit

Parameters

session-limit

Specifies the allowed number of sessions within the given context.

Values 1 to 131071

unlimited

Specifies to use the maximum number of sessions available.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

session-limit

Syntax

session-limit *session-limit*

no session-limit

Context

[Tree] (config>service>ies>sub-if>pppoe session-limit)

[Tree] (config>service>vprn>sub-if>grp-if>pppoe session-limit)

[Tree] (config>service>vprn>sub-if>pppoe session-limit)

[Tree] (config>service>ies>sub-if>grp-if>pppoe session-limit)

Full Context

configure service ies subscriber-interface pppoe session-limit

configure service vprn subscriber-interface group-interface pppoe session-limit

configure service vprn subscriber-interface pppoe session-limit

configure service ies subscriber-interface group-interface pppoe session-limit

Description

This command specifies the number of PPPoE hosts allowed for this group interface.

The **no** form of this command reverts to the default.

Default

session-limit 1

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Parameters

session-limit

Specifies the number of PPPoE hosts allowed.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 1 to 131071

1 to 262143 (retail subscriber interface)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

session-limit

Syntax

session-limit *session-limit*

no session-limit

Context

[Tree] (config>service>ies>sub-if>ipoe-session session-limit)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session session-limit)

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session session-limit)

[Tree] (config>service>vprn>sub-if>ipoe-session session-limit)

Full Context

configure service ies subscriber-interface ipoe-session session-limit

configure service vprn subscriber-interface group-interface ipoe-session session-limit

configure service ies subscriber-interface group-interface ipoe-session session-limit

configure service vprn subscriber-interface ipoe-session session-limit

Description

This command specifies the number of IPoE sessions allowed for this group interface or retail subscriber interface.

The **no** form of this command reverts to the default.

Default

session-limit 1

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Parameters

session-limit

Specifies the number of allowed IPoE sessions.

Note:
The operational maximum value may be smaller due to equipped hardware dependencies.

Values 1 to 131071

1 to 500000 (retail subscriber interface)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

session-limit

Syntax

session-limit *limit*

Context

[Tree] (config>li>x-interfaces>x3 session-limit)

Full Context

configure li x-interfaces x3 session-limit

Description

This command configures the number of X3 sessions that the system should initiate to the LIC.

The **no** form of this command reverts to the default.

Default

session-limit 32

Parameters

limit

Specifies the session limit.

Values 1 to 32

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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42.83 session-limits

session-limits

Syntax

session-limits

Context

[Tree] (config>isa>wlan-gw-group>nat session-limits)

Full Context

configure isa wlan-gw-group nat session-limits

Description

Commands in this context configure session limits for the ISA WLAN gateway NAT group.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

session-limits

Syntax

session-limits

Context

[Tree] (config>isa>nat-group session-limits)

Full Context

configure isa nat-group session-limits

Description

Commands in this context configure session limits for the ISA NAT group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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session-limits

Syntax

session-limits

Context

[Tree] (config>service>nat>up-nat-policy session-limits)

[Tree] (config>service>nat>nat-policy session-limits)

[Tree] (config>service>nat>firewall-policy session-limits)

Full Context

configure service nat up-nat-policy session-limits

configure service nat nat-policy session-limits

configure service nat firewall-policy session-limits

Description

Commands in this context configure session limits for the NAT policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy session-limits
- configure service nat up-nat-policy session-limits

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy session-limits

session-limits

Syntax

[**no**] **session-limits**

Context

[Tree] (config>subscr-mgmt>sla-profile session-limits)

[Tree] (config>subscr-mgmt>sub-profile session-limits)

Full Context

configure subscriber-mgmt sla-profile session-limits

configure subscriber-mgmt sub-profile session-limits

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Description

Commands in this context configure session limits per SLA profile instance or per subscriber.

The **no** form of this command removes the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.84 session-messages

session-messages

Syntax

[**no**] **session-messages**

Context

[Tree] (debug>diam>application>policy session-messages)

Full Context

debug diameter application policy session-messages

Description

This command debugs session messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.85 session-optimized-stop

session-optimized-stop

Syntax

[**no**] **session-optimized-stop**

Context

[Tree] (config>subscr-mgmt>sub-prof>rad-acct session-optimized-stop)

Full Context

configure subscriber-mgmt sub-profile radius-accounting session-optimized-stop

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Description

This command optimizes a RADIUS Accounting Stop message for a PPPoE session termination (specifically for session accounting mode when the host update is enabled). By default when a PPPoE session terminates, the system removes a dual stack host in sequence, one host at a time. Therefore, the system will generate a RADIUS accounting interim for each host termination until only the final host is left. The final host will generate a final accounting stop message. Enabling this command will trigger a single Stop RADIUS accounting message and include information of all hosts without the host updates.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.86 session-parameters

session-parameters

Syntax

session-parameters

Context

[Tree] (config>router>ldp session-parameters)

Full Context

configure router ldp session-parameters

Description

Commands in this context configure peer specific parameters.

Platforms

All

42.87 session-qer

session-qer

Syntax

session-qer

Context

[Tree] (config>subscr-mgmt>sla-prof>pfcp session-qer)

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Full Context

configure subscriber-mgmt sla-profile pfcp-mappings session-qer

Description

Commands in this context configure the mapping of the GBR/MBR IEs present in a per-session QER without a QER correlation ID. A QER that contains a QER correlation ID does not use the QER mapping because it is assumed not to be a per-session construct.If a signaled PFCP QER rate applies to all data-plane rules, it is interpreted as the session QER rate and is mapped to the QoS overrides in the configuration. Examples of such QER rates are APN-AMBR for 4G FWA sessions and session-AMBR for 5G FWA sessions.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.88 session-sender-type

session-sender-type

Syntax

session-sender-type {**twamp-light** | **stamp**}

Context

[Tree] (config>test-oam>lag-meas>template>twl session-sender-type)

[Tree] (config>oam-pm>session>ip>twamp-light session-sender-type)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light session-sender-type

configure oam-pm session ip twamp-light session-sender-type

Description

This command configures the type of test packet to transmit.

Default

session-sender-type twamp-light

Parameters

twamp-light

Specifies TWAMP-Light transmission, packet formatting, and packet processing. TWAMP-Light test packets do not support TLVs.

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stamp

Specifies STAMP transmission, packet formatting, and packet processing. STAMP test packets support TLVs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

session-sender-type

Syntax

session-sender-type *protocol*

Context

[Tree] (config>test-oam>link-meas>template>twl session-sender-type)

Full Context

configure test-oam link-measurement measurement-template twamp-light session-sender-type

Description

This command configures the type of test packet to transmit.

Default

session-sender-type stamp

Parameters

protocol

Specifies the test packet type.

Values **twamp-light** — Use TWAMP-Light transmission, packet formatting, and packet processing. TWAMP-Light test packets do not support TLVs.

stamp — Use STAMP transmission, packet formatting, and packet processing. STAMP test packets support TLVs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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42.89 session-time

session-time

Syntax

[**no**] **session-time**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes session-time)

Full Context

configure aaa isa-radius-policy acct-include-attributes session-time

Description

This command enables the inclusion of the session-time attributes.

The **no** form of the command excludes session-time attributes.

Default

no session-time

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.90 session-timeout

session-timeout

Syntax

session-timeout *timeout*

no session-timeout

Context

[Tree] (config>subscr-mgmt>ppp-policy session-timeout)

Full Context

configure subscriber-mgmt ppp-policy session-timeout

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Description

This command defines the time before the PPP session is terminated.

A RADIUS specified session-timeout (attribute [27] Session-Timeout) overrides the CLI configured value.

The **no** form of this command reverts to the default.

Parameters

timeout

Specifies the session timeout in seconds.

Values 1 to 31104000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

session-timeout

Syntax

session-timeout *timeout*

no session-timeout

Context

[Tree] (config>subscr-mgmt>ipoe-plcy session-timeout)

Full Context

configure subscriber-mgmt ipoe-session-policy session-timeout

Description

This command defines the time in seconds between 1 second and 360 days before the IPoE session is disconnected. The default value is unlimited session timeout.

The **no** form of this command reverts to the default.

Parameters

timeout

Specifies the session timeout in seconds.

Values 1 to 31104000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.91 set-time

set-time

Syntax

set-time *date time*

Context

[Tree] (admin set-time)

Full Context

admin set-time

Description

This command sets the local system time.

The time entered should be accurate for the time zone configured for the system. The system will convert the local time to UTC before saving to the system clock which is always set to UTC. This command does not take into account any daylight saving offset if defined.

If SNTP or NTP is enabled (no shutdown) then this command cannot be used.

Parameters

date

Specifies the local date and time accurate to the minute in the YYYY/MM/DD format.

Values *YYYY* is the four-digit year

MM is the two-digit month

DD is the two-digit date

time

Specifies the time (accurate to the second) in the *hh*:*mm[:ss]* format. If no seconds value is entered, the seconds are reset to :00.

Values *hh* is the two-digit hour in 24 hour format (00=midnight, 12=noon)*mm* is the two-digit minute

Default 0

Platforms

All

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42.92 set-tos

set-tos

Syntax

set-tos [**0**..**255**]

no set-tos

Context

[Tree] (config>router>nat>inside>nat64 set-tos)

[Tree] (config>service>vprn>nat>inside>nat64 set-tos)

Full Context

configure router nat inside nat64 set-tos

configure service vprn nat inside nat64 set-tos

Description

This command specifies the value of the IPv4 ToS field. When enabled, the NAT64 node ignores IPv6 traffic-class and sets IPv4 ToS to the supplied ToS value in the translated IPv4 packet.

The **no** form of the command reverts to the default.

Default

set-tos 0

Parameters

[0..255]

Sets the IPv4 ToS to a fixed value the IPv6 Traffic Class and set the IPv4 ToS to a fixed value and ignores the IPv6 traffic class.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.93 setup-timeout

setup-timeout

Syntax

setup-timeout access-accept *timeout*

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no setup-timeout

Context

[Tree] (config>service>dynsvc>timers setup-timeout)

Full Context

configure service dynamic-services timers setup-timeout

Description

This command specifies the time that dynamic data services setup requests from a RADIUS Access-Accept are hold in an internal work queue waiting to be processed. If after the timeout, the dynamic data service setup request is still in the queue (meaning it is not setup), then the dynamic service setup request is removed from the queue and the setup fails.

The **no** form of this command reverts to the default value of 30 seconds.

Default

no setup-timeout

Parameters

timeout

Specifies the setup-timeout, in seconds, for setup requests of dynamic services received via Access-Accept.

Values 2 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.94 severity

severity

Syntax

severity {**eq** | **neq** | **lt** | **lte** | **gt** | **gte**} *severity-level*

no severity

Context

[Tree] (config>service>vprn>log>filter>entry>match severity)

Full Context

configure service vprn log filter entry match severity

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Description

This command adds an event severity level as a match criterion. Only one severity command can be entered per event filter entry. The latest severity command overwrites the previous command.

The **no** form of this command removes the severity match criterion.

Default

no severity

Parameters

eq | neq | lt | lte | gt | gte

Specifies the type of match. Valid operators are listed below.

Values

Table 114: Valid Operators

Operator	Notes
eq	equal to
neq	not equal to
lt	less than
lte	less than or equal to
gt	greater than
gte	greater than or equal to

severity-name

The ITU severity level name. Table 115: Severity Levels lists severity names and corresponding numbers per ITU standards M.3100 X.733 & X.21 severity levels.

Table 115: Severity Levels

Severity Number	Severity Name
1	cleared
2	indeterminate (info)
3	critical
4	major
5	minor
6	warning

Values cleared, intermediate, critical, major, minor, warning

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Platforms

All

severity

Syntax

severity *syslog-severity*

Context

[Tree] (config>app-assure>group>evt-log>syslog severity)

Full Context

configure application-assurance group event-log syslog severity

Description

This command configures the syslog message severity level threshold.

Default

severity info

Parameters

syslog-severity

Specifies the severity level for the syslog message.

Values emergency, alert, critical, error, warning, notice, info, debug

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

severity

Syntax

severity {**eq** | **neq** | **lt** | **lte** | **gt** | **gte**} *severity-level*

no severity

Context

[Tree] (config>log>filter>entry>match severity)

Full Context

configure log filter entry match severity

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Description

This command adds an event severity level as a match criterion. Only one severity command can be entered per event filter entry. The latest severity command overwrites the previous command.

The **no** form of this command removes the severity match criterion.

Parameters

eq | neq | lt | lte | gt | gte

Specifies the match type. Valid operators are listed in Table 116: Valid Operators.

Table 116: Valid Operators

Operator	Notes
eq	equal to
neq	not equal to
lt	less than
lte	less than or equal to
gt	greater than
gte	greater than or equal to

severity-name

Specifies the ITU severity level name. Table 117: ITU Severity Information lists severity names and corresponding numbers per ITU standards M.3100 X.733 & X.21 severity levels.

Table 117: ITU Severity Information

Severity Number	Severity Name
1	cleared
2	indeterminate (info)
3	critical
4	major
5	minor
6	warning

Values cleared, intermediate, critical, major, minor, warning

Platforms

All

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42.95 severity-level

severity-level

Syntax

severity-level *syslog-level*

Context

[Tree] (config>service>nat>syslog>syslog-export-policy severity-level)

Full Context

configure service nat syslog syslog-export-policy severity-level

Description

This command configures the severity level.

For more information, refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide*. The **config>log>syslog>level** hierarchy also applies to this context.

Default

severity-level info

Parameters

syslog-level

Specifies the severity level.

Values emergency, alert, critical, error, warning, notice, info, debug

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.96 sf-offset

sf-offset

Syntax

sf-offset *offset-value*

no sf-offset

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Context

[Tree] (config>service>vprn>isis>if>level sf-offset)

Full Context

configure service vprn isis interface level sf-offset

Description

If the pre-FEC error rate of the associated DWDM port crosses the configured **sf-threshold**, this offset-value is added to the IS-IS interface metric. This parameter is only effective if the interface is associated with a DWDM port and the **sf-threshold** value is configured under that port.

The **no** form of this command reverts the offset value to 0.

Default

no sf-offset

Parameters

offset-value

Specifies the amount the interface metric is increased by if the **sf-threshold** is crossed.

Values 0 to 16777215

Platforms

All

sf-offset

Syntax

sf-offset *offset-value*

no sf-offset

Context

[Tree] (config>router>isis>if>level sf-offset)

Full Context

configure router isis interface level sf-offset

Description

If the pre-FEC error rate of the associated DWDM port crosses the configured **sf-threshold**, this offset-value is added to the IS-IS interface metric. This parameter is only effective if the interface is associated with a DWDM port and the **sf-threshold** value is configured under that port.

The **no** form of this command reverts the offset value to 0.

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Default

no sf-offset

Parameters

offset-value

Specifies the amount the interface metric is increased by if the **sf-threshold** is crossed.

Values 0 to 16777215

Platforms

All

42.97 sf-sd-method

sf-sd-method

Syntax

sf-sd-method {**bip8** | **fec**}

Context

[Tree] (config>port>otu sf-sd-method)

Full Context

configure port otu sf-sd-method

Description

This command specifies the method used to determine the signal failure (SF) and signal degrade (SD) alarms. When the **bip8** method is selected, the SM-BIP8 errors are used. When the **fec** method is selected, the FEC corrected bits are used.

The following rules must be followed:

- The port's OTU must be enabled to set or change the **sf-sd-method**.
- The FEC mode must be **enhanced** or **g709** before setting **sf-sd-method** to **fec**.
- The SF threshold must be 5 or higher before setting **sf-sd-method** to **bip8**.

Default

sf-sd-method fec

Parameters

bip8

Specifies that SM-BIP8 errors are used to declare the presence of the SF and SD conditions.

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fec

Specifies that FEC corrected bit errors are used to declare the presence of the SF and SD conditions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.98 sf-threshold

sf-threshold

Syntax

sf-threshold *threshold* [**multiplier** *multiplier*]

no sf-threshold

Context

[Tree] (config>esa>crc-monitor sf-threshold)

Full Context

configure esa crc-monitor sf-threshold

Description

This command configures the error rate at which to declare the signal failure (SF) condition on an Ethernet interface. The value represents M*10E-N, errored frames over total frames received over W seconds of the sliding window. The CRC errors on the interface are sampled once per second. A default of 10 seconds is used when no additional **window-size** is configured. If you omit the **multiplier** value or configure **no sf-threshold**, the multiplier returns to the default value of 1.

Note: Crossing the configured signal failure (SF) threshold causes the router ESA port to enter an operational state of down when the router side detects the SF, or the port is shut down when the ESA detects the SF, which triggers redundancy for all configured ISA groups.

The **no** form of this command removes the configuration.

Default

no sf-threshold

Parameters

threshold

Specifies the SF threshold.

Values 1 to 9

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multiplier

Specifies the SF multiplier.

Values 1

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

sf-threshold

Syntax

sf-threshold *threshold* [**coefficient** *coefficient*]

Context

[Tree] (config>port>otu sf-threshold)

Full Context

configure port otu sf-threshold

Description

This command defines the error rate at which to declare the signal failure (SF) condition.

The parameters define an error rate of (*coefficient*/10) * 10E-*threshold*. For example, **sf-threshold 5 coefficient 20** defines an error rate of (20/10) * 10E-5, or 2 * 10E-5, or 0.000 02.

The SF threshold must be the following:

- less than the SD threshold
- 5 or higher before setting **sf-sd-method** to **bip8**

The **coefficient** parameter is only used when **sf-sd-method** is set to **fec**. When **sf-sd-method** is set to **bip8**, **coefficient** is considered to have the value of 10.

Parameters

threshold

Specifies the exponent for the SF threshold value.

Values 3 to 6 when **sf-sd-method** is **bip8**

3 to 8 when **sf-sd-method** is **fec**

Default 5

coefficient

Specifies the coefficient for the SF threshold value.

Values 10 to 99

Default 10

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sf-threshold

Syntax

sf-threshold *errored-frames*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame sf-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame sf-threshold

Description

The option defines the number of frame errors within the configured window which indicates the port has exceeded an acceptable error rate. A log event will be raised, and the port will be taken out of service by default. Configuration options exist to take additional actions when the error rate exceeds the threshold. These actions are defined using the **local-sf-action** configuration. This event can only be cleared through manual intervention that affects the state of the port.

Parameters

errored-frames

The number of errored frames within the configured window which indicates the port has become unusable.

Values 1 to 1000000

Default 1

Platforms

All

sf-threshold

Syntax

sf-threshold *errored-frames*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-period sf-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-period sf-threshold

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Description

This command defines the number of frame errors within the configured window which indicates the port has exceeded an acceptable error rate. A log event will be raised, and the port will be taken out of service by default. Configuration options exist to take additional actions when the error rate exceeds the threshold. These actions are defined using the local-sf-action configuration. This event can only be cleared through manual intervention that affects the state of the port.

Default

sf-threshold 1

Parameters

errored-frames

Specifies the number of errored frames within the configured window which indicates the port has become unusable.

Values 1 to 1000000

Platforms

All

sf-threshold

Syntax

sf-threshold *errored-seconds*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-seconds sf-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-seconds sf-threshold

Description

This command defines the number of errors seconds within the configured window which indicates the port has exceeded an acceptable error rate. A log event will be raised, and the port will be taken out of service by default. Configuration options exist to take additional actions when the error rate exceeds the threshold. These actions are defined using the **local-sf-action** configuration. This event can only be cleared through manual intervention that affects the state of the port.

Parameters

errored-seconds

Specifies the number of errored seconds within the configured window which indicates the port has become unusable.

Values 1 to 900

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Platforms

All

sf-threshold

Syntax

sf-threshold *errored-symbols*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-symbols sf-threshold)

Full Context

configure port ethernet efm-oam link-monitoring errored-symbols sf-threshold

Description

This command defines the number of symbol errors within the configured window which indicates the port has exceeded an acceptable error rate. A log event will be raised, and the port will be taken out of service by default. Configuration options exist to take additional actions when the error rate exceeds the threshold. These actions are defined using the local-sf-action configuration.

Parameters

errored-symbols

Specifies the number of errored-symbols which indicates the port has become unusable.

Values 1 to 1000000

Platforms

All

sf-threshold

Syntax

sf-threshold *threshold* [**multiplier** *multiplier*]

no sf-threshold

Context

[Tree] (config>port>ethernet>sym-mon sf-threshold)

Full Context

configure port ethernet symbol-monitor sf-threshold

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Description

This command specifies the error rate at which to declare the Signal Fail condition on an Ethernet interface. The value represents M*10E-N symbol errors over total symbols received over W seconds of the sliding window. The symbol errors on the interface are sampled once per second. A default of 10 seconds is used when there is no additional window-size configured. The multiplier keyword is optional. If the multiplier keyword is omitted or no sf-threshold is specified, the multiplier will return to the default value of 1.

Default

no sf-threshold

Parameters

threshold

Specifies the rate of symbol errors.

Values 1 to 9

multiplier

Specifies the multiplier used to scale the symbol error ratio.

Values 1 to 9

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sf-threshold

Syntax

sf-threshold *threshold* [**multiplier** *multiplier*]

no sf-threshold

Context

[Tree] (config>port>ethernet>crc-monitor sf-threshold)

Full Context

configure port ethernet crc-monitor sf-threshold

Description

This command specifies the error rate at which to declare the Signal Fail condition on an Ethernet interface. The value represents M*10E-N errored frames over total frames received over W seconds of the sliding window. The CRC errors on the interface are sampled once per second. A default of 10 seconds is used when there is no additional window-size configured. The multiplier keyword is optional. If the multiplier keyword is omitted or **no sf-threshold** is specified the multiplier will return to the default value of 1.

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Default

no sf-threshold

Parameters

threshold

Specifies the threshold value.

Values 1 to 9

multiplier

Specifies the multiplier value.

Values 1 to 9

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.99 sf-threshold-clear

sf-threshold-clear

Syntax

sf-threshold-clear *threshold* [**coefficient** *coefficient*]

Context

[Tree] (config>port>otu sf-threshold-clear)

Full Context

configure port otu sf-threshold-clear

Description

This command defines the signal failure (SF) threshold clear value.

When the bit error rate falls below this value, the SF condition is cleared. The parameters define an error rate of (*coefficient*/10) * 10E-*threshold*. For example, **sf-threshold-clear 7 coefficient 10** defines an error rate of (10/10) * 10E-7, or 10E-7, or 0.000 000 1.

This SF threshold clear setting is valid only when **sf-sd-method** is set to **fec**.

Parameters

threshold

Specifies the exponent for the SF threshold clear value.

Values 3 to 9

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Default 6

coefficient

Specifies the coefficient for the SF threshold clear value.

Values 10 to 99

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.100 sflow

sflow

Syntax

[**no**] **sflow**

Context

[Tree] (config>port>ethernet sflow)

Full Context

configure port ethernet sflow

Description

This command enables sFlow data collection for a port and its SAPs that support sFlow data collection.

The **no** form of this of this command disables sFlow.

Default

no sflow

Platforms

7750 SR, 7750 SR-s, 7950 XRS

sflow

Syntax

sflow

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Context

[Tree] (config sflow)

Full Context

configure sflow

Description

Commands in this context configure sflow agent parameters.

Platforms

7750 SR, 7750 SR-s, 7950 XRS

42.101 sfm

sfm

Syntax

sfm *sfm-name*

no sfm *sfm-name*

Context

[Tree] (config sfm)

Full Context

configure sfm

Description

Commands in this context configure the specified SFM.

The **no** form of this command removes the SFM configuration for the specified SFM.

Parameters

sfm-name

Specifies the SFM identifier.

Values 1 to 4

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

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42.102 sfm-loss-threshold

sfm-loss-threshold

Syntax

sfm-loss-threshold *num-sfm*

no sfm-loss-threshold

Context

[Tree] (config>system>switch-fabric sfm-loss-threshold)

Full Context

configure system switch-fabric sfm-loss-threshold

Description

This command sets the number of SFMs that are permitted to fail before the system goes into SFM overload state. This command is only applicable on the 7750 SR-7s and the 7750 SR-14s. Users can select the SFM limit based on the number possible for the system minus one. For the 7750 SR-7s this is a value of 3 and for the 7750 SR-14s this is a value of 7.

For networks that can accommodate more SFM failures than the default value, this command allows the selection of the number of SFMs to fail prior to the system going into SFM overload state.

The **no** form of this command reverts the threshold to the default value.

Default

7750 SR-7s: sfm-loss-threshold 1

7750 SR-14s: sfm-loss-threshold 2

Parameters

num-sfm

Specifies the number of SFMs permitted to fail before SFM overload state.

Values 1 to 7

Platforms

7750 SR-7s, 7750 SR-14s

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42.103 sfm-type

sfm-type

Syntax

sfm-type *sfm-type*

no sfm *sfm-type*

Context

[Tree] (config>sfm sfm-type)

Full Context

configure sfm sfm-type

Description

This command provisions the SFM.

The **no** form of this command deprovisions the SFM.

Default

no sfm *sfm-type*

Parameters

sfm-type

Specifies the SFM card type.

Values Depending on the SR hardware platform.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

42.104 sg

sg

Syntax

sg [**group** *grp-addr* [**source** *src-addr*]]

no sg

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Context

[Tree] (debug>service>id>video-interface sg)

Full Context

debug service id video-interface sg

Description

This command enables channel debugging.

Parameters

group *grp-addr*

Specifies the multicast channel address.

source *src-addr*

Specifies the source address.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

42.105 sgsn-mcc-mnc

sgsn-mcc-mnc

Syntax

[**no**] **sgsn-mcc-mnc**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp sgsn-mcc-mnc)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp sgsn-mcc-mnc

Description

This command enables the inclusion of the 3GPP-SGSN-MCC-MNC AVP, which contains the MCC and MNC as configured under **configure subscriber-mgmt gtp serving-network**.

The **no** form of this command disables the inclusion of the AVP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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42.106 sgt-qos

sgt-qos

Syntax

sgt-qos

Context

[Tree] (config>service>vprn sgt-qos)

[Tree] (config>router sgt-qos)

Full Context

configure service vprn sgt-qos

configure router sgt-qos

Description

Commands in this context configure DSCP/dot1p remarking for self-generated traffic.

Platforms

All

42.107 shallow-inspection

shallow-inspection

Syntax

[**no**] **shallow-inspection**

Context

[Tree] (config>app-assure>group shallow-inspection)

Full Context

configure application-assurance group shallow-inspection

Description

This command disables all Layer 7 signature-based flow inspection.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.108 sham-link

sham-link

Syntax

sham-link *ip-int-name ip-address*

Context

[Tree] (config>service>vprn>ospf>area sham-link)

Full Context

configure service vprn ospf area sham-link

Description

This command is similar to a virtual link with the exception that metric must be included in order to distinguish the cost between the MPLS-VPRN link and the backdoor.

Parameters

ip-int-name

The local interface name used for the sham-link. This is a mandatory parameter and interface names must be unique within the group of defined IP interfaces for **config>router>if**, **config>service>ies>if** and **config>service>vprn>if** commands. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters composed of printable, 7-bit ASCII characters. If the string contains special characters, the entire string must be enclosed between double quotes. If the IP interface name does not exist or does not have an IP address configured, an error message will be returned.

ip-address

The IP address of the sham-link neighbor in IP address dotted decimal notation. This parameter is the remote peer of the sham link's IP address used to set up the sham-link. This is a mandatory parameter and must be a valid IP address.

Platforms

All

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42.109 sham-neighbor

sham-neighbor

Syntax

sham-neighbor [*ip-address*]

no sham-neighbor

Context

[Tree] (debug>router>ospf sham-neighbor)

Full Context

debug router ospf sham-neighbor

Description

This command enables debugging of the OSPFv2 sham-link neighbor.

Parameters

ip-address

Debugs the sham-link neighbor identified by this IP address.

Platforms

All

42.110 shape-multi-client-only

shape-multi-client-only

Syntax

[**no**] **shape-multi-client-only**

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>egress shape-multi-client-only)

Full Context

configure service ies subscriber-interface group-interface wlan-gw egress shape-multi-client-only

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Description

This command enables the egress shaping is only enabled for a wlan-gw tunnel while there are multiple UE (User Equipment) using it.

The **no** form of this command disables the egress shaping.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.111 shaper

shaper

Syntax

[**no**] **shaper**

Context

[Tree] (config>service>sdp>binding>pw-port>egress shaper)

Full Context

configure service sdp binding pw-port egress shaper

Description

This command enables the egress shaping option for use by a pseudowire port.

The **no** form of the command disables the egress shaping option.

Default

no shaper

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shaper

Syntax

[**no**] **shaper**

Context

[Tree] (config>service>epipe>pw-port>egress shaper)

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Full Context

configure service epipe pw-port egress shaper

Description

Commands in this context configure PW-port shaper parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.112 shaping

shaping

Syntax

shaping {**per-retailer** | **per-tunnel**}

no shaping

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>egress shaping)

Full Context

configure service ies subscriber-interface group-interface wlan-gw egress shaping

Description

This command configures the granularity of the egress shaping for wlan-gw on this group interface.

The **no** form of this command removes the parameter from the configuration.

Parameters

per-tunnel

Specifies that a separate shaper is applied to each wlan-gw tunnel.

per-retailer

Specifies that a separate shaper is applied to each retailer Mobile Network Operator's fraction of the wlan-gw tunnel payload.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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42.113 shared-circuit-id

shared-circuit-id

Syntax

[**no**] **shared-circuit-id**

Context

[Tree] (config>service>vprn>sub-if>grp-if shared-circuit-id)

[Tree] (config>service>ies>sub-if>grp-if shared-circuit-id)

Full Context

configure service vprn subscriber-interface group-interface shared-circuit-id

configure service ies subscriber-interface group-interface shared-circuit-id

Description

If configured, circuit-id in DHCPv4 Option82 is used to authenticate DHCPv6. If DHCPv6 is received before DHCPv4, it is dropped. Also, a SLAAC host is created based on DHCPv4 authentication if RADIUS returns IPv6 framed-prefix. The IPv6oE host is deleted if the linked IPv4oE host is deleted due to DHCP release or lease time-out. The linkage between IPv4 and IPv6 is based on SAP and MAC address. The sharing of circuit-id from DHCPv4 for authentication of DHCPv6 (or SLAAC) allows 7750 SR to work around lack of support for LDRA on access nodes.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

42.114 shared-policer

shared-policer

Syntax

[**no**] **shared-policer**

Context

[Tree] (config>filter>ip-filter shared-policer)

[Tree] (config>filter>ipv6-filter shared-policer)

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Full Context

configure filter ip-filter shared-policer

configure filter ipv6-filter shared-policer

Description

When enabled and when the filter policy is configured on a LAG endpoint, the system programs the policer rates in the filter policy per line card FP of the LAG based on the number of active ports in the LAG for each FP.When disabled and when the filter policy is configured on a LAG endpoint, the system programs the same policer rate on each line card FP of the LAG.

The **no** form of this command disables the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

42.115 shared-pool-in-use

shared-pool-in-use

Syntax

shared-pool-in-use *percentage*

no shared-pool-in-use

Context

[Tree] (config>port>access>egress>pool>monitor-depth>alarm shared-pool-in-use)

[Tree] (config>port>access>ingress>pool>monitor-depth>alarm shared-pool-in-use)

[Tree] (config>card>fp>ingress>network>pool>monitor-depth>alarm shared-pool-in-use)

[Tree] (config>port>network>egress>pool>monitor-depth>alarm shared-pool-in-use)

Full Context

configure port access egress pool monitor-pool-depth alarm-thresholds shared-pool-in-use

configure port access ingress pool monitor-pool-depth alarm-thresholds shared-pool-in-use

configure card fp ingress network pool monitor-pool-depth alarm-thresholds shared-pool-in-use

configure port network egress pool monitor-pool-depth alarm-thresholds shared-pool-in-use

Description

This command configures the threshold for the shared pool in use.

A tmnxSharedPoolUseThreshExcd trap is generated when the shared pool usage exceeds this threshold percentage. When the usage returns below the threshold percentage, the tmnxSharedPoolUseThreshNotExcd trap is generated

The **no** form of this command removes the threshold on which to alarm.

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Default

no shared-pool-in-use

Parameters

percentage

Specifies the shared pool in-use alarm threshold.

Values 0.01 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

42.116 shared-queue

shared-queue

Syntax

shared-queue *policy-name* [**create**]

no shared-queue *policy-name*

Context

[Tree] (config>qos shared-queue)

Full Context

configure qos shared-queue

Description

Commands in this context modify the QoS default shared-queue policy.

Parameters

policy-name

The name of the default shared-queue policy.

Values default

Platforms

All

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shared-queue

Syntax

shared-queue *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy shared-queue)

Full Context

configure qos copy shared-queue

Description

This command copies an existing **shared-queue** to another **shared-queue**. The **copy** command is a configuration level maintenance tool used to create new entries using an existing mapping policy name. If **overwrite** is not specified, an error occurs if the destination policy exists.

Parameters

src-name

Specifies the existing source **shared-queue**, up to 32 characters, from which the **copy** command attempts to copy.

dst-name

Specifies the destination **shared-queue**, up to 32 characters, to which the copy command attempts to copy.

overwrite

Use this parameter when the **shared-queue** *dst-name* already exists. If it does, everything in the existing destination **shared-queue** *dst-name* is completely overwritten with the contents of the **shared-queue** *src-name*. The **overwrite** parameter must be specified or else the following error message is returned:

```
MINOR: CLI Destination "sqtest10" exists - use {overwrite}.
```

If **overwrite** is specified, the function of copying from source to destination occurs in a "break before make” manner and therefore should be handled with care.

Platforms

All

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42.117 shared-radius-filter-wmark

shared-radius-filter-wmark

Syntax

shared-radius-filter-wmark low *low-watermark* **high** *high-watermark*

no shared-radius-filter-wmark

Context

[Tree] (config>filter>ipv6-filter shared-radius-filter-wmark)

[Tree] (config>filter>ip-filter shared-radius-filter-wmark)

Full Context

configure filter ipv6-filter shared-radius-filter-wmark

configure filter ip-filter shared-radius-filter-wmark

Description

This command configures the low and high watermark for the number of RADIUS shared filters reporting

Default

no shared-radius-filter-wmark

Parameters

low-watermark

Specifies the utilization of the filter ranges for filter entry insertion, at which a table full alarm will be raised by the agent.

Values 0 to 8000

high-watermark

Specifies the utilization of the filter ranges for filter entry insertion, at which a table full alarm will be cleared by the agent.

Values 1 to 8000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.118 shared-resources

shared-resources

Syntax

shared-resources

Context

[Tree] (config>isa>aa-grp shared-resources)

Full Context

configure isa application-assurance-group shared-resources

Description

Commands in this context configure the shared resources pool.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.119 shcv-policy

shcv-policy

Syntax

shcv-policy *name* [**create**]

no shcv-policy *name*

Context

[Tree] (config>subscr-mgmt shcv-policy)

Full Context

configure subscriber-mgmt shcv-policy

Description

This command configures a Subscriber Host Connectivity Verification (SHCV) policy. An SHCV policy can be applied to both the subscriber management group interface and VPLS instances. All SHCV-related features inside a group interface and a VPLS service follows the configuration specified in the SHCV policy. The SHCV policy and the SHCV configuration on a group interface are mutually exclusive. Only one can be applied to the group interface.

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The **no** form of this command removes the policy name from the configuration.

Parameters

name

Specifies the name of the SHCV policy, up to 32 characters.

create

Keyword required to create the configuration context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shcv-policy

Syntax

shcv-policy *name*

no shcv-policy

Context

[Tree] (config>service>vprn>sub-if>grp-if shcv-policy)

[Tree] (config>service>ies>sub-if>grp-if shcv-policy)

Full Context

configure service vprn subscriber-interface group-interface shcv-policy

configure service ies subscriber-interface group-interface shcv-policy

Description

This command references the SHCV policy to be used for both IPv4 and IPv6 subscriber hosts. The policy name must already exist in the **config>subscr-mgmt** context.

The **no** form of this command removes the policy name from the service configuration.

Parameters

name

Specifies an existing SHCV policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.120 shcv-policy-ipv4

shcv-policy-ipv4

Syntax

shcv-policy-ipv4 *name*

no shcv-policy-ipv4

Context

[Tree] (config>service>vpls>sap shcv-policy-ipv4)

[Tree] (config>service>vprn>if shcv-policy-ipv4)

[Tree] (config>service>vprn>sub-if>grp-if shcv-policy-ipv4)

[Tree] (config>service>vpls shcv-policy-ipv4)

[Tree] (config>service>ies>sub-if>grp-if shcv-policy-ipv4)

[Tree] (config>service>ies>if shcv-policy-ipv4)

Full Context

configure service vpls sap shcv-policy-ipv4

configure service vprn interface shcv-policy-ipv4

configure service vprn subscriber-interface group-interface shcv-policy-ipv4

configure service vpls shcv-policy-ipv4

configure service ies subscriber-interface group-interface shcv-policy-ipv4

configure service ies interface shcv-policy-ipv4

Description

This command specifies the Subscriber Host Connectivity Verification (SHCV) policy to be used exclusive for IPv4 subscriber hosts. The shcv-policy name must already exist in the **config>subscr-mgmt** context.

The **no** form of this command removes the policy name from the service configuration.

Parameters

name

Specifies an existing SHCV policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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42.121 shcv-policy-ipv6

shcv-policy-ipv6

Syntax

shcv-policy-ipv6 *name*

no shcv-policy-ipv6

Context

[Tree] (config>service>ies>sub-if>grp-if shcv-policy-ipv6)

[Tree] (config>service>ies>if shcv-policy-ipv6)

[Tree] (config>service>vprn>sub-if>grp-if shcv-policy-ipv6)

[Tree] (config>service>vprn>if shcv-policy-ipv6)

Full Context

configure service ies subscriber-interface group-interface shcv-policy-ipv6

configure service ies interface shcv-policy-ipv6

configure service vprn subscriber-interface group-interface shcv-policy-ipv6

configure service vprn interface shcv-policy-ipv6

Description

This command references the Subscriber Host Connectivity Verification (SHCV) policy to be used exclusive for IPv6 subscriber hosts. The policy name must already exist in the **config>subscr-mgmt** context.

The **no** form of this command removes the policy name from the service configuration.

Parameters

name

Specifies an existing SHCV policy name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface shcv-policy-ipv6
- configure service vprn subscriber-interface group-interface shcv-policy-ipv6

All

- configure service vprn interface shcv-policy-ipv6
- configure service ies interface shcv-policy-ipv6

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42.122 shell

shell

Syntax

shell [**-password** *password*] [**-token** *token*]

no shell

Context

[Tree] (environment shell)

Full Context

environment shell

Description

This command allows Nokia technical support to access the **shell** commands. The **shell** commands are used only by Nokia technical support for troubleshooting.

The **no** form of this command disables the **shell** commands.

Parameters

password

Specifies the password to access the **shell** commands, up to 256 characters.

token

Specifies the token to access the **shell** commands, up to 4096 characters.

Platforms

All

42.123 short-duration-flow-count

short-duration-flow-count

Syntax

[**no**] **short-duration-flow-count**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-cntr short-duration-flow-count)

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Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters short-duration-flow-count

Description

This command includes the short duration flow count in the AA subscriber's custom record. This command only applies to the 7750 SR.

The **no** form of this command excludes the short duration flow count.

Default

no short-duration-flow-count

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.124 short-sequence-numbers

short-sequence-numbers

Syntax

[**no**] **short-sequence-numbers**

Context

[Tree] (config>router>l2tp>group>tunnel>mlppp short-sequence-numbers)

[Tree] (config>router>l2tp>group>mlppp short-sequence-numbers)

[Tree] (config>service>vprn>l2tp>group>tunnel>mlppp short-sequence-numbers)

[Tree] (config>service>vprn>l2tp>group>mlppp short-sequence-numbers)

[Tree] (config>subscr-mgmt>ppp-policy>mlppp short-sequence-numbers)

Full Context

configure router l2tp group tunnel mlppp short-sequence-numbers

configure router l2tp group mlppp short-sequence-numbers

configure service vprn l2tp group tunnel mlppp short-sequence-numbers

configure service vprn l2tp group mlppp short-sequence-numbers

configure subscriber-mgmt ppp-policy mlppp short-sequence-numbers

Description

This command enables a peer request to send short sequence numbers. This command is applicable to LAC and LNS. By default, MLPPPoX negotiates 24bit long sequence numbers. This command allows this to be changed to shorter, 12-bit sequence numbers.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

42.125 shortcut-local-ttl-propagate

shortcut-local-ttl-propagate

Syntax

[**no**] **shortcut-local-ttl-propagate**

Context

[Tree] (config>router>mpls shortcut-local-ttl-propagate)

[Tree] (config>router>ldp shortcut-local-ttl-propagate)

Full Context

configure router mpls shortcut-local-ttl-propagate

configure router ldp shortcut-local-ttl-propagate

Description

This command configures the TTL handling of locally generated packets for all LSP shortcuts originating on this ingress LER. It applies to all LDP or RSVP LSPs that are used to resolve static routes, BGP routes, and IGP routes.

The user can enable or disable the propagation of the TTL from the header of an IP packet into the header of the resulting MPLS packet independently for local and transit packets forwarded over an LSP shortcut.

Local IP packets include ICMP Ping, traceroute, and OAM packets, that are destined to a route that is resolved to the LSP shortcut. Transit IP packets are all IP packets received on any IES interface and destined to a route that is resolved to the LSP shortcut

By default, the feature propagates the TTL from the header of locally generated IP packets into the label stack of the resulting MPLS packets forwarded over the LSP shortcut. This is referred to as Uniform mode.

When the **no** form of this command is enabled, TTL propagation is disabled on all locally generated IP packets, including ICMP Ping, traceroute, and OAM packets, that are destined to a route that is resolved to the LSP shortcut. In this case, a TTL of 255 is programmed onto the pushed label stack. This is referred to as Pipe mode.

Default

shortcut-local-ttl-propagate

Platforms

All

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42.126 shortcut-transit-ttl-propagate

shortcut-transit-ttl-propagate

Syntax

[**no**] **shortcut-transit-ttl-propagate**

Context

[Tree] (config>router>mpls shortcut-transit-ttl-propagate)

[Tree] (config>router>ldp shortcut-transit-ttl-propagate)

Full Context

configure router mpls shortcut-transit-ttl-propagate

configure router ldp shortcut-transit-ttl-propagate

Description

This command configures the TTL handling of transit packets for all LSP shortcuts originating on this ingress LER. It applies to all LDP or RSVP LSPs that are used to resolve static routes, BGP routes, and IGP routes.

The user can enable or disable the propagation of the TTL from the header of an IP packet into the header of the resulting MPLS packet independently for local and transit packets forwarded over an LSP shortcut.

By default, the feature propagates the TTL from the header of transit IP packets into the label stack of the resulting MPLS packets forwarded over the LSP shortcut. This is referred to as Uniform mode.

When the **no** form of the command is enabled, TTL propagation is disabled on all transit IP packets received on any IES interface and destined to a route that is resolved to the LSP shortcut. In this case, a TTL of 255 is programmed onto the pushed label stack. This is referred to as Pipe mode.

Default

shortcut-transit-ttl-propagate

Platforms

All

42.127 shortcut-tunnel

shortcut-tunnel

Syntax

shortcut-tunnel

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Context

[Tree] (config>router>bgp>next-hop-resolution shortcut-tunnel)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel

Description

This command creates the context to configure the tunnel types that can be used to resolve unlabeled IPv4 and IPv6 BGP routes.

The following tunnel types are supported for resolving IPv4 routes and IPv6 routes with IPv4-mapped IPv6 next-hop addresses: bgp, ldp, rsvp, sr-isis, sr-ospf, sr-policy and sr-te. In this context:

- **bgp** — refers to IPv4 tunnels created by receiving BGP label-unicast IPv4 routes for /32 IPv4 prefixes.
- **ldp** — refers to /32 and shorter length LDP FEC prefixes imported into the tunnel table. For IPv4 NLRI, BGP selects the LDP FEC that is the longest-prefix-match (LPM) of the BGP next-hop address. For IPv6 NLRI, BGP selects the /32 FEC that is an exact match of the BGP next-hop address.
- **rsvp** — refers to RSVP tunnels in the tunnel table to IPv4 destinations. This option allows BGP to use the best metric RSVP LSP to the address of the BGP next hop. This address can correspond to the system interface or to another loopback interface of the remote BGP router. In the case of multiple RSVP LSPs with the same lowest metric, BGP selects the LSP with the lowest tunnel id.
- **sr-ospf** — refers to SR tunnels (shortest path) to IPv4 destinations reachable by the OSPF protocol. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference OSPF instance. In case of a tie, the OSPF instance with the lowest metric SR tunnel is selected over the lowest numbered OSPF instance.
- **sr-ospf3** — refers to SR tunnels (shortest path) to IPv4 destinations reachable by the OSPFv3 protocol. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference OSPFv3 instance. In case of a tie, the OSPFv3 instance with the lowest metric SR tunnel is selected over the lowest numbered OSPFv3 instance.
- **sr-isis** — refers to SR tunnels (shortest path) to IPv4 destinations reachable by the IS-IS protocol. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference IS-IS instance. In case of a tie, the IS-IS instance with the lowest metric SR tunnel is selected over the lowest numbered IS-IS instance.
- **sr-policy** — refers to SR policies that are statically configured in the local router or learned through BGP routes (AFI 1/SAFI 73 or AFI 2/SAFI 73). BGP resolves an IPv4 route with an IPv4 next-hop address or an IPv6 route with IPv4-mapped IPv6 next-hop address using a SR policy selected by applying the following procedure in preference order:
  - **IPv4 endpoint**

    The next hop must match the endpoint of the SR policy and the highest numbered color extended community attached to the IPv4 or IPv6 route must match the color of the SR policy.
  - **null IPv4 endpoint (0.0.0.0)**

    The highest numbered color extended community attached to the IPv4 or IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.
  - **null IPv6 endpoint (0::0)**

    The highest numbered color extended community attached to the IPv4 or IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

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- **sr-te** — refers to traffic engineered (TE) SR tunnels. This option allows BGP to use the best metric IPv4 SR-TE tunnel to the address of the BGP next hop. In the case of multiple SR-TE tunnels with the same lowest metric, BGP selects the tunnel with the lowest tunnel ID.
- **udp** — refers to MPLSoUDPoIPv4 tunnels set up by action of the BGP import policies.

The following tunnel types are supported for resolving IPv6 routes with IPv6 next-hops that are not IPv4-mapped IPv6 addresses: ldp, sr-isis, sr-ospf3, sr-te, and sr-policy. In this context:

- **ldp** — refers to /128 LDP FEC prefixes in the tunnel table. BGP selects the /128 FEC that is an exact match of the BGP next-hop address.
- **sr-isis** — refers to SR tunnels (shortest path) to IPv6 destinations reachable by the IS-IS protocol. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference IS-IS instance. In case of a tie, the IS-IS instance with the lowest metric SR tunnel is selected over the lowest numbered IS-IS instance.
- **sr-ospf3** — refers to SR tunnels (shortest path) to IPv6 destinations reachable by the OSPFv3 protocol. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference OSPFv3 instance. In case of a tie, the OSPFv3 instance with the lowest metric SR tunnel is selected over the lowest numbered OSPFv3 instance.
- **sr-te** — refers to traffic engineered (TE) SR tunnels. This option allows BGP to use the best metric IPv6 SR-TE tunnel to the address of the BGP next hop. In the case of multiple SR-TE tunnels with the same lowest metric, BGP selects the tunnel with the lowest tunnel ID.
- **sr-policy** — refers to SR policies that are statically configured in the local router or learned through BGP routes (AFI 1/SAFI 73 or AFI 2/SAFI 73). BGP resolves an IPv6 route with an IPv6 next hop that is not an IPv4-mapped IPv6 address using a SR policy selected by applying the following procedure in preference order:
  - **IPv6 endpoint**

    The next hop must match the endpoint of the SR policy and the highest numbered color extended community attached to the IPv6 route must match the color of the SR policy.
  - **null IPv6 endpoint (0.::0)**

    The highest numbered color extended community attached to the IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.
  - **null IPv4 endpoint (0.0.0.0)**

    The highest numbered color extended community attached to the IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

Platforms

All

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42.128 show-ipsec-keys

show-ipsec-keys

Syntax

[**no**] **show-ipsec-keys**

Context

[Tree] (config>ipsec show-ipsec-keys)

Full Context

configure ipsec show-ipsec-keys

Description

This command enables user to optionally include IKE-SA or CHILD-SA keys in the output of **debug ipsec** or **admin ipsec display-key**.

The **no** form of this command disallows the user from including keys in the output.

Default

no show-ipsec-keys

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

42.129 show-request

show-request

Syntax

show-request [**ca** *ca-profile-name*]

Context

[Tree] (admin>certificate>cmpv2 show-request)

Full Context

admin certificate cmpv2 show-request

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Description

This command displays current the CMPv2 pending request toward the specified CA. If there is no pending request, the last pending request is displayed including the status (success/fail/rejected) and the receive time of last CMPv2 message from server.

The following information is included in the output:

- Request type, original input parameter (password is not displayed), checkAfter and reason in of last PollRepContent, time of original command input.

Parameters

ca-profile-name

Specifies a ca-profile name, up to 32 characters. If not specified, the system will display pending requests of all ca-profiles.

Platforms

All

42.130 shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>grpc-tunnel>tunnel shutdown)

[Tree] (config>isa>map-t-group shutdown)

[Tree] (config>system>ptp>ptsf>monitor shutdown)

[Tree] (config>system>script-control>script shutdown)

[Tree] (config>system>sync-if-timing>synce shutdown)

[Tree] (config>system>security>keychain>macsec>entry shutdown)

[Tree] (config>router>mpls>lsp-container shutdown)

[Tree] (config>system>satellite>local-forward>sap shutdown)

[Tree] (config>app-assure>group>dns-enrich shutdown)

[Tree] (config>system>persistence>subscriber-mgmt shutdown)

[Tree] (config>system>lldp shutdown)

[Tree] (conf>sys>sat>eth-sat>sync-if>ref2 shutdown)

[Tree] (config>sys>pwr-mgmt>pwr-save>low-pwr-fab shutdown)

[Tree] (config>system>sync-if-timing>ref2 shutdown)

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[Tree] (config>system>ptp>alternate-profile shutdown)
[Tree] (config>router>fad>flex-algo shutdown)
[Tree] (config>eth-tunnel>path shutdown)
[Tree] (config>system>sync-if-timing>ref1 shutdown)
[Tree] (config>system>sync-if-timing>bits>output shutdown)
[Tree] (config>system>time>ntp shutdown)
[Tree] (config>system>sync-if-timing>gnss shutdown)
[Tree] (config>router>mpls>fwd-policies>fwd-policy>egress-statistics shutdown)
[Tree] (config>system>grpc-tunnel>destination-group>tcp-keepalive shutdown)
[Tree] (config>test-oam>mpls-dm shutdown)
[Tree] (config>system>time>sntp shutdown)
[Tree] (config>system>switch-fabric>failure-recovery shutdown)
[Tree] (config>system>persistence>dhcp-server shutdown)
[Tree] (config>system>telemetry>destination-group>tcp-keepalive shutdown)
[Tree] (config>service>epipe>nat-outside shutdown)
[Tree] (config>system>telemetry>notification-bundling shutdown)
[Tree] (config>system>persistence>python-policy-cache shutdown)
[Tree] (config>system>grpc-tunnel>tunnel>handler shutdown)
[Tree] (config>router>mpls>fwd-policies>fwd-policy>ingress-statistics shutdown)
[Tree] (config>system>cron>sched shutdown)
[Tree] (config>anysec>mpls>svc-enc>enc-grp>peer shutdown)
[Tree] (config>system>security>management-interface>grpc>tls-authentication shutdown)
[Tree] (config>system>satellite>port-template shutdown)
[Tree] (config>li>x-interfaces shutdown)
[Tree] (config>system>script-control>script-policy shutdown)
[Tree] (config>system>telemetry>persistent-subscriptions>subscription shutdown)
[Tree] (config>system>sync-if-timing>bits>input shutdown)
[Tree] (config>router>mpls>static-lsp shutdown)
[Tree] (config>app-assure>group>policy>chrg-fltr>entry shutdown)
[Tree] (config>oam-pm>streaming>delay-template shutdown)
[Tree] (config>system>persistence>nat-port-forward shutdown)
[Tree] (config>eth-tunnel shutdown)
[Tree] (conf>sys>sat>eth-sat>sync-if>ref1 shutdown)
[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh shutdown)
[Tree] (config>service>vpls>sap>pppoe>intermediate-agent shutdown)
[Tree] (config>test-oam>lag-meas>template shutdown)

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[Tree] (cfg>card>vir-sch-adj>wrk-perf>manual shutdown)

[Tree] (config>service>vpls>sap>dhcp6>ldra shutdown)

[Tree] (config>anysec>mpls>svc-enc>enc-grp shutdown)

[Tree] (config>system>sync-if-timing>ptp shutdown)

[Tree] (config>anysec>mpls>svc-enc>encryption-group shutdown)

[Tree] (config>system>persistence>app-assure shutdown)

Full Context

configure system grpc-tunnel tunnel shutdown

configure isa map-t-group shutdown

configure system ptp ptsf monitor-ptsf-unusable shutdown

configure system script-control script shutdown

configure system sync-if-timing synce shutdown

configure system security keychain macsec entry shutdown

configure router mpls lsp-container shutdown

configure system satellite local-forward sap shutdown

configure application-assurance group dns-enrich shutdown

configure system persistence subscriber-mgmt shutdown

configure system lldp shutdown

configure system satellite eth-sat sync-if-timing ref2 shutdown

configure system power-management power-save low-power-fabric shutdown

configure system sync-if-timing ref2 shutdown

configure system ptp alternate-profile shutdown

configure router flexible-algorithm-definitions flex-algo shutdown

configure eth-tunnel path shutdown

configure system sync-if-timing ref1 shutdown

configure system sync-if-timing bits output shutdown

configure system time ntp shutdown

configure system sync-if-timing gnss shutdown

configure router mpls forwarding-policies forwarding-policy egress-statistics shutdown

configure system grpc-tunnel destination-group tcp-keepalive shutdown

configure test-oam mpls-dm shutdown

configure system time sntp shutdown

configure system switch-fabric failure-recovery shutdown

configure system persistence dhcp-server shutdown

configure system telemetry destination-group tcp-keepalive shutdown

configure service epipe nat-outside shutdown

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configure system telemetry notification-bundling shutdown

configure system persistence python-policy-cache shutdown

configure system grpc-tunnel tunnel handler shutdown

configure router mpls forwarding-policies forwarding-policy ingress-statistics shutdown

configure system cron schedule shutdown

configure anysec mpls service-encryption encryption-group peer shutdown

configure system security management-interface grpc tls-authentication shutdown

configure system satellite port-template shutdown

configure li x-interfaces shutdown

configure system script-control script-policy shutdown

configure system telemetry persistent-subscriptions subscription shutdown

configure system sync-if-timing bits input shutdown

configure router mpls static-lsp shutdown

configure application-assurance group policy charging-filter entry shutdown

configure oam-pm streaming delay-template shutdown

configure system persistence nat-port-forward shutdown

configure eth-tunnel shutdown

configure system satellite eth-sat sync-if-timing ref1 shutdown

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling shutdown

configure service vpls sap pppoe intermediate-agent shutdown

configure test-oam lag-ip-measurement lag-ip-measurement-template shutdown

configure card virtual-scheduler-adjustment workload-performance manual shutdown

configure service vpls sap dhcp6 ldra shutdown

configure anysec mpls service-encryption encryption-group shutdown

configure system sync-if-timing ptp shutdown

configure anysec mpls service-encryption encryption-group shutdown

configure system persistence application-assurance shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command places the entity into an administratively enabled state.

Default

shutdown

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Platforms

All

- configure system lldp shutdown
- configure service vpls sap dhcp6 ldra shutdown
- configure router mpls forwarding-policies forwarding-policy egress-statistics shutdown
- configure system grpc-tunnel tunnel handler shutdown
- configure system time sntp shutdown
- configure system script-control script-policy shutdown
- configure router flexible-algorithm-definitions flex-algo shutdown
- configure system security management-interface grpc tls-authentication shutdown
- configure system grpc-tunnel destination-group tcp-keepalive shutdown
- configure router mpls static-lsp shutdown
- configure system telemetry persistent-subscriptions subscription shutdown
- configure system security keychain macsec entry shutdown
- configure system persistence python-policy-cache shutdown
- configure system telemetry destination-group tcp-keepalive shutdown
- configure system time ntp shutdown
- configure system script-control script shutdown
- configure system telemetry notification-bundling shutdown
- configure router mpls forwarding-policies forwarding-policy ingress-statistics shutdown
- configure system cron schedule shutdown
- configure system grpc-tunnel tunnel shutdown

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure isa map-t-group shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure system sync-if-timing ref1 shutdown
- configure system satellite local-forward sap shutdown
- configure system sync-if-timing ref2 shutdown
- configure card virtual-scheduler-adjustment workload-performance manual shutdown
- configure system sync-if-timing synce shutdown
- configure system sync-if-timing ptp shutdown
- configure eth-tunnel path shutdown
- configure system satellite eth-sat sync-if-timing ref1 shutdown
- configure system sync-if-timing bits input shutdown
- configure system ptp alternate-profile shutdown
- configure system satellite port-template shutdown

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- configure system satellite eth-sat sync-if-timing ref2 shutdown
- configure li x-interfaces shutdown
- configure system sync-if-timing bits output shutdown
- configure test-oam lag-ip-measurement lag-ip-measurement-template shutdown
- configure oam-pm streaming delay-template shutdown
- configure eth-tunnel shutdown
- configure system ptp ptsf monitor-ptsf-unusable shutdown
- configure router mpls lsp-container shutdown
- configure test-oam mpls-dm shutdown

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure application-assurance group policy charging-filter entry shutdown
- configure system persistence application-assurance shutdown
- configure application-assurance group dns-enrich shutdown
- configure service epipe nat-outside shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure system persistence dhcp-server shutdown
- configure subscriber-mgmt diameter-application-policy gy extended-failure-handling shutdown
- configure system persistence subscriber-mgmt shutdown
- configure service vpls sap pppoe intermediate-agent shutdown

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure system power-management power-save low-power-fabric shutdown

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

- configure system sync-if-timing gnss shutdown

7450 ESS, 7750 SR-7, 7750 SR-12e, 7950 XRS

- configure system switch-fabric failure-recovery shutdown

7750 SR-1, 7750 SR-12e, 7750 SR-s

- configure anysec mpls service-encryption encryption-group peer shutdown
- configure anysec mpls service-encryption encryption-group shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>evpn-neighbor-synchronization shutdown)

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[Tree] (config>router>evpn-neighbor-synchronization shutdown)

Full Context

configure service vprn evpn-neighbor-synchronization shutdown

configure router evpn-neighbor-synchronization shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system-generated configuration files.

Default administrative states for services and service entities is described below in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>evpn-neighbor-synchronization shutdown)

[Tree] (config>router>evpn-neighbor-synchronization shutdown)

Full Context

configure service vprn evpn-neighbor-synchronization shutdown

configure router evpn-neighbor-synchronization shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system-generated configuration files.

Default administrative states for services and service entities is described below in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

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Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>msdp>group>peer shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>brg shutdown)

[Tree] (config>aaa>radius-scr-plcy>secondary shutdown)

[Tree] (config>service>vprn>mvpn>provider-tunnel>inclusive>bier shutdown)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>vrgw>brg shutdown)

[Tree] (config>router>radius-proxy>server>cache shutdown)

[Tree] (config>router>mtrace2 shutdown)

[Tree] (config>service>vprn>radius-proxy>server shutdown)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>slaac shutdown)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>ia-na shutdown)

[Tree] (config>router>igmp>tunnel-interface shutdown)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcp6-client>ia-na shutdown)

[Tree] (config>router>pim shutdown)

[Tree] (config>router>pim>rp>ipv6>embedded-rp shutdown)

[Tree] (config>router>static-route-entry>indirect shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>vrgw>brg shutdown)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>dhcp4-nat shutdown)

[Tree] (config>service>vprn>mvpn>pt>inclusive>mldp shutdown)

[Tree] (config>router>pim>interface>mcac>mc-constraints shutdown)

[Tree] (config>router>igmp>group-interface shutdown)

[Tree] (config>isa>video-group shutdown)

[Tree] (config>service>vprn>radius-proxy>server>cache shutdown)

[Tree] (config>router>if shutdown)

[Tree] (config>service>vprn>mvpn>pt>selective>rsvp shutdown)

[Tree] (config>router>static-route-entry>black-hole shutdown)

[Tree] (config>system>management-interface>cli>md-cli>environment>progress-indicator shutdown)

[Tree] (config>router>radius-proxy>server shutdown)

[Tree] (config>router>if>eth-cfm>mep shutdown)

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[Tree] (config>card>mda>flex shutdown)
[Tree] (config>router>igmp shutdown)
[Tree] (config>router>radius-proxy>cache shutdown)
[Tree] (config>router>origin-validation>rpki-session shutdown)
[Tree] (config>router>pim>rp>ipv6>rp-candidate shutdown)
[Tree] (config>router>mld>if shutdown)
[Tree] (config>router>msdp>group shutdown)
[Tree] (config>aaa>radius-scr-plcy>primary shutdown)
[Tree] (config>router>mcac>if-policy shutdown)
[Tree] (config>cflowd shutdown)
[Tree] (config>service>vprn>mvpn>pt>inclusive>rsvp>lsp-template shutdown)
[Tree] (config>router>pim>rp>ipv6>bsr-candidate shutdown)
[Tree] (config>router>pim>interface shutdown)
[Tree] (config>service>vprn>mvpn>pt>selective>mldp shutdown)
[Tree] (config>service>ies>video-interface shutdown)
[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw shutdown)
[Tree] (config>router>msdp>peer shutdown)
[Tree] (config>router>mld shutdown)
[Tree] (config>router>msdp shutdown)
[Tree] (config>router>pim>rp>rp-candidate shutdown)
[Tree] (config>router>mcac>policy>bundle shutdown)
[Tree] (config>router>igmp>if shutdown)
[Tree] (config>service>vpls>provider-tunnel>selective shutdown)
[Tree] (config>service>ies>sub-if>grp-if>brg shutdown)
[Tree] (config>service>vprn>video-interface shutdown)
[Tree] (config>router>pim>rp>bsr-candidate shutdown)
[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client>slaac shutdown)
[Tree] (config>router>mld>grp-if>mcac>mc-constraints shutdown)
[Tree] (config>router>igmp>interface>mcac>mc-constraints shutdown)
[Tree] (config>service>ies>sub-if>grp-if>wlan-gw shutdown)
[Tree] (config>router>mpls>mpls-tp>transit-path shutdown)
[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client>dhcp4-nat shutdown)
[Tree] (config>router>static-route-entry>next-hop shutdown)
[Tree] (config>router>mld>group-interface shutdown)
[Tree] (config>service>vprn>mvpn>provider-tunnel>selective>bier shutdown)
[Tree] (config>cflowd>collector shutdown)

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Full Context

configure router msdp group peer shutdown

configure service vprn subscriber-interface group-interface brg shutdown

configure aaa radius-script-policy secondary shutdown

configure service vprn mvpn provider-tunnel inclusive bier shutdown

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg shutdown

configure router radius-proxy server cache shutdown

configure router mtrace2 shutdown

configure service vprn radius-proxy server shutdown

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client slaac shutdown

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na shutdown

configure router igmp tunnel-interface shutdown

configure service vprn subscriber-interface wlan-gw pool-mgr dhcp6-client ia-na shutdown

configure router pim shutdown

configure router pim rp ipv6 embedded-rp shutdown

configure router static-route-entry indirect shutdown

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg shutdown

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat shutdown

configure service vprn mvpn provider-tunnel inclusive mldp shutdown

configure router pim interface mcac mc-constraints shutdown

configure router igmp group-interface shutdown

configure isa video-group shutdown

configure service vprn radius-proxy server cache shutdown

configure router interface shutdown

configure service vprn mvpn provider-tunnel selective rsvp shutdown

configure router static-route-entry black-hole shutdown

configure system management-interface cli md-cli environment progress-indicator shutdown

configure router radius-proxy server shutdown

configure router interface eth-cfm mep shutdown

configure card mda flex shutdown

configure router igmp shutdown

configure router radius-proxy cache shutdown

configure router origin-validation rpki-session shutdown

configure router pim rp ipv6 rp-candidate shutdown

configure router mld interface shutdown

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configure router msdp group shutdown

configure aaa radius-script-policy primary shutdown

configure router mcac if-policy shutdown

configure cflowd shutdown

configure service vprn mvpn pt inclusive rsvp lsp-template shutdown

configure router pim rp ipv6 bsr-candidate shutdown

configure router pim interface shutdown

configure service vprn mvpn provider-tunnel selective mldp shutdown

configure service ies video-interface shutdown

configure service vprn subscriber-interface group-interface wlan-gw shutdown

configure router msdp peer shutdown

configure router mld shutdown

configure router msdp shutdown

configure router pim rp rp-candidate shutdown

configure router mcac policy bundle shutdown

configure router igmp interface shutdown

configure service vpls provider-tunnel selective shutdown

configure service ies subscriber-interface group-interface brg shutdown

configure service vprn video-interface shutdown

configure router pim rp bsr-candidate shutdown

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client slaac shutdown

configure router mld group-interface mcac mc-constraints shutdown

configure router igmp interface mcac mc-constraints shutdown

configure service ies subscriber-interface group-interface wlan-gw shutdown

configure router mpls mpls-tp transit-path shutdown

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat shutdown

configure router static-route-entry next-hop shutdown

configure router mld group-interface shutdown

configure service vprn mvpn provider-tunnel selective bier shutdown

configure cflowd collector shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system-generated configuration files.

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The **no** form of this command places the entity into an administratively enabled state.

Default

no shutdown

Platforms

All

- configure router mld shutdown
- configure service vprn mvpn provider-tunnel inclusive mldp shutdown
- configure router pim rp ipv6 embedded-rp shutdown
- configure router mtrace2 shutdown
- configure router igmp interface shutdown
- configure router pim rp bsr-candidate shutdown
- configure system management-interface cli md-cli environment progress-indicator shutdown
- configure service vpls provider-tunnel selective shutdown
- configure router igmp tunnel-interface shutdown
- configure cflowd collector shutdown
- configure cflowd shutdown
- configure router pim interface mcac mc-constraints shutdown
- configure router mcac if-policy shutdown
- configure router mcac policy bundle shutdown
- configure router pim rp rp-candidate shutdown
- configure router msdp group peer shutdown
- configure router msdp group shutdown
- configure service vprn mvpn provider-tunnel selective mldp shutdown
- configure router static-route-entry next-hop shutdown
- configure service vprn mvpn provider-tunnel selective rsvp shutdown
- configure router msdp shutdown
- configure router pim rp ipv6 bsr-candidate shutdown
- configure router pim shutdown
- configure router origin-validation rpki-session shutdown
- configure service vprn mvpn provider-tunnel selective bier shutdown
- configure router pim rp ipv6 rp-candidate shutdown
- configure router interface shutdown
- configure service vprn mvpn provider-tunnel inclusive bier shutdown
- configure router igmp interface mcac mc-constraints shutdown
- configure router pim interface shutdown

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- configure router static-route-entry indirect shutdown
- configure router mld interface shutdown
- configure router static-route-entry black-hole shutdown
- configure router igmp shutdown
- configure router msdp peer shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn radius-proxy server shutdown
- configure router radius-proxy server cache shutdown
- configure aaa radius-script-policy secondary shutdown
- configure router radius-proxy server shutdown
- configure router igmp group-interface shutdown
- configure router mld group-interface mcac mc-constraints shutdown
- configure router mld group-interface shutdown
- configure service vprn subscriber-interface group-interface brg shutdown
- configure service ies subscriber-interface group-interface brg shutdown
- configure aaa radius-script-policy primary shutdown
- configure service vprn radius-proxy server cache shutdown

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client slaac shutdown
- configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client slaac shutdown
- configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client ia-na shutdown
- configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat shutdown
- configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client dhcpv4-nat shutdown
- configure service ies subscriber-interface group-interface wlan-gw shutdown
- configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg shutdown
- configure service vprn subscriber-interface group-interface wlan-gw shutdown
- configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw brg shutdown

7450 ESS, 7750 SR, 7750 SR-s

- configure service vprn video-interface shutdown
- configure isa video-group shutdown
- configure service ies video-interface shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure router interface eth-cfm mep shutdown
- configure router mpls mpls-tp transit-path shutdown

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7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-s

- configure card mda flex shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>subscr-mgmt>shcv-policy>trigger shutdown)

Full Context

configure subscriber-mgmt shcv-policy trigger shutdown

Description

This command administratively disables the SHCV triggers.

The **no** form of this command administratively enables the the SHCV triggers.

Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>static-route-entry>follow shutdown)

[Tree] (config>subscr-mgmt>shcv-policy>periodic shutdown)

Full Context

configure service vprn static-route-entry follow shutdown

configure subscriber-mgmt shcv-policy periodic shutdown

Description

This command administratively disables the periodic connectivity verification.

The **no** form of this command administratively enables the periodic connectivity verification.

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Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure service vprn static-route-entry follow shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt shcv-policy periodic shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session shutdown)

[Tree] (config>service>vpls>sap>ipoe-session shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session shutdown)

Full Context

configure service ies subscriber-interface group-interface ipoe-session shutdown

configure service vpls sap ipoe-session shutdown

configure service vprn subscriber-interface group-interface ipoe-session shutdown

Description

The **shutdown** command enables or disables IPoE session management on a group interface or capture SAP.

A **shutdown** of the IPoE session CLI hierarchy on a group-interface clears all active IPoE sessions on that interface, resulting in a deletion of all corresponding subscriber hosts.

On wlan-gw group interfaces it is not possible to disable an IPoE session.

The **no** form of this command reverts to the default.

Default

shutdown

no shutdown on wlan-gw group interfaces

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy-server shutdown)

[Tree] (config>service>ies>if>dhcp>proxy-server shutdown)

[Tree] (config>service>ies>aarp-interface shutdown)

[Tree] (config>service>ies>sub-if>grp-if>sap shutdown)

[Tree] (config>service>ies>if>spoke-sdp>control-channel-status shutdown)

[Tree] (config>service>ies>sub-if>grp-if shutdown)

[Tree] (config>service>ies>sub-if>dhcp shutdown)

[Tree] (config>service>ies>if shutdown)

[Tree] (config>service>ies>if>vrrp shutdown)

[Tree] (config>service>ies>redundant-interface shutdown)

[Tree] (config>service>ies>sub-if>grp-if>dhcp shutdown)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>router-advertisements shutdown)

[Tree] (config>service>ies>if>spoke-sdp shutdown)

[Tree] (config>service>ies>if>sap>eth-cfm shutdown)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt shutdown)

[Tree] (config>service>ies>if>dhcp shutdown)

[Tree] (config>service>ies>if>sap>static-host shutdown)

[Tree] (config>service>ies>sub-if>grp-if>pppoe shutdown)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host shutdown)

[Tree] (config>service>ies>aarp-interface>spoke-sdp shutdown)

[Tree] (config>service>ies shutdown)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server shutdown

configure service ies interface dhcp proxy-server shutdown

configure service ies aarp-interface shutdown

configure service ies subscriber-interface group-interface sap shutdown

configure service ies interface spoke-sdp control-channel-status shutdown

configure service ies subscriber-interface group-interface shutdown

configure service ies subscriber-interface dhcp shutdown

configure service ies interface shutdown

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configure service ies interface vrrp shutdown

configure service ies redundant-interface shutdown

configure service ies subscriber-interface group-interface dhcp shutdown

configure service ies subscriber-interface group-interface ipv6 router-advertisements shutdown

configure service ies interface spoke-sdp shutdown

configure service ies interface sap eth-cfm shutdown

configure service ies subscriber-interface group-interface sap sub-sla-mgmt shutdown

configure service ies interface dhcp shutdown

configure service ies interface sap static-host shutdown

configure service ies subscriber-interface group-interface pppoe shutdown

configure service ies subscriber-interface group-interface sap static-host shutdown

configure service ies aarp-interface spoke-sdp shutdown

configure service ies shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the service becomes administratively up and then tries to enter the operationally up state. Default administrative states for services and service entities is described below in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server shutdown
- configure service ies subscriber-interface group-interface sap sub-sla-mgmt shutdown
- configure service ies subscriber-interface group-interface shutdown
- configure service ies subscriber-interface group-interface sap static-host shutdown
- configure service ies subscriber-interface group-interface ipv6 router-advertisements shutdown
- configure service ies subscriber-interface dhcp shutdown
- configure service ies redundant-interface shutdown
- configure service ies subscriber-interface group-interface dhcp shutdown
- configure service ies interface sap static-host shutdown
- configure service ies subscriber-interface group-interface sap shutdown
- configure service ies subscriber-interface group-interface pppoe shutdown

All

- configure service ies interface dhcp shutdown

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- configure service ies interface spoke-sdp control-channel-status shutdown
- configure service ies shutdown
- configure service ies interface spoke-sdp shutdown
- configure service ies interface shutdown
- configure service ies interface vrrp shutdown
- configure service ies interface dhcp proxy-server shutdown

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies aarp-interface shutdown
- configure service ies aarp-interface spoke-sdp shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>ies>sub-if>grp-if>data-trigger shutdown)

[Tree] (config>aaa>wpp>portal-groups>portal-group shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>srrp shutdown)

[Tree] (config>redundancy>multi-chassis>peer>sync shutdown)

[Tree] (config>service>vprn>sub-if>grp-if shutdown)

[Tree] (config>subscr-mgmt>sub-ident-pol>primary shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>wpp>portals shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>data-trigger shutdown)

[Tree] (config>service>ies>subscriber-interface shutdown)

[Tree] (config>service>vpls>sap>sub-sla-mgmt shutdown)

[Tree] (config>service>vpls>gsmp>group>neighbor shutdown)

[Tree] (config>service>vpls>gsmp shutdown)

[Tree] (config>service>ies>sub-if>grp-if>srrp shutdown)

[Tree] (config>redundancy>multi-chassis>peer>mc-lag shutdown)

[Tree] (config>aaa>diam>node>peer shutdown)

[Tree] (config>aaa>route-downloader shutdown)

[Tree] (config>service>ies>sub-if>grp-if>gtp-parameters shutdown)

[Tree] (config>subscr-mgmt>sub-ident-pol>secondary shutdown)

[Tree] (config>service>vprn>subscriber-interface shutdown)

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[Tree] (config>service>ies>sub-if>grp-if>arp-host shutdown)

[Tree] (config>subscr-mgmt>sub-mcac-policy shutdown)

[Tree] (config>service>vprn>red-if>spoke-sdp shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>gtp-parameters shutdown)

[Tree] (config>service>ies>sub-if>grp-if>wpp shutdown)

[Tree] (config>subscr-mgmt>sub-ident-pol>tertiary shutdown)

[Tree] (config>redundancy>multi-chassis>peer shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>wpp shutdown)

[Tree] (config>service>vpls>gsmp>group shutdown)

Full Context

configure service ies subscriber-interface group-interface data-trigger shutdown

configure aaa wpp portal-groups portal-group shutdown

configure service vprn subscriber-interface group-interface srrp shutdown

configure redundancy multi-chassis peer sync shutdown

configure service vprn subscriber-interface group-interface shutdown

configure subscriber-mgmt sub-ident-policy primary shutdown

configure service vprn subscriber-interface group-interface wpp portals shutdown

configure service vprn subscriber-interface group-interface data-trigger shutdown

configure service ies subscriber-interface shutdown

configure service vpls sap sub-sla-mgmt shutdown

configure service vpls gsmp group neighbor shutdown

configure service vpls gsmp shutdown

configure service ies subscriber-interface group-interface srrp shutdown

configure redundancy multi-chassis peer mc-lag shutdown

configure aaa diameter node peer shutdown

configure aaa route-downloader shutdown

configure service ies subscriber-interface group-interface gtp-parameters shutdown

configure subscriber-mgmt sub-ident-policy secondary shutdown

configure service vprn subscriber-interface shutdown

configure service ies subscriber-interface group-interface arp-host shutdown

configure subscriber-mgmt sub-mcac-policy shutdown

configure service vprn redundant-interface spoke-sdp shutdown

configure service vprn subscriber-interface group-interface gtp-parameters shutdown

configure service ies subscriber-interface group-interface wpp shutdown

configure subscriber-mgmt sub-ident-policy tertiary shutdown

configure redundancy multi-chassis peer shutdown

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configure service vprn subscriber-interface group-interface wpp shutdown

configure service vpls gsmp group shutdown

Description

The **shutdown** command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they can be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system generated configuration files.

Shutting down a subscriber interface on a 7750 SR will operationally shut down all child group interfaces and SAPs. Shutting down a group interface on a 7750 SR will operationally shut down all SAPs that are part of that group-interface.

The **no** form of this command puts an entity into the administratively enabled state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface srrp shutdown
- configure service ies subscriber-interface group-interface data-trigger shutdown
- configure service vprn subscriber-interface group-interface data-trigger shutdown
- configure aaa wpp portal-groups portal-group shutdown
- configure aaa diameter node peer shutdown
- configure service ies subscriber-interface shutdown
- configure subscriber-mgmt sub-ident-policy tertiary shutdown
- configure aaa route-downloader shutdown
- configure service ies subscriber-interface group-interface arp-host shutdown
- configure service vprn redundant-interface spoke-sdp shutdown
- configure service vprn subscriber-interface group-interface wpp shutdown
- configure subscriber-mgmt sub-ident-policy primary shutdown
- configure service vprn subscriber-interface group-interface shutdown
- configure service vprn subscriber-interface shutdown
- configure service ies subscriber-interface group-interface wpp shutdown
- configure subscriber-mgmt sub-ident-policy secondary shutdown
- configure service ies subscriber-interface group-interface srrp shutdown
- configure service vpls sap sub-sla-mgmt shutdown

All

- configure redundancy multi-chassis peer sync shutdown
- configure redundancy multi-chassis peer shutdown

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- configure service vpls gsmp shutdown
- configure service vpls gsmp group shutdown
- configure redundancy multi-chassis peer mc-lag shutdown
- configure service vpls gsmp group neighbor shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure subscriber-mgmt sub-mcac-policy shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>ospf>area>if shutdown)

[Tree] (config>service>vprn>ospf>area>virtual-link shutdown)

[Tree] (config>service>vprn>pim shutdown)

[Tree] (config>service>vprn>bgp-evpn>vxlan shutdown)

[Tree] (config>service>vprn>igmp-trk shutdown)

[Tree] (config>service>vprn>if shutdown)

[Tree] (config>service>vprn>if>ipv6>vrrp shutdown)

[Tree] (config>service>vprn>mld>grp-if>mcac>mc-constraints shutdown)

[Tree] (config>service>vprn>pim>rp>ipv6>embedded-rp shutdown)

[Tree] (config>service>vprn>if>sap shutdown)

[Tree] (config>service>vprn>ospf3>area>if shutdown)

[Tree] (config>service>vprn>l2tpv3 shutdown)

[Tree] (config>service>vprn>gsmp>group shutdown)

[Tree] (config>service>vprn>aaa>rmt-srv>radius shutdown)

[Tree] (config>service>vprn>igmp shutdown)

[Tree] (config>service>vprn>igmp>if shutdown)

[Tree] (config>service>vprn>router-advert>if shutdown)

[Tree] (config>service>vprn>l2tp shutdown)

[Tree] (config>service>vprn>isis>if shutdown)

[Tree] (config>service>vprn>nw-if>eth-cfm>mep shutdown)

[Tree] (config>service>vprn>ospf>area>sham-link shutdown)

[Tree] (config>service>vprn>bgp-evpn>mpls shutdown)

[Tree] (config>service>vprn>pim>if shutdown)

[Tree] (config>service>vprn>pim>rp>ipv6>rp-candidate shutdown)

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[Tree] (config>service>vprn>mld>if>mcac>mc-constraints shutdown)
[Tree] (config>service>vprn>gsmp>group>neighbor shutdown)
[Tree] (config>service>vprn>red-if>spoke-sdp>control-channel-status shutdown)
[Tree] (config>service>vprn>igmp>if>mcac shutdown)
[Tree] (config>service>vprn>log>log-id shutdown)
[Tree] (config>service>vprn>bgp>group>neighbor shutdown)
[Tree] (config>service>vprn>nw-if shutdown)
[Tree] (config>service>vprn>rip>group>neighbor shutdown)
[Tree] (config>service>vprn>if>sap>static-host shutdown)
[Tree] (config>service>vprn>bgp-ipvpn>srv6 shutdown)
[Tree] (config>service>vprn>l2tp>tunnel shutdown)
[Tree] (config>service>vprn>bgp-ipvpn>mpls shutdown)
[Tree] (config>service>vprn>igmp>grp-if>mcac>mc-constraints shutdown)
[Tree] (config>service>vprn>ospf3>area>virtual-link shutdown)
[Tree] (config>service>vprn>bgp shutdown)
[Tree] (config>service>vprn>ntp shutdown)
[Tree] (config>service>vprn>pim>rp>bsr-candidate shutdown)
[Tree] (config>service>vprn>red-if shutdown)
[Tree] (config>service>vprn>msdp shutdown)
[Tree] (config>service>vprn>aarp-interface shutdown)
[Tree] (config>service>vprn>msdp>group shutdown)
[Tree] (config>service>vprn>mvpn>provider-tunnel>inclusive>pim shutdown)
[Tree] (config>service>vprn>if>vrrp shutdown)
[Tree] (config>service>vprn>pim>if>mcac>mc-constraints shutdown)
[Tree] (config>service>vprn>ospf3 shutdown)
[Tree] (config>service>vprn>if>sap>ipsec-tunnel shutdown)
[Tree] (config>service>vprn>isis shutdown)
[Tree] (config>service>vprn>msdp>group>peer shutdown)
[Tree] (config>service>vprn>msdp>peer shutdown)
[Tree] (config>service>vprn>rip shutdown)
[Tree] (config>service>vprn>rip>group shutdown)
[Tree] (config>service>vprn>igmp>if>mcac>mc-constraints shutdown)
[Tree] (config>service>vprn>gsmp shutdown)
[Tree] (config>service>vprn>bgp>group shutdown)
[Tree] (config>service>vprn>aarp-interface>spoke-sdp shutdown)
[Tree] (config>service>vprn>ospf shutdown)

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[Tree] (config>service>vprn>pim>rp>ipv6>bsr-candidate shutdown)

[Tree] (config>system>security>radius shutdown)

Full Context

configure service vprn ospf area interface shutdown

configure service vprn ospf area virtual-link shutdown

configure service vprn pim shutdown

configure service vprn bgp-evpn vxlan shutdown

configure service vprn igmp-host-tracking shutdown

configure service vprn interface shutdown

configure service vprn interface ipv6 vrrp shutdown

configure service vprn mld group-interface mcac mc-constraints shutdown

configure service vprn pim rp ipv6 embedded-rp shutdown

configure service vprn interface sap shutdown

configure service vprn ospf3 area interface shutdown

configure service vprn l2tpv3 shutdown

configure service vprn gsmp group shutdown

configure service vprn aaa remote-servers radius shutdown

configure service vprn igmp shutdown

configure service vprn igmp interface shutdown

configure service vprn router-advertisement interface shutdown

configure service vprn l2tp shutdown

configure service vprn isis interface shutdown

configure service vprn nw-if eth-cfm mep shutdown

configure service vprn ospf area sham-link shutdown

configure service vprn bgp-evpn mpls shutdown

configure service vprn pim interface shutdown

configure service vprn pim rp ipv6 rp-candidate shutdown

configure service vprn mld interface mcac mc-constraints shutdown

configure service vprn gsmp group neighbor shutdown

configure service vprn redundant-interface spoke-sdp control-channel-status shutdown

configure service vprn igmp interface mcac shutdown

configure service vprn log log-id shutdown

configure service vprn bgp group neighbor shutdown

configure service vprn network-interface shutdown

configure service vprn rip group neighbor shutdown

configure service vprn interface sap static-host shutdown

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configure service vprn bgp-ipvpn segment-routing-v6 shutdown

configure service vprn l2tp tunnel shutdown

configure service vprn bgp-ipvpn mpls shutdown

configure service vprn igmp group-interface mcac mc-constraints shutdown

configure service vprn ospf3 area virtual-link shutdown

configure service vprn bgp shutdown

configure service vprn ntp shutdown

configure service vprn pim rp bsr-candidate shutdown

configure service vprn redundant-interface shutdown

configure service vprn msdp shutdown

configure service vprn aarp-interface shutdown

configure service vprn msdp group shutdown

configure service vprn mvpn provider-tunnel inclusive pim shutdown

configure service vprn interface vrrp shutdown

configure service vprn pim interface mcac mc-constraints shutdown

configure service vprn ospf3 shutdown

configure service vprn interface sap ipsec-tunnel shutdown

configure service vprn isis shutdown

configure service vprn msdp group peer shutdown

configure service vprn msdp peer shutdown

configure service vprn rip shutdown

configure service vprn rip group shutdown

configure service vprn igmp interface mcac mc-constraints shutdown

configure service vprn gsmp shutdown

configure service vprn bgp group shutdown

configure service vprn aarp-interface spoke-sdp shutdown

configure service vprn ospf shutdown

configure service vprn pim rp ipv6 bsr-candidate shutdown

configure system security radius shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the service becomes administratively up and then tries to enter the operationally up state. Default administrative states for services and service entities is described below in Special Cases.

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The **no** form of this command places the entity into an administratively enabled state.

If the AS number was previously changed, the BGP AS number inherits the new value.

Platforms

All

- configure service vprn gsmp group shutdown
- configure service vprn router-advertisement interface shutdown
- configure service vprn aaa remote-servers radius shutdown
- configure service vprn log log-id shutdown
- configure service vprn bgp shutdown
- configure service vprn ntp shutdown
- configure service vprn ospf shutdown
- configure service vprn isis shutdown
- configure service vprn interface vrrp shutdown
- configure service vprn mvpn provider-tunnel inclusive pim shutdown
- configure service vprn rip group neighbor shutdown
- configure service vprn igmp interface mcac shutdown
- configure service vprn ospf area sham-link shutdown
- configure service vprn bgp-evpn mpls shutdown
- configure service vprn network-interface shutdown
- configure service vprn pim shutdown
- configure service vprn gsmp group neighbor shutdown
- configure service vprn bgp-ipvpn mpls shutdown
- configure service vprn pim interface mcac mc-constraints shutdown
- configure service vprn pim rp ipv6 embedded-rp shutdown
- configure service vprn bgp group neighbor shutdown
- configure service vprn rip shutdown
- configure service vprn igmp interface mcac mc-constraints shutdown
- configure service vprn bgp group shutdown
- configure service vprn pim interface shutdown
- configure service vprn pim rp ipv6 rp-candidate shutdown
- configure service vprn interface ipv6 vrrp shutdown
- configure system security radius shutdown
- configure service vprn igmp shutdown
- configure service vprn ospf3 shutdown
- configure service vprn ospf3 area virtual-link shutdown
- configure service vprn rip group shutdown

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- configure service vprn msdp group peer shutdown
- configure service vprn ospf3 area interface shutdown
- configure service vprn ospf area virtual-link shutdown
- configure service vprn msdp peer shutdown
- configure service vprn ospf area interface shutdown
- configure service vprn interface shutdown
- configure service vprn msdp shutdown
- configure service vprn pim rp bsr-candidate shutdown
- configure service vprn igmp interface shutdown
- configure service vprn msdp group shutdown
- configure service vprn pim rp ipv6 bsr-candidate shutdown
- configure service vprn gsmp shutdown
- configure service vprn isis interface shutdown
- configure service vprn interface sap shutdown
- configure service vprn mld interface mcac mc-constraints shutdown

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn l2tp shutdown
- configure service vprn igmp group-interface mcac mc-constraints shutdown
- configure service vprn redundant-interface shutdown
- configure service vprn interface sap static-host shutdown
- configure service vprn igmp-host-tracking shutdown
- configure service vprn mld group-interface mcac mc-constraints shutdown
- configure service vprn redundant-interface spoke-sdp control-channel-status shutdown

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-ipvpn segment-routing-v6 shutdown

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn aarp-interface shutdown
- configure service vprn interface sap ipsec-tunnel shutdown
- configure service vprn aarp-interface spoke-sdp shutdown

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>service>vprn shutdown)

[Tree] (config>service>vpls shutdown)

[Tree] (config>service>vpls>sap shutdown)

[Tree] (config>service>vpls>sap>arp-host shutdown)

[Tree] (config>service>vpls>spoke-sdp shutdown)

[Tree] (config>service>ies>if>sap shutdown)

[Tree] (config>service>vpls>mesh-sdp shutdown)

[Tree] (config>service>vpls>wlan-gw shutdown)

Full Context

configure service vprn shutdown

configure service vpls shutdown

configure service vpls sap shutdown

configure service vpls sap arp-host shutdown

configure service vpls spoke-sdp shutdown

configure service ies interface sap shutdown

configure service vpls mesh-sdp shutdown

configure service vpls wlan-gw shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system-generated configuration files.

Default administrative states for services and service entities is described below in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

All

- configure service ies interface sap shutdown
- configure service vprn shutdown
- configure service vpls mesh-sdp shutdown
- configure service vpls sap shutdown
- configure service vpls spoke-sdp shutdown
- configure service vpls shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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- configure service vpls sap arp-host shutdown

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vpls wlan-gw shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vpls>interface shutdown)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep shutdown)

[Tree] (config>service>vpls>mld-snooping>mvr shutdown)

[Tree] (config>service>vpls>sap>mld-snooping>mcac>mc-constraints shutdown)

[Tree] (config>service>vpls>mld-snooping shutdown)

[Tree] (config>service>vpls>mac-move shutdown)

[Tree] (config>service>vpls>bgp-ad shutdown)

[Tree] (config>service>vpls>mac-notification shutdown)

[Tree] (config>service>vpls>mrp>mvrp shutdown)

[Tree] (config>service>vpls>sap>spb shutdown)

[Tree] (config>service>vpls>sap>l2tpv3-session shutdown)

[Tree] (config>service>vpls>sap>eth-cfm>mep shutdown)

[Tree] (config>service>vpls>sap>igmp-snooping>mcac>mc-constraints shutdown)

[Tree] (config>service>vpls>igmp-snooping shutdown)

[Tree] (config>service>vpls>spb>level shutdown)

[Tree] (config>service>vpls>sap>stp shutdown)

[Tree] (config>service>vpls>stp shutdown)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep shutdown)

[Tree] (config>service>vpls>eth-cfm>mep shutdown)

[Tree] (config>service>vpls>mrp shutdown)

[Tree] (config>service>vpls>bind>evpn-mcast-gateway shutdown)

[Tree] (config>service>vpls>spoke-sdp>stp shutdown)

[Tree] (config>service>vpls>igmp-snooping>mvr shutdown)

[Tree] (config>service>vpls>sap>dhcp>proxy shutdown)

Full Context

configure service vpls interface shutdown

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configure service vpls mesh-sdp eth-cfm mep shutdown

configure service vpls mld-snooping mvr shutdown

configure service vpls sap mld-snooping mcac mc-constraints shutdown

configure service vpls mld-snooping shutdown

configure service vpls mac-move shutdown

configure service vpls bgp-ad shutdown

configure service vpls mac-notification shutdown

configure service vpls mrp mvrp shutdown

configure service vpls sap spb shutdown

configure service vpls sap l2tpv3-session shutdown

configure service vpls sap eth-cfm mep shutdown

configure service vpls sap igmp-snooping mcac mc-constraints shutdown

configure service vpls igmp-snooping shutdown

configure service vpls spb level shutdown

configure service vpls sap stp shutdown

configure service vpls stp shutdown

configure service vpls spoke-sdp eth-cfm mep shutdown

configure service vpls eth-cfm mep shutdown

configure service vpls mrp shutdown

configure service vpls allow-ip-int-bind evpn-mcast-gateway shutdown

configure service vpls spoke-sdp stp shutdown

configure service vpls igmp-snooping mvr shutdown

configure service vpls sap dhcp proxy-server shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the service becomes administratively up and then tries to enter the operationally up state. Default administrative states for services and service entities is described below in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

All

- configure service vpls mac-move shutdown
- configure service vpls sap mld-snooping mcac mc-constraints shutdown
- configure service vpls spb level shutdown

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- configure service vpls mrp shutdown
- configure service vpls mld-snooping mvr shutdown
- configure service vpls sap stp shutdown
- configure service vpls mac-notification shutdown
- configure service vpls allow-ip-int-bind evpn-mcast-gateway shutdown
- configure service vpls sap dhcp proxy-server shutdown
- configure service vpls interface shutdown
- configure service vpls sap spb shutdown
- configure service vpls sap igmp-snooping mcac mc-constraints shutdown
- configure service vpls igmp-snooping shutdown
- configure service vpls mrp mvrp shutdown
- configure service vpls mld-snooping shutdown
- configure service vpls bgp-ad shutdown
- configure service vpls sap l2tpv3-session shutdown
- configure service vpls stp shutdown
- configure service vpls igmp-snooping mvr shutdown
- configure service vpls spoke-sdp stp shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vpls eth-cfm mep shutdown
- configure service vpls mesh-sdp eth-cfm mep shutdown
- configure service vpls spoke-sdp eth-cfm mep shutdown
- configure service vpls sap eth-cfm mep shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vpls>mrp>mmrp shutdown)

[Tree] (config>service>vpls>spoke-sdp>spb shutdown)

[Tree] (config>service>vpls>spb shutdown)

Full Context

configure service vpls mrp mmrp shutdown

configure service vpls spoke-sdp spb shutdown

configure service vpls spb shutdown

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Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within.

The **no** form of this command administratively enables an entity.

SPB Interface — In the config>service>vpls>spb context, the command disables the IS-IS interface. By default, the IS-IS interface is disabled (shutdown).

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>sub-if>grp-if>pppoe shutdown)

Full Context

configure service vprn subscriber-interface group-interface pppoe shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port shutdown)

[Tree] (config>port>ethernet>dampening shutdown)

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[Tree] (config>port>ethernet>dwl shutdown)

[Tree] (config>port-xc>pxc shutdown)

[Tree] (config>port>tdm>e3 shutdown)

[Tree] (config>card>xiom shutdown)

[Tree] (config>system>netconf>call-home>netconf-client shutdown)

[Tree] (config>redundancy>multi-chassis>peer>mc-ep shutdown)

[Tree] (config>card>xiom>mda shutdown)

[Tree] (config>lag shutdown)

[Tree] (config>card shutdown)

[Tree] (config>port>ethernet>ssm shutdown)

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec>domain shutdown)

[Tree] (config>redundancy>mc>peer>mcr>node>cv shutdown)

[Tree] (config>lag>eth-cfm>mep shutdown)

[Tree] (config>port>ethernet>eth-cfm>mep shutdown)

[Tree] (config>port>ethernet>symbol-monitor shutdown)

[Tree] (config>port>otu shutdown)

[Tree] (config>redundancy>mc>peer>mcr>ring shutdown)

[Tree] (config>port>ethernet shutdown)

[Tree] (config>port>ethernet>efm-oam shutdown)

[Tree] (config>card>mda shutdown)

[Tree] (config>port>tdm>ds3 shutdown)

[Tree] (config>redundancy>multi-chassis>ipsec-domain shutdown)

[Tree] (config>card>fp>ingress>mcast-path-management shutdown)

[Tree] (config>redundancy>mc>peer>mcr shutdown)

Full Context

configure port shutdown

configure port ethernet dampening shutdown

configure port ethernet down-when-looped shutdown

configure port-xc pxc shutdown

configure port tdm e3 shutdown

configure card xiom shutdown

configure system netconf call-home netconf-client shutdown

configure redundancy multi-chassis peer mc-endpoint shutdown

configure card xiom mda shutdown

configure lag shutdown

configure card shutdown

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configure port ethernet ssm shutdown

configure redundancy multi-chassis peer mc-ipsec domain shutdown

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify shutdown

configure lag eth-cfm mep shutdown

configure port ethernet eth-cfm mep shutdown

configure port ethernet symbol-monitor shutdown

configure port otu shutdown

configure redundancy multi-chassis peer mc-ring ring shutdown

configure port ethernet shutdown

configure port ethernet efm-oam shutdown

configure card mda shutdown

configure port tdm ds3 shutdown

configure redundancy multi-chassis ipsec-domain shutdown

configure card fp ingress mcast-path-management shutdown

configure redundancy multi-chassis peer mc-ring shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within.

The **no** form of this command administratively enables an entity.

Platforms

All

- configure port ethernet dampening shutdown
- configure card mda shutdown
- configure card shutdown
- configure redundancy multi-chassis peer mc-endpoint shutdown
- configure port ethernet ssm shutdown
- configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify shutdown
- configure port ethernet down-when-looped shutdown
- configure system netconf call-home netconf-client shutdown
- configure lag shutdown
- configure port-xc pxc shutdown
- configure port ethernet efm-oam shutdown
- configure port shutdown
- configure redundancy multi-chassis peer mc-ring shutdown

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- configure port ethernet shutdown
- configure redundancy multi-chassis peer mc-ring ring shutdown

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

- configure port tdm ds3 shutdown
- configure port tdm e3 shutdown

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda shutdown
- configure card xiom shutdown

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure redundancy multi-chassis peer mc-ipsec domain shutdown
- configure redundancy multi-chassis ipsec-domain shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure lag eth-cfm mep shutdown
- configure port otu shutdown
- configure port ethernet symbol-monitor shutdown
- configure port ethernet eth-cfm mep shutdown

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

- configure card fp ingress mcast-path-management shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>mcast-mgmt>mcast-rprt-dest shutdown)

Full Context

configure mcast-management mcast-reporting-dest shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>python>py-policy>cache shutdown)

[Tree] (config>python>python-script shutdown)

Full Context

configure python python-policy cache shutdown

configure python python-script shutdown

Description

Shutting down a Python script triggers the system to load and compile the script from the configured location(s). Since the system supports three locations, the primary, secondary and tertiary, the system will try to load the Python script in that order.

Shutting down a Python script will disable the Python script and cause the corresponding packet to pass through without any modification.

The **no** form of this command enables the cache or policy script.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vpls>sap>dyn-svc shutdown)

Full Context

configure service vpls sap dynamic-services shutdown

Description

This command disables or enables data-triggered dynamic services on this **capture-sap**.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>dynsvc>ladb shutdown)

Full Context

configure service dynamic-services local-auth-db shutdown

Description

This command disables or enables the local authentication database. When disabled, the database cannot be used for authentication.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>dynsvc>ladb>user shutdown)

Full Context

configure service dynamic-services local-auth-db user-name shutdown

Description

This command disables or enables a user name entry in the local authentication database. When disabled, the entry is not matched.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>subscr-mgmt>svlan-statistics shutdown)

Full Context

configure subscriber-mgmt svlan-statistics shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system-generated configuration files.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter shutdown)

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn shutdown)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter shutdown

configure subscriber-mgmt isa-service-chaining evpn shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the no shutdown command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

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Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system-generated configuration files.

The **no** form of this command puts an entity into the administratively enabled state.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>ccrt-replay shutdown)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>ccrt-replay shutdown)

Full Context

configure subscriber-mgmt diameter-application-policy gy ccrt-replay shutdown

configure subscriber-mgmt diameter-application-policy gx ccrt-replay shutdown

Description

This command, enables or disables the CCR-T replay function for all Gx or Gy sessions that belong to the diameter application policy. Sessions in CCR-T replay are dropped when **ccrt-replay** is shut down.

The **no** form of this command enables the CCR-T replay function.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-sol shutdown)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-solicit shutdown

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Description

This command enables SLAAC triggered host creation.

The **no** form of this command disables SLAAC triggered host creation.

Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>lsp-history shutdown)

Full Context

configure router mpls lsp-history shutdown

Description

This command enables the collection of up to the last 100 significant events for each RSVP-TE and SR-TE LSP.

A shutdown of the **lsp-history** pauses the collection of events, but does not remove previously collected events from memory.

The **no** form of this command disables the collection of significant events for LSPs.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>aaa>radius-srv-plcy>servers>health-check>test-account shutdown)

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Full Context

configure aaa radius-server-policy servers health-check test-account shutdown

Description

This command disables the test account that probes the RADIUS server.

The **no** form of this command enables the capability.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

shutdown *sap-id* [**create**]

no shutdown *sap-id*

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap shutdown)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap shutdown)

Full Context

configure service ies subscriber-interface group-interface wlan-gw l2-access-points l2-ap shutdown

configure service vprn subscriber-interface group-interface wlan-gw l2-access-points l2-ap shutdown

Description

This command administratively enables this SAP to begin accepting Layer 2 packets for WIFI offloading.

The **no** form of this command disables this SAP.

Default

shutdown

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>subscr-mgmt>pfcp-association shutdown)

Full Context

configure subscriber-mgmt pfcp-association shutdown

Description

This command administratively enables or disables the PFCP association.

When administratively enabled, the system will try to maintain an active PFCP association with the configured peer. While no association is established, it will continue to retry setting up the association using the **association-setup-retry** configuration.

Shutting down a subscriber interface on a 7750 SR operationally shuts down all child group interfaces and SAPs. Shutting down a group interface on a 7750 SR operationally shuts down all SAPs that are part of that group interface.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (cfg>sys>pwr-mgmt>peq shutdown)

Full Context

configure system power-management peq shutdown

Description

This command administratively enables/disables the APEQ.

Platforms

7750 SR-12e, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>card>fp>egress>wred-queue-control shutdown)

Full Context

configure card fp egress wred-queue-control shutdown

Description

This command enables or disables egress WRED queue support on the forwarding plane. By default, WRED queue support is disabled (shutdown). While disabled, the various wred-queue-control commands may be executed on the forwarding plane and SAP egress QoS policies and egress queue group templates with wred-queue enabled may be applied to egress SAPs and port, respectively. The forwarding plane will allocate WRED pools to the WRED queues and the appropriate WRED mega-pool size and CBS reserve size will be calculated, but the WRED mega-pool will be empty and all buffers will be allocated to the default mega-pool. Each WRED queue will be mapped to its appropriate default pool.

Once the **no shutdown** command is executed, the calculated WRED mega-pool buffers will be moved from the default mega-pool to the WRED mega-pool. The WRED mega-pool CBS reserve size will be applied and each egress WRED queue will be moved from its default mega-pool buffer pool to its WRED pool within the WRED mega-pool hierarchy.

The **no** form of this command enables WRED queuing on an egress forwarding plane.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>anysec>mpls>tnl-enc>enc-grp>peer shutdown)

Full Context

configure anysec mpls tunnel-encryption encryption-group peer shutdown

Description

This command shuts down the ANYsec and encryption to the peer.

Note: When ANYsec is shutdown to the peer, clear traffic is forwarded on the LSP to the peer.

The **no** form of this command enables ANYsec and encryption to the peer.

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Default
shutdown

Platforms
7750 SR-1, 7750 SR-12e, 7750 SR-s

shutdown

Syntax
[**no**] **shutdown**

Context
[Tree] (config>anysec>mpls>tnl-enc>enc-grp shutdown)

Full Context
configure anysec mpls tunnel-encryption encryption-group shutdown

Description
This command shuts down the ANYsec on the encryption group.

Caution: Clear traffic is forwarded on all the LSPs in the encryption group.

The **no** form of this command enables ANYsec and encryption for the encryption group.

Default
shutdown

Platforms
7750 SR-1, 7750 SR-12e, 7750 SR-s

shutdown

Syntax
[**no**] **shutdown**

Context
[Tree] (config>anysec>mpls>sec-term-pols>policy shutdown)

Full Context
configure anysec mpls security-termination-policies policy shutdown

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Description

This command places the tunnel in an operationally down state and causes traffic to drop. However, ANYsec remains enabled.

The **no** form of this command places the tunnel in an operationally up state.

Default

shutdown

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port>ethernet>efm-oam>link-monitoring shutdown)

Full Context

configure port ethernet efm-oam link-monitoring shutdown

Description

This command enables the link monitoring function. Issuing a no shutdown will start the process. Issuing a shutdown will clear any previously established negative conditions that were a result of the link monitoring process on this port and all collected data. This also controls the advertising capabilities.

The **no** form of this command activates the link monitoring function.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-seconds shutdown)

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame shutdown)

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[Tree] (config>port>ethernet>efm-oam>link-mon>errored-symbols shutdown)

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-period shutdown)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-seconds shutdown

configure port ethernet efm-oam link-monitoring errored-frame shutdown

configure port ethernet efm-oam link-monitoring errored-symbols shutdown

configure port ethernet efm-oam link-monitoring errored-frame-period shutdown

Description

This command enables or disables the local counting, thresholding and actions associated with this type of local monitor. Peer received errors are not controlled by this command. Reaction to peer messaging is defined in the peer-rdi-rx hierarchy.

The **no** form of this command activates the local monitoring function and actions for the event.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port>ethernet>dot1x>macsec>sub-port shutdown)

Full Context

configure port ethernet dot1x macsec sub-port shutdown

Description

This command shuts down the MACsec under this sub-port specifically, including MKA negotiation. In the shutdown state, this port is not MACsec capable and all PDUs will be transmitted and expected without encryption and authentication.

The **no** form of this command puts the port in MACsec-enabled mode. A valid CA, different than any other CA configured on any other sub-port of this port and also a *max-peer* value larger than 0 must be configured. In MACsec-enabled mode, packets are sent in cleartext until the MKA session is up, and if the **rx-must-be-encrypted** is set on the port, all incoming packets with no MACsec encapsulations are dropped.

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Default

shutdown

Platforms

All

shutdown

Syntax

shutdown

no shutdown

Context

[Tree] (config>lag>bfd>family shutdown)

Full Context

configure lag bfd family shutdown

Description

This command disables micro BFD sessions for this address family.

The **no** form of this command re-enables micro BFD sessions for this address family.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep shutdown)

[Tree] (config>service>pw-routing>hop shutdown)

[Tree] (config>service>sdp>binding>pw-port shutdown)

[Tree] (config>service>sdp shutdown)

[Tree] (config>service>sdp>keep-alive shutdown)

[Tree] (config>service>pw-template>stp shutdown)

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[Tree] (config>service>sdp>class-forwarding shutdown)

[Tree] (config>eth-ring>path shutdown)

Full Context

configure eth-tunnel path eth-cfm mep shutdown

configure service pw-routing hop shutdown

configure service sdp binding pw-port shutdown

configure service sdp shutdown

configure service sdp keep-alive shutdown

configure service pw-template stp shutdown

configure service sdp class-forwarding shutdown

configure eth-ring path shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the service becomes administratively up and then tries to enter the operationally up state. Default administrative states for services and service entities is described below in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure eth-tunnel path eth-cfm mep shutdown
- configure service sdp binding pw-port shutdown
- configure eth-ring path shutdown

All

- configure service pw-template stp shutdown
- configure service sdp keep-alive shutdown
- configure service sdp class-forwarding shutdown
- configure service sdp shutdown

shutdown

Syntax

shutdown

[**no**] **shutdown**

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Context

[Tree] (config>service>vpls>bgp-evpn>mpls shutdown)

[Tree] (config>service>epipe>bgp-evpn>srv6 shutdown)

[Tree] (config>service>epipe>bgp-evpn>vxlan shutdown)

[Tree] (config>service>vpls>bgp-evpn>vxlan shutdown)

[Tree] (config>service>epipe>bgp-evpn>mpls shutdown)

[Tree] (config>service>vpls>bgp-evpn>srv6 shutdown)

Full Context

configure service vpls bgp-evpn mpls shutdown

configure service epipe bgp-evpn segment-routing-v6 shutdown

configure service epipe bgp-evpn vxlan shutdown

configure service vpls bgp-evpn vxlan shutdown

configure service epipe bgp-evpn mpls shutdown

configure service vpls bgp-evpn segment-routing-v6 shutdown

Description

This command controls the administrative state of EVPN-MPLS, EVPN-VXLAN, or EVPN-SRv6 in the service.

Platforms

All

- configure service epipe bgp-evpn vxlan shutdown
- configure service vpls bgp-evpn mpls shutdown
- configure service epipe bgp-evpn mpls shutdown
- configure service vpls bgp-evpn vxlan shutdown

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service epipe bgp-evpn segment-routing-v6 shutdown
- configure service vpls bgp-evpn segment-routing-v6 shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vpls>provider-tunnel>inclusive shutdown)

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Full Context

configure service vpls provider-tunnel inclusive shutdown

Description

This command administratively enables and disables the service.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vpls>proxy-arp shutdown)

[Tree] (config>service>vpls>proxy-nd shutdown)

Full Context

configure service vpls proxy-arp shutdown

configure service vpls proxy-nd shutdown

Description

This command enables and disables the proxy-ARP and proxy-nd functionality. ARP/GARP/ND messages will be snooped and redirected to the CPM for lookup in the proxy-ARP/proxy-ND table. The proxy-ARP/proxy-ND table is populated with IP->MAC pairs received from different sources (EVPN, static, dynamic). When the **shutdown** command is issued, it flushes the dynamic/EVPN dup proxy-ARP/proxy-ND table entries and instructs the system to stop snooping ARP/ND frames. All the static entries are kept in the table as *inactive*, regardless of their previous *Status*.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>service>system>bgp-evpn>eth-seg shutdown)

Full Context

configure service system bgp-evpn ethernet-segment shutdown

Description

This command changes the administrative status of the Ethernet-Segment.

The user can do **no shutdown** only when esi, multi-homing and lag/port/sdp are configured. If the Ethernet-Segment or the corresponding lag/port/sdp shutdown, the Ethernet-Segment route and the AD per-ES routes will be withdrawn. No changes are allowed when the Ethernet-Segment is **no shutdown**.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>epipe>pw-port shutdown)

[Tree] (config>service>ipipe>spoke-sdp shutdown)

[Tree] (config>service>epipe>sap>l2tpv3-session shutdown)

[Tree] (config>service>epipe shutdown)

[Tree] (config>service>epipe>sap shutdown)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep shutdown)

[Tree] (config>service>epipe>spoke-sdp shutdown)

[Tree] (config>service>cpipe shutdown)

[Tree] (config>service>cpipe>sap shutdown)

[Tree] (config>service>ipipe>sap shutdown)

[Tree] (config>service>epipe>sap>eth-cfm>mep shutdown)

[Tree] (config>service>epipe>site shutdown)

[Tree] (config>service>cpipe>spoke-sdp shutdown)

[Tree] (config>service>ipipe shutdown)

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Full Context

configure service epipe pw-port shutdown

configure service ipipe spoke-sdp shutdown

configure service epipe sap l2tpv3-session shutdown

configure service epipe shutdown

configure service epipe sap shutdown

configure service epipe spoke-sdp eth-cfm mep shutdown

configure service epipe spoke-sdp shutdown

configure service cpipe shutdown

configure service cpipe sap shutdown

configure service ipipe sap shutdown

configure service epipe sap eth-cfm mep shutdown

configure service epipe site shutdown

configure service cpipe spoke-sdp shutdown

configure service ipipe shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the service becomes administratively up and then tries to enter the operationally up state. Default administrative states for services and service entities is described as follows in Special Cases.

The **no** form of this command places the entity into an administratively enabled state.

Platforms

All

- configure service epipe sap shutdown
- configure service epipe spoke-sdp shutdown
- configure service ipipe shutdown
- configure service epipe pw-port shutdown
- configure service epipe site shutdown
- configure service epipe sap l2tpv3-session shutdown
- configure service ipipe spoke-sdp shutdown
- configure service epipe shutdown
- configure service ipipe sap shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe shutdown

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- configure service epipe spoke-sdp eth-cfm mep shutdown
- configure service cpipe sap shutdown
- configure service epipe sap eth-cfm mep shutdown
- configure service cpipe spoke-sdp shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>epipe>bgp-vpws shutdown)

Full Context

configure service epipe bgp-vpws shutdown

Description

This command administratively enables/disables the local BGP VPWS instance. On de-activation an MP-UNREACH-NLRI is sent for the local NLRI.

The **no** form of this command enables the BGP VPWS addressing and the related BGP advertisement. The associated BGP VPWS MP-REACH-NLRI will be advertised in an update message and the corresponding received NLRIs must be considered to instantiate the data plane.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vpls>bgp-vpls shutdown)

Full Context

configure service vpls bgp-vpls shutdown

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Description

This command administratively enables/disables the local BGP VPLS instance. On de-activation an MP-UNREACH-NLRI must be sent for the local NLRI.

The **no** form of this command enables the BGP VPLS addressing and the related BGP advertisement. The associated BGP VPLS MP-REACH-NLRI will be advertised in an update message and the corresponding received NLRIs must be considered to instantiate the data plane. RT, RD usage: same as in the BGP AD solution, if the values are not configured here, the value of the VPLS-id from under the bgp-ad node is used. If VPLS-id value is not configured either the MH site cannot be activated – i.e. no shutdown returns an error. Same applies if a pseudowire template is not specified under the BGP node.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>ies>if>ipv6>secure-nd shutdown)

Full Context

configure service ies interface ipv6 secure-nd shutdown

Description

This command enables or disables Secure Neighbor Discovery (SeND) on the interface.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus shutdown)

[Tree] (config>system>security>tacplus shutdown)

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Full Context

configure service vprn aaa remote-servers tacplus shutdown

configure system security tacplus shutdown

Description

This command administratively disables the TACACS+ protocol operation. Shutting down the protocol does not remove or change the configuration other than the administrative state.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command administratively enables the protocol which is the default state.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>static-route-entry>next-hop shutdown)

[Tree] (config>service>vprn>static-route-entry>indirect shutdown)

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel shutdown)

[Tree] (config>service>vprn>static-route-entry>grt shutdown)

[Tree] (config>service>vprn>static-route-entry>black-hole shutdown)

Full Context

configure service vprn static-route-entry next-hop shutdown

configure service vprn static-route-entry indirect shutdown

configure service vprn static-route-entry ipsec-tunnel shutdown

configure service vprn static-route-entry grt shutdown

configure service vprn static-route-entry black-hole shutdown

Description

This command causes the static route to be placed in an administratively down state and removed from the active route-table

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Default
no shutdown

Platforms
All

shutdown

Syntax
[**no**] **shutdown**

Context
[Tree] (config>service>vprn>if>send shutdown)

Full Context
configure service vprn interface ipv6 secure-nd shutdown

Description
This command enables or disables Secure Neighbor Discovery (SeND) on the interface.

Platforms
All

shutdown

Syntax
[**no**] **shutdown**

Context
[Tree] (config>router>ldp>aggregate-prefix-match shutdown)

[Tree] (config>router>ldp shutdown)

[Tree] (config>router>ldp>if-params>if>ipv6 shutdown)

[Tree] (config>router>ldp>targ-session>peer-template shutdown)

[Tree] (config>router>ldp>if-params>if>ipv4 shutdown)

[Tree] (config>router>ldp>egr-stats>fec-prefix shutdown)

[Tree] (config>router>ldp>targ-session>peer shutdown)

[Tree] (config>router>ldp>if-params>if shutdown)

Full Context
configure router ldp aggregate-prefix-match shutdown

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configure router ldp shutdown

configure router ldp interface-parameters interface ipv6 shutdown

configure router ldp targeted-session peer-template shutdown

configure router ldp interface-parameters interface ipv4 shutdown

configure router ldp egress-statistics fec-prefix shutdown

configure router ldp targeted-session peer shutdown

configure router ldp interface-parameters interface shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted. For an LDP interface, the **shutdown** command exists under the main interface context and under each of the interface IPv4 and IPv6 contexts.

- **shutdown** under the **interface** context brings down both IPv4 and IPv6 Hello adjacencies and stops Hello transmission in both contexts.
- **shutdown** under the **interface** IPv4 or IPv6 contexts brings down the Hello adjacency and stops Hello transmission in that context only.

The user can also delete the entire IPv4 or IPv6 context under the interface with the **no ipv4** or **no ipv6** command which in addition to bringing down the Hello adjacency will delete the configuration.

The **no** form of this command administratively enables an entity.

Unlike other commands and parameters where the default state is not indicated in the configuration file, the **shutdown** and **no shutdown** states are always indicated in system generated configuration files.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>ldp>targeted-session>auto-rx>ipv4 shutdown)

[Tree] (config>router>ldp>targeted-session>auto-tx>ipv4 shutdown)

Full Context

configure router ldp targeted-session auto-rx ipv4 shutdown

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configure router ldp targeted-session auto-tx ipv4 shutdown

Description

This command administratively disables the capabilities associated with automatically sending targeted Hello messages through the **auto-tx** command or processing targeted Hello messages through the **auto-rx** command.

The **no** form of this command administratively enables the capabilities associated with the **auto-tx** and **auto-rx** commands.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls shutdown)

[Tree] (config>router>mpls>lsp>secondary shutdown)

[Tree] (config>router>mpls>lsp>primary shutdown)

[Tree] (config>router>mpls>lsp>egress-statistics shutdown)

[Tree] (config>router>mpls>lsp-template>egress-statistics shutdown)

[Tree] (config>router>mpls>interface shutdown)

[Tree] (config>router>mpls>lsp>primary-p2mp-instance shutdown)

[Tree] (config>router>mpls>ingr-stats>p2p-template-lsp shutdown)

[Tree] (config>router>mpls>ingr-stats>p2mp-template-lsp shutdown)

Full Context

configure router mpls shutdown

configure router mpls lsp secondary shutdown

configure router mpls lsp primary shutdown

configure router mpls lsp egress-statistics shutdown

configure router mpls lsp-template egress-statistics shutdown

configure router mpls interface shutdown

configure router mpls lsp primary-p2mp-instance shutdown

configure router mpls ingress-statistics p2p-template-lsp shutdown

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configure router mpls ingress-statistics p2mp-template-lsp shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The **config**>**router**>**mpls**>**ingr-stats**>**p2mp-template-lsp**> **shutdown** command is supported on the 7750 SR, 7950 XRS, and with VPLS only on the 7450 ESS.

The **config**>**router**>**mpls**>**lsp**>**primary-p2mp-instance**> **shutdown** is not supported on the 7450 ESS.

MPLS is not enabled by default and must be explicitly enabled (**no shutdown**).

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command places the entity into an administratively enabled state.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>pce-initiated-lsp>sr-te shutdown)

Full Context

configure router mpls pce-initiated-lsp sr-te shutdown

Description

This command administratively enables or disables the **sr-te** context for PCE initiated LSPs. A shutdown of the **sr-te** context under **pce-initiated-lsp** causes an error to be generated for new PCInitate messages, and existing PCE-initiated LSPs are taken to the **oper-down** state.

The **no** form of this command administratively enables the **sr-te** context for PCE initiated LSP.

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>if>label-map shutdown)

Full Context

configure router mpls interface label-map shutdown

Description

This command disables the label map definition. This drops all packets that match the specified *in-label* specified in the **label-map** *in-label* command.

The **no** form of this command administratively enables the defined label map action.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>lsp shutdown)

[Tree] (config>router>mpls>lsp-template shutdown)

Full Context

configure router mpls lsp shutdown

configure router mpls lsp-template shutdown

Description

This command disables the existing LSP including the primary and any standby secondary paths.

To shutdown only the primary enter the **config router mpls lsp** *lsp-name* **primary** *path-name* **shutdown** command.

To shutdown a specific standby secondary enter the **config router mpls lsp** *lsp-name* **secondary** *path-name* **shutdown** command. The existing configuration of the LSP is preserved.

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Use the **no** form of this command to restart the LSP. LSPs are created in a shutdown state. Use this command to administratively bring up the LSP.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>rib-api>mpls shutdown)

Full Context

configure router rib-api mpls shutdown

Description

This command disables the programming of tunnel and label FIB entries by the RIB-API gRPC service. It causes all existing tunnel and label FIB entries to be de-programmed from the data path, but they remain in the control plane database.

The **no** form of this command enables the programming of tunnel and label FIB entries by the RIB-API gRPC service.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>path shutdown)

Full Context

configure router mpls path shutdown

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Description

This command disables the existing LSPs using this path. All services using these LSPs are affected. Binding information, however, is retained in those LSPs. Paths are created in the **shutdown** state.

The **no** form of this command administratively enables the path. All LSPs, where this path is defined as primary or defined as standby secondary, are (re)established.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>pcep>pcc shutdown)

[Tree] (config>router>pcep>pce shutdown)

Full Context

configure router pcep pcc shutdown

configure router pcep pce shutdown

Description

This command administratively disables the PCC or PCE process.

The following PCE parameters can only be modified when the PCEP session is shut down:

- **local-address**
- **keepalive**
- **dead-timer**

The **unknown-message-rate** PCE parameter can be modified without shutting down the PCEP session.

The following PCC parameters can only be modified when the PCEP session is shut down:

- **local-address**
- **keepalive**
- **dead-timer**
- **peer**

The following PCC parameters can be modified without shutting down the PCEP session:

- **report-path-constraints**
- **unknown-message-rate**

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Default

shutdown

Platforms

All

- configure router pcep pcc shutdown

VSR-NRC

- configure router pcep pce shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>rsvp shutdown)

[Tree] (config>router>rsvp>interface shutdown)

Full Context

configure router rsvp shutdown

configure router rsvp interface shutdown

Description

This command disables the RSVP protocol instance or the RSVP-related functions for the interface. The RSVP configuration information associated with this interface is retained. When RSVP is administratively disabled, all the RSVP sessions are torn down. The existing configuration is retained.

The **no** form of this command administratively enables RSVP on the interface.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy>nh-grp shutdown)

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Full Context

configure router mpls forwarding-policies forwarding-policy next-hop-group shutdown

Description

This command shuts down an NHG entry in a forwarding policy.

When an NHG is shut down, it is removed from the data path entry of the forwarding policy.

The **no** form of this command brings up an NHG entry in a forwarding policy.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy shutdown)

Full Context

configure router mpls forwarding-policies forwarding-policy shutdown

Description

This command shuts down the forwarding policy.

The **no** form of this command enables the forwarding policy.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>mpls>fwd-policies shutdown)

Full Context

configure router mpls forwarding-policies shutdown

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Description

This command shuts down the **forwarding-policies** context; causing all forwarding policies to be removed from the data path, however they remain in the MPLS forwarding database.

The **no** form of this command enables the **forwarding-policies** context.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>app-assure>group>cflowd>tcp-perf>template>dynamic-fields shutdown)

[Tree] (config>app-assure>group>aa-sub-cong shutdown)

[Tree] (config>app-assure>group>policer>tod-override shutdown)

[Tree] (config>service>vprn>aa-interface shutdown)

[Tree] (config>app-assure>group>policy>app-qos-policy>entry shutdown)

[Tree] (config>app-assure>group>dns-ip-cache shutdown)

[Tree] (config>service>ies>aa-interface shutdown)

[Tree] (config>app-assure>group>cflowd>volume shutdown)

[Tree] (config>app-assure>group>policy>custom-protocol shutdown)

[Tree] (config>app-assure>group>cflowd>collector shutdown)

[Tree] (config>app-assure>group>url-filter shutdown)

[Tree] (config>app-assure>group>cflowd>comp shutdown)

[Tree] (config>app-assure>group>cflowd>comp>template>dynamic-fields shutdown)

[Tree] (config>app-assure>group>url-filter>icap>server shutdown)

[Tree] (config>app-assure>group>policy>app-filter>entry shutdown)

[Tree] (config>app-assure>group>cflowd shutdown)

[Tree] (config>app-assure>group>cflowd>volume>template>dynamic-fields shutdown)

[Tree] (config>app-assure>group>transit-ip-policy>dhcp shutdown)

[Tree] (config>app-assure>group>transit-ip-policy>transit-auto-create shutdown)

[Tree] (config>app-assure>group>transit-ip-policy>radius shutdown)

[Tree] (config>app-assure>protocol shutdown)

[Tree] (config>app-assure>group>http-enrich shutdown)

[Tree] (config>app-assure>group>tethering-detection shutdown)

[Tree] (config>service>vprn>aa-interface>sap shutdown)

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[Tree] (config>app-assure>group>statistics>protocol shutdown)

[Tree] (config>service>ies>aa-interface>sap shutdown)

[Tree] (config>app-assure>group>http-error-redirect shutdown)

[Tree] (config>app-assure>aarp shutdown)

[Tree] (config>app-assure>group>event-log shutdown)

[Tree] (config>app-assure>group>cflowd>tcp-perf shutdown)

[Tree] (config>app-assure>group>gtp shutdown)

[Tree] (config>app-assure>group>url-list shutdown)

[Tree] (config>app-assure>group>certificate-profile shutdown)

[Tree] (config>app-assure>group>http-redirect shutdown)

[Tree] (config>app-assure>group>http-notification shutdown)

[Tree] (config>app-assure>group>wap1x shutdown)

Full Context

configure application-assurance group cflowd tcp-performance template dynamic-fields shutdown

configure application-assurance group aa-sub-congestion-detection shutdown

configure application-assurance group policer tod-override shutdown

configure service vprn aa-interface shutdown

configure application-assurance group policy app-qos-policy entry shutdown

configure application-assurance group dns-ip-cache shutdown

configure service ies aa-interface shutdown

configure application-assurance group cflowd volume shutdown

configure application-assurance group policy custom-protocol shutdown

configure application-assurance group cflowd collector shutdown

configure application-assurance group url-filter shutdown

configure application-assurance group cflowd comprehensive shutdown

configure application-assurance group cflowd comprehensive template dynamic-fields shutdown

configure application-assurance group url-filter icap server shutdown

configure application-assurance group policy app-filter entry shutdown

configure application-assurance group cflowd shutdown

configure application-assurance group cflowd volume template dynamic-fields shutdown

configure application-assurance group transit-ip-policy dhcp shutdown

configure application-assurance group transit-ip-policy transit-auto-create shutdown

configure application-assurance group transit-ip-policy radius shutdown

configure application-assurance protocol shutdown

configure application-assurance group http-enrich shutdown

configure application-assurance group tethering-detection shutdown

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configure service vprn aa-interface sap shutdown

configure application-assurance group statistics protocol shutdown

configure service ies aa-interface sap shutdown

configure application-assurance group http-error-redirect shutdown

configure application-assurance aarp shutdown

configure application-assurance group event-log shutdown

configure application-assurance group cflowd tcp-performance shutdown

configure application-assurance group gtp shutdown

configure application-assurance group url-list shutdown

configure application-assurance group certificate-profile shutdown

configure application-assurance group http-redirect shutdown

configure application-assurance group http-notification shutdown

configure application-assurance group wap1x shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

The **shutdown** command administratively disables an entity. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>isa>tunnel-grp shutdown)

[Tree] (config>service>ies>if>sap>ip-tunnel shutdown)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel shutdown)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp shutdown)

[Tree] (config>service>ies>if>sap>ipsec-gw>lcl-addr-assign shutdown)

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec>tunnel-group shutdown)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel shutdown)

[Tree] (config>isa>aa-grp shutdown)

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[Tree] (config>service>vprn>if>sap>ipsec-gw shutdown)

[Tree] (config>ipsec>cert-profile shutdown)

[Tree] (config>service>ies>if>sap>ipsec-gw>dhcp6 shutdown)

[Tree] (config>ipsec>client-db shutdown)

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp shutdown)

[Tree] (config>service>vprn>if>sap>ip-tunnel shutdown)

[Tree] (config>service>vprn>if>sap>ipsec-gw>dhcp6 shutdown)

[Tree] (config>service>ies>if>sap>ipsec-gw shutdown)

[Tree] (config>service>vprn>if>sap>ipsec-gw>lcl-addr-assign shutdown)

[Tree] (config>ipsec>client-db>client shutdown)

Full Context

configure isa tunnel-group shutdown

configure service ies interface sap ip-tunnel shutdown

configure service ies interface ipsec ipsec-tunnel shutdown

configure service ies interface sap ipsec-gw dhcp shutdown

configure service ies interface sap ipsec-gw local-address-assignment shutdown

configure redundancy multi-chassis peer mc-ipsec tunnel-group shutdown

configure service vprn interface ipsec ipsec-tunnel shutdown

configure isa application-assurance-group shutdown

configure service vprn interface sap ipsec-gw shutdown

configure ipsec cert-profile shutdown

configure service ies interface sap ipsec-gw dhcp6 shutdown

configure ipsec client-db shutdown

configure service vprn interface sap ipsec-gw dhcp shutdown

configure service vprn interface sap ip-tunnel shutdown

configure service vprn interface sap ipsec-gw dhcp6 shutdown

configure service ies interface sap ipsec-gw shutdown

configure service vprn interface sap ipsec-gw local-address-assignment shutdown

configure ipsec client-db client shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

The **shutdown** command administratively disables an entity. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure ipsec client-db shutdown
- configure service vprn interface sap ipsec-gw dhcp shutdown
- configure service vprn interface sap ipsec-gw shutdown
- configure service vprn interface sap ipsec-gw local-address-assignment shutdown
- configure redundancy multi-chassis peer mc-ipsec tunnel-group shutdown
- configure service ies interface sap ipsec-gw local-address-assignment shutdown
- configure isa tunnel-group shutdown
- configure ipsec client-db client shutdown
- configure service ies interface sap ipsec-gw shutdown
- configure service vprn interface sap ipsec-gw dhcp6 shutdown
- configure service ies interface sap ipsec-gw dhcp shutdown
- configure ipsec cert-profile shutdown
- configure isa application-assurance-group shutdown
- configure service ies interface sap ipsec-gw dhcp6 shutdown

All

- configure service ies interface sap ip-tunnel shutdown
- configure service vprn interface sap ip-tunnel shutdown

VSR

- configure service vprn interface ipsec ipsec-tunnel shutdown
- configure service ies interface ipsec ipsec-tunnel shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>app-assure>group>transit-ip>diameter shutdown)

Full Context

configure application-assurance group transit-ip-policy diameter shutdown

Description

This command removes all transit AA subscribers created via Diameter on this transit AA subscriber IP policy and clears all corresponding Diameter sessions.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>isa>aa-grp>overload-sub-quarantine shutdown)

Full Context

configure isa application-assurance-group overload-sub-quarantine shutdown

Description

This command disables the overload subscriber detection algorithm in the ISA group for the purpose of quarantining an overloaded subscriber. It is possible to manually quarantine an AA subscriber even when this command is disabled (**shutdown**).

The **no** form of this command enables the overload subscriber detection algorithm in the ISA group. When enabled, each ISA monitors the traffic on a continuous basis to identify AA subscribers that occupy more than their fair share of ISA resources and need to be quarantined.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (debug>app-assure>group>traffic-capture shutdown)

Full Context

debug application-assurance group traffic-capture shutdown

Description

This command administratively disables traffic capture.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (debug>app-assure>group>port-recorder shutdown)

[Tree] (debug>app-assure>group>http-host-recorder shutdown)

Full Context

debug application-assurance group port-recorder shutdown

debug application-assurance group http-host-recorder shutdown

Description

This commands allows to stop or start the http-host-recorder. To reset the recorded values execute shutdown followed by **no** shutdown.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>esa>vm shutdown)

[Tree] (config>esa shutdown)

Full Context

configure esa vm shutdown

configure esa shutdown

Description

This command administratively disables the instance. The operational state of the instance is disabled, as well as the operational state of any entities contained within. When disabled, the instance does not change, reset, or remove any configuration settings or statistics.

The **no** form of this command administratively enables the instance.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update shutdown)

Full Context

configure system security pki ca-profile auto-crl-update shutdown

Description

This command disables the auto CRL update.

The **no** form of this command enables an auto CRL update. Upon **no shutdown**, if the configured CRL file does not exist, is invalid or is expired or if the schedule-type is next-update-based and current time passed (Next-Update_of_existing_CRL - pre-update-time), then system will start downloading CRL right away.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>isa>lns-group shutdown)

Full Context

configure isa lns-group shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

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The **shutdown** command administratively disables an entity. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>nat>inside>deterministic>address-map shutdown)

[Tree] (config>router>nat>inside>sub-ident shutdown)

[Tree] (config>router>nat>inside>deterministic>address-map shutdown)

[Tree] (config>service>vprn>nat>outside>pool shutdown)

[Tree] (config>service>vprn>nat>inside>nat66 shutdown)

[Tree] (config>aaa>isa-radius-plcy>servers>server shutdown)

[Tree] (config>service>vprn>mtrace2 shutdown)

[Tree] (config>service>vprn>nat>inside>nat64 shutdown)

[Tree] (config>service>vprn>nat>outside>pool>address-range shutdown)

[Tree] (config>router>nat>outside>pool>address-range shutdown)

[Tree] (config>router>nat>inside>redundancy>subscriber-identification shutdown)

[Tree] (config>service>ipfix>ipfix-export-policy>collector shutdown)

[Tree] (config>service>vprn>nat>outside>pool>redundancy shutdown)

[Tree] (config>router>nat>outside>pool shutdown)

[Tree] (config>router>nat>inside>nat66 shutdown)

[Tree] (config>router>nat>outside>pool>redundancy shutdown)

[Tree] (config>router>nat>inside>dual-stack-lite shutdown)

[Tree] (config>isa>nat-group shutdown)

[Tree] (config>router>nat>inside>nat64 shutdown)

[Tree] (config>router>firewall>domain shutdown)

Full Context

configure service vprn nat inside deterministic address-map shutdown

configure router nat inside subscriber-identification shutdown

configure router nat inside deterministic address-map shutdown

configure service vprn nat outside pool shutdown

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configure service vprn nat inside nat66 shutdown

configure aaa isa-radius-policy servers server shutdown

configure service vprn mtrace2 shutdown

configure service vprn nat inside nat64 shutdown

configure service vprn nat outside pool address-range shutdown

configure router nat outside pool address-range shutdown

configure router nat inside redundancy subscriber-identification shutdown

configure service ipfix ipfix-export-policy collector shutdown

configure service vprn nat outside pool redundancy shutdown

configure router nat outside pool shutdown

configure router nat inside nat66 shutdown

configure router nat outside pool redundancy shutdown

configure router nat inside dual-stack-lite shutdown

configure isa nat-group shutdown

configure router nat inside nat64 shutdown

configure router firewall domain shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

The **shutdown** command administratively disables an entity. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn nat outside pool address-range shutdown
- configure isa nat-group shutdown
- configure router nat inside nat66 shutdown
- configure router nat inside deterministic address-map shutdown
- configure router nat outside pool address-range shutdown
- configure router nat outside pool shutdown
- configure service vprn nat inside deterministic address-map shutdown
- configure router nat inside nat64 shutdown
- configure service vprn nat outside pool shutdown
- configure router nat inside dual-stack-lite shutdown
- configure router nat outside pool redundancy shutdown
- configure router nat inside subscriber-identification shutdown

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- configure service vprn nat inside nat66 shutdown
- configure service vprn nat inside nat64 shutdown
- configure service vprn nat outside pool redundancy shutdown
- configure aaa isa-radius-policy servers server shutdown

All

- configure service vprn mtrace2 shutdown
- configure service ipfix ipfix-export-policy collector shutdown

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure router firewall domain shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>nat>map-domain>mapping-rule shutdown)

Full Context

configure service nat map-domain mapping-rule shutdown

Description

This command enables or disables a rule within a MAP domain. A MAP rule can be enabled (**no shutdown**) only when all parameters within the rule are defined. Disabling a rule within an instantiated MAP domain will withdraw the rule IPv4 routes and disable forwarding for the rule.

Interactions:

config>service>vprn>nat>map>map-domain *domain-name*

config>service>router>nat>map>map-domain *domain-name*

Shutdown of an instantiated MAP rule disables the rule (the rule routes will be withdrawn and forwarding will be disabled).

Default

shutdown

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>nat>map-domain shutdown)

Full Context

configure service nat map-domain shutdown

Description

This command enables or disables a MAP domain. A MAP domain can be enabled (**no shutdown**) only when the DMR prefix is configured. Disabling an instantiated domain will withdraw all routes associated with it.

Interactions:

config>service>vprn>nat>map>map-domain *domain-name*

config>service>router>nat>map>map-domain *domain-name*

Shutdown of a MAP domain template disables the instantiated MAP domain (the routes will be withdrawn and forwarding will be disabled).

Default

shutdown

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>bier shutdown)

[Tree] (config>router>bier>template shutdown)

Full Context

configure router bier shutdown

configure router bier template shutdown

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Description

This command shuts down BIER or a BIER template.

The **no** form of this command enables BIER or the BIER template.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>gtm>provider-tunnel>inclusive>rsvp shutdown)

[Tree] (config>router>gtm>provider-tunnel>selective>rsvp shutdown)

Full Context

configure router gtm provider-tunnel inclusive rsvp shutdown

configure router gtm provider-tunnel selective rsvp shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the service becomes administratively up and then tries to enter the operationally up state.

The **no** form of this command places the entity into an administratively enabled state.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy shutdown)

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi shutdown)

[Tree] (config>router>p2mp-sr-tree>p2mp-policy>candidate-path shutdown)

[Tree] (config>router>p2mp-sr-tree>replication-segment shutdown)

[Tree] (config>service>vprn>mvpn>pt>inclusive>p2mp-sr shutdown)

[Tree] (config>service>vprn>mvpn>pt>selective>p2mp-sr shutdown)

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls>downstream-nodes shutdown)

[Tree] (config>router>p2mp-sr-tree shutdown)

Full Context

configure router p2mp-sr-tree p2mp-policy shutdown

configure service vprn mvpn provider-tunnel selective multistream-spmsi shutdown

configure router p2mp-sr-tree p2mp-policy candidate-path shutdown

configure router p2mp-sr-tree replication-segment shutdown

configure service vprn mvpn provider-tunnel inclusive p2mp-sr shutdown

configure service vprn mvpn provider-tunnel selective p2mp-sr shutdown

configure router p2mp-sr-tree replication-segment segment-routing-mpls downstream-nodes shutdown

configure router p2mp-sr-tree shutdown

Description

This command administratively disables an entity for the P2MP SR tree. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

When the operational state of an entity is disabled, the operational state of any entities contained within are also disabled. Many objects must be shut down before they may be deleted.

Services are created in the administratively down (shutdown) state. When a **no shutdown** command is entered, the service becomes administratively up, then attempts to enter the operationally up state.

The **no** form of this command places the entity into an administratively enabled state.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>service>vprn>ip-mirror-interface>spoke-sdp shutdown)

[Tree] (config>mirror>mirror-dest>spoke-sdp>egress shutdown)

[Tree] (config>li>log>log-id shutdown)

[Tree] (config>service>ies>if>ping-template shutdown)

[Tree] (config>mirror>mirror-dest shutdown)

[Tree] (config>service>vprn>if>ping-template shutdown)

[Tree] (config>mirror>mirror-source shutdown)

[Tree] (config>service>vprn>ip-mirror-interface shutdown)

[Tree] (config>li>li-source shutdown)

Full Context

configure service vprn ip-mirror-interface spoke-sdp shutdown

configure mirror mirror-dest spoke-sdp egress shutdown

configure li log log-id shutdown

configure service ies interface ping-template shutdown

configure mirror mirror-dest shutdown

configure service vprn interface ping-template shutdown

configure mirror mirror-source shutdown

configure service vprn ip-mirror-interface shutdown

configure li li-source shutdown

Description

The **shutdown** command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

The **shutdown** command administratively disables an entity. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system generated configuration files.

The **no** form of this command puts an entity into the administratively enabled state.

Default

See Special Cases below.

Platforms

All

- configure service vprn ip-mirror-interface spoke-sdp shutdown
- configure li li-source shutdown

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- configure mirror mirror-dest shutdown
- configure li log log-id shutdown
- configure mirror mirror-source shutdown
- configure service vprn ip-mirror-interface shutdown
- configure mirror mirror-dest spoke-sdp egress shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface ping-template shutdown
- configure service vprn interface ping-template shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (debug>mirror-source shutdown)

Full Context

debug mirror-source shutdown

Description

This command enables mirror source debugging.

The **no** form of this command clears mirror source information.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>oam-pm>session>ip>twamp-light shutdown)

[Tree] (config>test-oam>ldp-treetrace shutdown)

[Tree] (config>oam-pm>bin-group shutdown)

[Tree] (config>oam-pm>session>ethernet>slm shutdown)

[Tree] (config>oam-pm>session>ethernet>dmm shutdown)

[Tree] (config>oam-pm>session>ethernet>lmm>availability shutdown)

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[Tree] (config>saa>test shutdown)

[Tree] (config>oam-pm>session>ethernet>lmm shutdown)

[Tree] (config>test-oam>twamp>server>prefix shutdown)

[Tree] (config>test-oam>twamp>server shutdown)

[Tree] (config>oam-pm>session>measurement-interval>event-mon shutdown)

Full Context

configure oam-pm session ip twamp-light shutdown

configure test-oam ldp-treetrace shutdown

configure oam-pm bin-group shutdown

configure oam-pm session ethernet slm shutdown

configure oam-pm session ethernet dmm shutdown

configure oam-pm session ethernet lmm availability shutdown

configure saa test shutdown

configure oam-pm session ethernet lmm shutdown

configure test-oam twamp server prefix shutdown

configure test-oam twamp server shutdown

configure oam-pm session measurement-interval event-mon shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

Entities are created in the administratively down (**shutdown**) state. When a **no shutdown** command is entered, the entity becomes administratively up and then tries to enter the operationally up state.

The **no** form of this command administratively enables the entity.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure test-oam twamp server prefix shutdown
- configure test-oam twamp server shutdown
- configure oam-pm session ip twamp-light shutdown

All

- configure oam-pm session ethernet lmm availability shutdown
- configure oam-pm session ethernet dmm shutdown
- configure saa test shutdown
- configure oam-pm session ethernet slm shutdown
- configure oam-pm session ethernet lmm shutdown

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- configure oam-pm bin-group shutdown
- configure test-oam ldp-treetrace shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>twamp-light>reflector shutdown)

[Tree] (config>service>vprn>twamp-light>reflector shutdown)

Full Context

configure router twamp-light reflector shutdown

configure service vprn twamp-light reflector shutdown

Description

This command disables or enables TWAMP Light functionality within the context where the configuration exists, either the base router instance or the service. Enabling the base router context enables the IES prefix list since the IES service uses the configuration under the base router instance.

The **no** form of this command allows the router instance or the service to accept TWAMP Light packets for processing.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>bfd>seamless-bfd>reflector shutdown)

Full Context

configure bfd seamless-bfd reflector shutdown

Description

This command specifies the administrative state of the seamless BFD reflector.

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The **no** form of this command administratively enables the reflector. A discriminator must be configured before the **no shutdown** command is invoked.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>qos>slope-policy>high-slope shutdown)

[Tree] (config>qos>slope-policy>low-slope shutdown)

[Tree] (config>qos>slope-policy>highplus-slope shutdown)

[Tree] (config>qos>slope-policy>exceed-slope shutdown)

Full Context

configure qos slope-policy high-slope shutdown

configure qos slope-policy low-slope shutdown

configure qos slope-policy highplus-slope shutdown

configure qos slope-policy exceed-slope shutdown

Description

This command enables or disables the administrative status of the Random Early Detection slope.

By default, all slopes are shutdown and have to be explicitly enabled (**no shutdown**).

The **no** form of this command administratively enables the RED slope.

Default

shutdown

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>filter>redirect-policy shutdown)

[Tree] (config>filter>redirect-policy>destination shutdown)

[Tree] (config>filter>log>summary shutdown)

Full Context

configure filter redirect-policy shutdown

configure filter redirect-policy destination shutdown

configure filter log summary shutdown

Description

Administratively enables/disabled (AdminUp/AdminDown) an entity. Downing an entity does not change, reset or remove any configuration settings or statistics. Many objects must be shutdown before they may be deleted.

The **shutdown** command administratively downs an entity. Administratively downing an entity changes the operational state of the entity to down.

Unlike other commands and parameters where the default state will not be indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system generated configuration files.

The **no** form of the command puts an entity into the administratively enabled state.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>if>ipv6>secure-nd shutdown)

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Full Context

configure router interface ipv6 secure-nd shutdown

Description

This command enables or disables Secure Neighbor Discovery (SeND) on the interface.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>pcp-server>server shutdown)

Full Context

configure router pcp-server server shutdown

Description

This command administratively enables the PCP server.

The **no** form of this command administratively disables the PCP server.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>if>vrrp shutdown)

[Tree] (config>router>if>ipv6>vrrp shutdown)

[Tree] (config>vrrp>policy shutdown)

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Full Context

configure router interface vrrp shutdown

configure router interface ipv6 vrrp shutdown

configure vrrp policy shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command administratively enables an entity.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown** [**active**] [**standby**]

[**no**] **shutdown** [*cflash-id*]

Context

[Tree] (file shutdown)

Full Context

file shutdown

Description

This command shuts down (unmounts) the specified CPM(s).

Use the **no shutdown** [**active**] [**standby**] command to enable one or both CPM.

Use the **no shutdown** [*cflash-id*] command to enable a compact flash (cf1:, cf2:, or cf3:) on the CPM/CCM. The **no shutdown** command can be issued for a specific slot when no compact flash is present. When a flash card is installed in the slot, the card will be activated upon detection.

In redundant systems, use the **no shutdown** command on cf3: on both SF/CPMs or CCMs in order to facilitate synchronization. See the **config>redundancy synchronize** command.

Note:
The **shutdown** command must be issued prior to removing a flash card. If no parameters are specified, then the drive referred to by the current working directory will be shut down.

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LED Status Indicators

Table 118: LED Status Indicators lists the possible states for the compact flash and their LED status indicators.

Table 118: LED Status Indicators

State	Description
Operational	If a compact flash is present in a drive and operational (no shutdown), the respective LED is lit green. The LED flickers when the compact flash is accessed. **Note:** Do not remove the compact flash during a read/write operation.
Flash defective	If a compact flash is defective, the respective LED blinks amber to reflect the error condition and a trap is raised.
Flash drive shut down	When the compact flash drive is shut down and a compact flash present, the LED is lit amber. In this state, the compact flash can be ejected.
No compact flash present, drive shut down	If no compact flash is present and the drive is shut down the LED is unlit.
No compact flash present, drive enabled	If no compact flash is present and the drive is not shut down the LED is unlit.
Ejecting a compact flash	The compact flash drive should be shut down before ejecting a compact flash card. The LED should turn to solid (not blinking) amber. This is the only mode to safely remove the flash card. If a compact flash drive is not shut down before a compact flash is ejected, the LED blinks amber for approximately 5 seconds before shutting off.

The **shutdown** or **no shutdown** state is not saved in the configuration file. Following a reboot all compact flash drives are in their default state.

Default

no shutdown

Parameters

cflash-id

Specifies the compact flash slot ID to be shut down or enabled. If *cflash-id* is specified, the drive is shut down or enabled. If no *cflash-id* is specified, the drive referred to by the current working directory is assumed. If a slot number is not specified, then the active CPM is assumed.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Default the current compact flash device

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active

Specifies that all drives on the active CPM are shutdown or enabled.

standby

Specifies that all drives on the standby CPM are shutdown or enabled.

When both **active** and **standby** keywords are specified, then all drives on both CPM are shutdown.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>satellite>eth-sat shutdown)

Full Context

configure system satellite eth-sat shutdown

Description

This command disables the associated satellite.

If the associated satellite is active, the satellite will not be reset but all satellite client ports will be shut down.

If the satellite is not active but attempts to associate with the host, the satellite chassis will be brought up according to the satellite configuration but all client ports will be shut down.

The **no** form of this command removes the shutdown state and all client ports on active satellites will be brought back up.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (conf>sys>sat>eth-sat>ptp-ip shutdown)

Full Context

configure system satellite eth-sat ptp-ip shutdown

Description

This command administratively disables the PTP over IP transparent clock functionality.

The **no** form of this command administratively enables the PTP over IP transparent clock functionality.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>alarm-contact-input shutdown)

Full Context

configure system alarm-contact-input shutdown

Description

This command disables tracking of state changes associated with the alarm contact input. The system does not generate or clear the alarms for the alarm contact input while tracking is disabled. The system clears existing alarms when the **shutdown** command is executed.

The **no** form of this command enables tracking of state changes associated with the alarm contact input.

Default

shutdown

Platforms

7750 SR-a

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>ptp>peer shutdown)

Full Context

configure system ptp peer shutdown

Description

This command disables or enables a specific PTP peer. Shutting down a peer sends cancel unicast negotiation messages on any established unicast sessions. When shutdown, all received packets from the peer are ignored.

If the clock-type is **ordinary slave** or **boundary**, and PTP is **no shutdown**, the last enabled peer cannot be shutdown. This prevents the user from having PTP enabled without any peer configured and enabled.

Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>ptp>port shutdown)

Full Context

configure system ptp port shutdown

Description

This command disables or enables a specific PTP port. When shutdown, all PTP Ethernet messages are dropped on the IOM They will not be counted in the PTP message statistics. No PTP packets are transmitted by the node toward this port.

If the clock-type is **ordinary slave** or **boundary**, and PTP is **no shutdown**, the last enabled port or peer cannot be shutdown. This prevents the user from having PTP enabled without any means to synchronize the local clock to a parent clock.

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Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>alarms shutdown)

Full Context

configure system alarms shutdown

Description

This command enables or disables the Facility Alarm functionality. When enabled, the Facility Alarm sub-system tracks active and cleared facility alarms and controls the Alarm LEDs on the CPMs. When Facility Alarm functionality is enabled, the alarms are viewed using the show system alarms command(s).

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>log>accounting-policy shutdown)

[Tree] (config>log>event-handling>handler>action-list>entry shutdown)

[Tree] (config>log>event-trigger>event shutdown)

[Tree] (config>log>event-trigger>event>trigger-entry shutdown)

[Tree] (config>log>event-handling>handler shutdown)

[Tree] (config>log>log-id shutdown)

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Full Context

configure log accounting-policy shutdown

configure log event-handling handler action-list entry shutdown

configure log event-trigger event shutdown

configure log event-trigger event trigger-entry shutdown

configure log event-handling handler shutdown

configure log log-id shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command administratively enables an entity.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>netconf>listen shutdown)

Full Context

configure system netconf listen shutdown

Description

This command disables the NETCONF server. The **shutdown** command is blocked if there are any active NETCONF sessions. Use the **admin disconnect** command to disconnect all NETCONF sessions before shutting down the NETCONF service.

The **no** form of this command enables the NETCONF server.

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter shutdown)

[Tree] (config>system>security>dot1x>radius-plcy shutdown)

[Tree] (config>sys>sec>cpm>ip-filter shutdown)

[Tree] (config>system>security>keychain>direction>uni>send>entry shutdown)

[Tree] (cfg>sys>sec>cpm>mac-filter>entry shutdown)

[Tree] (config>sys>sec>cpm>ipv6-filter shutdown)

[Tree] (config>system>security>dot1x shutdown)

[Tree] (config>system>security>keychain>direction>bi>entry shutdown)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter shutdown)

[Tree] (config>system>security>keychain>direction>uni>receive>entry shutdown)

[Tree] (config>system>security>keychain shutdown)

Full Context

configure system security management-access-filter ip-filter shutdown

configure system security dot1x radius-plcy shutdown

configure system security cpm-filter ip-filter shutdown

configure system security keychain direction uni send entry shutdown

configure system security cpm-filter mac-filter entry shutdown

configure system security cpm-filter ipv6-filter shutdown

configure system security dot1x shutdown

configure system security keychain direction bi entry shutdown

configure system security management-access-filter ipv6-filter shutdown

configure system security keychain direction uni receive entry shutdown

configure system security keychain shutdown

Description

This command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command puts an entity into the administratively enabled state.

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Default

no shutdown

Platforms

All

- configure system security keychain shutdown
- configure system security management-access-filter ip-filter shutdown
- configure system security dot1x radius-plcy shutdown
- configure system security dot1x shutdown
- configure system security management-access-filter ipv6-filter shutdown
- configure system security keychain direction bi entry shutdown
- configure system security keychain direction uni send entry shutdown
- configure system security keychain direction uni receive entry shutdown

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure system security cpm-filter mac-filter entry shutdown
- configure system security cpm-filter ip-filter shutdown
- configure system security cpm-filter ipv6-filter shutdown

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>pki>ca-profile shutdown)

Full Context

configure system security pki ca-profile shutdown

Description

Use this command to enable or disable the ca-profile. The system verifies the configured cert-file and crl-file. If the verification fails, then the **no shutdown** command fails.

The ca-profile in a **shutdown** state cannot be used in certificate authentication.

Default

shutdown

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>ssh>key-re-exchange>server shutdown)

[Tree] (config>system>security>ssh>key-re-exchange>client shutdown)

Full Context

configure system security ssh key-re-exchange server shutdown

configure system security ssh key-re-exchange client shutdown

Description

This command stops the key exchange. It sets the minutes and bytes to infinity so there will not be any key exchange during the PDU transmission.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>ldap shutdown)

[Tree] (config>system>security>ldap>server shutdown)

Full Context

configure system security ldap shutdown

configure system security ldap server shutdown

Description

In the **ldap** context, this command enables or disabled LDAP protocol operations.

In the **server** context, this command enables or disables the LDAP server. To perform **no shutdown**, an LDAP server address is required. To change the address, the user first needs to shut down the server.

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Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>grpc>gnmi shutdown)

Full Context

configure system grpc gnmi shutdown

Description

This command stops the gNMI service.

The **no** form of this command starts the gNMI service.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>grpc>rib-api shutdown)

Full Context

configure system grpc rib-api shutdown

Description

This command stops the RibApi gRPC service, deletes all programmed RIB entries (stale and non-stale), but does not close the TCP connections.

The **no** form of this command restarts the RibApi gRPC service.

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>grpc shutdown)

Full Context

configure system grpc shutdown

Description

This command stops the gRPC server. This closes all of the associated TCP connections and immediately purges all RIB entries that were programmed using the RibApi Service.

The **shutdown** command is not blocked if there are active gRPC sessions. Shutting down gRPC will terminate all active gRPC sessions.

The **no** form of this command starts the gRPC server.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>grpc>tcp-keepalive shutdown)

Full Context

configure system grpc tcp-keepalive shutdown

Description

This command stops the TCP keepalives from being sent to all gRPC clients.

The **no** form of this command restarts the sending of TCP keepalives to all gRPC clients.

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>snmp>streaming shutdown)

Full Context

configure system snmp streaming shutdown

Description

This command administratively disables proprietary SNMP request/response bundling and TCP-based transport mechanism for optimizing network management of the router nodes.

The **no** form of the command administratively re-enables SNMP request/response bundling and TCP-based transport mechanism.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>snmp shutdown)

Full Context

configure system snmp shutdown

Description

This command administratively disables SNMP agent operations. System management can then only be performed using the command line interface (CLI). Shutting down SNMP does not remove or change configuration parameters other than the administrative state. This command does not prevent the agent from sending SNMP notifications to any configured SNMP trap destinations. SNMP trap destinations are configured under the **config>log>snmp-trap-group** context.

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This command is automatically invoked in the event of a reboot when the processing of the configuration file fails to complete or when an SNMP persistent index file fails while the **bof persist on** command is enabled.

The **no** form of the command administratively enables SNMP which is the default state.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>tls>cert-profile shutdown)

Full Context

configure system security tls cert-profile shutdown

Description

This command disables the certificate profile. When the certificate profile is disabled, it will not be sent to the TLS server.

The **no** form of the command enables the certificate profile and allows it to be sent to the TLS server.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>system>security>tls>server-tls-profile shutdown)

[Tree] (config>system>security>tls>client-tls-profile shutdown)

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Full Context

configure system security tls server-tls-profile shutdown

configure system security tls client-tls-profile shutdown

Description

This command administratively enables or disables the TLS profile. If the TLS profile is shut down, the TLS operational status will be down. Therefore, if the TLS profile is shut down, any application using TLS should not attempt to send any PDUs.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>bmp>station shutdown)

[Tree] (config>router>bgp>segment-routing shutdown)

[Tree] (config>router>bgp>monitor shutdown)

[Tree] (config>service>vprn>bgp>monitor shutdown)

[Tree] (config>router>bgp>group shutdown)

[Tree] (config>router>bgp shutdown)

[Tree] (config>router>bgp>group>neighbor shutdown)

[Tree] (config>bmp>station>connection>tcp-keepalive shutdown)

[Tree] (config>bmp shutdown)

[Tree] (config>service>vprn>bgp>group>neighbor>monitor shutdown)

[Tree] (config>router>bgp>group>monitor shutdown)

[Tree] (config>router>bgp>group>neighbor>monitor shutdown)

[Tree] (config>service>vprn>bgp>group>monitor shutdown)

Full Context

configure bmp station shutdown

configure router bgp segment-routing shutdown

configure router bgp monitor shutdown

configure service vprn bgp monitor shutdown

configure router bgp group shutdown

configure router bgp shutdown

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configure router bgp group neighbor shutdown

configure bmp station connection tcp-keepalive shutdown

configure bmp shutdown

configure service vprn bgp group neighbor monitor shutdown

configure router bgp group monitor shutdown

configure router bgp group neighbor monitor shutdown

configure service vprn bgp group monitor shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command administratively enables an entity.

Unlike other commands and parameters where the default state is not indicated in the configuration file, the **shutdown** and **no shutdown** states are always indicated in system generated configuration files.

Default administrative states for services and service entities are described in Special Cases.

The **no** form of this command places an entity in an administratively enabled state.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>isis>if>level shutdown)

[Tree] (config>router>isis shutdown)

[Tree] (config>router>isis>segment-routing shutdown)

[Tree] (config>router>isis>segm-rtng>mapping-server shutdown)

[Tree] (config>router>isis>interface shutdown)

[Tree] (config>router>isis>igp-shortcut shutdown)

[Tree] (config>router>isis>level>bier shutdown)

Full Context

configure router isis interface level shutdown

configure router isis shutdown

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configure router isis segment-routing shutdown

configure router isis segment-routing mapping-server shutdown

configure router isis interface shutdown

configure router isis igp-shortcut shutdown

configure router isis level bier shutdown

Description

This command administratively disables an entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics.

The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they may be deleted.

The **no** form of this command administratively enables an entity.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>isis>flex-algos shutdown)

Full Context

configure router isis flexible-algorithms shutdown

Description

This command enables IS-IS flexible algorithms. If it is enabled with the **no shutdown** command the router starts supporting the flexible algorithms IGP LSDB extensions. Flexible algorithm IGP LSDB extensions are by default not enabled.

The **no** form of this command enables the router to support flexible algorithms.

Default

shutdown

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>ospf>flex-algos shutdown)

Full Context

configure router ospf flexible-algorithms shutdown

Description

This command enables OSPFv2 flexible algorithms. If **no shutdown** is configured, the router enables support for the flexible algorithms IGP LSDB extensions. Flexible algorithm IGP LSDB extensions are disabled by default.

The **no** form of this command enables the router to support flexible algorithms.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>ospf shutdown)

[Tree] (config>router>ospf>igp-shortcut shutdown)

[Tree] (config>router>ospf3>area>virtual-link shutdown)

[Tree] (config>router>ospf>area>virtual-link shutdown)

[Tree] (config>router>ospf>area>bier shutdown)

[Tree] (config>router>ospf3 shutdown)

[Tree] (config>router>ospf>segm-rtng>mapping-server shutdown)

[Tree] (config>router>ospf>segm-rtng shutdown)

[Tree] (config>router>ospf3>area>interface shutdown)

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Full Context

configure router ospf shutdown

configure router ospf igp-shortcut shutdown

configure router ospf3 area virtual-link shutdown

configure router ospf area virtual-link shutdown

configure router ospf area bier shutdown

configure router ospf3 shutdown

configure router ospf segment-routing mapping-server shutdown

configure router ospf segment-routing shutdown

configure router ospf3 area interface shutdown

Description

The **shutdown** command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. The operational state of the entity is disabled as well as the operational state of any entities contained within.

Many objects must be shut down before they may be deleted. Many entities must be explicitly enabled using the **no shutdown** command.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system generated configuration files.

The **no** form of this command puts an entity into the administratively enabled state.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>ripng>group shutdown)

[Tree] (config>router>rip>group>neighbor shutdown)

[Tree] (config>router>ripng>group>neighbor shutdown)

[Tree] (config>router>rip>group shutdown)

[Tree] (config>router>ripng shutdown)

[Tree] (config>router>rip shutdown)

Full Context

configure router ripng group shutdown

configure router rip group neighbor shutdown

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configure router ripng group neighbor shutdown

configure router rip group shutdown

configure router ripng shutdown

configure router rip shutdown

Description

This command administratively disables an entity. Downing an entity does not change, reset or remove any configuration settings or statistics. Many objects must be shutdown before they may be deleted.

The **shutdown** command administratively downs an entity. Administratively downing an entity changes the operational state of the entity to down and the operational state of any entities contained within the administratively down entity.

Unlike other commands and parameters where the default state will not be indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system generated configuration files.

The **no** form of the command puts an entity into the administratively enabled state.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>segment-routing>maintenance-policy shutdown)

Full Context

configure router segment-routing maintenance-policy shutdown

Description

This command deactivates all segment routing policies and removes the associated entries from the forwarding plane of the router.

The **no** form of this command enables all segment routing policies so that they can be revalidated and reinstalled as necessary.

Platforms

All

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>segment-routing>sr-policies>egress-statistics shutdown)

[Tree] (config>router>segment-routing>sr-policies>ingress-statistics shutdown)

Full Context

configure router segment-routing sr-policies egress-statistics shutdown

configure router segment-routing sr-policies ingress-statistics shutdown

Description

This command administratively disables the collection of egress or ingress statistics for all segment routing policies.

The **no** form of this command administratively enables the collection of egress or ingress statistics for all segment routing policies.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>segment-routing>sr-policies shutdown)

Full Context

configure router segment-routing sr-policies shutdown

Description

This command deactivates all segment routing policies and removes the associated entries from the forwarding plane of the router.

It is necessary to execute this shutdown if you want to make a change to the reserved-label-block reference.

The **no** form of this command enables all segment routing policies so that they can be revalidated and reinstalled as necessary.

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Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>seg-list shutdown)

Full Context

configure router segment-routing sr-policies static-policy segment-list shutdown

Description

This command deactivates a segment-list. If this is done on an active policy with more than one segment list, then traffic forwarded by the policy will be diverted to the remaining segment-lists.

The **no** form of this command enables the segment list so that it can be validated and installed as necessary.

Default

shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (conf>router>segment-routing>sr-policies>policy shutdown)

Full Context

configure router segment-routing sr-policies static-policy shutdown

Description

This command deactivates the associated static policy and causes another policy for the same (color, endpoint) combination to be promoted as the active path, assuming there is another valid policy.

It is necessary to execute this shutdown if you want to make critical configuration changes to the static policy.

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The **no** form of this command enables the static policy so that it can be validated and installed as necessary.

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>lease-split shutdown)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>relay>lease-split shutdown)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>lease-split shutdown)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>lease-split shutdown)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay lease-split shutdown

configure service ies subscriber-interface ipv6 dhcp6 relay lease-split shutdown

configure service vprn subscriber-interface ipv6 dhcp6 relay lease-split shutdown

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay lease-split shutdown

Description

This command administratively disables DHCPv6 lease split on the interface.

The **no** form of this command administratively enables lease split.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port>ethernet>dot1x>per-host-authentication shutdown)

Full Context

configure port ethernet dot1x per-host-authentication shutdown

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Description

This command administratively configures per-host authentication on the port.

The **no** form of this command administratively enables per-host authentication on the port.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port>ethernet>dot1x shutdown)

Full Context

configure port ethernet dot1x shutdown

Description

This command administratively configures the 802.1x functionality (consisting of packet extraction and processing on the CPM) on the port.

The **no** form of this command administratively enables the 802.1x functionality on the port.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>sfm shutdown)

Full Context

configure sfm shutdown

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Description

This command administratively disables the SFM.

The **no** form of this command administratively enables the SFM.

Default

no shutdown

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>segment-routing>srv6>locator shutdown)

[Tree] (config>router>isis>srv6 shutdown)

Full Context

configure router segment-routing segment-routing-v6 locator shutdown

configure router isis segment-routing-v6 shutdown

Description

This command administratively disables the SRv6 context in a ISIS instance or a SRv6 locator.

The **no** form of this command enables the SRv6 context in a ISIS instance or a SRv6 locator.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (conf>router>sr>srv6>ms>block shutdown)

[Tree] (conf>router>segment-routing>srv6>micro-segment-locator shutdown)

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Full Context

configure router segment-routing segment-routing-v6 micro-segment block shutdown

configure router segment-routing segment-routing-v6 micro-segment-locator shutdown

Description

This command administratively disables the block or micro-segment locator.

The **no** form of this command enables the block or micro-segment locator.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>bgp>egress-peer-engineering shutdown)

Full Context

configure router bgp egress-peer-engineering shutdown

Description

This command administratively enables or disables BGP-EPE. If enabled, peer node SIDs and peer adjacency SIDs are advertised in BGP-LS.

The **no** form of this command places the entity into an administratively enabled state and prevents peer node SIDs and peer adjacency SIDs from being advertised in BGP-LS.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

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Context

[Tree] (config>router>bgp>group>egress-engineering shutdown)

Full Context

configure router bgp group egress-engineering shutdown

Description

This command administratively enables or disable egress engineering on a BGP neighbor or group of neighbors.

If this command is enabled along with the **egress-peer-engineering** command in BGP, SIDs in the form of MPLS labels are allocated for the segments toward the neighbor and to all links (adjacencies). These adjacencies are then advertised in BGP LS.

The **no** form of this command places the entity into an administratively enabled state.

Default

no shutdown

Platforms

All

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>subscr-mgmt>sis shutdown)

Full Context

configure subscriber-mgmt subscriber-interface-statistics shutdown

Description

This command disables the collection of aggregate subscriber interface statistics.

The **no** form of this command enables subscriber interface statistics collection.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>subscr-mgmt>gis shutdown)

Full Context

configure subscriber-mgmt group-interface-statistics shutdown

Description

This command disables the collection of aggregate group interface statistics.

The **no** form of this command enables group interface statistics collection.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>test-oam>link-meas>template shutdown)

Full Context

configure test-oam link-measurement measurement-template shutdown

Description

This command administratively enables and disables the measurement template. The **measurement-template** can be referenced even if it is disabled. The template must be administratively enabled to transmit probes on any associated IP interface. The template configuration can be modified even if it is administratively enabled. The template can be administratively disabled even if interfaces are actively registered with the template. When the template configuration is modified, all registered IP interfaces start from the initial state and enter a first reporting scenario. This is true even if the template is administratively disabled and enabled, and no configuration changes are made.

The **no** form of this command disables the measurement template.

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Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp>ipv4 shutdown)

[Tree] (config>router>if>if-attr>delay>dyn>twamp>ipv6 shutdown)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv4 shutdown

configure router interface if-attribute delay dynamic twamp-light ipv6 shutdown

Description

This command enables and disables the TWAMP Light IPv4 or IPv6 protocol. Only one protocol, IPv4 or IPv6, can be enabled at any time. Attempting to enable both protocols is rejected.

The **no** form of this command administratively disables the IPv4 or IPv6 protocol.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>test-oam>link-meas>template>twl>ipv6-dest-disc shutdown)

Full Context

configure test-oam link-measurement measurement-template twamp-light ipv6-destination-discovery shutdown

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Description

This command administratively disables IPv6 destination address discovery.

The **no** form of this command administratively enables IPv6 destination address discovery.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>app-assure>group>ip-id-asst shutdown)

Full Context

configure application-assurance group ip-identification-assist shutdown

Description

This command administratively disables the IP identification assist feature.

The **no** form of this command enables the IP identification assist feature.

Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>test-oam>sath>svc-test shutdown)

[Tree] (config>test-oam>sath>svc-test>svc-stream shutdown)

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Full Context

configure test-oam service-activation-testhead service-test shutdown

configure test-oam service-activation-testhead service-test service-stream shutdown

Description

This command disables the specified service test or stream.

The service test must be in the **shutdown** state before any commands under the **service-test** context can be configured or modified. If the service test is in the **no shutdown** state, command parameters cannot be modified.

The **no** form of this command enables the service test or stream.

Default

no shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

shutdown

Syntax

[**no**] **shutdown**

Context

[Tree] (config>port>ethernet>ptp-timestamping shutdown)

[Tree] (config>lag>ptp-timestamping shutdown)

Full Context

configure port ethernet ptp-timestamping shutdown

configure lag ptp-timestamping shutdown

Description

This command administratively disables the ingress 1588 port-based timestamping filter.

The **no** form of this command administratively enables the filter. The filter can be administratively enabled only if at least one IP address is specified using the **ipv4-address** or **ipv6-address** command in the **ptp-timestamping** context.

Default

shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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43 s Commands – Part III

43.1 sid

sid

Syntax

sid label *value*

Context

[Tree] (config>router>isis>segm-rtng>adjacency-set sid)

[Tree] (config>router>ospf>segm-rtng>adjacency-set sid)

Full Context

configure router isis segment-routing adjacency-set sid

configure router ospf segment-routing adjacency-set sid

Description

This command allows a static SID value to be assigned to an adjacency set in IS-IS or OSPF segment routing.

The **label** option specifies the value is assigned to an MPLS label.

The **no** form of this command removes the adjacency SID.

Parameters

label value

Specifies the value of adjacency SID label.

Values 18432 to 524287 | 1048575 (FP4 only)

Platforms

All

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43.2 sid-action

sid-action

Syntax

sid-action *action*

no sid-action

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment>sr-mpls sid-action)

Full Context

configure router p2mp-sr-tree replication-segment segment-routing-mpls sid-action

Description

This command configures the SID action to take for the replication segment of the P2MP SR tree.

The **no** form of this command removes the SID action.

Default

no sid-action

Parameters

action

Specifies the name of the SID action.

Values **push** — Specifies that an outgoing SID list is pushed and forwarded on to the corresponding programmed outgoing interfaces.

pop — Specifies that on the leaf node the incoming SID is popped on the underlay packet forwarded to the host.

swap — Specifies, if an incoming SID is configured, that the SID is swapped with an outgoing SID or SID list and forwarded to the corresponding OIF.

Platforms

All

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43.3 sid-allocation

sid-allocation

Syntax

sid-allocation {**sequential** | **random**}

no sid-allocation

Context

[Tree] (config>subscr-mgmt>ppp-policy sid-allocation)

Full Context

configure subscriber-mgmt ppp-policy sid-allocation

Description

This command configures the method for allocating the PPPoE session ID.

For both **sequential** and **random** options, the session ID range is 1 to 8191.

The **no** form of this command reverts to the default.

Default

sid-allocation sequential

Parameters

sequential

Specifies for PPPoE sessions with the same client MAC address and active on the same SAP, to allocate the session ID in sequential order starting with

ID = 1.

random

Specifies for PPPoE sessions with the same client MAC address and active on the same SAP, to allocate a unique session ID in random order.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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43.4 sid-length

sid-length

Syntax

sid-length *sid-length*

Context

[Tree] (conf>router>sr>srv6>micro-segment sid-length)

Full Context

configure router segment-routing segment-routing-v6 micro-segment sid-length

Description

This command configures the length of the micro-segments.

Default

sid-length 16

Parameters

sid-length

Specifies the length of micro-segments, in bits.

Values 16

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

43.5 sid-map

sid-map

Syntax

sid-map node-sid {**index** *value* [**range** *value*]} **prefix** {{*ip-address*/*mask*} | {*ip-address*} {*netmask*}} [**set-flags** {**s**}] [**level** { **1** | **2** | **1/2**}] [**clear-n-flag**]

no sid-map node-sid index *value*

Context

[Tree] (config>router>isis>segm-rtng>mapping-server sid-map)

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Full Context

configure router isis segment-routing mapping-server sid-map

Description

This command configures the Segment Routing mapping server database in IS-IS.

The user enters the node SID index for one or a range of prefixes by specifying the first index value and optionally a range value can be entered. The default value for the range option is 1. Only the first prefix in a consecutive range of prefixes must be entered. The user can enter the first prefix with a mask lower than 32 and the SID or label binding TLV is advertised, but the routers will not resolve these prefix SIDs and will generate a trap.

By setting the S-flag, the user can indicate to the IS-IS routers in the rest of the network that the flooding scope of the SID or label binding TLV is the entire domain. In that case, a router receiving the TLV advertisement should leak it between ISIS levels. If leaked from level 2 to level 1, the D-flag must be set and once set the TLV cannot be leaked back into level 2. Otherwise, the S-flag is clear by default and the TLV must not be leaked by routers that receive the mapping server advertisement.

Note that the SR OS does not leak this TLV between IS-IS instances and does not support the multi-topology SID/Label Binding TLV format.

In addition, the user can specify the mapping server own flooding scope for the generated SID or label binding TLV using the **level** option. This option allows the user to narrow the flooding scope configured under the router IS-IS level-capability for a one or more SID or label binding TLVs if required. The default flooding scope of the mapping server is Layer 1 or Layer 2, which can be narrowed by the value configured under the router IS-IS level-capability.

The A-flag and M-flag are not supported by the mapping server feature. The mapping client ignores the flags.

Each time a prefix or a range of prefixes is configured in the SR mapping database in any routing instance, the router issues for this prefix or range of prefixes, a prefix-SID sub-TLV within a ISIS SID or label binding TLV in that instance. The flooding scope of the TLV from the mapping server is determined as explained above. No further check of the reachability of that prefix in the mapping server route table is performed. Additionally, no check is performed if the SID index is a duplicate of an existing prefix in the local IGP instance database or if the SID index is out of range with the local SRGB.

The **no** form of this command deletes the range of node SIDs beginning with the specified index value.

Parameters

index

Specifies the node SID index for the IS-IS prefix that is advertised in a SID/Label Binding TLV.

Values 0 to 4294967295

value

Specifies the node SID range for the IS-IS prefix that is advertised in a SID/Label Binding TLV.

Values 0 to 65535

ip-address/mask

Specifies the IP address and mask.

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Values *ip-address:* **a.b.c.d.** (host bits must be 0)

mask: **0 to 32**

ip-address netmask

Specifies the IP address netmask.

Values **a.b.c.d.** (network bits all 1 and host bits all 0)

set-flags

Specifies the flooding scope of the SID/Label binding TLV.

Default **S-flag clear**

The TLV is not leaked by routers receiving the mapping server advertisement

level {1 | 2| 1/2}

Configures the mapping server own flooding scope for the generated SID/Label binding TLV.

Default 1/2

clear-n-flag

Specifies whether the node-sid flag (N-flag) should be cleared in a SID Label Binding TLV.

Platforms

All

sid-map

Syntax

sid-map node-sid index *index-value* [**range** *range-value*] **prefix** *ip-addressImask* [*netmask*]

sid-map node-sid index *index-value* [**range** *range-value*] **prefix** *ip-addressImask* [*netmask*] **scope** {**area** *area-id* | **as**}

no sid-map node-sid index *index-value*

Context

[Tree] (config>router>ospf>segm-rtng>mapping-server sid-map)

Full Context

configure router ospf segment-routing mapping-server sid-map

Description

This command configures the Segment Routing mapping server database in OSPF.

The user enters the node SID index for one or a range of prefixes by specifying the first index value and optionally a range value. The default value for the range option is 1. Only the first prefix in a consecutive range of prefixes must be entered. If the user enters the first prefix with a mask lower than 32, the OSPF

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Extended Prefix Range TLV is advertised but a router which receives it will not resolve SID and instead originates a trap.

The user specifies the mapping server own flooding scope for the generated OSPF Extended Prefix Range TLV using the scope option. There is no default value. If the scope is a specific area, then the TLV is flooded only in that area.

An ABR that propagates an intra-area OSPF Extended Prefix Range TLV flooded by the mapping server in that area into other areas, sets the inter-area flag (IA-flag). The ABR also propagates the TLV if received with the inter-area flag set from other ABR nodes but only from the backbone to leaf areas and not vice-versa. However, if the exact same TLV is advertised as an intra-area TLV in a leaf area, the ABR will not flood the inter-area TLV into that leaf area.

Note: SR OS does not leak this TLV between OSPF instances.

Each time a prefix or a range of prefixes is configured in the SR mapping database in any routing instance, the router issues for this prefix, or range of prefixes, a prefix-SID sub-TLV within a OSPF Extended Prefix Range TLV in that instance. The flooding scope of the TLV from the mapping server is determined as previously explained. No further check of the reachability of that prefix in the mapping server route table is performed and no check if the SID index is duplicate with some existing prefix in the local IGP instance database or if the SID index is out of range with the local SRGB.

The **no** form of this command deletes the range of node SIDs beginning with the specified index value.

Default

no prefix-sid-range

Parameters

index index-value

Specifies the index.

Values 0 to 4294967295

range range-value

Specifies the range.

Values 1 to 65535

prefix ip-address/mask

Specifies the IP address in dotted decimal notation.

Values ip-address/mask:

- ip-address a.b.c.d (host bits must be 0)

mask: 0 to 132

netmask

Specifies the netmask.

Values netmask — a.b.c.d (network bits all 1 and host bits all 0)

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area area-id

Configures the mapping server own flooding scope for the generated OSPF Extended Prefix Range TLV.

Values ip-address | 0 to 4294967295

Platforms

All

43.6 sid-protection

sid-protection

Syntax

[**no**] **sid-protection**

Context

[Tree] (config>router>isis>interface sid-protection)

Full Context

configure router isis interface sid-protection

Description

This command enables or disables adjacency SID protection by LFA and remote LFA.

While LFA and remote LFA Fast-Reroute (FRR) protection is enabled for all node SIDs and local adjacency SIDs when the user enables the **loopfree-alternates** option in IS-IS or OSPF at the LER and LSR, there are applications where the user wants traffic to never divert from the strict hop computed by CSPF for a SR-TE LSP. In that case, the user can disable protection for all adjacency SIDs formed over a given network IP interface using this command.

The protection state of an adjacency SID is advertised in the B-FLAG of the IS-IS or OSPF Adjacency SID sub-TLV.

Default

sid-protection

Platforms

All

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sid-protection

Syntax

[**no**] **sid-protection**

Context

[Tree] (config>router>ospf>area>interface sid-protection)

Full Context

configure router ospf area interface sid-protection

Description

This command enables or disables adjacency SID protection by LFA and remote LFA.

LFA and remote LFA Fast-Reroute (FRR) protection is enabled for all node SIDs and local adjacency SIDs when the user enables the **loopfree-alternate** option in IS-IS or OSPF at the LER and LSR. However, may be applications where the user never wants traffic to divert from the strict hop computed by CSPF for an SR-TE LSP. In this case, the user can disable protection for all adjacency SIDs formed over a particular network IP interface using this command.

The protection state of an adjacency SID is advertised in the B-FLAG of the IS-IS or OSPF Adjacency SID sub-TLV.

Default

sid-protection

Platforms

All

43.7 signaling

signaling

Syntax

signaling *signaling*

Context

[Tree] (config>service>epipe>spoke-sdp-fec signaling)

Full Context

configure service epipe spoke-sdp-fec signaling

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Description

This command enables a user to configure this router as the active or passive T-PE for signaling this MS-PW, or to automatically select whether this T-PE is active or passive based on the prefix. In an active role, this endpoint initiates MS-PW signaling without waiting for a T-LDP label mapping message to arrive from the far end T-PE. In a passive role, it will wait for the initial label mapping message from the far end before sending a label mapping for this end of the PW. In auto mode, if the SAII has the greater prefix value, then the router will initiate MS-PW signaling without waiting for a label mapping message from the far end. However, if the TAII has the greater value prefix, then the router will assume that the far end T-PE will initiate MS-PW signaling and will wait for that label mapping message before responding with a T-LDP label mapping message for the MS-PW in the reverse direction.

The **no** form of this command means that the router T-PE automatically selects the which router will initiate MS-PW signaling based on the prefix values configured in the SAII and TAII of the spoke SDP, as previously described.

Default

signaling auto

Parameters

signaling

Configures this router as the active T-PE for signaling this MS-PW.

Values auto, master

Platforms

All

signaling

Syntax

signaling {**off** | **tldp** | **bgp**}

Context

[Tree] (config>service>sdp signaling)

Full Context

configure service sdp signaling

Description

This command specifies the signaling protocol used to obtain the ingress and egress pseudowire labels in frames transmitted and received on the SDP. When signaling is *off* then labels are manually configured when the SDP is bound to a service. The signaling value can only be changed while the administrative status of the SDP is down. Additionally, the signaling can only be changed on an SDP if that SDP is not in use by BGP-AD or BGP-VPLS. BGP signaling can only be enabled if that SDP does not already have pseudowires signaled over it.

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Note:
If the **tldp** option is selected as the mechanism for exchanging service labels over an MPLS or GRE SDP and the T-LDP session is automatically established, an explicit T-LDP session that is subsequently configured takes precedence over the automatic T-LDP session. However, if the explicit, manually-configured session is then removed, the system does not revert to the automatic session and the automatic session is also deleted. To address this, recreate the T-LDP session by disabling and re-enabling the SDP using the **shutdown** and **no shutdown** commands.

The **no** form of this command is not applicable. To modify the signaling configuration, the SDP must be administratively shut down and then the signaling parameter can be modified and re-enabled.

Default

signaling tldp

Parameters

off

Ingress and egress signal auto-labeling is not enabled. If this parameter is selected, then each service using the specified SDP must manually configure VPN labels. This configuration is independent of the SDP's transport type, GRE, MPLS (RSVP or LDP).

tldp

Ingress and egress pseudowire signaling using T-LDP is enabled. Default value used when BGP AD automatically instantiates the SDP.

bgp

Ingress and egress pseudowire signaling using BGP is enabled. Default value used when BGP VPLS automatically instantiates the SDP.

Platforms

All

43.8 signature-list

signature-list

Syntax

signature-list *name*

no signature-list

Context

[Tree] (config>system>security>tls>client-tls-profile signature-list)

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Full Context

configure system security tls client-tls-profile signature-list

Description

This command assigns an existing TLS 1.3 signature list to the TLS client profile.

The **no** form of this command removes the signature list from the client profile.

Default

no signature-list

Parameters

name

Specifies the name of the signature list, up to 32 characters.

Platforms

All

signature-list

Syntax

signature-list *name*

no signature-list

Context

[Tree] (config>system>security>tls>server-tls-profile signature-list)

Full Context

configure system security tls server-tls-profile signature-list

Description

This command assigns an existing TLS 1.3 signature list to the TLS server profile.

The **no** form of this command removes the signature list from the server profile.

Default

no signature-list

Parameters

name

Specifies the name of the signature list, up to 32 characters.

Platforms

All

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43.9 significant-change

significant-change

Syntax

significant-change *delta*

no significant-change

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr significant-change)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record significant-change

Description

This command configures the significant change required to generate the record.

Parameters

delta

Specifies the delta change (significant change) that is required for the custom record to be generated.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

significant-change

Syntax

significant-change *delta*

no significant-change

Context

[Tree] (config>app-assure>rad-acct-plcy significant-change)

Full Context

configure application-assurance radius-accounting-policy significant-change

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Description

This command configures the significant change required to generate the record.

The **no** form of this command reverts to the default.

Default

no significant-change

Parameters

delta

Specifies the delta change (significant change) that is required for the charging-group counts to be included in the RADIUS Accounting VSAs.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

significant-change

Syntax

significant-change *delta*

no significant-change

Context

[Tree] (config>log>acct-policy>cr significant-change)

Full Context

configure log accounting-policy custom-record significant-change

Description

This command configures the significant change required to generate the record. The custom record is only generated when the change in the reference counters equals or exceeds the configured (non-zero) significant change value. Only the reference counters for which there are corresponding counters configured under the related queues and policers are used for the significant change comparison. For reference queues and policers, the change applies to the sum of all configured reference queue and policer counters. When no reference counters are configured or **significant-change** is zero, the significant change reporting is not active.

Default

significant-change 0

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Parameters

delta

Specifies the delta change (significant change) that is required for the custom record to be written to the XML file.

Values 0 to 4294967295 (For custom-record-aa-sub only values 0 or 1 are supported.)

Platforms

All

43.10 simpleenroll

simpleenroll

Syntax

simpleenroll *path*

no simpleenroll

Context

[Tree] (config>system>security>pki>est-profile>request-path simpleenroll)

Full Context

configure system security pki est-profile request-path simpleenroll

Description

This command configures the server path for the enrollment of clients.

The **no** form of this command reverts to the default value.

Default

no simpleenroll

Parameters

path

Specifies the path for the enrollment of clients, up to 255 characters. The path must start with a forward slash (/).

Platforms

All

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43.11 simplereenroll

simplereenroll

Syntax

simplereenroll *path*

no simplereenroll

Context

[Tree] (config>system>security>pki>est-profile>request-path simplereenroll)

Full Context

configure system security pki est-profile request-path simplereenroll

Description

This command configures the server path for the reenrollment of clients.

The **no** form of this command reverts to the default value.

Default

no simplereenroll

Parameters

path

Specifies the path for the reenrollment of clients, up to 255 characters. The path must start with a forward slash (/).

Platforms

All

43.12 single-device

single-device

Syntax

single-device

Context

[Tree] (config>app-assure>group>tether-detect single-device)

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Full Context

configure application-assurance group tethering-detection single-device

Description

Commands in this context configure the single-device fields and expected TTL values for flow-level tethering detection.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.13 single-fiber

single-fiber

Syntax

[**no**] **single-fiber**

Context

[Tree] (config>port>ethernet single-fiber)

Full Context

configure port ethernet single-fiber

Description

This command enables packet gathering and redirection of IP packets from a single fiber (RX) port of the Ethernet and redistributes packets to other interfaces through either static routes or policy-based forwarding.

This parameter can be applied in conjunction with the strip-label command. If they are applied together, the port must have the single-fiber option configured before it can be associated with an interface that is configured with the strip-label option.

Once a port is configured with single-fiber, traffic will no longer be transmitted out of that port. This command can be used in conjunction with strip-label.

Default

no single-fiber

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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43.14 single-mac

single-mac

Syntax

[**no**] **single-mac**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host-mgmt>mac-learning-options single-mac)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host-mgmt>mac-learning-options single-mac)

Full Context

configure service ies subscriber-interface group-interface sap static-host-mgmt mac-learning-options single-mac

configure service vprn subscriber-interface group-interface sap static-host-mgmt mac-learning-options single-mac

Description

This command controls how the SAP learns the IPv6 static host MAC address. Enabling this command indicates that this particular SAP only has one subscriber and only has one MAC address for all hosts. With this parameter enabled, the subscriber's NS and RS source MAC address is used to automatically populate the subscriber MAC address. To allow this auto-populate behavior, the subscriber's NS and RS source IP must be of type link local address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.15 single-sfm-overload

single-sfm-overload

Syntax

single-sfm-overload [**holdoff-time** *holdoff-time*]

no single-sfm-overload

Context

[Tree] (config>service>vprn single-sfm-overload)

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Full Context

configure service vprn single-sfm-overload

Description

This command configures OSPF, OSPFv3 and IS-IS to set overload when the router has fewer than the full set of SFMs functioning, which reduces forwarding capacity. Setting overload enables a router to still participate in exchanging routing information, but routes all traffic away from it.

The conditions to set overload are as follows:

- 7950 XRS-20, 7750 SR-12/SR-7, and 7450 ESS-12/ESS-7 platforms: if an SF/CPMs fails, the protocol will set the overload
- 7950-40 XRS and 7750 SR-12e platforms: if two SFMs fail (a connected pair on the XRS-40) the protocol will set the overload

The **no** form of this command configures the router to not set overload if an SFM fails.

Default

no single-sfm-overload

Parameters

holdoff-time

Specifies the delay between detecting SFM failures and setting overload.

Values 1 to 600 seconds

Default 0 seconds

Platforms

7450 ESS, 7750 SR-1, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS, VSR

single-sfm-overload

Syntax

single-sfm-overload [**holdoff-time** *holdoff-time*]

no single-sfm-overload

Context

[Tree] (config>router single-sfm-overload)

Full Context

configure router single-sfm-overload

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Description

This command configures OSPF, OSPFv3 and IS-IS to set overload when the router has fewer than the full set of SFMs functioning, which reduces forwarding capacity. Setting overload enables a router to still participate in exchanging routing information, but routes all traffic away from it.

The conditions to set overload are as follows:

- 7750 SR-12/SR-7 and 7450 ESS-12/ESS-7 platforms: protocol sets overload if one of the SF/CPMs fails
- 7750 SR-12e and 7950 XRS platforms: protocol sets overload if two SFMs fail (two SFMs belonging to different SFM pairs on the XRS-40)

The **no** form of this command configures the router to not set overload if an SFM fails.

Default

no single-sfm-overload

Parameters

holdoff-time

Specifies the delay between detecting SFM failures and setting overload.

Values 1 to 600 seconds

Default 0 seconds

Platforms

7450 ESS, 7750 SR-1, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS, VSR

43.16 single-sub-parameters

single-sub-parameters

Syntax

single-sub-parameters

Context

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt single-sub-parameters)

Full Context

configure subscriber-mgmt msap-policy sub-sla-mgmt single-sub-parameters

Description

Commands in this context configure single subscriber MSAP parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

single-sub-parameters

Syntax

single-sub-parameters

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt single-sub-parameters)

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt single-sub-parameters)

[Tree] (config>service>vpls>sap>sub-sla-mgmt single-sub-parameters)

[Tree] (config>service>ies>if>sap>sub-sla-mgmt single-sub-parameters)

Full Context

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt single-sub-parameters

configure service ies subscriber-interface group-interface sap sub-sla-mgmt single-sub-parameters

configure service vpls sap sub-sla-mgmt single-sub-parameters

configure service ies interface sap sub-sla-mgmt single-sub-parameters

Description

Commands in this context configure single subscriber SAP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.17 sip

sip

Syntax

[**no**] **sip**

Context

[Tree] (config>service>nat>nat-policy>alg sip)

[Tree] (config>service>nat>up-nat-policy>alg sip)

[Tree] (config>service>nat>firewall-policy>alg sip)

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Full Context

configure service nat nat-policy alg sip

configure service nat up-nat-policy alg sip

configure service nat firewall-policy alg sip

Description

This command enables SIP ALG.

The **no** form of the command disables SIP ALG.

Default

no sip

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy alg sip
- configure service nat up-nat-policy alg sip

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy alg sip

sip

Syntax

sip [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no sip

Context

[Tree] (config>service>nat>up-nat-policy>timeouts sip)

[Tree] (config>service>nat>nat-policy>timeouts sip)

[Tree] (config>service>nat>firewall-policy>timeouts sip)

Full Context

configure service nat up-nat-policy timeouts sip

configure service nat nat-policy timeouts sip

configure service nat firewall-policy timeouts sip

Description

This command configures the SIP inactive media timeout.

Default

sip min 2

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Parameters

hours

Specifies the SIP inactive media timeout, in hours.

Values 1 to 2

minutes

Specifies the SIP inactive media timeout, in minutes.

Values 1 to 59

seconds

Specifies the SIP inactive media timeout, in seconds.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy timeouts sip
- configure service nat nat-policy timeouts sip

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts sip

43.18 site

site

Syntax

site *name* [**create**]

no site *name*

Context

[Tree] (config>service>vpls site)

Full Context

configure service vpls site

Description

This command configures a VPLS site.

The no form of this command removes the name from the configuration.

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Parameters

name

Specifies a site name up to 32 characters in length.

create

This keyword is mandatory while creating a VPLS site.

Platforms

All

site

Syntax

site *name* [**create**]

no site name

Context

[Tree] (config>service>epipe site)

Full Context

configure service epipe site

Description

This command configures a Epipe site.

The **no** form of this command removes the name from the configuration.

Parameters

name

Specifies a site name up to 32 characters in length.

create

This keyword is mandatory while creating a Epipe service.

Platforms

All

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43.19 site-activation-timer

site-activation-timer

Syntax

site-activation-timer *seconds*

no site-activation-timer

Context

[Tree] (config>redundancy>bgp-multi-homing site-activation-timer)

Full Context

configure redundancy bgp-multi-homing site-activation-timer

Description

This command defines the amount of time the service manager will keep the local sites in standby status, waiting for BGP updates from remote PEs before running the DF election algorithm to decide whether the site should be unblocked. The timer is started when one of the following event occurs only if the site is operationally up:

- Manual site activation using "no shutdown” at site-id level or at member object(s) level (for example, SAP(s) or PW(s)
- Site activation after a failure

The **no** form of this command sets the value to 2.

Default

no site-activation-timer

Parameters

seconds

Specifies the timer, in seconds.

Values 1 to 100

Platforms

All

site-activation-timer

Syntax

site-activation-timer *seconds*

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no site-activation-timer

Context

[Tree] (config>service>vpls>site site-activation-timer)

Full Context

configure service vpls site site-activation-timer

Description

This command configures the time-period the system keeps the local sites in standby status, waiting for BGP updates from remote PEs before running the DF (designated-forwarder) election algorithm to decide whether the site should be unblocked. This timer if terminated if an update is received for which the remote PE has transitioned from DF to non-DF.

The no form of this command removes the value from the configuration.

Default

site-activation-timer 2

Parameters

seconds

Specifies the site activation timer in seconds.

Values 0 to 100

Platforms

All

site-activation-timer

Syntax

site-activation-timer *seconds*

no site-activation-timer

Context

[Tree] (config>service>epipe>site site-activation-timer)

Full Context

configure service epipe site site-activation-timer

Description

This command configures the time-period the system keeps the local sites in standby status, waiting for BGP updates from remote PEs before running the DF (designated-forwarder) election algorithm to decide whether the site should be unblocked. This timer is terminated if an update is received for which the remote PE has transitioned from DF to non-DF.

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The **no** form of this command removes the value from the configuration.

Default

site-activation-timer 2

Parameters

seconds

Specifies the site activation timer in seconds.

Values 0 to 100

Platforms

All

43.20 site-id

site-id

Syntax

site-id *value*

no site-id

Context

[Tree] (config>service>vpls>site site-id)

Full Context

configure service vpls site site-id

Description

This command configures the identifier for the site in this service.

Parameters

value

Specifies the site identifier.

Values 1 to 65535

Platforms

All

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site-id

Syntax

site-id *value*

no site-id

Context

[Tree] (config>service>epipe>site site-id)

Full Context

configure service epipe site site-id

Description

This command configures the identifier for the site in this service. It must match between services but it is local to the service.

Parameters

value

Specifies the site identifier.

Values 1 to 65535

Platforms

All

43.21 site-min-down-timer

site-min-down-timer

Syntax

site-min-down-timer *seconds*

no site-min-down-timer

Context

[Tree] (config>redundancy>bgp-multi-homing site-min-down-timer)

Full Context

configure redundancy bgp-multi-homing site-min-down-timer

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Description

This command configures the BGP multi-homing site minimum down time. When this value is set and the site goes operationally down, it remains operationally down for at least the length of time configured by this timer, regardless of whether other state changes might cause the site to go operationally up. This timer is restarted every time the site transitions from operationally up to down.

This timer is optimized in the following circumstances:

- If the site goes down on the DF but there are no BGP multi-homing peers with the same site in an up state, this timer is not used.
- If the site goes down on the DF but there are no active BGP multi-homing peers, this timer is not used.
- If this timer is active and a BGP multihoming update is received from the DF indicating its site is down, this timer is immediately terminated and the BGP multihoming algorithm is triggered to determine whether this PE should become the DF.

The **no** form of this command removes the value from the configuration.

Default

no site-min-down-timer

Parameters

seconds

Specifies the time, in seconds, that a BGP multi-homing site remains operationally down after a transition from up to down.

Values 1 to 100

Platforms

All

site-min-down-timer

Syntax

site-min-down-timer *min-down-time*

no site-min-down-timer

Context

[Tree] (config>service>vpls>site site-min-down-timer)

Full Context

configure service vpls site site-min-down-timer

Description

This command configures the BGP multi-homing site minimum down time. When set to a non-zero value, if the site goes operationally down it will remain operationally down for at least the length of time configured for the **site-min-down-timer**, regardless of whether other state changes would have caused it to go

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operationally up. This timer is restarted every time that the site transitions from up to down. Setting this parameter to zero allows the minimum down timer to be disabled for this service.

The above operation is optimized in the following circumstances:

- If the site goes down on the designated forwarder but there are no BGP multi-homing peers with the same site in an operationally up state, then the **site-min-down-timer** is not started and is not used.
- If the site goes down on the designated forwarder but there are no active BGP multi-homing peers, then the **site-min-down-timer** is not started and is not used.
- If the s**ite-min-down-timer** is active and a BGP multi-homing update is received from the designated forwarder indicating its site has gone down, the **site-min-down-timer** is immediately terminated and this PE becomes the designated forwarder if the BGP multi-homing algorithm determines it should be the designated forwarder.

The **no** form of this command reverts to the default value.

Default

Taken from the value of **site-min-down-timer** configured for Multi-Chassis BGP multi-homing under the **config>redundancy>bgp-multi-homing** context.

Parameters

min-down-time

Specifies the time, in seconds, that a BGP multi-homing site remains operationally down after a transition from up to down.

Values 0 to 100 seconds

Platforms

All

site-min-down-timer

Syntax

site-min-down-timer *min-down-time*

no site-min-down-timer

Context

[Tree] (config>service>epipe>site site-min-down-timer)

Full Context

configure service epipe site site-min-down-timer

Description

This command configures the BGP multi-homing site minimum down time. When set to a non-zero value, if the site goes operationally down it will remain operationally down for at least the length of time configured for the **site-min-down-timer**, regardless of whether other state changes would have caused it to go

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operationally up. This timer is restarted every time that the site transitions from up to down. Setting this parameter to zero allows the minimum down timer to be disabled for this service.

The preceding operation is optimized in the following circumstances:

- If the site goes down on the designated forwarder but there are no BGP multi-homing peers with the same site in an operationally up state, then the **site-min-down-timer** is not started and is not used.
- If the site goes down on the designated forwarder but there are no active BGP multi-homing peers, then the s**ite-min-down-timer** is not started and is not used.
- If the **site-min-down-timer** is active and a BGP multi-homing update is received from the designated forwarder indicating its site has gone down, the **site-min-down-timer** is immediately terminated and this PE becomes the designated forwarder if the BGP multi-homing algorithm determines it should be the designated forwarder.

The **no** form of this command reverts to default value.

Default

Taken from the value of **site-min-down-timer** configured for Multi-Chassis BGP multi-homing under the **config>redundancy>bgp-multi-homing** context.

Parameters

min-down-time

Specifies the time, in seconds, that a BGP multi-homing site remains operationally down after a transition from up to down.

Values 0 to 100

Platforms

All

43.22 site-preference

site-preference

Syntax

site-preference *preference-value*

no site-preference

Context

[Tree] (config>service>epipe>site site-preference)

Full Context

configure service epipe site site-preference

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Description

This command defines the value to advertise in the VPLS preference field of the BGP VPWS and BGP Multi-homing NLRI extended community. This value can be changed without having to shutdown the site itself. The site-preference is only applicable to VPWS services.

When not configured, the default is zero, indicating that the VPLS preference is not in use.

Default

no site-preference, value=0

Parameters

preference-value

Specifies the preference value to advertise in the NLRI L2 extended community for this site.

Values 1 to 65535

primary

Sets the site-preference to 65535.

backup

Sets the site-preference to 1.

Platforms

All

43.23 size

size

Syntax

size *queue-set-size* **allocation-weight** *weight*

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers>queue-sets size)

Full Context

configure qos fp-resource-policy aggregate-shapers queue-sets size

Description

This command configures the size and allocation weight for the specified queue set. The available queue sets are distributed based on the allocation weight between different queue sets.

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Parameters

queue-set-size

Specifies the size of the queue sets.

Values 2 to 8

weight

Specifies the allocation weight of the queue set.

Values 0 to 100

Platforms

7750 SR-1, 7750 SR-s

size

Syntax

size *cache-size*

Context

[Tree] (config>app-assure>group>dns-ip-cache>ip-cache size)

Full Context

configure application-assurance group dns-ip-cache ip-cache size

Description

This command configures the maximum number of entries in the cache.

Default

size 10

Parameters

cache-size

Specifies the maximum number of IP addresses that can be stored in the cache.

Values 10 to 32000

Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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size

Syntax

size *url-list-size*

Context

[Tree] (config>app-assure>group>url-list size)

Full Context

configure application-assurance group url-list size

Description

This command specifies the size of the URL list that can be filtered. The size can be set to either standard or extended. Configuring the specified url-list as extended provides support for filtering on a larger number of URLs.

Default

size standard

Parameters

url-list-size

Specifies the size of the AA url-list for URL filtering.

Values standard, extended

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

size

Syntax

size *octets*

no size

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping size)

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy size)

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy size)

Full Context

configure saa test type-multi-line lsp-ping size

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configure saa test type-multi-line lsp-trace sr-policy size

configure saa test type-multi-line lsp-ping sr-policy size

Description

This command configures the MPLS echo request packet size.

The **no** form of this command reverts to the default value.

Default

size 1

Parameters

octets

Specifies the size in octets. The request payload is padded with zeros to the specified size.

Values 1 to 9786

Default 1

Platforms

All

size

Syntax

size *octets*

no size

Context

[Tree] (config>test-oam>icmp>ping-template size)

Full Context

configure test-oam icmp ping-template size

Description

This command configures the size of the Data field (in other words, padding) of the outgoing ICMP echo packet. Minimum packet sizes should be used to test connectivity. Larger packet size should only be used if there is a requirement to spot-check large packet size issues on a very limited number of tests and should not be used for normal connectivity testing. Packet sizes should never be configured to require fragmentation anywhere along the path. Exceeding these recommendations will negatively affect the scale and performance of icmp ping check testing.

The **no** form of this command reverts to the default value.

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Default

size 56

Parameters

octets

Specifies the size of the ICMP echo ping padding field, in octets.

Values 12 to 9786

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

size

Syntax

size *number*

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>history size)

Full Context

configure system management-interface cli md-cli environment history size

Description

This command configures the maximum size of the command history.

Parameters

number

Specifies the maximum size of the command history. A value of 0 disables the command history.

Values 0 to 1000

Platforms

All

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43.24 size-a

size-a

Syntax

size-a *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-a)

Full Context

configure test-oam service-activation-testhead frame-size-template size-a

Description

This command configures the Ethernet frame size for the letter "a”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 64

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.25 size-b

size-b

Syntax

size-b *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-b)

Full Context

configure test-oam service-activation-testhead frame-size-template size-b

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Description

This command configures the Ethernet frame size for the letter "b”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 128

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.26 size-c

size-c

Syntax

size-c *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-c)

Full Context

configure test-oam service-activation-testhead frame-size-template size-c

Description

This command configures the Ethernet frame size for the letter "c”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 256

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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43.27 size-d

size-d

Syntax

size-d *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-d)

Full Context

configure test-oam service-activation-testhead frame-size-template size-d

Description

This command configures the Ethernet frame size for the letter "d”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 512

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.28 size-e

size-e

Syntax

size-e *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-e)

Full Context

configure test-oam service-activation-testhead frame-size-template size-e

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Description

This command configures the Ethernet frame size the letter "e”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 1024

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.29 size-f

size-f

Syntax

size-f *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-f)

Full Context

configure test-oam service-activation-testhead frame-size-template size-f

Description

This command configures the Ethernet frame size for the letter "f”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 1280

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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43.30 size-g

size-g

Syntax

size-g *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-g)

Full Context

configure test-oam service-activation-testhead frame-size-template size-g

Description

This command configures the Ethernet frame size for the letter "g”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 1518

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.31 size-h

size-h

Syntax

size-h *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-h)

Full Context

configure test-oam service-activation-testhead frame-size-template size-h

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Description

This command configures the Ethernet frame size for the letter "h”.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 9212

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.32 size-limit

size-limit

Syntax

size-limit *limit-value*

no size-limit

Context

[Tree] (config>call-trace>location size-limit)

Full Context

configure call-trace location size-limit

Description

This command limits the total size of call-trace files on the specified compact flash card.

The **no** form of this command removes the size restriction.

Default

size-limit 1000

Parameters

limit-value

Specifies the total size of call-trace files on the specified compact flash card, in Mbytes.

Values 1 to 65536

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

size-limit

Syntax

size-limit *limit-value*

Context

[Tree] (config>call-trace>trace-profile size-limit)

Full Context

configure call-trace trace-profile size-limit

Description

This command specifies a maximum of how big a trace may grow before it is stopped.

Default

size-limit 10

Parameters

limit-value

Specifies the maximum data volume generated by a single call trace job to the output in megabytes. After reaching the limit the call trace job for a given host is automatically terminated.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.33 size-u

size-u

Syntax

size-u *bytes*

Context

[Tree] (config>test-oam>sath>frame-size-tmpl size-u)

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Full Context

configure test-oam service-activation-testhead frame-size-template size-u

Description

This command configures the Ethernet frame size for the letter "u", which is user-defined.

Parameters

bytes

Specifies the Ethernet frame value, in bytes.

Values 64 to 9212

Default 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.34 skip-gtp-ipv4-alloc

skip-gtp-ipv4-alloc

Syntax

[**no**] **skip-gtp-ipv4-alloc**

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn skip-gtp-ipv4-alloc)

Full Context

configure subscriber-mgmt gtp apn-policy apn skip-gtp-ipv4-alloc

Description

This command enables the ability to skip IPv4 address assignment using a GTP session setup response when PCO "allocation via NAS" is not present in a GTP session creation request. Without this configuration, IPv4 address allocation is done using GTP session setup response, even in absence of the PCO "allocation via NAS" in a GTP session setup request.

The **no** form of this command reverts to IPv4 address allocation using GTP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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43.35 skip-ttl-decrement

skip-ttl-decrement

Syntax

[**no**] **skip-ttl-decrement**

Context

[Tree] (config>filter>gre-tun-tmp>ipv4 skip-ttl-decrement)

Full Context

configure filter gre-tunnel-template ipv4 skip-ttl-decrement

Description

This command enables an option to not decrement the TTL of the IP packet matching the IPv4/IPv6 filter, when it is encapsulated into the GRE tunnel header.

The **no** form of this command disables this option (default). This results in the matching of IP packet's TTL field to be decremented before it is encapsulated in the GRE tunnel header.

Platforms

All

43.36 sla-profile

sla-profile

Syntax

[**no**] **sla-profile**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute sla-profile)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute sla-profile

Description

This command specifies that SLA profile attributes should be included into RADIUS accounting messages.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sla-profile

Syntax

sla-profile *sla-profile-name*

no sla-profile

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host sla-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host sla-profile)

[Tree] (config>service>vprn>if>sap>static-host sla-profile)

[Tree] (config>service>ies>if>sap>static-host sla-profile)

[Tree] (config>service>vpls>sap>static-host sla-profile)

Full Context

configure service vprn subscriber-interface group-interface sap static-host sla-profile

configure service ies subscriber-interface group-interface sap static-host sla-profile

configure service vprn interface sap static-host sla-profile

configure service ies interface sap static-host sla-profile

configure service vpls sap static-host sla-profile

Description

This command specifies an existing SLA profile name to be associated with the static subscriber host. The SLA profile is configured in the **config>subscr-mgmt>sla-profile** context.

The **no** form of this command reverts to the default.

Parameters

sla-profile-name

Specifies the SLA profile name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sla-profile

Syntax

sla-profile *sla-profile-name* [**create**]

no sla-profile *sla-profile-name*

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Context

[Tree] (config>subscr-mgmt sla-profile)

Full Context

configure subscriber-mgmt sla-profile

Description

This command configures a Service Level Agreement (SLA) profile. The commands in this context configure the attributes of the SLA profile, such as the following:

- egress and ingress QoS configuration
- egress and ingress IP filters
- session limits
- idle timeout for the sessions
- statistics collection
- credit control parameters

The **no** form of this command removes the specified SLA profile.

Parameters

sla-profile-name

Specifies the name of the SLA profile.

create

Keyword used to create the SLA profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.37 sla-profile-map

sla-profile-map

Syntax

sla-profile-map

Context

[Tree] (config>subscr-mgmt>sub-ident-pol sla-profile-map)

Full Context

configure subscriber-mgmt sub-ident-policy sla-profile-map

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Description

Commands in this context configure SLA profile mapping parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sla-profile-map

Syntax

sla-profile-map

Context

[Tree] (config>subscr-mgmt>sub-prof sla-profile-map)

Full Context

configure subscriber-mgmt sub-profile sla-profile-map

Description

Commands in this context configure SLA profile mapping.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.38 sla-profile-string

sla-profile-string

Syntax

sla-profile-string *sla-profile-string*

no sla-profile-string

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings sla-profile-string)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings sla-profile-string)

Full Context

configure subscriber-mgmt local-user-db ppp host identification-strings sla-profile-string

configure subscriber-mgmt local-user-db ipoe host identification-strings sla-profile-string

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Description

This command specifies the SLA profile string which is encoded in the identification strings.

The **no** form of this command returns to the default.

Parameters

sla-profile-string

Specifies the SLA profile string, up to 16 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sla-profile-string

Syntax

sla-profile-string *string*

no sla-profile-string

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile sla-profile-string)

Full Context

configure subscriber-mgmt vrgw brg brg-profile sla-profile-string

Description

This command configures the SLA profile string which will be used as a default for SLA-profile lookup. This string can be overridden during BRG or host authentication.

The **no** form of the command removes the string from the configuration.

Default

no sla-profile-string

Parameters

string

Specifies the string to use to look up the subscriber profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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43.39 slaac

slaac

Syntax

slaac

Context

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client slaac)

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client slaac)

Full Context

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client slaac

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client slaac

Description

This command configures SLAAC for the DHCPv6 client.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.40 slaac-prefix

slaac-prefix

Syntax

slaac-prefix *ipv6-address*

no slaac-prefix

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query slaac-prefix)

Full Context

configure subscriber-mgmt wlan-gw ue-query slaac-prefix

Description

This command enables matching on UEs with the specified SLAAC prefix.

The **no** form of this command disables matching on the SLAAC prefix.

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Default

no slaac-prefix

Parameters

ipv6-address

Specifies the SLAAC prefix.

Values		
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.41 sleep

sleep

Syntax

sleep [*seconds*]

Context

[Tree] (sleep)

Full Context

sleep

Description

This command causes the console session to pause operation (sleep) for 1 second (default) or for the specified number of seconds.

Default

sleep 1

Parameters

seconds

Specifies the number of seconds for the console session to sleep, expressed as a decimal integer.

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Values 1 to 100

Default 1

Platforms

All

43.42 slice-selection

slice-selection

Syntax

slice-selection{**standard** | **extended**}

Context

[Tree] (config>cflowd>sample-profile slice-selection)

Full Context

configure cflowd sample-profile slice-selection

Description

This command configures the slice selection for this sample profile.

The **no** form of this command reverts to the default value.

Default

slice-selection standard

Parameters

standard

Specifies slice selection as 128 bytes.

extended

Specifies slice selection as 256 bytes.

Platforms

All

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43.43 slice-size

slice-size

Syntax

slice-size *slice-size*

no slice-size

Context

[Tree] (config>mirror>mirror-dest slice-size)

Full Context

configure mirror mirror-dest slice-size

Description

This command enables mirrored frame truncation and specifies the maximum size, in bytes, of a mirrored frame that can be transmitted to the mirror destination.

This command enables mirroring larger frames than the destination packet decode equipment can handle. It also allows conservation of mirroring resources by limiting the size of the packet stream through the router and the core network.

When defined, the mirror **slice-size** creates a threshold that truncates a mirrored frame to a specific size. For example, if the value of 256 bytes is defined, a frame larger than 256 bytes will only have the first 256 bytes transmitted to the mirror destination. The original frame is not affected by the truncation. The mirrored frame size may increase if encapsulation information is added during transmission through the network core or out the mirror destination SAP to the packet/protocol decode equipment.

The actual capability of the router to transmit a sliced or non-sliced frame is also dictated by the mirror destination SDP **path-mtu** or the mirror destination SAP physical MTU. Packets that require a larger MTU than the mirroring destination supports are discarded if the defined **slice-size** does not truncate the packet to an acceptable size.

Notes:

- When configuring IP mirroring, packet slice is rejected as an incorrect option as it will cause IP packets to be rejected by the next hop with an IP header verification error.
- Slice-size is not supported by CEM encap-types or IP-mirroring.

The **no** form of this command disables mirrored packet truncation.

Parameters

slice-size

Specifies the number of bytes to which mirrored frames are truncated, expressed as a decimal integer.

Values 128 to 9216

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Platforms

All

43.44 slm

slm

Syntax

slm [**test-id** *test-id*] [**create**]

no slm

Context

[Tree] (config>oam-pm>session>ethernet slm)

Full Context

configure oam-pm session ethernet slm

Description

This command configures the test ID assigned to the ETH-SLM test and creates the container to allow the configuration of individual test parameters.

The **no** form of this command removes the SLM test function from the PM session.

Parameters

test-id

Specifies the value placed in the four-byte test ID field of the ETH-SLM PDU.

Values 0 to 2147483647 | **auto**

auto - automatically assigns a *test-id*

create

Keyword that creates the test.

Platforms

All

slm

Syntax

slm

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Context

[Tree] (config>eth-cfm slm)

Full Context

configure eth-cfm slm

Description

This is the container that provides the global configuration parameters for ITU-T Synthetic Loss Measurement (ETH-SL).

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.45 slope-policy

slope-policy

Syntax

slope-policy *name*

no slope-policy

Context

[Tree] (config>port>access>ingress>pool slope-policy)

[Tree] (config>port>access>egress>pool slope-policy)

[Tree] (config>port>network>egress>pool slope-policy)

Full Context

configure port access ingress pool slope-policy

configure port access egress pool slope-policy

configure port network egress pool slope-policy

Description

This command specifies an existing slope policy which defines high and low priority RED slope parameters and the time average factor. The policy is defined in the **config>qos>slope-policy** context.

Default

slope-policy default

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Parameters

name

Specifies the policy name, a string up to 32 characters.

Platforms

All

slope-policy

Syntax

slope-policy *slope-policy-name*

no slope-policy

Context

[Tree] (config>card>fp>egress>wred-queue-control slope-policy)

Full Context

configure card fp egress wred-queue-control slope-policy

Description

This command configures WRED slopes within the WRED mega-pool. The WRED slopes in the WRED mega-pool are used when WRED queues are requesting buffers from the mega-pool while they are over their CBS threshold. Once over the CBS threshold, the WRED queue stops receiving buffers from the CBS reserve in the mega-pool and starts competing for buffers in the shared portion of the mega-pool. If the packet resulting in the buffer request is inplus-profile, the packet will be associated with the highplus-slope. In-profile packets are associated with the high slope. Out-of-profile packets are associated with the low slope. Exceed-profile packets are associated with the exceed slope. While the queue is within its CBS threshold, the slopes are ignored.

Within the defined slope-policy, each slope is enabled or disabled (no shutdown or shutdown) and each slope's geometry is defined as percentages of shared portion depth. If a slope is shutdown, the related traffic uses the minimum of the queue MBS and egress WRED megapool size as a drop tail.

The slope-policy also defines the time average factor (TAF) value that is used to determine how the pool's weighted average depth is calculated. The higher the factor, the slower the average depth tracks the actual pool depth.

The **no** form of this command reverts to the default slope policy to the WRED mega-pool.

Default

slope-policy default

Parameters

slope-policy-name

Specifies which slope policy the system should apply to the WRED mega-pool. When slope-policy is not executed, the WRED mega-pool will use the default slope policy. The defined slope policy must already exist or the command will fail. 32 characters maximum.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

slope-policy

Syntax

slope-policy *name*

no slope-policy

Context

[Tree] (config>card>fp>ingress>network>pool slope-policy)

Full Context

configure card fp ingress network pool slope-policy

Description

This command specifies an existing slope policy which defines high and low priority RED slope parameters and the time average factor. The policy is defined in the **config>qos>slope-policy** context.

Default

slope-policy default

Parameters

name

Specifies the policy name, a string up to 32 characters.

Platforms

All

slope-policy

Syntax

slope-policy *slope-policy-name*

no slope-policy

Context

[Tree] (config>isa>aa-grp>qos>egress>from-subscriber>pool slope-policy)

[Tree] (config>isa>aa-grp>qos>egress>to-subscriber>pool slope-policy)

Full Context

configure isa application-assurance-group qos egress from-subscriber pool slope-policy

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configure isa application-assurance-group qos egress to-subscriber pool slope-policy

Description

This command specifies an existing slope policy which defines high and low priority RED slope parameters and the time average factor. The slope policy is defined in the **config**>**qos**>**slope-policy** context.

Parameters

slope-policy-name

Specifies the name of the slope policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

slope-policy

Syntax

slope-policy *policy-name*

no slope-policy

Context

[Tree] (config>qos>hs-pool-policy>mid-tier>mid-pool slope-policy)

[Tree] (config>qos>hs-pool-policy>root-tier>root-pool slope-policy)

Full Context

configure qos hs-pool-policy mid-tier mid-pool slope-policy

configure qos hs-pool-policy root-tier root-pool slope-policy

Description

This command specifies the slope policy to be used to define the high, low, and exceed slopes within the pool. The slope (high, low, or exceed) used on the egress queue for the packet that generated the buffer request is also used in the mid-pool from the applied slope policy. The pool's current allocation amount is applied to the appropriate slope to derive the buffer rejection probability. The probability value is compared to a randomly-generated number. If the probability decision generates a rejection decision or the buffer pool has no remaining free buffers, the buffer request fails and the arriving packet is discarded. Otherwise, a buffer is allocated as long as the port-class and root-tier buffer pools also honor the buffer request.

The **no** form of the command restores the default slope policy to the associated pool.

Default

slope-policy _tmnx_hs_default

Parameters

policy-name

Specifies the slope policy associated with this pool, up to 32 characters.

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Platforms

7750 SR-7/12/12e

slope-policy

Syntax

slope-policy *policy-name*

no slope-policy

Context

[Tree] (config>qos>hs-port-pool-policy>std-port-class-pools>class-pool slope-policy)

[Tree] (config>qos>hs-port-pool-policy>alt-port-class-pools>class-pool slope-policy)

Full Context

configure qos hs-port-pool-policy std-port-class-pools class-pool slope-policy

configure qos hs-port-pool-policy alt-port-class-pools class-pool slope-policy

Description

This command specifies the slope policy that is used to define the high, low, and exceed slopes within the port-class pool. The slope used on the egress queue for the packet that generated the buffer request is also used in the class-pool. The pool's current allocation amount is applied to the appropriate slope to derive the buffer rejection probability. The probability value is compared to a randomly generated number. If the probability decision generates a rejection or the buffer pool has no remaining free buffers, the buffer request fails and the arriving packet is discarded. Otherwise, a buffer is allocated as long as the mid-tier and root-tier buffer pools also honor the buffer request.

The **no** form of the command restores the default slope policy to the associated class-pool.

Default

slope-policy _tmnx_hs_default

Parameters

policy-name

Specifies the policy name, up to 32 characters. This parameter is required when executing the **slope-policy** command and must refer to an existing slope policy within the system. If a slope policy with the specified name does not exist, the **slope-policy** command fails without modifying the slope behavior on the pool. A non-existent slope-policy error is generated. After a slope policy is associated with any HSQ queue or buffer pool, the policy cannot be deleted.

Platforms

7750 SR-7/12/12e

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slope-policy

Syntax

slope-policy *name* [**create**]

no slope-policy *name*

Context

[Tree] (config>qos slope-policy)

Full Context

configure qos slope-policy

Description

Commands in this context configure a QoS slope policy.

Default

slope-policy "default”

Parameters

name

The name of the slope policy.

Values Valid names consist of any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

Platforms

All

slope-policy

Syntax

slope-policy *src-name dst-name* [**overwrite**]

Context

[Tree] (config>qos>copy slope-policy)

Full Context

configure qos copy slope-policy

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Description

This command copies existing QoS policy entries for a QoS policy-id to another QoS policy-id.

The **copy** command is a configuration-level maintenance tool used to create new policies using existing policies. It also allows bulk modifications to an existing policy with the use of the **overwrite** keyword.

Parameters

slope-policy

Indicates that the source policy ID and the destination policy ID are slope policy IDs. Specify the source policy ID that the copy command will attempt to copy from and specify the destination policy ID to which the command will copy a duplicate of the policy.

overwrite

Specifies to replace the existing destination policy. Everything in the existing destination policy will be overwritten with the contents of the source policy. If **overwrite** is not specified, an error will occur if the destination policy ID exists.

```
ALA-7>config>qos# copy slope-policy default sp1
MINOR: CLI Destination "sp1" exists - use {overwrite}.
ALA-7>config>qos#overwrite
```

Platforms

All

43.46 slow-psc-timer

slow-psc-timer

Syntax

slow-psc-timer *interval*

no slow-psc-timer

Context

[Tree] (config>router>mpls>mpls-tp>protection-template slow-psc-timer)

Full Context

configure router mpls mpls-tp protection-template slow-psc-timer

Description

This command configures the slow timer value to be used for protection switching coordination (PSC) packets for MPLS-TP linear protection (RFC 6378).

Default

slow-psc-timer 5

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Parameters

interval

Specifies the slow timer interval in seconds.

Values 5 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.47 slow-queue-threshold

slow-queue-threshold

Syntax

slow-queue-threshold *kilobits-per-second*

no slow-queue-threshold

Context

[Tree] (config>card>virt-sched-adj slow-queue-threshold)

Full Context

configure card virtual-scheduler-adjustment slow-queue-threshold

Description

This command overrides the system default rate threshold where policers and queues are placed in the "slow" queue category. Slow rate policers and queues use a different minimum rate calculation interval time than fast rate queues. The rate is determined based on the previous calculated offered rate for the policer or queue.

The default slow policer or queue rate is 1 Mb/s. The fast rate is derived by multiplying the slow rate by a factor of 1.5 resulting in a default fast rate of 1.5 Mb/s. The slow-queue-threshold command uses a "Kilobit-Per-Second" value to modify the default slow queue rate threshold and indirectly changes the fast queue rate threshold.

The **no** form of this command restores the default slow queue and fast rate thresholds.

Default

no slow-queue-threshold

Parameters

kilobits-per-second

Specifies that the kilobit-per-second parameter is required and is used to modify the default slow rate threshold. Defining a value of 0 forces all policers and queues to be

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treated as fast rate. Defining a value of 1000 (1 Mb/s) returns the threshold to the default value and is equivalent to executing **no slow-queue-threshold**.

The fast rate threshold is derived by multiplying the new slow rate threshold by a factor of 1.5.

Values 0 to 1000000 kb/s

Default 1000 kb/s

Platforms

All

43.48 sm-tti

sm-tti

Syntax

sm-tti

Context

[Tree] (config>port>otu sm-tti)

Full Context

configure port otu sm-tti

Description

Commands in this context configure section monitoring trail trace identifier parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.49 snap-oui

snap-oui

Syntax

snap-oui {**zero** | **non-zero**}

no snap-oui

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Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match snap-oui)

Full Context

configure qos sap-ingress mac-criteria entry match snap-oui

Description

Configures an IEEE 802.3 LLC SNAP Ethernet frame OUI zero or non-zero value to be used as a service ingress QoS policy match criterion.

The **no** form of this command removes the criterion from the match criteria.

Default

no snap-oui

Parameters

zero

Specifies to match packets with the 3-byte OUI field in the SNAP-ID set to zero.

non-zero

Specifies to match packets with the 3-byte OUI field in the SNAP-ID not set to zero.

Platforms

All

snap-oui

Syntax

snap-oui {**zero** | **non-zero**}

no snap-oui

Context

[Tree] (config>filter>mac-filter>entry>match snap-oui)

Full Context

configure filter mac-filter entry match snap-oui

Description

This command configures an IEEE 802.3 LLC SNAP Ethernet Frame OUI zero or non-zero value to be used as a MAC filter match criterion.

The **no** form of the command removes the criterion from the match criteria.

Default

no snap-oui

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Parameters

zero

Specifies to match packets with the three-byte OUI field in the SNAP-ID set to zero.

non-zero

Specifies to match packets with the three-byte OUI field in the SNAP-ID not set to zero.

Platforms

All

snap-oui

Syntax

snap-oui {**zero** | **non-zero**}

no snap-oui

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match snap-oui)

Full Context

configure system security management-access-filter mac-filter entry match snap-oui

Description

This command configures an IEEE 802.3 LLC SNAP Ethernet Frame OUI zero or non-zero value to be used as a MAC filter match criterion.

The **no** form of this command removes the criterion from the match criteria.

Default

no snap-oui

Parameters

zero

Specifies to match packets with the three-byte OUI field in the SNAP-ID set to zero.

non-zero

Specifies to match packets with the three-byte OUI field in the SNAP-ID not set to zero.

Platforms

All

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43.50 snap-pid

snap-pid

Syntax

snap-pid *snap-pid*

no snap-pid

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match snap-pid)

Full Context

configure qos sap-ingress mac-criteria entry match snap-pid

Description

Configures an IEEE 802.3 LLC SNAP Ethernet frame PID value to be used as a service ingress QoS policy match criterion.

This is a 2-byte protocol id that is part of the IEEE 802.3 LLC SNAP Ethernet Frame that follows the 3-byte OUI field.

The snap-pid field, etype field, ssap, and dsap fields are mutually exclusive and cannot be part of the same match criteria.

The **snap-pid** match criteria is independent of the OUI field within the SNAP header. Two packets with different 3-byte OUI fields, but the same PID field, will both match the same policy entry based on a snap-pid match criteria.

The **no** form of this command removes the snap-pid value as the match criteria.

Default

no snap-pid

Parameters

snap-pid

The 2-byte snap-pid value to be used as a match criterion in hexadecimal.

Values 0x0000 to 0xFFFF

Platforms

All

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snap-pid

Syntax

snap-pid *snap-pid*

no snap-pid

Context

[Tree] (config>filter>mac-filter>entry>match snap-pid)

Full Context

configure filter mac-filter entry match snap-pid

Description

Configures an IEEE 802.3 LLC SNAP Ethernet Frame PID value to be used as a MAC filter match criterion.

This is a two-byte protocol id that is part of the IEEE 802.3 LLC SNAP Ethernet Frame that follows the three-byte OUI field.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria.

The snap-pid match criterion is independent of the OUI field within the SNAP header. Two packets with different three-byte OUI fields but the same PID field will both match the same filter entry based on a snap-pid match criteria.

The **no** form of the command removes the snap-pid value as the match criteria.

Default

no snap-pid

Parameters

snap-pid

Specifies the two-byte snap-pid value to be used as a match criterion. The value can be expressed in decimal integer or hexadecimal format.

Values 0 to 65535 or 0x0000 to 0xFFFF

Platforms

All

snap-pid

Syntax

snap-pid *snap-pid*

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no snap-pid

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match snap-pid)

Full Context

configure system security management-access-filter mac-filter entry match snap-pid

Description

This command configures an IEEE 802.3 LLC SNAP Ethernet Frame PID value to be used as a MAC filter match criterion.

This is a two-byte protocol id that is part of the IEEE 802.3 LLC SNAP Ethernet Frame that follows the three-byte OUI field.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide* for information about MAC Match Criteria Exclusivity Rules fields that are exclusive based on the frame format.

Note:
The snap-pid match criterion is independent of the OUI field within the SNAP header. Two packets with different three-byte OUI fields but the same PID field will both match the same filter entry based on a snap-pid match criteria.

The **no** form of this command removes the snap-pid value as the match criteria.

Default

no snap-pid

Parameters

pid-value

Specifies the two-byte snap-pid value to be used as a match criterion in hexadecimal.

Values 0x0000 to 0xFFFF

Platforms

All

43.51 snmp

snmp

Syntax

snmp

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Context

[Tree] (config>service>vprn snmp)

Full Context

configure service vprn snmp

Description

Commands in this context configure SNMP parameters for this VPRN.

Platforms

All

snmp

Syntax

snmp

Context

[Tree] (config>system>security>user snmp)

Full Context

configure system security user snmp

Description

This command creates the context to configure SNMP group membership for a specific user and defines encryption and authentication parameters.

All SNMPv3 users must be configured with the commands available in this CLI node.

The OS always uses the configured SNMPv3 user name as the security user name.

Platforms

All

snmp

Syntax

snmp

Context

[Tree] (config>system snmp)

[Tree] (config>system>security snmp)

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Full Context

configure system snmp

configure system security snmp

Description

This command creates the context to configure SNMPv1, SNMPv2, and SNMPv3 parameters**.**

Platforms

All

43.52 snmp-trap-group

snmp-trap-group

Syntax

snmp-trap-group *log-id* | *log-name* [**name** *log-name*]

no snmp-trap-group *log-id* | *log-name*

Context

[Tree] (config>service>vprn>log snmp-trap-group)

Full Context

configure service vprn log snmp-trap-group

Description

This command creates the context to configure a group of SNMP trap receivers and their operational parameters for a specific *log-id*.

A group specifies the types of SNMP traps and specifies the log ID that will receive the group of SNMP traps. The user must configure a trap group before SNMP traps can be sent.

To suppress the generation of all alarms and traps, see the **event-control** command. To suppress alarms and traps that are sent to this log-id, see the **filter** command. After alarms and traps are generated, they can be directed to one or more SNMP trap groups. Log events that can be forwarded as SNMP traps are always defined on the main event source.

The **no** form of this command deletes the SNMP trap group.

Parameters

log-id* | *log-name

Specifies the log ID or name (up to 32 characters).

Values *log-id*: 1 to 100

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name *log-name*

Specifies an optional log name of a log configured in the **log-id** context, up to 32 characters, that can be used to refer to the log after it is created. Alarms and traps cannot be sent to the trap receivers until a valid *log-id* exists.

Platforms

All

snmp-trap-group

Syntax

snmp-trap-group *log-id* | *log-name* [**name** *log-name*]

no snmp-trap-group *log-id* | *log-name*

Context

[Tree] (config>log snmp-trap-group)

Full Context

configure log snmp-trap-group

Description

This command creates the context to configure a group of SNMP trap receivers and their operational parameters for a specified *log-id*.

A group specifies the types of SNMP traps and the log ID which that will receive the SNMP trap group. The user must configure a trap to send SNMP traps.

To suppress the generation of all alarms and traps, see the **event-control** command. To suppress alarms and traps that are sent to this log ID, see the filter command. When alarms and traps are generated, they can be directed to one or more SNMP trap groups. Log events that can be forwarded as SNMP traps are always defined at the main event source.

The **no** form of this command deletes the SNMP trap group.

Parameters

log-id* | *log-name

Specifies the log ID or log name (up to 32 characters).

Values *log-id*: 1 to 100

name *log-name*

Specifies an optional log name of a log configured in the **log-id** context, up to 32 characters, that can be used to refer to the log after it is created. Alarms and traps cannot be sent to the trap receivers until a valid *log-id* exists.

Platforms

All

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43.53 snoop

snoop

Syntax

[**no**] **snoop**

Context

[Tree] (config>service>vpls>sap>dhcp snoop)

[Tree] (config>service>vprn>if>dhcp>option snoop)

[Tree] (config>service>vpls>mesh-sdp>dhcp snoop)

[Tree] (config>service>vprn>nw-if>dhcp snoop)

[Tree] (config>service>vpls>spoke-sdp>dhcp snoop)

Full Context

configure service vpls sap dhcp snoop

configure service vprn interface dhcp option snoop

configure service vpls mesh-sdp dhcp snoop

configure service vprn nw-if dhcp snoop

configure service vpls spoke-sdp dhcp snoop

Description

This command enables snooping of DHCP or DHCP6 messages on the SAP or SDP. Enabling DHCP or DHCP6 snooping on interfaces (SAPs and SDP bindings) is required where DHCP or DHCP6 messages important to lease state table population are received, or where Option 82 information is to be inserted. This includes interfaces that are in the path to receive messages from either DHCP or DHCP6 servers or from subscribers.

The **no** form of this command disables DHCP or DHCP6 snooping on the specified SAP or SDP binding.

Default

no snoop

Platforms

All

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43.54 snooping

snooping

Syntax

[**no**] **snooping**

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 snooping)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 snooping)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 snooping

configure service ies subscriber-interface group-interface ipv6 dhcp6 snooping

Description

This command enables the group-interface to snoop DHCPv6 relay messages exchange between the subscriber host and the DHCPv6 server. A successful DHCPv6 address assignment triggers ESM DHCPv6 host creation and a release of the lease triggers host deletion. This feature is for ESMv6 applications where a Layer 3 aggregation network is upstream from the BNG.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.55 sntp

sntp

Syntax

[**no**] **sntp**

Context

[Tree] (config>system>time sntp)

Full Context

configure system time sntp

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Description

This command creates the context to edit the Simple Network Time Protocol (SNTP).

SNTP can be configured in either broadcast or unicast client mode. SNTP is a compact, client-only version of the NTP. SNTP can only receive the time from SNTP/NTP servers. It cannot be used to provide time services to other systems.

The system clock is automatically adjusted at system initialization time or when the protocol first starts up.

When the time differential between the SNTP/NTP server and the system is more than 2.5 seconds, the time on the system is gradually adjusted.

SNTP is created in an administratively enabled state (**no shutdown**).

The **no** form of the command removes the SNTP instance and configuration. SNTP does not need to be administratively disabled when removing the SNTP instance and configuration.

Default

sntp

Platforms

All

43.56 socket

socket

Syntax

socket [**neighbor** *ip-address* | **group** *name*]

no socket

Context

[Tree] (debug>router>bgp socket)

Full Context

debug router bgp socket

Description

This command logs all TCP socket events to the debug log.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

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- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

43.57 soft-preemption

soft-preemption

Syntax

[**no**] **soft-preemption**

Context

[Tree] (config>router>mpls>lsp-template soft-preemption)

[Tree] (config>router>mpls>lsp soft-preemption)

Full Context

configure router mpls lsp-template soft-preemption

configure router mpls lsp soft-preemption

Description

This command enables soft preemption for LSPs of type **p2mp-lsp** and LSP templates of type **p2mp**. The soft preemption bit is set to 1 if the following conditions are met; otherwise, the bit is set to 0.

- soft preemption is enabled, and
- the P2MP LSP is adaptive, has non-zero bandwidth, and is computed using the local CSPF method

The **no** form of the command disables soft preemption on the P2MP LSP and P2MP LSP template.

Note:
Soft preemption is always enabled for P2P LSPs and P2P LSP templates and cannot be disabled.

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Default

no soft-preemption

Platforms

All

43.58 soft-quota-exhausted

soft-quota-exhausted

Syntax

[**no**] **soft-quota-exhausted**

Context

[Tree] (config>aaa>isa-radius-policy>acct-update-triggers soft-quota-exhausted)

[Tree] (config>subscr-mgmt>wlan-gw>ue-query soft-quota-exhausted)

Full Context

configure aaa isa-radius-policy acct-update-triggers soft-quota-exhausted

configure subscriber-mgmt wlan-gw ue-query soft-quota-exhausted

Description

This command sends an interim update message when a soft volume quota is reached.

Default

soft-quota-exhausted

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.59 soft-quota-exhausted-filter

soft-quota-exhausted-filter

Syntax

soft-quota-exhausted-filter *dsm-ip-filter-name*

no soft-quota-exhausted-filter

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm soft-quota-exhausted-filter)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm soft-quota-exhausted-filter)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt soft-quota-exhausted-filter

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt soft-quota-exhausted-filter

Description

This command applies a filter when a soft volume quota is reached. The filter replaces the currently applied filter (which can be preconfigured using the **vlan-range ip-filter** command or be set using RADIUS authentication/ CoA message) for the UE upon quota exhaustion. If the quota is extended using a RADIUS CoA message, the filter is automatically reverted. Configuration changes apply only to new DSM UEs and not to existing UEs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.60 software-repository

software-repository

Syntax

software-repository *repository-name*

no software-repository

Context

[Tree] (config>system>satellite>eth-sat software-repository)

Full Context

configure system satellite eth-sat software-repository

Description

This command binds the specified software repository to the associated satellite. The software repository is used to locate and serve the correct software image to the satellite at boot time.

The configured software repository is only used when the satellite boots. Changing the software repository for an active satellite does not have an effect until the next time a satellite boots.

A satellite cannot be booted if there is no software repository defined for it.

The **no** form of the command removes the software repository.

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Default

no software-repository

Parameters

repository-name

Specifies a string, up to 32 characters, that uniquely identifies the software repository.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

software-repository

Syntax

software-repository *repository-name* [**create**]

no software-repository *repository-name*

Context

[Tree] (config>system software-repository)

Full Context

configure system software-repository

Description

This command creates or deletes an instance of a software repository. The instance is identified by a repository name.

A software repository is used to obtain files to upgrade software on certain subsystems of the router (for example, Ethernet satellites).

Up to three locations can be specified within a software repository for the router to access files in the repository. The router will first attempt to access the file at the primary location. If the primary location is not configured or the files are not found at the primary location, then the router will attempt to access the files at the secondary location. If the secondary location is not configured or the files are not found at the secondary location, then the router will attempt to access the files at the tertiary location. If the tertiary location is not configured or the files are not found at the tertiary location, then the software repository access will fail.

The **no** form of the command removes the software repository.

Parameters

repository-name

Specifies a string, up to 32 characters, that uniquely identifies the software repository.

create

Specifies the keyword required when the software-repository context is first created. Once the context is created, it can be accessed without the **create** keyword.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.61 solicit-delay

solicit-delay

Syntax

solicit-delay *delay*

no solicit-delay

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection solicit-delay)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection solicit-delay)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>advertise-selection solicit-delay)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection solicit-delay

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection solicit-delay

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection solicit-delay

Description

This command configures the default time to delay DHCPv6 Solicit messages. The delay is applied to all DHCPv6 Solicit messages for which no per DHCPv6 server or per client MAC delay or preference option value is configured.

The **no** form of this command removes the delay timeout.

Parameters

delay

Specifies the default amount of time to delay DHCPv6 Solicit messages, in deciseconds.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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solicit-delay

Syntax

solicit-delay *delay*

no solicit-delay

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection>client-mac solicit-delay)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection>client-mac solicit-delay)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>advertise-selection>client-mac solicit-delay)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac solicit-delay

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac solicit-delay

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection client-mac solicit-delay

Description

This command configures the time to delay DHCPv6 Solicit messages with an odd or even source MAC address.

The **no** form of this command removes the delay timeout.

Parameters

delay

Specifies the time to delay DHCPv6 Solicit messages with an odd or even source MAC address, in deciseconds.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

solicit-delay

Syntax

solicit-delay *delay*

no solicit-delay

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection>server solicit-delay)

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[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>advertise-selection>server solicit-delay)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>advertise-selection>server solicit-delay)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server solicit-delay

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection server solicit-delay

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server solicit-delay

Description

This command configures the time to delay DHCPv6 Solicit messages relayed to the server.

The **no** form of this command removes the delay timeout.

Parameters

delay

Specifies the time to delay DHCPv6 Solicit messages that are relayed to the server, in deciseconds.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.62 solicited-release

solicited-release

Syntax

[**no**] **solicited-release**

Context

[Tree] (config>service>vprn>dhcp>server>lease-hold-time-for solicited-release)

[Tree] (config>router>dhcp6>server>lease-hold-time-for solicited-release)

[Tree] (config>router>dhcp>server>lease-hold-time-for solicited-release)

[Tree] (config>service>vprn>dhcp6>server>lease-hold-time-for solicited-release)

Full Context

configure service vprn dhcp local-dhcp-server lease-hold-time-for solicited-release

configure router dhcp6 local-dhcp-server lease-hold-time-for solicited-release

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configure router dhcp local-dhcp-server lease-hold-time-for solicited-release

configure service vprn dhcp6 local-dhcp-server lease-hold-time-for solicited-release

Description

This command enables the server to hold up a lease even in case of solicited release; for example, when the server receives a normal DHCP release message.

The **no** form of this command disables the ability of the server to hold up a lease when a solicited release is received.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.63 source

source

Syntax

[**no**] **source** *ipv6-address*

Context

[Tree] (config>subscr-mgmt>igmp-policy>static>group source)

[Tree] (config>subscr-mgmt>mld-policy>static>group source)

[Tree] (config>subscr-mgmt>igmp-policy source)

Full Context

configure subscriber-mgmt igmp-policy static group source

configure subscriber-mgmt mld-policy static group source

configure subscriber-mgmt igmp-policy source

Description

This command adds or removes a static multicast source.

The **no** form of this command reverts to the default.

Parameters

grp-ipv6-address

Specifies the IPv6 address.

Values ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

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- multicast group IPv6 address

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

source

Syntax

[**no**] **source** *ip-address*

[**no**] **source** *src-ipv6-address*

Context

[Tree] (config>service>vpls>spoke-sdp>mld-snooping>static>group source)

[Tree] (config>service>vpls>sap>mld-snooping>static>group source)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping>static>group source)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping>static>group source)

[Tree] (config>service>vpls>sap>igmp-snooping>static>group source)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping>static>group source)

Full Context

configure service vpls spoke-sdp mld-snooping static group source

configure service vpls sap mld-snooping static group source

configure service vpls mesh-sdp mld-snooping static group source

configure service vpls mesh-sdp igmp-snooping static group source

configure service vpls sap igmp-snooping static group source

configure service vpls spoke-sdp igmp-snooping static group source

Description

This command specifies a IPv4 or IPv6 unicast address that sends data on an interface. This enables a multicast receiver host to signal a router the group to receive multicast traffic from, and from the sources that the traffic is expected.

The **source** command is mutually exclusive with the specification of individual sources for the same group.

The **source** command in combination with the group is used to create a specific (S,G) static group entry.

Static (s,g) entries cannot be entered when a starg is already created.

Use the **no** form of this command to remove the source from the configuration.

Parameters

ip-address

Specifies the IPv4 unicast address

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src-ipv6-address

Specifies the IPv6 unicast address.

Platforms

All

source

Syntax

source *ip-address*

no source

Context

[Tree] (config>service>vprn>if>sap>ip-tunnel source)

[Tree] (config>service>ies>if>sap>ip-tunnel source)

Full Context

configure service vprn interface sap ip-tunnel source

configure service ies interface sap ip-tunnel source

Description

This command configures the source IPv4 or IPv6 address to use for an IP tunnel. This configuration applies to the outer IP header of the encapsulated packets. The IPv4 or IPv6 address must belong to the one of the IP subnets associated with the public SAP interface of the tunnel-group. The **source** address, **remote-ip** address and **backup-remote-ip** address of a tunnel must all belong to the same address family (IPv4 or IPv6). When the source address contains an IPv6 address it must be a global unicast address.

The **no** form of this command deletes the source address from the tunnel configuration. The tunnel must be administratively shutdown before issuing the **no source** command.

Default

no source

Parameters

ip-address

Specifies an IPv4 address or an IPv6 address.

Values

ipv4-address	a.b.c.d	
ipv6-address		x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
	x	[0..FFFF]H

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d [0..255]D

Platforms

All

source

Syntax

[**no**] **source** *ip-address*

Context

[Tree] (config>service>vprn>igmp>ssm-translate>grp-range source)

Full Context

configure service vprn igmp ssm-translate grp-range source

Description

This command specifies the source IP address for the group range. Whenever a (*,G) report is received in the range specified by **grp-range** *start* and *end* parameters, it is translated to an (S,G) report with the value of this object as the source address.

Parameters

ip-address

Specifies the IP address that will be sending data.

Platforms

All

source

Syntax

source *ip-address*

Context

[Tree] (config>service>vprn>igmp>if>static>group source)

Full Context

configure service vprn igmp interface static group source

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Description

This command specifies an IPv4 unicast address that sends data on an interface. This enables a multicast receiver host to signal a router the group is to receive multicast traffic from, and from the sources that the traffic is expected.

The **source** command is mutually exclusive with the specification of individual sources for the same group.

The **source** command in combination with the group is used to create a specific (S,G) static group entry.

Use the **no** form of this command to remove the source from the configuration.

Parameters

ip-address

Specifies the IPv4 unicast address.

Platforms

All

source

Syntax

[**no**] **source** *src-ipv6-address*

Context

[Tree] (config>service>vprn>mld>if>static>group source)

Full Context

configure service vprn mld interface static group source

Description

This command specifies an IPv6 unicast address that sends data on an interface. This enables a multicast receiver host to signal a router the group to receive multicast traffic from, and from the sources that the traffic is expected.

The **source** command is mutually exclusive with the specification of individual sources for the same group.

The **source** command, in combination with the group, is used to create a specific (S,G) static group entry.

The **no** form of this command removes the source from the configuration.

Parameters

src-ipv6-address

Specifies the IPv6 unicast address.

Platforms

All

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source

Syntax

[**no**] **source** *ip-address*

Context

[Tree] (config>service>vprn>mld>ssm-translate>grp-range source)

Full Context

configure service vprn mld ssm-translate grp-range source

Description

This command specifies the source IP address for the group range. Whenever a (*,G) report is received in the range specified by **grp-range** *start* and *end* parameters, it is translated to an (S,G) report with the value of this object as the source address.

Parameters

ip-address

Specifies the IP address that will be sending data.

Platforms

All

source

Syntax

[**no**] **source** *unicast-ip-prefix/mask*

Context

[Tree] (config>service>vprn>msdp source)

Full Context

configure service vprn msdp source

Description

This command limits the number of active source messages the router accepts from sources in the specified address range.

If the prefix and mask provided is already a configured then this command only provides the context to configure the parameters pertaining to this active source-message filter.

If the prefix and mask provided is not already a configured, then the source node instance must be created and the context to configure the parameters pertaining to this node should be provided. In this case, the $ prompt to indicate that a new entity (source) is being created should be used.

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The source active msdp messages are not rate limited based on the source address range.

The **no** form of this message removes the source active rate limiter for this source address range.

Parameters

unicast-ip-prefix

Specifies the IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area.

Values ip-prefix/mask: ip-prefix a.b.c.d (host bits must be 0)

mask

Specifies the subnet mask for the range expressed as a decimal integer mask length or in dotted decimal notation.

Values 0 to 32 (mask length), 0.0.0.0 to 255.255.255.255 (dotted decimal)

Platforms

All

source

Syntax

[**no**] **source** *ip-address* [*lmask*]

[**no**] **source any**

Context

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi>group source)

[Tree] (config>service>vprn>mvpn>pt>selective>umh-rm>group source)

Full Context

configure service vprn mvpn provider-tunnel selective multistream-spmsi group source

configure service vprn mvpn provider-tunnel selective umh-rate-monitoring group source

Description

This command creates source prefixes for specific groups that map to the multicast stream.

The **no** form removes the source prefix.

Parameters

ip-address/mask

Specifies the IP address of the group.

Values

ipv4-prefix	a.b.c.d

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	ipv4-prefix-length	[0..32]
ipv6-prefix		x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
	x	[0..FFFF]H
	d	[0..255]D
	ipv6-prefix-length	[0..128]

Platforms

All

source

Syntax

source *source-type*

source *source-type* **level** *level*

no source *source-type*

Context

[Tree] (config>app-assure>group>anl source)

Full Context

configure application-assurance group access-network-location source

Description

This command configures location sources for the dynamic experience management. The location source types are, for example, 3G and congestion point.

Default

source mobile-3g

Parameters

source-type

Specifies the location or access technology.

Values **access-point** — Provides Dynamic Experience Management (DEM) for the WLGW access point.

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Note:
The access points do not need to support the Nokia CEA function.

level

Specifies which congestion point within the specified source-type to monitor for congestion.

Values **MAC+VLAN** — WLGW access point (MAC) and radio (VLAN).

Note:
The access points do not need to support the Nokia CEA function.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

source

Syntax

[**no**] **source** *ip-address*

Context

[Tree] (config>router>igmp>if>ssm-translate>grp-range source)

[Tree] (config>router>igmp>ssm-translate>grp-range source)

Full Context

configure router igmp interface ssm-translate grp-range source

configure router igmp ssm-translate grp-range source

Description

This command specifies the source IP address for the group range. Whenever a (*,G) report is received in the range specified by **grp-range** *start* and *end* parameters, it is translated to an (S,G) report with the value of this object as the source address.

Parameters

ip-address

Specifies the IP address that will be sending data.

Platforms

All

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source

Syntax

[**no**] **source** *ip-address*

Context

[Tree] (config>router>igmp>if>static>group source)

Full Context

configure router igmp interface static group source

Description

This command specifies a IPv4 unicast address that sends data on an interface. This enables a multicast receiver host to signal a router the group to receive multicast traffic from, and from the source(s) that the traffic is expected.

The **source** command is mutually exclusive with the specification of individual sources for the same group.

The **source** command in combination with the group is used to create a specific (S,G) static group entry.

The **no** form of the command removes the source from the configuration.

Parameters

ip-address

Specifies the IPv4 unicast address.

Platforms

All

source

Syntax

[**no**] **source** *ip-address*

Context

[Tree] (config>router>igmp>tunnel-interface>static>group source)

Full Context

configure router igmp tunnel-interface static group source

Description

This command specifies a IPv4 unicast address of a multicast source. The source command is mutually exclusive with the specification of individual sources for the same group. The source command in

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combination with the group is used to create a specific (S,G) group entry in a static group join on a tunnel interface associated with a P2MP RSVP LSP.

The **no** form of the command removes the source from the configuration.

Parameters

ip-address

Specifies the IPv4 unicast address.

Platforms

All

source

Syntax

[**no**] **source** *src-ipv6-address*

Context

[Tree] (config>router>mld>if>static>group source)

Full Context

configure router mld interface static group source

Description

This command specifies an IPv6 unicast address that sends data on an interface. This enables a multicast receiver host to signal a router the group to receive multicast traffic from, and from the source(s) that the traffic is expected.

The **source** command is mutually exclusive with the specification of individual sources for the same group.

The **source** command, in combination with the group, is used to create a specific (S,G) static group entry.

The **no** form of this command removes the source from the configuration.

Parameters

src-ipv6-address

Specifies the IPv6 unicast address.

Platforms

All

source

Syntax

[**no**] **source** *ipv6-address*

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Context

[Tree] (config>router>mld>ssm-translate>grp-range source)

[Tree] (config>router>mld>if>ssm-translate>grp-range source)

Full Context

configure router mld ssm-translate grp-range source

configure router mld interface ssm-translate grp-range source

Description

This command specifies the source IP address for the group range. Whenever a (*,G) report is received in the range specified by **grp-range** *start* and *end* parameters, it is translated to an (S,G) report with the value of this object as the source address.

The **no** form of this command removes the IPv6 address form the group range configuration.

Parameters

ipv6-address

Specifies the IPv6 address that will be sending data.

Platforms

All

source

Syntax

[**no**] **source** *unicast-ip-prefix/mask*

Context

[Tree] (config>router>msdp source)

Full Context

configure router msdp source

Description

This command configures the parameters for the specified source instance.

The source active **config>router msdp** messages are not rate limited based on the source address range.

The **no** form of this command removes the source address instance.

Parameters

unicast-ip-prefix/mask

Specifies the IP address and subnet mask for the range, expressed as a decimal integer mask length or in dotted-decimal notation.

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Values ip-prefix: a.b.c.d (host bits must be 0)

mask: 0 to 32 (mask length), 0.0.0.0 to 255.255.255.255 (dotted-decimal)

Platforms

All

source

Syntax

source mep *mep-id* **domain** *md-index* **association** *ma-index*

source mep *mep-id* **domain-name** *admin-name* **association-name** *admin-name*

no source

Context

[Tree] (config>oam-pm>session>ethernet source)

Full Context

configure oam-pm session ethernet source

Description

This command configures the source launch point identification Y.1731 parameters that are used by the individual tests within the session. If an MEP matching the configuration does not exist, the session is allowed to become active; however, the frames sent frames and received as seen under the **show oam-pm statistics session** command is zero. The preferred reference to the MEP launch point is by *admin-name*. Therefore, the syntax **source mep** *mep-id* **domain-name** *admin-name* **association-name** *admin-name* should be used.

The **no** form of this command removes this session parameter.

Parameters

mep-id

Specifies the maintenance association endpoint identifier of the launch point.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value of the launch point. The **domain-name** *admin-name* parameter is preferred for specifying the domain information.

Values 1 to 4294967295

ma-index

Specifies the maintenance association (MA) index value of the launch point. The **association-name** *ma-name* parameter is preferred for specifying the association information.

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Values 1 to 4294967295

admin-name

Specifies the name reference for the maintenance domain (MD), or the association (MA) *admin-name* value of the launch point, up to 64 characters.

Platforms

All

source

Syntax

source *ip-address*

no source

Context

[Tree] (config>oam-pm>session>ip source)

Full Context

configure oam-pm session ip source

Description

This command defines the source IP address that the session controller (launch point) uses for the test. The source address must be a local resident IP address in the context; otherwise, the response packets are processed by the TWAMP Light application. Only source addresses configured as part of TWAMP tests can process the reflected TWAMP packets from the session reflector.

The **no** form of this command removes the source address parameters.

Parameters

source

Indicates the launch point.

ip-address

Specifies the source IP address that the session controller (launch point) uses for the test.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source

Syntax

source {**line-ref** | **internal-clock**}

Context

[Tree] (config>system>sync-if-timing>bits>output source)

Full Context

configure system sync-if-timing bits output source

Description

This command configures the values used to identify the source of the BITS (Building Integrated Timing Supply) output. This is either the signal recovered directly from ref1, ref2 or ptp, or it is the output of the node's central clock. The directly recovered signal would be used when the BITS output signal is feeding into an external standalone timing distribution device (BITS/SASE). The specific directly recovered signal used is the best of the available signals based of the QL and/or the ref-order. The central clock output would be used when no BITS/SASE device is present and the BITS output signal is used to monitor the quality of the recovered clock within the system.

Default

source line-ref

Parameters

line-ref

Specifies that the BITS output timing is selected from one of the input references, without any filtering.

internal-clock

Specifies that the BITS output timing is driven from the system timing.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source

Syntax

source *ip-address*

no source

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Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp>ipv4 source)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv4 source

Description

This command configures the unicast IPv4 address used as the source of the TWAMP Light test packet. When this command is not configured, the primary IPv4 address, or the reference IPv4 address in the case of unnumbered interfaces, is used as the source. This command can be used when the IPv4 primary address or reference interface is not the desired source address for the packet.

Changes are allowed without administratively disabling the IPv4 protocol.

The **no** form of this command removes the specified address, which causes the source address to be auto-learned.

Default

no source

Parameters

ip-address

Specifies TWAMP Light IPv4 source address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source

Syntax

source *ipv6-address*

no source

Context

[Tree] (config>router>if>if-attr>delay>dyn>twamp>ipv6 source)

Full Context

configure router interface if-attribute delay dynamic twamp-light ipv6 source

Description

This command configures the IPv6 address used as the source of the TWAMP Light test packet. When this command is not configured, no source address is present and an error is raised to prevent the transmission of the test packet.

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The IPv6 protocol can be enabled even without addressing. However, the test will not transmit packets. The link local address must be in the form fe80::/64 in accordance with RFC 4291, *IP Version 6 Addressing Architecture*.

The **no** form of this command removes the specified address.

Default

no source

Parameters

ipv6-address

Specifies the TWAMP Light IPv6 source address.

Values		
	ipv6-address:	x:x:x:x:x:x:x:x
		x - [0 to FFFF]H
		unicast and link local IPv6 address only

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source

Syntax

source mep *mep-id* **domain** *md-index* **association** *ma-index*

no source

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream>frm-payl>eth>eth-cfm source)

Full Context

configure test-oam service-activation-testhead service-test service-stream frame-payload ethernet eth-cfm source

Description

This command defines the source launch maintenance association end point (MEP) for service activation. If a MEP that matches this configuration does not exist, the service activation test will not start.

The **no** form of this command disables the source launch point.

Default

no source

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Parameters

mep-id

Specifies the MEP identifier of the launch point.

Values 1 to 8191

md-index

Specifies the maintenance domain (MD) index value of the launch point.

Values 1 to 4294967295

ma-index

Specifies the maintenance association (MA) index value of the launch point.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.64 source-address

source-address

Syntax

source-address *ipv6-address*

no source-address

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay source-address)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay source-address)

[Tree] (config>service>ies>if>ipv6>dhcp6-relay source-address)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>relay source-address)

[Tree] (config>service>vprn>if>ipv6>dhcp6-relay source-address)

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay source-address)

Full Context

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay source-address

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay source-address

configure service ies interface ipv6 dhcp6-relay source-address

configure service ies subscriber-interface ipv6 dhcp6 relay source-address

configure service vprn interface ipv6 dhcp6-relay source-address

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configure service vprn subscriber-interface ipv6 dhcp6 relay source-address

Description

This command configures the source IPv6 address of the DHCPv6 relay messages.

The **no** form of this command reverts to the default.

Parameters

ipv6-address

Specifies the source IPv6 address of the DHCPv6 relay messages.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface ipv6 dhcp6 relay source-address
- configure service vprn subscriber-interface ipv6 dhcp6 relay source-address
- configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay source-address
- configure service ies subscriber-interface ipv6 dhcp6 relay source-address

All

- configure service vprn interface ipv6 dhcp6-relay source-address
- configure service ies interface ipv6 dhcp6-relay source-address

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>aaa>l2tp-acct-plcy>radius-acct-server source-address)

Full Context

configure aaa l2tp-accounting-policy radius-accounting-server source-address

Description

This command configures the source address of the RADIUS messages.

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The **no** form of this command reverts to the default value.

Parameters

ip-address

Specifies the source address to be used for NAT RADIUS accounting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

source-address

Syntax

source-address *ip-address* | *ipv6-address*

no source-address

Context

[Tree] (config>router>mpls>lsp>bfd source-address)

Full Context

configure router mpls lsp bfd source-address

Description

This command configures a source address for the seamless BFD (S-BFD) packets sent on the SR-TE LSP. If this command is not configured, the system uses the LSP **from** address, where applicable. Otherwise, the system uses the system IPv4 address for IPv4 SR-TE LSPs or the IPv6 address corresponding to the IPv6 TE router ID for IPv6 SR-TE LSPs.

The **no** form of this command reverts to the default.

Default

no source-address

Parameters

ip-address | *ipv6-address*

Specifies the IPv4 or IPv6 address.

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: 0 to FFFF]H

d: [0 to 255]D

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source-address

Syntax

source-address *ip-address* | *ipv6-address*

no source-address

Context

[Tree] (config>router>mpls>lsp>primary>bfd source-address)

Full Context

configure router mpls lsp primary bfd source-address

Description

This command configures a source address for the S-BFD packets sent on the SR-TE LSP primary path. The system uses the LSP **from** address, where applicable. Otherwise. the system uses the system IPv4 address for IPv4 SR-TE LSPs or the IPv6 address corresponding to the IPv6 TE router ID for IPv6 SR-TE LSPs.

The **no** form of this command reverts to the default.

Default

no source-address

Parameters

ip-address | *ipv6-address*

Specifies the IPv4 or IPv6 address.

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: 0 to FFFF]H

d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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source-address

Syntax

source-address *ip-address* | *ipv6-address*

no source-address

Context

[Tree] (config>router>mpls>lsp>secondary>bfd source-address)

Full Context

configure router mpls lsp secondary bfd source-address

Description

This command configures a source address for the S-BFD packets sent on the SR-TE LSP secondary path. The system uses the LSP **from** address, where applicable. Otherwise. the system uses the system IPv4 address for IPv4 SR-TE LSPs or the IPv6 address corresponding to the IPv6 TE router ID for IPv6 SR-TE LSPs.

The **no** form of this command reverts to the default.

Default

no source-address

Parameters

ip-address | *ipv6-address*

Specifies the IPv4 or IPv6 address.

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: 0 to FFFF]H

d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source-address

Syntax

source-address *ip-address* | *ipv6-address*

no source-address

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Context

[Tree] (config>router>mpls>lsp-template>bfd source-address)

Full Context

configure router mpls lsp-template bfd source-address

Description

This command configures a source address for the S-BFD packets sent on the SR-TE LSP path instantiated according to the LSP template. The system uses the LSP **from** address, where applicable. Otherwise, the system uses the system IPv4 address for IPv4 SR-TE LSPs or the IPv6 address corresponding to the IPv6 TE router ID for IPv6 SR-TE LSPs.

The **no** form of this command reverts to the default.

Default

no source-address

Parameters

ip-address | *ipv6-address*

Specifies the IPv4 or IPv6 address.

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: 0 to FFFF]H

d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>subscr-mgmt>acct-plcy>server source-address)

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server source-address)

Full Context

configure subscriber-mgmt radius-accounting-policy radius-accounting-server source-address

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configure subscriber-mgmt authentication-policy radius-authentication-server source-address

Description

This command configures the source address of the RADIUS packet.

The system IP address must be configured in order for the RADIUS client to work. See Configuring a System Interface in the Router Configuration Guide.

Note:
The system IP address must only be configured if the source-address is not specified. When the **no source-address** command is executed, the source address is determined at the moment the request is sent. This address is also used in the nas-ip-address attribute: over there it is set to the system IP address if **no source-address** was given.

The **no** form of this command reverts to the default value.

Default

System IP address

Parameters

ip-address

Specifies the IP prefix for the IP match criterion in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

source-address

Syntax

source-address *ip-address* [**allow-connections**]

no source-address

Context

[Tree] (config>aaa>diam>node source-address)

Full Context

configure aaa diameter node source-address

Description

This command configures the IPv4 source address that the SR OS node uses for its peering connection.

The **no** form of this command removes the IP address from the configuration.

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Default

no source-address

Parameters

ip-address

Specifies an IP prefix for the IP match criterion in dotted-decimal notation.

Values 0.0.0.0 **to** 255.255.255.255

allow-connections

Keyword used to accept inter-peering connection on the configured source IPv4 address. A listening TCP socket is opened on the Diameter node within the corresponding router context, IP address, and Diameter port. When this keyword is enabled, each Diameter node within the same routing context in SR must be configured with a unique IP address.

The peer initiating the connection must be an inter-chassis peer. Specifically, the Origin-Host in the CER message must match the locally configured peer identity.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>redundancy>multi-chassis>peer source-address)

Full Context

configure redundancy multi-chassis peer source-address

Description

This command specifies the source address used to communicate with the multi-chassis peer.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the source address used to communicate with the multi-chassis peer.

Values

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

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x - [0 to FFFF]H

d - [0 to 255]D

Platforms

All

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>aaa>radius-srv-plcy>servers source-address)

Full Context

configure aaa radius-server-policy servers source-address

Description

This command configures the source address of the RADIUS packet. The system IP address must be configured in order for the RADIUS client to work. See "Configuring a System Interface" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide*.

Note:
The system IP address must only be configured if the source-address is not specified. When the no source-address command is executed, the source address is determined at the moment the request is sent. This address is also used in the *nas-ip-address* attribute: over there it is set to the system IP address if no source-address was given.

The **no** form of this command reverts to the default value.

Parameters

ip-address

Specifies the source address of RADIUS packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

source-address

Syntax

source-address

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Context

[Tree] (config>service>vprn source-address)

Full Context

configure service vprn source-address

Description

Commands in this context specify the source address and application that should be used in all unsolicited packets.

Platforms

All

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>router>ldp>lsp-bfd source-address)

Full Context

configure router ldp lsp-bfd source-address

Description

This command configures the source address of periodic LSP ping packets and BFD control packets for LSP BFD sessions that are associated with LDP prefixes in the prefix list. The system IP address is used by default. If the system IP address is not routable from the far-end node of the BFD session, then an alternate routable IP address that is local to the source node should be used.

Default

no source-address

Parameters

ip-address

Specifies a routable IPv4 or IPv6 address that is local to the node.

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF in hexadecimal

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d — 0 to 255 in decimal

Default system IP address

Platforms

All

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>app-assure>rad-acct-plcy>server source-address)

Full Context

configure application-assurance radius-accounting-policy radius-accounting-server source-address

Description

This command configures the source address of the RADIUS packet. The system IP address must be configured in order for the RADIUS client to work. See "Configuring a System Interface" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide*. The system IP address must only be configured if the source-address is not specified. When the **no source-address** command is executed, the source address is determined at the moment the request is sent. This address is also used in the nas-ip-address attribute: over there it is set to the system IP address if no source address was given.

The **no** form of this command reverts to the default value, where the source address is the system IP address.

Default

no source-address

Parameters

ip-address

The IP prefix for the IP match criterion in dotted decimal notation.

Values 0.0.0.0 - 255.255.255.255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>service>ipfix>export-policy>collector source-address)

Full Context

configure service ipfix ipfix-export-policy collector source-address

Description

This command configures the source address from which UDP streams containing IPFIX flow records will be sourced.

Default

no source-address

Parameters

ip-address

Source IPv4 address from which UDP streams are sent.

Platforms

All

source-address

Syntax

source-address *ip-address*

no source-address

Context

[Tree] (config>filter>gre-tun-tmp>ipv4 source-address)

Full Context

configure filter gre-tunnel-template ipv4 source-address

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Description

This command defines the source IPv4 address to be used in the GRE IP header used to encapsulate the matching IPv4/IPv6 packet. This IP address can be configured as any value and is not validated against a local IP address. The **source-address** command must be configured for the template to be valid.

The **no** form of this command removes the source IP address configuration from the associated GRE tunnel template.

Parameters

ip-address

Specifies the IPv4 address (in dotted decimal notation) to be used as the source address.

Platforms

All

source-address

Syntax

source-address [*ip-address*]

no source-address

Context

[Tree] (config>filter>redirect-policy>dest>ping-test source-address)

Full Context

configure filter redirect-policy destination ping-test source-address

Description

This command configures the source address to use in the IP packet of the ping test for this destination.

Default

no source-address

Parameters

ip-address

The source address of the IP packet. This can be IPv4 only for an IPv4 destination and IPv6 only for an IPv6 destination.

Values

ipv4-address:	a.b.c.d.
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d

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x: [0 to FFFF]H

d: [0 to 255]D

Platforms

All

source-address

Syntax

source-address

Context

[Tree] (config>system>security source-address)

Full Context

configure system security source-address

Description

This command configures the IP source address that is used in all unsolicited packets sent by the application.

The configured source address applies only to packets transmitted in-band (for example, a network port on an IOM). Packets transmitted out-of-band on the management interface on the CPM Ethernet port use the address of the CPM Ethernet port as the IP source address in the packet.

When a source address is specified for the **ptp** application, the port-based 1588 hardware timestamping assist function will be applied to PTP packets matching the IPv4 address of the router interface used to ingress the SR/ESS or IP address specified in this command. If the IP address is removed, then the port-based 1588 hardware timestamping assist function will only be applied to PTP packets matching the IPv4 address of the router interface.

Platforms

All

source-address

Syntax

source-address *ip-address*

Context

[Tree] (config>system>security>dot1x>radius-plcy source-address)

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Full Context

configure system security dot1x radius-plcy source-address

Description

This command configures the NAS IP address to be sent in the RADIUS packet.

The **no** form of this command reverts to the default value.

Parameters

ip-address

Specifies the IP prefix for the IP match criterion in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255

Platforms

All

source-address

Syntax

source-address *ip-address*

source-address prefix-list *prefix-list-name*

no source-address

Context

[Tree] (config>router>policy-options>policy-statement>entry>from source-address)

Full Context

configure router policy-options policy-statement entry from source-address

Description

This command specifies the source address that is embedded in the join or prune packet as a filter criterion.

The **no** form of this command removes the criterion from the configuration.

This command specifies a multicast data source address as a match criterion for this entry.

Default

no source-address

Parameters

ip-address

Specifies the IP prefix for the IP match criterion in dotted decimal notation.

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Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

prefix-list-name

The prefix list name. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

source-address

Syntax

source-address *ipv6-address*

no source-address

Context

[Tree] (config>router>segment-routing>srv6 source-address)

Full Context

configure router segment-routing segment-routing-v6 source-address

Description

This command configures the global default source IPv6 address used in the SA field of the outer IPv6 header of the SRv6 encapsulated packet. This value is inherited in the BGP and service contexts by default, but can be overwritten in each context. A maximum of 16 address values can be configured in all contexts in the system.

There is no default value for this command. A default source IPv6 address must be configured in this context or in the BGP or service context. The system does not check if the entered address is a valid local address.

The **no** form of this command removes the source IPv6 address from the configuration.

Parameters

ipv6-address

Specifies the source IPv6 address of the SRv6.

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Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

source-address

Syntax

source-address *ipv6-address*

no source-address

Context

[Tree] (config>router>bgp>srv6 source-address)

Full Context

configure router bgp segment-routing-v6 source-address

Description

This command configures the source IPv6 address for SRv6.

This command overrides the source IPv6 address for all address families in the base router instance. By default, BGP uses the value from the top level configuration under **config**>**router**>**segment-routing**>**segment-routing-v6**.

The **no** form of this command removes the source IPv6 address from the configuration.

Default

no source-address

Parameters

ipv6-address

Specifies the source IPv6 address of the SRv6.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H

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d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

source-address

Syntax

source-address *ipv6-address*

no source-address

Context

[Tree] (config>service>vpls>bgp-evpn>srv6 source-address)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 source-address)

[Tree] (config>service>epipe>bgp-evpn>srv6 source-address)

Full Context

configure service vpls bgp-evpn segment-routing-v6 source-address

configure service vprn bgp-ipvpn segment-routing-v6 source-address

configure service epipe bgp-evpn segment-routing-v6 source-address

Description

This command configures the source IPv6 address used in the instance for SRv6 packets.

The **no** form of this command removes the source IPv6 address from the configuration.

Default

no source-address

Parameters

ipv6-address

Specifies the source IPv6 address of the SRv6.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

source-address

Syntax

source-address

Context

[Tree] (config>router>pim source-address)

[Tree] (config>service>vprn>pim source-address)

Full Context

configure router pim source-address

configure service vprn pim source-address

Description

Commands in this context configure the source IP address for PIM messages.

Platforms

All

43.65 source-address-range

source-address-range

Syntax

source-address-range *start-ip-address*

no source-address-range

Context

[Tree] (config>aaa>isa-radius-plcy>servers source-address-range)

Full Context

configure aaa isa-radius-policy servers source-address-range

Description

This command specifies the first IP address in the range of IPv4 addresses that are assigned to a BB-ISA in a given NAT group for NAT RADIUS accounting. The IP addresses are unique within the NAT group and are used to bind the RADIUS client instantiated on each BB-ISA card. The number of IPv4 addresses

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allocated is equal to the number of BB-ISAs in a NAT group that are enabled for NAT RADIUS accounting. Although only the first IPv4 address is explicitly configured with this command, each internally allocated IPv4 address associated with the BB-ISA card can be seen in the routing table (via show commands) as /32 with protocol designation 'NAT'.

Default

no source-address-range

Parameters

start-ip-address

The starting IP address of the IP address range.

Values 0.0.0.0 - 255.255.255.255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.66 source-bmac

source-bmac

Syntax

source-bmac *ieee-address*

no source-bmac

Context

[Tree] (config>service>pbb source-bmac)

Full Context

configure service pbb source-bmac

Description

This command configures the source B-VPLS MAC address to use with PBB and provisions a chassis level source B-MAC.

Parameters

ieee-address

The MAC address assigned to the B-MAC. The value should be input in either a xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format.

Platforms

All

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source-bmac

Syntax

source-bmac *ieee-address*

Context

[Tree] (config>service>vpls>pbb source-bmac)

Full Context

configure service vpls pbb source-bmac

Description

This command configures the base source B-MAC for the B-VPLS. The first 32 bits must be the same with what is configured in the MC-LAG peer. If not configured here, it will inherit the chassis level B-MAC configured under the new PBB object added in the previous section. If the **use-sap-bmac** command is on, the value of the last 16 bits (lsb) of the source B-MAC must be part of the **reserved-source-bmac-lsb** configured at chassis level, under service PBB component. If that is not the case, the command will fail.

Platforms

All

43.67 source-bmac-lsb

source-bmac-lsb

Syntax

source-bmac-lsb *MAC-Lsb* [**es-bmac-table-size** *size*]

no source-bmac-lsb

Context

[Tree] (config>service>system>bgp-evpn>eth-seg source-bmac-lsb)

Full Context

configure service system bgp-evpn ethernet-segment source-bmac-lsb

Description

This command configures the least significant two bytes of the B-MAC used as the source B-MAC for packets generated from the Ethernet-Segment in PBB-EVPN.

When the multi-homing mode is **all-active**, this value and the first high order four bytes must match on all the PEs that are part of the same Ethernet-Segment.

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The **es-bmac-table-size** parameter modifies the default value (8) for the maximum number of virtual bmacs that can be associated to the Ethernet-Segment, that is, the es-bmacs. When the **source-bmac-lsb** is configured, the associated **es-bmac-table-size** is reserved out of the total FDB. The es-bmac will consume a separate B-MAC per B-VPLS that is linked to an Ethernet-Segment.

Parameters

MAC-Lsb

Specifies the two least significant bytes of the es-bmac.

Values 1 to 65535, or xx-xx or xx:xx

size

Specifies the reserved space in the FDB for a specified es-bmac. By default the system reserves 8 entries for a specified Ethernet-Segment B-MAC.

Values 1 to 511999

Default 8

Platforms

All

source-bmac-lsb

Syntax

source-bmac-lsb *mac-lsb* **control-pw-vc-id** *vc-id*

no source-bmac-lsb

Context

[Tree] (config>service>sdp source-bmac-lsb)

Full Context

configure service sdp source-bmac-lsb

Description

This command defines the 16 least significant bits (lsb) which, when combined with the 32 most significant bits of the PBB **source-bmac**, are used as the virtual backbone MAC associated with this SDP. The virtual backbone MAC is used as the source backbone MAC for traffic received on a PBB EPIPE spoke-SDP with **use-sdp-bmac** configured (that is, a redundant pseudowire) and forwarded into the B-VPLS domain.

The control-pw-vc-id defines VC identifier of the spoke-SDP relating to the control pseudowire whose status is to be used to determine whether SPBM advertises this virtual backbone MAC. This is a mandatory parameter when the **source-bmac-lsb** is added or changed. The spoke SDP must have the parameter **use-sdp-bmac** for the control pseudowire to be active.

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Default

no source-bmac-lsb

Parameters

mac-lsb

Specifies the 16 least significant bits of the virtual backbone MAC associated with this SDP.

Values 1 to 65535 or xx-xx or xx:xx

control-pw-vc-id *vc-id*

Specifies the VC identifier of the control pseudowire.

Values 1 to 4294967295

Platforms

All

43.68 source-class

source-class

Syntax

source-class *source-index*

no source-class

Context

[Tree] (config>service>vprn>static-route-entry>follow source-class)

Full Context

configure service vprn static-route-entry follow source-class

Description

This command configures the source class for this static route. Packets matching this follow route are classified into the indicated source class.

The **no** form of this command removes the associated source class from the associated static route follow.

Default

no source-class

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Parameters

source-index

Specifies the destination index integer value.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

source-class

Syntax

source-class *source-index*

no source-class [*source-index*]

Context

[Tree] (config>service>vprn>static-route-entry>indirect source-class)

[Tree] (config>service>vprn>static-route-entry>next-hop source-class)

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel source-class)

Full Context

configure service vprn static-route-entry indirect source-class

configure service vprn static-route-entry next-hop source-class

configure service vprn static-route-entry ipsec-tunnel source-class

Description

This command configures the policy accounting source-class index to be used when incrementing accounting statistic for traffic matching the associated static route.

If source route policy accounting is enabled and a source-class index is configured, traffic with a source IP address matches the associated static route, the source accounting statistics for the specified class will be incremented.

The **no** form of this command removes the associated destination-class from the associated static route nexthop.

Default

no source-class

Parameters

source-index

Specifies an integer value for the accounting source class index.

Values 1 to 255

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

source-class

Syntax

source-class *source-index*

no source-class [*source-index*]

Context

[Tree] (config>router>static-route-entry>indirect source-class)

[Tree] (config>router>static-route-entry>next-hop source-class)

Full Context

configure router static-route-entry indirect source-class

configure router static-route-entry next-hop source-class

Description

This command configures the policy accounting source-class index to be used when incrementing accounting statistic for traffic matching the associated static route.

If source route policy accounting is enabled and a source-class index is configured, traffic with a source IP address matches the associated static route, the source accounting statistics for the specified class will be incremented.

The **no** form of this command removes the associated destination-class from the associated static route nexthop.

Default

no source-class

Parameters

source-index

Specifies an integer value for the accounting source class index.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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source-class

Syntax

source-class *index* [*index*]

source-class {*index* | **all**}

Context

[Tree] (config>router>policy-acct-template source-class)

Full Context

configure router policy-acct-template source-class

Description

This command configures a source class index.

The **no** form of this command deletes the specified source class index.

Parameters

index

Specifies the index value.

Values 1 to 255

all

Deletes all the source class indices.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

source-class

Syntax

source-class [*value*]

no source-class

Context

[Tree] (config>router>policy-options>policy-statement>default-action source-class)

[Tree] (config>router>policy-options>policy-statement>entry>action source-class)

Full Context

configure router policy-options policy-statement default-action source-class

configure router policy-options policy-statement entry action source-class

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Description

This command specifies the policy accounting source class index to associate with matched routes.

Parameters

value

Specifies the default operational source-class for this policy statement.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

43.69 source-destination-prefix

source-destination-prefix

Syntax

[**no**] **source-destination-prefix**

Context

[Tree] (config>cflowd>collector>aggregation source-destination-prefix)

Full Context

configure cflowd collector aggregation source-destination-prefix

Description

This command configures cflowd aggregation based on source and destination prefixes.

The **no** form of this command removes this type of aggregation from the collector configuration.

Platforms

All

43.70 source-ip

source-ip

Syntax

source-ip *ip-address*

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no source-ip

Context

[Tree] (config>subscr-mgmt>shcv-policy>vpls source-ip)

Full Context

configure subscriber-mgmt shcv-policy vpls source-ip

Description

This command configures the IPv4 address to be used as source address for connectivity verification in a VPLS service.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the IPv4 address to be used as source address for connectivity verification in a VPLS service.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

source-ip

Syntax

source-ip *ipv6-address*

no source-ip

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager>dhcp6-client source-ip)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager>dhcp6-client source-ip)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager dhcpv6-client source-ip

configure service ies subscriber-interface wlan-gw pool-manager dhcpv6-client source-ip

Description

This command specifies the source-ip to be used by the DHCPv6 client.

The **no** form of this command removes the specific source-ip. In this case the DHCPv6 client will fall back to the IP address configured on the outgoing interface.

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Parameters

ipv6-address

Specifies the IPv6 address, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.71 source-ip-address

source-ip-address

Syntax

source-ip-address *ip-address*

no source-ip-address

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check source-ip-address)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check source-ip-address)

Full Context

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check source-ip-address

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check source-ip-address

Description

This command configures the source IP address used in ICMP messages. When not specified, the system uses the address of the appropriate address family.

The **no** form of this command removes the IP address.

Parameters

ip-address

Specifies the source IP address.

Values ipv4-prefix: a.b.c.d

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H

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- d: [0 to 255] D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.72 source-ip-origin

source-ip-origin

Syntax

source-ip-origin {**interface** | **vrrp**}

no source-ip-origin

Context

[Tree] (config>subscr-mgmt>shcv-policy>layer-3 source-ip-origin)

Full Context

configure subscriber-mgmt shcv-policy layer-3 source-ip-origin

Description

This command selects the source IP address to be used for SHCV messages.

The **no** form of this command reverts to the default.

Parameters

interface

Specifies to use the interface IP as the source address of SHCV.

vrrp

Specifies to use the VRRP configured IP as the source address of SHCV.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.73 source-mac

source-mac

Syntax

source-mac *ieee-address*

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no source-mac

Context

[Tree] (config>subscr-mgmt>shcv-policy>vpls source-mac)

Full Context

configure subscriber-mgmt shcv-policy vpls source-mac

Description

Specifies the MAC address to be used as source address for connectivity verification in a VPLS service.

The **no** form of this command reverts to the default.

Parameters

ieee-address

Specifies the 48-bit MAC address in the xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.74 source-override

source-override

Syntax

source-override *ip-address* [**create**]

no source-override *ip-address*

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel source-override)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override

Description

This command defines a multicast channel parameter override context for a specific multicast sender within the channel range. The specified sender's IP address must be the same IP type, IPv4 or IPv6, as defined in the **channel** command.

The **no** form of this command removes the specified sender override context from the channel range.

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Parameters

ip-address

Specifies either an IPv4 or IPv6 address and must be the same IP type as the containing **channel** command range.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

create

The **create** keyword is required if creating a new source override when the system is configured to require the explicit use of the keyword to prevent accidental object creation. Objects may be accidentally created when this protection is disabled and an object name is mistyped when attempting to edit the object. This keyword is not required when the protection is disabled. The keyword is ignored when the specified source override IP address already exists.

Platforms

All

43.75 source-port

source-port

Syntax

source-port *port-num*

no source-port

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video source-port)

Full Context

configure mcast-management multicast-info-policy bundle video source-port

Description

This command configures the source port for upstream RET requests. The **source-port** *port-num* value is the only configuration parameter in the bundle "default" context.

The **no** form of the command removes the value from the configuration.

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Parameters

port-num

Specifies the source port in the received RTP multicast stream.

Values 1024 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-s

source-port

Syntax

source-port *port-id*

no source-port

Context

[Tree] (config>system>sync-if-timing>ref2 source-port)

[Tree] (config>system>sync-if-timing>ref1 source-port)

Full Context

configure system sync-if-timing ref2 source-port

configure system sync-if-timing ref1 source-port

Description

This command configures the source port for timing reference **ref1** or **ref2**. If the port is unavailable or the link is down, then the reference sources are re-evaluated according to the reference order configured in the **ref-order** command.

There are restrictions on the source-port location for **ref1** and **ref2** based on platform. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide*.

Default

no source-port

Parameters

port-id

Identifies the physical port in the *slot/mda/port*, **esat**-*id*/*slot*/*port*, or **pxc**-*id*.*sub-port* format.

Values *slot*/*mda*/*port* [.*channel*]

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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source-port

Syntax

source-port *port-id*

no source-port

Context

[Tree] (conf>sys>sat>eth-sat>sync-if>ref1 source-port)

[Tree] (conf>sys>sat>eth-sat>sync-if>ref2 source-port)

Full Context

configure system satellite eth-sat sync-if-timing ref1 source-port

configure system satellite eth-sat sync-if-timing ref2 source-port

Description

This command configures the source port used for the input reference to the frequency clock. The port can be any port of the Ethernet satellite.

The **no** form of this command removes the configuration.

Default

no source-port

Parameters

port-id

Specifies the physical port.

port-id *slot*/*mda*/*port*

eth-sat-id	esat-<id>/<slot>/[u]<port>	
	esat	keyword
	id	1 to 20
	u	keyword for uplink port

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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43.76 source-prefix

source-prefix

Syntax

[**no**] **source-prefix**

Context

[Tree] (config>cflowd>collector>aggregation source-prefix)

Full Context

configure cflowd collector aggregation source-prefix

Description

This command configures cflowd aggregation based on source prefix information.

The **no** form of this command removes this type of aggregation from the collector configuration.

Platforms

All

source-prefix

Syntax

no source-prefix

source-prefix *ipv6-address/prefix-length*

Context

[Tree] (config>aaa>isa-radius-plcy>servers>ipv6 source-prefix)

Full Context

configure aaa isa-radius-policy servers ipv6 source-prefix

Description

This command configures an IPv6 prefix containing individual /128 addresses. These addresses are used as the source address for connections to IPv6 RADIUS servers.

The prefix must be large enough to accommodate all BB-ISAs or ESA VMs in the system.

The **no** form of this command removes the IPv6 prefix.

Default

no source-prefix

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Parameters

ipv6-address/prefix-length

Specifies an IPv6 address and prefix length for the address.

Values

ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
prefix-length:	0 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

source-prefix

Syntax

source-prefix *ip-prefix/length* **nat-policy** *nat-policy-name*

no source-prefix *ip-prefix/length*

Context

[Tree] (config>router>nat>inside source-prefix)

[Tree] (config>service>vprn>nat>inside source-prefix)

Full Context

configure router nat inside source-prefix

configure service vprn nat inside source-prefix

Description

This command configures the source prefix used to identify traffic for NAT processing. After the traffic is diverted to the ESA-VM or vISA, its source IP address is checked to determine if it belongs to the configured prefix. If it does, the traffic is processed by NAT, otherwise, it is dropped.

The **no** form of this command removes the source prefix used to identify traffic for NAT processing.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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43.77 source-prefix-list

source-prefix-list

Syntax

source-prefix-list *prefix-list-name*

no source-prefix-list

Context

[Tree] (config>router>nat>inside source-prefix-list)

[Tree] (config>service>vprn>nat>inside source-prefix-list)

Full Context

configure router nat inside source-prefix-list

configure service vprn nat inside source-prefix-list

Description

This command references the **nat-prefix-list** that contains source IP addresses on the inside (private side).

The source IP addresses on the inside must be known in advance in a **dnat-only** instance. This is required so the corresponding routes can be installed in the routing table and thus the downstream traffic is properly routed towards the MS-ISAs where the original translation was performed (and state is kept).

In the **dnat-only** case, it is mandatory that the inside (private side) and the outside (public side) are in separated VPRNs.

Parameters

prefix-list-name

Specifies the name, up to 32 characters in length, of the NAT prefix list that contains the source IP addresses (original IP addresses).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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43.78 source-prefix-only

source-prefix-only

Syntax

[**no**] **source-prefix-only**

Context

[Tree] (config>router>nat>inside>traffic-identification source-prefix-only)

[Tree] (config>service>vprn>nat>inside>traffic-identification source-prefix-only)

Full Context

configure router nat inside traffic-identification source-prefix-only

configure service vprn nat inside traffic-identification source-prefix-only

Description

This command enables the identification of traffic that is subject to NAT processing based on the source IP address in the packet.

Traffic is diverted to the ESA-VM or vISA for NAT processing using a configured destination prefix or a IPv4 filter. When this command is configured, after traffic arrives on the ESA-VM or vISA, the source IP address in the packet determines whether the traffic is processed by NAT or dropped. If the source IP address belongs to the configured source-prefix, traffic is processed by NAT. Otherwise, it is discarded.

Use the following commands to configure the source prefix:

configure service vprn nat inside source-prefix

configure router nat inside source-prefix

If traffic identification based on the source IP address is disabled, all traffic arriving to the ESA-VM or vISA is subject to NAT processing.

The **no** form of this command disables the identification of traffic that is subject to NAT processing.

Default

no source-prefix-only

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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43.79 source-specific-mcac

source-specific-mcac

Syntax

[**no**] **source-specific-mcac**

Context

[Tree] (config>router>mcac>policy source-specific-mcac)

Full Context

configure router mcac policy source-specific-mcac

Description

This command specifies that both multicast group and multicast source are used for MCAC accounting. For example, if multiple, multicast joins are for the same multicast group but each are a different multicast source, the MCAC accounts for for each multicast group and source combination.

If the multicast source is configured as a subnet instead of an address, the MCAC automatically accounts for every source address within the subnet.

If the multicast source is not configured, the MCAC only accounts for the multicast groups and ignores the source address from the multicast joins. In other words, only one source is accounted for.

The **no** form of this specifies that only the multicast group is used for MCAC accounting. The multicast source address is not used for MCAC accounting. For example, if multiple, multicast joins are for the same multicast group but each with a different multicast source, the MCAC only accounts for the multicast group once.

Default

no source-specific-mcac

Platforms

All

source-specific-mcac

Syntax

source-specific-mcac {**true** | **false** | **use-policy-settings**}

Context

[Tree] (config>router>mcac>policy>bundle source-specific-mcac)

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Full Context

configure router mcac policy bundle source-specific-mcac

Description

This command configures configures the the MCAC policy accounting behavior.

Default

source-specific-mcac false

Parameters

true

Keyword used to specify that both multicast group and multicast source are used for MCAC accounting. For example, if multiple, multicast joins are for the same multicast group but each has a different multicast source, the MCAC accounts for for each multicast group and source combination.

false

Keyword used to specify that only the multicast group is used for MCAC accounting. The multicast source address is not used for MCAC accounting. For example, if multiple, multicast joins are for the same multicast group but each has a different multicast source, the MCAC only accounts for the multicast group once.

use-policy-setting

Keyword used to specify that the bundle uses the source-specific accounting setting in the MCAC policy level.

Platforms

All

43.80 source-udp-port

source-udp-port

Syntax

source-udp-port *udp-port-number*

no source-udp-port

Context

[Tree] (config>oam-pm>session>ip source-udp-port)

Full Context

configure oam-pm session ip source-udp-port

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Description

This command should only be used when the source UDP port for the session-sender twamp-test packet must be specified.

The **no** form of this command means the session-sender automatically assigns the source UDP port from the available dynamic (private) UDP range.

Parameters

udp-port-number

Specifies the UDP source port.

Values 64374 to 64383

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.81 source-udp-port-pools

source-udp-port-pools

Syntax

source-udp-port-pools

Context

[Tree] (config>test-oam>twamp>twamp-light source-udp-port-pools)

Full Context

configure test-oam twamp twamp-light source-udp-port-pools

Description

Commands in this context configure the source UDP port pool allocation for TWAMP Light applications.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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43.82 source-vtep

source-vtep

Syntax

source-vtep *ip-address*

no source-vtep

Context

[Tree] (cfg>service>vprn>vxlan source-vtep)

Full Context

configure service vprn vxlan source-vtep

Description

This command enables the router to use the configured IPv4 address as the tunnel source IP address (source VTEP) when originating VXLAN-encapsulated packets for this VPRN service. This command does modify the next hop of the EVPN IFL routes advertised for the VPRN service.

When unconfigured, the system uses the IPv4 address as the VTEP source.

The **no** form of this command removes the IPv4 address as the source VTEP.

Default

no source-vtep

Parameters

ip-address

Specifies the source VTEP IP address.

Values ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

7750 SR-1, 7750 SR-s

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43.83 source-vtep-security

source-vtep-security

Syntax

[**no**] **source-vtep-security**

Context

[Tree] (config>service>vpls>vxlan source-vtep-security)

Full Context

configure service vpls vxlan source-vtep-security

Description

This command enables the outer IP Source Address lookup of incoming VXLAN packets, and discards those coming from untrusted VTEPs. The list of trusted VTEPs is shown in the **show service vxlan** command. Specifically, it shows the existing learned EVPN VTEPs (always trusted), and the statically configured VTEPs in any service (Epipe and VPLS).

The command is supported in VXLAN instances with static egress VTEPs or VXLAN instances with EVPN created VTEPs.

The **no** version of this command disables the outer IP source address lookup.

Default

no source-vtep-security

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

source-vtep-security

Syntax

[**no**] **source-vtep-security**

Context

[Tree] (cfg>service>vprn>vxlan>instance source-vtep-security)

Full Context

configure service vprn vxlan instance source-vtep-security

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Description

This command enables the lookup of the source VXLAN Termination End Point (VTEP) on received VXLAN packets and discards packets coming from untrusted VTEPs.

The **no** form of this command disables the lookup.

Default

no source-vtep-security

Platforms

7750 SR-1, 7750 SR-s

43.84 sp-reverse-route

sp-reverse-route

Syntax

sp-reverse-route [**ignore-default-route**]

no sp-reverse-route

Context

[Tree] (config>ipsec>tnl-temp sp-reverse-route)

Full Context

configure ipsec tunnel-template sp-reverse-route

Description

This command enables the system to automatically create a reverse route based on dynamic LAN-to-LAN tunnel's TSi in private service.

If **ignore-default-route** is specified, the system ignores any full range traffic selector when creating a reverse route. Otherwise, the system refuses to create a CHILD_SA if any full range traffic selector is included in TSi.

The **no** form of this command disables sp-reverse-route.

Default

no sp-reverse-route

Parameters

ignore-default-route

Specifies to ignore any full range traffic selector in TSi.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.85 space

space

Syntax

[**no**] **space**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>command-completion space)

Full Context

configure system management-interface cli md-cli environment command-completion space

Description

This command enables completion on the space character.

The **no** form of this command reverts to the default value.

Default

space

Platforms

All

43.86 spb

spb

Syntax

spb [*isis-instance*] [**fid** *fid*] [**create**]

no spb

Context

[Tree] (config>service>vpls>sap spb)

[Tree] (config>service>vpls spb)

[Tree] (config>service>vpls>spoke-sdp spb)

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Full Context

configure service vpls sap spb

configure service vpls spb

configure service vpls spoke-sdp spb

Description

This command enables Shortest Path Bridging (SPB) on a B-VPLS instance. SPB uses IS-IS that supports multiple instances, therefore an instance must be specified. The declaration of SPB in this context is the control configuration for the SPB. This is an SPB management interface and it manages the configuration for IS-IS. Various parameters that define this SPB instance are configured under this SPB instance. Several of the parameters are shared with other B-VPLS service instances using SPB.

SPB enables an instance of IS-IS protocol with the **no shutdown** command. Alternatively, the IS-IS protocol instance under SPB is disabled with the **shutdown** command in the **config>service>vpls b-vpls>spb** context.

A Forwarding Identifier (FID) is optionally specified which is an abstraction of the BVID used for forwarding in SPB. When no FID is configured the control VPLS is advertised with FID value 1. When a FID value is specified, the control VPLS is advertised and associated with the FID value specified. The default algorithm for any FID declared or implicit is low-path-id. When a FID is specified, the ect-algorithm can be specified for the FID and changed only when there are no VPLS, SAPs or SDP bindings associated with the FID. The FID for a control instance cannot be changed after it is created. To change a FID the SPB component would have to be shutdown, deleted and re-created with a new FID.

Note:
SPB operates with disable-learning, disable aging and discard-unknown. The state of these commands is ignored when SPB is configured.

Default

no spb

Parameters

isis-instance

Specifies the instance ID for an SPB IS-IS instance.

Values 1024 to 2047 (4 available)

Default 1024

FID

Specifies the FID value.

Values 1 to 4095

Default 1

Platforms

All

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43.87 spbm-control-vpls

spbm-control-vpls

Syntax

spbm-control-vpls *service-id* **fid** *fid*

no spbm-control-vpls

Context

[Tree] (config>service>vpls spbm-control-vpls)

Full Context

configure service vpls spbm-control-vpls

Description

This command associates a user B-VPLS with a particular control B-VPLS and a FID. The ECT algorithm and the behavior of unicast and multicast come from the association to the FID.

A Forwarding Identifier (FID) is specified which is an abstraction of the BVID used for forwarding in SPB. The ect-algorithm is associated with the FID and can be changed only when there are no VPLS, SAPs or SDP bindings associated with the FID. The FID must be independent from the FID assigned to other services.

Parameters

service-id

The B-VPLS service identifier.

Values 1 to 2147483647 | *svc-name*: 64 characters max

fid

The forwarding identifier.

Values 1 to 4095

Platforms

All

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43.88 spe-address

spe-address

Syntax

spe-address *global-id:prefix*

no spe-address

Context

[Tree] (config>service>pw-routing spe-address)

Full Context

configure service pw-routing spe-address

Description

This command configures a single S-PE Address for the node to be used for dynamic MS-PWs. This value is used for the pseudowire switching point TLV used in LDP signaling, and is the value used by pseudowire status signaling to indicate the PE that originates a pseudowire status message. Configuration of this parameter is mandatory to enable dynamic MS-PW support on a node.

If the S-PE Address is not configured, spoke-sdps that use dynamic MS-PWs and pw-routing local-prefixes cannot be configured on a T-PE. Furthermore, the node will send a label release for any label mappings received for FEC129 AII type 2.

The S-PE Address cannot be changed unless the dynamic ms-pw configuration is removed. Furthermore, changing the S-PE Address will also result in all dynamic MS-PWs for which this node is an S-PE being released. It is recommended that the S-PE Address should be configured for the life of an MS-PW configuration after reboot of the router.

The **no** form of this command removes the configured S-PE Address.

Default

no spe-address

Parameters

global-id

Specifies a 4-octet value that is unique to the service provider. For example, the global ID can contain the 2-octet or 4-octet value of the provider's Autonomous System Number (ASN).

Values

<global-id:prefix>:	<global-id>:{<prefix>| <ipaddress>}
global-id	1 to 4294967295
prefix	1 to 4294967295

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	ipaddress	a.b.c.d

Platforms

All

43.89 speed

speed

Syntax

speed {**10** | **100** | **1000** | **10000** | **25000** | **40000** | **50000** | **100000**}

Context

[Tree] (config>port>ethernet speed)

Full Context

configure port ethernet speed

Description

For ports that support multiple speeds, this command configures the port speed to be used. This applies to the following:

- fast Ethernet when autonegotiate is disabled
- 10/100/1000 Ethernet when autonegotiate is disabled
- 10/1G ports supporting 10G SFP+ or 1G SFP
- 40/100G ports supporting QSFP28s on non-connector-based MDAs

If the port is configured to autonegotiate this parameter is ignored. Speed cannot be configured for ports that are part of a Link Aggregation Group (LAG).

Default

dependent on port type

Parameters

10

Sets the link to 10 Mb/s speed.

100

Sets the link to 100 Mb/s speed.

1000

Sets the link to 1000 Mb/s speed.

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10000

Sets the link to 10000 Mb/s speed.

25000

Sets the link to 25000 Mb/s speed.

40000

Sets the link to 40000 Mb/s speed.

50000

Sets the link to 50000 Mb/s speed.

100000

Sets the link to 100000 Mb/s speed.

Platforms

All

speed

Syntax

speed *speed*

Context

[Tree] (bof speed)

Full Context

bof speed

Description

This command configures the speed for the CPM management Ethernet port when autonegotiation is disabled in the running configuration and the Boot Option File (BOF).

If the port is configured to autonegotiate, this parameter is ignored.

Available speed options are dependent on the specific CPM variant in the system.

Default

speed 100

Parameters

speed

Sets the link speed, in Mb/s.

Values 10, 100, 1000

Platforms

All

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43.90 spf

spf

Syntax

[**no**] **spf** [*level-number*] [*system-id*]

Context

[Tree] (debug>router>isis spf)

Full Context

debug router isis spf

Description

This command enables debugging for IS-IS SFP.

The **no** form of the command disables debugging.

Parameters

system-id

When specified, only the specified system-id is debugged. A 6-octet system identifier (xxxx.xxxx.xxxx).

level-number

Specifies the interface level (1, 2, or 1 and 2).

Platforms

All

spf

Syntax

spf [**type**] [*dest-addr*]

no spf

Context

[Tree] (debug>router>ospf spf)

[Tree] (debug>router>ospf3 spf)

Full Context

debug router ospf spf

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debug router ospf3 spf

Description

This command enables debugging for OSPF SPF. Information regarding overall SPF start and stop times will be shown. To see detailed information regarding the SPF calculation of a given route, the route must be specified as an optional argument.

Parameters

type

Specifies the area to debug.

Values intra-area, inter-area, external

dest-addr

Specifies the destination IP address to debug.

Platforms

All

43.91 spf-policy

spf-policy

Syntax

spf-policy

Context

[Tree] (config>service>vprn>nat>inside spf-policy)

[Tree] (config>router>nat>inside spf-policy)

Full Context

configure service vprn nat inside spf-policy

configure router nat inside spf-policy

Description

This command enables the context to configure a SPF NAT policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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43.92 spf-wait

spf-wait

Syntax

spf-wait *spf-wait* [**spf-initial-wait** *spf-initial-wait*] [**spf-second-wait** *spf-second-wait*]

no spf-wait

Context

[Tree] (config>service>vpls>spb>timers spf-wait)

Full Context

configure service vpls spb timers spf-wait

Description

This command defines the maximum interval between two consecutive SPF calculations in milliseconds. Timers that determine when to initiate the first, second, and subsequent SPF calculations after a topology change occurs can be controlled with this command.

Subsequent SPF runs (if required) occur at exponentially increasing intervals of the *spf-second-wait* interval. For example, if the *spf-second-wait* interval is 1000, the next SPF runs after 2000 milliseconds, and then the next SPF runs after 4000 milliseconds, and so on, until it reaches the *spf-wait* value. The SPF interval stays at *spf-wait* value until there are no more SPF runs scheduled in that interval. After a full interval without any SPF runs, the SPF interval drops back to *spf-initial-wait*.

Note: The IS-IS timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

Default

no spf-wait

Parameters

spf-wait

Specifies the maximum interval in milliseconds between two consecutive SPF calculations.

Values 10 to 120000

Default 10000

spf-initial-wait

Specifies the initial SPF calculation delay in milliseconds after a topology change.

Values 10 to 100000

Default 1000

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spf-second-wait

Specifies the hold time in milliseconds between the first and second SPF calculation.

Values 10 to 100000

Default 1000

Platforms

All

spf-wait

Syntax

spf-wait *spf-wait* [**spf-initial-wait** *initial-wait*] [**spf-second-wait** *second-wait*]

no spf-wait

Context

[Tree] (config>service>vprn>isis>timers spf-wait)

Full Context

configure service vprn isis timers spf-wait

Description

This command configures the maximum interval, in milliseconds, between two consecutive SPF calculations. Timers that determine when to initiate the first, second, and subsequent SPF calculations after a topology change occurs are controlled with this command.

Subsequent SPF runs (if required) occur at exponentially increasing intervals of the **spf-second-wait** interval. For example, if the **spf-second-wait** interval is 1000, the next SPF will run after 2000 milliseconds, and the next SPF after 4000 milliseconds, and so on, until it reaches the **spf-wait** value. The SPF interval remains at the **spf-wait** value until no more SPF runs are scheduled in that interval. After a full interval without any SPF runs, the SPF interval drops back to the **spf-initial-wait** value.

Note: The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

The **no** form of this command reverts to the default value.

Default

spf-wait 10000 spf-initial-wait 1000 spf-second-wait 1000

Parameters

spf-wait

Specifies the maximum interval, in milliseconds, between two consecutive SPF calculations.

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Values 10 to 120000

initial-wait

Specifies the initial SPF calculation delay, in milliseconds, after a topology change.

Values 10 to 100000

second-wait

Specifies the hold time, in milliseconds, between the first and second SPF calculation.

Values 10 to 100000

Platforms

All

spf-wait

Syntax

spf-wait *max-spf-wait* [**spf-initial-wait** *spf-initial-wait*] [**spf-second-wait** *spf-second-wait*]

no spf-wait

Context

[Tree] (config>service>vprn>ospf>timers spf-wait)

[Tree] (config>service>vprn>ospf3>timers spf-wait)

Full Context

configure service vprn ospf timers spf-wait

configure service vprn ospf3 timers spf-wait

Description

This command configures the maximum interval between two consecutive SPF calculations, in milliseconds. Timers that determine when to initiate the first, second, and subsequent SPF calculations after a topology change occurs are controlled with this command.

Subsequent SPF runs (if required) occur at exponentially increasing intervals of the **spf-second-wait** interval. For example, if the **spf-second-wait** interval is 1000, the next SPF will run after 2000 milliseconds, and the next SPF after 4000 milliseconds, and so on, until it reaches the **spf-wait** value. The SPF interval stays at the **spf-wait** value until there are no more SPF runs scheduled in that interval. After a full interval without any SPF runs, the SPF interval drops back to **spf-initial-wait** value.

Note: The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity; for example, a configured value of 550 ms is internally rounded down to 500 ms.

The **no** form of this command reverts to the default.

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Default

spf-wait 10000 spf-initial-wait 1000 spf-second-wait 1000

Parameters

max-spf-wait

Specifies the maximum interval, in milliseconds, between two consecutive SPF calculations.

Values 10 to 120000

spf-initial-wait

Specifies the initial SPF calculation delay, in milliseconds, after a topology change.

Values 10 to 100000

spf-second-wait

Specifies the hold time, in milliseconds, between the first and second SPF calculation.

Values 10 to 100000

Platforms

All

spf-wait

Syntax

spf-wait *max-wait* [**initial-wait** *initial-wait*] [**second-wait** *second-wait*]

no spf-wait

Context

[Tree] (config>router>bgp>optimal-route-reflection spf-wait)

Full Context

configure router bgp optimal-route-reflection spf-wait

Description

This command controls the interval between consecutive SPF calculations performed by the TE DB in support of BGP optimal route reflection. The time parameters of this command implement an exponential back-off algorithm.

The **no** form of this command causes a return to default values.

Default

no spf-wait

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Parameters

max-wait

Specifies the maximum interval in seconds between two consecutive SPF calculations.

Values 1 to 600

Default 60

initial-wait initial-wait

Specifies the initial SPF calculation delay in seconds after a topology change.

Values 1 to 300

Default 5

second-wait second-wait

Specifies the delay in seconds between the first and second SPF calculation.

Values 1 to 300

Default 15

Platforms

All

spf-wait

Syntax

spf-wait *spf-wait* [**spf-initial-wait** *initial-wait*] [**spf-second-wait** *second-wait*]]

no spf-wait

Context

[Tree] (config>router>isis>timers spf-wait)

Full Context

configure router isis timers spf-wait

Description

This command configures the maximum interval between two consecutive SPF calculations, in milliseconds. Timers that determine when to initiate the first, second, and subsequent SPF calculations after a topology change occurs are controlled with this command.

Subsequent SPF runs (if required) occur at exponentially increasing intervals of the **spf-second-wait** interval. For example, if the **spf-second-wait** interval is 1000, the next SPF will run after 2000 milliseconds, and the next SPF after 4000 milliseconds, and so on, until it reaches the **spf-wait** value. The SPF interval stays at the **spf-wait** value until there are no more SPF runs scheduled in that interval. After a full interval without any SPF runs, the SPF interval drops back to the **spf-initial-wait** value.

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Note: The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity; for example, a configured value of 550 ms is internally rounded down to 500 ms.

The **no** form of this command reverts to the default value.

Default

spf-wait 10000 spf-initial-wait 1000 spf-second-wait 1000

Parameters

spf-wait

Specifies the maximum interval, in milliseconds, between two consecutive SPF calculations.

Values 10 to 120000

initial-wait

Specifies the initial SPF calculation delay, in milliseconds, after a topology change.

Values 10 to 100000

second-wait

Specifies the hold time, in milliseconds, between the first and second SPF calculation.

Values 10 to 100000

Platforms

All

spf-wait

Syntax

spf-wait *max-spf-wait* [**spf-initial-wait** *spf-initial-wait* [**spf-second-wait** *spf-second-wait*]]

no spf-wait

Context

[Tree] (config>router>ospf>timers spf-wait)

[Tree] (config>router>ospf3>timers spf-wait)

Full Context

configure router ospf timers spf-wait

configure router ospf3 timers spf-wait

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Description

This command configures the maximum interval between two consecutive SPF calculations, in milliseconds. Timers that determine when to initiate the first, second, and subsequent SPF calculations after a topology change occurs are controlled with this command.

Subsequent SPF runs (if required) occurs at exponentially increasing intervals of the **spf-second-wait** interval. For example, if the **spf-second-wait** interval is 1000, the next SPF will run after 2000 milliseconds, and the next SPF after 4000 milliseconds, and so on, until it reaches the **spf-wait** value. The SPF interval stays at the **spf-wait** value until there are no more SPF runs scheduled in that interval. After a full interval without any SPF runs, the SPF interval drops back to the **spf-initial-wait** value.

Note: The timer granularity is 10 ms if the value is less than 500 ms, and 100 ms if the value is greater than or equal to 500 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms.

The **no** form of this command reverts to the default value.

Default

spf-wait 10000 spf-initial-wait 1000 spf-second-wait 1000

Parameters

max-spf-wait

Specifies the maximum interval, in milliseconds, between two consecutive SPF calculations.

Values 10 to 120000

spf-initial-wait

Specifies the initial SPF calculation delay, in milliseconds, after a topology change.

Values 10 to 100000

spf-second-wait

Specifies the hold time, in milliseconds, between the first and second SPF calculation.

Values 10 to 100000

Platforms

All

43.93 spi

spi

Syntax

spi *spi*

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no spi

Context

[Tree] (config>ipsec>static-sa spi)

Full Context

configure ipsec static-sa spi

Description

This command configures the SPI key value for an IPsec manual SA.

This command specifies the SPI (Security Parameter Index) used to lookup the instruction to verify and decrypt the incoming IPsec packets when the value of the **direction** command is **inbound**.

The SPI value specifies the SPI that will be used in the encoding of the outgoing packets when the when the value of the **direction** command is **outbound**. The remote node can use this SPI to lookup the instruction to verify and decrypt the packet.

If **no spi** is selected, then this static SA cannot be used.

The **no** form of this command reverts to the default value.

Default

no spi

Parameters

spi

Specifies the security parameter index for this SA.

Values 256 to 16383

Platforms

All

43.94 spi-load-balancing

spi-load-balancing

Syntax

[**no**] **spi-load-balancing**

Context

[Tree] (config>service>template>vpls-template>load-balancing spi-load-balancing)

[Tree] (config>service>vpls>load-balancing spi-load-balancing)

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Full Context

configure service template vpls-template load-balancing spi-load-balancing

configure service vpls load-balancing spi-load-balancing

Description

This command enables use of the SPI in hashing for ESP/AH encrypted IPv4/v6 traffic. This is a per interface setting.

The **no** form disables the SPI function.

Default

no spi-load-balancing

Platforms

All

spi-load-balancing

Syntax

[**no**] **spi-load-balancing**

Context

[Tree] (config>service>ies>if>load-balancing spi-load-balancing)

Full Context

configure service ies interface load-balancing spi-load-balancing

Description

This command enables use of the SPI in hashing for ESP/AH encrypted IPv4/v6 traffic. This is a per interface setting.

The **no** form disables the SPI function.

Default

no spi-load-balancing

Platforms

All

spi-load-balancing

Syntax

[**no**] **spi-load-balancing**

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Context

[Tree] (config>service>vprn>nw-if>load-balancing spi-load-balancing)

Full Context

configure service vprn network-interface load-balancing spi-load-balancing

Description

This command enables use of the SPI in hashing for ESP/AH encrypted IPv4/v6 traffic. This is a per interface setting.

The **no** form disables the SPI function.

Default

no spi-load-balancing

Platforms

All

spi-load-balancing

Syntax

[**no**] **spi-load-balancing**

Context

[Tree] (config>router>if>load-balancing spi-load-balancing)

Full Context

configure router interface load-balancing spi-load-balancing

Description

This command enables use of the SPI in hashing for ESP/AH encrypted IPv4/v6 traffic. This is a per interface setting.

The **no** form disables the SPI function.

Default

no spi-load-balancing

Platforms

All

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43.95 spi-range-index

spi-range-index

Syntax

spi-range-index *1..4*

no spi-range-index

Context

[Tree] (config>isa>tunnel-grp spi-range-index)

Full Context

configure isa tunnel-group spi-range-index

Description

This command configures the SPI range index value for the tunnel group. Each index value corresponds to a subrange of SPI values from the entire SPI space to allocate to the tunnel group.

This command must be configured with a unique value across all multichassis peering systems in following cases:

- A multichassis-enabled tunnel group contains ESA-VMs with weight.
- The **active-mda-number** configurations of a tunnel group are different on different peering systems.

See the *7450 ESS, 7750 SR, and VSR Multiservice ISA and ESA Guide* for more information.

The tunnel group must be shut down to modify the SPI range allocation.

The **no** form of this command removes the SPI range allocation for the tunnel group.

Default

no spi-range-index

Parameters

1..4

Specifies the SPI range index value.

Values 1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

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43.96 spi-sharing-group-id

spi-sharing-group-id

Syntax

spi-sharing-group-id *group-id*

no spi-sharing-group-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings spi-sharing-group-id)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings spi-sharing-group-id)

Full Context

configure subscriber-mgmt local-user-db ipoe host identification-strings spi-sharing-group-id

configure subscriber-mgmt local-user-db ppp host identification-strings spi-sharing-group-id

Description

This command configures the SLA Profile Instance (SPI) sharing group identifier for an IPoE or PPPoE session. It overrides the default SPI sharing method (**def-instance-sharing**) configured in the SLA profile.

When an spi-sharing-group-id is configured, the IPoE or PPPoE session shares the SLA Profile Instance with other IPoE or PPPoE sessions from the same subscriber that: have the same SLA profile associated, are active on the same SAP, and have the same group identifier.

Configuring an **spi-sharing-group-id** *group-id* for an IPoE host, when the IPoE session is disabled on the group interface, results in a setup failure.

The **no** form of this command returns the SPI sharing group identifier to its default.

Parameters

group-id

Specifies the SPI group identifier.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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43.97 spi-sharing-id

spi-sharing-id

Syntax

[**no**] **spi-sharing-id**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute spi-sharing-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute spi-sharing-id

Description

This command enables RADIUS accounting messages to include the Alc-SPI-Sharing-Id RADIUS attribute. Together with the SLA profile name, this attribute provides details on the applicable SPI or queuing instance for this accounting session.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

43.98 split-horizon

split-horizon

Syntax

split-horizon

no split-horizon

Context

[Tree] (config>service>vprn>bgp split-horizon)

[Tree] (config>service>vprn>bgp>group split-horizon)

[Tree] (config>service>vprn>bgp>group>neighbor split-horizon)

Full Context

configure service vprn bgp split-horizon

configure service vprn bgp group split-horizon

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configure service vprn bgp group neighbor split-horizon

Description

This command enables the use of split-horizon. When applied globally, to a group, or a specific peer, split-horizon prevents routes from being reflected back to a peer that sends the best route. It applies to routes of all address families and to any type of sending peer; confed-EBGP, EBGP and IBGP.

The configuration default is **no split-horizon**, meaning that no effort is taken to prevent a best route from being reflected back to the sending peer.

Caution:
Use of the **split-horizon** command may have a detrimental impact on peer and route scaling and therefore operators are encouraged to use it only when absolutely needed.

The **no** form of this command disables split horizon command which allows the lower level to inherit the setting from an upper level.

Default

no split-horizon

Platforms

All

split-horizon

Syntax

split-horizon {**enable** | **disable**}

no split-horizon

Context

[Tree] (config>service>vprn>rip split-horizon)

[Tree] (config>service>vprn>ripng split-horizon)

[Tree] (config>service>vprn>ripng>group split-horizon)

[Tree] (config>service>vprn>rip>group>neighbor split-horizon)

[Tree] (config>service>vprn>rip>group split-horizon)

[Tree] (config>service>vprn>ripng>group>neighbor split-horizon)

Full Context

configure service vprn rip split-horizon

configure service vprn ripng split-horizon

configure service vprn ripng group split-horizon

configure service vprn rip group neighbor split-horizon

configure service vprn rip group split-horizon

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configure service vprn ripng group neighbor split-horizon

Description

This command enables the use of split-horizon. RIP uses split horizon with poison reverse to protect from such problems as "counting to infinity". Split horizon with poison reverse means that routes learned from a neighbor through a given interface are advertised in updates out of the same interface but with a metric of 16 (infinity).

The **no** form of this command disables the **split-horizon** command, which allows the lower level to inherit the setting from an upper level.

Default

split-horizon enable

Parameters

enable

Enables split horizon and poison reverse.

disable

Enables split horizon without poison reverse. This allows the routes to be readvertised on interfaces other than the interface that learned the route, with the advertised metric equaling an increment of the metric-in value.This configuration parameter can be set at three levels: global level (applies to all groups and neighbor interfaces), group level (applies to all neighbor interfaces in the group) or neighbor level (only applies to the specified neighbor interface). The most specific value is used. In particular, if no value is set (**no split-horizon**), the lower level inherits the setting from the less-specific level.

Platforms

All

split-horizon

Syntax

[**no**] **split-horizon**

Context

[Tree] (config>router>bgp>group>neighbor split-horizon)

[Tree] (config>router>bgp split-horizon)

[Tree] (config>router>bgp>group split-horizon)

Full Context

configure router bgp group neighbor split-horizon

configure router bgp split-horizon

configure router bgp group split-horizon

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Description

This command enables the use of split-horizon. Split-horizon prevents routes from being reflected back to a peer that sends the best route. It applies to routes of all address families and to any type of sending peer; confed-EBGP, EBGP and IBGP.

The configuration default is **no split-horizon**, meaning that no effort is taken to prevent a best route from being reflected back to the sending peer.

Default

no split-horizon

Platforms

All

split-horizon

Syntax

split-horizon {**enable** | **disable**}

no split-horizon

Context

[Tree] (config>router>ripng>group split-horizon)

[Tree] (config>router>rip split-horizon)

[Tree] (config>router>ripng>group>neighbor split-horizon)

[Tree] (config>router>rip>group split-horizon)

[Tree] (config>router>ripng split-horizon)

[Tree] (config>router>rip>group>neighbor split-horizon)

Full Context

configure router ripng group split-horizon

configure router rip split-horizon

configure router ripng group neighbor split-horizon

configure router rip group split-horizon

configure router ripng split-horizon

configure router rip group neighbor split-horizon

Description

This command enables the use of split-horizon.

RIP uses split-horizon with poison-reverse to protect from such problems as "counting to infinity". Split-horizon with poison reverse means that routes learned from a neighbor through a given interface are advertised in updates out of the same interface but with a metric of 16 (infinity).

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The **split-horizon disable** command enables split horizon without poison reverse. This allows the routes to be re-advertised on interfaces other than the interface that learned the route, with the advertised metric equaling an increment of the metric-in value.

This configuration parameter can be set at three levels: global level (applies to all groups and neighbor interfaces), group level (applies to all neighbor interfaces in the group) or neighbor level (only applies to the specified neighbor interface). The most specific value is used. In particular if no value is set (**no split-horizon**), the setting from the less specific level is inherited by the lower level.

The **no** form of the command disables split horizon command which allows the lower level to inherit the setting from an upper level.

Default

enabled

Parameters

enable

Specifies enable split horizon and poison reverse.

disable

Specifies disable split horizon allowing routes to be re-advertised on the same interface on which they were learned with the advertised metric incremented by the **metric-in** value.

Platforms

All

43.99 split-horizon-group

split-horizon-group

Syntax

split-horizon-group [*group-name*] [**residential-group**] [**create**]

Context

[Tree] (config>service>vpls split-horizon-group)

Full Context

configure service vpls split-horizon-group

Description

This command creates a new split horizon group for the VPLS instance. Traffic arriving on a SAP or spoke-SDP within this split horizon group will not be copied to other SAPs or spoke-SDPs in the same split horizon group.

A split horizon group must be created before SAPs and spoke-SDPs can be assigned to the group.

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The split horizon group is defined within the context of a single VPLS. The same group-name can be re-used in different VPLS instances.

Up to 30 split horizon groups can be defined per VPLS instance. Half are supported in i-VPLS.

The **no** form of this command removes the group name from the configuration.

Default

A split horizon group is by default not created as a residential-group.

Parameters

group-name

Specifies the name of the split horizon group to which the SDP belongs

residential-group

Defines a split horizon group as a residential split horizon group (RSHG). Doing so entails that:

a) SAPs which are members of this Residential Split Horizon Group will have:

- Double-pass queuing at ingress as default setting (can be disabled)
- STP disabled (cannot be enabled)
- ARP reply agent enabled per default (can be disabled)
- MAC pinning enabled per default (can be disabled)
- Downstream broadcast packets are discarded thus also blocking the unknown, flooded traffic
- Downstream multicast packets are allowed when IGMP snooping is enabled

b) Spoke SDPs which are members of this Residential Split Horizon Group will have:

- Downstream multicast traffic supported
- Double-pass queuing is not applicable
- STP is disabled (can be enabled)
- ARP reply agent is not applicable (dhcp-lease-states are not supported on spoke-SDPs)
- MAC pinning enabled per default (can be disabled)

Platforms

All

split-horizon-group

Syntax

split-horizon-group *group-name*

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only split-horizon-group)

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Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters split-horizon-group

Description

This command specifies the name of the split horizon group to which the MSAP belongs.

Parameters

group-name

Specifies the split horizon group name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

split-horizon-group

Syntax

split-horizon-group *name*

no split-horizon-group

Context

[Tree] (config>service>vpls>bgp-evpn>srv6 split-horizon-group)

[Tree] (config>service>vpls>bgp-evpn>mpls split-horizon-group)

Full Context

configure service vpls bgp-evpn segment-routing-v6 split-horizon-group

configure service vpls bgp-evpn mpls split-horizon-group

Description

This command allows the user to configure an explicit split-horizon-group for all BGP-EVPN MPLS or SRv6 destinations that can be shared by other SAPs and/or spoke SDPs. The use of explicit split-horizon-groups for EVPN-MPLS or SRv6 and spoke SDPs allows the integration of VPLS and EVPN-MPLS or SRv6 networks.

If the **split-horizon-group** command for **bgp-evpn>mpls/srv6** contexts is not used, the default split-horizon-group (that contains all the EVPN destinations) is still used, but it is not possible to refer to it on SAPs/spoke SDPs. User-configured split-horizon-groups can be configured within the service context. The same group-name can be associated to SAPs, spoke SDPs, pw-templates, pw-template-bindings and EVPN-MPLS or SRv6 destinations. The configuration of **bgp-evpn>mpls/srv6> split-horizon-group** is only allowed if **bgp-evpn>mpls/srv6** is shutdown; no changes are allowed when **bgp-evpn>mpls/srv6** is **no shutdown**.

When the SAPs and/or spoke SDPs (manual or BGP-AD-discovered) are configured within the same **split-horizon-group** as the EVPN-MPLS or SRv6 endpoints, MAC addresses are still learned on them but they are not advertised in BGP-EVPN. If provider-tunnel is enabled in the bgp-evpn service, the SAPs and SDP bindings that share the same split-horizon-group of the EVPN-MPLS provider-tunnel are brought operationally down if the point-to-multipoint tunnel is operationally up.

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Default

no split-horizon-group

Parameters

name

Specifies the split-horizon-group name.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vpls bgp-evpn segment-routing-v6 split-horizon-group

All

- configure service vpls bgp-evpn mpls split-horizon-group

split-horizon-group

Syntax

split-horizon-group *group-name*

no split-horizon-group

Context

[Tree] (config>service>vpls>site split-horizon-group)

Full Context

configure service vpls site split-horizon-group

Description

This command configures the value of split-horizon group associated with this site.

The **no** form of this command reverts the default.

Default

no split-horizon-group

Parameters

group-name

Specifies a split-horizon group name

Platforms

All

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split-horizon-group

Syntax

split-horizon-group *group-name*

no split-horizon-group

Context

[Tree] (config>service>pw-template split-horizon-group)

Full Context

configure service pw-template split-horizon-group

Description

This command creates a new split horizon group (SGH).

Comparing a "residential" SGH and a "regular" SHG is that a residential SHG:

- Has different defaults for the SAP or SDP that belong to this group (ARP reply agent enabled (SAP only), MAC pinning enabled). These can be disabled in the configuration.
- Does not allow enabling spanning tree (STP) on a SAP. It is allowed on an SDP.
- Does not allow for downstream broadcast (broadcast/unknown unicast) on a SAP. It is allowed on an SDP.
- On a SAP, downstream multicast is only allowed when IGMP is enabled (for which an MFIB state exists; only IP multicast); on a SDP, downstream mcast is allowed.

When the feature was initially introduced, residential SHGs were also using ingress shared queuing by default to increase SAP scaling.

A residential SAP (SAP that belongs to a RSHG) is used to scale the number of SAPs in a single VPLS instance. The limit depends on the hardware used and is higher for residential SAPs (where there is no need for egress multicast replication on residential SAPs) than for regular SAPs. Therefore, residential SAPs are useful in residential aggregation environments (for example, triple play networks) with a VLAN/subscriber model.

The **no** form of the command removes the group name from the configuration.

Parameters

group-name

Specifies the name of the split horizon group to which the SDP belongs.

residential-group

Defines a split horizon group as a residential split horizon group (RSHG). Doing so entails that:

- SAPs which are members of this Residential Split Horizon Group will have:
  - Double-pass queuing at ingress as default setting (can be disabled)
  - STP disabled (cannot be enabled)
  - ARP reply agent enabled per default (can be disabled)

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- MAC pinning enabled per default (can be disabled)
- Downstream Broadcast packets are discarded thus also blocking the unknown, flooded traffic
- Downstream Multicast packets are allowed when IGMP snooping is enabled

- Spoke SDPs which are members of this Residential Split Horizon Group will have:
  - Downstream multicast traffic supported
  - Double-pass queuing is not applicable
  - STP is disabled (can be enabled)
  - ARP reply agent is not applicable on the 7750 SR and 7450 ESS (dhcp-lease-states are not supported on spoke SDPs)
  - MAC pinning enabled per default (can be disabled)

Platforms

All

43.100 spoke-sdp

spoke-sdp

Syntax

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**split-horizon-group** *group-name*] [**create**] **endpoint** *endpoint* **root-leaf-tag**

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**split-horizon-group** *group-name*] [**create**] **endpoint** *endpoint* **leaf-ac**

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**split-horizon-group** *group-name*] [**create**] [**no-endpoint**]

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**split-horizon-group** *group-name*] [**create**] **endpoint** *endpoint*

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**split-horizon-group** *group-name*] [**create**] [**no-endpoint**] **leaf-ac**

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**split-horizon-group** *group-name*] [**create**] [**no-endpoint**] **root-leaf-tag**

no spoke-sdp *sdp-id*[**:***vc-id*]

Context

[Tree] (config>service>vpls spoke-sdp)

Full Context

configure service vpls spoke-sdp

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Description

This command binds a service to an existing service destination point (SDP).

A spoke SDP is treated like the equivalent of a traditional bridge port where flooded traffic received on the spoke SDP is replicated on all other ports (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service is down.

The SDP must already be defined in the **config>service>sdp** context in order to associate an SDP with a VPLS service. If the **sdp** *sdp-id* is not already configured, an error message is generated. If the *sdp-id* does exist, a binding between that *sdp-id* and the service is created.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end 7450 ESS or 7750 SR devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. After the SDP binding is removed, no packets are forwarded to the far-end router.

Parameters

sdp-id

Specifies the SDP identifier.

Values 1 to 32767

vc-id

Specifies the virtual circuit identifier.

Values 1 to 4294967295

vc-type

This command overrides the default VC type signaled for the spoke or mesh binding to the far end of the SDP. The VC type is a 15 bit-quantity containing a value which represents the type of VC. The actual signaling of the VC type depends on the signaling parameter defined for the SDP. If signaling is disabled, the **vc-type** command can still be used to define the dot1q value expected by the far-end provider equipment. A change of the binding's VC type causes the binding to signal the new VC type to the far end when signaling is enabled.

VC types are derived according to IETF *draft-martini-l2circuit-trans-mpls*.

The VC type value for Ethernet is 0x0005.

The VC type value for an Ethernet VLAN is 0x0004.

Values ether, vlan

ether

Defines the VC type as Ethernet. The **ethernet**, **vlan,** and **vpls** keywords are mutually exclusive. When the VC type is not defined then the default is Ethernet for spoke SDP bindings. Defining Ethernet is the same as executing **no vc-type** and restores the default VC type for the spoke SDP binding (hex 5).

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vlan

Defines the VC type as VLAN. The **ethernet**, **vlan,** and **vpls** keywords are mutually exclusive. When the VC type is not defined then the default is Ethernet for spoke SDP bindings. The VLAN VC-type requires at least one dot1Q tag within each encapsulated Ethernet packet transmitted to the far end.

group-name

Specifies the name of the split horizon group to which the SDP belongs.

leaf-ac

Specifies a SDP as a leaf access (AC) SDP. The default E-Tree SAP type is root AC if **leaf-ac** (or **root-leaf-tag**) is not specified at SDP creation. This option is only available when the VPLS is designated as an E-Tree VPLS.

create

Keyword used to create the spoke SDP. The create keyword requirement can be enabled or disabled in the **environment>create** context.

endpoint

Specifies the service endpoint to which this SDP bind is attached. The service ID of the SDP binding must match the service ID of the service endpoint.

no endpoint

Removes the association of a spoke-SDP with an explicit endpoint name.

root-leaf-tag

Specifies a tagging spoke-SDP under an E-Tree VPLS. When a tag SDP binding is required, it is created with a root-leaf-tag flag. Only VLAN tag SDP bindings are supported. The VLAN type must be set to VC VLAN type. The root-leaf-tag parameter indicates this SDP binding is a tag SDP that will use a default VID tag of 1 for root and 2 for leaf. The SDP binding tags egress E-Tree traffic with root and leaf VIDs as appropriate. Root and leaf VIDs are only significant between peering VPLS but the values must be consistent on each end. On ingress a tag SDP binding removes the VID tag on the interface between VPLS in the same E-Tree service. The tag SDP receives root tagged traffic and marks the traffic with a root indication internally. This option is not available on BGP EVPN-enabled E-Tree services.

leaf-ac

Specifies an access (AC) spoke-SDP binding under a E-Tree VPLS as a leaf access (AC) SDP. The default E-Tree SDP binding type is a root-ac if *leaf-ac* or *root-leaf-tag* is not specified at SDP creation. This option is only available when the VPLS is designated as an E-Tree VPLS. BGP EVPN-enabled E-Tree VPLS services support the **leaf-ac** option.

Platforms

All

spoke-sdp

Syntax

[**no**] **spoke-sdp** *sdp-id*

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Context

[Tree] (config>service>vprn spoke-sdp)

Full Context

configure service vprn spoke-sdp

Description

This command binds a service to an existing service destination point (SDP).

A spoke SDP is treated like the equivalent of a traditional bridge "port" where flooded traffic received on the spoke SDP is replicated on all other "ports" (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service is down.

The SDP must already be defined in the **config>service>sdp** context in order to associate an SDP with a VPRN service. If the **sdp** *sdp-id* is not already configured, an error message is generated. If the *sdp-id* does exist, a binding between that *sdp-id* and the service is created.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end 7750 SR devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router.

Parameters

sdp-id

Specifies the SDP identifier. Allowed values are integers in the range of 1 and 17407 for existing SDPs.

vc-id

Specifies the virtual circuit identifier.

Values 1 to 4294967295

Platforms

All

spoke-sdp

Syntax

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **ipipe**}] [**create**]

no spoke-sdp *sdp-id*[**:***vc-id*]

Context

[Tree] (config>service>vprn>red-if spoke-sdp)

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[Tree] (config>service>vprn>if spoke-sdp)

[Tree] (config>service>ies>if spoke-sdp)

[Tree] (config>service>ies>redundant-interface spoke-sdp)

Full Context

configure service vprn redundant-interface spoke-sdp

configure service vprn interface spoke-sdp

configure service ies interface spoke-sdp

configure service ies redundant-interface spoke-sdp

Description

This command binds a service to an existing service destination point (SDP).

A spoke SDP is treated like the equivalent of a traditional bridge "port" where flooded traffic received on the spoke SDP is replicated on all other "ports" (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service is down.

The SDP must already be defined in the **configure service sdp** context in order to associate an SDP with an IES service. If the **sdp** *sdp-id* is not already configured, an error message is generated. If the *sdp-id* does exist, a binding between that *sdp-id* and the service is created.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end devices can participate in the service.

Class-based forwarding is not supported on a spoke SDP used for termination on an IES or VPRN services. All packets are forwarded over the default LSP.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router. The spoke SDP must be shut down first before it can be deleted from the configuration.

Default

no spoke-sdp

Parameters

sdp-id

Specifies the SDP identifier. Allowed values are integers in the range of 1 and 17407 for existing SDPs.

vc-id

Specifies the virtual circuit identifier.

Values 1 to 4294967295

vc-type

Specifies the encapsulation and pseudowire type for the spoke SDP.

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Values ether: specifies Ethernet pseudowire as the type of virtual circuit (VC) associated with the SDP binding

ipipe: specifies Ipipe pseudowire as the type of virtual circuit (VC) associated with the SDP binding

Default ether

create

Keyword used to create the spoke SDP. The create keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies redundant-interface spoke-sdp
- configure service vprn redundant-interface spoke-sdp

All

- configure service vprn interface spoke-sdp
- configure service ies interface spoke-sdp

spoke-sdp

Syntax

spoke-sdp *sdp-id:vc-id*

no spoke-sdp

Context

[Tree] (config>service>vpls>site spoke-sdp)

Full Context

configure service vpls site spoke-sdp

Description

This command binds a service to an existing service destination point (SDP).

The **no** form of this command removes the parameter from the configuration.

Parameters

sdp-id

Specifies the SDP identifier

Values 1 to 17407

vc-id

Specifies the virtual circuit identifier.

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Values 1 to 429496729

Platforms

All

spoke-sdp

Syntax

spoke-sdp *sdp-id*[**:***vc-id*] [**no-endpoint**]

spoke-sdp *sdp-id*[:*vc-id*] **endpoint** *endpoint-name* [**icb**]

no spoke-sdp *sdp-id*[**:***vc-id*]

Context

[Tree] (config>service>cpipe spoke-sdp)

[Tree] (config>service>ipipe spoke-sdp)

Full Context

configure service cpipe spoke-sdp

configure service ipipe spoke-sdp

Description

This command binds a service to an existing service destination point (SDP). A spoke SDP is treated like the equivalent of a traditional bridge "port" where flooded traffic received on the spoke SDP is replicated on all other "ports" (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service will be down.

The SDP must already be defined in the **config>service>sdp** context in order to associate an SDP with a service. If the **sdp** *sdp-id* is not already configured, an error message is generated. If the *sdp-id* does exist, a binding between that *sdp-id* and the service is created.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end SR/ESS devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router.

Default

No *sdp-id* is bound to a service.

Parameters

sdp-id

The SDP identifier.

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Values 1 to 32767

vc-id

The virtual circuit identifier.

Values 1 to 4294967295

no-endpoint

Adds or removes a spoke SDP association.

endpoint-name

Specifies the name of the service endpoint.

icb

Configures the spoke SDP as an inter-chassis backup SDP binding.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp

All

- configure service ipipe spoke-sdp

spoke-sdp

Syntax

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**create**] [**no-endpoint**]

spoke-sdp *sdp-id*[**:***vc-id*] [**vc-type** {**ether** | **vlan**}] [**create**] **endpoint** *endpoint-name* [**icb**]

no spoke-sdp *sdp-id*[**:***vc-id*]

Context

[Tree] (config>service>epipe spoke-sdp)

Full Context

configure service epipe spoke-sdp

Description

This command binds a service to an existing SDP. A spoke SDP is equivalent to a traditional bridge "port", where flooded traffic received on the spoke SDP is replicated on all other "ports" (including other spoke and mesh SDPs or SAPs), and not transmitted on the port on which it was received.

The SDP has an operational state that determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service is down.

To associate an SDP with an Epipe, VPLS, VPRN, or VPRN service, the SDP must be predefined in the **configure service sdp** context. If the **sdp** *sdp-id* is not already configured, an error message is generated. If the *sdp-id* exists, a binding between that *sdp-id* and the service is created.

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SDPs must be explicitly associated with and bound to a service; otherwise, no far-end devices can participate in the service.

This command can also be used to associate a GRE tunnel carrying Ethernet payload with an Epipe and terminate it on a PW port referenced within the same Epipe service. The spoke SDP represents a L2oGRE tunnel with SDP delivery type set to **eth-gre-bridged**. With this configuration, the **vc-id** is unused since there is no multiplexing of Ethernet payload within the same tunnel. The **vc-id** value is included only to maintain the expected spoke SDP structure within an Epipe service. For L2oGRE tunnels, the **vc-id** can be set to any arbitrary value within its configurable range.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected. After it is removed, no packets are forwarded to the far-end router.

Default

No *sdp-id* is bound to a service.

Parameters

sdp-id

The SDP identifier.

Values 1 to 17407

vc-id

Specifies the virtual circuit identifier. The VC-ID is not used with L2TPv3 SDPs or L2oGRE tunnels, however, it must be configured.

Values 1 to 4294967295

vc-type

Keyword that specifies the VC type, which overrides the default VC type signaled for the spoke or mesh binding to the far end of the SDP. The VC type is a 15 bit-quantity containing a value that represents the type of VC. The actual signaling of the VC type depends on the signaling parameter defined for the SDP. If signaling is disabled, the **vc-type** command can still be used to define the **dot1q** value expected by the far-end provider equipment. A change of the binding's VC type causes the binding to signal the new VC type to the far end when signaling is enabled.

VC types are derived according to IETF *draft-martini-l2circuit-trans-mpls*.

The VC type value for Ethernet is 0x0005.

The VC type value for an Ethernet VLAN is 0x0004.

Values ethernet

ether

Keyword used to specify the VC type as Ethernet. The **ethernet** and **vlan** keywords are mutually exclusive. If the VC type is not defined, the default is Ethernet for spoke SDP bindings. Defining Ethernet is the same as executing **no vc-type**; it restores the default VC type for the spoke SDP binding.

vlan

Keyword used to specify the VC type as VLAN. The top VLAN tag, if a VLAN tag is present, is stripped from traffic received on the pseudowire, and a VLAN tag is inserted

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when forwarding into the pseudowire. The **ethernet** and **vlan** keywords are mutually exclusive. When the VC type is not defined, the default is Ethernet for spoke SDP bindings.

The VLAN VC-type requires at least one dot1q tag within each encapsulated Ethernet packet transmitted to the far end.

Note: The system expects a symmetrical configuration with its peer. Specifically, it expects to remove the same number of VLAN tags from received traffic as it adds to transmitted traffic. As some of the related configuration parameters are local and not communicated in the signaling plane, asymmetrical behavior cannot always be detected and so cannot be blocked. Consequently, protocol extractions may not function for asymmetrical configurations as they would for symmetrical configurations, resulting in unexpected behavior.

no-endpoint

Keyword used to remove the association of a spoke SDP with an explicit endpoint name.

endpoint-name

Specifies the name of the service endpoint.

icb

Keyword used to specify the spoke SDP as an inter-chassis backup SDP binding.

Platforms

All

spoke-sdp

Syntax

[**no**] **spoke-sdp** *spoke-id*

Context

[Tree] (config>service>vpls>mac-move>secondary-ports spoke-sdp)

[Tree] (config>service>vpls>mac-move>primary-ports spoke-sdp)

Full Context

configure service vpls mac-move secondary-ports spoke-sdp

configure service vpls mac-move primary-ports spoke-sdp

Description

This command declares a specified spoke-SDP as a primary (or secondary) VPLS port.

Parameters

spoke-id

Specifies the SDP ID to configure as the primary VPLS port

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Values 1 to 17407

vc-id

Specifies the virtual circuit identifier

Values 1 to 4294967295

Platforms

All

spoke-sdp

Syntax

spoke-sdp *sdp-id:vc-id* [**create**]

no spoke-sdp *sdp-id:vc-id*

Context

[Tree] (config>service>ies>aarp-interface spoke-sdp)

Full Context

configure service ies aarp-interface spoke-sdp

Description

This command binds a service to an existing SDP. A spoke SDP is treated like the equivalent of a traditional bridge port where flooded traffic received on the spoke SDP is replicated on all other "ports" (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service will be down.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router.

Default

no spoke-sdp

Parameters

sdp-id

Specifies the SDP identifier.

Values 1 to 17407

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vc-id

Specifies the virtual circuit identifier. The VC-ID is not used with L2TPv3 SDPs, however it must be configured.

Values 1 to 4294967295

create

Keyword used to create the spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

spoke-sdp

Syntax

spoke-sdp *sdp-id:vc-id* [**create**]

no spoke-sdp *sdp-id:vc-id*

Context

[Tree] (config>service>vprn>aarp-interface spoke-sdp)

Full Context

configure service vprn aarp-interface spoke-sdp

Description

This command binds a service to an existing SDP. A spoke SDP is treated like the equivalent of a traditional bridge port where flooded traffic received on the spoke SDP is replicated on all other "ports" (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service will be down.

SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router.

Default

no spoke-sdp

Parameters

sdp-id

Specifies the SDP identifier.

Values 1 to 17407

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vc-id

The virtual circuit identifier. The VC-ID is not used with L2TPv3 SDPs, however it must be configured.

Values 1 to 4294967295

create

Keyword used to create the spoke SDP.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

spoke-sdp

Syntax

spoke-sdp *sdp-id:vc-id* [**create**] [**no-endpoint**]

spoke-sdp *sdp-id:vc-id* [**create**] **endpoint** *name* [**icb**]

no sdp *sdp-id:vc-id*

Context

[Tree] (config>mirror>mirror-dest>remote-source spoke-sdp)

[Tree] (config>mirror>mirror-dest spoke-sdp)

Full Context

configure mirror mirror-dest remote-source spoke-sdp

configure mirror mirror-dest spoke-sdp

Description

This command binds an existing (mirror) service distribution path (SDP) to the mirror destination service ID.

Spoke SDPs are used to send and receive mirrored traffic between mirror source and destination routers in a remote mirroring solution. A spoke SDP configured in the remote-source context (**remote-src>spoke-sdp**) is used on the destination router. A spoke SDP configured in the mirror service context (**mirror-dest>spoke-sdp**) is used on the source router.

The destination node should be configured with **remote-src>spoke-sdp** entries when using L2TPv3, MPLS-TP or LDP IPv6 LSP SDPs in the remote mirroring solution. For all other types of SDPs, r**emote-source>far-end** entries should be used.

Spoke SDPs are not applicable when routable LI encapsulation is employed (mirror-dest>encap).

A mirror destination service that is configured for a destination router must not be configured as for a source router.

The **no** form of this command removes the SDP binding from the mirror destination service.

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Default

An SDP ID is bound to a mirror destination service ID. If no SDP is bound to the service, the mirror destination will be local and cannot be sent to another router over the core network.

Parameters

sdp-id:vc-id

Specifies a locally unique SDP identification (ID) number. The SDP ID must exist. If the SDP ID does not exist, an error will occur and the command will not execute.

For mirror services, the *vc-id* defaults to the *service-id*. However, there are scenarios where the *vc-id* is being used by another service. In this case, the SDP binding cannot be created. So, to avoid this, the mirror service SDP bindings now accepts *vc-ids*.

Values 1 to 17407

no-endpoint

Removes the association of a SAP or a SDP with an explicit endpoint name.

name

Specifies the name of the endpoint associated with the SAP.

icb

Indicates that the SDP is of type Inter-Chassis Backup (ICB). This is a special pseudowire used for MC-LAG and pseudowire redundancy application.

An explicitly named endpoint can have a maximum of one SAP and one ICB. Once a SAP is added to the endpoint, only one more object of type ICB SDP is allowed. The ICB SDP cannot be added to the endpoint if the SAP is not part of a MC-LAG instance. This means that all other SAP types cannot exist on the same endpoint as an ICB SDP since non Ethernet SAP cannot be part of a MC-LAG instance. Conversely, a SAP which is not part of a MC-LAG instance cannot be added to an endpoint which already has an ICB SDP.

An explicitly named endpoint, which does not have a SAP object, can have a maximum of four SDPs, which can include any of the following: a single primary SDP, one or many secondary SDPs with precedence, and a single ICB SDP.

Default Null. The user should explicitly configure this option at create time. The user can remove the ICB type simply by retyping the SDP configuration without the **icb** keyword.

Platforms

All

spoke-sdp

Syntax

spoke-sdp *sdp-id:vc-id* [**create**]

no spoke-sdp *sdp-id:vc-id*

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Context

[Tree] (config>service>vprn>ip-mirror-interface spoke-sdp)

Full Context

configure service vprn ip-mirror-interface spoke-sdp

Description

This command binds a service to an existing SDP.

The SDP must already be defined in the **config>service>sdp** context in order to associate an SDP with the VPRN service. SDPs must be explicitly associated and bound to a service. If an SDP is not bound to a service, no far-end devices can participate in the service.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router. The spoke SDP must be shut down before it can be deleted from the configuration.

Parameters

sdp-id

Specifies SDP identifier.

Values 1 to 32767

vc-id

Specifies the virtual circuit identifier.

Values 1 to 4294967295

create

Keyword used to create an IP mirror interface.

Platforms

All

43.101 spoke-sdp-fec

spoke-sdp-fec

Syntax

spoke-sdp-fec

spoke-sdp-fec *spoke-sdp-fec-id* [**fec** *fec-type*] [**aii-type** *aii-type*] [**create**]

spoke-sdp-fec *spoke-sdp-fec-id* **no-endpoint**

spoke-sdp-fec *spoke-sdp-fec-id* [**fec** *fec-type*] [**aii-type** *aii-type*] [**create**] **endpoint** *name* [**icb**]

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Context

[Tree] (config>service>epipe spoke-sdp-fec)

Full Context

configure service epipe spoke-sdp-fec

Description

This command binds a service to an existing service destination point (SDP), using a dynamic MS-PW.

A spoke SDP is treated like the equivalent of a traditional bridge "port" where flooded traffic received on the spoke SDP is replicated on all other "ports" (other spoke and mesh SDPs or SAPs) and not transmitted on the port it was received.

The SDP has an operational state which determines the operational state of the SDP within the service. For example, if the SDP is administratively or operationally down, the SDP for the service will be down.

When using dynamic MS-PWs, the particular SDP to bind-to is automatically selected based on the Target Attachment Individual Identifier (TAII) and the path to use, specified under spoke SDP FEC. The selected SDP will terminate on the first hop S-PE of the MS-PW. Therefore, an SDP must already be defined in the config>service>sdp context that reaches the first hop router of the MS-PW. The router will in order to associate an SDP with a service. If an SDP to that is not already configured, an error message is generated. If the sdp-id does exist, a binding between that sdp-id and the service is created.

It differs from the spoke-sdp command in that the spoke-sdp command creates a spoke SDP binding that uses a pseudowire with the PW ID FEC. However, the spoke-sdp-fec command enables pseudowires with other FEC types to be used. Only the Generalized ID FEC (FEC129) may be specified using this command.

The **no** form of this command removes the SDP binding from the service. The SDP configuration is not affected; only the binding of the SDP to a service. Once removed, no packets are forwarded to the far-end router.

Parameters

spoke-sdp-fec-id

An unsigned integer value identifying the spoke SDP.

Values 1 to 4294967295

fec-type

An unsigned integer value for the type of the FEC used by the MS-PW.

Values 129 to 130

aii-type

An unsigned integer value for the Attachment Individual Identifier (AII) type used to identify the MS-PW endpoints.

Values 1 to 2

endpoint-name

Specifies the name of the service endpoint.

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no endpoint

Adds or removes a spoke SDP association.

icb

Configures the spoke SDP as an inter-chassis backup SDP binding.

Platforms

All

43.102 spt-switchover-threshold

spt-switchover-threshold

Syntax

spt-switchover-threshold {*grp-ip-address/mask* | *grp-ip-address netmask*} *spt-threshold*

spt-switchover-threshold *grp-ipv6-addr/prefix-length spt-threshold*

no spt-switchover-threshold {*grp-ip-address/mask* | *grp-ip-address netmask*}

no spt-switchover-threshold *grp-ipv6-addr/prefix-length*

Context

[Tree] (config>service>vprn>pim spt-switchover-threshold)

Full Context

configure service vprn pim spt-switchover-threshold

Description

This command configures a shortest path tree (SPT tree) switchover threshold for a group prefix.

Parameters

grp-ip-address

Specifies the multicast group address.

grp-ipv6-address

Specifies the multicast group address.

prefix-length

Specifies the address prefix length.

Values

grp-ipv6-address	: x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H

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d [0 to 255]D

prefix-length [1 to 128]

mask

Defines the mask of the multicast-ip-address.

Values 4 to 32

netmask

The subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

spt-threshold

Specifies the configured threshold in kilobits per second (kb/s) for the group to which this (S,G) belongs. For a group G configured with a threshold, switchover to SPT for an (S,G) is attempted only if the (S,G)'s rate exceeds this configured threshold.

Platforms

All

spt-switchover-threshold

Syntax

spt-switchover-threshold {*grp-ipv4-prefixIipv4-prefix-length* | *grp-ipv4-prefix netmask* | *grp-ipv6-prefixIipv6-prefix-length*} *spt-threshold*

no spt-switchover-threshold {*grp-ipv4-prefixIipv4-prefix-length* | *grp-ipv4-prefix netmask* | *grp-ipv6-prefixIipv6-prefix-length*}

Context

[Tree] (config>router>pim spt-switchover-threshold)

Full Context

configure router pim spt-switchover-threshold

Description

This command configures shortest path (SPT) tree switchover thresholds for group prefixes.

PIM-SM routers with directly connected routers receive multicast traffic initially on a shared tree rooted at the Rendezvous Point (RP). Once the traffic arrives on the shared tree and the source of the traffic is known, a switchover to the SPT tree rooted at the source is attempted.

For a group that falls in the range of a prefix configured in the table, the corresponding threshold value determines when the router should switch over from the shared tree to the source specific tree. The switchover is attempted only if the traffic rate on the shared tree for the group exceeds the configured threshold.

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In the absence of any matching prefix in the table, the default behavior is to switchover when the first packet is seen. In the presence of multiple prefixes matching a given group, the most specific entry is used.

The **no** form of this command removes the parameters from the PIM configuration.

Parameters

grp-ipv4-prefix

Specifies the group IPv4 multicast address in dotted decimal notation.

Values a.b.c.d

ipv4-prefix-length

Specifies the length of the IPv4 prefix.

Values 4 to 32

netmask

Specifies the netmask associated with the IPv4 prefix, expressed in dotted decimal notation. Network bits must be 1, and host bits must be 0.

Values a.b.c.d

grp-ipv6-prefix

Specifies the group IPv6 multicast address in hexadecimal notation.

Values xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

xx — 0 to FF (hex)

ipv6-prefix-length

Specifies the length of the IPv6 prefix.

Values 8 to 128

spt-threshold

Specifies the configured threshold in kilobits per second (kb/s) for a group prefix. A switchover is attempted only if the traffic rate on the shared tree for the group exceeds this configured threshold. When the **infinity** keyword is specified, no switchover will occur at any time, regardless of the traffic level is detected.

Values 1 to 4294967294, infinity

Platforms

All

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43.103 squelch

squelch

Syntax

[**no**] **squelch**

Context

[Tree] (config>system>sync-if-timing>bits>output squelch)

Full Context

configure system sync-if-timing bits output squelch

Description

This command configures the behavior of the BITSout port when there is no valid reference selected. When enabled with no valid reference, no signal is sent out the port. When disabled with no valid reference, an AIS signal is presented along with the QL-DNU/TL-DUS SSM code if the signal format supports SSM.

Default

no squelch

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.104 squelch-ingress-ctag-levels

squelch-ingress-ctag-levels

Syntax

squelch-ingress-ctag-levels [*md-level* [*md-level*]]

no squelch-ingress-ctag-levels

Context

[Tree] (config>service>vpls>sap>eth-cfm squelch-ingress-ctag-levels)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm squelch-ingress-ctag-levels)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm squelch-ingress-ctag-levels)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm squelch-ingress-ctag-levels)

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[Tree] (config>service>epipe>sap>eth-cfm squelch-ingress-ctag-levels)

Full Context

configure service vpls sap eth-cfm squelch-ingress-ctag-levels

configure service vpls spoke-sdp eth-cfm squelch-ingress-ctag-levels

configure service vpls mesh-sdp eth-cfm squelch-ingress-ctag-levels

configure service epipe spoke-sdp eth-cfm squelch-ingress-ctag-levels

configure service epipe sap eth-cfm squelch-ingress-ctag-levels

Description

This command defines the levels of the ETH-CFM packets that are silently discarded on ingress into the SAP or SDP binding from the wire that matches the service delineation of the SAP or SDP binding plus an additional VLAN, up to a maximum tag length of two tags. All ETH-CFM packets inbound to the SAP or SDP binding that match the configured levels are dropped without regard for any other ETH-CFM criteria. No statistical information or drop count is available for any ETH-CFM packet that is silently discarded by this option. The list of levels must be a complete contiguous list from 0 up to the highest level to be dropped. The command must be retyped in complete form to modify a previous configuration, if the operator does not want to delete it first. Entering the command without any valid level information removes the command from the configuration and disables the feature.

The **no** form of this command removes the silent discarding of previously matching ETH-CFM PDUs.

Default

no squelch-ingress-ctag-levels

Parameters

md-level

Identifies the level

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

43.105 squelch-ingress-levels

squelch-ingress-levels

Syntax

squelch-ingress-levels [*md-level* [*md-level*]]

no squelch-ingress-levels

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Context

[Tree] (config>service>vpls>sap>eth-cfm squelch-ingress-levels)

[Tree] (config>service>template>vpls-sap-template>eth-cfm squelch-ingress-levels)

[Tree] (config>service>epipe>spoke-sdp>eth-cfm squelch-ingress-levels)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm squelch-ingress-levels)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm squelch-ingress-levels)

[Tree] (config>service>epipe>sap>eth-cfm squelch-ingress-levels)

[Tree] (config>service>ipipe>sap>eth-cfm squelch-ingress-levels)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm squelch-ingress-levels)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm squelch-ingress-levels)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm squelch-ingress-levels)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm squelch-ingress-levels)

[Tree] (config>service>vprn>if>sap>eth-cfm squelch-ingress-levels)

[Tree] (config>service>ies>if>sap>eth-cfm squelch-ingress-levels)

Full Context

configure service vpls sap eth-cfm squelch-ingress-levels

configure service template vpls-sap-template eth-cfm squelch-ingress-levels

configure service epipe spoke-sdp eth-cfm squelch-ingress-levels

configure service ies subscriber-interface group-interface sap eth-cfm squelch-ingress-levels

configure service vpls spoke-sdp eth-cfm squelch-ingress-levels

configure service epipe sap eth-cfm squelch-ingress-levels

configure service ipipe sap eth-cfm squelch-ingress-levels

configure service ies interface spoke-sdp eth-cfm squelch-ingress-levels

configure service vprn subscriber-interface group-interface sap eth-cfm squelch-ingress-levels

configure service vpls mesh-sdp eth-cfm squelch-ingress-levels

configure service vprn interface spoke-sdp eth-cfm squelch-ingress-levels

configure service vprn interface sap eth-cfm squelch-ingress-levels

configure service ies interface sap eth-cfm squelch-ingress-levels

Description

This command defines the levels of the ETH-CFM packets that are silently discarded on ingress into the SAP or SDP binding from the wire that matches the service delineation of the SAP or SDP binding. All ETH-CFM packets inbound to the SAP or SDP binding that match the configured levels are dropped without regard for any other ETH-CFM criteria. No statistical information or drop count is available for any ETH-CFM packet that is silently discarded by this option. The operator must configure a complete contiguous list of md-levels up to the highest level that are to be dropped. The command must be retyped in complete form to modify a previous configuration, if the operator does not want to delete it first. Entering the command with no associated md-level information is equivalent to the **no** version of the command.

The **no** form of this command removes the silent discarding of previously matching ETH-CFM PDUs.

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Default

no squelch-ingress-levels

Parameters

md-level

Identifies the level

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service epipe sap eth-cfm squelch-ingress-levels
- configure service ipipe sap eth-cfm squelch-ingress-levels
- configure service epipe spoke-sdp eth-cfm squelch-ingress-levels
- configure service ies interface spoke-sdp eth-cfm squelch-ingress-levels
- configure service vpls mesh-sdp eth-cfm squelch-ingress-levels
- configure service ies interface sap eth-cfm squelch-ingress-levels
- configure service vprn interface sap eth-cfm squelch-ingress-levels
- configure service template vpls-sap-template eth-cfm squelch-ingress-levels
- configure service vprn interface spoke-sdp eth-cfm squelch-ingress-levels
- configure service vpls sap eth-cfm squelch-ingress-levels
- configure service vpls spoke-sdp eth-cfm squelch-ingress-levels

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm squelch-ingress-levels
- configure service vprn subscriber-interface group-interface sap eth-cfm squelch-ingress-levels

43.106 sr-isis

sr-isis

Syntax

[**no**] **sr-isis**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-isis)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-isis)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter sr-isis)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-isis)

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Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter sr-isis

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter sr-isis

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter sr-isis

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter sr-isis

Description

This command selects the SR tunnel type programed by an IS-IS instance in TTM.

When the **sr-isis**, **sr-ospf**, or **sr-ospf3** command is enabled, an SR tunnel to the BGP next hop is selected in the TTM according to the following procedure.

- Select the SR tunnel submitted by the OSPF, OSPFv3, or IS-IS instance with the lowest tunnel table preference.
- If more than one SR tunnel exists, select the SR tunnel from the instance with the lowest metric.
- If more than one SR tunnel exists, select the SR tunnel from the instance with the lowest instance ID.

The **no** form of this command disables the SR-ISIS setting for the auto-bind tunnel.

Default

no sr-isis

Platforms

All

sr-isis

Syntax

[**no**] **sr-isis**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter sr-isis)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter sr-isis

Description

This command enables the use of SR-ISIS sourced tunnel entries in the TTM to resolve the associated static route next hop.

Default

no sr-isis

Platforms

All

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sr-isis

Syntax

[**no**] **sr-isis**

Context

[Tree] (config>service>sdp sr-isis)

Full Context

configure service sdp sr-isis

Description

This command configures an MPLS SDP of LSP type ISIS Segment Routing. The SDP of LSP type sr-isis can be used with the far-end option. The signaling protocol for the service labels for an SDP using an SR tunnel can be configured to static (off), T-LDP (tldp), or BGP (bgp).

Platforms

All

sr-isis

Syntax

[**no**] **sr-isis**

Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter sr-isis)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter sr-isis)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter sr-isis

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter sr-isis

Description

This command selects the SR tunnel type programmed by an IS-IS instance in TTM for next-hop resolution of BGP routes and labeled routes. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference IS-IS instance. In the case of a tie, the IS-IS instance with the lowest metric SR tunnel is selected over the lowest numbered IS-IS instance.

The **no** form of this command disables the use of SR-ISIS tunnel type to resolve the next hop of BGP routes and labeled routes.

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Platforms

All

sr-isis

Syntax

[**no**] **sr-isis**

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls sr-isis)

Full Context

configure oam-pm session ip tunnel mpls sr-isis

Description

This command configures the specification of **sr-isis** specific tunnel information that is used to transport the test packets. Entering this context removes all other tunnel type options configured under the **configure oam-pm session ip tunnel mpls** context. Only a single **mpls** type can be configured for an OAM-PM session.

The **no** form of this command deletes the context and all configurations under it.

Parameters

ipv4-address

Specifies IPv4 address.

Values ipv4-address: a.b.c.d (host bits must be 0)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sr-isis

Syntax

sr-isis

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter sr-isis)

Full Context

configure service vprn auto-bind-tunnel resolution-filter sr-isis

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Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

43.107 sr-label-index

sr-label-index

Syntax

sr-label-index {*value* | *param-name*} [**prefer-igp**]

no sr-label-index

Context

[Tree] (config>router>policy-options>policy-statement>entry>action sr-label-index)

[Tree] (config>router>policy-options>policy-statement>default-action sr-label-index)

Full Context

configure router policy-options policy-statement entry action sr-label-index

configure router policy-options policy-statement default-action sr-label-index

Description

This command associates a BGP segment-routing label index value with all /32 BGP labeled IPv4 routes matching the entry or policy **default-action**.

Note:
Avoid using this action in a policy entry that matches more than one /32 label-ipv4 route, otherwise SID conflicts are created.

The **sr-label-index** action only takes effect in BGP peer import policies (and only on received /32 label-ipv4 routes) and in route-table-import policies associated with the label-ipv4 RIB.

The **prefer-igp** applies only in a route-table-import policy. If **prefer-igp** is specified and BGP segment-routing uses **prefix-sid-range global**, then BGP tries, as a first priority, to use the IGP segment routing label index for the IGP route matched by the **route-table-import** policy. If the IGP route does not have an SID index, or **prefer-igp** is not configured or **prefix-sid-range** is not **global**, BGP tries to use the label index value specified by this command.

When this action occurs in a policy applied as a peer-import policy, it can add a prefix SID attribute to a received /32 label-ipv4 route that was not sent with this attribute, or it can replace the received prefix SID attribute with a new one.

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If this command specifies an index value that causes a SID conflict with another BGP route, then all conflicting BGP routes are re-advertised with label values based on dynamic allocation rather than SID-based allocation.

If this command specifies an index value that causes a SID conflict with an IGP route, the BGP route is re-advertised with a label value based on dynamic allocation rather than an SID-based allocation.

The **no** form of this command causes matched BGP routes to be advertised without any new or changed prefix SID attributes.

Default

no sr-label-index

Parameters

value

Specifies the BGP segment routing label index to associate with the matched route or routes.

Values 0 to 52487

param-name

Specifies the **type** parameter variable name, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

prefer-igp

A keyword that is applicable only in **route-table-import** policies, to instruct BGP to borrow the SID index from the IGP route if it has an SID index and the **prefix-sid-range** is **global**.

Platforms

All

43.108 sr-labels

sr-labels

Syntax

sr-labels start *start-value* **end** *end-value*

no sr-labels

Context

[Tree] (config>router>mpls-labels sr-labels)

Full Context

configure router mpls-labels sr-labels

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Description

This command configures the range of the Segment Routing Global Block (SRGB). It is a label block which is used for assigning labels to segment routing prefix SIDs originated by this router. This range is carved from the system dynamic label range and is not instantiated by default.

This is a reserved label and once configured it cannot be used by other protocols such as RSVP, LDP, and BGP to assign a label dynamically.

Default

no sr-labels

Parameters

start-value

Specifies the start label value in the SRGB

Values 18432 to 524287 | 1048575 (FP4 or FP5 only)

The label value is selectable within the dynamic label range which begins anywhere from 32 to 18432 (default).

end-value

Specifies the end label value in the SRGB

Values 18432 to 524287 | 1048575 (FP4 or FP5 only)

The label value is selectable within the dynamic label range which begins anywhere from 32 to 18432 (default).

Platforms

All

43.109 sr-maintenance-policy

sr-maintenance-policy

Syntax

sr-maintenance-policy *maintenance-policy-name*

no sr-maintenance-policy

Context

[Tree] (config>router>policy-options>policy-statement>entry>action sr-maintenance-policy)

[Tree] (config>router>policy-options>policy-statement>default-action sr-maintenance-policy)

Full Context

configure router policy-options policy-statement entry action sr-maintenance-policy

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configure router policy-options policy-statement default-action sr-maintenance-policy

Description

This command applies a named segment routing maintenance policy to the matching routes. It is only used for SR policy routes. The named policy must exist under the **config**>**router**>**segment-routing** context.

The **no** form of this command removes the specified maintenance policy.

Parameters

maintenance-policy-name

Specifies the name of the maintenance policy, up to 32 characters and cannot start with a space or underscore.

Platforms

All

43.110 sr-mpls

sr-mpls

Syntax

sr-mpls

Context

[Tree] (config>router>segment-routing sr-mpls)

Full Context

configure router segment-routing sr-mpls

Description

Commands in this context configure the SR MPLS properties.

Platforms

All

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43.111 sr-mpls-local

sr-mpls-local

Syntax

sr-mpls-local {**none** | **all**}

Context

[Tree] (config>router>ttl-propagate sr-mpls-local)

Full Context

configure router ttl-propagate sr-mpls-local

Description

This command configures TTL or hop-limit propagation for all segment routing MPLS tunnels carrying IPv4 or IPv6 packets. This applies to IPv4 and IPv6 packets of IGP, BGP unlabelled (except 6PE), and static routes in the base router whose next hop is resolved to a Segment Routing MPLS (SR-MPLS) tunnel of any of the following types: SR-ISIS, SR-OSPF, SR-OSPF3, SR-TE LSP, and SR policy.

This command configures TTL or hop-limit propagation for CPM originated IP packets. Use the **sr-mpls-transit** command to configure TTL or hop-limit propagation for transit IP packets.

Default

sr-mpls-local all

Parameters

none

Keyword to specify that the IP TTL or hop limit is not propagated into the segment routing transport label stack.

all

Keyword to specify that the IP TTL or hop limit is propagated to all labels in the segment routing transport label stack.

Platforms

All

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43.112 sr-mpls-transit

sr-mpls-transit

Syntax

sr-mpls-transit {**none** | **all**}

Context

[Tree] (config>router>ttl-propagate sr-mpls-transit)

Full Context

configure router ttl-propagate sr-mpls-transit

Description

This command configures TTL or hop-limit propagation for all segment routing MPLS tunnels carrying IPv4 or IPv6 packets. This applies to IPv4 and IPv6 packets of IGP, BGP unlabelled (except 6PE), and static routes in the base router whose next hop is resolved to a Segment Routing MPLS (SR-MPLS) tunnel of any of the following types: SR-ISIS, SR-OSPF, SR-OSPF3, SR-TE LSP, and SR policy.

This command configures TTL or hop-limit propagation for transit IP packets. Transit IP packets are packets of base router prefixes received on an access interface or a network interface (with or without tunnel encapsulation) and whose FIB lookup results in forwarding them over an SR-MPLS tunnel. Use the **sr-mpls-local** command to configure TTL or hop-limit propagation for CPM originated IP packets.

Default

sr-mpls-transit all

Parameters

none

Keyword to specify that the IP TTL or hop limit is not propagated into the segment routing transport label stack.

all

Keyword to specify that the IP TTL or hop limit is propagated to all labels in the segment routing transport label stack.

Platforms

All

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43.113 sr-ospf

sr-ospf

Syntax

[**no**] **sr-ospf**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter sr-ospf

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter sr-ospf

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter sr-ospf

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter sr-ospf

Description

This command selects the SR tunnel type programed by an OSPF instance in TTM.

When enabled, an SR tunnel to the BGP next hop is selected in the TTM according to the following procedure.

- Select the SR tunnel submitted by the OSPF, OSPFv3, or IS-IS instance with the lowest tunnel table preference.
- If more than one SR tunnel exists, select the SR tunnel from the instance with the lowest metric.
- If more than one SR tunnel exists, select the SR tunnel from the instance with the lowest instance ID.

The **no** form of this command disables the SR-OSPF setting for the auto-bind tunnel.

Default

no sr-ospf

Platforms

All

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sr-ospf

Syntax

[**no**] **sr-ospf**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter sr-ospf)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter sr-ospf

Description

This command enables the use of SR-OSPF sourced tunnel entries in the TTM to resolve the associated static route next hop.

Default

no sr-ospf

Platforms

All

sr-ospf

Syntax

[**no**] **sr-ospf**

Context

[Tree] (config>service>sdp sr-ospf)

Full Context

configure service sdp sr-ospf

Description

This command configures an MPLS SDP of LSP type OSPF Segment Routing. The SDP of LSP type sr-ospf can be used with the far-end option. The signaling protocol for the service labels for an SDP using an SR tunnel can be configured to static (off), T-LDP (tldp), or BGP (bgp).

Platforms

All

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sr-ospf

Syntax

[**no**] **sr-ospf**

Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter sr-ospf)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter sr-ospf)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter sr-ospf

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter sr-ospf

Description

This command selects the SR tunnel type programmed by an OSPF instance in TTM for next-hop resolution of BGP routes and labeled routes. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference OSPF instance. In the case of a tie, the OSPF instance with the lowest metric SR tunnel is selected over the lowest numbered OSPF instance.

The **no** form of this command disables the use of SR-OSPF tunneling for next-hop resolution.

Platforms

All

sr-ospf

Syntax

[**no**] **sr-ospf**

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls sr-ospf)

Full Context

configure oam-pm session ip tunnel mpls sr-ospf

Description

This commmand configures the specification of **sr-ospfv3** specific tunnel information that is used to transport the test packets. Entering this context removes all other tunnel type options configured under the **configure oam-pm session ip tunnel mpls** context. Only a single **mpls** type can be configured for an OAM-PM session.

The **no** form of this command deletes the context and all configurations under it.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sr-ospf

Syntax

sr-ospf

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter sr-ospf)

Full Context

configure service vprn auto-bind-tunnel resolution-filter sr-ospf

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

43.114 sr-ospf3

sr-ospf3

Syntax

[**no**] **sr-ospf3**

Context

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf3)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf3)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf3)

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-ospf3)

Full Context

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter sr-ospf3

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter sr-ospf3

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter sr-ospf3

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter sr-ospf3

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Description

This command selects the SR tunnel type programed by an OSPFv3 instance in TTM.

When enabled, an SR tunnel to the BGP next hop is selected in the TTM according to the following procedure.

- Select the SR tunnel submitted by the OSPF, OSPFv3, or IS-IS instance with the lowest tunnel table preference.
- If more than one SR tunnel exists, select the SR tunnel from the instance with the lowest metric.
- If more than one SR tunnel exists, select the SR tunnel from the instance with the lowest instance ID.

The **no** form of this command disables the OSPFv3 setting for the auto-bind tunnel.

Default

no sr-ospf3

Platforms

All

sr-ospf3

Syntax

[**no**] **sr-ospf3**

Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter sr-ospf3)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter sr-ospf3)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter sr-ospf3

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter sr-ospf3

Description

This command selects the IPv6 SR tunnel type programmed by an OSPFv3 instance in the TTMv6 for next-hop resolution of BGP routes and labeled routes. This option allows BGP to use the SR tunnel in the tunnel table submitted by the lowest preference OSPFv3 instance. In the case of a tie, the OSPFv3 instance with the lowest metric SR tunnel is selected over the lowest numbered OSPFv3 instance.

The **no** form of this command disables the use of SR-OSPF3 for next-hop resolution.

Default

no sr-ospf3

Platforms

All

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sr-ospf3

Syntax

[**no**] **sr-ospf3**

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls sr-ospf3)

Full Context

configure oam-pm session ip tunnel mpls sr-ospf3

Description

Commands in this context configure the SR-OSPFv3 feature and **sr-ospfv3** packet tunneling options for the session. Enabling this context removes all tunnel type options configured under the **configure oam-pm session ip tunnel mpls** context.

The **no** form of this command deletes the context and all configurations under it.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sr-ospf3

Syntax

sr-ospf3

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter sr-ospf3)

Full Context

configure service vprn auto-bind-tunnel resolution-filter sr-ospf3

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

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43.115 sr-policies

sr-policies

Syntax

sr-policies

Context

[Tree] (config>router>segment-routing sr-policies)

Full Context

configure router segment-routing sr-policies

Description

This command creates the context to configure segment routing policies. A segment routing policy specifies traffic to be matched by the policy and actions to take on the matched traffic by applying the instructions encoded in one or more segment lists.

Platforms

All

43.116 sr-policy

sr-policy

Syntax

[**no**] **sr-policy**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-policy)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter sr-policy)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-policy)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-policy)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter sr-policy

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter sr-policy

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter sr-policy

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configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter sr-policy

Description

This command enables the use of SR policies to resolve the next hop of BGP IP-VPN and BGP-EVPN service routes.

The **sr-policy** value instructs BGP to search for an SR policy with a non-null endpoint that matches the next hop of the service route and with the highest numbered color extended community attached to the service route that matches the color of the SR policy.

The **no** form of this command disables the use of SR policy for next-hop resolution of routes in a BGP IP-VPN or a BGP-EVPN service.

Default

no sr-policy

Platforms

All

sr-policy

Syntax

sr-policy

sr-policy color *color-id* **endpoint** *ip-address*

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace sr-policy)

[Tree] (config>saa>test>type-multi-line>lsp-ping sr-policy)

Full Context

configure saa test type-multi-line lsp-trace sr-policy

configure saa test type-multi-line lsp-ping sr-policy

Description

This command configures the SR policy target FEC.

Note:
The **sr-policy** target FEC type is supported under the OAM context and under **type-multi-line node** in the SAA context.

Parameters

color color

Specifies the color ID.

Values 0 to 4294967295

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endpoint *ip-address*

Specifies the endpoint address.

Values ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

Platforms

All

sr-policy

Syntax

sr-policy

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter sr-policy)

Full Context

configure service vprn auto-bind-tunnel resolution-filter sr-policy

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

sr-policy

Syntax

[**no**] **sr-policy**

Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls sr-policy)

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Full Context

configure oam-pm session ip tunnel mpls sr-policy

Description

Commands in this context identify the SR policy used to tunnel IP packets for session tests.

The **no** form of this command disables the SR policy used to tunnel IP packets.

Default

no sr-policy

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sr-policy

Syntax

[**no**] **sr-policy**

Context

[Tree] (config>router>bgp>next-hop-res>shortcut-tunn>family>res-filter sr-policy)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter sr-policy

Description

This command enables the use of SR policies to resolve the next hop of BGP routes.

The SR policies are statically configured in the local router or learned through BGP routes (AFI 1/SAFI 73 or AFI 2/SAFI 73). BGP resolves an IPv4 route with an IPv4 next-hop address or an IPv6 route with IPv4-mapped IPv6 next-hop address using an SR policy selected by applying the following procedure in preference order:

- **IPv4 endpoint**

  The next hop must match the endpoint of the SR policy and the highest numbered color extended community attached to the labeled IPv4 or IPv6 route must match the color of the SR policy.

- **null IPv4 endpoint (0.0.0.0)**

  The highest numbered color extended community attached to the labeled IPv4 or IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

- **null IPv6 endpoint (0::0)**

  The highest numbered color extended community attached to the labeled IPv4 or IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

BGP resolves an IPv6 route with an IPv6 next hop that is not an IPv4-mapped IPv6 address using an SR policy selected by applying the following procedure in preference order:

- **IPv6 endpoint**

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The next hop must match the endpoint of the SR policy and the highest numbered color extended community attached to the labeled IPv6 route must match the color of the SR policy.

- **null IPv6 endpoint (0.::0)**

  The highest numbered color extended community attached to the labeled IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

- **null IPv4 endpoint (0.0.0.0)**

  The highest numbered color extended community attached to the labeled IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

The **no** form of this command disables SR policies for next-hop resolution.

Default

no sr-policy

Platforms

All

sr-policy

Syntax

[**no**] **sr-policy**

Context

[Tree] (config>router>bgp>next-hop-res>lbl-routes>transport-tunn>family>res-filter sr-policy)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter sr-policy

Description

This command enables the use of SR policies to resolve the next hop of BGP routes.

The SR policies are statically configured in the local router or learned through BGP routes (AFI 1/SAFI 73 or AFI 2/SAFI 73). BGP resolves a labeled IPv4 route with an IPv4 next-hop address or a labeled IPv6 route with IPv4-mapped IPv6 next-hop address using an SR policy selected by applying the following procedure in preference order:

- **IPv4 endpoint**

  The next hop must match the endpoint of the SR policy and the highest numbered color extended community attached to the labeled IPv4 or IPv6 route must match the color of the SR policy.

- **null IPv4 endpoint (0.0.0.0)**

  The highest numbered color extended community attached to the labeled IPv4 or IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

- **null IPv6 endpoint (0::0)**

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The highest numbered color extended community attached to the labeled IPv4 or IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

BGP resolves a labeled IPv6 route with an IPv6 next hop that is not an IPv4-mapped IPv6 address using an SR policy selected by applying the following procedure in preference order:

- **IPv6 endpoint**

  The next hop must match the endpoint of the SR policy and the highest numbered color extended community attached to the labeled IPv6 route must match the color of the SR policy.

- **null IPv6 endpoint (0.::0)**

  The highest numbered color extended community attached to the labeled IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

- **null IPv4 endpoint (0.0.0.0)**

  The highest numbered color extended community attached to the labeled IPv6 route must match the color of the SR policy and its color bits must be set to '01' or '10'.

The **no** form of this command disables SR policies for next-hop resolution.

Default

no sr-policy

Platforms

All

sr-policy

Syntax

[no] sr-policy

Context

[Tree] (config>router>pcep>pce>cap-adv sr-policy)

[Tree] (config>router>pcep>pcc>cap-adv sr-policy)

Full Context

configure router pcep pce capability-advertisement sr-policy

configure router pcep pcc capability-advertisement sr-policy

Description

This command enables the router to advertise the SR-policy capability in the OPEN message.

The **no** form of this command disables the advertisement of the SR policy.

Default

no sr-policy

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43.117 sr-policy-import

sr-policy-import

Syntax

[**no**] **sr-policy-import**

Context

[Tree] (config>router>bgp sr-policy-import)

Full Context

configure router bgp sr-policy-import

Description

This command instructs BGP to import all statically-configured non-local segment routing policies from the segment routing DB into the BGP RIB so that they can be advertised, as originated routes, towards BGP peers supporting the **sr-policy-ipv4** address family.

The **no** form of this command instructs BGP to not import any statically defined segment routing policies into BGP.

Default

no sr-policy-import

Platforms

All

43.118 sr-return-path-bfd-label

sr-return-path-bfd-label

Syntax

sr-return-path-bfd-label *value* | *param-name*

no sr-return-path-bfd-label

Context

[Tree] (config>router>policy-options>policy-statement>entry>action sr-return-path-bfd-label)

[Tree] (config>router>policy-options>policy-statement>default-action sr-return-path-bfd-label)

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Full Context

configure router policy-options policy-statement entry action sr-return-path-bfd-label

configure router policy-options policy-statement default-action sr-return-path-bfd-label

Description

This command configures an additional MPLS label to add to the bottom of the label stack for the S-BFD packet and sets the S-BFD session to echo mode.

This command applies to the initiator of the S-BFD sessions. The label value can either be a binding SID for an SR policy or another MPLS path configured on the reflector router. Instead of being routed through the IGP path, the S-BFD packet returns to the initiator through the MPLS return path. This value takes precedence over the return path label value in a maintenance policy (configured using the **configure router segment-routing maintenance-policy return-path-label** command) that is also applied as the policy-statement action. This command can only be configured if the **sr-maintenance-policy** command is also configured.

The **no** form of this command deletes the label value. If this command is not configured and there is no **return-path-label** command configuration in the maintenance policy that is also applied as an action, S-BFD returns to asynchronous mode and no return path label is pushed by the initiator node. S-BFD packets for this LSP or path received by the reflector are routed through the IGP path.

Default

no sr-return-path-bfd-label

Parameters

value

Specifies the label value.

Values 32 to 1048575

param-name

Specifies the parameter name to use as the label value, which can be up to 32 characters and must start and end with an at sign (@).

Platforms

All

43.119 sr-te

sr-te

Syntax

[**no**] **sr-te**

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Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-te)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-te)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter sr-te)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter sr-te)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter sr-te

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter sr-te

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter sr-te

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter sr-te

Description

This command selects the Segment Routing (SR) Traffic Engineered (SR-TE) LSP programmed in TTM.

The **sr-te** value instructs the system to search for the best metric SR-TE LSP to the address of the BGP next hop. The LSP metric is provided by MPLS in the tunnel table. In the case of multiple SR-TE LSPs with the same lowest metric, BGP selects the LSP with the lowest tunnel ID.

The **no** form of this command disables the SR-TE LSP setting for the auto-bind tunnel.

Default

no sr-te

Platforms

All

sr-te

Syntax

[**no**] **sr-te**

Context

[Tree] (config>router>mpls>pce-initiated-lsp sr-te)

Full Context

configure router mpls pce-initiated-lsp sr-te

Description

This command enables support for SR-TE PCE-initiated LSPs.

The **no** form of this command removes SR-TE PCE-initiated LSP support. All PCE-initiated SR-TE LSPs are deleted.

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Platforms

All

sr-te

Syntax

sr-te *value*

no sr-te

Context

[Tree] (config>router>mpls>tunnel-table-pref sr-te)

Full Context

configure router mpls tunnel-table-pref sr-te

Description

This command configures the tunnel table preference for an SR-TE LSP tunnel type away from its default value.

The tunnel table preference applies to the next-hop resolution of BGP routes of the following families: EVPN, IPv4, IPv6, VPN-IPv4, VPN-IPv6, label-IPv4, and label-IPv6 in the tunnel table.

This feature does not apply to a VPRN, VPLS, or VLL service with explicit binding to an SDP that enabled the **mixed-lsp-mode** option. The tunnel preference in such an SDP is fixed and is controlled by the service manager. The configuration of the tunnel table preference parameter does not modify the behavior of such an SDP and the services that bind to it.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command reverts to the default value.

Default

sr-te 8

Parameters

value

Specifies the tunnel table preference value for SR-TE LSP.

Values 1 to 255

Default 8

Platforms

All

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sr-te

Syntax

[**no**] **sr-te**

Context

[Tree] (config>router>static-route-entry>indirect>tunnel-next-hop>resolution-filter sr-te)

Full Context

configure router static-route-entry indirect tunnel-next-hop resolution-filter sr-te

Description

The sr-te value instructs the code to search for the set of lowest metric SR-TE LSPs to the address of the indirect next-hop. The LSP metric is provided by MPLS in the tunnel table. The static route treats a set of SR-TE LSPs with the same lowest metric as an ECMP set. The user has the option of configuring a list of SR-TE LSP names to be used exclusively instead of searching in the tunnel table. In that case, all LSPs must have the same LSP metric in order for the static route to use them as an ECMP set. Otherwise, only the LSPs with the lowest common metric value are selected.

Default

no sr-te

Platforms

All

sr-te

Syntax

[**no**] **sr-te**

Context

[Tree] (config>router>bgp>next-hop-resolution>shortcut-tunn>family>resolution-filter sr-te)

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter sr-te)

Full Context

configure router bgp next-hop-resolution shortcut-tunnel family resolution-filter sr-te

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter sr-te

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Description

This command selects the Segment Routing (SR) tunnel type programmed by a traffic engineered (TE) instance in TTM for next-hop resolution. In the case of multiple SR-TE tunnels with the same lowest metric, BGP selects the tunnel with the lowest tunnel ID.

Platforms

All

sr-te

Syntax

[**no**] **sr-te**

Context

[Tree] (config>router>isis>igp-shortcut>tunnel-next-hop>family sr-te)

Full Context

configure router isis igp-shortcut tunnel-next-hop family sr-te

Description

This command selects the SR-TE tunnel type in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

Platforms

All

sr-te

Syntax

[**no**] **sr-te**

Context

[Tree] (config>router>ospf>igp-shortcut>tunnel-next-hop>family sr-te)

[Tree] (config>router>ospf3>igp-shortcut>tunnel-next-hop>family sr-te)

Full Context

configure router ospf igp-shortcut tunnel-next-hop family sr-te

configure router ospf3 igp-shortcut tunnel-next-hop family sr-te

Description

This command selects the SR-TE tunnel type in the resolution of the IP prefix or SR tunnel family using IGP shortcuts.

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Platforms

All

sr-te

Syntax

sr-te {**legacy** | **application-specific-link-attributes**}

no sr-te

Context

[Tree] (config>router>ospf>traffic-engineering-options sr-te)

Full Context

configure router ospf traffic-engineering-options sr-te

Description

This command configures the advertisement of TE attributes of each link on a per-application basis. Two applications are supported in SR OS: RSVP-TE and SR-TE. Although the **legacy** mode of advertising TE attributes is supported, additional configurations are possible.

The **no** form of this command deletes the context.

Default

no sr-te

Parameters

legacy

Advertises the TE attributes for MPLS-enabled SR links using TE Opaque LSAs.

Note:
Do not configure the **legacy** mode if the network has both RSVP-TE and SR-TE attributes and the links are not congruent.

application-specific-link-attributes

Advertises TE information for MPLS-enabled SR links using the new Application Specific Link Attributes (ASLA) TLVs.

Platforms

All

sr-te

Syntax

[**no**] **sr-te**

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Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls sr-te)

Full Context

configure oam-pm session ip tunnel mpls sr-te

Description

This command configures specification of SR-TE specific tunnel information that is used to transport the test packets. Entering this context removes all other tunnel type options configured under the **configure oam-pm session ip tunnel mpls** context. Only a single **mpls** type can be configured for an OAM-PM session.

The **no** form of this command removes the SR-TE LSP name from the configuration.

Default

no override

Parameters

tcp-port

Specifies the source TCP port to be used in the test TCP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sr-te

Syntax

sr-te

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter sr-te)

Full Context

configure service vprn auto-bind-tunnel resolution-filter sr-te

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

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43.120 sr-te-lsp

sr-te-lsp

Syntax

[**no**] **sr-te-lsp** *lsp-name*

Context

[Tree] (config>service>sdp sr-te-lsp)

Full Context

configure service sdp sr-te-lsp

Description

This command configures an MPLS SDP of LSP type SR-TE.

The user can specify up to 16 SR-TE LSP names. The destination address of all LSPs must match that of the SDP far-end option. Service data packets are sprayed over the set of LSPs in the SDP using the same procedures as for tunnel selection in ECMP. Each SR-TE LSP can, however, have up to 32 next-hops at the ingress LER when the first segment is a node SID-based SR tunnel. Thus, the service data packet is forwarded over one of a maximum of 16x32 next-hops.

The **tunnel-far-end** option is not supported. In addition, the **mixed-lsp-mode** option does not support the **sr-te** tunnel type.

The signaling protocol for the service labels for an SDP using a SR-TE LSP can be configured to static (**off**), T-LDP (**tldp**), or BGP (**bgp**).

Platforms

All

43.121 sr-te-resignal

sr-te-resignal

Syntax

sr-te-resignal

Context

[Tree] (config>router>mpls sr-te-resignal)

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Full Context

configure router mpls sr-te-resignal

Description

Commands in this context configure the re-optimization parameters of SR-TE LSPs.

Platforms

All

43.122 src-access-list

src-access-list

Syntax

src-access-list *list-name*

no src-access-list *list-name*

Context

[Tree] (config>system>security>snmp src-access-list)

Full Context

configure system security snmp src-access-list

Description

This command configures a list of source IP addresses used to validate SNMPv1 and SNMPv2c requests after the list is associated with one or more SNMPv1 and SNMPv2c communities.

A source access list referenced by one or more **community** instances is used to verify the source IP addresses of an SNMP request using the community, regardless of the VPRN/VRF interface (or "Base" interface) on which the request arrived. For example, if an SNMP request arrives on an interface in VPRN "100" but the request is referencing a community, the source IP address in the packet is validated against the source address list configured for the community. This occurs regardless of whether the request is destined to a VPRN interface address and the VPRN has SNMP access enabled, or the request is destined to the base system address via GRT leaking. If the source IP address of the request message does not match the IP address of any of the **src-host** entries contained in the list, the request is discarded and logged as an SNMP authentication failure.

Caution:
Using source access list validation can impact the time it takes for an SR OS node to reply to an SNMP request. Nokia recommends keeping the lists short by including only the addresses that are needed, and to place SNMP managers that send the highest volume of requests, such as the NSP NFM-P, at the top of the list.

A maximum of 16 source access lists can be configured. Each source access lists can contain a maximum of 16 source hosts.

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The **no** form of this command removes the named source access list. Users cannot remove a source access list that is referenced by one or more **community** instances.

Parameters

list-name

Specifies the name or key of the source access list. This parameter must begin with a letter (a-z or A-Z).

Platforms

All

43.123 src-gsn

src-gsn

Syntax

src-gsn *ip address*

src-gsn ip-prefix-list *ip-prefix-list-name*

no src-gsn

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>imsi-apn-fltr>entry src-gsn)

Full Context

configure application-assurance group gtp gtp-filter imsi-apn-filter entry src-gsn

Description

This command configures a matching condition for the GSN IP address. The IP address value is checked only against the source IP address of the GTP packets that contain an APN IE or an IMSI IE.

Parameters

ip address

Specifies a valid unicast address associated with the IMSI-APN filter entry.

Values		
	ipv4-address	a.b.c.d[/mask]
		mask - [1..32]
	ipv6-address	x:x:x:x:x:x:x:x/prefix-length
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H

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d - [0..255]D

prefix-length [1..128]

ip-prefix-list-name

Specifies an IP address prefix list for the source IP address match criteria, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

43.124 src-host

src-host

Syntax

src-host *host-name* **address** *ip-address*

no src-host *host-name*

Context

[Tree] (config>system>security>snmp>src-access-list src-host)

Full Context

configure system security snmp src-access-list src-host

Description

This command configures a source IP address entry used to validate SNMPv1 and SNMPv2c requests.

The **no** form of this command removes the specified entry.

Parameters

host-name

Specifies a name for the entry, up to 32 characters.

ip-address

Specifies an allowed IPv4 or IPv6 source address for SNMP requests.

Values

ipv4-address — a.b.c.d (host bits must be 0)

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

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d — 0 to 255 (decimal)

Platforms

All

43.125 src-ip

src-ip

Syntax

src-ip {*ip-address/mask* | *ip-address netmask*}

src-ip {*ipv6-address* | *prefix-length*}

no src-ip

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match src-ip)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match src-ip)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match src-ip

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match src-ip

Description

This command configures the source IP match condition.

The **no** form of this command reverts to the default.

Parameters

ipv6-address

Specifies the IPv6 address (applies only to the 7750 SR).

Values

ipv6-address	x:x:x:x:x:x:x:x (where x is [0 to FFFF]H)
	x:x:x:x:x:x:d.d.d.d (where d is [0 to 255]D)

prefix-length

Specifies the prefix length (applies only to the 7750 SR).

Values 1 to 128

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ip-address/mask

Specifies the IPv4 address and mask.

Values ip-address a.b.c.d
mask 0 to 32

netmask

Specifies the mask, expressed as a dotted quad.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

src-ip

Syntax

src-ip *ip-address*

no src-ip

Context

[Tree] (config>redundancy>mc>peer>mcr>l3ring>node>cv src-ip)

Full Context

configure redundancy multi-chassis peer mc-ring l3-ring ring-node connectivity-verify src-ip

Description

This command specifies the source IP address used in ring-node connectivity verification of this ring node.

The **no** form of this command reverts to the default.

Parameters

ip-address

Specifies the source IP address used in ring-node connectivity verification of this ring node.

Platforms

All

src-ip

Syntax

src-ip *ip-address*

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no src-ip

Context

[Tree] (config>redundancy>mc>peer>mcr>node>cv src-ip)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify src-ip

Description

This command specifies the source IP address used in the ring-node connectivity verification of this ring node.

Default

no src-ip

Parameters

ip-address

Specifies the source IP address.

Values a.b.c.d (no multicast address)

Platforms

All

src-ip

Syntax

src-ip {**eq** | **neq**} *ip-address*

src-ip {**eq** | **neq**} **ip-prefix-list** *ip-prefix-list-name*

no src-ip

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match src-ip)

Full Context

configure application-assurance group policy app-qos-policy entry match src-ip

Description

This command specifies a source TCP/UDP address to use as match criteria.

Default

no src-ip

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Parameters

eq

Specifies that a successful match occurs when the flow matches the specified address or prefix.

neq

Specifies that a successful match occurs when the flow does not match the specified address or prefix.

ip-address

Specifies a valid unicast address.

Values		
	ipv4-address	a.b.c.d[/mask]
		mask - [1..32]
	ipv6-address	x:x:x:x:x:x:x:x/prefix-length
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H
		d - [0..255]D
		prefix-length [1..128]

ip-prefix-list-name

Specifies an IP prefix list name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

src-ip

Syntax

src-ip *ip-address*

src-ip ip-prefix-list *ip-prefix-list-name*

no src-ip

Context

[Tree] (config>app-assure>group>sess-fltr>entry>match src-ip)

Full Context

configure application-assurance group session-filter entry match src-ip

Description

This command specifies a source TCP/UDP address to use as match criteria.

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Default

no src-ip

Parameters

ip-address

Specifies a valid unicast address.

Values		
	ipv4-address	a.b.c.d[/mask]
		mask - [1..32]
	ipv6-address	x:x:x:x:x:x:x:x/prefix-length
		x:x:x:x:x:x:d.d.d.d
		x - [0..FFFF]H
		d - [0..255]D
		prefix-length [1..128]

ip-prefix-list-name

Specifies an IP prefix list name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

src-ip

Syntax

src-ip {**eq** | **neq**} *ip-address*

no src-ip

Context

[Tree] (debug>app-assure>group>traffic-capture>match src-ip)

Full Context

debug application-assurance group traffic-capture match src-ip

Description

This command configures debugging on a source IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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src-ip

Syntax

src-ip {ip-address/mask | *ip-address ipv4-address-mask*}

Context

[Tree] (config>li>li-filter>li-ip-filter>entry>match src-ip)

Full Context

configure li li-filter li-ip-filter entry match src-ip

Description

This command configures source IP address LI filter match criterion.

The **no** form of this command removes any configured source IP. The match criterion is ignored.

Parameters

ip-address

Specifies an address specified as dotted quad.

Values a.b.c.d

mask

Specifies eight 16-bit hexadecimal pieces representing bit match criteria.

Values 1 to 32

ipv4-address-mask

Any mask expressed in dotted quad notation.

Values 0.0.0.0 to 255.255.255.255

Platforms

All

src-ip

Syntax

src-ip {ipv6-address/prefix-length | *ipv6-address ipv6-address-mask*}

no src-ip

Context

[Tree] (config>li>li-filter>li-ipv6-filter>entry>match src-ip)

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Full Context

configure li li-filter li-ipv6-filter entry match src-ip

Description

This command configures source IPv6 address LI filter match criterion.

The **no** form of this command removes any configured source IPv6 address. The match criterion is ignored.

Parameters

ipv6-address

Specifies an IPv6 address entered as:.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0 to FFFF]H
d - [0 to 255]D

prefix-length

Specifies a length.

Values 1 to 128

ipv6-address-mask

Specifies an IPv6 address mask expressed as:

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0 to FFFF]H
d - [0 to 255]D

Platforms

All

src-ip

Syntax

src-ip {*ip-address/mask* | *ip-address* [*ipv4-address-mask*] | **ip-prefix-list** *prefix-list-name*}

no src-ip

Context

[Tree] (config>qos>sap-egress>ip-criteria>entry>match src-ip)

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match src-ip)

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Full Context

configure qos sap-egress ip-criteria entry match src-ip

configure qos sap-ingress ip-criteria entry match src-ip

Description

This command configures a source IPv4 address range to be used as an SAP QoS policy match criterion.

To match on the source IPv4 or IPv6 address, specify the address and its associated mask; for example, 10.1.0.0/16. The conventional notation of 10.1.0.0 255.255.0.0 can also be used for IPv4.

The **no** form of this command removes the source IPv4 or IPv6 address match criterion.

Default

no src-ip

Parameters

ip-address

Specifies the source IPv4 address specified in dotted decimal notation.

Values ip-address: a.b.c.d

mask

Specifies the length in bits of the subnet mask.

Values 1 to 32

ipv4-address-mask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (dotted quad equivalent of mask length)

prefix-list-name

Specifies the IPv4 prefix list name, a string of up to 32 printable ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

src-ip

Syntax

src-ip {*ipv6-address/prefix-length* | *ipv6-address ipv6-address-mask* | **ipv6-prefix-list** *ipv6-prefix-list-name*}

no src-ip

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Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match src-ip)

[Tree] (config>qos>sap-egress>ipv6-criteria>entry>match src-ip)

Full Context

configure qos sap-ingress ipv6-criteria entry match src-ip

configure qos sap-egress ipv6-criteria entry match src-ip

Description

This command configures a source IPv6 address range to be used as an SAP QoS policy match criterion.

To match on the source IPv6 address, specify the address and its associated mask, for example, 2001:db8:1000::/64.

The **no** form of this command removes the source IPv6 address match criterion.

Default

no src-ip

Parameters

ipv6-address

Specifies the IPv6 address for the IP match criterion in hexadecimal digits.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x: [0 to FFFF]H d: [0 to 255]D

prefix-length

Specifies the IPv6 prefix length for the IPv6 address expressed as a decimal integer.

Values 1 to 128

ipv6-address-mask

Specifies the IPv6 address mask.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

ipv6-prefix-list-name

Specifies the IPv6 prefix list name, a string of up to 32 printable ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

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src-ip

Syntax

src-ip {*ip-address/mask* | *ip-address ipv4-address-mask* | **ip-prefix-list** *ip-prefix-list-name*}

src-ip {*ipv6-address/mask* | *ipv6-address ipv6-address-mask* | **ipv6-prefix-list** *ipv6-prefix-list-name*}

no src-ip

Context

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match src-ip)

[Tree] (config>qos>network>ingress>ipv6-criteria>entry>match src-ip)

[Tree] (config>qos>network>ingress>ip-criteria>entry>match src-ip)

[Tree] (config>qos>network>egress>ip-criteria>entry>match src-ip)

Full Context

configure qos network egress ipv6-criteria entry match src-ip

configure qos network ingress ipv6-criteria entry match src-ip

configure qos network ingress ip-criteria entry match src-ip

configure qos network egress ip-criteria entry match src-ip

Description

This command configures a source IPv4 or IPv6 address range to be used as a network QoS policy match criterion.

To match on the source IPv4 or IPv6 address, specify the address and its associated mask, for example, when specifying an IPv4 address, 10.1.0.0/16 or 10.1.0.0 255.255.0.0 can be used.

The **no** form of this command removes the source IPv4 or IPv6 address match criterion.

Parameters

ip-address

Specifies the source IPv4 address specified in dotted decimal notation.

Values ip-address: a.b.c.d

mask

Specifies the length in bits of the subnet mask.

Values 1 to 32

ipv4-address-mask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (dotted quad equivalent of mask length)

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ip-prefix-list-name

Specifies an IPv4 prefix list which contains IPv4 address prefixes to be matched.

Values A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

ipv6-address

Specifies the IPv6 prefix for the IP match criterion in hex digits.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

mask

Specifies the length of the ipv6-address expressed as a decimal integer.

Values 1 to 128

ipv6-address-mask

Specifies the eight 16-bit hexadecimal pieces representing bit match criteria.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

ipv6-prefix-list-name

Specifies an IPv6 prefix list which contains IPv6 address prefixes to be matched.

Values A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

All

src-ip

Syntax

IPv4:

src-ip {*ip-address/mask* | *ip-address ipv4-address-mask* | **ip-prefix-list** *prefix-list-name*}

IPv6:

src-ip {*ipv6-address/prefix-length* | *ipv6-address ipv6-address-mask* | **ipv6-prefix-list** *prefix-list-name*}

no src-ip

Context

[Tree] (config>filter>ipv6-exception>entry>match src-ip)

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[Tree] (config>filter>ip-exception>entry>match src-ip)

[Tree] (config>filter>ipv6-filter>entry>match src-ip)

Full Context

configure filter ipv6-exception entry match src-ip

configure filter ip-exception entry match src-ip

configure filter ipv6-filter entry match src-ip

Description

This command configures a source IPv4 or IPv6 address range to be used as an IP filter or IP exception match criterion.

To match on the source IPv4 or IPv6 address, specify the address and its associated mask, for example, 10.1.0.0/16 for IPv4. The conventional notation of 10.1.0.0 255.255.0.0 may also be used for IPv4.

The **no** form of the command removes the source IP address match criterion.

Default

no src-ip

Parameters

ip-address

Specifies the destination IPv4 address specified in dotted decimal notation.

Values a.b.c.d

mask

Specifies the length in bits of the subnet mask.

Values 1 to 32

ipv4-address-mask

Specifies the subnet mask in dotted decimal notation.

Values a.b.c.d (dotted quad equivalent of mask length)

ip-prefix-listoripv6-prefix-list prefix-list-name

Specifies to use a list of IP prefixes, which is a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

ipv6-address

Specifies an IPv6 prefix for the IP match criterion in hex digits.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

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prefix-length

Specifies whether a the IPv6 prefix length for the specified *ipv6-address* expressed as a decimal integer.

Values 1 to 128

ipv6-address-mask

Specifies eight 16-bit hexadecimal pieces representing bit match criteria.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

Platforms

VSR

- configure filter ip-exception entry match src-ip
- configure filter ipv6-exception entry match src-ip

All

- configure filter ipv6-filter entry match src-ip

src-ip

Syntax

src-ip *ip-prefix*[/*mask*] [*netmask*]

src-ip ip-prefix-list *ip-prefix-list-name*

no src-ip

Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry src-ip)

Full Context

configure system security management-access-filter ip-filter entry src-ip

Description

This command configures a source IP address range or an IP prefix list to be used as a management access filter match criterion.

The **no** form of this command removes the source IP address match criterion.

Default

no src-ip

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Parameters

ip-prefix

Specifies the IP prefix for the IP match criterion in dotted decimal notation.

mask

Specifies the subnet mask length expressed as a decimal integer.

Values 1 **to** 32 (mask length), 0.0.0.0 **to** 255.255.255.255 (dotted decimal)

netmask

Specifies the dotted quad equivalent of the mask length.

Values 0.0.0.0 to 255.255.255.255

ip-prefix-list-name

Specifies the IP prefix list used as a match criterion for the source IP address. It is a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes .

Platforms

All

src-ip

Syntax

src-ip *ipv6-address/prefix-length*

src-ip ipv6-prefix-list *ipv6-prefix-list-name*

no src-ip

Context

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry src-ip)

Full Context

configure system security management-access-filter ipv6-filter entry src-ip

Description

This command configures a source IPv6 address range or an IPv6 prefix list to be used as a management access filter match criterion. This command only applies to the 7750 SR and 7950 XRS.

The **no** form of this command removes the source IPv6 address match criterion.

Default

no src-ip

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Parameters

ipv6-address/prefix-length

Specifies the IPv6 address for the IPv6 match criterion in dotted decimal notation. An IPv6 IP address is written as eight 4-digit (16-bit) hexadecimal numbers separated by colons. One string of zeros per address can be left out, so that 2001:db8::0:217A is the same as 2001:db8:0:0:0:0:0:217A.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0..FFFF]H
	d: [0..255]D
prefix-length	1 to 128

ipv6-prefix-list-name

Specifies the IPv6 prefix list used a match criterion for the source IP address. It is a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes .

Platforms

All

src-ip

Syntax

src-ip [*ipv6-address*/ *prefix-length* | **ip-prefix-list** *prefix-list-name*]

no src-ip

Context

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match src-ip)

Full Context

configure system security cpm-filter ip-filter entry match src-ip

Description

This command specifies the IP address to match the source IP address of the packet.

To match on the source IP address, specify the address and its associated mask, such as 10.1.0.0/16. The conventional notation of 10.1.0.0 255.255.0.0 may also be used.

The **no** form of this command removes the source IP address match criterion.

Default

no src-ip

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Parameters

ipv6-address/prefix-length

Specifies the IP address for the match criterion in dotted decimal notation. An IP address is written as eight 4-digit (16-bit) hexadecimal numbers separated by colons. One string of zeros per address can be left out, so that 2001:db8::0:217A is the same as 2001:db8:0:0:0:0:0:217A.

Values

ipv4-address	a.b.c.d (host bits must be 0)
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0..FFFF]H
	d: [0..255]D
	interface: 32 characters maximum, mandatory for link local addresses
prefix-length	1 to 128

ip-prefix-list

Creates a list of IPv4 prefixes for match criteria in IPv4 ACL and CPM filter policies.

ip-prefix-list-name

Specifies a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

src-ip

Syntax

src-ip [*ip-address*/*mask* | **ipv6-prefix-list** *ipv6-prefix-list-name*]

no src-ip

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match src-ip)

Full Context

configure system security cpm-filter ipv6-filter entry match src-ip

Description

This command specifies the IPv6 address to match the source IPv6 address of the packet.

To match on the source IP address, specify the address and its associated mask, such as 10.1.0.0/16. The conventional notation of 10.1.0.0 255.255.0.0 may also be used.

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The **no** form of this command removes the source IP address match criterion.

This command only applies to the 7750 SR and 7950 XRS.

Default

no src-ip

Parameters

ip-address/mask

Specifies the IP address for the match criterion in dotted decimal notation. An IP address is written as eight 4-digit (16-bit) hexadecimal numbers separated by colons. One string of zeros per address can be left out, so that 2001:db8::0:217A is the same as 2001:db8:0:0:0:0:0:217A.

Values

ipv6-address	x:x:x:x:x:x:x:x[-interface]	
	x:x:x:x:x:x:d.d.d.d[-interface]	
	x: [0..FFFF]H	
	d: [0..255]D	
	interface: 32 characters maximum, mandatory for link local addresses	
mask:	Specifies eight 16-bit hexadecimal pieces representing bit match criteria.	
	Values	x:x:x:x:x:x:x:x (eight 16-bit pieces)

ipv6-prefix-list

Creates a list of IPv6 prefixes for match criteria in IPv6 ACL and CPM filter policies.

ipv6-prefix-list-name

Specifies a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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44 s Commands – Part IV

44.1 src-ip-address

src-ip-address

Syntax

src-ip-address *ip-address*

no src-ip-address

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy src-ip-address)

[Tree] (config>saa>test>type-multi-line>lsp-ping src-ip-address)

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy src-ip-address)

Full Context

configure saa test type-multi-line lsp-trace sr-policy src-ip-address

configure saa test type-multi-line lsp-ping src-ip-address

configure saa test type-multi-line lsp-ping sr-policy src-ip-address

Description

This command configures the source IP address. This option is used when an OAM packet must be generated from a different address than the node's system interface address. For example, when the OAM packet is sent over an LDP LSP and the LDP LSR-ID of the corresponding LDP session to the next hop is set to an address other than the system interface address.

The **no** form of this command removes the configuration.

Parameters

ip-address

Specifies the source IP address.

Values ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

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d - [0 to 255]D

Platforms

All

44.2 src-ipv4-address

src-ipv4-address

Syntax

src-ipv4-address *a.b.c.d*

no src-ipv4-address

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv4 src-ipv4-address)

[Tree] (config>test-oam>build-packet>header>ipv4 src-ipv4-address)

Full Context

debug oam build-packet packet field-override header ipv4 src-ipv4-address

configure test-oam build-packet header ipv4 src-ipv4-address

Description

This command defines the source IPv4 address to be used in the IPv4 header.

The **no** form of this command removes the source IPv4 address.

Default

src-ipv4-address 0.0.0.0

Parameters

a.b.c.d

Specifies the IPv4 source address to be used in the IPv4 header.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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44.3 src-ipv6-address

src-ipv6-address

Syntax

src-ipv6-address *ipv6-address*

no src-ipv6-address

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>ipv6 src-ipv6-address)

[Tree] (config>test-oam>build-packet>header>ipv6 src-ipv6-address)

Full Context

debug oam build-packet packet field-override header ipv6 src-ipv6-address

configure test-oam build-packet header ipv6 src-ipv6-address

Description

This command defines the source IPv6 address to be used in the IPv6 header.

The **no** form of the removes the source IPv6 address.

Parameters

ipv6-address

Specifies the IPv6 source address to be used in the IPv6 header.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	0 to FFFF]H
	d:	[0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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44.4 src-mac

src-mac

Syntax

src-mac *ieee-address*

no src-mac

Context

[Tree] (config>redundancy>mc>peer>mcr>l3ring>node>cv src-mac)

Full Context

configure redundancy multi-chassis peer mc-ring l3-ring ring-node connectivity-verify src-mac

Description

This command specifies the source MAC address used for the ring-node connectivity verification of this ring node.

If all zeros are specified, the MAC address of the system management processor (CPM) is used.

The **no** form of this command reverts to the default.

Parameters

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

src-mac

Syntax

src-mac *ieee-address*

no src-mac

Context

[Tree] (config>redundancy>mc>peer>mcr>node>cv src-mac)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify src-mac

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Description

This command specifies the source MAC address used for the Ring-Node Connectivity Verification of this ring node.

A value of all zeros (000000000000 H (0:0:0:0:0:0)) specifies that the MAC address of the system management processor (CPM) is used.

Default

no src-mac

Parameters

ieee-address

Specifies the source MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

All

src-mac

Syntax

src-mac *ieee-address* [*ieee-address-mask*]

no src-mac

Context

[Tree] (config>li>li-filter>li-mac-filter>entry>match src-mac)

Full Context

configure li li-filter li-mac-filter entry match src-mac

Description

This command configures a source MAC address or range to be used as a MAC filter match criterion.

The **no** form of this command removes the source mac as the match criteria.

Parameters

ieee-address

Specifies the 48-bit IEEE mac address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit

ieee-address-mask

Specifies a 48-bit mask. The following table describes the format styles to configure the 48-bit mask.

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Table 119: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDDDDDDDDDDDD	281474959933440
Hexadecimal	0xHHHHHHHHHHHH	0x0FFFFF000000
Binary	0bBBBBBBB...B	0b11110000...B

To configure so that all packets with a source MAC OUI value of 00-03-FA are subject to a match condition then the entry should be specified as: 003FA000000 0xFFFFFF000000

Default 0xFFFFFFFFFFFF (exact match)

Values 0x00000000000000 to 0xFFFFFFFFFFFF

Platforms

All

src-mac

Syntax

src-mac *ieee-address* [*ieee-address-mask*]

no src-mac

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match src-mac)

Full Context

configure qos sap-ingress mac-criteria entry match src-mac

Description

This command configures a source MAC address or range to be used as a service ingress QoS policy match criterion.

The **no** form of this command removes the source mac as the match criteria.

Default

no src-mac

Parameters

ieee-address

Enter the 48-bit IEEE MAC address to be used as a match criterion.

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Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit

ieee-address-mask

This 48-bit mask can be configured using the following formats:

Table 120: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDDDDDDDDDDDD	281474959933440
Hexadecimal	0xHHHHHHHHHHHH	0x0FFFFF000000
Binary	0bBBBBBBB...B	0b11110000...B

To configure all packets with a source MAC OUI value of 00-03-FA to be subject to a match condition, the entry should be specified as: 003FA000000 0xFFFFFF000000

Values 0x00000000000000 to 0xFFFFFFFFFFFF (hex)

Default 0xFFFFFFFFFFFF (hex) (exact match)

Platforms

All

src-mac

Syntax

src-mac *ieee-address* [*ieee-address-mask*]

no src-mac

Context

[Tree] (config>filter>ip-filter>entry>match src-mac)

[Tree] (config>filter>mac-filter>entry>match src-mac)

[Tree] (config>filter>ipv6-filter>entry>match src-mac)

Full Context

configure filter ip-filter entry match src-mac

configure filter mac-filter entry match src-mac

configure filter ipv6-filter entry match src-mac

Description

Configures a source MAC address or range to be used as a MAC filter match criterion.

The **no** form of the command removes the source mac as the match criteria.

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Default

no src-mac

Parameters

ieee-address

Specifies the 48-bit IEEE MAC address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit; both upper and lower case are supported.

ieee-address-mask

Specifies the 48-bit mask to match a range of MAC address values.

To configure so that all packets with a source MAC OUI value of 00:03:FA are subject to a match condition then the entry should be specified as: 00:03:FA:00:00:00 FF:FF:FF:00:00:00

Default ff:ff:ff:ff:ff:ff (exact match)

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is an hexadecimal digit; both upper and lower case are supported.

Platforms

All

src-mac

Syntax

src-mac *ieee-address* [*ieee-address-mask*]

no src-mac

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match src-mac)

Full Context

configure system security management-access-filter mac-filter entry match src-mac

Description

This command configures a source MAC address or range to be used as a MAC filter match criterion.

The **no** form of this command removes the source mac as the match criteria.

Default

no src-mac

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Parameters

ieee-address

Specifies the 48-bit IEEE mac address to be used as a match criterion.

Values HH:HH:HH:HH:HH:HH or HH-HH-HH-HH-HH-HH where H is a hexadecimal digit

ieee-address-mask

Specifies a 48-bit mask that can be configured using the formats listed in Table 121: ieee-address-mask Formats:

Table 121: ieee-address-mask Formats

Format Style	Format Syntax	Example
Decimal	DDDDDDDDDDDDD	281474959933440
Hexadecimal	0xHHHHHHHHHHHH	0x0FFFFF000000
Binary	0bBBBBBBB...B	0b11110000...B

To configure so that all packets with a source MAC OUI value of 00-03-FA are subject to a match condition then the entry should be specified as: 003FA000000 0xFFFFFF000000

Default 0xFFFFFFFFFFFF (exact match)

Values 0x00000000000000 to 0xFFFFFFFFFFFF

Platforms

All

44.5 src-mac-address

src-mac-address

Syntax

src-mac-address *ieee-address*

no src-mac-address

Context

[Tree] (config>test-oam>build-packet>header>ethernet src-mac-address)

[Tree] (debug>oam>build-packet>packet>field-override>header>ethernet src-mac-address)

Full Context

configure test-oam build-packet header ethernet src-mac-address

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debug oam build-packet packet field-override header ethernet src-mac-address

Description

This command defines the source MAC address for the Ethernet header.

The **no** form of this command deletes the configured MAC address.

Default

no override

Parameters

ieee-address

Specifies the source Ethernet MAC address to be used in the Ethernet header. Specifies the 48-bit MAC address.

Values xx:xx:xx:xx:xx:xx

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

44.6 src-port

src-port

Syntax

src-port {**lt** | **gt** | **eq**} *src-port-number*

src-port range *start end*

no src-port

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match src-port)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match src-port)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match src-port)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match src-port)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match src-port

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match src-port

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configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match src-port

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match src-port

Description

This command configures the source port match condition.

The **no** form of this command reverts to the default.

Parameters

lt | gt | eq

Specifies the operators.

src-port-number

Specifies the source port number as a decimal hex or binary.

Values 0 to 65535

dst-port-number

Specifies the destination port number as a decimal hex or binary.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

src-port

Syntax

src-port {**eq** | **neq**} *port-num*

src-port {**eq** | **neq**} **port-list** *port-list-name*

src-port {**eq** | **neq**} **range** *start-port-num end-port-num*

no src-port

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match src-port)

Full Context

configure application-assurance group policy app-qos-policy entry match src-port

Description

This command specifies a source IP port, source port list, or source range to use as match criteria.

The **no** form of this command removes the parameters from the configuration.

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Default

no src-port

Parameters

eq

Specifies that a successful match occurs when the flow matches the specified port.

neq

Specifies that a successful match occurs when the flow does not match the specified port.

port-num

Specifies the source port number.

Values 0 to 65535

start-port-num end-port-num

Specifies the start or end source port number.

Values 0 to 65535

port-list-name

Specifies a named port-list, up to 32 characters, containing a set of ports or ranges of ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

src-port

Syntax

src-port {**eq** | **gt** | **lt**} *port-num*

src-port port-list *port-list-name*

src-port range *start-port-num end-port-num*

no src-port

Context

[Tree] (config>app-assure>group>sess-fltr>entry>match src-port)

Full Context

configure application-assurance group session-filter entry match src-port

Description

This command specifies a source IP port, source port list, or source range to use as match criteria.

The **no** form of this command removes the parameters from the configuration.

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Default

no src-port

Parameters

eq

Specifies that a successful match occurs when the flow matches the specified port.

gt

Specifies all port numbers greater than the port-number match.

lt

Specifies all port numbers less than the port-number match.

port-num

Specifies the source port number.

Values 0 to 65535

start-port-num end-port-num

Specifies the start or end source port number.

Values 0 to 65535

port-list-name

Specifies a named port-list, up to 32 characters, containing a set of ports or ranges of ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

src-port

Syntax

src-port {**eq** | **neq**} *port-num*

no src-port

Context

[Tree] (debug>app-assure>group>traffic-capture>match src-port)

Full Context

debug application-assurance group traffic-capture match src-port

Description

This command configures debugging on a source port.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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src-port

Syntax

src-port {**lt** | **gt** | **eq**} *src-port-number*

src-port range *src-port-number src-port-number*

no src-port

Context

[Tree] (config>li>li-filter>li-ip-filter>entry>match src-port)

[Tree] (config>li>li-filter>li-ipv6-filter>entry>match src-port)

Full Context

configure li li-filter li-ip-filter entry match src-port

configure li li-filter li-ipv6-filter entry match src-port

Description

This command configures a source TCP or UDP port number or port range for an IP LI filter match criterion. Note that an entry containing Layer 4 match criteria will not match non-initial (second, third, and so on) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The **no** form of this command removes the source port match criterion.

Parameters

lt

Specifies all port numbers less than *src-port-number* match.

gt

Specifies all port numbers greater than *src-port-number* match.

eq

Specifies that *src-port-number* must be an exact match.

src-port-number

Specifies the source port number to be used as a match criteria expressed as a decimal integer.

Values [0..65535]D
[0x0..0xFFFF]H
[0b0..0b1111111111111111]B

Platforms

All

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src-port

Syntax

src-port {**lt** | **gt** | **eq**} *src-port-number*

src-port range *start end*

no src-port

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match src-port)

[Tree] (config>qos>sap-egress>ipv6-criteria>entry>match src-port)

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match src-port)

[Tree] (config>qos>sap-egress>ip-criteria>entry>match src-port)

Full Context

configure qos sap-ingress ipv6-criteria entry match src-port

configure qos sap-egress ipv6-criteria entry match src-port

configure qos sap-ingress ip-criteria entry match src-port

configure qos sap-egress ip-criteria entry match src-port

Description

This command configures a source TCP or UDP port number or port range for a SAP QoS policy match criterion.

The **no** form of this command removes the source port match criterion.

Default

no src-port

Parameters

{lt | gt | eq} *src-port-number*

The TCP or UDP port numbers to match, specified as less than (**lt**), greater than (**gt**), or equal to (**eq**) to the source port value, specified as a decimal integer.

Values 1 to 65535 (decimal)

range *startend*

The range of TCP or UDP port values to match, specified as between the *start* and *end* source port values inclusive.

Values 1 to 65535 (decimal)

Platforms

All

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src-port

Syntax

src-port {**lt** | **gt** | **eq**} *src-port-number*

src-port port-list *port-list-name*

src-port range *start end*

no src-port

Context

[Tree] (config>qos>network>egress>ipv6-criteria>entry>match src-port)

[Tree] (config>qos>network>ingress>ip-criteria>entry>match src-port)

[Tree] (config>qos>network>ingress>ipv6-criteria>entry>match src-port)

[Tree] (config>qos>network>egress>ip-criteria>entry>match src-port)

Full Context

configure qos network egress ipv6-criteria entry match src-port

configure qos network ingress ip-criteria entry match src-port

configure qos network ingress ipv6-criteria entry match src-port

configure qos network egress ip-criteria entry match src-port

Description

This command configures a source TCP or UDP port number, port range, or a port list for a network QoS policy match criterion.

The **no** form of this command removes the source port match criterion.

Default

no src-port

Parameters

lt

Keyword used to specify TCP or UDP port numbers to match that are less than the source port value.

gt

Keyword used to specify TCP or UDP port numbers to match that are greater than the source port value.

eq

Keyword used to specify TCP or UDP port numbers to match that are equal to the source port value.

src-port-number

The source port value, specified as a decimal integer.

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Values 1 to 65535

port-list-name

Specifies a port list name, up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

start

Specifies the starting range of TCP or UDP source port values to match.

Values 1 to 65535

end

Specifies the end range of TCP or UDP source port values to match.

Values 1 to 65535

Platforms

All

src-port

Syntax

src-port {**lt** | **gt** | **eq**} *src-port-number*

src-port port-list *port-list-name*

src-port range *src-port-number src-port-number*

no src-port

Context

[Tree] (config>filter>ip-filter>entry>match src-port)

[Tree] (config>filter>ipv6-filter>entry>match src-port)

[Tree] (config>filter>ipv6-exception>entry>match src-port)

[Tree] (config>filter>ip-exception>entry>match src-port)

Full Context

configure filter ip-filter entry match src-port

configure filter ipv6-filter entry match src-port

configure filter ipv6-exception entry match src-port

configure filter ip-exception entry match src-port

Description

This command configures a source TCP, UDP, or SCTP port number, port range, or port match list for an IP filter or IP exception match criterion. An entry containing Layer 4 non-zero match criteria will not match non-initial (2nd, 3rd, and so on) fragments of a fragmented packet since only the first fragment contains the Layer 4 information. Similarly an entry containing "**src-port eq** 0" match criterion, may match non-initial

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fragments when the source port value is not present in a packet fragment and other match criteria are also met.

The **no** form of the command removes the source port match criterion.

Default

no src-port

Parameters

lt | gt | eq

Specifies the operator to use relative to *src-port-number* for specifying the port number match criteria.

lt specifies that all port numbers less than *src-port-number* match.

gt specifies that all port numbers greater than *src-port-number* match.

eq specifies that *src-port-number* must be an exact match.

src-port-number

Specifies the source port number to be used as a match criteria expressed as a decimal integer, and in hexadecimal or binary format. Below shows decimal integer only.

Values 0 to 65535

port-list-name

Specifies to use a list of ports referred to by *port-list-name*, which is a string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

src-port-number src-port-number

Specifies inclusive port range between two src-port-number values.

Platforms

All

- configure filter ip-filter entry match src-port
- configure filter ipv6-filter entry match src-port

VSR

- configure filter ipv6-exception entry match src-port
- configure filter ip-exception entry match src-port

src-port

Syntax

src-port {*port-id* | **cpm** | **lag** *lag-id*}

no src-port

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Context

[Tree] (config>system>security>mgmt-access-filter>ip-filter>entry src-port)

[Tree] (config>system>security>mgmt-access-filter>ipv6-filter>entry src-port)

Full Context

configure system security management-access-filter ip-filter entry src-port

configure system security management-access-filter ipv6-filter entry src-port

Description

This command restricts ingress management traffic to either the CPM/CCM Ethernet port or any other logical port (for example LAG) on the device.

When the source interface is configured, only management traffic arriving on those ports satisfy the match criteria.

The **no** form of this command reverts to the default value.

Default

no src-port

Parameters

port-id

Specifies the port ID in formats shown below.

Values *slot*/*mda*/*port*[.*channel*]

	aps	keyword
	group-id	1 to 128
ccag-id	**ccag**-*id*. *path-id*[*cc-type*]	
	ccag	keyword
	id	1 to 8
	path-id	**a**, **b**
	cc-type	**.sap-net**, **.net-sap**

cpm

Matches any traffic received on any Ethernet port.

lag-id

Specifies the LAG identifier.

Values 1 to 800

Platforms

All

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src-port

Syntax

src-port *tcp/udp port-number* [*mask*]

scr-port port-list *port-list-name*

scr-port range *tcp/udp port-number tcp/udp port-number*

no scr-port

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match src-port)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match src-port)

Full Context

configure system security cpm-filter ipv6-filter entry match src-port

configure system security cpm-filter ip-filter entry match src-port

Description

This command specifies the TCP/UDP port to match the source port of the packet.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

Default

no src-port

Parameters

tcp/udp port-number

Specifies the source port number to be used as a match criteria expressed as a decimal integer.

Values 0 to 65535

port-list-name

Specifies the port list name to be used as a match criteria for the destination port.

mask

Specifies the 16 bit mask to be applied when matching the destination port.

Values [0x0000..0xFFFF] | [0..65535] |
[0b0000000000000000..0b1111111111111111]

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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44.7 src-prefix

src-prefix

Syntax

src-prefix *ip-address/mask* [*ip-address/mask*]

no src-prefix *ip-address/mask*

Context

[Tree] (config>service>vprn>mvpn>red-source-list src-prefix)

Full Context

configure service vprn mvpn red-source-list src-prefix

Description

This command configures multicast source IPv4 prefixes for preferred source selection. Single or multi-line inputs are allowed.

The **no** form of this command deletes specified prefix from the list.

Default

No prefixes are specified.

Parameters

ip-address/mask

IPv4 address prefix with mask. Up to 8 maximum.

Platforms

All

src-prefix

Syntax

src-prefix *ipv6-ip-address/prefix-length* [*ipv6-address/prefix-length*]

no *ipv6-ip-address/prefix-length*

Context

[Tree] (config>service>vprn>mvpn>red-source-list>ipv6 src-prefix)

Full Context

configure service vprn mvpn red-source-list ipv6 src-prefix

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Description

This command configures multicast source IPv6 prefixes for preferred source selection. Single or multi-line inputs are allowed.

The **no** form of this command deletes specified prefix from the list

Default

No prefixes are specified.

Parameters

ipv6-ip-address/mask

IPv6 address prefix with prefix-length. Up to 8 maximum.

Platforms

All

44.8 src-route-option

src-route-option

Syntax

src-route-option {**true** | **false**}

no source-route-option

Context

[Tree] (config>filter>ip-filter>entry>match src-route-option)

Full Context

configure filter ip-filter entry match src-route-option

Description

This command enables source route option match conditions. When enabled, this filter should match if a (strict or loose) source route option is present/not present at any location within the IP header, as per the value of this object. The **no** form of the command removes the criterion from the match entry.

Default

no src-route-option

Parameters

true

Enables source route option match conditions.

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false

Disables source route option match conditions.

Platforms

All

44.9 src-tcp-port

src-tcp-port

Syntax

src-tcp-port *tcp-port*

no src-tcp-port

Context

[Tree] (config>test-oam>build-packet>header>tcp src-tcp-port)

Full Context

configure test-oam build-packet header tcp src-tcp-port

Description

This command defines the source TCP port to be used in the test TCP header.

The **no** form of this command reverts to the default.

Default

src-tcp-port 0

Parameters

tcp-port

Specifies the source TCP port to be used in the test TCP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

src-tcp-port

Syntax

src-tcp-port *tcp-port*

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no src-tcp-port

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>tcp src-tcp-port)

Full Context

debug oam build-packet packet field-override header tcp src-tcp-port

Description

This command defines the source TCP port to be used in the TCP header.

The **no** form of this command reverts to the default.

Default

no override

Parameters

tcp-port

Specifies the source TCP port to be used in the test TCP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

44.10 src-udp-port

src-udp-port

Syntax

src-udp-port *udp-port*

no src-udp-port

Context

[Tree] (config>test-oam>build-packet>header>udp src-udp-port)

Full Context

configure test-oam build-packet header udp src-udp-port

Description

This command defines the source UDP port to be used in the test UDP header.

The **no** form of this command reverts to the default.

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Default

src-udp-port 0

Parameters

udp-port

Specifies the source UDP port to be used in the test UDP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

src-udp-port

Syntax

src-udp-port *udp-port*

no src-udp-port

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>udp src-udp-port)

Full Context

debug oam build-packet packet field-override header udp src-udp-port

Description

This command defines the source UDP port to be used in the UDP header.

The **no** form of this command reverts to the default.

Default

no override

Parameters

udp-port

Specifies the source UDP port to be used in the UDP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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src-udp-port

Syntax

src-udp-port *port-number*

no src-udp-port

Context

[Tree] (config>test-oam>link-meas>template>twl src-udp-port)

Full Context

configure test-oam link-measurement measurement-template twamp-light src-udp-port

Description

This command configures a source UDP port to be used by the link measurement tests linked to this template.

Unless required, Nokia suggests that the link measurement dynamically select an available source UDP port from the dynamic range. Before a UDP port in the configurable range can be configured as a source it must be owned by the application. Use the **config**>**test-oam**>**twamp**>**twamp-light**> **source-udp-port-pools**>**port**>**pool-type** command to map the port range to the application.

To use a source port in this range for link-measurement, the selected port number must have a **pool-type link-measurement** configured. The source UDP port must be owned by the application prior to the configuration under the application. A configured **source-udp-port** cannot be used when multiple tests are configured between the same source IP, destination IP and destination UDP port. A conflict may occur when non-unique addressing is used between two peers. A conflicting situation may occur when tests between peers are using IPv6 discovery and the link-local addresses on both nodes are the same. Other conflicts exist, such as, multiple tests between peers using the same source and destination IP system address instead of an interface address. When this condition exists, the operational state of the link-measurement test is operationally down with a failure condition UdpPortUnavailable.

The **no** form of the command removes the port number from the link measurement template.

Default

no src-udp-port

Parameters

port-number

Specifies the source UDP port number.

Values 64374 to 64383

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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src-udp-port

Syntax

src-udp-port *port-number*

no src-udp-port

Context

[Tree] (config>test-oam>lag-meas>template>twl src-udp-port)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light src-udp-port

Description

This command configures the source UDP port for the test packets. When a port is not specified using this command, the system dynamically allocates the UDP port from the dynamic range. This command should only be specified when required for interoperability. Otherwise, the default allocation from the dynamic range should be used.

The **no** form of this command allocates the source UDP port from the dynamic range.

Default

no src-udp-port

Parameters

port-number

Specifies the source UDP port number.

Values 64374 to 64383

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

44.11 srefresh

srefresh

Syntax

srefresh [**detail**]

no srefresh

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Context

[Tree] (debug>router>rsvp>packet srefresh)

Full Context

debug router rsvp packet srefresh

Description

This command debugs srefresh packets.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about srefresh packets.

Platforms

All

44.12 srh-mode

srh-mode

Syntax

srh-mode *srh-mode*

no srh-mode

Context

[Tree] (config>router>segment-routing>srv6>inst>loc>func>end srh-mode)

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func>ua srh-mode)

[Tree] (config>router>segment-routing>srv6>inst>loc>func>end-x srh-mode)

[Tree] (conf>router>segment-routing>srv6>ms-locator>un srh-mode)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance locator function end srh-mode

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function ua srh-mode

configure router segment-routing segment-routing-v6 base-routing-instance locator function end-x srh-mode

configure router segment-routing segment-routing-v6 micro-segment-locator un srh-mode

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Description

This command configures the SRH penultimate or ultimate pop mode, as well as the ultimate decapsulation mode, for the SID.

The **no** form of this command reverts to the default value.

Default

srh-mode psp

Parameters

srh-mode

Specifies the SRH mode for the SID.

Values psp — Penultimate Segment Pop (PSP) of the SRH

usp — Ultimate Segment Pop (USP) of the SRH

psp-usd — Supports both PSP of the SRH and Ultimate Segment Decapsulation (USD) on the same SID

usp-usd — Supports both USP of the SRH and USD on the same SID

psp-usp-usd — Supports PSP and USP of the SRH with USD on the same SID

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

44.13 srlb

srlb

Syntax

srlb *reserved-label-block-name*

no srlb

Context

[Tree] (config>router>ospf>segm-rtng srlb)

[Tree] (config>router>isis>segm-rtng srlb)

Full Context

configure router ospf segment-routing srlb

configure router isis segment-routing srlb

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Description

This command specifies the reserved label block to use for the Segment Routing Local Block (SRLB) for the specified IS-IS or OSPF instance. The named reserved label block must already have been configured under **config**>**router**>**mpls**>**mpls-labels**.

The **no** form of this command removes an SRLB.

Parameters

reserved-label-block-name

Specifies the name of the reserved label block, up to 64 characters.

Platforms

All

44.14 srlg

srlg

Syntax

[**no**] **srlg**

Context

[Tree] (config>router>mpls>lsp>secondary srlg)

Full Context

configure router mpls lsp secondary srlg

Description

This command enables the use of the SRLG constraint in the computation of a secondary path for an LSP at the head-end LER. The command is configurable for both RSVP-TE and SR-TE LSPs.

When SRLG is enabled, CSPF includes the SRLG constraint in the computation of the secondary LSP path if **path-computation-method local-cspf** is configured on the LSP. CSPF returns the list of SRLG groups along with the ERO during primary path CSPF computation. At a subsequent establishment of a secondary path with the SRLG constraint, the MPLS task again queries CSPF by providing the list of SRLG group numbers to be avoided. CSPF prunes all links with interfaces that belong to the same SRLGs as the interfaces included in the ERO of the primary path. If CSPF finds a path, the secondary path is set up. If a path is not found, MPLS keeps retrying the requests to CSPF.

An SRLG enabled secondary or standby path of the LSP configured with a value of the **path-computation-method** command other than **local-cspf** remains operationally down with a failure code of srlgPrimaryCspfDisabled(25).

When an LSP is administratively enabled, the SRLG-enabled secondary path is not tried if the first attempt to bring up the primary path is in progress. The SRLG enabled secondary path is kept down temporarily with failure code srlgPrimaryPathDown(26). After this first attempt, MPLS begins setting up the SRLG-

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enabled standby paths. If primary path computation fails or primary path was not configured, MPLS requests CSPF to compute the secondary path using an empty primary SRLG list. The SRLG *disjoint* state field shows *True* in this scenario.

If the primary path is re-optimized, has undergone MBB, or has come back up after being down, the MPLS task check determines if any SRLG secondary paths should be re-signaled. If MPLS finds that a secondary path is no longer SRLG disjointed, and therefore becomes ineligible, MPLS puts it on a delayed MBB immediately after the expiry of the retry timer. If MBB fails at the first try, the secondary path is torn down and the path is put on retry if not active. If the secondary path is active, then it is only torn down and resignaled when the primary path is activated. The secondary path can remain active even when ineligible while the revert timer to activate the primary path is still running.

If the primary goes down while active, the LSP uses the path of an eligible SRLG secondary path if it is up. If all secondary eligible SRLG paths are down, MPLS uses a non-SRLG secondary path, if configured and up. While the LSP is using a non-SRLG secondary path, if an eligible SRLG secondary path comes back up, MPLS switches the path of the LSP to the eligible SRLG secondary path. As soon as a path for the primary is successfully computed by CSPF, MPLS schedules the delay retry MBB for the secondary path using the new SRLG list.

If the primary path goes down while inactive, for example it is waiting for the revert timer to expire, MPLS resets the SRLG list of the primary to empty and changes the state of all secondary paths, including the currently active one, to the Disjointed state. A delay retry MBB is still performed but results in no change to the active secondary path.

A secondary path that becomes ineligible as a result of an update to the SRLG membership list of the primary path has the ineligibility status removed on any of the following events:

- a successful delay retry MBB of the secondary SRLG path that makes it eligible again
- the secondary path goes down. MPLS puts the standby on retry at the expiry of the retry timer. If successful, it becomes eligible. If not successful after the retry-timer expires or the number of retries reached the number configured under the **retry-limit** parameter, it is left down.

Once the primary path of the LSP is set up and is operationally up, any subsequent changes to the SRLG group membership of an interface that the primary path is using is not considered until the next opportunity the primary path is re-signaled. The primary path may be re-signaled due to a failure or to a make-before-break operation. Make-before-break occurs as a result of a global revertive operation, a timer based or manual re-optimization of the LSP path, or an operator change to any of the path constraints.

Once an SRLG secondary path is set up and is operationally up, any subsequent changes to the SRLG group membership of an interface the secondary path is using is not considered until the next opportunity when the secondary path is re-signaled. The secondary path is re-signaled due to a failure, to a re-signaling of the primary path, or to a make before break operation. Make-before-break occurs as a result of a timer based or manual re-optimization of the secondary path, or an operator change to any of the path constraints of the secondary path, except for enabling or disabling the **srlg** command itself. Enabling or disabling the **srlg** command on an active secondary or on an active or inactive secondary standby path causes the path to be torn down and re-signaled.

In addition, the user-configured **include** or **exclude** admin group statements for a secondary path are also checked together with the SRLG constraints by CSPF.

The following behavior of the feature is specific to the SR-TE LSP.

- An SRLG-enabled SR-TE LSP secondary path with SID label hops remains operational with failure code srlgPathWithSidHops(59).
- An SR-TE LSP uses IGP advertised link SRLG information in the TE database. It does not support the use of SRLG information in the static user SRLG database (**configure router mpls srlg-database**).

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- Delay Retry MBB for making a non-disjointed path a disjointed one is not supported with an SR-TE LSP. Instead, the system performs a break-before-make (that is, teardown and retry) operation. If a non-disjointed path is the active path of the LSP, that path is torn down and retried after the router switches to another path (for example, after **revert-timer** expires). If the non-disjointed path is not an active path, it is torn down and retried immediately.

The **no** form of this command reverts to the default value.

Default

no srlg

Platforms

All

srlg

Syntax

[**no**] **srlg**

Context

[Tree] (config>router>isis>mp-tlv srlg)

[Tree] (config>service>vprn>isis>mp-tlv srlg)

Full Context

configure router isis multi-part-tlv srlg

configure service vprn isis multi-part-tlv srlg

Description

This command enables the origination of multiple instances of SRLG TLVs (TLV 138 and TLV 238). When enabled, the router splits TLVs that exceed the maximum size (255 bytes) into MP-TLVs of the same type and key.

The **no** form of this command disables this capability for SRLG TLVs. TLVs that exceed the maximum size are truncated to fit the limit.

Default

srlg

Platforms

All

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44.15 srlg-database

srlg-database

Syntax

[**no**] **srlg-database**

Context

[Tree] (config>router>mpls srlg-database)

Full Context

configure router mpls srlg-database

Description

Commands in this context configure the link members of SRLG groups for the entire network at any node that needs to signal LSP paths (for example, a head-end node).

The **no** form of this command deletes the entire SRLG database. CSPF assumes all interfaces have no SRLG membership association if the database was not disabled with the command **config>router>mpls>user-srlg-db disable**.

Platforms

All

44.16 srlg-enable

srlg-enable

Syntax

[**no**] **srlg-enable**

Context

[Tree] (config>router>route-next-hop-policy>template srlg-enable)

Full Context

configure router route-next-hop-policy template srlg-enable

Description

This command configures the SRLG constraint into the route next-hop policy template.

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When this command is applied to a prefix, the LFA SPF will attempt to select an LFA next-hop, among the computed ones, which uses an outgoing interface that does not participate in any of the SLRGs of the outgoing interface used by the primary next-hop.

The SRLG criterion is applied before running the LFA next-hop selection algorithm.

The **no** form deletes the SRLG constraint from the route next-hop policy template.

Default

no srlg-enable

Platforms

All

44.17 srlg-frr

srlg-frr

Syntax

srlg-frr [**strict**]

no srlg-frr

Context

[Tree] (config>router>mpls srlg-frr)

Full Context

configure router mpls srlg-frr

Description

This command enables the use of the SRLG constraint in the computation of FRR bypass or detour to be associated with any primary LSP path on this system.

When this option is enabled, CSPF includes the SRLG constraint in the computation of a FRR detour or bypass for protecting the primary LSP path.

CSPF prunes all links with interfaces that belong to the same SRLG as the interface that is being protected, that is, the outgoing interface at the PLR the primary path is using. If one or more paths are found, the MPLS task will select one based on best cost and will signal the bypass/detour. If not found and the user has included the **strict** option, the bypass/detour is not setup and the MPLS task will keep retrying the request to CSPF. Otherwise, if a path exists that meets the other TE constraints, other than the SRLG one, the bypass/detour is setup.

A bypass or a detour LSP path is not intended to be SRLG disjoint from the entire primary path. Only the SRLGs of the outgoing interface at the PLR that the primary path is using are avoided.

When the MPLS task is searching for an SRLG bypass tunnel to associate with the primary path of the protected LSP, it will first check if any configured manual bypass LSP with CSPF enabled satisfies the SRLG constraints. The search skips any non-CSPF manual bypass LSP because there is no ERO

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returned to check the SRLG constraint. If no path is found, the task will check if an existing dynamic bypass LSP satisfies the SRLG and other primary path constraints. If not found, it will make a request to CSPF.

Once the primary path of the LSP is configured and is operationally up, subsequent changes to the SRLG group membership of an interface the primary path is using are not considered by the MPLS task at the PLR for bypass/detour association until the next opportunity the bypass LSP path or the primary path is resignaled. The path may be resignaled due to a failure or a Make-Before-Break (MBB) operation. MBB occurs as a result of a global revertive operation, a timer based or manual re-optimization of the bypass LSP or LSP primary path, or a user update of the primary path constraints.

Once the bypass or detour path is set up and is operationally up, subsequent changes to the SRLG group membership of an interface the bypass/detour path is using are not considered by the MPLS task at the PLR until the next opportunity when the association with the primary LSP path is rechecked. The association is rechecked if the bypass path is re-optimized using the timer or manual resignal MBB. Detour paths cannot be re-optimized separately from the primary path.

Enabling or disabling **srlg-frr** command only takes effect when the LSP primary path or the bypass path is resignaled. The user can either wait for the resignal timer to expire or cause the paths to be resignaled immediately by executing, at the ingress LER, the manual resignal command for the LSP primary path or for the bypass LSP path.

A MPLS interface can belong to a maximum of 64 SRLG groups. The SRLG groups are configured using the **config>router>if-attribute>srlg-group** command. The SRLG groups that an RSVP interface belong to are configured using the **srlg-group** command in the **config>router>mpls>interface** context.

The **no** form of this command reverts to the default value.

Default

no srlg-frr

Parameters

strict

Specifies the name of the SRLG group within a virtual router instance.

Values no srlg-frr (default) srlg-frr (non-strict) srlg-frr **strict** (strict)

Platforms

All

44.18 srlg-group

srlg-group

Syntax

[**no**] **srlg-group** *group-name* [*group-name*]

no srlg-group

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Context

[Tree] (config>service>vprn>if>if-attribute srlg-group)

[Tree] (config>service>ies>if>if-attribute srlg-group)

[Tree] (config>router>if>if-attribute srlg-group)

[Tree] (config>router>mpls>if srlg-group)

Full Context

configure service vprn interface if-attribute srlg-group

configure service ies interface if-attribute srlg-group

configure router interface if-attribute srlg-group

configure router mpls interface srlg-group

Description

This command configures the SRLG membership of an interface. The user can apply SRLGs to an IES, VPRN, network IP, or MPLS interface.

An interface can belong to up to 64 SRLG groups. However, each single operation of the **srlg-group** command allows a maximum of five (5) groups to be specified at a time. Once an SRLG group is bound to one or more interface, its value cannot be changed until all bindings are removed.

The configured SRLG membership is applied in all levels/areas the interface is participating in. The same interface cannot have different memberships in different levels/areas.

Only the SRLGs bound to an MPLS interface are advertised area-wide in TE link TLVs and sub-TLVs when the **traffic-engineering** option is enabled in IS-IS or OSPF. IES and VPRN interfaces do not have their attributes advertised in TE TLVs.

The **no** form of this command deletes one or more of the SRLG memberships of an interface. The user can also delete all memberships of an interface by not specifying a group name.

Parameters

group-name

Specifies the name of the group, up to 32 characters. The association of group name and value should be unique within an IP/MPLS domain. Each single operation of the **srlg-group** command allows a maximum of 5 groups to be specified at a time.

Platforms

All

srlg-group

Syntax

srlg-group *group-name* **value** *group-value* [**penalty-weight** *penalty-weight*]

no srlg-group *group-name*

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Context

[Tree] (config>router>if-attribute srlg-group)

Full Context

configure router if-attribute srlg-group

Description

This command defines a Shared Risk Link Group (SRLG) which can be associated with an IP or MPLS interface.

SRLG is used to tag IP or MPLS interfaces which share a specific fate with the same identifier. For example, an SRLG group identifier could represent all links which use separate fibers but are carried in the same fiber conduit. If the conduit is accidentally cut, all the fiber links are cut which means all interfaces using these fiber links will fail.

The user first configures locally on each router the name and identifier of each SRLG group. A maximum of 1024 SRLGs can be configured per system.

The user then configures the SRLG membership of an interface. The user can apply SRLGs to an IES, VPRN, network IP, or MPLS interface. A maximum of 64 SRLGs can be applied to a given interface.

When SRLGs are applied to MPLS interfaces, CSPF at an LER will exclude the SRLGs of interfaces used by the LSP primary path when computing the path of the secondary path. CSPF at an LER or LSR will also exclude the SRLGs of the outgoing interface of the primary LSP path in the computation of the path of the FRR backup LSP. This provides path disjointness between the primary path and the secondary path or FRR backup path of an LSP.

When SRLGs applied to IES, VPRN, or network IP interfaces, they are evaluated in the route next-hop selection by adding the **srlg-enable** option in a route next-hop policy template applied to an interface or a set of prefixes. For instance, the user can enable the SRLG constraint to select a LFA next-hop for a prefix which avoids all interfaces that share fate with the primary next-hop.

The following provisioning rules are applied to SRLG configuration. The system will reject the creation of a SRLG if it re-uses the same name but with a different group value than an existing group. The system will also reject the creation of an SRLG if it re-uses the same group value but with a different name than an existing group.

Only the SRLGs bound to an MPLS interface are advertised area-wide in TE link TLVs and sub-TLVs when the **traffic-engineering** option is enabled in IS-IS or OSPF. IES and VPRN interfaces do not have their attributes advertised in TE TLVs.

A user may specify a penalty weight (**penalty-weight**) associated with an SRLG. This controls the likelihood of paths with links sharing SRLG values with a primary path being used by a bypass or detour LSP. The higher the penalty weight, the less desirable it is to use the link with a given SRLG.

Parameters

group-name

Specifies the name of the group, up to 32 characters. The association of group name and value should be unique within an IP/MPLS domain.

group-value

Specifies the integer value associated with the group. The association of group name and value should be unique within an IP/MPLS domain.

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Values 0 to 4294967295

penalty-weight

Specifies the integer value of the penalty weight that is assigned to the SRLG group

Values 0 to 65535

Default 0

Platforms

All

44.19 srrp

srrp

Syntax

srrp *srrp-id* [**create**]

no srrp *srrp-id*

Context

[Tree] (config>service>ies>sub-if>grp-if srrp)

[Tree] (config>service>vprn>sub-if>grp-if srrp)

Full Context

configure service ies subscriber-interface group-interface srrp

configure service vprn subscriber-interface group-interface srrp

Description

This command creates a Subscriber Router Redundancy Protocol (SRRP) instance on a group IP interface. An SRRP instance manages all subscriber subnets within the group interfaces subscriber IP interface or other subscriber IP interfaces that are associated through a wholesale/retail relationship. Only one unique SRRP instance can be configured per group interface.

The **no** form of this command removes an SRRP instance from a group IP interface. Once removed, the group interface ignores ARP requests for the SRRP gateway IP addresses that may exist on subscriber subnets associated with the group IP interface. Then the group interface stops routing using the redundant IP interface associated with the group IP interface and will stop routing with the SRRP gateway MAC address. Ingress packets destined to the SRRP gateway MAC will also be silently discarded. This is the same behavior as a group IP interface that is disabled (shutdown).

The **no** form of this command removes the SRRP ID from the configuration.

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Default

no srrp

Parameters

srrp-id

Specifies a 32 bit instance ID that must be unique to the system. The instance ID must also match the instance ID used by the remote router that is participating in the same SRRP context. SRRP is intended to perform a function similar to VRRP where adjacent IP hosts within local subnets use a default gateway to access IP hosts on other subnets.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

srrp

Syntax

[**no**] **srrp**

Context

[Tree] (debug>router srrp)

Full Context

debug router srrp

Description

This command enables debugging for SRRP packets.

The **no** form of this command disables debugging.

Platforms

All

srrp

Syntax

[**no**] **srrp**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync srrp)

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Full Context

configure redundancy multi-chassis peer sync srrp

Description

This command specifies whether subscriber routed redundancy protocol (SRRP) information should be synchronized with the multi-chassis peer.

Default

no srrp

Platforms

All

srrp

Syntax

srrp

Context

[Tree] (config>redundancy srrp)

Full Context

configure redundancy srrp

Description

Commands in this context configure SSRP system parameters for BNG CUPS inter-BNG-UP resiliency.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.20 srrp-enabled-routing

srrp-enabled-routing

Syntax

srrp-enabled-routing [**hold-time** *hold-time*]

no srrp-enabled-routing

Context

[Tree] (config>service>ies>sub-if>grp-if srrp-enabled-routing)

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[Tree] (config>service>vprn>sub-if>grp-if srrp-enabled-routing)

Full Context

configure service ies subscriber-interface group-interface srrp-enabled-routing

configure service vprn subscriber-interface group-interface srrp-enabled-routing

Description

This command configures SRRP-enabled routing.

The **no** form of this command reverts to the default.

Parameters

hold-time *hold-time*

Specifies the hold time, in deci-seconds.

Values 1 to 50

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.21 srrp-instance

srrp-instance

Syntax

[**no**] **srrp-instance** *srrp-id*

Context

[Tree] (config>redundancy>mc>peer>mcr>l3ring srrp-instance)

Full Context

configure redundancy multi-chassis peer mc-ring l3-ring srrp-instance

Description

This command configures an SRRP instance for a Layer 3 ring.

The **no** form of this command reverts to the default.

Parameters

srrp-id

Specifies the SRRP ID of this SRRP instance.

Values 1 to 4294967295

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Platforms

All

44.22 srv6

srv6

Syntax

srv6 {**origination** [**routed-vpls**] | **termination}**

no srv6

Context

[Tree] (config>fwd-path-ext>fpe srv6)

Full Context

configure fwd-path-ext fpe srv6

Description

This command configures whether the SRv6 FPE application type is used for the origination or termination of SRv6 tunnels.

The origination or termination of SRv6 on services requires the configuration of a dedicated SRv6 FPE and cannot share the same FPE. A single FPE can be configured for SRv6 origination. One or more FPEs can be configured for SRv6 termination, where a termination SRv6 FPE is assigned one or more configured locators. Transit SRv6 routers do not need SRv6 FPEs.

The **no** form of this command disables SRv6 on an FPE.

Default

no srv6

Parameters

origination

Keyword used to specify the origination FPE application type.

routed-vpls

Keyword used to specify the creation of internal SDPs for handling R-VPLS traffic when SRv6 origination is configured for the specified FPE.

termination

Keyword used to specify the termination FPE application type.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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44.23 srv6-instance

srv6-instance

Syntax

srv6-instance *id* **default-locator** *name*

no srv6-instance

Context

[Tree] (config>service>vprn>bgp-evpn>srv6 srv6-instance)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 srv6-instance)

Full Context

configure service vprn bgp-evpn segment-routing-v6 srv6-instance

configure service vprn bgp-ipvpn segment-routing-v6 srv6-instance

Description

This command configures an SRv6 instance.

The **no** form of this command removes the SRv6 instance from the BGP IP-VPN or BGP EVPN control plane for the service.

Parameters

id

Specifies the SRv6 instance ID that exists in the service and is associated to a IP-VPN or EVPN control plane.

Values 1, 2

name

Specifies a default regular or micro-segment locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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44.24 srv6-locator

srv6-locator

Syntax

srv6-locator *name*

no srv6-locator

Context

[Tree] (config>router>policy-options>policy-statement>default-action srv6-locator)

[Tree] (config>router>policy-options>policy-statement>entry>action srv6-locator)

Full Context

configure router policy-options policy-statement default-action srv6-locator

configure router policy-options policy-statement entry action srv6-locator

Description

This command configures either a string encoding a midstring parameter delimited by at signs (@), or a reference to a named locator for the SRv6 TLV to use.

For a VRF export policy, the referenced locator must already be configured using the commands in the **configure service vprn segment-routing-v6 locator** context.

For a BGP export policy, the referenced locator must already be configured using the commands in the **configure router segment-routing segment-routing-v6 base-routing-instance locator** context.

The **no** form of this command specifies not to use a locator for the SRv6 TLV.

Default

no srv6-locator

Parameters

name

Specifies either a string encoding a midstring parameter delimited by at signs (@) or a reference to a named locator for the SRv6 TLV to use, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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44.25 srv6-micro-segment-locator

srv6-micro-segment-locator

Syntax

srv6-micro-segment-locator *name*

no srv6-micro-segment-locator

Context

[Tree] (config>router>policy-options>policy-statement>default-action srv6-micro-segment-locator)

[Tree] (config>router>policy-options>policy-statement>entry>action srv6-micro-segment-locator)

Full Context

configure router policy-options policy-statement default-action srv6-micro-segment-locator

configure router policy-options policy-statement entry action srv6-micro-segment-locator

Description

This command configures either a string encoding a midstring parameter delimited by at signs (@), or a reference to a named micro-segment (uSID) locator for the SRv6 TLV to use.

For a VRF export policy, the referenced uSID locator must already be configured using the commands in the **configure service vprn segment-routing-v6 micro-segment-locator** context.

For a BGP export policy, the referenced uSID locator must already be configured using the commands in the **configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator** context.

The **no** form of this command specifies not to use a uSID locator for the SRv6 TLV.

Default

no srv6-micro-segment-locator

Parameters

name

Specifies either a string encoding a midstring parameter delimited by at signs (@) or a reference to a named uSID locator for the SRv6 TLV to use, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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44.26 srv6-return-path-bfd-sid

srv6-return-path-bfd-sid

Syntax

srv6-return-path-bfd-sid *ipv6-address* | *param-name*

no srv6-return-path-bfd-sid

Context

[Tree] (config>router>policy-options>policy-statement>entry>action srv6-return-path-bfd-sid)

[Tree] (config>router>policy-options>policy-statement>default-action srv6-return-path-bfd-sid)

Full Context

configure router policy-options policy-statement entry action srv6-return-path-bfd-sid

configure router policy-options policy-statement default-action srv6-return-path-bfd-sid

Description

This command applies to the initiator of Seamless Bidirectional Forwarding Detection sessions. This command configures the S-BFD session to echo mode and pushes an additional SRv6 SID in the SRH for S-BFD packets only when it is sent on the imported SRv6 policy.

The return-path SID refers to a binding SID on a SRv6 policy configured on the far-end router. Instead of being routed through the IGP path, the S-BFD packet returns to the initiator through this SRv6 return path. The **no** form of this command disables the controlled return-path SID and echo mode for S-BFD.

Parameters

ipv6-address

Specifies the IPv6 address.

Values
- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

param-name

Specifies the parameter variable name, up to 32 characters. Policy parameters must start and end with an at-sign (@).

Platforms

All

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44.27 srv6-sid

srv6-sid

Syntax

srv6-sid *ipv6-address*

no srv6-sid

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>seg-list>segment srv6-sid)

Full Context

configure router segment-routing sr-policies static-policy segment-list segment srv6-sid

Description

This command defines the 128-bit SRv6 SID for the segment. The policy can only be administratively enabled if its type (defined with the **configure router segment-routing sr-policies static-policy type** command) and all its segments (defined with the **configure router segment-routing sr-policies static-policy segment-list segment** command) are SRv6.

Parameters

ipv6-address

Specifies the SID, up to 72 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

44.28 srv6-sid-prefix

srv6-sid-prefix

Syntax

srv6-sid-prefix {*ipv6-prefix/prefix-length* | *param-name*}

no srv6-sid-prefix

Context

[Tree] (config>router>policy-options>policy-statement>entry>from srv6-sid-prefix)

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Full Context

configure router policy-options policy-statement entry from srv6-sid-prefix

Description

This command configures either the name of a prefix policy variable or an IPv6 prefix and prefix length, as match criterion for a BGP route.

Note: If the name of a prefix policy variable is the match criterion, the name must start and end with an at sign (@).

A BGP route matches this criterion if it has an SRv6 TLV, and the SID or micro-segment (uSID) value in that TLV is matched by the bits of the IPv6 prefix (up to the specified prefix length).

This match criterion is supported in BGP import policies, BGP export policies, and VRF or VSI import policies.

Default

no srv6-sid-prefix

Parameters

ipv6-prefix/prefix-length

Specifies the IPv6 address and prefix length.

Values

ipv6-prefix:	x:x:x:x:x:x:x:x (host bits must be 0)
	x:x:x:x:x:x:d.d.d.d
	x - [0..FFFF]H
	d - [0..255]D
prefix-length:	0 to 128

param-name

Specifies the name of a prefix policy variable, which can be up to 32 characters and must start and end with an at sign (@)

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

44.29 srv6-tlv

srv6-tlv

Syntax

srv6-tlv {**present** | **not-present**}

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no srv6-tlv

Context

[Tree] (config>router>policy-options>policy-statement>entry>from srv6-tlv)

Full Context

configure router policy-options policy-statement entry from srv6-tlv

Description

This command configures whether the entry matches a BGP route with a prefix SID attribute containing an SRv6 TLV. This match criterion is supported in BGP import policies, BGP export policies, and VRF or VSI import policies.

Note: Routes of the MVPN family do not match to entries with the SRv6 TLV condition, regardless of whether this command is configured to **present** or **not-present**.

The **no** form of this command disables the router from taking whether a BGP route has a prefix SID attribute containing an SRv6 TLV into consideration when matching a BGP route with the entry.

Default

no srv6-tlv

Parameters

present

Specifies that a BGP route only matches this entry if it has a prefix SID attribute containing an SRv6 TLV.

not-present

Specifies that a BGP route only matches this entry if it does not have a prefix SID attribute containing an SRv6 TLV.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

44.30 ssap

ssap

Syntax

ssap *ssap-value* [*ssap-mask*]

no ssap

Context

[Tree] (config>qos>sap-ingress>mac-criteria>entry>match ssap)

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Full Context

configure qos sap-ingress mac-criteria entry match ssap

Description

This command configures an Ethernet 802.2 LLC SSAP value or range for an ingress SAP QoS policy match criterion.

This is a 1-byte field that is part of the 802.2 LLC header of the IEEE 802.3 Ethernet Frame.

The snap-pid field, etype field, ssap, and dsap fields are mutually exclusive and cannot be part of the same match criteria.

The **no** form of this command removes the ssap match criterion.

Default

no ssap

Parameters

ssap-value

The 8-bit ssap match criteria value in hex.

Values 0x00 to 0xFF (hex)

ssap-mask

This is optional and can be used when specifying a range of ssap values to use as the match criteria.

This 8-bit mask can be configured using the following formats.

Table 122: Format Styles to Configure Mask

Format Style	Format Syntax	Example
Decimal	DDD	240
Hexadecimal	0xHH	0xF0
Binary	0bBBBBBBBB	0b11110000

Values 0x00 to 0xFF

Platforms

All

ssap

Syntax

ssap *ssap-value* [*ssap-mask*]

no ssap

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Context

[Tree] (config>filter>mac-filter>entry>match ssap)

Full Context

configure filter mac-filter entry match ssap

Description

This command configures an Ethernet 802.2 LLC SSAP value or range for a MAC filter match criterion.

This is a one-byte field that is part of the 802.2 LLC header of the IEEE 802.3 Ethernet Frame.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria.

The **no** form of the command removes the ssap match criterion.

Default

no ssap

Parameters

ssap-value

Specifies the 8-bit ssap match criteria value in decimal, hexadecimal or binary.

Values 0 to 255

ssap-mask

Specifies an optional parameter that may be used when specifying a range of ssap values to use as the match criteria.

This 8 bit mask and the ssap value can be configured as described in Table 123: 8-bit Mask Syntax.

Table 123: 8-bit Mask Syntax

Format Style	Format Syntax	Example
Decimal	DDD	240
Hexadecimal	0xHH	0xF0
Binary	0bBBBBBBBB	0b11110000

Values 0 to 255

Platforms

All

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ssap

Syntax

ssap *ssap-value* [*ssap-mask*]

no ssap

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match ssap)

Full Context

configure system security management-access-filter mac-filter entry match ssap

Description

This command configures an Ethernet 802.2 LLC SSAP value or range for a MAC filter match criterion.

This is a one-byte field that is part of the 802.2 LLC header of the IEEE 802.3 Ethernet Frame.

The snap-pid field, etype field, ssap and dsap fields are mutually exclusive and may not be part of the same match criteria. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Router Configuration Guide* for information about MAC Match Criteria Exclusivity Rules fields that are exclusive based on the frame format.

The **no** form of this command removes the SSAP match criterion.

Default

no ssap

Parameters

ssap-value

Specifies the 8-bit SSAP match criteria value in hex.

Values 0x00 to 0xFF

ssap-mask

Specifies a range of SSAP values to use as the match criteria.

Platforms

All

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44.31 ssh

ssh

Syntax

ssh *host* [**-l** *username*] [**-v** *ssh-version*] [{**router** *router-instance* | **service-name** *service-name*}] [**re-exchange-min** *minutes*] [**re-exchange-mbyte** *megabytes*] [**-i** *private-key-filename*] [**-p** *port*]

Context

[Tree] (ssh)

Full Context

ssh

Description

This command initiates a client SSH session with the remote host and is independent from the administrative or operational state of the SSH server. However, to be the target of an SSH session, the SSH server must be operational. This command also allows the user to initiate an SSH session, with a key reexchange, based on maximum megabytes or minutes, whichever occurs first. If the reexchange options are not set, the default behavior does not perform a key reexchange.

Quitting SSH while in the process of authentication is accomplished by either executing a ctrl-c or "~." (tilde and dot), assuming the "~" is the default escape character for the SSH session.

Parameters

host

Specifies the remote host for the SSH session.

Values

host: *user@hostname* - [up to 255 characters]	
user	up to 32 characters
hostname	[*dns-name* | *ipv4-address* | *ipv6-address*]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface: up to 32 characters, mandatory for link local addresses

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dns-name up to128 characters

username

Specifies the user name to use when opening the SSH session, up to 32 characters.

router-instance

Specifies the router name or service ID.

Values *router-instance*: *router-name* or *vprn-svc-id*

router-name "Base", "management", "vpls-management"

vprn-svc-id 1 to 2147483647

Default Base

service-name

Specifies the service name, up to 64 characters.

minutes

Specifies the time interval after which the SSH client will initiate the key reexchange.

Values 1 to 1440 minutes

megabytes

Specifies the number of megabytes, on a SSH session, after which the SSH client will initiate the key reexchange.

Values 1 to 64000 MB

private-key-filename

Specifies the name of the file containing the private key for public-key authentication on the SR OS SSH client, up to 255 characters. (The public key must be provided to the SSH server.) When using the *private-key-filename* option, if the file containing the private key is encrypted, the system asks for the password to decrypt the file.

port

Specifies the listening port for the SR OS SSH client to establish the SSH session with the SSH server.

Values 1 to 65535

Platforms

All

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ssh

Syntax

ssh

Context

[Tree] (config>system>security ssh)

[Tree] (config>system>login-control ssh)

Full Context

configure system security ssh

configure system login-control ssh

Description

Commands in this context configure the SSH parameters.

Platforms

All

44.32 ssh-authentication-method

ssh-authentication-method

Syntax

ssh-authentication-method

Context

[Tree] (config>system>security>user ssh-authentication-method)

Full Context

configure system security user ssh-authentication-method

Description

Commands in this context configure, at the user level, the authentication method accepted by the SSH server. The user-level configuration overrides the system-level configuration.

Platforms

All

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44.33 ssh-max-sessions

ssh-max-sessions

Syntax

ssh-max-sessions *number-of-sessions*

no ssh-max-sessions

Context

[Tree] (config>system>security>profile ssh-max-sessions)

[Tree] (config>system>security>cli-session-group ssh-max-sessions)

Full Context

configure system security profile ssh-max-sessions

configure system security cli-session-group ssh-max-sessions

Description

This command is used to limit the number of SSH-based sessions available to all users that are part of a particular profile, or to all users of all profiles that are part of the same **cli-session-group**.

The **no** form of this command disables the command and the profile or group limit is not applied on the number of sessions.

Default

no ssh-max-sessions

Parameters

number-of-sessions

Specifies the maximum number of allowed SSH-based sessions.

Values 0 to 50

Platforms

All

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44.34 ssh-reply

ssh-reply

Syntax

[**no**] **ssh-reply**

Context

[Tree] (config>service>ies>if>vrrp ssh-reply)

Full Context

configure service ies interface vrrp ssh-reply

Description

This command enables the non-owner master to reply to SSH Requests directed at the virtual router instances IP addresses. The SSH request can be received on any routed interface. SSH must not have been disabled at the management security level (either on the parental IP interface or based on the SSH source host address). Proper login and CLI command authentication is still enforced.

When ssh-reply is not enabled, SSH packets to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to SSH regardless of the ssh-reply configuration.

The ssh-reply command is only available in non-owner vrrp virtual-router-id nodal context. If the ssh-reply command is not executed, SSH packets to the virtual router instance IP addresses is silently discarded.

The **no** form of this command restores the default operation of discarding all SSH packets destined to the non-owner virtual router instance IP addresses.

Default

no ssh-reply

Platforms

All

ssh-reply

Syntax

[**no**] **ssh-reply**

Context

[Tree] (config>service>vprn>if>vrrp ssh-reply)

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Full Context

configure service vprn interface vrrp ssh-reply

Description

This command enables the non-owner master to reply to SSH Requests directed at the virtual router instance's IP addresses. The SSH request can be received on any routed interface. SSH must not have been disabled at the management security level (either on the parental IP interface or based on the SSH source host address). Proper login and CLI command authentication is still enforced.

When ssh-reply is not enabled, SSH packets to non-owner master virtual IP addresses are silently discarded. Non-owner backup virtual routers never respond to SSH regardless of the ssh-reply configuration.

The ssh-reply command is only available in non-owner **vrrp** *virtual-router-id* nodal context. If the ssh-reply command is not executed, SSH packets to the virtual router instance IP addresses is silently discarded.

The **no** form of this command restores the default operation of discarding all SSH packets destined to the non-owner virtual router instance IP addresses.

Default

no ssh-reply

Platforms

All

ssh-reply

Syntax

[**no**] **ssh-reply**

Context

[Tree] (config>router>if>vrrp ssh-reply)

Full Context

configure router interface vrrp ssh-reply

Description

This command enables the non-owner master to reply to SSH requests directed at the virtual router instance IP addresses. This command is only applicable to IPv4.

Non-owner virtual router instances are limited by the VRRP specifications to responding to ARP requests destined to the virtual router IP addresses and routing IP packets not addressed to the virtual router IP addresses.

This limitation can be disregarded for certain applications. Ping, Telnet and SSH can be individually enabled or disabled on a per-virtual-router-instance basis.

The **ssh-reply** command enables the non-owner master to reply to SSH requests directed at the virtual router instances IP addresses. The SSH request can be received on any routed interface. SSH must not

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have been disabled at the management security level (either on the parental IP interface or based on the SSH source host address). Correct login and CLI command authentication is still enforced.

When **ssh-reply** is not enabled, SSH requests to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to SSH requests regardless of the **ssh-reply** setting.

The **ssh-reply** command is only available in non-owner **vrrp** nodal context.

By default, SSH requests to the virtual router instance IP addresses are silently discarded.

The **no** form of the command discards all SSH request messages destined to the non-owner virtual router instance IP addresses.

Default

no ssh-reply — SSH requests to the virtual router instance IP addresses are discarded.

Platforms

All

44.35 ssm

ssm

Syntax

ssm

Context

[Tree] (config>port>ethernet ssm)

Full Context

configure port ethernet ssm

Description

This command enables the Ethernet Synchronization Messaging Channel (ESMC) for the Ethernet port. ESMC carries the Synchronization Status Message (SSM) code representing the quality level of the source of frequency of the central clock of the node.

Platforms

All

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44.36 ssm-assert-compatible-mode

ssm-assert-compatible-mode

Syntax

ssm-assert-compatible-mode [**enable** | **disable**]

Context

[Tree] (config>service>vprn>pim ssm-assert-compatible-mode)

Full Context

configure service vprn pim ssm-assert-compatible-mode

Description

This command specifies whether SSM assert is enabled in compatibility mode for this PIM protocol instance. When enabled, for SSM groups, PIM will consider the SPT bit to be implicitly set to compute the value of CouldAssert (S,G,I) as defined in RFC 4601, *Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised)*. When disabled, for SSM groups, PIM will not assume the SPT bit to be set. The SPT bit is set by Update_SPTbit(S,G,iif) macro defined in RFC 4601.

Default

ssm-assert-compatible-mode disable

Parameters

enable

enables SSM assert in compatibility mode for this PIM protocol instance

disable

disabled SSM assert in compatibility mode for this PIM protocol instance

Platforms

All

44.37 ssm-bit

ssm-bit

Syntax

ssm-bit *sa-bit*

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Context

[Tree] (config>system>sync-if-timing>bits ssm-bit)

Full Context

configure system sync-if-timing bits ssm-bit

Description

This command configures which sa-bit to use for conveying SSM information when the interface-type is E1.

Default

ssm-bit 8

Parameters

sa-bit

Specifies the sa-bit value.

Values 4 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

44.38 ssm-default-range-disable

ssm-default-range-disable

Syntax

ssm-default-range-disable ipv4

Context

[Tree] (config>service>vprn>pim ssm-default-range-disable)

Full Context

configure service vprn pim ssm-default-range-disable

Description

This command specifies whether to disable the use of default range (232/8) for SSM so that it can be used by ASM to process (*,G). When enabled, the use of default range is disabled for SSM and it can be used by ASM. When disabled, the SSM default range is enabled.

Default

ssm-default-range-disable

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Platforms

All

44.39 ssm-groups

ssm-groups

Syntax

[**no**] **ssm-groups**

Context

[Tree] (config>service>vprn ssm-groups)

Full Context

configure service vprn ssm-groups

Description

This command enables access to the context to enable a source-specific multicast (SSM) configuration instance.

Platforms

All

ssm-groups

Syntax

[**no**] **ssm-groups**

Context

[Tree] (config>router>pim ssm-groups)

Full Context

configure router pim ssm-groups

Description

Commands in this context enable an ssm-group configuration instance.

Platforms

All

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44.40 ssm-translate

ssm-translate

Syntax

ssm-translate

Context

[Tree] (config>service>vprn>igmp>if ssm-translate)

[Tree] (config>service>vprn>igmp ssm-translate)

Full Context

configure service vprn igmp interface ssm-translate

configure service vprn igmp ssm-translate

Description

Commands in this context configure group ranges which are translated to SSM (S,G) entries. If the static entry needs to be created, it has to be translated from a IGMPv1 IGMPv2 request to a Source Specific Multicast (SSM) join. An SSM translate source can only be added if the **starg** command is not enabled. An error message is generated if you try to configure the **source** command with **starg** command enabled.

Platforms

All

ssm-translate

Syntax

ssm-translate

Context

[Tree] (config>service>vprn>mld ssm-translate)

Full Context

configure service vprn mld ssm-translate

Description

Commands in this context configure group ranges which are translated to SSM (S,G) entries. If the static entry needs to be created, it has to be translated from a IGMPv1 IGMPv2 request to a Source Specific Multicast (SSM) join. An SSM translate source can only be added if the starg command is not enabled. An error message is generated if you try to configure the **source** command with **starg** command enabled.

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Platforms

All

ssm-translate

Syntax

ssm-translate

Context

[Tree] (config>router>igmp ssm-translate)

[Tree] (config>router>igmp>if ssm-translate)

Full Context

configure router igmp ssm-translate

configure router igmp interface ssm-translate

Description

Commands in this context configure group ranges which are translated to SSM (S,G) entries. If the static entry needs to be created, it has to be translated from a IGMPv1 IGMPv2 request to a Source Specific Multicast (SSM) join. An SSM translate source can only be added if the starg command is not enabled. An error message is generated if you try to configure the **source** command with **starg** command enabled.

Platforms

All

ssm-translate

Syntax

ssm-translate

Context

[Tree] (config>router>mld ssm-translate)

[Tree] (config>router>mld>if ssm-translate)

Full Context

configure router mld ssm-translate

configure router mld interface ssm-translate

Description

Commands in this context configure group ranges which are translated to SSM (S,G) entries. If the static entry needs to be created, it has to be translated from a IGMPv1 IGMPv2 request to a Source Specific

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Multicast (SSM) join. An SSM translate source can only be added if the starg command is not enabled. An error message is generated if you try to configure the **source** command with **starg** command enabled.

Platforms

All

44.41 stable-pool-sizing

stable-pool-sizing

Syntax

[**no**] **stable-pool-sizing**

Context

[Tree] (config>card>fp stable-pool-sizing)

Full Context

configure card fp stable-pool-sizing

Description

This command provides a stable buffer pool allocation environment for all default port buffer pools on a forwarding plane. This stable environment is provided at the expense of optimal buffer allocation between the various port buffer pools. Normally, port pools are sized according to a ports relative bandwidth with other ports and the ability of a port to use pool buffers. As an example, on a forwarding plane with two potential MDAs and only one equipped, the normal behavior is to provide all available default pool buffers to the ports on the currently equipped MDA. If a second MDA is equipped in the future, buffers are freed from the existing MDA and provided to the ports on the new MDA. Stable pool sizing alters this behavior by reserving buffers for both MDAs whether they are equipped or not thus preventing a resizing event when an MDA is equipped. In addition, existing ports on a module always receive their maximum bandwidth share of buffers independent on any sub-rate condition that may currently exist. This provides a stable amount of buffers to other ports on the module independent of link or configuration events that may occur on the port.

Stable pool sizing preserves the ability to modify the effective bandwidth used to determine a port's relative share of the available buffers through the use of the ing-percentage-of-rate and egr-percentage-of-rate commands under the port configuration. Changing the values associated with these commands will cause a reevaluation of buffer distribution and thus a possible resizing of pools on each port within the module. These commands have no effect on ports associated with other modules on the forwarding plane.

Stable pool sizing may be enabled or disabled at any time on a forwarding plane. The system will dynamically change the pool sizes according to the stable pool sizing state.

When a port connector breakout is configured, its ports is included in the stable pool sizing calculation. Consequently, adding or removing a port connector breakout to or from the configuration will cause the buffer pool allocation to be recalculated even when stable pool sizing is enabled.

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The **no** form of this command disables stable pool sizing on a forwarding plane. Existing buffer pools are resized according to normal pool sizing behavior.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

44.42 stack

stack

Syntax

stack [**ipv4**] [**ipv6-slaac**]

no stack

Context

[Tree] (config>subscr-mgmt>pppoe-client-policy stack)

Full Context

configure subscriber-mgmt pppoe-client-policy stack

Description

This command defines which NCP session is started in the PPPoE client and how addresses are retrieved within that NCP session.

Default

stack ipv4

Parameters

ipv4

Indicates that IPCP should be started and used to retrieve an IPv4 address.

ipv6-slaac

Indicates that IPv6CP should be started and that SLAAC is used to retrieve an IPv6 prefix.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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44.43 stack-capability-signaling

stack-capability-signaling

Syntax

[**no**] **stack-capability-signaling**

Context

[Tree] (config>service>ipipe stack-capability-signaling)

Full Context

configure service ipipe stack-capability-signaling

Description

This command enables stack-capability signaling in the initial label mapping message of the Ipipe PW to indicate that IPv6 is supported.

When enabled, the 7750 SR includes the stack-capability TLV with the IPv6 stack bit set according to the **ce-address-discovery ipv6** keyword, and also checks the value of the stack-capability TLV received from the far end.

This command must be blocked if no **ce-address-discovery** is specified, or the **ipv6** keyword is not included with the **ce-address-discovery** command.

This command if only applicable to the Ipipe service and must be blocked for all other services.

This command has no effect if both SAPs on the Ipipe service are local to the node.

Default

no stack-capability-signaling

Platforms

All

44.44 stale-routes-time

stale-routes-time

Syntax

[**no**] **stale-routes-time** *time*

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Context

[Tree] (config>service>vprn>bgp>group>neighbor>graceful-restart stale-routes-time)

[Tree] (config>service>vprn>bgp>group>graceful-restart stale-routes-time)

[Tree] (config>service>vprn>bgp>graceful-restart stale-routes-time)

Full Context

configure service vprn bgp group neighbor graceful-restart stale-routes-time

configure service vprn bgp group graceful-restart stale-routes-time

configure service vprn bgp graceful-restart stale-routes-time

Description

This command configures the time period to keep stale routes before the END-OF-RIB message is received from the restarting router.

Default

360 seconds

Parameters

time

1 to 3600 seconds

Platforms

All

stale-routes-time

Syntax

stale-routes-time *time*

no stale-routes-time

Context

[Tree] (config>router>bgp>graceful-restart stale-routes-time)

[Tree] (config>router>bgp>group>graceful-restart stale-routes-time)

[Tree] (config>router>bgp>group>neighbor>graceful-restart stale-routes-time)

Full Context

configure router bgp graceful-restart stale-routes-time

configure router bgp group graceful-restart stale-routes-time

configure router bgp group neighbor graceful-restart stale-routes-time

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Description

This command configures the maximum amount of time in seconds that stale routes should be maintained after a graceful restart is initiated.

The **no** form of this command resets the stale routes time back to the default of 360 seconds.

Default

no stale-routes-time

Parameters

time

Specifies the amount of time that stale routes should be maintained after a graceful restart is initiated.

Values 1 to 3600 seconds

Platforms

All

44.45 stale-time

stale-time

Syntax

stale-time *seconds*

no stale-time

Context

[Tree] (config>service>vprn>ipv6 stale-time)

[Tree] (config>service>ies>if>ipv6 stale-time)

[Tree] (config>service>vprn>if>ipv6 stale-time)

[Tree] (config>service>ies>ipv6 stale-time)

Full Context

configure service vprn ipv6 stale-time

configure service ies interface ipv6 stale-time

configure service vprn interface ipv6 stale-time

configure service ies ipv6 stale-time

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Description

This command configures the time a neighbor discovery cache entry can remain stale before being removed.

The **no** form of this command removes the stale-time value.

Default

no stale-time

Parameters

seconds

The allowed stale time (in seconds) before a neighbor discovery cache entry is removed.

Values 60 to 65535

Platforms

All

stale-time

Syntax

stale-time *seconds*

no stale-time

Context

[Tree] (config>router>ipv6 stale-time)

Full Context

configure router ipv6 stale-time

Description

This command configures the time a neighbor discovery cache entry can remain stale before being removed.

The **no** form of this command removes the stale-time value.

Default

stale-time 14400

Parameters

seconds

Specifies the allowed stale time (in seconds) before a neighbor discovery cache entry is removed.

Values 60 to 65535

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Platforms

All

stale-time

Syntax

stale-time *seconds*

no stale-time

Context

[Tree] (config>router>origin-validation>rpki-session stale-time)

Full Context

configure router origin-validation rpki-session stale-time

Description

This command configures the maximum length of time that prefix origin validation records learned from the cache server remain usable after the RPKI-Router session goes down. The default stale-time is 3600 seconds (1 hour). When the timer expires all remaining stale entries associated with the session are deleted.

Default

no stale-time

Parameters

seconds

Specifies a time, in seconds.

Values 60 to 3600

Platforms

All

stale-time

Syntax

stale-time *seconds*

no stale-time

Context

[Tree] (config>router>if>ipv6 stale-time)

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Full Context

configure router interface ipv6 stale-time

Description

This command configures the time a neighbor discovery cache entry can remain stale before being removed.

The **no** form of this command removes the stale-time value.

Default

no stale-time

Parameters

seconds

The allowed stale time (in seconds) before a neighbor discovery cache entry is removed.

Values 60 to 65535

Platforms

All

44.46 standard-multi-instance

standard-multi-instance

Syntax

[**no**] **standard-multi-instance**

Context

[Tree] (config>service>vprn>isis standard-multi-instance)

Full Context

configure service vprn isis standard-multi-instance

Description

This command enables IS-IS multi-instance (MI) as described in draft-ginsberg-isis-mi-bis-01. Multiple instances allow instance-specific adjacencies to be formed that support multiple network topologies on the same physical interfaces. Each instance has an LSDB, and each PDU contains a TLV identifying the instance and the topology to which the PDU belongs. A single topology is supported in each instance, so the instance-specific topology identifier (ITID) is set to 0 and cannot be changed.

The **standard-multi-instance** (based on draft-ginsberg-isis-mi-bis-01) and **iid-tlv-enable** (based on draft-ietf-isis-mi-02) commands cannot be configured in the same instance, because the MAC addresses and PDUs from the two standards are incompatible.

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The **no** form of this command removes the **standard-multi-instance** configuration.

Default

no standard-multi-instance

Platforms

All

standard-multi-instance

Syntax

[**no**] **standard-multi-instance**

Context

[Tree] (config>router>isis standard-multi-instance)

Full Context

configure router isis standard-multi-instance

Description

This command enables IS-IS multi-instance (MI) as described in *draft-ginsberg-isis-mi-bis-01*. Multiple instances allow instance-specific adjacencies to be formed that support multiple network topologies on the same physical interfaces. Each instance has an LSDB, and each PDU contains a TLV identifying the instance and the topology to which the PDU belongs. A single topology is supported in each instance, so the instance-specific topology identifier (ITID) is set to 0 and cannot be changed.

The **standard-multi-instance** (based on *draft-ginsberg-isis-mi-bis-01*) and **iid-tlv-enable** (based on *draft-ietf-isis-mi-02*) commands cannot be configured in the same instance, because the MAC addresses and PDUs from the two standards are incompatible.

The **no** form of this command removes the **standard-multi-instance** configuration.

Default

no standard-multi-instance

Platforms

All

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44.47 standby

standby

Syntax

[**no**] **standby**

Context

[Tree] (config>router>mpls>lsp>secondary standby)

Full Context

configure router mpls lsp secondary standby

Description

The secondary path LSP is normally signaled once the primary path LSP fails. The **standby** keyword ensures that the secondary path LSP is signaled and maintained indefinitely in a hot standby state. Standby paths are selected in preference to non-standby secondary paths. When multiple standby secondary paths exist, then the path-preference is used to determine the order in which the paths are selected. If multiple standby secondary paths have the same, lowest, path-preference value then the system will select the path with the lowest up-time. When the primary path is re-established then the traffic is switched back to the primary path LSP.

The **no** form of this command specifies that the secondary LSP is signaled when the primary path LSP fails.

Platforms

All

44.48 standby-forwarding

standby-forwarding

Syntax

[**no**] **standby-forwarding**

Context

[Tree] (config>service>ies>if>ipv6>vrrp standby-forwarding)

Full Context

configure service ies interface ipv6 vrrp standby-forwarding

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Description

This command allows the forwarding of packets by a standby router.

The **no** form of this command specifies that a standby router should not forward traffic sent to virtual router's MAC address. However, the standby router should forward traffic sent to the standby router's real MAC address.

Default

no standby-forwarding

Platforms

All

standby-forwarding

Syntax

[**no**] **standby-forwarding**

Context

[Tree] (config>service>ies>if>vrrp standby-forwarding)

Full Context

configure service ies interface vrrp standby-forwarding

Description

This command allows the forwarding of packets by a standby router.

The **no** form of this command specifies that a standby router should not forward traffic sent to virtual router's MAC address. However, the standby router should forward traffic sent to the standby router's real MAC address.

Default

no standby-forwarding

Platforms

All

standby-forwarding

Syntax

[**no**] **standby-forwarding**

Context

[Tree] (config>service>vprn>if>vrrp standby-forwarding)

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[Tree] (config>service>vprn>if>ipv6>vrrp standby-forwarding)

Full Context

configure service vprn interface vrrp standby-forwarding

configure service vprn interface ipv6 vrrp standby-forwarding

Description

This command allows the forwarding of packets by a standby router.

The **no** form of this command specifies that a standby router should not forward traffic sent to virtual router's MAC address. However, the standby router should forward traffic sent to the standby router's real MAC address.

Default

no standby-forwarding

Platforms

All

standby-forwarding

Syntax

[**no**] **standby-forwarding**

Context

[Tree] (config>router>if>ipv6>vrrp standby-forwarding)

[Tree] (config>router>if>vrrp standby-forwarding)

Full Context

configure router interface ipv6 vrrp standby-forwarding

configure router interface vrrp standby-forwarding

Description

This command specifies whether this VRRP instance allows forwarding packets to a standby router. When disabled, a standby router should not forward traffic sent to virtual router's MAC address. However, the standby router should forward traffic sent to the standby router's real MAC address. When enabled, a standby router should forward all traffic.

Default

no standby-forwarding

Platforms

All

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44.49 standby-ip-lifetime

standby-ip-lifetime

Syntax

standby-ip-lifetime [**days** *days*] [**hrs** *hrs*] [**min** *min*] [**sec** *sec*]

standby-ip-lifetime [*seconds*]

standby-ip-lifetime

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile>dhcp-pool standby-ip-lifetime)

Full Context

configure subscriber-mgmt vrgw brg brg-profile dhcp-pool standby-ip-lifetime

Description

This command defines how long these addresses are kept aside when standby addresses are signaled to the pool. During this time these addresses can only be used by devices explicitly requesting the IP (for example, datatrigger or DHCP renew/rebind). When the timer expires the addresses will again become available for dynamic allocation.

Default

standby-ip-lifetime hrs 6

Parameters

days

Specifies the standby IP lifetime in days.

Values 1 to 3650

hrs

Specifies the standby IP lifetime in hours.

Values 1 to 23

min

Specifies the standby IP lifetime in minutes.

Values 1 to 59

sec

Specifies the standby IP lifetime in seconds.

Values 1 to 59

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seconds

Specifies the lifetime of the standby IP addresses

Values 300 to 315446399

seconds

Specifies the lifetime in seconds.

Values 300 to 315446399

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.50 standby-mep-shutdown

standby-mep-shutdown

Syntax

[**no**] **standby-mep-shutdown**

Context

[Tree] (config>eth-cfm>redundancy>mc-lag standby-mep-shutdown)

Full Context

configure eth-cfm redundancy mc-lag standby-mep-shutdown

Description

This system wide command enables MEPs to track the state of MC-LAG. This allows MEPs on the standby MC-LAG to act administratively down.

The **no** form of command disables the MEP tracking.

Default

no standby-mep-shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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44.51 standby-signaling

standby-signaling

Syntax

standby-signaling {**lacp** | **power-off**}

no standby-signaling

Context

[Tree] (config>lag standby-signaling)

Full Context

configure lag standby-signaling

Description

This command specifies how the state of a member port is signaled to the remote side when the status corresponding to this member port has the **standby** value.

Default

standby-signaling lacp

Platforms

All

44.52 standby-signaling-master

standby-signaling-master

Syntax

[**no**] **standby-signaling-master**

Context

[Tree] (config>service>ipipe>endpoint standby-signaling-master)

[Tree] (config>service>epipe>endpoint standby-signaling-master)

Full Context

configure service ipipe endpoint standby-signaling-master

configure service epipe endpoint standby-signaling-master

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Description

When this command is enabled, the pseudowire standby bit (value 0x00000020) is sent to T-LDP peer for each spoke SDP of the endpoint that is selected as a standby.

This command is mutually exclusive with a VLL mate SAP created on a mc-lag/mc-aps or ICB. It is also mutually exclusive with vc-switching.

Default

standby-signaling-master

Platforms

All

44.53 standby-signaling-slave

standby-signaling-slave

Syntax

[**no**] **standby-signaling-slave**

Context

[Tree] (config>service>epipe>spoke-sdp-fec standby-signaling-slave)

Full Context

configure service epipe spoke-sdp-fec standby-signaling-slave

Description

This command enables standby-signaling-slave for an Epipe.

Platforms

All

standby-signaling-slave

Syntax

[**no**] **standby-signaling-slave**

Context

[Tree] (config>service>epipe>endpoint standby-signaling-slave)

[Tree] (config>service>epipe>spoke-sdp standby-signaling-slave)

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Full Context

configure service epipe endpoint standby-signaling-slave

configure service epipe spoke-sdp standby-signaling-slave

Description

When this command is enabled, the node will block the transmit forwarding direction of a spoke SDP based on the pseudowire standby bit received from a T-LDP peer.

This command is present at the endpoint level as well as the spoke SDP level. If the spoke SDP is part of an explicit-endpoint, it will not be possible to change this setting at the spoke SDP level. An existing spoke SDP can be made part of the explicit endpoint only if the settings do not conflict. A newly created spoke SDP, which is part of a specific explicit-endpoint, will inherit this setting from the endpoint configuration.

This command is mutually exclusive with an endpoint that is part of an mc-lag, mc-aps or an ICB.

If the command is disabled, the node assumes the existing independent mode of behavior for the forwarding on the spoke SDP.

Default

no standby-signaling-slave

Platforms

All

44.54 starg

starg

Syntax

[**no**] **starg**

Context

[Tree] (config>subscr-mgmt>igmp-policy starg)

[Tree] (config>subscr-mgmt>igmp-policy>static>group starg)

[Tree] (config>subscr-mgmt>mld-policy>static>group starg)

Full Context

configure subscriber-mgmt igmp-policy starg

configure subscriber-mgmt igmp-policy static group starg

configure subscriber-mgmt mld-policy static group starg

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Description

This command adds a static (*,G) entry. This command can only be enabled if no existing source addresses for this group are specified.

The **no** form of this command removes the starg entry from the configuration.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

starg

Syntax

[**no**] **starg**

Context

[Tree] (config>service>vpls>spoke-sdp>mld-snooping>static>group starg)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping>static>group starg)

[Tree] (config>service>vpls>sap>igmp-snooping>static>group starg)

[Tree] (config>service>vpls>sap>mld-snooping>static>group starg)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping>static>group starg)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping>static>group starg)

Full Context

configure service vpls spoke-sdp mld-snooping static group starg

configure service vpls mesh-sdp igmp-snooping static group starg

configure service vpls sap igmp-snooping static group starg

configure service vpls sap mld-snooping static group starg

configure service vpls spoke-sdp igmp-snooping static group starg

configure service vpls mesh-sdp mld-snooping static group starg

Description

This command adds a static (*,g) entry to allow multicast traffic for the corresponding multicast group from any source. This command can only be enabled if no existing source addresses for this group are specified.

The **no** form of this command removes the starg entry from the configuration.

Default

no starg

Platforms

All

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starg

Syntax

starg

Context

[Tree] (config>service>vprn>igmp>if>static>group starg)

Full Context

configure service vprn igmp interface static group starg

Description

This command adds a static (*,G) entry. This command can only be enabled if no existing source addresses for this group are specified.

Use the **no** form of this command to remove the starg entry from the configuration.

Platforms

All

starg

Syntax

[**no**] **starg**

Context

[Tree] (config>service>vprn>mld>if>static>group starg)

Full Context

configure service vprn mld interface static group starg

Description

This command adds a static (*,G) entry. This command can only be enabled if no existing source addresses for this group are specified.

Use the **no** form of this command to remove the **starg** entry from the configuration.

Platforms

All

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starg

Syntax

[**no**] **starg**

Context

[Tree] (config>router>igmp>if>static>group starg)

Full Context

configure router igmp interface static group starg

Description

This command adds a static (*,G) entry. This command can only be enabled if no existing source addresses for this group are specified.

Use the **no** form of the command to remove the (*,G) entry from the configuration.

Platforms

All

starg

Syntax

[**no**] **starg**

Context

[Tree] (config>router>igmp>tunnel-interface>static>group starg)

Full Context

configure router igmp tunnel-interface static group starg

Description

This command adds a static (*,G) group entry in a static group join on a tunnel interface associated with a P2MP RSVP LSP.

This command can only be enabled if no existing source addresses for this group are specified.

The **no** form of the command removes the (*,G) entry from the configuration.

Platforms

All

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starg

Syntax

[**no**] **starg**

Context

[Tree] (config>router>mld>if>static>group starg)

Full Context

configure router mld interface static group starg

Description

This command adds a static (*,G) entry. This command can only be enabled if no existing source addresses for this group are specified.

The **no** form of this command removes the starg entry from the configuration.

Platforms

All

44.55 start

start

Syntax

start {**immediate** | **on-new-session**}

Context

[Tree] (debug>app-assure>group>traffic-capture>record start)

Full Context

debug application-assurance group traffic-capture record start

Description

This command records limit conditions.

Parameters

immediate

Start recording immediately for new or existing flows or sessions.

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on-new-session

Only start recording record for new flows or sessions.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

start

Syntax

start *start-week start-day start-month hours-minutes*

Context

[Tree] (config>system>time>dst-zone start)

Full Context

configure system time dst-zone start

Description

This command configures start of summer time settings.

Default

start first sunday january 00:00

Parameters

start-week

Specifies the starting week of the month when the summer time takes effect.

Values first, second, third, fourth, last

Default first

start-day

Specifies the starting day of the week when the summer time takes effect.

Values sunday, monday, tuesday, wednesday, thursday, friday, saturday

Default sunday

start-month

Specifies the starting month of the year when the summer time takes effect.

Values january, february, march, april, may, june, july, august, september, october, november, december

Default january

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hours-minutes

Specifies the time at which the summer time takes effect, in hh:mm format.

Values hours: 00 to 23
minutes: 00 to 59

Default 00:00

Platforms

All

44.56 start-avg

start-avg

Syntax

start-avg *percent*

no start-avg

Context

[Tree] (config>qos>slope-policy>low-slope start-avg)

[Tree] (config>qos>slope-policy>exceed-slope start-avg)

[Tree] (config>qos>slope-policy>highplus-slope start-avg)

[Tree] (config>qos>slope-policy>high-slope start-avg)

Full Context

configure qos slope-policy low-slope start-avg

configure qos slope-policy exceed-slope start-avg

configure qos slope-policy highplus-slope start-avg

configure qos slope-policy high-slope start-avg

Description

This command sets the exceed, low, high, or highplus Random Early Detection (RED) slope position for the shared buffer average utilization value where the packet discard probability starts to increase above zero. The percent parameter is expressed as a percentage of the shared buffer size.

The **no** form of this command restores the start-avg value to the default setting. If the max-avg setting is smaller than the default, an error will occur and the start-avg setting will not be changed to the default.

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Default

start-avg 85 - Highplus slope default is 85% buffer utilization before discard probability starts to increase above zero.

start-avg 70 — High slope default is 70% buffer utilization before discard probability starts to increase above zero.

start-avg 50 — Low slope default is 50% buffer utilization before discard probability starts to increase above zero.

start-avg 30 — Exceed slope default is 30% buffer utilization before discard probability starts to increase above zero.

Parameters

percent

The percentage of the shared buffer space for the buffer pool at which point the drop probability starts to increase above zero. The value entered must be less than or equal to the current setting of **max-avg**. If the entered value is greater than the current value of **max-avg**, an error will occur and no change will take place.

Values 0 to 100

Platforms

All

44.57 start-entry

start-entry

Syntax

start-entry *entry-id* **count** *count*

no start-entry

Context

[Tree] (config>li>li-filter-block-reservation>li-reserved-block start-entry)

Full Context

configure li li-filter-block-reservation li-reserved-block start-entry

Description

This command defines a block of reserved filter entries that are used to insert LI filter entries into a normal filter.

The **no** form of this command removes the entry ID and count from the configuration.

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Parameters

entry-id

Specifies an entry identification to start a block of reserved filter entries.

Values 1 to 65536

count

Specifies the number of entries in the block.

Values 1 to 8192

Platforms

All

44.58 start-label

start-label

Syntax

start-label *start-value* **end-label** *end-value*

no start-label

Context

[Tree] (config>router>mpls-labels>reserved-label-block start-label)

Full Context

configure router mpls-labels reserved-label-block start-label

Description

This command configures start and end labels for a reserved label block. This command must be configured for a reserved label block to be created.

Default

start-label 0, end-label 0

Parameters

start-value

Specifies a starting value.

Values 18432 to 524287 | 1048575 (FP4 or FP5 only)

The label value is selectable within the dynamic label range which begins anywhere from 32 to 18432 (default).

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end-value

Specifies an ending value.

Values 18432 to 524287 | 1048575 (FP4 or FP5 only)

The label value is selectable within the dynamic label range which begins anywhere from 32 to 18432 (default).

Platforms

All

44.59 startup-wait-time

startup-wait-time

Syntax

startup-wait-time [**min** *minutes*] [**sec** *seconds*] [**hrs** *hours*]

no startup-wait-time [**min** *minutes*] [**sec** *seconds*]

Context

[Tree] (config>router>dhcp>server>pool>failover startup-wait-time)

[Tree] (config>router>dhcp>server>failover startup-wait-time)

[Tree] (config>router>dhcp6>server>pool>failover startup-wait-time)

[Tree] (config>router>dhcp6>server>failover startup-wait-time)

Full Context

configure router dhcp server pool failover startup-wait-time

configure router dhcp local-dhcp-server failover startup-wait-time

configure router dhcp6 server pool failover startup-wait-time

configure router dhcp6 local-dhcp-server failover startup-wait-time

Description

This command enables the startup wait time during which each peer waits after the initialization process before assuming the active role for the prefix designated as local or access-driven. This is to avoid transient issues during the initialization process.

The **startup-wait-time** should be configured to an interval in which, after boot, both nodes can set up an MCS TCP link and start MCS. The timer is restarted each time the server downloads a lease from the MCS database and stops when the last state record from the peer is synchronized. The next state is (PRE-)NORMAL, unless the timer times out or is forced to stop via the tools command (**tools>perform>router>dhcp** or **dhcp6>local-dhcp-server** *server-name*>**pool**/**failover**>**abort-startup-wait**), in which case the local DHCP server transitions immediately to the COMMUNICATIONS-INTERRUPTED state.

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Default

startup-wait-time min 2

Parameters

minutes

Specifies the startup wait time, in minutes.

Values 1 to 59

seconds

Specifies the startup wait time, in seconds.

Values 1 to 59

hours

Specifies the startup wait time, in hours.

Values 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.60 stat-mode

stat-mode

Syntax

stat-mode *stat-mode*

no stat mode

Context

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>queue stat-mode)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>policer stat-mode)

[Tree] (config>subscr-mgmt>sla-prof>egress>qos>queue stat-mode)

[Tree] (config>subscr-mgmt>sla-prof>ingress>qos>policer stat-mode)

Full Context

configure subscriber-mgmt sla-profile ingress qos queue stat-mode

configure subscriber-mgmt sla-profile egress qos policer stat-mode

configure subscriber-mgmt sla-profile egress qos queue stat-mode

configure subscriber-mgmt sla-profile ingress qos policer stat-mode

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Description

This command is used to configure the forwarding plane octet and packet counters of a policer or queue to count packets of a specific type or state. For example separate counters for IPv4/IPv6 or separate counters for offered high and low priority policed traffic.

For policers, this command overrides the policer stat-mode configuration as defined in the sap-ingress or sap-egress qos policy. For details on sap-ingress and sap-egress policer stat-mode, refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide*. For use in Enhanced Subscriber Management (ESM) context only, an additional stat-mode enables separate counters for IPv4 and IPv6 packets.

When a policer's stat-mode is changed while the sla profile is in use, any previous counter values are lost and any new counters are set to zero.

For queues, this command sets the stat-mode. Queue stat-mode is only available for use in Enhanced Subscriber Management (ESM) context to enable separate IPv4/IPv6 counters.

A queue's stat-mode cannot be changed while the SLA profile is in use.

The **no** form of this command reverts to the default.

Default

For policers, the default is no stat-mode override. The sap-ingress or sap-egress stat-mode is used instead.

For queues, the default is to count in-/out-of-profile octets and packets.

Parameters

stat-mode

Specifies the stat mode for the policer.

For ingress and egress qos queue stat-mode overrides.

For ingress and egress qos policer stat-mode overrides, refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for details on the **sap-ingress** and **sap-egress policer stat-mode** parameters.

For use in Enhanced Subscriber Management (ESM) context only:

Values no-stats, minimal, offered-profile-no-cir, offered-priority-no-cir, offered-profile-cir, offered-priority-cir, offered-total-cir, offered-limited-profile-cir, offered-profile-capped-cir, offered-limited-capped-cir, v4-v6 (count IPv4 and IPv6 forwarded/dropped octets and packets separately)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt sla-profile ingress qos queue stat-mode
- configure subscriber-mgmt sla-profile egress qos queue stat-mode

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt sla-profile egress qos policer stat-mode
- configure subscriber-mgmt sla-profile ingress qos policer stat-mode

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stat-mode

Syntax

stat-mode *stat-mode*

no stat mode

Context

[Tree] (config>card>fp>ingress>network>qgrp>policer-over>plcr stat-mode)

[Tree] (config>card>fp>ingress>access>qgrp>policer-over>plcr stat-mode)

Full Context

configure card fp ingress network queue-group policer-override policer stat-mode

configure card fp ingress access queue-group policer-override policer stat-mode

Description

This command configures the forwarding plane counters that allow offered, output and discard accounting to occur for the policer. An ingress policer has multiple types of offered packets (explicit in-profile, explicit out-of-profile, high priority or low priority) and each of these offered types is interacting with the policer's metering and profiling functions resulting in colored output packets (green, yellow and red). Due to the large number of policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers will not be configured with a CIR profiling rate and not all policers will receive explicitly profiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a **no-stats** mode is supported which prevents any packet accounting, the use of the policer's **parent** command requires at the policer's **stat-mode** to be set at least to the **minimal** setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated. Once a policer has been made a child to a parent policer, the **stat-mode** cannot be changed to **no-stats** unless the policer parenting is first removed.

Each time the policer's **stat-mode** is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. You can view the total/allocated/free stats by using the **tools dump resource-usage** command. If insufficient counters exist to implement a mode on any policer instance, the **stat-mode** change will fail and the previous mode will continue unaffected for all instances of the policer.

The default **stat-mode** when a policer is created within the policy is **minimal**.

The **stat-mode** setting defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the **stat-mode** override command will fail. The previous **stat-mode** setting active for the policer will continue to be used by the policer.

The **no** form of this command attempts to return the policer's stat-mode setting to minimal. The command will fail if insufficient policer counter resources exist to implement minimal where the QoS policer is currently applied and has a forwarding class mapping.

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Parameters

See the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for details on the policer stat-mode parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

stat-mode

Syntax

stat-mode st*at-mode*

no stat-mode

Context

[Tree] (config>service>ipipe>sap>ingress>policer-over>plcr stat-mode)

[Tree] (config>service>epipe>sap>ingress>policer-over>plcr stat-mode)

[Tree] (config>service>cpipe>sap>ingress>policer-over>plcr stat-mode)

[Tree] (config>service>epipe>sap>egress>policer-over>plcr stat-mode)

[Tree] (config>service>cpipe>sap>egress>policer-over>plcr stat-mode)

[Tree] (config>service>ipipe>sap>egress>policer-over>plcr stat-mode)

Full Context

configure service ipipe sap ingress policer-override policer stat-mode

configure service epipe sap ingress policer-override policer stat-mode

configure service cpipe sap ingress policer-override policer stat-mode

configure service epipe sap egress policer-override policer stat-mode

configure service cpipe sap egress policer-override policer stat-mode

configure service ipipe sap egress policer-override policer stat-mode

Description

The SAP QoS policy's **policer stat-mode** command is used to configure the forwarding plane counters that allow offered, output, and discard accounting to occur for the policer. A policer has multiple types of offered packets (for example, soft in-profile and out-of-profile from ingress and hard in-profile and out-of-profile due to egress profile overrides) and each of these offered types is interacting with the policers metering and profiling functions resulting in colored output packets (green, yellow, and red). Due to the potentially large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers will not be configured with a CIR profiling rate and not all policers will receive explicitly re-profiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and indicates how the offered packet types and output conditions should be mapped to the counters.

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While a **no-stats** mode is supported that prevents any packet accounting, the use of the policer's parent command requires that the policer's **stat-mode** to be set at least to the minimal setting so that offered statistics are available for the policer's Fair Information Rate (FIR) to be calculated.

Each time the policer's stat mode is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. The total/allocated/free statistics can be viewed by using the **tools dump resource-usage card** *slot-num* **fp** *fp-number* command. If insufficient counters exist to implement a mode on any policer instance, the stat-mode change will fail and the previous mode will continue unaffected for all instances of the policer.

The **stat-mode** setting defined for the policer in the QoS policy may be overridden on a SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the stat-mode override command will fail. The current active stat mode setting will continue to be used by the policer.

The command will fail if insufficient policer counter resources exist to implement **minimal** where the QoS policer is currently applied and has a forwarding class mapping.

The **no** form of this command attempts to return the policer's stat-mode setting to **minimal**.

Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for detailed information about the supported parameters for the **policer stat-mode** command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure service ipipe sap ingress policer-override policer stat-mode
- configure service epipe sap egress policer-override policer stat-mode
- configure service epipe sap ingress policer-override policer stat-mode
- configure service ipipe sap egress policer-override policer stat-mode

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe sap egress policer-override policer stat-mode
- configure service cpipe sap ingress policer-override policer stat-mode

stat-mode

Syntax

stat-mode st*at-mode*

no stat-mode

Context

[Tree] (config>service>vpls>sap>ingress>policer-override>plcr stat-mode)

[Tree] (config>service>vpls>sap>egress>policer-override>plcr stat-mode)

Full Context

configure service vpls sap ingress policer-override policer stat-mode

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configure service vpls sap egress policer-override policer stat-mode

Description

The SAP-egress QoS policy's policer stat-mode command is used to configure the forwarding plane counters that allow offered, output and discard accounting to occur for the policer. A policer has multiple types of offered packets (for example, soft in-profile and out-of-profile from ingress and hard in-profile and out-of-profile due to egress profile overrides) and each of these offered types is interacting with the policers metering and profiling functions resulting in colored output packets (green, yellow and red). Due to the potential large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers will not be configured with a CIR profiling rate and not all policers will receive explicitly re-profiled offered packets. The stat-mode command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a no-stats mode is supported which prevents any packet accounting, the use of the policer's parent command requires that the policer's stat-mode to be set at least to the minimal setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated.

Each time the policer's stat-mode is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. You can view the total/allocated/free stats by using the **tools dump resource-usage card** *slot-num* **fp** *fp-number* command. If insufficient counters exist to implement a mode on any policer instance, the stat-mode change will fail and the previous mode will continue unaffected for all instances of the policer.

The default stat-mode when a policer is created within the policy is minimal.

The stat-mode setting defined for the policer in the QoS policy may be overridden on a SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the stat-mode override command will fail. The previous stat-mode setting active for the policer will continue to be used by the policer.

The **no** form of the command returns the policer's stat-mode setting to minimal.

Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for detailed information about the **policer stat-mode** command parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

stat-mode

Syntax

stat-mode st*at-mode*

no stat-mode

Context

[Tree] (config>service>ies>if>sap>ingress>policer-override>plcr stat-mode)

[Tree] (config>service>ies>if>sap>egress>policer-override>plcr stat-mode)

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Full Context

configure service ies interface sap ingress policer-override policer stat-mode

configure service ies interface sap egress policer-override policer stat-mode

Description

The SAP-egress QoS policy's policer stat-mode command is used to configure the forwarding plane counters that allow offered, output and discard accounting to occur for the policer. A policer has multiple types of offered packets (for example, soft in-profile and out-of-profile from ingress and hard in-profile and out-of-profile due to egress profile overrides) and each of these offered types is interacting with the policers metering and profiling functions resulting in colored output packets (green, yellow and red). Due to the potential large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers will not be configured with a CIR profiling rate and not all policers will receive explicitly re-profiled offered packets. The stat-mode command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a no-stats mode is supported which prevents any packet accounting, the use of the policer's parent command requires that the policer's stat-mode to be set at least to the minimal setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated.

Each time the policer's stat-mode is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. You can view the total/allocated/free stats by using the **tools dump resource-usage card** *slot-num* **fp** *fp-number* command. If insufficient counters exist to implement a mode on any policer instance, the stat-mode change will fail and the previous mode will continue unaffected for all instances of the policer.

The default stat-mode when a policer is created within the policy is minimal.

The stat-mode setting defined for the policer in the QoS policy may be overridden on a SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the stat-mode override command will fail. The previous stat-mode setting active for the policer will continue to be used by the policer.

The **no** form of this command returns the policer's stat-mode setting to minimal.

Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for detailed information about the **policer stat-mode** command parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

stat-mode

Syntax

stat-mode st*at-mode*

no stat-mode

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Context

[Tree] (config>service>vprn>if>sap>ingress>policer-override>plcr stat-mode)

[Tree] (config>service>vprn>if>sap>egress>policer-override>plcr stat-mode)

Full Context

configure service vprn interface sap ingress policer-override policer stat-mode

configure service vprn interface sap egress policer-override policer stat-mode

Description

The SAP-egress QoS policy's policer stat-mode command is used to configure the forwarding plane counters that allow offered, output and discard accounting to occur for the policer. A policer has multiple types of offered packets (for example, soft in-profile and out-of-profile from ingress and hard in-profile and out-of-profile due to egress profile overrides) and each of these offered types is interacting with the policers metering and profiling functions resulting in colored output packets (green, yellow and red). Due to the potential large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers will not be configured with a CIR profiling rate and not all policers will receive explicitly re-profiled offered packets. The stat-mode command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a no-stats mode is supported which prevents any packet accounting, the use of the policer's parent command requires that the policer's stat-mode to be set at least to the minimal setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated.

Each time the policer's stat-mode is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. You can view the total/allocated/free stats by using the **tools dump resource-usage card** *slot-num* **fp** *fp-number* command. If insufficient counters exist to implement a mode on any policer instance, the stat-mode change will fail and the previous mode will continue unaffected for all instances of the policer.

The default stat-mode when a policer is created within the policy is minimal.

The stat-mode setting defined for the policer in the QoS policy may be overridden on a SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the stat-mode override command will fail. The previous stat-mode setting active for the policer will continue to be used by the policer.

The **no** form of this command returns the policer's stat-mode setting to minimal.

Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide* for detailed information about the **policer stat-mode** command parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

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stat-mode

Syntax

stat-mode {**no-stats** | **minimal** | **offered-profile-no-cir** | **offered-priority-no-cir** | **offered-profile-cir** | **offered-priority-cir** | **offered-total-cir** | **offered-limited-profile-cir** | **offered-profile-capped-cir** | **offered-limited-capped-cir**}

no stat mode

Context

[Tree] (config>qos>sap-ingress>policer stat-mode)

[Tree] (config>qos>sap-ingress>dyn-policer stat-mode)

Full Context

configure qos sap-ingress policer stat-mode

configure qos sap-ingress dynamic-policer stat-mode

Description

This command is used to configure the forwarding plane counters that allow offered, forwarded, and dropped accounting to occur for the policer. An ingress policer has multiple types of offered packets (explicit in-profile, explicit out-of-profile, uncolored, high-priority, or low priority) and each of these offered types is interacting with the policer's metering and profiling functions resulting in colored output packets (green, yellow, and red). Due to the large number of policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers, for example, will not be configured with a CIR profiling rate and not all policers will receive explicitly profiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a **no-stats** mode is supported that prevents any packet accounting, the use of the policer's **parent** command requires that the policer's **stat-mode** be set at least to the **minimal** setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated. When a policer has been made a child to a parent policer, the **stat-mode** cannot be changed to **no-stats** unless the policer parenting is first removed.

Each time the policer's **stat-mode** is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. The total/allocated/free stats can be viewed by using the **tools dump resource-usage card fp** command. If insufficient counters exist to implement a mode on any policer instance, the **stat-mode** change will fail and the previous mode will continue unaffected for all instances of the policer.

The ingress policer stat-modes are described in Table 124: Ingress Policer Stat Mode Summary .

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Table 124: Ingress Policer Stat Mode Summary

Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
no-stats	0	—	—	—
Minimal	1	Single counter entering policer	Single counter for dropped/forwarded exiting policer	—
offered-profile-no-cir	2	In/out entering policer	In/out entering policer	Intended for when the policer does not change the profile of packets. Includes only in-profile and out-of-profile.
offered-priority-no-cir	2	High/low entering policer	High/low entering policer	Intended for when only packet priority stats are required.
offered-profile-cir	4	In/out/uncolored entering policer	In/out exiting policer	Intended for when the policer can change the profile of packets to in-profile and out-of-profile.
offered-priority-cir	4	High/low entering policer	In/out exiting policer	Intended for when packet priority entering the policer and profile exiting the policer is required.
offered-total-cir	2	Single counter entering policer	In/out exiting policer	—
offered-limited-profile-cir	3	Out/uncolored entering policer	In/out exiting policer	Intended for when the policer can change the profile of packet to in-profile and out-of-profile. The information is limited compared to offered-profile-capped-cir with the benefit of using one less stat resource.

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
offered-profile-capped-cir	5	In/out/uncolored entering policer	In/out exiting policer	Intended for when the policer has profile-capped configured.
offered-limited-capped-cir	4	In/uncolored entering policer	In/out exiting policer	Intended for when the policer has profile-capped configured. The information is limited compared to offered-profile-capped-cir with the benefit of using one less stat resource.

The default **stat-mode** when a policer is created within the policy is **minimal**.

The **stat-mode** setting defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the **stat-mode** override command will fail. The previous **stat-mode** setting active for the policer will continue to be used by the policer.

The **no** form of this command attempts to return the policer's stat-mode setting to minimal. The command will fail if insufficient policer counter resources exist to implement minimal where the QoS policer is currently applied and has a forwarding class mapping.

Parameters

no-stats

Counter resource allocation: 0

The policer does not have any forwarding plane counters allocated and cannot provide offered, dropped, and forwarded statistics. A policer using no-stats cannot be a child to a parent policer and the policer's parent command will fail.

When **collect-stats** is enabled, no statistics are generated.

minimal

Counter resource allocation: 1

This stat-mode provides the minimal accounting resource usage and counter information, and includes the total offered, dropped and forwarded packet and octet counters for traffic entering (offered) and exiting (dropped/forwarded) the policer.

The default **stat-mode** for a policer is **minimal**. The **minimal** mode allocates 1 forwarding plane offered counter and one traffic manager discard counter. The forwarding counter is derived by subtracting the discard counter from the offered counter. The counters do not differentiate possible offered types (profile or priority) and do not count in-profile or out-of-

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profile output. This does not prevent the policer from supporting different offered packet types and does not prevent the policer from supporting a CIR rate.

This counter mode is useful when only the most basic accounting information is required.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 125: Ingress Accounting Statistics Collected in minimal stat-mode .

Table 125: Ingress Accounting Statistics Collected in minimal stat-mode

Show Output	Accounting Statistics Collected	
	Field	**Field Description**
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. All	apd	AllPacketsDropped
	aod	AllOctetsDropped
For. All	apf	AllPacketsForwarded
	aof	AllOctetsForwarded

offered-profile-no-cir

Counter resource allocation: 2

This **stat-mode** provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering the policer.

The **offered-profile-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-profile-no-cir** mode is most useful when the policer is receiving only in-profile and out-of-profile premarked (and trusted) packets. It is expected that, in this instance, a CIR rate will not be defined since all packets are already premarked. This mode does not prevent the policer from receiving untrusted (color undefined) traffic nor does it prevent the policer from being configured with a CIR rate.

This mode is intended to be used without profile-capped configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 126: Ingress Accounting Statistics Collected in offered-profile-no-cir stat-mode .

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Table 126: Ingress Accounting Statistics Collected in offered-profile-no-cir stat-mode

Show Output	Accounting Statistics Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-priority-no-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the packet priority of traffic entering the policer.

The **offered-priority-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-priority-no-cir** mode is most useful when the policer is receiving only untrusted packets and the ingress priority high and priority low classification options are being used without a CIR profiling rate defined. This mode does not prevent the policer from receiving trusted packets that are premarked in-profile or out-of-profile nor does it prevent the policer from being configured with a CIR rate.

This mode is intended to be used without profile-capped configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 127: Ingress Accounting Statistics Collected in offered-priority-no-cir stat-mode .

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Table 127: Ingress Accounting Statistics Collected in offered-priority-no-cir stat-mode

Show Output	Accounting Statistics Collected	
	Field	Field Description
Off. HiPrio	hpo	HighPriorityPacketsOffered
	hoo	HighPriorityOctetsOffered
Off. LowPrio	lpo	LowPriorityPacketsOffered
	loo	LowPriorityOctetsOffered
Dro. HiPrio	hpd	HighPriorityPacketsDropped
	hod	HighPriorityOctetsDropped
Dro. LowPrio	lpd	LowPriorityPacketsDropped
	lod	LowPriorityOctetsDropped
For. HiPrio	hpf	HighPriorityPacketsForwarded
	hof	HighPriorityOctetsForwarded
For. LowPrio	lpf	LowPriorityPacketsForwarded
	lof	LowPriorityOctetsForwarded

offered-profile-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed so that the traffic entering the policer comprises hard in/out and uncolored traffic. The offered counters cover traffic explicitly profiled to in-profile, traffic explicitly profiled to out-of-profile, and traffic that has not been explicitly profiled at ingress (uncolored).

The **offered-profile-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-profile-cir** mode is most useful when the policer is receiving trusted out-of-profile and in-profile traffic and is also receiving untrusted packets that are being applied to a defined CIR profiling rate. This mode differs from **offered-limited-profile-cir** mode in that it expects both trusted in-profile and out-of-profile packets while still performing CIR profiling on packets with untrusted markings. If trusted in-profile packets are not being received, the **offered-limited-profile-cir** stat-mode could be used instead, which has the benefit of using a reduced number of stat resources.

This mode is intended to be used without **profile-capped** configured within the policer as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

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The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 128: Ingress Accounting Statistics Collected in offered-profile-cir stat-mode .

Table 128: Ingress Accounting Statistics Collected in offered-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-priority-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the priority of traffic entering the policer and the profile exiting the policer.

The **offered-priority-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-priority-cir** mode is most useful when the policer is receiving only untrusted packets that are being classified as high priority or low priority and are being applied to a defined CIR profiling rate. This mode differs from **offered-profile-cir** mode in that it does not expect trusted in-profile and out-of-profile packets but does not exclude the ability of the policer to receive them.

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This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 129: Ingress Accounting Statistics Collected in offered-priority-cir stat-mode .

Table 129: Ingress Accounting Statistics Collected in offered-priority-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. HiPrio	hpo	HighPriorityPacketsOffered
	hoo	HighPriorityOctetsOffered
Off. LowPrio	lpo	LowPriorityPacketsOffered
	loo	LowPriorityOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-total-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter.

The **offered-total-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-total-cir** mode is most useful when the policer is not receiving trusted in-profile or out-of-profile traffic and both high- and low-priority classifications are not being used on the untrusted packets and the offered packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile or out-of-profile packets and does not prevent the use of priority high or low classifications on the untrusted packets.

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This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 130: Ingress Accounting Statistics Collected in offered-total-cir stat-mode .

Table 130: Ingress Accounting Statistics Collected in offered-total-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-profile-cir

Counter resource allocation: 3

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed so that the traffic entering the policer comprises of hard out and uncolored. The offered counters cover traffic explicitly profiled to out-of-profile and traffic that has not been explicitly profiled at ingress (Uncolor). The traffic explicitly profiled to in-profile is counted with the uncolored traffic.

The **offered-limited-profile-cir** mode allocates three forwarding plane offered counters and three traffic manager discard counters.

The **offered-limited-profile-cir** mode is most useful when the policer is receiving trusted out-of-profile (profile out but no profile in) traffic and untrusted packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile packets. If trusted in-profile packets are not being received, the **offered-limited-profile-cir** is preferred over **offered-profile-cir** because it uses a reduced number of stat resources.

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This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 131: Ingress Accounting Statistics Collected in offered-limited-profile-cir stat-mode .

Table 131: Ingress Accounting Statistics Collected in offered-limited-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-cir

Counter resource allocation: 4

offered-profile-capped-cir

Counter resource allocation: 5

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed so that the traffic entering the policer comprises of hard in/out and uncolored. The offered counters cover traffic explicitly profiled to in-profile, traffic explicitly profiled to out-of-profile, and traffic that has not been explicitly profiled at ingress (Uncolor).

When **offered-profile-capped-cir** is defined, the system creates five offered-output counters in the forwarding plane and five discard counters in the traffic manager.

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The **offered-profile-capped-cir** mode is similar to the offered-profile-cir mode except that it includes support for profile in and **soft-in-profile** that may be output as out-of-profile due to enabling **profile-capped** mode on the ingress policer.

The impact of using **offered-profile-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 132: Ingress Accounting Statistics Collected in offered-profile-capped-cir stat-mode .

Table 132: Ingress Accounting Statistics Collected in offered-profile-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-capped-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed resulting in the traffic entering the policer comprising of hard in/out and uncolored. The offered counters cover in-profile traffic and traffic that has not been explicitly profiled at ingress (Uncolor). The traffic explicitly profiled to out-of-profile is counted with the uncolored traffic.

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When **offered-limited-capped-cir** is defined, the system creates four forwarding plane offered-output counters in the network processor and four discard counters in the traffic manager.

The **offered-limited-capped-cir** mode is similar to the **offered-profile-capped-cir** mode except that it combines **soft in-profile** with **profile in** (InProf) and **profile out** (OutProf) with **soft-out-of-profile** (Uncolor) and eliminates the "offered undefined" statistic. If trusted out-of-profile packets are not being received, the **offered-limited-capped-cir** is preferred over **offered-profile-capped-cir** because it uses a reduced number of stat resources.

This mode is intended to be used with **profile-capped** configured within the policer.

The impact of using **offered-limited-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 133: Ingress Accounting Statistics Collected in offered-limited-capped-cir stat-mode .

Table 133: Ingress Accounting Statistics Collected in offered-limited-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

- configure qos sap-ingress policer stat-mode

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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- configure qos sap-ingress dynamic-policer stat-mode

stat-mode

Syntax

stat-mode {**no-stats** | **minimal** | **offered-profile-no-cir** | **offered-profile-cir** | **offered-total-cir** | **offered-limited-capped-cir** | **offered-profile-capped-cir**}

no stat mode

Context

[Tree] (config>qos>sap-egress>dyn-policer stat-mode)

Full Context

configure qos sap-egress dynamic-policer stat-mode

Description

The **sap-egress** QoS policy's policer **stat-mode** command is used to configure the forwarding plane counters that allow offered, forwarded, and dropped accounting to occur for the policer. An egress policer has multiple types of offered packets (soft in-profile and out-of-profile from ingress and hard in-profile, out-of-profile, and exceed-profile due to egress profile overrides) and each of these offered types is interacting with the policer's metering and profiling functions resulting in colored output packets (green, yellow, and red). Due to the potential large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers, for example, will not be configured with a CIR profiling rate and not all policers will receive explicitly reprofiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a **no-stats** mode is supported that prevents any packet accounting, the use of the policer's **parent** command requires that the policer's **stat-mode** be set at least to the **minimal** setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated. When a policer has been made a child to a parent policer, the **stat-mode** cannot be changed to **no-stats** unless the policer parenting is first removed.

Each time the policer's **stat-mode** is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. The total, allocated, and free statistics can be viewed by using the **tools dump resource-usage card fp** command. If insufficient counters exist to implement a mode on any policer instance, the **stat-mode** change will fail and the previous mode will continue unaffected for all instances of the policer.

The egress policer stat-modes are described in Table 134: Egress Policer Stat-mode Summary.

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Table 134: Egress Policer Stat-mode Summary

Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
no-stats	0	—	—	—
minimal	1	Single counter entering policer	Single counter for dropped/forwarded exiting policer	—
offered-profile-no-cir	2	In or out entering policer	In/out entering policer	Intended for when the policer does not change the profile of packets. Includes only in-profile and out-of-profile.
offered-profile-cir	4	In, out, or uncolored (which corresponds to hard in-profile, hard out-of-profile, or soft in- or out-of-profile) entering policer	In/out exiting policer	Intended for when the policer can change the profile of packets to in-profile and out-of-profile.
offered-total-cir	2	Single counter entering policer	In/out exiting policer	—
offered-limited-capped-cir	4	In or out entering policer	In/out exiting policer	Intended for when the policer has **profile-capped** configured. The information is limited compared to **offered-profile-capped-cir** with the benefit of using one less stat resource.
offered-profile-capped-cir	5	In, out, or uncolored (which corresponds to hard in-profile, hard out-of-profile, or soft in- or out-of-profile) entering policer	In/out exiting policer	Intended for when the policer has **profile-capped** configured

When a policer is created within the policy, the default setting for **stat-mode** is **minimal**.

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The **stat-mode** setting defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the **stat-mode** override command will fail. The previous **stat-mode** setting active for the policer will continue to be used by the policer.

The **no** form of this command attempts to return the policer's **stat-mode** setting to **minimal**. The command will fail if insufficient policer counter resources exist to implement **minimal** where the QoS policer is currently applied and has a forwarding class mapping.

Parameters

no-stats

Counter resource allocation: 0

The policer does not have any forwarding plane counters allocated and cannot provide offered, discard, and forward statistics. A policer using **no-stats** cannot be a child to a parent policer and the policer's **parent** command will fail.

When **collect-stats** is enabled, no statistics are generated.

minimal

Counter resource allocation: 1

This stat-mode provides the minimal accounting resource usage and counter information, and includes only the total offered, dropped and forwarded packet and octet counters for traffic entering (offered) and exiting (dropped/forwarded) the policer.

The default **stat-mode** for a policer is **minimal**. The **minimal** mode allocates 1 forwarding plane offered counter and one traffic manager discard counter. The forwarding counter is derived by subtracting the discard counter from the offered counter. The counters do not differentiate possible offered types and do not count different profile output. This does not prevent the policer from supporting different offered packet types and does not prevent the policer from supporting a CIR rate or using exceed PIR.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 135: Egress Accounting Statistics Collected in minimal stat-mode .

Table 135: Egress Accounting Statistics Collected in minimal stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. All	apd	AllPacketsDropped
	aod	AllOctetsDropped
For. All	apf	AllPacketsForwarded
	aof	AllOctetsForwarded

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offered-profile-no-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering the policer. inplus-profile traffic is counted with the in-profile counters and exceed-profile traffic is counted with the out-of-profile counters.

The **offered-profile-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-profile-no-cir** mode is most useful when profile-based offered, dropped, and forwarded stats are required from the egress policer, but a CIR or **enable-exceed-pir** is not being used to recolor the soft in-profile and out-of-profile packets. This mode does not prevent the policer from being configured with a CIR rate or using **enable-exceed-pir**.

This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 136: Egress Accounting Statistics Collected in offered-profile-no-cir stat-mode .

Table 136: Egress Accounting Statistics Collected in offered-profile-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-cir

Counter resource allocation: 4

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This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is made up of traffic that is inplus-profile, in-profile, out-of-profile, exceed-profile, soft in-profile, and soft out-of-profile. The offered counters cover traffic reclassified to in-profile (which includes traffic reclassified to inplus-profile), traffic reclassified to out-of-profile (which includes traffic reclassified to exceed-profile) and traffic which has not been reclassified at egress (Uncolor). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

The **offered-profile-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-profile-cir** mode is most useful when profile-based offered, dropped and forwarded stats are required from the egress policer and a CIR rate is being used to recolor the soft in-profile and out-of-profile packets.

This mode is intended to be used without **profile-capped** or **enable-exceed-pir** configured within the policer as these could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 137: Egress Accounting Statistics Collected in offered-profile-cir stat-mode .

Table 137: Egress Accounting Statistics Collected in offered-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded

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Show Output	Accounting Stats Collected	
	Field	Field Description
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-total-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

The **offered-total-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-total-cir** mode is most useful when the policer is not receiving trusted in-profile or out-of-profile traffic, and both high- and low- priority classifications are not being used on the untrusted packets, and the offered packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile or out-of-profile packets and does not prevent the use of priority high or low classifications on the untrusted packets.

This mode is intended to be used without **profile-capped** or **enable-exceed-pir** configured within the policer as these could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 138: Egress Accounting Statistics Collected in offered-total-cir stat-mode .

Table 138: Egress Accounting Statistics Collected in offered-total-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded

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Show Output	Accounting Stats Collected	
	Field	Field Description
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-capped-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is made up of traffic that is inplus-profile, in-profile, out-of-profile, exceed-profile, soft in-profile, and soft out-of-profile. The offered counters cover in-profile traffic (which includes traffic reclassified to inplus-profile) and out-of-profile traffic (which includes traffic reclassified to exceed-profile). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

offered-limited-capped-cir is defined, the system creates four forwarding plane offered-output counters in the network processor and three discard counters in the traffic manager.

The **offered-limited-capped-cir** mode is similar to the **offered-profile-capped-cir** mode except that it combines **soft in-profile** with **profile in** and **soft-out-of-profile** with **profile out** and eliminates the offered-undefined statistic.

The impact of using **offered-limited-capped-cir** stat-mode while profile-capped mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used and **soft-in-profile** will be treated as offered-in instead of offered-undefined.

This mode is intended to be used with **profile-capped** configured within the policer but without **enable-exceed-pir** configured as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 139: Egress Accounting Statistics Collected in offered-limited-capped-cir stat-mode .

Table 139: Egress Accounting Statistics Collected in offered-limited-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered

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Show Output	Accounting Stats Collected	
	Field	Field Description
	ooo	OutOfProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-capped-cir

Counter resource allocation: 5

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is made up of traffic that is inplus-profile, in-profile, out-of-profile, exceed-profile, soft in-profile, and soft out-of-profile. The offered counters cover traffic reclassified to in-profile (which includes traffic reclassified to inplus-profile), traffic reclassified to out-of-profile (which includes traffic reclassified to exceed-profile) and traffic that has not been reclassified at egress (uncolored). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

When **offered-profile-capped-cir** is defined, the system creates five offered-output counters in the forwarding plane and five discard counters in the traffic manager.

The **offered-profile-capped-cir** mode is similar to the **offered-profile-cir** mode except that it includes support for **profile inplus**, **profile in** and **soft-in-profile** that may be output as out-of-profile due to enabling **profile-capped** mode on the ingress policer.

The impact of using o**ffered-profile-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used and soft-in-profile will be treated as offered-in (hard in-profile) instead of offered-undefined (uncolored).

This mode is intended to be used with **profile-capped** configured within the policer but without **enable-exceed-pir** configured as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 140: Egress Accounting Statistics Collected in offered-profile-capped-cir stat-mode .

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Table 140: Egress Accounting Statistics Collected in offered-profile-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

stat-mode

Syntax

stat-mode {**no-stats** | **minimal** | **offered-profile-no-cir** | **offered-profile-cir** | **offered-total-cir** | **offered-limited-capped-cir** | **offered-profile-capped-cir** | **offered-total-cir-exceed** | **offered-four-profile-no-cir** | **offered-total-cir-four-profile**}

no stat mode

Context

[Tree] (config>qos>sap-egress>policer stat-mode)

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Full Context

configure qos sap-egress policer stat-mode

Description

The **sap-egress** QoS policy's policer **stat-mode** command is used to configure the forwarding plane counters that allow offered, forwarded, and dropped accounting to occur for the policer. An egress policer has multiple types of offered packets (soft in-profile and out-of-profile from ingress and hard in-profile, out-of-profile, and exceed-profile due to egress profile overrides) and each of these offered types is interacting with the policer's metering and profiling functions resulting in colored output packets (green, yellow, and red). Due to the potential large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers, for example, will not be configured with a CIR profiling rate and not all policers will receive explicitly reprofiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a **no-stats** mode is supported that prevents any packet accounting, the use of the policer's **parent** command requires that the policer's **stat-mode** be set at least to the **minimal** setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated. When a policer has been made a child to a parent policer, the **stat-mode** cannot be changed to **no-stats** unless the policer parenting is first removed.

Each time the policer's **stat-mode** is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. The total, allocated, and free statistics can be viewed by using the **tools dump resource-usage card fp** command. If insufficient counters exist to implement a mode on any policer instance, the **stat-mode** change will fail and the previous mode will continue unaffected for all instances of the policer.

The egress policer stat-modes are described in Table 141: Egress Policer Stat-mode Summary.

Table 141: Egress Policer Stat-mode Summary

Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
no-stats	0	—	—	—
minimal	1	Single counter entering policer	Single counter for dropped/forwarded exiting policer	—
offered-profile-no-cir	2	In or out entering policer	In/out entering policer	Intended for when the policer does not change the profile of packets. Includes only in-profile and out-of-profile.

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
offered-profile-cir	4	In, out, or uncolored (which corresponds to hard in-profile, hard out-of-profile, or soft in- or out-of-profile) entering policer	In/out exiting policer	Intended for when the policer can change the profile of packets to in-profile and out-of-profile.
offered-total-cir	2	Single counter entering policer	In/out exiting policer	—
offered-limited-capped-cir	4	In or out entering policer	In/out exiting policer	Intended for when the policer has **profile-capped** configured. The information is limited compared to **offered-profile-capped-cir** with the benefit of using one less stat resource.
offered-profile-capped-cir	5	In, out, or uncolored (which corresponds to hard in-profile, hard out-of-profile, or soft in- or out-of-profile) entering policer	In/out exiting policer	Intended for when the policer has **profile-capped** configured
offered-total-cir-exceed	3	Single counter entering policer	In/out/exceed exiting policer	Intended for when the policer is configured with **enable-exceed-pir** to forward packets that exceed its configured PIR or when traffic is reclassified at egress to exceed-profile
offered-four-profile-no-cir	4	Inplus, in, out, or exceed entering policer	Inplus/in/out/exceed entering policer	Intended to be used when the policer does not change the profile of the packets and traffic

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
				is reclassified at egress to inplus and/ or exceed-profile
offered-total-cir-four-profile	4	Single counter entering policer	Inplus, in, out, or exceed exiting policer	Intended to be used when the policer can change the profile of the packet and traffic is reclassified at egress to profile inplus

When a policer is created within the policy, the default setting for **stat-mode** is **minimal**.

The **stat-mode** setting defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the **stat-mode** override command will fail. The previous **stat-mode** setting active for the policer will continue to be used by the policer.

The **no** form of this command attempts to return the policer's **stat-mode** setting to **minimal**. The command will fail if insufficient policer counter resources exist to implement **minimal** where the QoS policer is currently applied and has a forwarding class mapping.

Parameters

no-stats

Counter resource allocation: 0

The policer does not have any forwarding plane counters allocated and cannot provide offered, discard, and forward statistics. A policer using **no-stats** cannot be a child to a parent policer and the policer's **parent** command will fail.

When **collect-stats** is enabled, no statistics are generated.

minimal

Counter resource allocation: 1

This stat-mode provides the minimal accounting resource usage and counter information, and includes only the total offered, dropped and forwarded packet and octet counters for traffic entering (offered) and exiting (dropped/forwarded) the policer.

The default **stat-mode** for a policer is **minimal**. The **minimal** mode allocates 1 forwarding plane offered counter and one traffic manager discard counter. The forwarding counter is derived by subtracting the discard counter from the offered counter. The counters do not differentiate possible offered types and do not count different profile output. This does not prevent the policer from supporting different offered packet types and does not prevent the policer from supporting a CIR rate or using exceed PIR.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied

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accounting policy) are described in Table 142: Egress Accounting Statistics Collected in minimal stat-mode .

Table 142: Egress Accounting Statistics Collected in minimal stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. All	apd	AllPacketsDropped
	aod	AllOctetsDropped
For. All	apf	AllPacketsForwarded
	aof	AllOctetsForwarded

offered-profile-no-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering the policer. inplus-profile traffic is counted with the in-profile counters and exceed-profile traffic is counted with the out-of-profile counters.

The **offered-profile-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-profile-no-cir** mode is most useful when profile-based offered, dropped, and forwarded stats are required from the egress policer, but a CIR or **enable-exceed-pir** is not being used to recolor the soft in-profile and out-of-profile packets. This mode does not prevent the policer from being configured with a CIR rate or using **enable-exceed-pir**.

This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 143: Egress Accounting Statistics Collected in offered-profile-no-cir stat-mode .

Table 143: Egress Accounting Statistics Collected in offered-profile-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered

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Show Output	Accounting Stats Collected	
	Field	Field Description
	ooo	OutOfProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is made up of traffic that is inplus-profile, in-profile, out-of-profile, exceed-profile, soft in-profile, and soft out-of-profile. The offered counters cover traffic reclassified to in-profile (which includes traffic reclassified to inplus-profile), traffic reclassified to out-of-profile (which includes traffic reclassified to exceed-profile) and traffic which has not been reclassified at egress (Uncolor). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

The **offered-profile-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-profile-cir** mode is most useful when profile-based offered, dropped and forwarded stats are required from the egress policer and a CIR rate is being used to recolor the soft in-profile and out-of-profile packets.

This mode is intended to be used without **profile-capped** or **enable-exceed-pir** configured within the policer as these could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 144: Egress Accounting Statistics Collected in offered-profile-cir stat-mode .

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Table 144: Egress Accounting Statistics Collected in offered-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-total-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

The **offered-total-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-total-cir** mode is most useful when the policer is not receiving trusted in-profile or out-of-profile traffic, and both high- and low- priority classifications are not being used on the untrusted packets, and the offered packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile or out-of-profile packets and does not prevent the use of priority high or low classifications on the untrusted packets.

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This mode is intended to be used without **profile-capped** or **enable-exceed-pir** configured within the policer as these could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 145: Egress Accounting Statistics Collected in offered-total-cir stat-mode .

Table 145: Egress Accounting Statistics Collected in offered-total-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-capped-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is made up of traffic that is inplus-profile, in-profile, out-of-profile, exceed-profile, soft in-profile, and soft out-of-profile. The offered counters cover in-profile traffic (which includes traffic reclassified to inplus-profile) and out-of-profile traffic (which includes traffic reclassified to exceed-profile). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

offered-limited-capped-cir is defined, the system creates four forwarding plane offered-output counters in the network processor and three discard counters in the traffic manager.

The **offered-limited-capped-cir** mode is similar to the **offered-profile-capped-cir** mode except that it combines **soft in-profile** with **profile in** and **soft-out-of-profile** with **profile out** and eliminates the offered-undefined statistic.

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The impact of using **offered-limited-capped-cir** stat-mode while profile-capped mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used and **soft-in-profile** will be treated as offered-in instead of offered-undefined.

This mode is intended to be used with **profile-capped** configured within the policer but without **enable-exceed-pir** configured as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 146: Egress Accounting Statistics Collected in offered-limited-capped-cir stat-mode .

Table 146: Egress Accounting Statistics Collected in offered-limited-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-capped-cir

Counter resource allocation: 5

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is made up of traffic that is inplus-profile, in-profile, out-of-profile, exceed-profile, soft in-profile, and soft out-of-profile. The offered counters cover traffic reclassified to in-profile (which includes traffic reclassified to inplus-profile), traffic reclassified to out-of-profile (which includes traffic reclassified to exceed-profile) and traffic that has not been reclassified at egress (uncolored). In the dropped and forwarded counters, inplus-profile

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traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

When **offered-profile-capped-cir** is defined, the system creates five offered-output counters in the forwarding plane and five discard counters in the traffic manager.

The **offered-profile-capped-cir** mode is similar to the **offered-profile-cir** mode except that it includes support for **profile inplus**, **profile in** and **soft-in-profile** that may be output as out-of-profile due to enabling **profile-capped** mode on the ingress policer.

The impact of using o**ffered-profile-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used and soft-in-profile will be treated as offered-in (hard in-profile) instead of offered-undefined (uncolored).

This mode is intended to be used with **profile-capped** configured within the policer but without **enable-exceed-pir** configured as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 147: Egress Accounting Statistics Collected in offered-profile-capped-cir stat-mode .

Table 147: Egress Accounting Statistics Collected in offered-profile-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

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offered-total-cir-exceed

Counter resource allocation: 3

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter. The **offered-total-cir-exceed** mode allocates three forwarding plane offered counters and three traffic manager discard counters.

The **offered-total-cir-exceed** mode is similar to the **offered-total-cir** mode except that it includes support for forwarded and dropped counters for **profile exceed**.

This mode is intended to be used when the policer is configured with **enable-exceed-pir** to forward packets that exceed its configured PIR or when traffic is egress reclassified to profile exceed. The mode gives the forwarded and dropped counters per profile (in, out, exceed). It is also intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer. This stat-mode is not supported for dynamic policers.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 148: Egress Accounting Statistics Collected in offered-total-cir-exceed stat-mode .

Table 148: Egress Accounting Statistics Collected in offered-total-cir-exceed stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
Dro. ExcProf	xpd	ExceedProfilePktsDropped
	xod	ExceedProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded
For. ExcProf	xpf	ExceedProfilePktsForwarded

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Show Output	Accounting Stats Collected	
	Field	Field Description
	xof	ExceedProfileOctetsForwarded

offered-four-profile-no-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering the policer. Offered, dropped, and forwarded counters are provided for inplus, in, out and exceed-profile traffic.

The **offered-four-profile-no-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-four-profile-no-cir** mode is similar to the **offered-profile-no-cir** mode except that it includes support for offered, dropped, and forwarded counters for both inplus-profile and exceed-profile.

This mode is intended to be used when traffic is egress reclassified to inplus and/or exceed-profile. It is also intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer. This stat-mode is not supported for dynamic policers.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 149: Egress Accounting Statistics Collected in offered-four-profile-no-cir stat-mode .

Table 149: Egress Accounting Statistics Collected in offered-four-profile-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. ExcProf	xpo	ExceedProfilePacketsOffered
	xoo	ExceedProfileOctetsOffered
Off. InplusProf	ppo	InplusProfilePacketsOffered
	poo	InplusProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped

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Show Output	Accounting Stats Collected	
	Field	Field Description
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
Dro. ExcProf	xpd	ExceedProfilePktsDropped
	xod	ExceedProfileOctetsDropped
Dro. InprofProf	ppd	InplusProfilePktsDropped
	pod	InplusProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded
For. ExcProf	xpf	ExceedProfilePktsForwarded
	xof	ExceedProfileOctetsForwarded
For. InplusProf	ppf	InplusProfilePktsForwarded
	pof	InplusProfileOctetsForwarded

offered-total-cir-four-profile

Counter resource allocation: 4

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. There is a separate dropped and forwarded counter for inplus, in, out and exceed-profile traffic.

The **offered-total-cir-four-profile** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-total-cir-four-profile** mode is similar to the **offered-total-cir** except that it includes support for forwarded and dropped counters for both **profile inplus** and **profile exceed**.

This mode is intended to be used when traffic is reclassified at egress to inplus-profile. It is also intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer. This stat-mode is not supported for dynamic policers.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 150: Egress Accounting Statistics Collected in offered-total-cir-four-profile stat-mode .

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Table 150: Egress Accounting Statistics Collected in offered-total-cir-four-profile stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
Dro. ExcProf	xpd	ExceedProfilePktsDropped
	xod	ExceedProfileOctetsDropped
Dro. InprofProf	ppd	InplusProfilePktsDropped
	pod	InplusProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded
For. ExcProf	xpf	ExceedProfilePktsForwarded
	xof	ExceedProfileOctetsForwarded
For. InplusProf	ppf	InplusProfilePktsForwarded
	pof	InplusProfileOctetsForwarded

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

stat-mode

Syntax

stat-mode {**no-stats** | **minimal** | **offered-profile-no-cir** | **offered-priority-no-cir** | **offered-profile-cir** | **offered-priority-cir** | **offered-total-cir** | **offered-limited-profile-cir** | **offered-profile-capped-cir** | **offered-limited-capped-cir**}

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no stat mode

Context

[Tree] (config>qos>qgrps>ing>qgrp>policer stat-mode)

Full Context

configure qos queue-group-templates ingress queue-group policer stat-mode

Description

This command is used to configure the forwarding plane counters that allow offered, forwarded, and dropped accounting to occur for the policer. An ingress policer has multiple types of offered packets (explicit in-profile, explicit out-of-profile, uncolored, high-priority or low-priority) and each of these offered types is interacting with the policer's metering and profiling functions resulting in colored output packets (green, yellow, and red). Due to the large number of policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers, for example, will not be configured with a CIR profiling rate and not all policers will receive explicitly profiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a **no-stats** mode is supported that prevents any packet accounting, the use of the policer's **parent** command requires that the policer's **stat-mode** be set at least to the **minimal** setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated. When a policer has been made a child to a parent policer, the **stat-mode** cannot be changed to **no-stats** unless the policer parenting is first removed.

Each time the policer's **stat-mode** is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. The total/allocated/free stats can be viewed by using the **tools dump resource-usage card fp** command. If insufficient counters exist to implement a mode on any policer instance, the **stat-mode** change will fail and the previous mode will continue unaffected for all instances of the policer.

The stat-modes are described in Table 151: Stat Mode Descriptions.

Table 151: Stat Mode Descriptions

Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
no-stats	0	None	None	—
Minimal	1	Single counter entering policer	Single counter for dropped/forwarded exiting policer	—
offered-profile-no-cir	2	In/out entering policer	In/out entering policer	Intended for when the policer does not change the profile of packets. Includes

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
				only in- and out-of-profile.
offered-priority-no-cir	2	High/low entering policer	High/low entering policer	Intended for when only packet priority stats are required.
offered-profile-cir	4	In/out/uncolored entering policer	In/out exiting policer	Intended for when the policer can change the profile of packets to in- and out-of-profile.
offered-priority-cir	4	High/low entering policer	In/out exiting policer	Intended for when packet priority entering the policer and profile exiting the policer is required.
offered-total-cir	2	Single counter entering policer	In/out exiting policer	—
offered-limited-profile-cir	3	Out/uncolored entering policer	In/out exiting policer	Intended for when the policer can change the profile of packet to in- and out-of-profile. The information is limited compared to offered-profile-capped-cir with the benefit of using one less stat resource.
offered-profile-capped-cir	5	In/out/uncolored entering policer	In/out exiting policer	Intended for when the policer has profile-capped configured.
offered-limited-capped-cir	4	In/uncolored entering policer	In/out exiting policer	Intended for when the policer has profile-capped configured. The information is limited compared to offered-profile-capped-cir with the benefit of

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
				using one less stat resource.

The default **stat-mode** when a policer is created within the policy is **minimal**.

The **stat-mode** setting defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the **stat-mode** override command will fail. The previous **stat-mode** setting active for the policer will continue to be used by the policer.

The **no** form of this command attempts to return the policer's stat-mode setting to minimal. The command will fail if insufficient policer counter resources exist to implement minimal where the QoS policer is currently applied and has a forwarding class mapping.

Parameters

no-stats

Counter resource allocation: 0

The policer does not have any forwarding plane counters allocated and cannot provide offered, dropped and forwarded statistics. A policer using no-stats cannot be a child to a parent policer and the policer's parent command will fail.

When **collect-stats** is enabled, no statistics are generated.

minimal

Counter resource allocation: 1

This stat-mode provides the minimal accounting resource usage and counter information, and includes the total offered, dropped and forwarded packet and octet counters for traffic entering (offered) and exiting (dropped/forwarded) the policer.

The default **stat-mode** for a policer is **minimal**. The **minimal** mode allocates 1 forwarding plane offered counter and one traffic manager discard counter. The forwarding counter is derived by subtracting the discard counter from the offered counter. The counters do not differentiate possible offered types (profile or priority) and do not count in-profile or out-of-profile output. This does not prevent the policer from supporting different offered packet types and does not prevent the policer from supporting a CIR rate.

This counter mode is useful when only the most basic accounting information is required.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 152: Ingress Accounting Statistics Collected in minimal stat-mode .

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Table 152: Ingress Accounting Statistics Collected in minimal stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. All	apd	AllPacketsDropped
	aod	AllOctetsDropped
For. All	apf	AllPacketsForwarded
	aof	AllOctetsForwarded

offered-profile-no-cir

Counter resource allocation: 2

This **stat-mode** provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering the policer.

The **offered-profile-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-profile-no-cir** mode is most useful when the policer is receiving only in-profile and out-of-profile premarked (and trusted) packets. It is expected that, in this instance, a CIR rate will not be defined since all packets are already premarked. This mode does not prevent the policer from receiving untrusted (color undefined) nor does it prevent the policer from being configured with a CIR rate.

This mode is intended to be used without profile-capped configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 153: Ingress Accounting Statistics Collected in offered-profile-no-cir stat-mode .

Table 153: Ingress Accounting Statistics Collected in offered-profile-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered

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Show Output	Accounting Stats Collected	
	Field	Field Description
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-priority-no-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the packet priority of traffic entering the policer.

The **offered-priority-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-priority-no-cir** mode is most useful when the policer is receiving only untrusted packets and the ingress priority high and priority low classification options are being used without a CIR profiling rate defined. This mode does not prevent the policer from receiving trusted packets that are premarked in-profile or out-of-profile nor does it prevent the policer from being configured with a CIR rate.

This mode is intended to be used without profile-capped configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 154: Ingress Accounting Statistics Collected in offered-priority-no-cir stat-mode .

Table 154: Ingress Accounting Statistics Collected in offered-priority-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. HiPrio	hpo	HighPriorityPacketsOffered
	hoo	HighPriorityOctetsOffered
Off. LowPrio	lpo	LowPriorityPacketsOffered
	loo	LowPriorityOctetsOffered

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Show Output	Accounting Stats Collected	
	Field	Field Description
Dro. HiPrio	hpd	HighPriorityPacketsDropped
	hod	HighPriorityOctetsDropped
Dro. LowPrio	lpd	LowPriorityPacketsDropped
	lod	LowPriorityOctetsDropped
For. HiPrio	hpf	HighPriorityPacketsForwarded
	hof	HighPriorityOctetsForwarded
For. LowPrio	lpf	LowPriorityPacketsForwarded
	lof	LowPriorityOctetsForwarded

offered-profile-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed so that the traffic entering the policer comprises of hard in/out and uncolored. The offered counters cover traffic explicitly profiled to in-profile, traffic explicitly profiled to out-of-profile, and traffic that has not been explicitly profiled at ingress (uncolored).

The **offered-profile-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-profile-cir** mode is most useful when the policer is receiving trusted out-of-profile and in-profile traffic and is also receiving untrusted packets that are being applied to a defined CIR profiling rate. This mode differs from **offered-limited-profile-cir** mode in that it expects both trusted in-profile and out-of-profile packets while still performing CIR profiling on packets with untrusted markings. If trusted in-profile packets are not being received, the **offered-limited-profile-cir** stat-mode could be used instead, which has the benefit of using a reduced number of stat resources.

This mode is intended to be used without **profile-capped** configured within the policer as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 155: Ingress Accounting Statistics Collected in offered-profile-cir stat-mode .

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Table 155: Ingress Accounting Statistics Collected in offered-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-priority-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the priority of traffic entering the policer and the profile exiting the policer.

The **offered-priority-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-priority-cir** mode is most useful when the policer is receiving only untrusted packets that are being classified as high priority or low priority and are being applied to a defined CIR profiling rate. This mode differs from **offered-profile-cir** mode in that it does not expect trusted in-profile and out-of-profile packets but does not exclude the ability of the policer to receive them.

This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied

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accounting policy) are described in Table 156: Ingress Accounting Statistics Collected in offered-priority-cir stat-mode .

Table 156: Ingress Accounting Statistics Collected in offered-priority-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. HiPrio	hpo	HighPriorityPacketsOffered
	hoo	HighPriorityOctetsOffered
Off. LowPrio	lpo	LowPriorityPacketsOffered
	loo	LowPriorityOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-total-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter.

The **offered-total-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-total-cir** mode is most useful when the policer is not receiving trusted in-profile or out-of-profile traffic and both high- and low-priority classifications are not being used on the untrusted packets and the offered packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile or out-of-profile packets and does not prevent the use of priority high or low classifications on the untrusted packets.

This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied

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accounting policy) are described in Table 157: Ingress Accounting Statistics collected in offered-total-cir stat-mode .

Table 157: Ingress Accounting Statistics collected in offered-total-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-profile-cir

Counter resource allocation: 3

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed so that the traffic entering the policer comprises of hard out and uncolored. The offered counters cover traffic explicitly profiled to out-of-profile and traffic that has not been explicitly profiled at ingress (uncolored). The traffic explicitly profiled to in-profile is counted with the uncolored traffic.

The **offered-limited-profile-cir** mode allocates three forwarding plane offered counters and three traffic manager discard counters.

The **offered-limited-profile-cir** mode is most useful when the policer is receiving trusted out-of-profile (profile out but no profile in) traffic and untrusted packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile packets. If trusted in-profile packets are not being received, the **offered-limited-profile-cir** is preferred over **offered-profile-cir** because it uses a reduced number of stat resources.

This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied

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accounting policy) are described in Table 158: Ingress Accounting Statistics Collected in offered-limited-profile-cir stat-mode .

Table 158: Ingress Accounting Statistics Collected in offered-limited-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-capped-cir

Counter resource allocation: 5

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed so that the traffic entering the policer comprises of hard in/out and uncolored. The offered counters cover traffic explicitly profiled to in-profile, traffic explicitly profiled to out-of-profile, and traffic that has not been explicitly profiled at ingress (uncolored).

When **offered-profile-capped-cir** is defined, the system creates five offered-output counters in the forwarding plane and five discard counters in the traffic manager.

The **offered-profile-capped-cir** mode is similar to the offered-profile-cir mode except that it includes support for profile in and **soft-in-profile** that may be output as 'out-of-profile' due to enabling **profile-capped** mode on the ingress policer.

The impact of using **offered-profile-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied

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accounting policy) are described in Table 159: Ingress Accounting Statistics Collected in offered-profile-capped-cir stat-mode .

Table 159: Ingress Accounting Statistics Collected in offered-profile-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-capped-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when ingress reclassification is performed resulting in the traffic entering the policer comprising of hard in/out and uncolored. The offered counters cover in-profile traffic and traffic that has not been explicitly profiled at ingress (uncolored). The traffic explicitly profiled to out-of-profile is counted with the uncolored traffic.

offered-limited-capped-cir is defined, the system creates four forwarding plane offered-output counters in the network processor and four discard counters in the traffic manager.

The **offered-limited-capped-cir** mode is similar to the **offered-profile-capped-cir** mode except that it combines **soft in-profile** with **profile in** (InProf) and **profile out** (OutProf) with **soft-out-of-profile** (Uncolor) and eliminates the 'offered undefined' statistic. If trusted out-of-profile packets are not being received, the **offered-limited-capped-cir** is preferred over **offered-profile-capped-cir** because it uses a reduced number of stat resources.

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This mode is intended to be used with **profile-capped** configured within the policer.

The impact of using **offered-limited-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used.

The counters displayed in the show output and those collected when **collect-stats** is enabled (the actual fields collected depends on the **record** configured in the applied accounting policy) are described in Table 160: Ingress Accounting Statistics Collected in offered-limited-capped-cir stat-mode .

Table 160: Ingress Accounting Statistics Collected in offered-limited-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

stat-mode

Syntax

stat-mode {**no-stats** | **minimal** | **offered-profile-no-cir** | **offered-profile-cir** | **offered-total-cir** | **offered-limited-capped-cir** | **offered-profile-capped-cir** | **offered-total-cir-exceed** | **offered-four-profile-no-cir** | **offered-total-cir-four-profile**}

no stat mode

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Context

[Tree] (cfg>qos>qgrps>egr>qgrp>policer stat-mode)

Full Context

configure qos queue-group-templates egress queue-group policer stat-mode

Description

The **sap-egress** QoS policy's policer **stat-mode** command is used to configure the forwarding plane counters that allow offered, forwarded, and dropped accounting to occur for the policer. An egress policer has multiple types of offered packets (soft in-profile and out-of-profile from ingress and hard in-profile, out-of-profile, and exceed-profile due to egress profile overrides) and each of these offered types is interacting with the policer's metering and profiling functions resulting in colored output packets (green, yellow, and red). Due to the potential large number of egress policers, it is not economical to allocate counters in the forwarding plane for all possible offered packet types and output conditions. Many policers, for example, will not be configured with a CIR profiling rate and not all policers will receive explicitly reprofiled offered packets. The **stat-mode** command allows provisioning of the number of counters each policer requires and how the offered packet types and output conditions should be mapped to the counters.

While a **no-stats** mode is supported that prevents any packet accounting, the use of the policer's **parent** command requires that the policer's **stat-mode** to be set at least to the **minimal** setting so that offered stats are available for the policer's Fair Information Rate (FIR) to be calculated. When a policer has been made a child to a parent policer, the **stat-mode** cannot be changed to **no-stats** unless the policer parenting is first removed.

Each time the policer's **stat-mode** is changed, any previous counter values are lost and any new counters are set to zero.

Each mode uses a certain number of counters per policer instance that are allocated from the forwarding plane's policer counter resources. The total/allocated/free stats can be viewed by using the **tools dump resource-usage card fp** command. If insufficient counters exist to implement a mode on any policer instance, the **stat-mode** change will fail and the previous mode will continue unaffected for all instances of the policer.

The ingress policer stat-modes are described in Table 161: Egress Policer Stat Mode Summary.

Table 161: Egress Policer Stat Mode Summary

Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
no-stats	0	None	None	—
Minimal	1	Single counter entering policer	Single counter for dropped/forwarded exiting policer	—
offered-profile-no-cir	2	In/out entering policer	In/out entering policer	Intended for when the policer does not change the profile of packets. Includes

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
				only in- and out-of-profile.
offered-profile-cir	4	In/out/uncolored (that corresponds to in- or out-of-profile from the ingress processing) entering policer	In/out exiting policer	Intended for when the policer can change the profile of packets to in- and out-of-profile.
offered-total-cir	2	Single counter entering policer	In/out exiting policer	—
offered-limited-capped-cir	4	In/out entering policer	In/out exiting policer	Intended for when the policer has **profile-capped** configured. The information is limited compared to **offered-profile-capped-cir** with the benefit of using one less stat resource.
offered-profile-capped-cir	5	In/out/uncolored (that corresponds to in- or out-of-profile from the ingress processing) entering policer	In/out exiting policer	Intended for when the policer has **profile-capped** configured.
offered-total-cir-exceed	3	Single counter entering policer	In/out/exceed exiting policer	Intended for when the policer is configured with **enable-exceed-pir** to forward packets that exceed its configured PIR or when traffic is egress reclassified to profile exceed.
offered-four-profile-no-cir	4	Inplus/in/out/exceed entering policer	Inplus/in/out/exceed entering policer	Intended to be used when the policer does not change the profile of the packets and traffic is egress reclassified

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Stat Mode	Stat Resources	Traffic Counters (Packet/Octets)		Comments
		Offered	Dropped/ Forwarded	
				to profile inplus and/ or exceed.
offered-total-cir-four-profile	4	Single counter entering policer	Inplus/in/out/exceed exiting policer	Intended to be used when the policer can change the profile of the packet and traffic is egress reclassified to profile inplus.

The default **stat-mode** when a policer is created within the policy is **minimal**.

The **stat-mode** setting defined for the policer in the QoS policy may be overridden on an **sla-profile** or SAP where the policy is applied. If insufficient policer counter resources exist to implement the override, the **stat-mode** override command will fail. The previous **stat-mode** setting active for the policer will continue to be used by the policer.

The **no** form of this command attempts to return the policer's **stat-mode** setting to **minimal**. The command will fail if insufficient policer counter resources exist to implement **minimal** where the QoS policer is currently applied and has a forwarding class mapping.

Parameters

no-stats

Counter resource allocation: 0

The policer does not have any forwarding plane counters allocated and cannot provide offered, discard, and forward statistics. A policer using **no-stats** cannot be a child to a parent policer and the policer's **parent** command will fail.

When **collect-stats** is enabled, no statistics are generated.

minimal

Counter resource allocation: 1

This stat-mode provides the minimal accounting resource usage and counter information, and includes only the total offered, dropped and forwarded packet and octet counters for traffic entering (offered) and exiting (dropped/forwarded) the policer.

The default **stat-mode** for a policer is **minimal**. The **minimal** mode allocates one forwarding plane offered counter and one traffic manager discard counter. The forwarding counter is derived by subtracting the discard counter from the offered counter. The counters do not differentiate possible offered types and do not count different profile output. This does not prevent the policer from supporting different offered packet types and does not prevent the policer from supporting a CIR rate or using exceed PIR.

The counters displayed in the **show** output and those collected when **collect-stats** is enabled are described in Table 162: Egress Accounting Statistics Collected in minimal stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

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Table 162: Egress Accounting Statistics Collected in minimal stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. All	apd	AllPacketsDropped
	aod	AllOctetsDropped
For. All	apf	AllPacketsForwarded
	aof	AllOctetsForwarded

offered-profile-no-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering the policer. inplus-profile traffic is counted with the in-profile counters and exceed-profile traffic is counted with the out-of-of profile counters.

The **offered-profile-no-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-profile-no-cir** mode is most useful when profile-based offered, dropped and forwarded statistics are required from the egress policer, but a CIR or **enable-exceed-pir** is not being used to recolor the soft in-profile and out-of-profile packets. This mode does not prevent the policer from being configured with a CIR rate or using **enable-exceed-pir**.

This mode is intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 163: Egress Accounting Statistics Collected in offered-profile-no-cir stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

Table 163: Egress Accounting Statistics Collected in offered-profile-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered

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Show Output	Accounting Stats Collected	
	Field	Field Description
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer comprises of hard inplus/in/out/exceed and soft in/out. The offered counters cover traffic reclassified to in-profile (that includes traffic reclassified to inplus-profile), traffic reclassified to out-of-profile (that includes traffic reclassified to exceed-profile), and traffic that has not been reclassified at egress (Uncolor). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

The **offered-profile-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-profile-cir** mode is most useful when profile-based offered, dropped and forwarded stats are required from the egress policer and a CIR rate is being used to recolor the soft in-profile and out-of-profile packets.

This mode is intended to be used without **profile-capped** or **enable-exceed-pir** configured within the policer as these could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 164: Egress Accounting Statistics Collected in offered-profile-cir stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

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Table 164: Egress Accounting Statistics Collected in offered-profile-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-total-cir

Counter resource allocation: 2

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

The **offered-total-cir** mode allocates two forwarding plane offered counters and two traffic manager discard counters.

The **offered-total-cir** mode is most useful when the policer is not receiving trusted in-profile or out-of-profile traffic and both high- and low-priority classifications are not being used on the untrusted packets and the offered packets are being applied to a defined CIR profiling rate. This mode does not prevent the policer from receiving trusted in-profile or out-of-profile packets and does not prevent the use of priority high or low classifications on the untrusted packets.

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This mode is intended to be used without **profile-capped** or **enable-exceed-pir** configured within the policer as these could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 165: Egress Accounting Statistics Collected in offered-total-cir stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

Table 165: Egress Accounting Statistics Collected in offered-total-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-limited-capped-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer comprises of hard inplus/in/out/exceed and soft in/out. The offered counters cover in-profile traffic (that includes traffic reclassified to inplus-profile) and out-of-profile traffic (that includes traffic reclassified to exceed-profile). In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

When **offered-limited-capped-cir** is defined, the system creates four forwarding plane offered-output counters in the network processor and three discard counters in the traffic manager.

The **offered-limited-capped-cir** mode is similar to the **offered-profile-capped-cir** mode except that it combines **soft-in-profile** with **profile in** and **soft-out-of-profile** with **profile out** and eliminates the offered-undefined statistic.

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The impact of using **offered-limited-capped-cir** stat-mode while profile-capped mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used and **soft-in-profile** will be treated as offered-in instead of offered-undefined.

This mode is intended to be used with **profile-capped** configured within the policer but without **enable-exceed-pir** configured as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 166: Egress Accounting Statistics Collected in offered-limited-capped-cir stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

Table 166: Egress Accounting Statistics Collected in offered-limited-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

offered-profile-capped-cir

Counter resource allocation: 5

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer when egress reclassification is performed so that the traffic entering the policer is comprised of hard inplus, hard in, hard out, and hard exceed, as well as soft in and soft out. The offered counters cover traffic reclassified to in-profile (that includes traffic reclassified to inplus-profile), traffic reclassified to out-of-profile (that includes traffic reclassified to exceed-profile), and traffic that has not been reclassified at egress (uncolor).

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In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter and exceed-profile traffic is counted with the out-of-profile counter.

When **offered-profile-capped-cir** is defined, the system creates five offered-output counters in the forwarding plane and five discard counters in the traffic manager.

The **offered-profile-capped-cir** mode is similar to the **offered-profile-cir** mode except that it includes support for **profile inplus**, **profile in**, and **soft-in-profile** that may be output as out-of-profile due to enabling **profile-capped** mode on the ingress policer.

The impact of using **offered-profile-capped-cir** stat-mode while **profile-capped** mode is disabled is that one of the counting resources in the forwarding plane and traffic manager will not be used and soft-in-profile will be treated as offered-in (hard in-profile) instead of offered-undefined (uncolored).

This mode is intended to be used with **profile-capped** configured within the policer but without **enable-exceed-pir** configured as this could cause the traffic profile to be modified by the policer in a way that is not accounted for in the statistics.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 167: Egress Accounting Statistics Collected in offered-profile-capped-cir stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

Table 167: Egress Accounting Statistics Collected in offered-profile-capped-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. Uncolor	ucp	UncoloredPacketsOffered
	uco	UncoloredOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded

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offered-total-cir-exceed

Counter resource allocation: 3

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. In the dropped and forwarded counters, inplus-profile traffic is counted with the in-profile counter. The **offered-total-cir-exceed** mode allocates three forwarding plane offered counters and three traffic manager discard counters.

The **offered-total-cir-exceed** mode is similar to the **offered-total-cir** mode except that it includes support for forwarded and dropped counters for **profile exceed**.

This mode is intended to be used when the policer is configured with **enable-exceed-pir** to forward packets that exceed its configured PIR or when traffic is egress reclassified to profile exceed. The mode gives the forwarded and dropped counters per profile (in, out, exceed). It is also intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer. This stat-mode is not supported for dynamic policers.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 168: Egress Accounting Statistics Collected in offered-total-cir-exceed stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

Table 168: Egress Accounting Statistics Collected in offered-total-cir-exceed stat-mode

Show Output	Accounting Stats Collected	
	Field	**Field Description**
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
Dro. ExcProf	xpd	ExceedProfilePktsDropped
	xod	ExceedProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded
For. ExcProf	xpf	ExceedProfilePktsForwarded

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Show Output	Accounting Stats Collected	
	Field	Field Description
	xof	ExceedProfileOctetsForwarded

offered-four-profile-no-cir

Counter resource allocation: 4

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering the policer. Offered, dropped, and forwarded counters are provided for inplus-profile, in-profile, out-of-profile, and exceed-profile traffic.

The **offered-four-profile-no-cir** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-four-profile-no-cir** mode is similar to the **offered-profile-no-cir** mode except that it includes support for offered, dropped and forwarded counters for both profile inplus and profile exceed.

This mode is intended to be used when traffic is egress reclassified to profile inplus and/or exceed. It is also intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer. This stat-mode is not supported for dynamic policers.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 169: Egress Accounting Statistics Collected in offered-four-profile-no-cir stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

Table 169: Egress Accounting Statistics Collected in offered-four-profile-no-cir stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. InProf	ipo	InProfilePacketsOffered
	ioo	InProfileOctetsOffered
Off. OutProf	opo	OutOfProfilePacketsOffered
	ooo	OutOfProfileOctetsOffered
Off. ExcProf	xpo	ExceedProfilePacketsOffered
	xoo	ExceedProfileOctetsOffered
Off. InplusProf	ppo	InplusProfilePacketsOffered
	poo	InplusProfileOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped

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Show Output	Accounting Stats Collected	
	Field	Field Description
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
Dro. ExcProf	xpd	ExceedProfilePktsDropped
	xod	ExceedProfileOctetsDropped
Dro. InplusProf	ppd	InplusProfilePktsDropped
	pod	InplusProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded
For. ExcProf	xpf	ExceedProfilePktsForwarded
	xof	ExceedProfileOctetsForwarded
For. InplusProf	ppf	InplusProfilePktsForwarded
	pof	InplusProfileOctetsForwarded

offered-total-cir-four-profile

Counter resource allocation: 4

This stat-mode provides offered, dropped, and forwarded packet and octet counters corresponding to the profile of traffic entering (offered) and exiting (dropped/forwarded) the policer. All offered traffic is provided in a single counter. There is a separate dropped and forwarded counter for inplus, in, out, and exceed-profile traffic.

The **offered-total-cir-four-profile** mode allocates four forwarding plane offered counters and four traffic manager discard counters.

The **offered-total-cir-four-profile** mode is similar to the **offered-total-cir** except that it includes support for forwarded and dropped counters for both inplus-profile and exceed-profile.

This mode is intended to be used when traffic is egress reclassified to inplus-profile. It is also intended to be used without **profile-capped** configured within the policer as it could cause the traffic profile to be modified by the policer. This stat-mode is not supported for dynamic policers.

The counters displayed in the show output and those collected when **collect-stats** is enabled are described in Table 170: Egress Accounting Statistics Collected in offered-total-cir-four-profile stat-mode (the actual fields collected depends on the **record** configured in the applied accounting policy).

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Table 170: Egress Accounting Statistics Collected in offered-total-cir-four-profile stat-mode

Show Output	Accounting Stats Collected	
	Field	Field Description
Off. All	apo	AllPacketsOffered
	aoo	AllOctetsOffered
Dro. InProf	ipd	InProfilePacketsDropped
	iod	InProfileOctetsDropped
Dro. OutProf	opd	OutOfProfilePacketsDropped
	ood	OutOfProfileOctetsDropped
Dro. ExcProf	xpd	ExceedProfilePktsDropped
	xod	ExceedProfileOctetsDropped
Dro. InprofProf	ppd	InplusProfilePktsDropped
	pod	InplusProfileOctetsDropped
For. InProf	ipf	InProfilePacketsForwarded
	iof	InProfileOctetsForwarded
For. OutProf	opf	OutOfProfilePacketsForwarded
	oof	OutOfProfileOctetsForwarded
For. ExcProf	xpf	ExceedProfilePktsForwarded
	xof	ExceedProfileOctetsForwarded
For. InplusProf	ppf	InplusProfilePktsForwarded
	pof	InplusProfileOctetsForwarded

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

stat-mode

Syntax

stat-mode {per-fc | aggregate}

no stat-mode

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Context

[Tree] (config>router>mpls>lsp-template>egr-stats stat-mode)

[Tree] (config>router>mpls>lsp>ingr-stats stat-mode)

[Tree] (config>router>mpls>lsp>egr-stats stat-mode)

Full Context

configure router mpls lsp-template egress-statistics stat-mode

configure router mpls lsp ingress-statistics stat-mode

configure router mpls lsp egress-statistics stat-mode

Description

This command sets the mode used for collecting LSP statistics.

The **no** form of this command reverts to the default.

Default

stat-mode per-fc

Parameters

per-fc

Specifies that RSVP-TE statistics will be collected per FC.

aggregate

Specifies that SR-TE statistics will be collected as an aggregate across all FCs.

Platforms

All

- configure router mpls lsp egress-statistics stat-mode
- configure router mpls lsp-template egress-statistics stat-mode

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure router mpls lsp ingress-statistics stat-mode

44.61 state

state

Syntax

[**no**] **state**

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query state)

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Full Context

configure subscriber-mgmt wlan-gw ue-query state

Description

This command enables matching on a specific UE state. Multiple states can be provisioned.

The **no** form of this command disables matching on the specified UE state (all UEs match).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

state

Syntax

state *state*

no state

Context

[Tree] (config>router>policy-options>policy-statement>entry>from state)

Full Context

configure router policy-options policy-statement entry from state

Description

This command identifies in resilient gateways which routes are associated with an active context and which routes are associated with a standby context.

Default

no state

Parameters

state

Specifies the state.

Values srrp-master — This is used in non-CUPS BNG resiliency to identify routes associated with an active SRRP instance.

srrp-non-master — This is used in non-CUPS BNG resiliency to identify routes associated with a standby SRRP instance.

ipsec-master-with-peer — This is used in stateful multi-chassis IPsec (MC-IPsec) redundancy to identify routes associated with an active MC-IPsec node with a reachable peer.

ipsec-non-master — This is used in stateful MC-IPsec redundancy to identify routes associated with a standby MC-IPsec node.

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ipsec-master-without-peer — This is used in stateful MC-IPsec redundancy to identify routes associated with an active MC-IPsec node without a reachable peer.

fsg-active — This is used in BNG CUPS inter-BNG-UP resiliency to identify routes associated with an FSG on the active BNG-UP. This covers all session-related routes, including framed routes, IPv6 gateway addresses, and aggregated routes. It does not include loopback addresses.

fsg-active-path-restoration — This is used in BNG CUPS inter-BNG-UP resiliency to identify routes associated with an FSG on an active BNG-UP that is in a headless state. This covers all session-related routes, including framed routes, IPv6 gateway addresses, and aggregated routes. It does not include loopback addresses.

fsg-standby — This is used in BNG CUPS inter-BNG-UP resiliency to identify routes associated with an FSG on the standby BNG-UP. This covers all session-related routes, including framed routes, IPv6 gateway addresses, and aggregated routes. It does not include loopback addresses.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.62 state-change

state-change

Syntax

[**no**] **state-change**

Context

[Tree] (debug>dynsvc>scripts>event state-change)

[Tree] (debug>dynsvc>scripts>inst>event state-change)

[Tree] (debug>dynsvc>scripts>script>event state-change)

Full Context

debug dynamic-services scripts event state-change

debug dynamic-services scripts instance event state-change

debug dynamic-services scripts script event state-change

Description

This command enables/disables the generation of a specific dynamic data service script debugging event output: state-change.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.63 state-timer

state-timer

Syntax

state-timer *seconds* [**action** *action*]

no state-timer

Context

[Tree] (config>router>pcep>pcc state-timer)

Full Context

configure router pcep pcc state-timer

Description

This command configures the state timer for PCE-initiated LSPs. The state timer must be set to a value greater than the redelegation timer.

The **no** form of the command sets this value to the default.

Default

state-timer 180 action remove

Parameters

seconds

Specifies the number of seconds before the state timer expires.

Values 1 to 3600

action

Specifies the actions that are taken on undelegated LSPs upon the state timer expiration.

Values remove, none

Default remove

Platforms

All

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44.64 stateful

stateful

Syntax

[**no**] **stateful**

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy>pfx-opt stateful)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options stateful

Description

This command enables the configuration of RA options for stateful DHCP prefixes used by the subscriber host.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.65 stateless

stateless

Syntax

[**no**] **stateless**

Context

[Tree] (config>subscr-mgmt>rtr-adv-plcy>pfx-opt stateless)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options stateless

Description

This command enables the configuration of RA options for stateless SLAAC prefixes used by the subscriber host.

The **no** form of this command reverts to the default.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.66 static

static

Syntax

static

Context

[Tree] (config>service>vpls>mesh-sdp>mld-snooping static)

[Tree] (config>service>vpls>sap>igmp-snooping static)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping static)

[Tree] (config>service>vpls>sap>mld-snooping static)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping static)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping static)

Full Context

configure service vpls mesh-sdp mld-snooping static

configure service vpls sap igmp-snooping static

configure service vpls mesh-sdp igmp-snooping static

configure service vpls sap mld-snooping static

configure service vpls spoke-sdp igmp-snooping static

configure service vpls spoke-sdp mld-snooping static

Description

Commands in this context configure static group addresses. Static group addresses can be configured on a SAP or SDP. When present, either as a (*, g) or a (s,g) entry, multicast packets matching the configuration are forwarded even if no join message was registered for the specific group.

Platforms

All

static

Syntax

static

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Context

[Tree] (config>subscr-mgmt>igmp-policy static)

[Tree] (config>subscr-mgmt>mld-policy static)

Full Context

configure subscriber-mgmt igmp-policy static

configure subscriber-mgmt mld-policy static

Description

Commands in this context configure MLD static group membership parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

static

Syntax

static *ip-address ieee-address*

no static *ip-address*

Context

[Tree] (config>service>vpls>proxy-arp static)

Full Context

configure service vpls proxy-arp static

Description

This command configures static entries to be added to the table. A static MAC-IP entry requires the addition of the MAC address to the FDB as either learned or CStatic (conditional static MAC) in order to become active.

Parameters

ip-address

Specifies the IPv4 address for the static entry.

ieee-address

Specifies a 48-bit MAC address in the form xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx, where xx represents a hexadecimal number.

Platforms

All

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static

Syntax

static *ipv6-address ieee-address* {**host** | **router**}

no static *ipv6-address*

Context

[Tree] (config>service>vpls>proxy-nd static)

Full Context

configure service vpls proxy-nd static

Description

This command configures static entries to be added to the table. A static MAC-IP entry requires the addition of the MAC address to the FDB as either dynamic or CStatic (Conditional Static MAC) in order to become active. Along with the IPv6 and MAC, the entry must also be configured as either host or router. This will determine if the received NS for the entry will be replied with the R flag set to 1 (router) or 0 (host).

Parameters

ipv6-address

Specifies the IPv6 address for the static entry.

ieee-address

Specifies a 48-bit MAC address in the form xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx, where xx represents a hexadecimal number.

host

Specifies that the entry is type "host”.

router

Specifies that the entry is type "router”.

Platforms

All

static

Syntax

static

Context

[Tree] (config>service>vprn>igmp>if static)

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Full Context

configure service vprn igmp interface static

Description

This command tests forwarding on an interface without a receiver host. When enabled, data is forwarded to an interface without receiving membership reports from host members.

Platforms

All

static

Syntax

static

Context

[Tree] (config>service>vprn>mld>if static)

Full Context

configure service vprn mld interface static

Description

This command tests multicast forwarding on an interface without a receiver host. When enabled, data is forwarded to an interface without receiving membership reports from host members.

Platforms

All

static

Syntax

static

Context

[Tree] (config>service>vprn>pim>rp static)

Full Context

configure service vprn pim rp static

Description

This command enables access to the context to configure a static rendezvous point (RP) of a PIM-SM protocol instance.

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Platforms

All

static

Syntax

static

Context

[Tree] (config>router>igmp>if static)

Full Context

configure router igmp interface static

Description

This command tests multicast forwarding on an interface without a receiver host. When enabled, data is forwarded to an interface without receiving membership reports from host members.

Platforms

All

static

Syntax

static

Context

[Tree] (config>router>igmp>tunnel-interface static)

Full Context

configure router igmp tunnel-interface static

Description

Commands in this context configure static multicast receiver hosts on a tunnel interface associated with an RSVP P2MP LSP.

When enabled, data is forwarded to an interface without receiving membership reports from host members.

Platforms

All

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static

Syntax

static

Context

[Tree] (config>router>mld>if static)

Full Context

configure router mld interface static

Description

This command tests multicast forwarding on an interface without a receiver host. When enabled, data is forwarded to an interface without receiving membership reports from host members.

Platforms

All

static

Syntax

static

Context

[Tree] (config>router>pim>rp static)

[Tree] (config>router>pim>rp>ipv6 static)

Full Context

configure router pim rp static

configure router pim rp ipv6 static

Description

Commands in this context configure static Rendezvous Point (RP) addresses for a multicast group range.

Entries can be created or destroyed. If no IP addresses are configured in the **config>router>pim>rp>static>address** context, then the multicast group to RP mapping is derived from the RP-set messages received from the Bootstrap Router.

Platforms

All

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static

Syntax

static *microseconds*

no static

Context

[Tree] (config>router>if>if-attribute>delay static)

Full Context

configure router interface if-attribute delay static

Description

This command configures the unidirectional link delay. By default there is no configured delay, the link delay metric TLV is pruned in the IGP.

The **no** form of this command removes the configured unidirectional link delay.

Default

no static

Parameters

microseconds

Specifies the unidirectional link delay in microseconds.

Values 1 to 16777214

Platforms

All

static

Syntax

[**no**] **static**

Context

[Tree] (config>router>bgp>next-hop-res>use-leaked-routes static)

Full Context

configure router bgp next-hop-resolution use-leaked-routes static

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Description

This command configures the router to resolve any non-leaked, unlabeled unicast IPv4 or IPv6 route in the base router BGP RIB by using a static route with direct next hops leaked from any VPRN instance. A BGP route resolved this way cannot resolve other routes (including BGP routes) and cannot be redistributed into non-BGP protocols, such as IGP.

The **no** form of this command prevents the use of leaked static routes to resolve BGP routes of the base router.

Default

no static

Platforms

All

static

Syntax

[**no**] **static**

Context

[Tree] (config>service>vprn>bgp>next-hop-res>use-leaked-routes static)

Full Context

configure service vprn bgp next-hop-resolution use-leaked-routes static

Description

This command configures the router to resolve any non-leaked, unlabeled unicast IPv4 or IPv6 route in the VPRN BGP RIB by using a static route with direct next hops leaked from the GRT. A BGP route resolved this way cannot resolve other routes (including BGP routes) and cannot be redistributed into non-BGP protocols, such as IGP.

The **no** form of this command prevents the use of leaked static routes to resolve BGP routes of the VPRN.

Default

no static

Platforms

All

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44.67 static-aa-sub

static-aa-sub

Syntax

static-aa-sub *transit-aasub-name*

static-aa-sub *transit-aasub-name* **app-profile** *app-profile-name* [**create**]

no static-aa-sub *transit-aasub-name*

Context

[Tree] (config>app-assure>group>transit-ip-policy static-aa-sub)

Full Context

configure application-assurance group transit-ip-policy static-aa-sub

Description

This command configures static transit aa-subs with a name and an app-profile. A new transit sub with both a name and an app-profile is configured with the create command. Static transit aa-sub must have an explicitly assigned app-profile. An existing transit sub can optionally be assigned a different app-profile, or this command can be used to enter the static-aa-sub context.

The **no** form of this command deletes the named static transit aa-sub from the configuration.

Parameters

transit-aasub-name

Specifies the name of a transit subscriber up to 32 characters in length.

app-profile-name

Specifies the name of an existing application profile up to 32 characters in length.

create

Keyword used to create a new app-profile entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

static-aa-sub

Syntax

static-aa-sub *transit-aasub-name*

static-aa-sub *transit-aasub-name* **app-profile** *app-profile-name* [**create**]

no static-aa-sub *transit-aasub-name*

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Context

[Tree] (config>app-assure>group>transit-prefix-policy static-aa-sub)

Full Context

configure application-assurance group transit-prefix-policy static-aa-sub

Description

This command configures a static transit aa-sub with a name and an app-profile. A new transit sub with both a name and an app-profile is configured with the create command. Static transit aa-sub must have an explicitly assigned app-profile. An existing transit sub can optionally be assigned a different app-profile, or this command can be used to enter the static-aa-sub context.

The **no** form of this command deletes the named static transit aa-sub from the configuration.

Parameters

transit-aasub-name

Specifies a transit aasub-name up to 32 characters.

app-profile-name

Specifies the name of an existing application profile up to 32 characters.

create

Keyword used to create a new app-profile entry

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

44.68 static-address

static-address

Syntax

[**no**] **static-address** {*ip-address* | *ipv6-address*}

Context

[Tree] (config>app-assure>group>dns-ip-cache>ip-cache static-address)

Full Context

configure application-assurance group dns-ip-cache ip-cache static-address

Description

This command configures a static address in the cache.

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Parameters

ip-address* | *ipv6-address

Specifies a character string up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

44.69 static-arp

static-arp

Syntax

static-arp *ieee-mac-address* **unnumbered**

static-arp *ip-address ieee-mac-address*

no static-arp [*ieee-mac-address*] **unnumbered**

no static-arp *ip-address* [*ieee-mac-address*]

Context

[Tree] (config>service>vprn>if static-arp)

[Tree] (config>service>ies>if static-arp)

Full Context

configure service vprn interface static-arp

configure service ies interface static-arp

Description

This command configures a static address resolution protocol (ARP) entry associating a subscriber IP address with a MAC address for the core router instance. This static ARP appears in the core routing ARP table. A static ARP can only be configured if it exists on the network attached to the IP interface.

If an entry for a particular IP address already exists and a new MAC address is configured for the IP address, the existing MAC address will be replaced with the new MAC address.

The **no** form of this command removes a static ARP entry.

Parameters

ip-address

Specifies the IP address for the static ARP in IP address dotted decimal notation.

ieee-mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff, where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

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unnumbered

Specifies the static ARP MAC for an unnumbered interface. Unnumbered interfaces support dynamic ARP. Once this command is configured, it overrides any dynamic ARP.

Platforms

All

static-arp

Syntax

static-arp *ieee-mac-addr* **unnumbered**

static-arp *ip-address ieee-mac-address*

no static-arp [*ieee-mac-addr*] **unnumbered**

no static-arp *ip-address* [*ieee-mac-address*]

Context

[Tree] (config>service>vpls>interface static-arp)

Full Context

configure service vpls interface static-arp

Description

This command configures a static address resolution protocol (ARP) entry associating a subscriber IP address with a MAC address for the core router instance. A static ARP can only be configured if it exists on the network attached to the IP interface.

If an entry for a particular IP address already exists and a new MAC address is configured for the IP address, the existing MAC address will be replaced with the new MAC address.

The **no** form of this command removes a static ARP entry.

Parameters

ip-address

Specifies the IP address for the static ARP in dotted decimal notation

ieee-mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

unnumbered

Specifies the static ARP MAC for an unnumbered interface. Unnumbered interfaces support dynamic ARP. Once this command is configured, it overrides any dynamic ARP.

Platforms

All

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static-arp

Syntax

static-arp *ip-address ieee-mac-address*

no static-arp *ip-address*

Context

[Tree] (config>service>vprn>nw-if static-arp)

Full Context

configure service vprn network-interface static-arp

Description

This command configures a static address resolution protocol (ARP) entry associating a subscriber IP address with a MAC address for the core router instance. This static ARP will appear in the core routing ARP table. A static ARP can only be configured if it exists on the network attached to the IP interface. If an entry for a particular IP address already exists and a new MAC address is configured for the IP address, the existing MAC address will be replaced with the new MAC address.

The **no** form of this command removes a static ARP entry.

Parameters

ip-address

Specifies the IP address for the static ARP in IP address dotted decimal notation.

ieee-mac-address

Specifies the 48-bit MAC address for the static ARP in the form *aa*:*bb*:*cc*:*dd* :*ee*:*ff* or *aa-bb-cc-dd -ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Platforms

All

static-arp

Syntax

static-arp *ip-address ieee-address*

no static-arp *ip-address*

static-arp *ieee-address* **unnumbered**

no static-arp unnumbered

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Context

[Tree] (config>router>if static-arp)

Full Context

configure router interface static-arp

Description

This command configures a static Address Resolution Protocol (ARP) entry associating an IP address with a MAC address for the core router instance. This static ARP appears in the core routing ARP table. A static ARP can only be configured if it exists on the network attached to the IP interface.

If an entry for a specific IP address already exists and a new MAC address is configured for the IP address, the existing MAC address is replaced by the new MAC address.

The number of static-arp entries that can be configured on a single node is limited to 1000.

Static ARP is used when a router needs to know about a device on an interface that cannot or does not respond to ARP requests. Therefore, the router configuration can state that if it has a packet that has a certain IP address to send it to the corresponding ARP address. Use proxy ARP so the router responds to ARP requests on behalf of another device.

The **no** form of this command removes a static ARP entry.

Parameters

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form *aa*:*bb*:*cc*:*dd* :*ee*:*ff* or *aa-bb-cc-dd -ee-ff*, where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

unnumbered

Specifies the static ARP MAC for an unnumbered interface. Unnumbered interfaces support dynamic ARP. Once this command is configured, it overrides any dynamic ARP.

Platforms

All

44.70 static-blackhole-first

static-blackhole-first

Syntax

[**no**] **static-blackhole-first**

Context

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel static-blackhole-first)

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Full Context

configure service vprn bgp-ipvpn mpls auto-bind-tunnel static-blackhole-first

Description

This command configures the router to use a modified next-hop resolution sequence for each imported VPN-IP route. The router first checks for a static route in the Base routing table that matches the BGP next-hop address. If at least one such static route exists, and the route that is the longest match of the BGP next-hop address is a blackhole static route, the router resolves the VPN-IP route and programs it into the VPRN IP FIB table with a next-hop action that discards all matching packets. If there is no matching static route, or the longest matching static route is not a blackhole, the router resolves the VPN-IP route in the Base routing table as normal, that is, according to the configured VPRN auto-bind filter options.

The **no** form of this command configures the router to resolve VPN-IP routes in the Base routing table according to the configured VPRN auto-bind filter options.

Default

no static-blackhole-first

Platforms

All

44.71 static-cak

static-cak

Syntax

[**no**] **static-cak**

Context

[Tree] (config>macsec>connectivity-association static-cak)

Full Context

configure macsec connectivity-association static-cak

Description

This command allows the configuration of a Connectivity Association Key (CAK). The CAK is responsible for managing the MKA.

Platforms

All

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44.72 static-entry

static-entry

Syntax

static-entry *ip-prefix/ip-prefix-length* **upto** *prefix-length2* **origin-as** *as-number* [{**valid** | **invalid**}]

no static-entry *ip-prefix/ip-prefix-length* **upto** *prefix-length2* **origin-as** *as-number*

Context

[Tree] (config>router>origin-validation static-entry)

Full Context

configure router origin-validation static-entry

Description

This command configures a static VRP entry indicating that a specific origin AS is either valid or invalid for a specific IP prefix range. Static VRP entries are stored along with dynamic VRP entries (learned from local cache servers using the RPKI-Router protocol) in the origin validation database of the router. This database is used for determining the **origin-validation** state of IPv4 and/or IPv6 BGP routes received over sessions with the **enable-origin-validatio**n command configured.

Static entries can only be configured under the **config**>**router**>**origin-validation** context of the base router.

Parameters

ip-prefix/ip-prefix-length

Specifies an IPv4 or IPv6 address with a minimum prefix length value.

Values 60 to 3600

prefix-length2

Specifies the maximum prefix length.

Values 1 to 128

as-number

Specifies as-number.

Values 0 to 4294967295

valid

Specifies a keyword meaning the static entry expresses a valid combination of origin AS and prefix range.

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invalid

Specifies a keyword meaning the static entry expresses an invalid combination of origin AS and prefix range.

Platforms

All

44.73 static-function

static-function

Syntax

static-function

Context

[Tree] (config>router>segment-routing>srv6>locator static-function)

Full Context

configure router segment-routing segment-routing-v6 locator static-function

Description

Commands in this context configure the function field parameters of a static End, End.X, or service SID assignment.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

static-function

Syntax

static-function

Context

[Tree] (conf>router>sr>srv6>ms>block static-function)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block static-function

Description

Commands in this context configure the function field parameters of a static uA or service micro-segment assignment.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

44.74 static-host

static-host

Syntax

static-host ip *ip-prefix*[*/prefix-length*] [**mac** *ieee-address*] [**create**]

no static-host ip *ip-prefix*[*/prefix-length*] [**mac** *ieee-address*]

no static-host all [**force**]

no static-host ip *ip-prefix*[*/prefix-length*]

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap static-host)

[Tree] (config>service>ies>sub-if>grp-if>sap static-host)

Full Context

configure service vprn subscriber-interface group-interface sap static-host

configure service ies subscriber-interface group-interface sap static-host

Description

This command creates a static subscriber host for the SAP. Static subscriber hosts may be used by the system for various purposes. Applications within the system that make use of static host entries include anti-spoof, ARP reply agent and source MAC population into the VPLS forwarding database.

Multiple static hosts may be defined on the SAP. Each host is identified by either a source IP address, a source MAC address or both a source IP and source MAC address. Every static host definition must have at least one address defined, IP or MAC.

Static hosts can exist on the SAP even with anti-spoof and ARP reply agent features disabled. When enabled, each feature has different requirements for static hosts.

The **no** form of this command removes a static entry from the system. The specified *ip-address* and *mac-address* must match the host's exact IP and MAC addresses as defined when it was created. When a static host is removed from the SAP, the corresponding anti-spoof filter entry and/or FDB entry is also removed.

Parameters

ip-prefix[/prefix-length

Specifies information for the specified IP address and mask.

mac-address

Specifies a MAC address. The MAC address must be specified for **anti-spoof mac**, and **anti-spoof ip-mac** and arp-reply-agent (**arp-reply-agent** is supported by the 7450 ESS

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only). Multiple static hosts may be configured with the same MAC address given that each definition is distinguished by a unique IP address.

Every static host definition must have at least one address defined, IP or MAC.

force

Specifies the forced removal of the static host addresses.

create

Keyword used to create the static host instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

static-host

Syntax

static-host ip *ip-address* [**mac** *ieee-address*] [**create**]

static-host mac *ieee-address* [**create**]

no static-host ip *ip-address* **mac** *ieee-address*

no static-host all [**force**]

no static-host ip *ip-address*

Context

[Tree] (config>service>vprn>if>sap static-host)

[Tree] (config>service>ies>if>sap static-host)

[Tree] (config>service>vpls>sap static-host)

Full Context

configure service vprn interface sap static-host

configure service ies interface sap static-host

configure service vpls sap static-host

Description

This command creates a static subscriber host for the SAP. Static subscriber hosts may be used by the system for various purposes. Applications within the system that make use of static host entries include anti-spoof, ARP reply agent and source MAC population into the VPLS forwarding database.

Multiple static hosts may be defined on the SAP. Each host is identified by either a source IP address, a source MAC address or both a source IP and source MAC address. Every static host definition must have at least one address defined, IP or MAC.

Static hosts can exist on the SAP even with anti-spoof and ARP reply agent features disabled. When enabled, each feature has different requirements for static hosts.

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The **no** form of this command removes a static entry from the system. The specified *ip-address* and *mac-address* must match the host's exact IP and MAC addresses as defined when it was created. When a static host is removed from the SAP, the corresponding anti-spoof filter entry and/or FDB entry is also removed.

Parameters

ip-address

Specify this optional parameter when defining a static host. The IP address must be specified for **anti-spoof ip**, **anti-spoof ip-mac** and **arp-reply-agent** (**arp-reply-agent** is supported by the 7450 ESS only). Only one static host may be configured on the SAP with a given IP address.

mac-address

Specify this optional parameter when defining a static host. The MAC address must be specified for **anti-spoof mac**, and **anti-spoof ip-mac** and arp-reply-agent (**arp-reply-agent** is supported by the 7450 ESS only). Multiple static hosts may be configured with the same MAC address given that each definition is distinguished by a unique IP address.

Every static host definition must have at least one address defined, IP or MAC.

force

Specifies the forced removal of the static host addresses.

create

Keyword used to create the static host instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.75 static-host-mgmt

static-host-mgmt

Syntax

static-host-mgmt

Context

[Tree] (config>service>ies>sub-if>grp-if>sap static-host-mgmt)

[Tree] (config>service>vprn>sub-if>grp-if>sap static-host-mgmt)

Full Context

configure service ies subscriber-interface group-interface sap static-host-mgmt

configure service vprn subscriber-interface group-interface sap static-host-mgmt

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Description

Commands in this context configure common parameters for static hosts.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

44.76 static-isid

static-isid

Syntax

static-isid

Context

[Tree] (config>service>vpls>spoke-sdp static-isid)

[Tree] (config>service>vpls>sap static-isid)

Full Context

configure service vpls spoke-sdp static-isid

configure service vpls sap static-isid

Description

This command configures the static-isid context.

Platforms

All

44.77 static-label-range

static-label-range

Syntax

static-label-range *static-range*

no static-label-range

Context

[Tree] (config>router>mpls-labels static-label-range)

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Full Context

configure router mpls-labels static-label-range

Description

This command configures the range of MPLS static label values shared among static LSP, MPLS-TP LSP, and static service VC label. This command also sets the lower bound of the dynamic label range which is contiguous to the static label range. Once this range is configured, it is reserved and cannot be used by other protocols such as RSVP, LDP, BGP, or Segment Routing to assign a label dynamically.

Default

static-label-range 18400

Parameters

static-range

Specifies the size of the static label range in number of labels. The minimum label value in the range is 32. The maximum label value is therefore computed as {32+ static-range-1}.

Values 0 to 262112

Default 18400

Platforms

All

44.78 static-lsp

static-lsp

Syntax

[**no**] **static-lsp** *lsp-name*

Context

[Tree] (config>router>mpls static-lsp)

Full Context

configure router mpls static-lsp

Description

This command is used to configure a static LSP on the ingress router. The static LSP is a manually set up LSP where the nexthop IP address and the outgoing label (push) must be specified.

The **no** form of this command deletes this static LSP and associated information.

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The LSP must be shutdown first in order to delete it. If the LSP is not shut down, the **no static-lsp** *lsp-name* command does nothing except generate a warning message on the console indicating that the LSP is administratively up.

Parameters

lsp-name

Specifies the name that identifies the LSP.

Values Up to 32 alphanumeric characters.

Platforms

All

44.79 static-lsp-fast-retry

static-lsp-fast-retry

Syntax

static-lsp-fast-retry *seconds*

no static-lsp-fast-retry

Context

[Tree] (config>router>mpls static-lsp-fast-retry)

Full Context

configure router mpls static-lsp-fast-retry

Description

This command specifies the value used as the fast retry timer for a static LSP.

When a static LSP is trying to come up, the MPLS request for the ARP entry of the LSP next-hop may fail when it is made while the next-hop is still down or unavailable. In that case, MPLS starts a retry timer before making the next request. This enhancement allows the user to configure the retry timer, so that the LSP comes up as soon as the next-hop is up.

The **no** form of this command reverts to the default.

Default

no static-lsp-fast-retry

Parameters

seconds

Specifies the value (in s), used as the fast retry timer for a static LSP.

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Values 1 to 30

Platforms

All

44.80 static-mac

static-mac

Syntax

static-mac *ieee-mac-address* [**create**]

no static-mac *ieee-mac-address*

Context

[Tree] (config>service>vpls>mesh-sdp static-mac)

[Tree] (config>service>vpls>spoke-sdp static-mac)

[Tree] (config>service>vpls>sap static-mac)

Full Context

configure service vpls mesh-sdp static-mac

configure service vpls spoke-sdp static-mac

configure service vpls sap static-mac

Description

This command creates a remote static MAC entry in the Virtual Private LAN Service (VPLS) forwarding database (FDB) associated with the service destination point (SDP).

In a VPLS service, MAC addresses are associated with a SAP or with an SDP. MACs associated with a SAP are classified as local MACs, and MACs associated with an SDP are remote MACs.

Local and remote static MAC entries create a permanent MAC address to SDP association in the forwarding database for the VPLS instance so that MAC address is not learned on the edge device.

Note:
Static MAC definitions on one edge device are not propagated to other edge devices participating in the VPLS instance, that is, each edge device has an independent forwarding database for the VPLS.

Only one static MAC entry (local or remote) can be defined per MAC address per VPLS instance.

By default, no static MAC address entries are defined for the SDP.

The **no** form of this command deletes the static MAC entry with the specified MAC address associated with the SDP from the VPLS forwarding database.

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Parameters

ieee-mac-address

Specifies the 48-bit MAC address for the static ARP in the form *aa*:*bb*:*cc*:*dd* :*ee*:*ff* or *aa-bb-cc-dd -ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

create

Keyword used to create the static MAC instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

static-mac

Syntax

static-mac

Context

[Tree] (config>service>vpls static-mac)

Full Context

configure service vpls static-mac

Description

A set of conditional static MAC addresses can be created within a VPLS supporting BGP-EVPN. Conditional Static Macs are also supported in B-VPLS with SPBs. Unless they are configured as **black-hole**, conditional Static Macs are dependent on the SAP/SDP state.

This command allows the assignment of a set of conditional Static MAC addresses to a SAP/ spoke-SDP or **black-hole**. In the FDB, the static MAC is then associated with the active SAP or spoke-SDP.

When configured in conjunction with SPBM services, Static MACs are used for PBB Epipe and I-VPLS services that may terminate external to SPBM. If this is configured under a Control B-VPLS the interface referenced will not use IS-IS for this neighbor. This may also be configured under a User B-VPLS where the corresponding interface is not supported under the Control B-VPLS.

Static MACs configured in a BGP-EVPN service are advertised as protected (EVPN will signal the MAC as protected).

Platforms

All

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static-mac

Syntax

static-mac

Context

[Tree] (config>service>vpls>interface static-mac)

Full Context

configure service vpls interface static-mac

Description

A set of conditional static MAC addresses can be created within a VPLS supporting bgp-evpn. Conditional static macs are also supported in B-VPLS with SPBM. Conditional Static MACs are dependent on the SAP/ SDP state.

This command allows assignment of a set of conditional static MAC addresses to a SAP/ spoke-SDP. In the FDB, the static MAC is then associated with the active SAP or spoke-SDP.

Static MACs are used for PBB Epipe and I-VPLS services that may terminate external to SPBM. If this is configured under a Control B-VPLS the interface referenced will not use IS-IS for this neighbor. This may also be configured under a User B-VPLS where the corresponding interface is not supported under the Control B-VPLS.

Static MACs configured in a bgp-evpn service are advertised as protected (EVPN will signal the mac as protected).

Platforms

All

static-mac

Syntax

static-mac *ieee-address* [**create**]

no static-mac *ieee-address*

Context

[Tree] (config>service>vpls>endpoint static-mac)

Full Context

configure service vpls endpoint static-mac

Description

This command assigns a static MAC address to the endpoint. In the FDB, the static MAC is then associated with the active spoke-SDP.

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Parameters

ieee-address

Specifies the static MAC address to the endpoint

Values 6-byte mac-address (xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx) Cannot be all zeros

create

This keyword is mandatory while creating a static MAC

Platforms

All

44.81 static-policer

static-policer

Syntax

[**no**] **static-policer** *policer-name* [**create**]

Context

[Tree] (config>sys>security>dist-cpu-protection>policy static-policer)

Full Context

configure system security dist-cpu-protection policy static-policer

Description

Configures a static enforcement policer that can be referenced by one or more protocols in the policy. Once this **policer-name** is referenced by a protocol, then this policer will be instantiated for each object (for example, a SAP or network interface) that is created and references this policy. If there is no policer resource available on the associated card or fp then the object is be blocked from being created. Multiple protocols can use the same **static-policer**.

Parameters

policy-name

Specifies the name of the policy, up to 32 characters.

Platforms

All

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44.82 static-policy

static-policy

Syntax

static-policy *name* [**create**]

no static-policy *name*

Context

[Tree] (conf>router>segment-routing>sr-policies static-policy)

Full Context

configure router segment-routing sr-policies static-policy

Description

This command creates a context to configure a segment routing policy. The resulting segment routing policy is targeted for local installation or propagation by BGP to another router.

The **no** form of this command deletes the statically defined segment routing policy.

Default

no static-policy

Parameters

name

Specifies the name assigned to the statically defined segment routing policy, up to 64 characters.

create

Keyword used to create the policy.

Platforms

All

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45 s Commands – Part V

45.1 static-policy-mpls

static-policy-mpls

Syntax

static-policy-mpls *policy-name*

no static-policy-mpls

Context

[Tree] (config>service>vprn>mvpn>pt>selective>p2mp-sr static-policy-mpls)

[Tree] (config>service>vprn>mvpn>pt>selective>multistream-spmsi static-policy-mpls)

[Tree] (config>service>vprn>mvpn>pt>inclusive>p2mp-sr static-policy-mpls)

Full Context

configure service vprn mvpn provider-tunnel selective p2mp-sr static-policy-mpls

configure service vprn mvpn provider-tunnel selective multistream-spmsi static-policy-mpls

configure service vprn mvpn provider-tunnel inclusive p2mp-sr static-policy-mpls

Description

This command assigns the specified static policy to the MVPN tunnel.

The **no** form of this command removes the static policy from the MVPN tunnel.

Default

no static-policy-mpls

Parameters

policy-name

Specifies the policy name, up to 32 characters.

Platforms

All

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45.2 static-route

static-route

Syntax

[**no**] **static-route** *route-name*

Context

[Tree] (config>service>pw-routing static-route)

Full Context

configure service pw-routing static-route

Description

This command configures a static route to a next hop S-PE or T-PE. Static routes may be configured on either S-PEs or T-PEs.

A default static route is entered as follows:

static-route 0:0:next_hop_ip_addresss

or

static-route 0:0.0.0.0:next_hop_ip_address

The **no** form of this command removes a previously configured static route.

Parameters

route-name

Specifies the static pseudowire route.

Values

route-name	<global-id>:<prefix>:<next-hop-ip_addr>
global-id	0 to 4294967295
prefix	a.b.c.d | 0 to 4294967295
next-hop-ip_addr	a.b.c.d

Platforms

All

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static-route

Syntax

[**no**] **static-route** *ip-prefix/ip-prefix-length* **next-hop** *ip-address*

Context

[Tree] (bof static-route)

Full Context

bof static-route

Description

This command creates a **static route** entry for the CPM management Ethernet port in the running configuration and the Boot Option File (BOF).

This command allows manual configuration of static routing table entries. These static routes are only used by traffic generated by the CPM Ethernet port. To reduce configuration, manual address aggregation should be applied where possible.

A maximum of 10 static routes can be configured on the CPM port.

The **no** form of this command deletes the static route.

Default

no static-route

Parameters

ip-prefix/ip-prefix-length

Specifies the destination address of the static route in dotted decimal notation.

Values

ip-prefix/ip-prefix-length	ipv4-prefix	a.b.c.d (host bits must be 0)
	ipv4-prefix-le	0 to 32
	ipv6-prefix	*x:x:x:x:x:x:x:x* (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0to 255]D
	ipv6-prefix-le	0 to128
ip-address	ipv4-address	a.b.c.d
	ipv6-address	*x:x:x:x:x:x:x:x* (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d

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x: [0 to FFFF]H

d: [0 to 255]D

Note:
IPv6 is applicable to the 7750 SR and 7950 XRS only.

mask

Specifies the subnet mask, expressed as an integer or in dotted decimal notation.

Values 1 to 32 (mask length), 128.0.0.0 to255.255.255.255 (dotted decimal)

ip-address

Specifies the next hop IP address used to reach the destination.

Platforms

All

45.3 static-route-entry

static-route-entry

Syntax

static-route-entry *ip-prefix*/*prefix-length* [**mcast**]

no static-route-entry *ip-prefix*/*prefix-length* [**mcast**]

Context

[Tree] (config>service>vprn static-route-entry)

Full Context

configure service vprn static-route-entry

Description

This command creates a static route entry for both the network and access routes. A prefix and netmask must be specified.

Once the static route context for the specified prefix and netmask has been created, additional parameters associated with the static route(s) may be specified through the inclusion of additional static-route parameter commands.

The **no** form of this command deletes the static route entry. If a static route needs to be removed when multiple static routes exist to the same destination, then as many parameters to uniquely identify the static route must be entered.

IPv6 static routes are not supported on the 7450 ESS except in mixed mode.

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Default

No static routes are defined.

Parameters

ip-prefix/prefix-length

The destination address of the static route.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length	0 to 128

Values The following values apply to the 7450 ESS:

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32

mcast

Specifies that the associated static route should be populated in the associated VPRN multicast route table.

Platforms

All

static-route-entry

Syntax

[**no**] **static-route-entry** *ip-prefixlprefix-length* [**mcast**]

Context

[Tree] (config>router static-route-entry)

Full Context

configure router static-route-entry

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Description

This command creates a static route entry for both the network and access routes. A prefix and netmask must be specified.

After the static route context for the specified prefix and netmask has been created, additional parameters associated with the static routes may be specified through the inclusion of additional static route parameter commands.

The **no** form of this command deletes the static route entry. If a static route needs to be removed when multiple static routes exist to the same destination, then as many parameters to uniquely identify the static route must be entered.

Default

No static routes are defined.

Parameters

ip-prefix/prefix-length

Specifies the destination address of the static route.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix	a.b.c.d (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x	[0 to FFFF]H
	d	[0 to 255]D
ipv6-prefix-length	0 to 128	

Values The following values apply to the 7450 ESS:

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32

ip-address

Specifies the IP address of the IP interface. The *ip-addr* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x[-interface]

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x:x:x:x:x:x:d.d.d.d[-interface]

x: [0..FFFF]H

d: [0..255]D

interface: 32 characters maximum, mandatory for link local addresses

Values The following value applies to the 7450 ESS:

ipv4-address a.b.c.d (host bits must be 0)

mcast

Indicates that static route being configured is used for multicast table only.

Platforms

All

45.4 static-route-hold-down

static-route-hold-down

Syntax

static-route-hold-down initial *initial* **multiplier** *multiplier* **max-value** *max-value*

no static-route-hold-down

Context

[Tree] (config>router static-route-hold-down)

Full Context

configure router static-route-hold-down

Description

This command enables the hold down time feature globally for static routes in the system.

The static route hold-down time is a mechanism to protect from rapid, fluctuating state changes of static routes resulting from issues with reachability because of link flap.

This command applies to all static routes in the VPRN and the base router instance in which this hold-down time is configured.

The **no** form of this command disables the hold down time feature globally for static routes in the system.

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Default

no static-route-hold-down

Parameters

initial

Specifies the initial value of the hold down time, in seconds, globally for static routes in the system.

Values 1 to 65535

multiplier

Specifies the multiplier value of the hold down time feature globally for static routes in the system.

Values 1 to 10

max-value

Specifies the maximum value of the hold down time, in seconds, globally for static routes in the system.

Values 1 to 65535

Platforms

All

45.5 static-sa

static-sa

Syntax

static-sa *sa-name* [**create**]

no static-sa *sa-name*

Context

[Tree] (config>ipsec static-sa)

Full Context

configure ipsec static-sa

Description

This command configures an IPsec static SA.

Platforms

All

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45.6 static-string

static-string

Syntax

static-string *static-string*

no static-string

Context

[Tree] (config>app-assure>group>http-enrich>field static-string)

Full Context

configure application-assurance group http-enrich field static-string

Description

This command configures an HTTP header enrichment template field static string.

The **no** form of this command removes the template field static string.

Default

no static-string

Parameters

static-string

Specifies a static string.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.7 static-tunnel-redundant-next-hop

static-tunnel-redundant-next-hop

Syntax

static-tunnel-redundant-next-hop *ip-address*

no static-tunnel-redundant-next-hop

Context

[Tree] (config>service>vprn>if static-tunnel-redundant-next-hop)

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[Tree] (config>service>ies>if static-tunnel-redundant-next-hop)

Full Context

configure service vprn interface static-tunnel-redundant-next-hop

configure service ies interface static-tunnel-redundant-next-hop

Description

This command configures a redundant next-hop address on a public or private IPsec interface (with a public or private tunnel SAP) for a static IPsec tunnel in 1:1 MC-IPsec. A standby node uses the specified next-hop address to shunt traffic to the master in case it receives traffic destined to a tunnel endpoint address. The standby tunnel group needs to be operationally up for the feature to work.

The next-hop address will be resolved in routing table of corresponding service.

The **no** form of this command removes the address from the interface configuration.

Parameters

ip-address

Specifies the static ISA tunnel redundant next-hop address.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.8 station

station

Syntax

station *station-name* [**create**]

no station *station-name*

Context

[Tree] (config>bmp station)

Full Context

configure bmp station

Description

The command configures the BMP monitoring station name.

The **no** form of this command removes the station name from the configuration.

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Parameters

station-name

Specifies the station name of the BMP monitoring station up to 32 characters.

create

Keyword used to create the station name. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

station

Syntax

station all

station *name* [*name*]

no station

Context

[Tree] (config>router>bgp>group>neighbor>monitor station)

[Tree] (config>service>vprn>bgp>group>monitor station)

[Tree] (config>router>bgp>group>monitor station)

[Tree] (config>service>vprn>bgp>group>neighbor>monitor station)

[Tree] (config>router>bgp>monitor station)

Full Context

configure router bgp group neighbor monitor station

configure service vprn bgp group monitor station

configure router bgp group monitor station

configure service vprn bgp group neighbor monitor station

configure router bgp monitor station

Description

This command configures the set of BMP monitoring stations for which BMP messages are to be sent, at the global BGP instance level, per group or for a particular neighbor.

Whatever value is configured for the station parameter at the most specific BGP hierarchy level is used.

- If a station list or the **no station** command is configured at a neighbor context, then that value is used.
- If **no station** command is configured at the neighbor context, the group value is used.
- If a station list or the **no station** command is configured at a group context, then that value is used.
- If **no station** command is configured at the group context, the global value is used.

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- If a station list or the **no station** command is configured at the global context, then that value is used.
- If **no station** command is configured at the global context, then a **no station** is assumed.

The **no** form of this command disables sending BMP messages to BMP monitoring stations.

Parameters

name

Specifies up to eight station names up to 32 characters. Allowed values are any string up to 32 characters long composed of printable,7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

all

Specifies all configured stations.

Platforms

All

45.9 station-address

station-address

Syntax

station-address *ip-address* | *ipv6-address* **port** *port*

no station-address

Context

[Tree] (config>bmp>station>connection station-address)

Full Context

configure bmp station connection station-address

Description

This command configures the IP address and TCP port number of the remote BMP monitoring station. This is a mandatory parameter and must be configured before the associated station can transitioned out of the shut down state.

The **no** form of this command removes the configured station IP address and port number for the BMP session. The **no station-address** command cannot be accepted unless the BMP or station instance is shut down.

Parameters

ip-address

Specifies the station address expressed in dotted decimal notation. Allowed value is a valid routable IP address on the router, either an interface or system IP address.

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Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address

Specifies the station address expressed in dotted decimal notation. Allowed value is a valid routable IPv6 address on the router, either an interface or system IPv6 address.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

port

Specifies the TCP (destination) port number to be used when establishing the connection to the associated BMP station.

Values 1 to 65535

Platforms

All

45.10 statistic

statistic

Syntax

statistic type *type* **name** *name*

no statistic

Context

[Tree] (debug>wlan-gw>group statistic)

Full Context

debug wlan-gw group statistic

Description

This command enables debugging of the specified statistic. The first packet that causes an increase of the specified statistic is shown in debug output. After the first packet, debugging of the counter is stopped.

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Parameters

type

Displays the type of statistic to be debugged; for example, DHCP or RADIUS.

Values packet-errors, host-errors, bd-errors, forwarding, reassembly, aa, radius, arp, dhcp, dhcp6, icmp, icmp6

name

Specifies the name, up to 256 characters, of the statistic within that group. For a complete list, see the command **show isa wlan-gw-group** *wlan-gw-group-id* **member** *member-id* **statistics**.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.11 statistics

statistics

Syntax

statistics

Context

[Tree] (config>app-assure>group statistics)

Full Context

configure application-assurance group statistics

Description

Commands in this context configure accounting and billing statistics for this AA ISA group.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

statistics

Syntax

statistics

Context

[Tree] (config>isa>aa-grp statistics)

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Full Context
configure isa application-assurance-group statistics

Description
Commands in this context configure statistics generation.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.12 stats-collection

stats-collection

Syntax
stats-collection

Context
[Tree] (config>isa>tunnel-grp stats-collection)

Full Context
configure isa tunnel-group stats-collection

Description
Commands in this context configure ISA statistics collection parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.13 stats-report-interval

stats-report-interval

Syntax
stats-report-interval [*seconds*]

no stats-report-interval

Context
[Tree] (config>bmp>station stats-report-interval)

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Full Context

configure bmp station stats-report-interval

Description

This command configures the frequency of sending statistics reporting messages to the BMP monitoring station.

The **no** form of this command removes the interval from the configuration.

Parameters

seconds

Specifies the frequency of sending statistics reporting messages, in seconds, to the BMP monitoring station.

Values 15 to 65535

Platforms

All

45.14 stats-type

stats-type

Syntax

stats-type {**time** | **volume-time**}

no stats-type

Context

[Tree] (config>service>dynsvc>acct-2 stats-type)

[Tree] (config>service>dynsvc>acct-1 stats-type)

Full Context

configure service dynamic-services dynamic-services-policy accounting-2 stats-type

configure service dynsvc acct-1 stats-type

Description

This command configures the type of statistics to be reported in dynamic data services RADIUS accounting. A RADIUS specified Stats Type overrides the CLI configured value.

The **no** form of this command resets the default value.

Default

stats-type volume-time

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Parameters

time

Only report Session-Time in the RADIUS Accounting Interim-Update and Stop message.

volume-time

Report both Session-Time and Volume counter attributes in the RADIUS. Accounting Interim-Update and Stop messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

stats-type

Syntax

stats-type {**volume-time** | **time**}

no stats-type

Context

[Tree] (config>service>dynsvc>ladb>user>idx>acct stats-type)

Full Context

configure service dynamic-services local-auth-db user-name index accounting stats-type

Description

This command specifies whether dynamic service accounting should be enabled or disabled for this destination. RADIUS accounting is enabled by specifying the stats type: volume and time or time only. This command overrides the local configured value in the dynamic services policy.

The **no** form of this command disables RADIUS accounting (**stats-type** off).

Parameters

volume-time | time

Enables RADIUS accounting for this dynamic service and specifies if volume counters should be included (**volume-time**) or time only (**time**) in the RADIUS accounting messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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45.15 status-verify

status-verify

Syntax

status-verify

Context

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn>cert status-verify)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn>cert status-verify)

[Tree] (config>service>ies>if>sap>ipsec-gw>cert status-verify)

[Tree] (config>router>if>ipsec>ipsec-tun>dyn>cert status-verify)

[Tree] (config>service>vprn>if>sap>ipsec-gw>cert status-verify)

[Tree] (config>ipsec>trans-mode-prof>dyn>cert status-verify)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn>cert status-verify)

Full Context

configure service vprn interface sap ipsec-tunnel dynamic-keying cert status-verify

configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert status-verify

configure service ies interface sap ipsec-gw cert status-verify

configure router interface ipsec ipsec-tunnel dynamic-keying cert status-verify

configure service vprn interface sap ipsec-gw cert status-verify

configure ipsec ipsec-transport-mode-profile dynamic-keying cert status-verify

configure service ies interface ipsec ipsec-tunnel dynamic-keying cert status-verify

Description

Commands in this context configure Certificate Status Verification (CSV) parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies interface sap ipsec-gw cert status-verify
- configure ipsec ipsec-transport-mode-profile dynamic-keying cert status-verify
- configure service vprn interface sap ipsec-tunnel dynamic-keying cert status-verify
- configure service vprn interface sap ipsec-gw cert status-verify

VSR

- configure router interface ipsec ipsec-tunnel dynamic-keying cert status-verify
- configure service ies interface ipsec ipsec-tunnel dynamic-keying cert status-verify

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- configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert status-verify

status-verify

Syntax

status-verify default-result {revoked | good}

no status-verify

Context

[Tree] (config>system>security>tls>client-tls-profile status-verify)

[Tree] (config>system>security>tls>server-tls-profile status-verify)

Full Context

configure system security tls client-tls-profile status-verify

configure system security tls server-tls-profile status-verify

Description

This command configures the certificate revocation status verification parameters for end-entity (EE) certificates in the TLS client or server. This configuration overrides the existing revocation check policy.

By default the router checks the certification revocation status, but if this command is set to **good**, the end-entity certificate revocation status is overwritten and a good revocation status is returned for the EE certificate.

If this command is set to **revoked**, the router returns the actual revocation status of the end-entity certificate.

The **no** form of this command returns the actual revocation status to that of the end entity certificate.

Default

status-verify default-result revoked

Parameters

good

Specifies that the certificate is considered acceptable.

revoked

Specifies that the certificate is considered revoked.

Platforms

All

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45.16 std-acct-attributes

std-acct-attributes

Syntax

[**no**] **std-acct-attributes**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute std-acct-attributes)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute std-acct-attributes

Description

This command enables reporting of aggregated forwarded IPv4 and IPv6 octet, packet and gigaword counters using standard RADIUS attributes. This attribute is by default. It can be enabled simultaneously with detailed per queue or policer counters (**detailed-acct-attributes**).

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.17 std-port-class-pools

std-port-class-pools

Syntax

std-port-class-pools

Context

[Tree] (config>qos>hs-port-pool-policy std-port-class-pools)

Full Context

configure qos hs-port-pool-policy std-port-class-pools

Description

Commands in this context configure standard port-class pools parameters. Within this context, the corresponding port-class pools can be associated with a mid-pool, explicitly sized as a percentage of the mid-pool size, dynamically-sized based on relative port bandwidth, or have a slope policy applied.

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Platforms

7750 SR-7/12/12e

45.18 steering-profile

steering-profile

Syntax

steering-profile *steering-profile-name*

no steering-profile

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host steering-profile)

Full Context

configure subscriber-mgmt local-user-db ppp host steering-profile

Description

This command configures the steering profile for the specific host.

The **no** form of this command removes the steering profile for the host.

Parameters

steering-profile-name

Specifies the name of the steering profile, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

steering-profile

Syntax

steering-profile *steering-profile-name* [**create**]

no steering-profile *steering-profile-name*

Context

[Tree] (config>subscr-mgmt steering-profile)

Full Context

configure subscriber-mgmt steering-profile

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Description

This command configures a steering profile mapping. A steering profile can be applied to each L2TP LAC subscriber host that requires traffic steering.

The **no** form of this command removes the specified steering profile.

Parameters

steering-profile-name

Specifies the name of the steering profile, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

steering-profile

Syntax

[**no**] **steering-profile**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute steering-profile)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute steering-profile

Description

This command enables including the Alc-Steering-Profile RADIUS attribute.

The **no** form of the command disables including the Alc-Steering-Profile RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.19 steering-route

steering-route

Syntax

steering-route *ip-prefix/length*

no steering-route

Context

[Tree] (config>service>vprn>nat>inside>redundancy steering-route)

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Full Context

configure service vprn nat inside redundancy steering-route

Description

This command configures specifies the IP address and prefix length of the steering route. The steering route is used in the realm of this virtual router instance as an indirect next-hop for all the traffic that must be routed to the large scale NAT function.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

steering-route

Syntax

steering-route *ip-prefix/length*

no steering-route

Context

[Tree] (config>router>nat>inside>redundancy steering-route)

Full Context

configure router nat inside redundancy steering-route

Description

This command is optionally used in LSN44 multi-chassis redundancy when filters are used on the inside to send traffic destined for the LSN44 function to MS-ISA, where NAT is performed.

If configured, the steering-route is advertised only from the active LSN44 node: the purpose is to bring the LSN44 node activity awareness to downstream routers. In this fashion, downstream routers can make a more intelligent decision when forwarding traffic in the upstream direction. Based on the steering-route, traffic can be sent directly towards the active LSN44 node. This route avoids an extra forwarding hop which would ensue in the case without LSN44 activity awareness, where the upstream traffic can be forwarded to the standby LSN44 node and then to the active LSN44 node.

LSN44 node activity (active/standby) is evaluated per isa-group based on monitoring routes advertised on the outside.

The **no** form of the command removes the ip-prefix/length from the configuration.

Parameters

ip-prefix/length

Specifies the IP address and length of the steering route.

Values

ip-prefix:	a.b.c.d
ip-prefix-length:	0 to 32

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.20 sticky-dest

sticky-dest

Syntax

sticky-dest *hold-time-up*

sticky-dest no-hold-time-up

no sticky-dest

Context

[Tree] (config>filter>redirect-policy sticky-dest)

[Tree] (config>filter>ip-filter>entry sticky-dest)

[Tree] (config>filter>ipv6-filter>entry sticky-dest)

[Tree] (config>filter>mac-filter>entry sticky-dest)

Full Context

configure filter redirect-policy sticky-dest

configure filter ip-filter entry sticky-dest

configure filter ipv6-filter entry sticky-dest

configure filter mac-filter entry sticky-dest

Description

This command configures sticky destination behavior for redundant PBR/PBF actions. Configuring sticky destination has an effect on PBR/PBF actions whether a secondary action is configured.

The *hold-time-up* parameter allows the operator to delay programming of a PBR/PBF action for a specified amount of time. The timer is only started when transitioning from all configured targets being down (that is, the primary target if no secondary target is configured, or both the primary and secondary targets when both are configured) to at least one target being up.

When the timer expires, the primary PBR/PBF action is programmed if its target is up. If the primary PBR/PBF target is down and a secondary PBR/PBF action has been configured and its target is up, then this secondary PBR/PBF action is programmed. In all other cases, no specific programming occurs when the timer expires.

When sticky destination is configured and the secondary PBR/PBF target is up and its associated action is programmed, it is not automatically replaced by the primary PBR/PBF action when its target transitions from down to up. In this situation, programming the primary PBR/PBF action can be forced using the **activate-primary-action** tools command.

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Changing the value of the timer while the timer is running takes effect immediately (that is, the timer is restarted immediately using the new value).

The **no** form of the command disables sticky destination behavior.

Default

no sticky-dest

Parameters

hold-time-up

Specifies the initial delay in seconds. Zero is equivalent to **no-hold-time-up** (no delay).

Values 0 to 65535 seconds

Platforms

All

45.21 sticky-dr

sticky-dr

Syntax

sticky-dr [**priority** *dr-priority*]

no sticky-dr

Context

[Tree] (config>service>vprn>pim>if sticky-dr)

Full Context

configure service vprn pim interface sticky-dr

Description

This command enables sticky-dr operation on this interface. When enabled, the priority in PIM hellos sent on this interface when elected as the designated router (DR) is modified to the value configured in *dr-priority*. This is done to avoid the delays in forwarding caused by DR recovery, when switching back to the old DR on a LAN when it comes back up.

By enabling **sticky-dr** on this interface, it will continue to act as the DR for the LAN even after the old DR comes back up.

The **no** form of this command disables sticky-dr operation on this interface.

Default

no sticky-dr

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Parameters

priority *dr-priority*

Sets the DR priority to be sent in PIM Hello messages following the election of that interface as the DR, when sticky-dr operation is enabled.

Values 1 to 4294967295

Platforms

All

sticky-dr

Syntax

sticky-dr [**priority** *dr-priority*]

no sticky-dr

Context

[Tree] (config>router>pim>interface sticky-dr)

Full Context

configure router pim interface sticky-dr

Description

This command enables sticky-dr operation on this interface. When enabled, the priority in PIM hellos sent on this interface when elected as the designated router (DR) will be modified to the value configured in *dr-priority*. This is done to avoid the delays in forwarding caused by DR recovery, when switching back to the old DR on a LAN when it comes back up.

By enabling **sticky-dr** on this interface, it will continue to act as the DR for the LAN even after the old DR comes back up.

The **no** form of this command disables sticky-dr operation on this interface.

Default

no sticky-dr

Parameters

priority *dr-priority*

Sets the DR priority to be sent in PIM Hello messages following the election of that interface as the DR, when sticky-dr operation is enabled.

Values 1 to 4294967295

Platforms

All

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45.22 sticky-ecmp

sticky-ecmp

Syntax

sticky-ecmp

no sticky-ecmp

Context

[Tree] (config>router>policy-options>policy-statement>entry>action sticky-ecmp)

[Tree] (config>router>policy-options>policy-statement>default-action sticky-ecmp)

Full Context

configure router policy-options policy-statement entry action sticky-ecmp

configure router policy-options policy-statement default-action sticky-ecmp

Description

This command specifies that BGP routes matching an entry or default-action of a route policy should be tagged internally as requiring sticky ECMP behavior. When a BGP route with multiple equal-cost BGP next-hops is programmed for sticky ECMP the failure of one or more of its BGP next-hops causes only the affected traffic flows to be re-distributed to the remaining next-hops; by default (without sticky-ECMP) all flows are potentially affected, even those using a next-hop that did not fail.

Default

no sticky-ecmp

Platforms

All

45.23 sticky-msaps

sticky-msaps

Syntax

sticky-msaps [**idle-timeout** *seconds*]

no sticky-msaps

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Context

[Tree] (config>subscr-mgmt>msap-policy sticky-msaps)

Full Context

configure subscriber-mgmt msap-policy sticky-msaps

Description

This command prevents MSAPs associated with the specified MSAP policy from being deleted unless a manual **clear** command is issued. If this command is not enabled, an MSAP is deleted when a host creation fails or when a subscriber is no longer associated with the MSAP, for example, when a subscriber ends the session. This feature is useful for an operator who wants to keep historical statistics on MSAPs. It can also speed up host creation on an MSAP since the MSAP is already created. The **idle-timeout** parameter allows the removal of MSAPs that are idle for longer than the specified time.

The **no** form of this command allows an MSAP to be deleted when a host creation fails or when a subscriber is no longer associated with the MSAP.

Default

no sticky-msaps

Parameters

seconds

Specifies the idle timeout, in seconds.

Values 5 to 604800

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.24 stp

stp

Syntax

[**no**] stp

Context

[Tree] (config>service>vpls>pbb>bvpls stp)

Full Context

configure service vpls pbb backbone-vpls stp

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Description

This command enables STP on the backbone VPLS service.

The **no** form of this command disables STP on the backbone VPLS service.

Platforms

All

stp

Syntax

stp

Context

[Tree] (config>service>template>vpls-sap-template stp)

[Tree] (config>service>vpls>spoke-sdp stp)

[Tree] (config>service>template>vpls-template stp)

[Tree] (config>service>vpls>sap stp)

[Tree] (config>service>vpls stp)

Full Context

configure service template vpls-sap-template stp

configure service vpls spoke-sdp stp

configure service template vpls-template stp

configure service vpls sap stp

configure service vpls stp

Description

Commands in this context configure the Spanning Tree Protocol (STP) parameters. Nokia's STP is simply the Spanning Tree Protocol (STP) with a few modifications to better suit the operational characteristics of VPLS services. The most evident change is to the root bridge election. Since the core network operating between Nokia's service routers should not be blocked, the root path is calculated from the core perspective.

Platforms

All

stp

Syntax

[**no**] **stp**

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Context

[Tree] (debug>service>id stp)

Full Context

debug service id stp

Description

Commands in this context debug STP.

The **no** form of the command disables debugging.

Platforms

All

stp

Syntax

stp

Context

[Tree] (config>service>pw-template stp)

Full Context

configure service pw-template stp

Description

Commands in this context configure the Spanning Tree Protocol (STP) parameters. The STP is simply the Spanning Tree Protocol (STP) with a few modifications to better suit the operational characteristics of VPLS services. The most evident change is to the root bridge election. Since the core network operating between service routers should not be blocked, the root path is calculated from the core perspective.

Platforms

All

45.25 stream-run-type

stream-run-type

Syntax

stream-run-type {**sequential** | **parallel**}

no stream-run-type

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Context

[Tree] (config>test-oam>sath>svc-test stream-run-type)

Full Context

configure test-oam service-activation-testhead service-test stream-run-type

Description

This command configures the execution sequence for service streams that are run during the specified service test.

The **no** form of this command removes the configured run type.

Default

stream-run-type parallel

Parameters

sequential

Keyword to run the streams consecutively.

parallel

Keyword to run the streams in parallel.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

45.26 stream-selection

stream-selection

Syntax

[**no**] **stream-selection**

Context

[Tree] (config>isa>video-group stream-selection)

Full Context

configure isa video-group stream-selection

Description

This command specifies whether or not stream selection is enabled on this video group.

The **no** form of the command disables **stream-selection** for the group.

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Default

no stream-selection

Platforms

7450 ESS, 7750 SR, 7750 SR-s

45.27 stream-selection-buffer

stream-selection-buffer

Syntax

stream-selection-buffer *stream-selection-buffer-time*

no stream-selection-buffer

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video stream-selection-buffer)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video stream-selection-buffer)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>src-override>video stream-selection-buffer)

Full Context

configure mcast-management multicast-info-policy bundle channel video stream-selection-buffer

configure mcast-management multicast-info-policy bundle video stream-selection-buffer

configure mcast-management multicast-info-policy bundle channel source-override video stream-selection-buffer

Description

This command configures the buffer time for the stream selection. The buffer time is the maximum time before a video packet is aged out of the active cache. Nokia recommends to set the buffer time based on the maximum jitter for the stream. The video group must be administratively disabled and then enabled again (**configure isa video-group shutdown**) for the changed buffer time to take effect.

The **no** form of this command reverts to the default.

Default

stream-selection-buffer 1400

Parameters

stream-selection-buffer-time

Specifies the time, in milliseconds, to buffer the stream selection.

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Values 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 |1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 | 2600 | 2700 | 2800 | 2900 | 3000

Platforms

7750 SR, 7750 SR-s

45.28 streaming

streaming

Syntax

streaming

Context

[Tree] (config>oam-pm streaming)

Full Context

configure oam-pm streaming

Description

This command specifies the context to configure the OAM-PM streaming template and its associated parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

streaming

Syntax

streaming

Context

[Tree] (config>system>snmp streaming)

Full Context

configure system snmp streaming

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Description

This command enables the proprietary SNMP request/response bundling and TCP-based transport mechanism for optimizing network management of the router nodes. In higher latency networks, synchronizing router MIBs from network management via streaming takes less time than synchronizing via classic SNMP UDP requests. Streaming operates on TCP port 1491 and runs over IPv4 or IPv6.

Platforms

All

45.29 strict

strict

Syntax

[**no**] **strict**

Context

[Tree] (config>app-assure>group>tcp-validate strict)

Full Context

configure application-assurance group tcp-validate strict

Description

This command specifies whether enforcement of TCP sequence and acknowledgment numbers is applied. If a packet does not meet the expected sequence or acknowledgment number, it is dropped.

This command should only be enabled if the expected bit error rate or packet loss is low. For example, if acknowledgments are lost before being detected by AA, the server timeouts are triggered and retransmissions occur. If **strict** is enabled, these retransmissions would resemble a reply attack and would be dropped by AA.

The **no** form of this command removes TCP sequence and acknowledgment number enforcement.

Default

no strict

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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45.30 strict-adjacency-check

strict-adjacency-check

Syntax

[**no**] **strict-adjacency-check**

Context

[Tree] (config>service>vprn>isis strict-adjacency-check)

Full Context

configure service vprn isis strict-adjacency-check

Description

This command enables strict checking of address families (IPv4 and IPv6) for IS-IS adjacencies. When enabled, adjacencies do not come up unless both routers have exactly the same address families configured. If there is an existing adjacency with unmatched address families, it is torn down.

This command is used to prevent black-holing traffic when IPv4 and IPv6 topologies are different. When disabled (**no strict-adjacency-check**) a BFD session failure for either IPv4 or IPv6 will cause the routes for the other address family to be removed as well.

When disabled (**no strict-adjacency-check**), both routers only need to have one common address family to establish the adjacency.

Default

no strict-adjacency-check

Platforms

All

strict-adjacency-check

Syntax

[**no**] **strict-adjacency-check**

Context

[Tree] (config>router>isis strict-adjacency-check)

Full Context

configure router isis strict-adjacency-check

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Description

This command enables strict checking of address families (IPv4 and IPv6) for IS-IS adjacencies. When enabled, adjacencies will not come up unless both routers have exactly the same address families configured. If there is an existing adjacency with unmatched address families, it will be torn down. This command is used to prevent black-holing traffic when IPv4 and IPv6 topologies are different. When disabled (no strict-adjacency-check) a BFD session failure for either IPv4 or Ipv6 will cause the routes for the other address family to be removed as well.

When disabled (**no strict-adjacency-check**), both routers only need to have one common address family to establish the adjacency.

Platforms

All

45.31 strict-ero-nhop-direct-resolution

strict-ero-nhop-direct-resolution

Syntax

[**no**] **strict-ero-nhop-direct-resolution**

Context

[Tree] (config>router>mpls strict-ero-nhop-direct-resolution)

Full Context

configure router mpls strict-ero-nhop-direct-resolution

Description

This command enables the strict Explicit Route Object (ERO) next-hop direct resolution. The feature restricts the routes used to resolve the next hop of an ERO address to local and host routes. This command avoids using a next hop over a parallel link when a half link is up in the routing table.

When enabled, this command applies to an ERO when all of the following conditions are met:

- the ERO next hop is an IPv4 address
- the ERO object is a strict hop
- the IPv4 address matches the primary subnet of a local numbered interface

An ERO that meets the preceding conditions restricts resolution of the next hop to a LOCAL or a HOST route. If no such route exists, RSVP rejects the PATH message with ErrCode = Routing Error (24) and SubErrCode = Bad Strict Node (2).

The **no** form of this command disables the strict ERO next-hop direct resolution.

Default

no strict-ero-nhop-direct-resolution

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Platforms

All

45.32 strict-esp-seq-number-ordering

strict-esp-seq-number-ordering

Syntax

[**no**] **strict-esp-seq-number-ordering**

Context

[Tree] (config>isa>tunnel-grp strict-esp-seq-number-ordering)

Full Context

configure isa tunnel-group strict-esp-seq-number-ordering

Description

This command configures the router to use strict ESP sequence number ordering.

When ESP sequence number ordering is enabled, the outbound ESP sequence number of a CHILD_SA must be in the same order as when clear packets are received by the same CHILD_SA.

The **no** form of this command disables strict ESP sequence number ordering.

Default

no strict-esp-seq-number-ordering

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

45.33 strict-lsa-checking

strict-lsa-checking

Syntax

[**no**] **strict-lsa-checking**

Context

[Tree] (config>service>vprn>ospf3>graceful-restart strict-lsa-checking)

[Tree] (config>service>vprn>ospf>graceful-restart strict-lsa-checking)

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Full Context

configure service vprn ospf3 graceful-restart strict-lsa-checking

configure service vprn ospf graceful-restart strict-lsa-checking

Description

This command indicates whether an OSPF restart helper should terminate graceful restart when there is a change to an LSA that would be flooded to the restarting router during the restart process.

The default OSPF behavior is to terminate a graceful restart if an LSA changes, which causes the OSPF neighbor to go down.

The **no strict-lsa-checking** command disables strict LSA checking.

Default

strict-lsa-checking

Platforms

All

strict-lsa-checking

Syntax

[**no**] **strict-lsa-checking**

Context

[Tree] (config>router>ospf3>graceful-restart strict-lsa-checking)

[Tree] (config>router>ospf>graceful-restart strict-lsa-checking)

Full Context

configure router ospf3 graceful-restart strict-lsa-checking

configure router ospf graceful-restart strict-lsa-checking

Description

This command indicates whether an OSPF restart helper should terminate graceful restart when there is a change to an LSA that would be flooded to the restarting router during the restart process.

The default OSPF behavior is to terminate a graceful restart if an LSA changes, which causes the OSPF neighbor to go down.

The **no** form of this command disables strict LSA checking.

Default

strict-lsa-checking

Platforms

All

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45.34 strict-mode

strict-mode

Syntax

[**no**] **strict-mode**

Context

[Tree] (config>service>upnp>upnp-policy strict-mode)

Full Context

configure service upnp upnp-policy strict-mode

Description

This command enable UPnP strict mode. With strict-mode, system only allows changes to existing UPnP mapping if the request comes from same UPnP client.

Default

no strict-mode

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.35 string

string

Syntax

string *string*

no string

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident string)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification string

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Description

This command specifies the string from the Nokia vendor-specific sub-option (VSO) in Option 82 to match when the LUDB is accessed using a DHCPv4 server.

Note:
This command is only used when **string** is configured as one of the **match-list** parameters.

The **no** form of this command removes the host identification string from the configuration.

Parameters

string

Specifies the VSO string of this host, up to 255 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

string

Syntax

[**no**] **string** *text*

Context

[Tree] (config>service>vpls>sap>dhcp>option>vendor string)

[Tree] (config>service>vprn>if>dhcp>option>vendor string)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option>vendor string)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option>vendor string)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option>vendor string)

Full Context

configure service vpls sap dhcp option vendor-specific-option string

configure service vprn interface dhcp option vendor-specific-option string

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option string

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option string

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option string

Description

This command specifies the string in the Nokia vendor-specific sub-option of the DHCP relay packet.

The **no** form of this command reverts to the default.

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Parameters

text

Specifies a string that can be any combination of ASCII characters, up to 32 characters. If spaces are used in the string, enclose the entire string in quotation marks (" ").

Platforms

All

- configure service vpls sap dhcp option vendor-specific-option string
- configure service vprn interface dhcp option vendor-specific-option string

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option string
- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option string
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option string

string

Syntax

[**no**] **string** *text*

Context

[Tree] (config>router>if>dhcp>option>vendor-specific-option string)

Full Context

configure router interface dhcp option vendor-specific-option string

Description

This command specifies the vendor-specific sub-option string of the DHCP relay packet.

The **no** form of this command returns the default value.

Default

no string

Parameters

text

Specifies a string that can be any combination of ASCII characters, up to 32 characters in length. If spaces are used in the string, enclose the entire string in quotation marks (" ").

Platforms

All

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45.36 strings-from-option

strings-from-option

Syntax

strings-from-option *dhcp-option-number*

no strings-from-option

Context

[Tree] (config>subscr-mgmt>sub-ident-pol strings-from-option)

Full Context

configure subscriber-mgmt sub-ident-policy strings-from-option

Description

This command enables DHCPv4 option processing on DHCP ACK for subscriber host identification.

The parameter *dhcp-option-number* specifies the DHCPv4 option number containing subscriber host identification strings such as subscriber ID, sub-profile, sla-profile strings, and so on. The identification strings can be inserted by an SR OS based DHCPv4 server via a local user database lookup.

Applicable to DHCPv4 hosts and PPP hosts that use the internal DHCP client to get an IPv4 address from an SR OS based DHCPv4 server.

The **no** form of this command reverts to the default.

Default

no strings-from-option

Parameters

dhcp-option-number

Specifies the DHCPv4 option number containing subscriber host identification strings.

Values 1 to 254

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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45.37 strip-label

strip-label

Syntax

[**no**] **strip-label**

Context

[Tree] (config>router>if strip-label)

Full Context

configure router interface strip-label

Description

This command forces packets to be stripped of all (max 5) MPLS labels before the packets are handed over for possible filter (PBR) processing.

If the packets do not have an IP header immediately following the MPLS label stack after the strip, they are discarded. Only MPLS encapsulated IP, IGP shortcuts and VPRN over MPLS packets will be processed. However, IPv4 and IPv6 packets that arrive without any labels are supported on an interface with **strip-label** enabled.

This command operates in promiscuous mode. This means that the router does not filter on the destination MAC address of the Ethernet frames. In some network designs, multiple ports may be tapped and combined into interface toward the router. Promiscuous mode allows all of these flows to be processed without requiring the destination MAC address to be updated to match the router address.

This command is supported on:

- Optical ports for the 7750 SR and 7450 ESS
- Null/Dot1q encaps
- Network ports
- IPv4
- IPv6

In order to associate an interface that is configured with the strip-label parameter with a port, the port must be configured as single-fiber for the command to be valid.

Packets that are subject to the strip-label action and are mirrored (using mirrors or lawful interception) will contain the original MPLS labels (and other L2 encapsulation) in the mirrored copy of the packet, as they appeared on the wire, when the mirror-dest type is the default type "ether". If the mirror-dest type is "ip-only", then the mirrored copy of the packet will not contain the original L2 encapsulation or the stripped MPLS labels.

The **no** form of this command removes the strip-label command.

Default

no strip-label

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.38 strip-srv6-tlvs

strip-srv6-tlvs

Syntax

[no] strip-srv6-tlvs

Context

[Tree] (config>router>bgp>group>srv6>route>fam strip-srv6-tlvs)

[Tree] (config>router>bgp>group>neighbor>srv6>route>family strip-srv6-tlvs)

Full Context

configure router bgp group segment-routing-v6 route-advertisement family strip-srv6-tlvs

configure router bgp group neighbor segment-routing-v6 route-advertisement family strip-srv6-tlvs

Description

This command specifies that BGP routes that belong to the address family configured in the **family** command are advertised to peers with SRv6 TLVs removed. Locally or remotely added SRv6 TLVs can be removed.

The **no** form of this command configures the router not to strip SRv6 TLVs from the BGP routes advertised to peers.

Default

no strip-srv6-tlvs

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

45.39 stub

stub

Syntax

[**no**] **stub**

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Context

[Tree] (config>service>vprn>ospf3>area stub)

[Tree] (config>service>vprn>ospf>area stub)

Full Context

configure service vprn ospf3 area stub

configure service vprn ospf area stub

Description

This command enables access to the context to configure an OSPF stub area and adds/removes the stub designation from the area. External routing information is not flooded into stub areas. All routers in the stub area must be configured with the **stub** command. An OSPF area cannot be both an NSSA and a stub area. Existing virtual links of a non STUB or NSSA area will be removed when its designation is changed to NSSA or STUB.

By default, an area is not a stub area.

The **no** form of this command removes the stub designation and configuration context from the area.

Default

no stub — The area is not configured as a stub area.

Platforms

All

stub

Syntax

[**no**] **stub**

Context

[Tree] (config>router>ospf>area stub)

[Tree] (config>router>ospf3>area stub)

Full Context

configure router ospf area stub

configure router ospf3 area stub

Description

This command enables access to the context to configure an OSPF or OSPF3 stub area and adds/removes the stub designation from the area.

External routing information is not flooded into stub areas. All routers in the stub area must be configured with the **stub** command. An OSPF or OSPF3 area cannot be both an NSSA and a stub area.

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Existing virtual links of a non STUB or NSSA area will be removed when its designation is changed to NSSA or STUB.

By default, an area is not a stub area.

The **no** form of this command removes the stub designation and configuration context from the area.

Default

no stub

Platforms

All

45.40 sub-domain

sub-domain

Syntax

sub-domain *sub-domain*

no sub-domain

Context

[Tree] (config>service>vprn>mvpn>provider-tunnel>inclusive>bier sub-domain)

[Tree] (config>service>vprn>mvpn>provider-tunnel>selective>bier sub-domain)

Full Context

configure service vprn mvpn provider-tunnel inclusive bier sub-domain

configure service vprn mvpn provider-tunnel selective bier sub-domain

Description

This command sets the sub-domain used to attach the BIER provider tunnel. Both PMSI within the MVPN need to have the same sub-domain.

The **no** form of this command removes the sub-domain.

Parameters

sub-domain

The identifier of the sub-domain.

Values 0 to 255

Platforms

All

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sub-domain

Syntax

[**no**] **sub-domain** *sub-domain*

[**no**] **sub-domain start** *sub-domain* **end** *sub-domain*

Context

[Tree] (config>router>bier>template sub-domain)

Full Context

configure router bier template sub-domain

Description

This command creates a BIER sub-domain or range of sub-domains. For example, for IS-IS each sub-domain is associated with a single IS-IS topology, which may be any of the topologies supported by IS-IS.

The **no** form of this command removes a sub-domain.

Default

sub-domain 0

Parameters

sub-domain

The ID of the sub-domain to be created or removed.

Values 0 to 255

Platforms

All

45.41 sub-host-trk

sub-host-trk

Syntax

[**no**] **sub-host-trk**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync sub-host-trk)

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Full Context

configure redundancy multi-chassis peer sync sub-host-trk

Description

This command specifies whether subscriber host tracking information should be synchronized with the multi-chassis peer.

Default

no sub-host-trk

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.42 sub-hosts-only

sub-hosts-only

Syntax

[**no**] **sub-hosts-only**

Context

[Tree] (config>service>vprn>igmp>grp-if sub-hosts-only)

Full Context

configure service vprn igmp group-interface sub-hosts-only

Description

This command enables the IGMP traffic from known hosts only.

The **no** form of this command disable the IGMP traffic from known hosts only

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-hosts-only

Syntax

[**no**] **sub-hosts-only**

Context

[Tree] (config>router>igmp>group-interface sub-hosts-only)

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Full Context

configure router igmp group-interface sub-hosts-only

Description

This command disables the processing of IGMP messages outside of the subscriber-host context. No other hosts outside of the subscriber-hosts can create IGMP states.

Disabling this command allows the creation of the IGMP states that correspond to the AN that operate in IGMP proxy mode. In this mode, the AN will hide source IP addresses of IGMP messages and will source IGMP messages with its own IP address. In this case, an IGMP state can be created under the **sap** context. This IGMP state creation under the SAP is controlled via the import policy under the group-interface.

The IGMP state processing for regular subscriber-hosts is unaffected by this command.

The **no** form of the command disables the command.

Default

sub-hosts-only

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-hosts-only

Syntax

[**no**] **sub-hosts-only**

Context

[Tree] (config>router>mld>group-interface sub-hosts-only)

Full Context

configure router mld group-interface sub-hosts-only

Description

This command processes the handling of MLD joins received from hosts that are not known in subscriber management or on which no MLD policy is applied.

Disabling this command allows the creation of the MLD states that correspond to the AN that operate in MLD proxy mode. In this mode, the AN will hide source IP addresses of MLD messages and will source MLD messages with its own IP address. In this case, an MLD state can be created under the **sap** context. This MLD state creation under the SAP is controlled via the import policy under the group-interface.

The MLD state processing for regular subscriber-hosts is unaffected by this command.

The **no** form of the command enables the command.

Default

sub-hosts-only

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.43 sub-id

sub-id

Syntax

[**no**] **sub-id**

Context

[Tree] (config>service>nat>syslog>syslog-export-policy>include sub-id)

Full Context

configure service nat syslog syslog-export-policy include sub-id

Description

This command includes the **sub-id** string in the flow log. The **sub-id** is applicable only in subscriber-aware NAT. If subscriber-aware NAT is not enabled, the **sub-id** string is set to '-'.

The **no** form of the command disables the feature.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.44 sub-ident-policy

sub-ident-policy

Syntax

[**no**] **sub-ident-policy** *sub-ident-policy-name*

Context

[Tree] (config>subscr-mgmt sub-ident-policy)

Full Context

configure subscriber-mgmt sub-ident-policy

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Description

This command configures a subscriber identification policy. Each subscriber identification policy can have a default subscriber profile defined. The subscriber identification policy default subscriber profile overrides the system default and the subscriber SAP default subscriber profiles. Defining a subscriber identification policy default subscriber profile is optional.

The subscriber identification policy default subscriber profile cannot be defined with the subscriber profile name default.

Defining a subscriber profile as a subscriber identification policy default subscriber profile will cause all active subscribers currently associated with a subscriber SAP using the policy and associated with a subscriber policy through the system default or subscriber SAP default subscriber profiles to be reassigned to the subscriber policy defined as default on the subscriber identification policy.

Attempting to delete a subscriber profile that is currently defined as a default for a subscriber identification policy will fail.

When attempting to remove a subscriber identification policy default subscriber profile definition, the system will evaluate each active subscriber on all subscriber SAPs the subscriber identification policy is currently associated with that are using the default definition to determine whether the active subscriber can be either reassigned to a subscriber SAP default or the system default subscriber profile. If all active subscribers cannot be reassigned, the removal attempt will fail.

The **no** form of this command reverts to the default.

Parameters

sub-ident-policy-name

Specifies the name of the subscriber identification policy, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-ident-policy

Syntax

sub-ident-policy *sub-ident-policy-name*

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>sub-sla-mgmt sub-ident-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap>sub-sla-mgmt sub-ident-policy)

[Tree] (config>service>ies>sub-if>grp-if>sap-parameters>sub-sla-mgmt sub-ident-policy)

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters>sub-sla-mgmt sub-ident-policy)

[Tree] (config>subscr-mgmt>msap-policy>sub-sla-mgmt sub-ident-policy)

[Tree] (config>service>vpls>sap>sub-sla-mgmt sub-ident-policy)

Full Context

configure service ies subscriber-interface group-interface sap sub-sla-mgmt sub-ident-policy

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configure service vprn subscriber-interface group-interface sap sub-sla-mgmt sub-ident-policy

configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt sub-ident-policy

configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt sub-ident-policy

configure subscriber-mgmt msap-policy sub-sla-mgmt sub-ident-policy

configure service vpls sap sub-sla-mgmt sub-ident-policy

Description

This command associates a subscriber identification policy to this SAP. The subscriber identification policy must be defined prior to associating the profile with a SAP in the **config>subscr-mgmt>sub-ident-policy** context.

Subscribers are managed by the system through the use of subscriber identification strings such as a subscriber identifier, an sla-profile string, a sub-profile string and an app-profile string.

The subscriber identification policy performs following functions for subscriber hosts and sessions associated with the SAP or MSAP:

- mapping of sla-profile, sub-profile and app-profile strings obtained from authentication (for example, LUDB, RADIUS, Diameter, or Python) into profile names that are configured on the router
- for IPoE DHCPv4 hosts, the subscriber identification strings can be derived from the DHCP ACK message sent to the subscriber host using a Python script referenced in the sub-ident-policy
- for PPPoE hosts that get an IPv4 address via the PPPoE DHCPv4 client and for IPoE DHCPv4 hosts, an SR OS DHCPv4 server in combination with an LUDB returns the identification strings in a DHCPv4 option. The **strings-from-option** command in the sub-ident-policy tells the system from which option to extract the identification strings.

The **no** form of this command removes the default subscriber identification policy from the SAP configuration.

Parameters

sub-ident-policy-name

Specifies a subscriber identification policy for this SAP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vpls sap sub-sla-mgmt sub-ident-policy
- configure service ies subscriber-interface group-interface sap sub-sla-mgmt sub-ident-policy
- configure subscriber-mgmt msap-policy sub-sla-mgmt sub-ident-policy
- configure service vprn subscriber-interface group-interface sap sub-sla-mgmt sub-ident-policy

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt sub-ident-policy
- configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt sub-ident-policy

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sub-ident-policy

Syntax

[**no**] **sub-ident-policy** *policy-name*

Context

[Tree] (debug>subscr-mgmt sub-ident-policy)

Full Context

debug subscriber-mgmt sub-ident-policy

Description

This command debugs subscriber identification policies.

The **no** form of this command disables debugging.

Parameters

policy-name

Specifies the subscriber identification policy to debug.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-ident-policy

Syntax

sub-ident-policy *sub-ident-policy-name*

no sub-ident-policy

Context

[Tree] (config>app-assure>group>transit-ip-policy sub-ident-policy)

Full Context

configure application-assurance group transit-ip-policy sub-ident-policy

Description

This command associates a subscriber identification policy to this SAP. The subscriber identification policy must be defined prior to associating the profile with a SAP in the **config>subscribermgmt>sub-ident-policy** context.

Subscribers are managed by the system through the use of subscriber identification strings. A subscriber identification string uniquely identifies a subscriber. For static hosts, the subscriber identification string is explicitly defined with each static subscriber host.

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For dynamic hosts, the subscriber identification string must be derived from the DHCP ACK message sent to the subscriber host. The default value for the string is the content of Option 82 CIRCUIT-ID and REMOTE-ID fields interpreted as an octet string. As an option, the DHCP ACK message may be processed by a subscriber identification policy which has the capability to parse the message into an alternative ASCII or octet string value.

When multiple hosts on the same port are associated with the same subscriber identification string they are considered to be host members of the same subscriber.

A sub-ident-policy can also be used for identifying dynamic transit subscriber names.

The **no** form of this command removes the default subscriber identification policy from the SAP configuration.

Default

no sub-ident-policy

Parameters

sub-ident-policy-name

Specifies the subscriber identification policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.45 sub-insert-credit-control

sub-insert-credit-control

Syntax

sub-insert-credit-control start-entry *entry-id* **count** *count*

no sub-insert-credit-control

Context

[Tree] (config>filter>ipv6-filter sub-insert-credit-control)

[Tree] (config>filter>ip-filter sub-insert-credit-control)

Full Context

configure filter ipv6-filter sub-insert-credit-control

configure filter ip-filter sub-insert-credit-control

Description

This command inserts point information for credit control for the filter.

The **no** form of the command reverts to the default.

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Default

no sub-insert-credit-control

Parameters

entry-id

Identifies a filter on this system.

Values 1 to 2097151

count

Specifies the count

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.46 sub-insert-radius

sub-insert-radius

Syntax

sub-insert-radius start-entry *entry-id* **count** *count*

no sub-insert-radius

Context

[Tree] (config>filter>ip-filter sub-insert-radius)

[Tree] (config>filter>ipv6-filter sub-insert-radius)

Full Context

configure filter ip-filter sub-insert-radius

configure filter ipv6-filter sub-insert-radius

Description

This command inserts point information for RADIUS for the filter.

The **no** form of the command reverts to the default.

Default

no sub-insert-radius

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Parameters

entry-id

Specifies at what place the filter entries received from RADIUS will be inserted in the filter.

Values 1 to 2097151

count

Specifies the count.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.47 sub-insert-shared-pccrule

sub-insert-shared-pccrule

Syntax

sub-insert-shared-pccrule start-entry *entry-id* **count** *count*

no sub-insert-shared-pccrule

Context

[Tree] (config>qos>sap-ingress sub-insert-shared-pccrule)

[Tree] (config>qos>sap-egress sub-insert-shared-pccrule)

Full Context

configure qos sap-ingress sub-insert-shared-pccrule

configure qos sap-egress sub-insert-shared-pccrule

Description

This command defines the range of filter and QoS policy entries that are reserved for shared entries received in Flow-Information AVP via Gx interface (PCC rules – Policy and Charging Control).

The **no** form of this command disables the insertion, which will result in a failure of PCC rule installation.

Default

no sub-insert-shared-pccrule

Parameters

entry-id

Specifies the lowest entry in the range.

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Values 1 to 65535

count

Specifies the number of entries in the range.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-insert-shared-pccrule

Syntax

sub-insert-shared-pccrule start-entry *entry-id* **count** *count*

no sub-insert-shared-pccrule

Context

[Tree] (config>filter>ip-filter sub-insert-shared-pccrule)

[Tree] (config>filter>ipv6-filter sub-insert-shared-pccrule)

Full Context

configure filter ip-filter sub-insert-shared-pccrule

configure filter ipv6-filter sub-insert-shared-pccrule

Description

This command defines the range of filter and QoS policy entries that are reserved for shared entries received in Flow-Information AVP via Gx interface (PCC rules – Policy and Charging Control). The **no** form of this command disables the insertion, which will result in a failure of PCC rule installation.

Default

no sub-insert-shared-pccrule

Parameters

entry-id

Specifies the lowest entry in the range.

Values 1 to 2097151

count

Specifies the number of entries in the range.

Values 1 to 65535

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.48 sub-insert-shared-radius

sub-insert-shared-radius

Syntax

sub-insert-shared-radius start-entry *entry-id* **count** *count*

no sub-insert-shared-radius

Context

[Tree] (config>filter>ipv6-filter sub-insert-shared-radius)

[Tree] (config>filter>ip-filter sub-insert-shared-radius)

Full Context

configure filter ipv6-filter sub-insert-shared-radius

configure filter ip-filter sub-insert-shared-radius

Description

This command configures the insert point for shared host rules from RADIUS.

Default

no sub-insert-shared-radius

Parameters

entry-id

Identifies a filter on this system.

Values 1 to 2097151

count

Specifies the count.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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45.49 sub-insert-wmark

sub-insert-wmark

Syntax

sub-insert-wmark low *low-watermark* **high** *high-watermark*

no sub-insert-wmark

Context

[Tree] (config>filter>ip-filter sub-insert-wmark)

[Tree] (config>filter>ipv6-filter sub-insert-wmark)

Full Context

configure filter ip-filter sub-insert-wmark

configure filter ipv6-filter sub-insert-wmark

Description

This command configures the low and high watermark percentage for inserted filter entry usage reporting.

The **no** form of the command reverts to the default.

Default

sub-insert-wmark low 90 high 95

Parameters

low-watermark

Specifies the utilization of the filter ranges for filter entry insertion, at which a table full alarm will be cleared by the agent.

Values 0 to 100

high-watermark

Specifies the utilization of the filter ranges for filter entry insertion, at which a table full alarm will be raised by the agent.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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45.50 sub-mcac-policy

sub-mcac-policy

Syntax

sub-mcac-policy *sub-mcac-policy-name* [**create**]

no sub-mcac-policy *b*

Context

[Tree] (config>subscr-mgmt sub-mcac-policy)

Full Context

configure subscriber-mgmt sub-mcac-policy

Description

This command creates a policy template with MCAC bandwidth limits that are applied to the subscriber.

Per interface mcac bandwidth limits are set directly under the interface (regular interface or group-interface) and no such policy templates are needed.

The need for a separate policy template for subscribers is due to the fact that groups of subscribers under the same group-interface can share certain settings that can be configured via this template.

To summarize, the MCAC bandwidth constraints for subscribers are defined in the sub-mcac-policy while the mcac bandwidth constraints for the interface are configured directly under the **igmp>interface>mcac** or **igmp>grp-if>mcac** context without the need for policy templates.

Note:
The sub-mcac-policy only deals with the mcac bandwidth limits and not the channel bandwidth definitions. Channels bandwidth is defined in a different policy (in the **config>router>mcac** context) and that policy is applied on the interface level as follows:

- For group-interface: under the **config>service>vprn>igmp>grp-if>mcac** context
- For regular interface: under the **config>service/router>igmp>interface>mcac** context.

In case of HQoS Adjustment, it is mandatory that the sub-mcac-policy be created and applied to the subscriber. The sub-mac-policy does not have to contain any bandwidth constrains, but it has to be in a no shutdown state in order for HQoS Adjustment to work.

The **no** form of this command reverts to the default.

Parameters

policy-name

Specifies the name of the policy up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

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sub-mcac-policy

Syntax

sub-mcac-policy *policy-name*

no sub-mcac-policy

Context

[Tree] (config>subscr-mgmt>sub-prof sub-mcac-policy)

Full Context

configure subscriber-mgmt sub-profile sub-mcac-policy

Description

This command references the policy template in which the mcac bandwidth limits are defined. Mcac for the subscriber is effectively enabled with this command when the sub-profile is applied to the subscriber. The bandwidth of the channels is defined in a different policy (under the **config>router>mcac** context) and this policy is applied on the interface level as follows:

- For group-interfaces under the **config>service>vprn>igmp>grp-if>mcac** context
- For regular interfaces under the **config>service/router>igmp>interface>mcac** context

In case of HQoS Adjustment, it is mandatory that the sub-mcac-policy be created and applied to the subscriber. The sub-mac-policy does not have to contain any bandwidth constrains, but it has to be in a no shutdown state in order for HQoS Adjustment to work.

The **no** form of this command removes the policy from the configuration.

Parameters

policy-name

Specifies the policy name configured in the config>subscr-mgmt>sub-mcac-policy context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

45.51 sub-mgmt

sub-mgmt

Syntax

[no] sub-mgmt

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Context

[Tree] (config>redundancy>multi-chassis>options sub-mgmt)

Full Context

configure redundancy multi-chassis options sub-mgmt

Description

This command enables the CLI context to configure subscriber management multi-chassis options parameters.

Default

sub-mgmt

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.52 sub-mgmt-extensions

sub-mgmt-extensions

Syntax

[**no**] **sub-mgmt-extensions**

Context

[Tree] (config>fwd-path-ext>fpe sub-mgmt-extensions)

Full Context

configure fwd-path-ext fpe sub-mgmt-extensions

Description

This command configures FPE for subscriber management extensions. The FPE cannot be used for other applications but can be used for multiple subscriber management applications.

The **no** version of this command disables FPE for subscriber management extensions.

Default

no sub-mgmt-extensions

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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45.53 sub-port

sub-port

Syntax

sub-port *port-id* [**create**]

no sub-port *port-id*

Context

[Tree] (config>port>ethernet>dot1x>macsec sub-port)

Full Context

configure port ethernet dot1x macsec sub-port

Description

This command creates a MACsec instance on a physical port, targeting the specific subset of traffic defined by the **encap-match** command.

The **no** form of this command removes the MACsec instance.

Parameters

port-id

Specifies the sub-port id index.

Values 1 to 1023

create

Creates a new sub-port.

Platforms

All

45.54 sub-profile

sub-profile

Syntax

[**no**] **sub-profile**

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Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute sub-profile)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute sub-profile

Description

This command specifies that subscriber profile attributes should be included into RADIUS accounting messages.

The **no** form of this command excludes subscriber profile attributes into RADIUS accounting messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-profile

Syntax

sub-profile *sub-profile-name*

no sub-profile

Context

[Tree] (config>service>vpls>sap>static-host sub-profile)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host sub-profile)

[Tree] (config>service>ies>if>sap>static-host sub-profile)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host sub-profile)

[Tree] (config>service>vprn>if>sap>static-host sub-profile)

Full Context

configure service vpls sap static-host sub-profile

configure service vprn subscriber-interface group-interface sap static-host sub-profile

configure service ies interface sap static-host sub-profile

configure service ies subscriber-interface group-interface sap static-host sub-profile

configure service vprn interface sap static-host sub-profile

Description

This command specifies an existing subscriber profile name to be associated with the static subscriber host.

The **no** form of this command reverts to the default.

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Parameters

sub-profile-name

Specifies the sub-profile name.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-profile

Syntax

[**no**] **sub-profile** *subscriber-profile-name*

Context

[Tree] (config>subscr-mgmt sub-profile)

Full Context

configure subscriber-mgmt sub-profile

Description

Commands in this context configure a subscriber profile. A subscriber profile is a template used to define the aggregate QoS for all hosts within a subscriber context. This is done through the definition of the egress and ingress scheduler policies that govern the aggregate SLA for subscribers using the subscriber profile. Subscriber profiles also allow for specific SLA profile definitions when the default definitions from the subscriber identification policy must be overridden.

Subscribers are either explicitly mapped to a subscriber profile template or are dynamically associated by one of various non-provisioned subscriber profile definitions.

A subscriber host can be associated with a subscriber profile in the following ways, listed from lowest to highest precedence:

1. The subscriber profile named default.
2. The subscriber profile defined as the subscriber SAP default.
3. The subscriber profile found by the subscriber identification policy sub-profile-map.
4. The subscriber profile found by the subscriber identification policy explicit map.

In the event that no defaults are defined and the subscriber identification string is not explicitly provisioned to map to a subscriber profile, either the static subscriber host creation will fail or the dynamic subscriber host DHCP ACK is discarded.

Default Subscriber profile:

When a subscriber profile is created with the *subscriber-profile-name* default, it is used when no other subscriber profile is associated with the subscriber host by the system. Creating a subscriber profile with the *subscriber-profile-name* default is optional. If a default subscriber profile is not created, all subscriber hosts subscriber identification strings must match either a non-provisioned default or be provisioned as an explicit match to a subscriber profile.

The default profile has no effect on existing active subscriber on the system as they exist due to higher precedence mappings.

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Attempting to delete any subscriber profile (including the profile named default) while in use by existing active subscribers will fail.

The **no** form of this command reverts to the default.

Parameters

subscriber-profile-name

Specifies the name of the subscriber profile, up to 32 characters.

create

Keyword used to create the subscriber profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.55 sub-profile-map

sub-profile-map

Syntax

sub-profile-map

Context

[Tree] (config>subscr-mgmt>sub-ident-pol sub-profile-map)

Full Context

configure subscriber-mgmt sub-ident-policy sub-profile-map

Description

Commands in this context configure subscriber profile mapping parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.56 sub-profile-string

sub-profile-string

Syntax

sub-profile-string *sub-profile-string*

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no sub-profile-string

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings sub-profile-string)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings sub-profile-string)

Full Context

configure subscriber-mgmt local-user-db ppp host identification-strings sub-profile-string

configure subscriber-mgmt local-user-db ipoe host identification-strings sub-profile-string

Description

This command specifies the subscriber profile string which is encoded in the identification strings.

The **no** form of this command returns to the default.

Parameters

sub-profile-string

Specifies the subscriber profile string, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

sub-profile-string

Syntax

sub-profile-string *string*

no sub-profile-string

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile sub-profile-string)

Full Context

configure subscriber-mgmt vrgw brg brg-profile sub-profile-string

Description

This string will be used as a default for subscriber-profile lookup. This string can be overridden during BRG or host authentication. The **no** form of the command removes the string from the configuration.

Default

no sub-profile-string

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Parameters

string

Specifies the string used to look up the subscriber profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.57 sub-ring

sub-ring

Syntax

[**no**] **sub-ring** {**virtual-link** | **non-virtual-link**}

Context

[Tree] (config>eth-ring sub-ring)

Full Context

configure eth-ring sub-ring

Description

This command specifies this ring-id to be sub-ring as defined in G.80312. By declaring this ring as a sub-ring object, this ring will only have one valid path and the sub-ring will be connected to a major ring or a VPLS instance.

The **virtual-link** keyword declares that a sub-ring is connected to another ring and control messages can be sent over the attached ring to the other side of the sub-ring.

The **non-virtual-link** channel parameter declares that a sub-ring may be connected to another ring or to a VPLS instance but no control messages from the sub-ring use the attached ring or VPLS instance. The non-virtual channel behavior is standard G.8032 capability.

The **no** form of this command deletes the sub-ring and its virtual channel associations.

Default

no sub-ring

Parameters

virtual-link

Specifies that the interconnection is to a ring and a virtual link will be used.

non-virtual-link

Specifies that the interconnection is to a ring or a VPLS instance and a virtual link will not be used.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.58 sub-sla-mgmt

sub-sla-mgmt

Syntax

[**no**] **sub-sla-mgmt**

Context

[Tree] (config>service>vprn>if>sap sub-sla-mgmt)

[Tree] (config>service>vprn>sub-if>grp-if>sap sub-sla-mgmt)

[Tree] (config>service>ies>if>sap sub-sla-mgmt)

[Tree] (config>service>ies>sub-if>grp-if>sap sub-sla-mgmt)

[Tree] (config>subscr-mgmt>msap-policy sub-sla-mgmt)

[Tree] (config>service>vpls>sap sub-sla-mgmt)

Full Context

configure service vprn interface sap sub-sla-mgmt

configure service vprn subscriber-interface group-interface sap sub-sla-mgmt

configure service ies interface sap sub-sla-mgmt

configure service ies subscriber-interface group-interface sap sub-sla-mgmt

configure subscriber-mgmt msap-policy sub-sla-mgmt

configure service vpls sap sub-sla-mgmt

Description

Commands in this context configure subscriber management parameters for this SAP.

The **no** form of this command reverts to the default.

Platforms

All

- configure service ies interface sap sub-sla-mgmt
- configure service vprn interface sap sub-sla-mgmt

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vpls sap sub-sla-mgmt
- configure subscriber-mgmt msap-policy sub-sla-mgmt
- configure service vprn subscriber-interface group-interface sap sub-sla-mgmt

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- configure service ies subscriber-interface group-interface sap sub-sla-mgmt

sub-sla-mgmt

Syntax

[**no**] **sub-sla-mgmt**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap-parameters sub-sla-mgmt)

[Tree] (config>service>vprn>sub-if>grp-if>sap-parameters sub-sla-mgmt)

Full Context

configure service ies subscriber-interface group-interface sap-parameters sub-sla-mgmt

configure service vprn subscriber-interface group-interface sap-parameters sub-sla-mgmt

Description

Commands in this context configure subscriber management parameters.

The **no** form of this command removes the parameters from the configuration.

Default

sub-sla-mgmt

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.59 subinterface

subinterface

Syntax

subinterface *subinterface*

no subinterface

Context

[Tree] (config>svc>vprn>if>extref>oc subinterface)

[Tree] (config>router>if>extref>oc subinterface)

Full Context

configure service vprn interface external-reference openconfig subinterface

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configure router interface external-reference openconfig subinterface

Description

This command configures the subinterface ID used to map a Nokia vendor-specific configuration and the OpenConfig state.

This command configures the ability to query the OpenConfig state through NETCONF, gRPC, and the MD-CLI from any configuration mode without having to add any OpenConfig model configuration. As part of the configuration, a user must also add a port to the Layer 3 interface.

The **no** form of this command reverts to the default.

Default

no subinterface

Parameters

subinterface

Specifies the subinterface ID.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.60 subject

subject

Syntax

subject {**eq** | **neq**} *subject* [*regexp*]

no subject

Context

[Tree] (config>service>vprn>log>filter>entry>match subject)

Full Context

configure service vprn log filter entry match subject

Description

This command adds an event subject as a match criterion.

The subject is the entity for which the event is reported, such as a port. In this case the port-id string would be the subject. Only one **subject** command can be entered per event filter entry. The latest **subject** command overwrites the previous command.

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The **no** form of this command removes the subject match criterion.

Default

no subject

Parameters

eq | neq

This operator specifies the type of match. Valid operators are listed below.

Values

Table 171: Valid Operators

Operator	Notes
eq	equal to
neq	not equal to

subject

A string used as the subject match criterion.

regexp

Specifies the type of string comparison to use to determine if the log event matches the value of **subject** command parameters. When the **regexp** keyword is specified, the string in the **subject** command is a regular expression string that will be matched against the subject string in the log event being filtered.

When **regexp** keyword is not specified, the **subject** command string is matched exactly by the event filter.

Platforms

All

subject

Syntax

subject {**eq** | **neq**} *subject* [*regexp*]

no subject

Context

[Tree] (config>log>filter>entry>match subject)

Full Context

configure log filter entry match subject

Description

This command adds an event subject as a match criterion.

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The subject is the entity for which the event is reported, such as a port. In this case the port-id string would be the subject. Only one **subject** command can be entered per event filter entry. The latest **subject** command overwrites the previous command.

The **no** form of this command removes the subject match criterion.

Parameters

eq | neq

Specifies the match type. Valid operators are listed in Table 172: Valid Operators.

Table 172: Valid Operators

Operator	Notes
eq	equal to
neg	not equal to

subject

Specifies a string up to 32 characters, used as the subject match criterion.

regexp

Specifies the type of string comparison to use to determine if the log event matches the value of **subject** command parameters. When the **regexp** keyword is specified, the string in the **subject** command is a regular expression string that will be matched against the subject string in the log event being filtered. When the **regexp** keyword is not specified, the **subject** command string is matched exactly by the event filter.

Platforms

All

45.61 subnet

subnet

Syntax

subnet {*ip-address*/*mask* | *ip-address netmask*} [**create**]

no subnet {*ip-address*/*mask* | *ip-address netmask*}

Context

[Tree] (config>router>dhcp>server>pool subnet)

[Tree] (config>service>vprn>dhcp>server>pool subnet)

Full Context

configure router dhcp local-dhcp-server pool subnet

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configure service vprn dhcp local-dhcp-server pool subnet

Description

This command creates a subnet of IP addresses to be served from the pool. The subnet cannot include any addresses that were assigned to subscribers without those addresses specifically excluded. When the subnet is created, no IP addresses are made available until a range is defined.

The **no** form of the removes the subnet parameters from the configuration.

Parameters

ip-prefix/mask

Specifies the address prefix and mask. A mask of 255.255.255.255 is reserved for system IP addresses.

Values ip-prefix: a.b.c.d

mask: 8 to 32

netmask

Specifies a string of 0s and 1s that mask or screen out the network part of an IP address so that only the host computer part of the address remains.

Values a.b.c.d, any mask expressed as dotted quad

create

Keyword used to create the subnet. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.62 subnet-check

subnet-check

Syntax

[**no**] **subnet-check**

Context

[Tree] (config>service>vprn>igmp>if subnet-check)

[Tree] (config>service>vprn>igmp>grp-if subnet-check)

Full Context

configure service vprn igmp interface subnet-check

configure service vprn igmp group-interface subnet-check

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Description

This command enables subnet checking for IGMP messages received on this interface. All IGMP packets with a source address that is not in the local subnet are dropped.

The **no** form of this command disables local subnet checking for IGMP.

Platforms

All

- configure service vprn igmp interface subnet-check

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn igmp group-interface subnet-check

subnet-check

Syntax

[**no**] **subnet-check**

Context

[Tree] (config>router>igmp>if subnet-check)

[Tree] (config>router>igmp>group-interface subnet-check)

Full Context

configure router igmp interface subnet-check

configure router igmp group-interface subnet-check

Description

This command enables subnet checking for IGMP messages received on this interface. All IGMP packets with a source address that is not in the local subnet are dropped.

Default

subnet-check

Platforms

All

- configure router igmp interface subnet-check

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface subnet-check

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subnet-check

Syntax

[**no**] **subnet-check**

Context

[Tree] (config>router>mld>group-interface subnet-check)

Full Context

configure router mld group-interface subnet-check

Description

This command enables subnet checking for MLD messages received on this interface. All MLD packets with a source address that is not in the local subnet are dropped.

Default

subnet-check

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.63 subnet-mask

subnet-mask

Syntax

subnet-mask *ip-address*

no subnet-mask

Context

[Tree] (config>router>dhcp>server>pool>subnet>options subnet-mask)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>options subnet-mask)

Full Context

configure router dhcp local-dhcp-server pool subnet options subnet-mask

configure subscriber-mgmt local-user-db ipoe host options subnet-mask

Description

This command specifies the subnet-mask option to the client. The mask can either be defined (for supernetting) or taken from the pool address.

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The **no** form of this command removes the address from the configuration.

Parameters

ip-address

Specifies the IP address of the subnet mask. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.64 subrate

subrate

Syntax

subrate {**digital-link** | **larscom**} *rate-step*

no subrate

Context

[Tree] (config>port>tdm>ds3 subrate)

Full Context

configure port tdm ds3 subrate

Description

This command configures the channel service unit (CSU) compatibility mode to interoperate with existing DS-3 subrate standards.

This configuration applies only for non-channelized DS-3s on ASAP TDM MDAs.

The **no** form of this command remove the subrate functionality.

Default

no subrate

Parameters

digital-link

Enables the Digital-Link (Quick Eagle) CSU compatibility mode.

larscom

Enables the Larscom CSU compatibility mode.

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rate-step

Specifies the subrate value for the associated DS-3.

Values 1 to 147 (digital-link) 1 to 14 (larscom)

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

45.65 subscriber

subscriber

Syntax

subscriber *sub-ident*

no subscriber

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host subscriber)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host subscriber)

[Tree] (config>service>ies>if>sap>static-host subscriber)

[Tree] (config>service>vpls>sap>static-host subscriber)

[Tree] (config>service>vprn>if>sap>static-host subscriber)

Full Context

configure service vprn subscriber-interface group-interface sap static-host subscriber

configure service ies subscriber-interface group-interface sap static-host subscriber

configure service ies interface sap static-host subscriber

configure service vpls sap static-host subscriber

configure service vprn interface sap static-host subscriber

Description

This command specifies an existing subscriber identification profile to be associated with the static subscriber host.

Parameters

sub-ident

Specifies the subscriber identification.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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subscriber

Syntax

subscriber *sub-ident-string* [**sap** *sap-id*] [**ip** *ip-address*] [{[**mac** *ieee-address*] | **sla-profile** *sla-profile-name*}] [**fc** {[**be**] [**l2**] [**af**] [**l1**] [**h2**] [**ef**] [**h1**] [**nc**]}] {[**ingress**] [**egress**]} [**host-type** *host-type*] [**family** *family*]

no subscriber *sub-ident-string*

Context

[Tree] (config>mirror>mirror-source subscriber)

Full Context

configure mirror mirror-source subscriber

Description

This command adds hosts of a subscriber to mirroring service.

Parameters

sub-ident-string

Specifies the name of the subscriber identification policy.

sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-address

Specifies the service IP address (system IP address) of the remote device sending LI traffic. If 0.0.0.0 is specified, any remote router is allowed to send to this service.

Values 1.0.0.1 to 223.255.255.254

ieee-address

Specify this optional parameter when defining a static host. The MAC address must be specified for **anti-spoof ip-mac** and **arp-populate**. Multiple static hosts may be configured with the same MAC address given that each definition is distinguished by a unique IP address.

sla-profile-name

Each host of a subscriber can use a different sla-profile. This option allows interception of only the hosts using the specified sla-profile. In some deployments sla-profiles are assigned per type of traffic. There can be, for example, a specific sla-profile for voice traffic (which could be used for all SIP-hosts). The name can have up to 32 characters.

fc

Specifies the name of the forwarding class with which to associate traffic. The forwarding class name must already be defined within the system. If the *fc-name* does not exist, an error will be returned and the **fc** command will have no effect. If the *fc-name* does exist, the forwarding class associated with *fc-name* will override the default forwarding class.

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Values be, l2, af, l1, h2, ef, h1, nc

egress

Specifies that packets egressing the SAP should be mirrored. Egress packets are mirrored to the mirror destination after egress packet modification.

ingress

Specifies that packets ingressing the SAP should be mirrored. Ingress packets are mirrored to the mirror destination prior to ingress packet modification.

host-type

Specifies the host type for mirroring. The anti-spoof filter on the SAP must be configured as **ip-mac**.

Values any, ipoe, ppp

family

Specifies the IP family for mirroring. The anti-spoof filter on the SAP must be configured as **ip-mac**.

Values any, ipv4, ipv6

Platforms

All

subscriber

Syntax

subscriber *sub-ident-string* [**sap** *sap-id* [**ip** *ip-address*] [**mac** *ieee-address*] | **sla-profile** *sla-profile-name*] [**fc** {[**be**] [**l2**] [**af**] [**l1**] [**h2**] [**ef**] [**h1**] [**nc**]}] [**intercept-id** *intercept-id*] [**session-id** *session-id*] {[**ingress**] [**egress**]} [**host-type** *host-type*] [**family** *ip-family*]

no subscriber *sub-ident-string*

Context

[Tree] (config>li>li-source subscriber)

Full Context

configure li li-source subscriber

Description

This command adds hosts of a subscriber to mirroring service.

Parameters

sub-ident-string

Specifies the name of the subscriber identification policy.

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sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-address

Specifies the service IP address (system IP address) of the remote device sending LI traffic. If 0.0.0.0 is specified, any remote router is allowed to send to this service.

Values 1.0.0.1 to 223.255.255.254

ieee-address

Specifies a MAC address when defining a static host. The MAC address must be specified for **anti-spoof ip-mac** and **arp-populate**. Multiple static hosts may be configured with the same MAC address given that each definition is distinguished by a unique IP address.

sla-profile-name

Specifies an SLA profile name, up to 32 characters. Each host of a subscriber can use a different sla-profile. This option allows interception of only the hosts using the specified sla-profile. In some deployments sla-profiles are assigned per type of traffic. There can be, for example, a specific sla-profile for voice traffic (which could be used for all SIP-hosts).

fc

The name of the forwarding class with which to associate LI traffic. The forwarding class name must already be defined within the system. If the *fc-name* does not exist, an error will be returned and the **fc** command will have no effect. If the *fc-name* does exist, the forwarding class associated with *fc-name* will override the default forwarding class.

Values be, l2, af, l1, h2, ef, h1, nc

intercept-id

Specifies the intercept-id that is inserted into the packet header for all mirrored packets of the associated li-source entry. This *intercept-id* can be used (for example by a downstream LI Gateway) to identify the particular LI session to which the packet belongs.

For all types of **li-source** entries (**filter**, **nat**, **sap**, or **subscriber**), when the mirror service is configured with **ip-udp-shim** routable encap, an *intercept-id* field (as part of the routable encap) is always present in the mirrored packets. If there is no *intercept-id* configured for an **li-source** entry, then the default value will be inserted. When the mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no *intercept-id* is inserted and none can be specified against the **li-source** entries.

Values 1 to 4294967295 (32b) For **nat li-source** entries that are using a mirror service that is not configured with routable encap

Values 1 to 1,073,741,824 (30b) For all types of li-source entries that are using a mirror service with routable **ip-udp-shim** encapsulation and no direction-bit.

Values 1 to 536,870,912 (29b) For all types of li-source entries that are using a mirror service with routable **ip-udp-shim** encapsulation and with the direction-bit enabled.

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session-id

Specifies the *session-id* that is inserted into the packet header for all mirrored packets of the associated **li-source** entry. This *session-id* can be used (for example by a downstream LI gateway) to identify the particular LI session to which the packet belongs. The *session-id* is only valid and used for mirror services that are configured with **ip-udp-shim** routable encapsulation (**config>mirror>mirror-dest>encap>ip-udp-shim**).

For all types of **li-source** entries (**filter**, **nat**, **sap**, or **subscriber**), when the mirror service is configured with **ip-udp-shim** routable encap, a *session-id* field (as part of the routable encapsulation) is always present in the mirrored packets. If there is no *session-id* configured for an **li-source** entry, then the default value will be inserted. When a mirror service is configured with **ip-gre** or **ip-udp-shim-sampled** routable encap, no *session-id* is inserted and none can be specified against the **li-source** entries.

Values 1 to 4,294,967,295 (32b)

ingress

Specifies the ingress policy for lawful intercept.

egress

Specifies the egress policy for lawful intercept.

host-type

Specifies the host type for lawful intercept. The anti-spoof filter on the SAP must be configured as **ip-mac**.

Values any, ipoe, ppp

ip-family

Specifies the IP family for lawful intercept. The anti-spoof filter on the SAP must be configured as **ip-mac**.

Values any, ipv4, ipv6

Platforms

All

subscriber

Syntax

subscriber *sub-ident-string* [**sap** *sap-id*] [**ip** *ip-address*] [{**mac** *ieee-address*] | **sla-profile** *sla-profile-name*}] [**fc** {[**be**] [**l2**] [**af**] [**l1**] [**h2**] [**ef**] [**h1**] [**nc**]}] {[**ingress**] [**egress**]}

no subscriber *sub-ident-string*

Context

[Tree] (debug>mirror-source subscriber)

Full Context

debug mirror-source subscriber

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Description

This command adds hosts of a subscriber to mirroring service.

Parameters

sub-ident-string

Specifies the name of the subscriber identification policy.

sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-address

The service IP address (system IP address) of the remote 7750 SR or 7450 ESS device sending LI traffic.

Values 1.0.0.1 to 223.255.255.254

ieee-address

Specify this optional parameter when defining a static host. The MAC address must be specified for **anti-spoof ip-mac** and **arp-populate**. Multiple static hosts may be configured with the same MAC address given that each definition is distinguished by a unique IP address.

sla-profile-name

Specifies the SLA profile name, up to 32 characters.

fc

Specifies name of the forwarding class with which to associate LI traffic.

Values be, l2, af, l1, h2, ef, h1, nc

ingress

Specifies information for the ingress policy.

egress

Specifies information for the egress policy.

Platforms

All

45.66 subscriber-bw-limit

subscriber-bw-limit

Syntax

subscriber-bw-limit *bandwidth*

no subscriber-bw-limit

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Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy>video-if subscriber-bw-limit)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface subscriber-bw-limit

Description

This command configures of an egress per-subscriber bandwidth limit for the combined retransmission and Fast Channel Change (FCC) replies for requests received directed to the IP address. If the bandwidth for a request will exceed the bandwidth limit, the request is logged and dropped.

The **no** form of the command disables enforcement of an egress bandwidth limit.

Default

no subscriber-bw-limit

Parameters

bandwidth

The per-subscriber egress bandwidth limit for retransmission and FCC packets in kilobits per second expressed as an integer indicates infinity or no limit.

Values 1 to 4294967295 kb/s

Platforms

7450 ESS, 7750 SR, 7750 SR-s

45.67 subscriber-data

subscriber-data

Syntax

[**no**] **subscriber-data**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes subscriber-data)

Full Context

configure aaa isa-radius-policy acct-include-attributes subscriber-data

Description

This command enables the inclusion of subscriber data attributes.

The **no** form of the command excludes subscriber data attributes.

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Default

no subscriber-data

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.68 subscriber-id

subscriber-id

Syntax

subscriber-id *sub-ident-string*

no subscriber-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ident-strings subscriber-id)

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ident-strings subscriber-id)

Full Context

configure subscriber-mgmt local-user-db ppp host identification-strings subscriber-id

configure subscriber-mgmt local-user-db ipoe host identification-strings subscriber-id

Description

This command specifies the subscriber ID which is encoded in the identification strings.

The **no** form of this command returns to the default.

Parameters

sub-ident-string

Specifies the subscriber ID string, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

subscriber-id

Syntax

[**no**] **subscriber-id**

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Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute subscriber-id)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute subscriber-id

Description

This command specifies that subscriber ID attributes should be included into RADIUS accounting messages.

The **no** form of this command excludes subscriber ID attributes into RADIUS accounting messages.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

subscriber-id

Syntax

[**no**] **subscriber-id**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes subscriber-id)

Full Context

configure aaa isa-radius-policy acct-include-attributes subscriber-id

Description

This command specifies that subscriber ID attributes should be included into RADIUS accounting messages.

Default

no subscriber-id

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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45.69 subscriber-identification

subscriber-identification

Syntax

subscriber-identification

Context

[Tree] (config>router>nat>inside subscriber-identification)

Full Context

configure router nat inside subscriber-identification

Description

Commands in this context configure subscriber identification for Large Scale NAT.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.70 subscriber-interface

subscriber-interface

Syntax

subscriber-interface *ip-int-name* [**create**] [**wan-mode** *mode*]

subscriber-interface *ip-int-name* [**create**] **fwd-service** *service-id* **fwd-subscriber-interface** *fwd-int-name* [**wan-mode** *mode*]

no subscriber-interface *ip-int-name*

Context

[Tree] (config>service>vprn subscriber-interface)

[Tree] (config>service>ies subscriber-interface)

Full Context

configure service vprn subscriber-interface

configure service ies subscriber-interface

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Description

This command allows the operator to create special subscriber-based interfaces. It is used to contain multiple group interfaces. Multiple subnets associated with the subscriber interface can be applied to any of the contained group interfaces in any combination. The subscriber interface allows subnet sharing between group interfaces.

The **no** form of this command reverts to the default.

Parameters

ip-int-name

Specifies the interface name of a subscriber interface, up to 32 characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

Keyword used to create the subscriber interface.

fwd-service *service-id*

Specifies the wholesale service ID or service name.

Values *service-id*: 1 to 214748364

svc-name: A string up to 64 characters

ip-int-name

Specifies the wholesale subscriber interface.

wan-mode *mode*

Specifies the WAN mode as 64-bit or 128-bit. To change the WAN mode after creation, the interface must first be removed then recreated.

Values *mode64*, *mode128*

Default *mode64*

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.71 subscriber-interface-statistics

subscriber-interface-statistics

Syntax

subscriber-interface-statistics

Context

[Tree] (config>subscr-mgmt subscriber-interface-statistics)

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Full Context

configure subscriber-mgmt subscriber-interface-statistics

Description

Commands in this context enable or disable the collection of subscriber interface statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.72 subscriber-limit

subscriber-limit

Syntax

subscriber-limit *limit*

no subscriber-limit

Context

[Tree] (config>service>vprn>nat>outside>pool subscriber-limit)

Full Context

configure service vprn nat outside pool subscriber-limit

Description

This command configures the maximum number of subscribers per outside IP address.

If multiple port blocks per subscriber are used, the block size is typically small; all blocks assigned to a given subscriber belong to the same IP address; the subscriber limit guarantees that any subscriber can get a minimum number of ports.

The subscribers are counted per protocol (UDP, TCP and ICMP). For example, in LSN44 a source IPv4 address that uses ports on each of the three protocols (UDP, TCP and ICMP) on an outside IP address count as 3 subscribers on that outside IP address. The ‘no subscriber-limit’ removes the limit for the number of subscribers per outside IP address.

This command is not applicable to pools with:

- arbitrary address pooling enabled
- flexible port allocations (application configured under a pool)

Parameters

limit

Specifies the maximum number of subscribers per outside IP address.

Values 1 to 65535

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.73 subscriber-mgmt

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (config>service>ies subscriber-mgmt)

[Tree] (config>service>vprn subscriber-mgmt)

Full Context

configure service ies subscriber-mgmt

configure service vprn subscriber-mgmt

Description

Commands in this context configure per service subscriber management parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (config subscriber-mgmt)

Full Context

configure subscriber-mgmt

Description

Commands in this context configure subscriber management entities. A subscriber is uniquely identified by a subscriber identification string. Each subscriber can have several DHCP sessions active at any time. Each session is referred to as a subscriber host and is identified by its IP address and MAC address.

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All subscriber hosts belonging to the same subscriber are subject to the same hierarchical QoS (HQoS) processing. The HQoS processing is defined in the sub-profile (the subscriber profile). A sub-profile refers to an existing scheduler policy (configured in **the config>qos>scheduler-policy** context) and offers the possibility to overrule the rate of individual schedulers within this policy.

Because all subscriber hosts use the same scheduler policy instance, they must all reside on the same complex.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (config>system>persistence subscriber-mgmt)

Full Context

configure system persistence subscriber-mgmt

Description

This command configures subscriber management persistence parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

subscriber-mgmt

Syntax

[**no**] **subscriber-mgmt**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync subscriber-mgmt)

Full Context

configure redundancy multi-chassis peer sync subscriber-mgmt

Description

Commands in this context configure the synchronization of subscriber management information with the multi-chassis peer.

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The **no** form of this command disables the router from synchronizing subscriber management information with the multi-chassis peer.

Default

no subscriber-mgmt

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.74 subscriber-prefix-length

subscriber-prefix-length

Syntax

subscriber-prefix-length *prefix-length*

no subscriber-prefix-length

Context

[Tree] (config>service>vprn>nat>inside>dslite subscriber-prefix-length)

Full Context

configure service vprn nat inside dual-stack-lite subscriber-prefix-length

Description

This command configures the IPv6 prefix length of the DS-Lite subscribers.

The **no** form of this command reverts the default.

Default

subscriber-prefix-length 128

Parameters

prefix-length *prefix-length*

Specifies the IPv6 prefix length of the DS-Lite subscriber.

Values 32 to 64, 128

Default 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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subscriber-prefix-length

Syntax

subscriber-prefix-length *prefix-length*

no subscriber-prefix-length

Context

[Tree] (config>router>nat>inside>dual-stack-lite subscriber-prefix-length)

Full Context

configure router nat inside dual-stack-lite subscriber-prefix-length

Description

This command sets the value for the number of high order bits of the source IPv6 address that will be considered as DS-Lite subscriber. The remaining bits of the source IPv6 address will be masked off, effectively aggregation all IPv6 source addresses under the configured prefix length into a single DS-Lite subscriber. Source IPv4 addresses/ports of the traffic carried within the DS-Lite subscriber will be translated into a single outside IPv4 address and the corresponding deterministic port-block (port-blocks can be extended).

The range of values for subscriber-prefix-length in non-deterministic DS-Lite is limited from 32 to 64 (a prefix will be considered as a DS-Lite subscriber) or it can be set to a value of 128 (the source IPv6 address is considered as a DS-Lite subscriber).

In cases where deterministic DS-Lite is enabled in a giver inside routing context, the range of values of the **subscriber-prefix-length** depends on the value of *dslite-max-subscriber-limit* parameter as follows:

subscriber-prefix-length – n = [32..64,128]

where n = log2(dslite-max-subscriber-limit)

[or in an alternate form: dslite-max-subscriber-limit = 2^n.]

In other words the largest prefix length for the deterministic DS-Lite subscriber will be 32+n, where n = log2(dslite-max-subscriber-limit). The subscriber prefix length can extend up to 64 bits. Beyond 64 bits for the subscriber prefix length, there only one value is allowed: 128. In the case n must be 0, which means that the mapping between B4 elements (or IPv6 address) and the IPv4 outside addresses is in 1:1 ratio (no sharing of outside IPv4 addresses).

This parameter can be changed only when there are no deterministic prefixes configured in the same routing context.

The **no** form of the command reverts to the default.

Default

128

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Parameters

prefix-length

In non-deterministic DS-Lite this value can be [32..64,128], assuming that the deterministic DS-Lite is not concurrently enabled in the same inside routing context. In case that deterministic DS-Lite is enabled, this value can be within the range [(32+n)..64,128] where n = log2(dslite-max-subscriber-limit). The value of 128 is allowed only when n=0 (each subscriber is mapped to a single outside IPv4 IP address).

Values 32 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

subscriber-prefix-length

Syntax

subscriber-prefix-length *prefix-length*

no subscriber-prefix-length

Context

[Tree] (config>router>nat>inside>nat64 subscriber-prefix-length)

[Tree] (config>service>vprn>nat>inside>nat64 subscriber-prefix-length)

Full Context

configure router nat inside nat64 subscriber-prefix-length

configure service vprn nat inside nat64 subscriber-prefix-length

Description

This command specifies the IPv6 address prefix length to be used for the NAT64 subscribers in this virtual router instance.

Default

subscriber-prefix-length 128

Parameters

prefix-length

Specifies the subscriber identification for Large Scale NAT.

Values 32 to 64, 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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subscriber-prefix-length

Syntax

subscriber-prefix-length *prefix-length*

no subscriber-prefix-length

Context

[Tree] (config>service>vprn>nat>inside>nat66 subscriber-prefix-length)

[Tree] (config>router>nat>inside>nat66 subscriber-prefix-length)

Full Context

configure service vprn nat inside nat66 subscriber-prefix-length

configure router nat inside nat66 subscriber-prefix-length

Description

This command configures the router to enable the aggregation of watermarks and other scaling limits, such as session limits.

The IPv6 large-scale stateful inbound filtering does not translate IP addresses or ports, but it can maintain these parameters per prefix. For example, in a bridged home environment where multiple IPv6 addresses are exposed, resource control can be applied per home (for example, /64) prefix rather than per individual IPv6 address.

The **no** form of this command reverts to the default.

Default

subscriber-prefix-length 128

Parameters

prefix-length

Specifies the subscriber identification for Large Scale NAT.

Values 32 to 64, 128

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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45.75 subscriber-prefixes

subscriber-prefixes

Syntax

subscriber-prefixes

Context

[Tree] (config>service>ies>sub-if>ipv6 subscriber-prefixes)

[Tree] (config>service>vprn>sub-if>ipv6 subscriber-prefixes)

Full Context

configure service ies subscriber-interface ipv6 subscriber-prefixes

configure service vprn subscriber-interface ipv6 subscriber-prefixes

Description

Commands in this context configure aggregate off-link subscriber prefixes associated with this subscriber interface. Individual prefixes are specified under the prefix context list aggregate routes in which the next hop is indirect via the subscriber interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.76 subscriber-retention

subscriber-retention

Syntax

subscriber-retention [**hrs** *hours*] [**min** *minutes*]

no subscriber-retention

Context

[Tree] (config>service>nat>up-nat-policy>timeouts subscriber-retention)

[Tree] (config>service>nat>nat-policy>timeouts subscriber-retention)

Full Context

configure service nat up-nat-policy timeouts subscriber-retention

configure service nat nat-policy timeouts subscriber-retention

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Description

This command specifies the subscriber retention timeout, which is the time a NAT subscriber and its associated IP address are kept after all hosts and associated port blocks have expired. If a NAT subscriber host appears before the retention timeout has elapsed, it is given the same outside IP address.

Default

no subscriber-retention

Parameters

hrs *hours*

Specifies the hours a subscriber's IP address is kept after all hosts and port blocks have expired.

Values 1 to 24

min *minutes*

Specifies the minutes a subscriber's IP address is kept after all hosts and port blocks have expired.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.77 subscriber-sap-id

subscriber-sap-id

Syntax

[**no**] **subscriber-sap-id**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host subscriber-sap-id)

[Tree] (config>service>vpls>sap>static-host subscriber-sap-id)

[Tree] (config>service>vprn>if>sap>static-host subscriber-sap-id)

[Tree] (config>service>ies>if>sap>static-host subscriber-sap-id)

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host subscriber-sap-id)

Full Context

configure service ies subscriber-interface group-interface sap static-host subscriber-sap-id

configure service vpls sap static-host subscriber-sap-id

configure service vprn interface sap static-host subscriber-sap-id

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configure service ies interface sap static-host subscriber-sap-id

configure service vprn subscriber-interface group-interface sap static-host subscriber-sap-id

Description

This command enables using the SAP ID as the subscriber ID.

Parameters

subscriber-sap-id

Specifies to use the sap-id as the subscriber-id.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.78 subscribers

subscribers

Syntax

subscribers {qset-size *size* **| non-shaper-queues}**

Context

[Tree] (config>qos>fp-resource-policy>aggregate-shapers>queue-sets>default-size subscribers)

Full Context

configure qos fp-resource-policy aggregate-shapers queue-sets default-size subscribers

Description

This command configures the default queue-set size for subscribers.

Parameters

size

Specifies the size of the queue sets.

Values 2 to 8

non-shaper-queues

Specifies that subscribers will not use hardware aggregate shapers on FPs where the FP resource policy is applied.

Platforms

7750 SR-1, 7750 SR-s

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45.79 subscription

subscription

Syntax

subscription *percentage*

no subscription

Context

[Tree] (config>router>rsvp>interface subscription)

Full Context

configure router rsvp interface subscription

Description

This command configures the percentage of the link bandwidth that RSVP can use for reservation and sets a limit for the amount of over-subscription or under-subscription allowed on the interface.

When the **subscription** is set to zero, no new sessions are permitted on this interface. If the *percentage* is exceeded, the reservation is rejected and a log message is generated.

The **no** form of this command reverts the *percentage* to the default value.

Default

subscription 100

Parameters

percentage

Specifies the percentage of the interface's bandwidth that RSVP allows to be used for reservations.

Values 0 to 1000

Platforms

All

subscription

Syntax

subscription *subscription-id* **cancel**

subscription cancel-all

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Context

[Tree] (admin>system>telemetry>grpc subscription)

Full Context

admin system telemetry grpc subscription

Description

This command cancels an active telemetry subscription.

Parameters

subscription-id

Specifies the ID of the telemetry subscription to cancel.

Values 0 to 4294967295

Platforms

All

subscription

Syntax

subscription *name* [**create**]

no subscription *name*

Context

[Tree] (config>system>telemetry>persistent-subscriptions subscription)

Full Context

configure system telemetry persistent-subscriptions subscription

Description

Commands in this context configure persistent subscription commands.

The **no** form of this command removes the configuration.

Parameters

name

Specifies the subscription name, up to 32 characters.

create

Keyword used to create the subscription.

Platforms

All

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45.80 suffix

suffix

Syntax

suffix *string*

no suffix

Context

[Tree] (config>router>mpls>lsp-cont suffix)

Full Context

configure router mpls lsp-container suffix

Description

This command configures an optional string for the formation of member LSP names in this LSP container.

The **no** form of this command reverts to the default value.

Default

no suffix

Parameters

string

Specifies the suffix used to name member LSPs, up to 24 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.81 suggest-internal-objects

suggest-internal-objects

Syntax

[**no**] **suggest-internal-objects**

Context

[Tree] (environment suggest-internal-objects)

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Full Context

environment suggest-internal-objects

Description

This command enables suggesting of internally created objects while auto completing.

The **no** form of the command disables the command.

Platforms

All

45.82 summaries

summaries

Syntax

[**no**] **summaries**

Context

[Tree] (config>service>vprn>ospf>area>nssa summaries)

[Tree] (config>service>vprn>ospf3>area>nssa summaries)

[Tree] (config>service>vprn>ospf>area>stub summaries)

Full Context

configure service vprn ospf area nssa summaries

configure service vprn ospf3 area nssa summaries

configure service vprn ospf area stub summaries

Description

This command enables sending summary (type 3) advertisements into a stub area or Not So Stubby Area (NSSA) on an Area Border Router (ABR). This parameter is particularly useful to reduce the size of the routing and Link State Database (LSDB) tables within the stub or nssa area. By default, summary route advertisements are sent into the stub area or NSSA.

The **no** form of this command disables sending summary route advertisements and, for stub areas, only the default route is advertised by the ABR.

Default

summaries — Summary routes are advertised by the ABR into the stub area or NSSA.

Platforms

All

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summaries

Syntax

[**no**] **summaries**

Context

[Tree] (config>router>ospf>area>stub summaries)

[Tree] (config>router>ospf3>area>nssa summaries)

[Tree] (config>router>ospf>area>nssa summaries)

[Tree] (config>router>ospf3>area>stub summaries)

Full Context

configure router ospf area stub summaries

configure router ospf3 area nssa summaries

configure router ospf area nssa summaries

configure router ospf3 area stub summaries

Description

This command enables sending summary (type 3) advertisements into a stub area or Not So Stubby Area (NSSA) on an Area Border Router (ABR).

This parameter is particularly useful to reduce the size of the routing and Link State Database (LSDB) tables within the stub or NSSA area (default: summary).

By default, summary route advertisements are sent into the stub area or NSSA.

The **no** form of this command disables sending summary route advertisements and, for stub areas; only the default route is advertised by the ABR.

Default

summaries

Platforms

All

45.83 summary

summary

Syntax

summary

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Context

[Tree] (config>filter>log summary)

Full Context

configure filter log summary

Description

Commands in this context configure log summarization. These settings will only be taken into account when syslog is the log destination.

Platforms

All

summary

Syntax

summary [*ip-address*]

no summary

Context

[Tree] (debug>router>isis summary)

Full Context

debug router isis summary

Description

This command enables debugging for ISIS summary addresses.

The **no** form of the command disables the debugging.

Parameters

ip-address

When specified, only packets with the specified address are debugged.

Platforms

All

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45.84 summary-address

summary-address

Syntax

summary-address {*ip-prefix/mask* | *ip-prefix* [*netmask*]} [*level*] [**tag** *tag*]

no summary-address {*ip-prefix/mask* | *ip-prefix* [*netmask*]}

Context

[Tree] (config>service>vprn>isis summary-address)

Full Context

configure service vprn isis summary-address

Description

This command creates summary-addresses for the specified router or VPRN instance.

Parameters

ip-prefix/mask

Specifies information for the specified IP prefix and mask length.

Values		
	ip-prefix	a.b.c.d (host bits must be 0)
	ipv4-prefix-length	0 to 32
	ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D
	ipv6-prefix-length	0 to 128

netmask

The subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

level

Specifies IS-IS level area attributes. If no level parameter is specified, the default is level-1/2.

Values level-1, level-2, level-1/2

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tag *tag*

Assigns a route tag to the summary address.

Values 1 to 4294967295

Platforms

All

summary-address

Syntax

summary-address {*ip-prefix/ip-prefix-length* | *ip-prefix netmask*} [*level*] [**tag** *tag*] [**algorithm** *algo-id*]

summary-address {*ip-prefix/ip-prefix-length* | *ip-prefix netmask*} [*level*] [**tag** *tag*] [**algorithm** *algo-id*] **advertise-unreachable** [**match-route-tag** *tag*] [**advertise-route-tag** *tag*]

no summary-address {*ip-prefix/ip-prefix-length* | *ip-prefix netmask*}

Context

[Tree] (config>router>isis summary-address)

Full Context

configure router isis summary-address

Description

This command creates a summary IPv4, IPv6, or SRv6 locator address.

When an IS-IS domain exists out of multiple areas, the user must redistribute IP addresses and SRv6 locators between areas for inter-area SRv6-based transport services.

Scaling may be impacted if all existing IPv4, IPv6, and SRv6 locators are redistributed between all existing areas. SRv6 locators and IP addresses can be summarized when they are redistributed from one area into another area. Summarization reduces the number of entries redistributed, which reduces the size of the Link State Database (LSDB) and increases network stability.

The **no** form of this command reverts to the default.

Default

no summary-address

Parameters

ip-prefix/ip-prefix-length

Specifies the IP prefix and prefix length of the summary address.

Values

ipv4-prefix	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)

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	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length	0 to 128

netmask

Specifies the subnet mask in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255 (network bits all 1 and host bits all 0)

level

Specifies IS-IS level area attributes.

Values level-1, level-2, level-1/2

Default level-1/2

tag

Specifies the route tag to assign for the summary address.

Values 1 to 4294967295

algo-id

Specifies the algorithm topology applied for the summary address.

Values 0, 128 to 255

Default 0

match-route-tag *tag*

Specifies the route tag to match the Unreachable Prefix Announcements (UPAs). This selects a subset of summary member prefixes to monitor for reachability.

Values 1 to 4294967295

Default no match-route-tag

advertise-route-tag *tag*

Specifies the route tag to advertise in the UPA. The UPA tag can be used when there are multiple ASBR redistributing prefixes between two IGP areas.

Values 1 to 4294967295

Default no advertise-route-tag

Platforms

All

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45.85 summary-crit

summary-crit

Syntax

summary-crit dst-addr

summary-crit src-addr

no summary-crit

Context

[Tree] (config>filter>log>summary summary-crit)

Full Context

configure filter log summary summary-crit

Description

This command defines the key of the index of the mini-table. If key information is changed while summary is administratively enabled (no shutdown), the filter summary mini-table is flushed and recreated with different key information. Log packets received during the reconfiguration time will be handled as if summary was not active.

The **no** form of the command reverts to the default parameter.

Default

summary-crit src-addr

Parameters

dst-addr

Specifies that received log packets are summarized based on the destination IPv4, IPv6, or MAC address.

src-addr

Specifies that received log packets are summarized based on the source IPv4, IPv6 or MAC address.

Platforms

All

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45.86 super-backbone

super-backbone

Syntax

[**no**] **super-backbone**

Context

[Tree] (config>service>vprn>ospf super-backbone)

Full Context

configure service vprn ospf super-backbone

Description

This command specifies whether CE-PE functionality is required or not. The OSPF super backbone indicates the type of the LSA generated as a result of routes redistributed into OSPF. When enabled, the redistributed routes are injected as summary, external or NSSA LSAs. When disabled, the redistributed routes are injected as either external or NSSA LSAs only.

Default

no super-backbone

Platforms

All

45.87 supplicant-timeout

supplicant-timeout

Syntax

supplicant-timeout *seconds*

no supplicant-timeout

Context

[Tree] (config>port>ethernet>dot1x supplicant-timeout)

Full Context

configure port ethernet dot1x supplicant-timeout

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Description

This command configures the period during which the router waits for a client to respond to its EAPOL messages. When the supplicant-timeout expires, the 802.1x authentication session is considered to have failed.

The **no** form of this command returns the value to the default.

Default

supplicant-timeout 30

Parameters

seconds

Specifies the server timeout period in seconds.

Values 1 to 300

Platforms

All

45.88 supported-features

supported-features

Syntax

[**no**] **supported-features**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp supported-features)

Full Context

configure subscriber-mgmt diameter-application-policy gx include-avp supported-features

Description

This command includes the **supported-features** in CCR messages.

The **no** form of this command resets the command to the default setting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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45.89 suppress

suppress

Syntax

suppress *integer*

no suppress

Context

[Tree] (config>router>policy-options>damping suppress)

Full Context

configure router policy-options damping suppress

Description

This command configures the suppression parameter for the route policy damping profile.

A route is suppressed when it has flapped frequently enough to increase the Figure of Merit (FoM) value to exceed the **suppress** threshold limit. When the **FoM** value exceeds the **suppress** threshold limit, the route is removed from the route table or inclusion in advertisements.

The **no** form of this command removes the suppress parameter from the damping profile.

Default

no suppress

Parameters

integer

Specifies the suppress value expressed as a decimal integer.

Values 1 to 20000

Platforms

All

45.90 suppress-attached-bit

suppress-attached-bit

Syntax

[**no**] **suppress-attached-bit**

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Context

[Tree] (config>service>vprn>isis suppress-attached-bit)

Full Context

configure service vprn isis suppress-attached-bit

Description

This command configures IS-IS to suppress setting the attached bit on originated Level 1 LSPs to prevent all L1 routers in the area from installing a default route to it.

Platforms

All

suppress-attached-bit

Syntax

[**no**] **suppress-attached-bit**

Context

[Tree] (config>router>isis suppress-attached-bit)

Full Context

configure router isis suppress-attached-bit

Description

This command configures IS-IS to suppress setting the attached bit on originated Level 1 LSPs to prevent all L1 routers in the area from installing a default route to it.

Default

no suppress-attached-bit

Platforms

All

45.91 suppress-dn-bit

suppress-dn-bit

Syntax

[**no**] **suppress-dn-bit**

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Context

[Tree] (config>service>vprn>ospf3 suppress-dn-bit)

[Tree] (config>service>vprn>ospf suppress-dn-bit)

Full Context

configure service vprn ospf3 suppress-dn-bit

configure service vprn ospf suppress-dn-bit

Description

This command specifies whether to suppress the setting of the DN bit for OSPF LSA packets generated by this instance of OSPF on the router. When enabled, the DN bit for OSPF LSA packets generated by this instance of the OSPF router will not be set. When disabled, this instance of the OSPF router will follow the normal procedure to determine whether to set the DN bit.

Default

no suppress-dn-bit

Platforms

All

45.92 suppress-lo-alarm

suppress-lo-alarm

Syntax

[**no**] **suppress-lo-alarm**

Context

[Tree] (config>port>sonet-sdh suppress-lo-alarm)

Full Context

configure port sonet-sdh suppress-lo-alarm

Description

This command enables the suppression of lower order alarms on SONET/SDH port such as MLPPP bundle alarms, DS1/E1 links alarms and 336 APS channel groups alarms.

The **no** form of this command disables the suppression of lower order alarms on SONET/SDH port.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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45.93 suppress-lsn-events

suppress-lsn-events

Syntax

[**no**] **suppress-lsn-events**

Context

[Tree] (configure>isa>wlan-gw-group>nat suppress-lsn-events)

Full Context

configure isa wlan-gw-group nat suppress-lsn-events

Description

This command suppresses the generation of Large Scale NAT (LSN) events when RADIUS accounting is enabled.

By default, only one logging facility for tracking subscribers in LSN44, DS-Lite, and NAT64 can be enabled at the time, either the SR OS event logging facility or the RADIUS logging facility. Note that SR OS event logs can be sent to multiple destinations, such as the console session, a telnet or SSH session, memory logs, file destinations, SNMP trap groups, and syslog destinations.

If RADIUS logging is enabled, the NAT logs are sent to the RADIUS destination and the NAT logs are suppressed in the SR OS event logging facility, for example, NAT logs are not sent to the syslog server.

If RADIUS logging is disabled, the NAT logs are sent to the SR OS event logging facility, for example, syslog, assuming that the events are enabled via the SR OS event-control (**configure log event-control nat** *event* **generate**).

The **no** form of this command, the NAT logs can be sent to both logging facilities simultaneously, the SR OS event logging facility and RADIUS logging facility.

Default

suppress-lsn-events

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

suppress-lsn-events

Syntax

[**no**] **suppress-lsn-events**

Context

[Tree] (config>isa>nat-group suppress-lsn-events)

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Full Context

configure isa nat-group suppress-lsn-events

Description

This command suppresses the generation of Large Scale NAT (LSN) events when RADIUS accounting is enabled.

By default, only one logging facility for tracking subscribers in LSN44, DS-Lite, and NAT64 can be enabled at the time: either the SR OS event logging facility or the RADIUS logging facility. SR OS event logs can be sent to multiple destinations, such as the console session, a telnet or SSH session, memory logs, file destinations, SNMP trap groups, and syslog destinations.

If RADIUS logging is enabled, the NAT logs are sent to the RADIUS destination and the NAT logs are suppressed in the SR OS event logging facility, for example, NAT logs are not sent to the syslog server.

If RADIUS logging is disabled, the NAT logs are sent to the SR OS event logging facility; for example, syslog, assuming that the events are enabled via the event-control command (**configure log event-control nat** *event* **generate**).

By explicitly disabling this command (**no suppress-lsn-events**), the NAT logs can be sent to both logging facilities simultaneously, the SR OS event logging facility, and the RADIUS logging facility.

Default

suppress-lsn-events

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.94 suppress-lsn-sub-blks-free

suppress-lsn-sub-blks-free

Syntax

[**no**] **suppress-lsn-sub-blks-free**

Context

[Tree] (configure>isa>wlan-gw-group>nat suppress-lsn-sub-blks-free)

Full Context

configure isa wlan-gw-group nat suppress-lsn-sub-blks-free

Description

This command suppresses the tmnxNatLsnSubBlksFree summary notification and use the tmnxNatPlBlockAllocationLsn notifications. When the SR OS node is in a state of excessive logging, the queue associated with the transmission of logs on the MS-ISA can become congested. This event further delays the generation of logs, and with this, further allocations and deallocations of NAT resources (port-

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blocks) is stalled until the queue is relieved of congestion. For example, an excessive logging state in the system can be caused by issuing a command to clear a large number of NAT subscribers where a large number of resources (port-blocks) are released at once.

The **suppress-lsn-sub-blks-free** command enables the generation of individual logs carried in event-id 2012 for every released port block regardless of the state of the transmission queue (whether congested or not). If NAT subscribers have a large number of allocated port blocks (this could be hundreds of port blocks per subscriber), generating individual logs per port-block release contributes to the congestion.

To alleviate transmission queue congestion, this behavior can be changed by disabling this command (**no suppress-lsn-sub-blks-free**). This causes the suppression of logs related to the release of individual port blocks of a NAT subscriber when the transmission queue is congested. As a result, only a summarized release log via event-id 2021 for the subscriber is generated. The purpose of this new log is to inform the operator in a single message that all ports blocks for the subscriber are released. For example, the log message for LSN is "LSN subscriber all blocks freed". The benefit of such summarization (or log aggregation) is to alleviate the congestion of the transmission queue and consequently accelerate resource releases. An effect is the decreased granularity of information.

If summarization is enabled (**no suppress-lsn-sub-blks-free**) while there is no logging congestion in the system, the port block releases continue to be logged individually via the event-id 2012 (assuming that this is enabled in the event control), except for the last port block of the subscriber. When the last port block is released, the log with event-id 2021 is generated indicating that all port blocks for the subscriber are now released without carrying the specific information about this last port block that is released.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

suppress-lsn-sub-blks-free

Syntax

[**no**] **suppress-lsn-sub-blks-free**

Context

[Tree] (config>isa>nat-group suppress-lsn-sub-blks-free)

Full Context

configure isa nat-group suppress-lsn-sub-blks-free

Description

This command suppresses the tmnxNatLsnSubBlksFree summary notification and use the tmnxNatPlBlockAllocationLsn notifications. When the SR OS node is in a state of excessive logging, the queue associated with the transmission of logs on the MS-ISA can become congested. This event further delays the generation of logs, and with this, further allocations and deallocations of NAT resources (port-blocks) will be stalled until the queue is relieved of congestion. For example, an excessive logging state in the system can be caused by issuing a command to clear a large number of NAT subscribers where a large number of resources (port-blocks) are released at once.

The **suppress-lsn-sub-blks-free** command enables the generation of individual logs carried in event-id 2012 for every released port block regardless of the state of the transmission queue (whether congested or

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not). If NAT subscribers have a large number of allocated port blocks (this could be hundreds of port blocks per subscriber), generating individual logs per port-block release contributes to the congestion.

To alleviate transmission queue congestion, this behavior can be changed by disabling this command (**no suppress-lsn-sub-blks-free**). This causes the suppression of logs related to the release of individual port blocks of a NAT subscriber when the transmission queue is congested. As a result, only a summarized release log via event-id 2021 for the subscriber is generated. The purpose of this new log is to inform the operator in a single message that all ports blocks for the subscriber are released. For example, the log message for LSN will be "LSN subscriber all blocks freed". The benefit of such summarization (or log aggregation) is to alleviate the congestion of the transmission queue and consequently accelerate resource releases. An effect is the decreased granularity of information.

If summarization is enabled (**no suppress-lsn-sub-blks-free**) while there is no logging congestion in the system, the port block releases continue to be logged individually via the event-id 2012 (assuming that this is enabled in the event control), except for the last port block of the subscriber. When the last port block is released, the log with event-id 2021 is generated indicating that all port blocks for the subscriber are now released without carrying the specific information about this last port block that is released.

Default

no suppress-lsn-sub-blks-free

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.95 suppress-standby-signaling

suppress-standby-signaling

Syntax

[**no**] **suppress-standby-signaling**

Context

[Tree] (config>service>vpls>endpoint suppress-standby-signaling)

Full Context

configure service vpls endpoint suppress-standby-signaling

Description

When this command is enabled, the pseudowire standby bit (value 0x00000020) will not be sent to T-LDP peer when the specified spoke is selected as a standby. This allows faster switchover as the traffic will be sent over this SDP and discarded at the blocking side of the connection. This is particularly applicable to multicast traffic.

Default

suppress-standby-signaling

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Platforms

All

45.96 suppress-threshold

suppress-threshold

Syntax

suppress-threshold *suppress-penalties* **reuse-threshold** *reuse-penalties*

Context

[Tree] (config>port>ethernet>dampening suppress-threshold)

Full Context

configure port ethernet dampening suppress-threshold

Description

This command configures the penalties thresholds at which the port state events to the upper layer are dampened (suppress threshold) and then permitted (reuse threshold).

Parameters

suppress-penalties

Specifies the threshold at which the port up state is suppressed until the accumulated penalties drop below the reuse threshold again.

Values 1 to 20000

Default 2000

reuse-penalties

Specifies the threshold at which the port up state is no longer suppressed, after the port has been in a suppressed state and the accumulated penalties decay drops below this threshold. The reuse threshold value must be less than the suppress threshold value.

Values 1 to 20000

Default 1000

Platforms

All

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45.97 svc-id

svc-id

Syntax

svc-id *service-id*

no svc-id

Context

[Tree] (config>system>security>mgmt-access-filter>mac-filter>entry>match svc-id)

Full Context

configure system security management-access-filter mac-filter entry match svc-id

Description

This command specifies an existing svc-id to use as a match condition.

Parameters

service-id

Specifies a service-id to match.

Values *service-id*: 1 to 2147483647*svc-name*: 64 characters maximum

Platforms

All

45.98 svc-path

svc-path

Syntax

svc-path *path-id* **svc-index** *service-index*

no svc-path

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>vas-filter>entry>action>insert-nsh svc-path)

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Full Context

configure subscriber-mgmt isa-service-chaining vas-filter entry action insert-nsh svc-path

Description

This command configures the service path identifier and service index to be inserted in NSH in the steered traffic if the forward action indicates NSH insertion.

The **no** form of this command removes the parameters from the configuration.

Parameters

path-id

Specifies the 24-bit path ID in the base part of NSH.

Values 0 to 16777215

service-index

Specifies the 8-bit service index inserted in the base part of NSH.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.99 svc-ping

svc-ping

Syntax

svc-ping *ip-address* [**service** *service-id*] [**local-sdp**] [**remote-sdp**]

Context

[Tree] (oam svc-ping)

Full Context

oam svc-ping

Description

This command tests a service ID for correct and consistent provisioning between two service end points.

The **svc-ping** command accepts a far-end IP address and a service ID for local and remote service testing. The following information can be determined from **svc-ping**:

Local and remote service existence

- Local and remote service state
- Local and remote service type correlation

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- Local and remote customer association
- Local and remote service-to-SDP bindings and state
- Local and remote ingress and egress service label association

Unlike **sdp-ping**, only a single message is sent per command; no count nor interval parameter is supported and round trip time is not calculated. A time out value of 10 seconds is used before failing the request. The forwarding class is assumed to be Best-Effort Out-of-Profile.

If no request is sent or a reply is not received, all remote information is shown as N/A.

To terminate a **svc-ping** in progress, use the CLI break sequence <Ctrl-C>.

Upon request time out, message response, request termination, or request error the following local and remote information is displayed. See Table 173: Svc-ping. Local and remote information is dependent upon service existence and reception of reply.

Table 173: Svc-ping

Field	Description	Values
Request Result	The result of the **svc-ping** request message.	Sent - Request Timeout
		Sent - Request Terminated
		Sent - Reply Received
		Not Sent - Non-Existent Service-ID
		Not Sent - Non-Existent SDP for Service
		Not Sent - SDP For Service Down
		Not Sent - Non-existent Service Egress Label
Service-ID	The ID of the service being tested.	service-id
Local Service Type	The type of service being tested. If *service-id* does not exist locally, N/A is displayed.	Epipe, Ipipe, Fpipe, Apipe
		TLS
		IES
		Mirror-Dest
		—
Local Service Admin State	The local administrative state of *service-id*. If the service does not exist locally, the administrative state is Non-Existent.	Admin-Up
		Admin-Down
		Non-Existent

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Field	Description	Values
Local Service Oper State	The local operational state of *service-id*. If the service does not exist locally, the state is N/A.	Oper-Up
		Oper-Down
		—
Remote Service Type	The remote type of service being tested. If *service-id* does not exist remotely, N/A is displayed.	Epipe, Ipipe, Fpipe, Apipe
		TLS
		IES
		Mirror-Dest
		—
Remote Service Admin State	The remote administrative state of *service-id*. If the service does not exist remotely, the administrative state is Non-Existent.	Up
		Down
		Non-Existent
Local Service MTU	The local **service-mtu** for *service-id*. If the service does not exist, N/A is displayed.	*service-mtu*
		—
Remote Service MTU	The remote **service-mtu** for *service-id*. If the service does not exist remotely, N/A is displayed.	*remote-service-mtu*
		—
Local Customer ID	The local *customer-id* associated with *service-id*. If the service does not exist locally, N/A is displayed.	*customer-id*
		—
Remote Customer ID	The remote *customer-id* associated with *service-id*. If the service does not exist remotely, N/A is displayed.	*customer-id*
		—
Local Service IP Address	The local system IP address used to terminate remotely configured SDP-ID (as the **far-end** address). If an IP interface has not been configured to be the system IP address, N/A is displayed.	*system-ip-address*
		—
Local Service IP Interface Name	The name of the local system IP interface. If the local system IP interface has not been created, N/A is displayed.	*system-interface-name*
		—
Local Service IP Interface State	The state of the local system IP interface. If the local system IP interface has not been created, Non-Existent is displayed.	Up
		Down
		Non-Existent

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Field	Description	Values
Expected Far-end Address	The expected IP address for the remote system IP interface. This must be the **far-end** address entered for the **svc-ping** command.	*orig-sdp-far-end-addr*
		dest-ip-addr
		—
Actual Far-end Address	The returned remote IP address. If a response is not received, the displayed value is N/A. If the far-end service IP interface is down or non-existent, a message reply is not expected. **sdp-ping** should also fail.	*resp-ip-addr*
		—
Responders Expected Far-end Address	The expected source of the originator's *sdp-id* from the perspective of the remote router terminating the *sdp-id*. If the far-end cannot detect the expected source of the ingress *sdp-id* or the request is transmitted outside the *sdp-id*, N/A is displayed.	*resp-rec-tunnel-far-end-address*
		—
Originating SDP-ID	The *sdp-id* used to reach the **far-end** IP address if **sdp-path** is defined. The originating *sdp-id* must be bound to the *service-id* and terminate on the **far-end** IP address. If an appropriate originating *sdp-id* is not found, Non-Existent is displayed.	orig-sdp-id
		Non-Existent
Originating SDP-ID Path Used	Whether the Originating router used the originating *sdp-id* to send the **svc-ping** request. If a valid originating *sdp-id* is found, operational and has a valid egress service label, the originating router should use the *sdp-id* as the requesting path if **sdp-path** has been defined. If the originating router uses the originating *sdp-id* as the request path, Yes is displayed. If the originating router does not use the originating *sdp-id* as the request path, No is displayed. If the originating *sdp-id* is non-existent, N/A is displayed.	Yes
		No
		—
Originating SDP-ID Administrative State	The local administrative state of the originating *sdp-id*. If the *sdp-id* has been shutdown, Admin-Down is displayed. If the originating *sdp-id* is in the no shutdown state, Admin-Up is displayed. If an originating *sdp-id* is not found, N/A is displayed.	Admin-Up
		Admin-Up
		—
Originating SDP-ID Operating State	The local operational state of the originating *sdp-id*. If an originating *sdp-id* is not found, N/A is displayed.	Oper-Up
		Oper-Down
		—
Originating SDP-ID Binding Admin State	The local administrative state of the originating *sdp-id*s binding to *service-id*. If an *sdp-id* is not bound to the service, N/A is displayed.	Admin-Up
		Admin-Up

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Field	Description	Values
		—
Originating SDP-ID Binding Oper State	The local operational state of the originating *sdp-id*s binding to *service-id*. If an *sdp-id* is not bound to the service, N/A is displayed.	Oper-Up
		Oper-Down
		—
Responding SDP-ID	The *sdp-id* used by the far end to respond to the **svc-ping** request. If the request was received without the **sdp-path** parameter, the responding router does not use an *sdp-id* as the return path, but the appropriate responding *sdp-id* is displayed. If a valid *sdp-id* return path is not found to the originating router that is bound to the *service-id*, Non-Existent is displayed.	*resp-sdp-id*
		Non-Existent
Responding SDP-ID Path Used	Whether the responding router used the responding *sdp-id* to respond to the **svc-ping** request. If the request was received via the originating *sdp-id* and a valid return *sdp-id* is found, operational and has a valid egress service label, the far-end router should use the *sdp-id* as the return *sdp-id*. If the far end uses the responding *sdp-id* as the return path, Yes is displayed. If the far end does not use the responding *sdp-id* as the return path, No is displayed. If the responding *sdp-id* is non-existent, N/A is displayed.	Yes
		No
		—
Responding SDP-ID Administrative State	The administrative state of the far-end *sdp-id* associated with the return path for *service-id*. When a return path is administratively down, Admin-Down is displayed. If the return *sdp-id* is administratively up, Admin-Up is displayed. If the responding *sdp-id* is non-existent, N/A is displayed.	Admin-Up
		Admin-Up
		N/A
Responding SDP-ID Operational State	The operational state of the far-end *sdp-id* associated with the return path for *service-id*. When a return path is operationally down, Oper-Down is displayed. If the return *sdp-id* is operationally up, Oper-Up is displayed. If the responding *sdp-id* is non-existent, N/A is displayed.	Oper-Up
		Oper-Down
		—
Responding SDP-ID Binding Admin State	The local administrative state of the responder's *sdp-id* binding to *service-id*. If an *sdp-id* is not bound to the service, N/A is displayed.	Admin-Up
		Admin-Down
		—
Responding SDP-ID Binding Oper State		Oper-Up

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Field	Description	Values
	The local operational state of the responder's *sdp-id* binding to *service-id*. If an *sdp-id* is not bound to the service, N/A is displayed.	Oper-Down
		—
Originating VC-ID	The originator's VC-ID associated with the *sdp-id* to the far-end address that is bound to *service-id*. If the *sdp-id* signaling is off, *originator-vc-id* is 0. If the *originator-vc-id* does not exist, N/A is displayed.	*originator-vc-id*
		—
Responding VC-ID	The responder's VC-ID associated with the *sdp-id* to *originator-id* that is bound to *service-id*. If the *sdp-id* signaling is off or the service binding to *sdp-id* does not exist, *responder-vc-id* is 0. If a response is not received, N/A is displayed.	*responder-vc-id*
		—
Originating Egress Service Label	The originating service label (VC-Label) associated with the *service-id* for the originating *sdp-id*. If *service-id* does not exist locally, N/A is displayed. If *service-id* exists, but the egress service label has not been assigned, Non-Existent is displayed.	*egress-vc-label*
		—
		Non-Existent
Originating Egress Service Label Source	The originating egress service label source. If the displayed egress service label is manually defined, Manual is displayed. If the egress service label is dynamically signaled, Signaled is displayed. If the *service-id* does not exist or the egress service label is non-existent, N/A is displayed.	Manual
		Signaled
		—
Originating Egress Service Label State	The originating egress service label state. If the originating router considers the displayed egress service label operational, Up is displayed. If the originating router considers the egress service label inoperative, Down is displayed. If the *service-id* does not exist or the egress service label is non-existent, N/A is displayed.	Up
		Down
		—
Responding Service Label	The actual responding service label in use by the far-end router for this *service-id* to the originating router. If *service-id* does not exist in the remote router, N/A is displayed. If *service-id* does exist remotely but the remote egress service label has not been assigned, Non-Existent is displayed.	*rec-vc-label*
		—
		Non-Existent
Responding Egress Service Label Source	The responder's egress service label source. If the responder's egress service label is manually defined, Manual is displayed. If the responder's egress service label is dynamically signaled, Signaled is displayed. If the *service-id* does not exist on the responder or the responder's egress service label is non-existent, N/A is displayed.	Manual
		Signaled
		—

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Field	Description	Values
Responding Service Label State	The responding egress service label state. If the responding router considers its egress service label operational, Up is displayed. If the responding router considers its egress service label inoperative, Down is displayed. If the *service-id* does not exist or the responder's egress service label is non-existent, N/A is displayed.	Up Down —
Expected Ingress Service Label	The locally assigned ingress service label. This is the service label that the far-end is expected to use for *service-id* when sending to the originating router. If *service-id* does not exist locally, N/A is displayed. If *service-id* exists but an ingress service label has not been assigned, Non-Existent is displayed.	*ingress-vc-label* — Non-Existent
Expected Ingress Label Source	The originator's ingress service label source. If the originator's ingress service label is manually defined, Manual is displayed. If the originator's ingress service label is dynamically signaled, Signaled is displayed. If the *service-id* does not exist on the originator or the originators ingress service label has not been assigned, N/A is displayed.	Manual Signaled —
Expected Ingress Service Label State	The originator's ingress service label state. If the originating router considers its ingress service label operational, Up is displayed. If the originating router considers its ingress service label inoperative, Down is displayed. If the *service-id* does not exist locally, N/A is displayed.	Up Down —
Responders Ingress Service Label	The assigned ingress service label on the remote router. This is the service label that the far end is expecting to receive for *service-id* when sending to the originating router. If *service-id* does not exist in the remote router, N/A is displayed. If *service-id* exists, but an ingress service label has not been assigned in the remote router, Non-Existent is displayed.	*resp-ingress-vc-label* — Non-Existent
Responders Ingress Label Source	The assigned ingress service label source on the remote router. If the ingress service label is manually defined on the remote router, Manual is displayed. If the ingress service label is dynamically signaled on the remote router, Signaled is displayed. If the *service-id* does not exist on the remote router, N/A is displayed.	Manual Signaled —
Responders Ingress Service Label State	The assigned ingress service label state on the remote router. If the remote router considers its	Up

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Field	Description	Values
	ingress service label operational, Up is displayed. If the remote router considers its ingress service label inoperative, Down is displayed. If the *service-id* does not exist on the remote router or the ingress service label has not been assigned on the remote router, N/A is displayed.	Down
		—

Parameters

ip-address

Specifies the far-end IP address to which to send the **svc-ping** request message in dotted decimal notation.

Values a.b.c.d

service-id

Specifies the service ID of the service being tested must be indicated with this parameter. The service ID need not exist on the local router to receive a reply message.

Values 1 to 2147483647, service-name: up to 64 characters

local-sdp

Specifies the **svc-ping** request message should be sent using the same service tunnel encapsulation labeling as service traffic. If **local-sdp** is specified, the command attempts to use an egress *sdp-id* bound to the service with the specified **far-end** IP address with the VC-Label for the service. The far-end address of the specified *sdp-id* is the expected *responder-id* within the reply received. The *sdp-id* defines the encapsulation of the SDP tunnel encapsulation used to reach the far end; this can be IP/GRE or MPLS. On originator egress, the service-ID must have an associated VC-Label to reach the far-end address of the *sdp-id* and the *sdp-id* must be operational for the message to be sent.

If **local-sdp** is not specified, the **svc-ping** request message is sent with GRE encapsulation with the OAM label.

Table 174: Message Encapsulation indicates whether a message is sent and how the message is encapsulated based on the state of the service ID.

Table 174: Message Encapsulation

Local Service State	local-sdp Not Specified		local-sdp Specified	
	Message Sent	Message Encapsulation	Message Sent	Message Encapsulation
Invalid Local Service	Yes	Generic IP/GRE OAM (PLP)	No	None
No Valid SDP-ID Bound	Yes	Generic IP/GRE OAM (PLP)	No	None

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Local Service State	local-sdp Not Specified		local-sdp Specified	
	Message Sent	Message Encapsulation	Message Sent	Message Encapsulation
SDP-ID Valid But Down	Yes	Generic IP/GRE OAM (PLP)	No	None
SDP-ID Valid and Up, But No Service Label	Yes	Generic IP/GRE OAM (PLP)	No	None
SDP-ID Valid, Up and Egress Service Label	Yes	Generic IP/GRE OAM (PLP)	Yes	SDP Encapsulation with Egress Service Label (SLP)

remote-sdp

Specifies **svc-ping** reply message from the **far-end** should be sent using the same service tunnel encapsulation labeling as service traffic.

If **remote-sdp** is specified, the **far-end** responder attempts to use an egress *sdp-id* bound to the service with the message originator as the destination IP address with the VC-Label for the service. The *sdp-id* defines the encapsulation of the SDP tunnel encapsulation used to reply to the originator; this can be IP/GRE or MPLS. On responder egress, the service-ID must have an associated VC-Label to reach the originator address of the *sdp-id* and the *sdp-id* must be operational for the message to be sent.

If **remote-sdp** is not specified, the **svc-ping** request message is sent with GRE encapsulation with the OAM label.

Table 175: Message Response Encapsulation indicates how the message response is encapsulated based on the state of the remote service ID.

Table 175: Message Response Encapsulation

Remote Service State	Message Encapsulation	
	remote-sdp Not Specified	remote-sdp Specified
Invalid Ingress Service Label	Generic IP/GRE OAM (PLP)	Generic IP/GRE OAM (PLP)
Invalid Service-ID	Generic IP/GRE OAM (PLP)	Generic IP/GRE OAM (PLP)
No Valid SDP-ID Bound on Service-ID	Generic IP/GRE OAM (PLP)	Generic IP/GRE OAM (PLP)
SDP-ID Valid But Down	Generic IP/GRE OAM (PLP)	Generic IP/GRE OAM (PLP)
SDP-ID Valid and Up, but No Service Label	Generic IP/GRE OAM (PLP)	Generic IP/GRE OAM (PLP)
SDP-ID Valid and Up, Egress Service Label, but VC-ID Mismatch	Generic IP/GRE OAM (PLP)	Generic IP/GRE OAM (PLP)

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Remote Service State	Message Encapsulation	
	remote-sdp Not Specified	remote-sdp Specified
SDP-ID Valid and Up, Egress Service Label, but VC-ID Match	Generic IP/GRE OAM (PLP)	SDP Encapsulation with Egress Service Label (SLP)

Platforms

All

Output

Output Example

```
*A:router1> svc-ping far-end 10.10.10.10 service 101 local-sdp remote-sdp
Request Result: Sent – Reply Received

Service-ID: 101

Err       Basic Info              Local     Remote
---       -----------------       ------    ------
__        Type:                   TLS       TLS
__        Admin State:            Up        Up
__        Oper State:             Up        Up
__        Service-MTU:            1514      1514
__        Customer ID:            1001      1001

Err       System IP Interface Info
---       ------------------------------------------------------------
Local Interface Name: "7750 SR-System-IP-Interface (Up to 32 chars)…"
__        Local IP Interface State:         Up
__        Local IP Address:                 10.10.10.11
__        IP Address Expected By Remote:    10.10.10.11
__        Expected Remote IP Address:       10.10.10.10
__        Actual Remote IP Address:         10.10.10.10

Err       SDP-ID Info             Local     Remote
---       -----------------       ------    ------
__        Path Used:              Yes       Yes
__        SDP-ID:                 123       325
__        Administrative State:   Up        Up
__        Operative State:        Up        Up
__        Binding Admin State:    Up        Up
__        Binding Oper State:     Up        Up
__        Binding VC-ID:          101       101

Err       Service Label Information   Label     Source        State
---       -------------------------   -----     -----------   -----
__        Local Egress Label:         45        Signaled      Up
__        Remote Expected Ingress:    45        Signaled      Up
__        Remote Egress:              34        Signaled      Up
__        Local Expected Ingress:     34        Signaled      Up
```


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45.100 svlan-statistics

svlan-statistics

Syntax

svlan-statistics

Context

[Tree] (config>subscr-mgmt svlan-statistics)

Full Context

configure subscriber-mgmt svlan-statistics

Description

Commands in this context enable subscriber VLAN statistics collection.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.101 swap

swap

Syntax

swap {*out-label* | **implicit-null-label**} **nexthop** *ip-address*

no swap

Context

[Tree] (config>router>mpls>if>label-map swap)

Full Context

configure router mpls interface label-map swap

Description

This command swaps the incoming label and specifies the outgoing label and next hop IP address on an LSR for a static LSP.

The **no** form of this command removes the swap action associated with the *in-label*.

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Parameters

implicit-null-label

Specifies the use of the implicit label value for the outgoing label of the swap operation.

out-label

Specifies the label value to be swapped with the in-label. Label values 16 through 1,048,575 are defined as follows:

- label values 16 through 31 are reserved
- label values 32 through 1,023 are available for static assignment
- label values 1,024 through 2,047 are reserved for future use
- label values 2,048 through 18,431 are statically assigned for services
- label values 28,672 through 131,071 are dynamically assigned for both MPLS and services
- label values 131,072 through 1,048,575 are reserved for future use

Values 16 to 1048575

nexthop *ip-address*

Specifies the IP address to forward to. If an ARP entry for the next hop exists, then the static LSP will be marked operational. If ARP entry does not exist, software will set the operational status of the static LSP to down and continue to ARP for the configured nexthop. Software will continuously try to ARP for the configured nexthop at a fixed interval.

Platforms

All

45.102 sweep

sweep

Syntax

sweep start *dispersion-start* **end** *dispersion-end*

Context

[Tree] (config>port>dwdm>coherent sweep)

Full Context

configure port dwdm coherent sweep

Description

This command allows users to configure the dispersion sweep 'start' and 'end' values for the automatic mode of coherent control. If the user knows the approximate or theoretical residual dispersion of the link,

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this command can be used to limit the range of sweeping for the automatic control mode and thus achieve faster link up.

Parameters

dispersion-start

Specifies the lower range limit for the dispersion compensation.

Values -50000 to 50000

Default -25500

dispersion-end

Specifies the upper range limit for the dispersion compensation.

Values -50000 to 50000

Default 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.103 switch-fabric

switch-fabric

Syntax

switch-fabric

Context

[Tree] (config>system switch-fabric)

Full Context

configure system switch-fabric

Description

Commands in this context configure switch fabric parameters.

Platforms

7450 ESS, 7750 SR-7, 7750 SR-12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

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45.104 switchover-exec

switchover-exec

Syntax

switchover-exec *file-url*

no switchover-exec

Context

[Tree] (config>system switchover-exec)

Full Context

configure system switchover-exec

Description

This command specifies the location and name of the CLI script file executed following a redundancy switchover from the previously active CPM card. A switchover can happen because of a fatal failure or by manual action.

The CLI script file can contain commands for environment settings, classic CLI debug configuration (excluding mirroring settings), and other commands not maintained by the configuration redundancy.

The following commands are not supported in the switchover-exec file: clear, configure, candidate, oam, tools, oam, ping, traceroute, mstat, mtrace and mrinfo.

Default

no switch-over-exec

Parameters

file-url

Specifies the location and name of the CLI script file.

Values

local-url | *remote-url*	
local-url	[*cflash-id*/][*file-path*] 200 chars max, including cflash-id
	directory length 99 chars max each
remote-url	[{ftp:// | tftp://}*login:pswd@remote-locn*/][*file-path*]
	243 chars max
	directory length 99 chars max each
remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]

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ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

45.105 symbol-monitor

symbol-monitor

Syntax

symbol-monitor

Context

[Tree] (config>port>ethernet symbol-monitor)

Full Context

configure port ethernet symbol-monitor

Description

This command configures Ethernet Symbol Monitoring parameters. Support for symbol monitoring is hardware dependent. An error message indicating that the port setting cannot be modified will be presented when attempting to enable the feature or configure the individual parameters on unsupported hardware.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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45.106 sync

sync

Syntax

[**no**] **sync**

Context

[Tree] (config>redundancy>multi-chassis>peer sync)

Full Context

configure redundancy multi-chassis peer sync

Description

Commands in this context configure synchronization parameters.

Default

no sync

Platforms

All

sync

Syntax

[**no**] **sync**

Context

[Tree] (config>isa>nat-group>inter-chassis-redundancy sync)

Full Context

configure isa nat-group inter-chassis-redundancy sync

Description

This command configures synchronization of NAT flows between the nodes.

The **no** form of this command disables synchronization of NAT flows that were enabled between the ISAs or ESAs across the nodes. This allows NAT reconfiguration on both nodes. The synchronization of flows must be disabled on both nodes, active and standby, while NAT configuration changes are performed. The active NAT node continues to forward traffic while flow synchronization is disabled.

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Default
no sync

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.107 sync-boot-env

sync-boot-env

Syntax
sync-boot-env

Context
[Tree] (admin>satellite>eth-sat sync-boot-env)

Full Context
admin satellite eth-sat sync-boot-env

Description
The command forces the specified Ethernet-satellite chassis to synchronize the boot image.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.108 sync-e

sync-e

Syntax
[**no**] **sync-e**

Context
[Tree] (config>card>mda sync-e)
[Tree] (config>card>xiom>mda sync-e)

Full Context
configure card mda sync-e

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configure card xiom mda sync-e

Description

This command enables synchronous Ethernet on the MDA. Then any port on the MDA can be used as a source port in the sync-if-timing configuration.

The **no** form of this command disables synchronous Ethernet on the MDA.

Platforms

All

- configure card mda sync-e

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda sync-e

sync-e

Syntax

[**no**] **sync-e**

Context

[Tree] (config>system>satellite>eth-sat sync-e)

Full Context

configure system satellite eth-sat sync-e

Description

This command enables the Ethernet satellite for synchronous Ethernet operation so that the transmit timing of the satellite access ports use the frequency of the host router's central clock.

To enable this functionality, both host ports on the router that connect to the U1 and U2 ports of the satellite must be synchronous Ethernet-capable ports.

When the Ethernet satellite is configured for synchronous Ethernet, ESMC frames are enabled on the host ports. The SSM code-type used between the host and the satellite should be manually configured on the host ports to match the code-type desired on the satellite client ports. The code-type setting on the host ports does not restrict the code-type used on the satellite client ports, as those may be configured on an individual port basis.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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45.109 sync-if-timing

sync-if-timing

Syntax

sync-if-timing

Context

[Tree] (config>system sync-if-timing)

Full Context

configure system sync-if-timing

Description

This command creates or edits the context to create or modify timing reference parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sync-if-timing

Syntax

sync-if-timing

Context

[Tree] (config>system>sat>eth-sat sync-if-timing)

Full Context

configure system satellite eth-sat sync-if-timing

Description

Commands in this context configure references used in the Ethernet satellite.

The **configure system satellite eth-sat sync-e** command must first be configured before commands in this context are accepted.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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sync-if-timing

Syntax

sync-if-timing

Context

[Tree] (debug sync-if-timing)

Full Context

debug sync-if-timing

Description

The context to debug synchronous interface timing references.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

45.110 synce

synce

Syntax

synce

Context

[Tree] (config>system>sync-if-timing synce)

Full Context

configure system sync-if-timing synce

Description

Commands in this context configure attributes related to the CPM/CCM SyncE/1588 ports.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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45.111 synchronize

synchronize

Syntax

synchronize {**boot-env** | **config**}

Context

[Tree] (config>redundancy synchronize)

Full Context

configure redundancy synchronize

Description

This command enables automatic synchronization of system files on the active CPM to the standby CPM.

The **no** form of the command disables synchronization.

Default

synchronize config

Parameters

boot-env

Synchronizes all files required for the boot process.

config

Synchronizes the configuration files.

Platforms

All

synchronize

Syntax

synchronize {**boot-env** | **cert** | **config**}

Context

[Tree] (admin>redundancy synchronize)

Full Context

admin redundancy synchronize

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Description

This command manually synchronizes system files on the active CPM to the standby CPM. Either the **boot-env**, **cert** or **config** parameter must be specified.

Parameters

boot-env

Synchronize all files required for the boot process.

cert

Synchronize the PKI certificate files.

config

Synchronize the configuration files.

Platforms

All

45.112 synchronous-execution

synchronous-execution

Syntax

synchronous-execution *seconds*

synchronous-execution never

Context

[Tree] (config>system>management-interface>ops>global-timeouts synchronous-execution)

Full Context

configure system management-interface operations global-timeouts synchronous-execution

Description

This command configures the period of time that operations launched as "'synchronous" (the default method for all operations) are allowed to execute before they are automatically stopped, and their associated data is deleted.

If a specific execution timeout is not included in the request for a particular synchronous operation, this system-level timeout applies.

Note:
This execution timeout is part of the general global operations infrastructure and is separate and independent from any operation-specific timeouts (for example, the **ping** operation also has its own **timeout** parameter).

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Caution:
This timeout also applies to operations requested in the MD-CLI interface (for example, ping, file dir, and so on). If **synchronous-execution** is enabled with a specific time value, MD-CLI operations are subject to this timeout and are interrupted if they execute longer than the configured **synchronous-execution** time.

Default

synchronous-execution never

Parameters

seconds

Specifies the period of time, in seconds, that synchronous operations are allowed to execute.

Values 1 to 604800

never

Keyword to specify that an execution timeout is not applied to synchronous operations.

Platforms

All

45.113 syslog

syslog

Syntax

syslog script *name*

no syslog

Context

[Tree] (config>python>py-policy syslog)

Full Context

configure python python-policy syslog

Description

This command enables Python script to process syslog related messages and events.

The **no** form of this command disables the Python script to process syslog related messages and events.

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Parameters

name

Specifies the name of the Python script, up to 32 characters, that is used to handle the specified message.

Platforms

All

syslog

Syntax

syslog *syslog-id* [**name** *syslog-name*]

no syslog *syslog-id*

Context

[Tree] (config>service>vprn>log syslog)

Full Context

configure service vprn log syslog

Description

This command creates the context to configure a Syslog target host that is capable of receiving selected Syslog messages from this network element.

A valid *syslog-id* must have the target Syslog host address configured.

A maximum of 30 Syslog IDs can be configured.

No log events are sent to a Syslog target address until the syslog-id has been configured as the log destination (**to**) in the log-id node.

The Syslog ID configured in the **configure**>**service**>**vprn** context has a local VPRN scope and only needs to be unique within the specific VPRN instance. The same ID can be reused under a different VPRN service or in the global log context under **config>log**.

Default

No syslog IDs are defined.

Parameters

syslog-id

Specifies the Syslog ID for the Syslog destination.

Values 1 to 30

name syslog-name

Specifies an optional Syslog name, up to 64 characters, that can be used to refer to the Syslog destination after it is created.

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Platforms

All

syslog

Syntax

syslog

Context

[Tree] (config>app-assure>group>evt-log syslog)

Full Context

configure application-assurance group event-log syslog

Description

Commands in this context configure the target syslog server.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

syslog

Syntax

syslog

Context

[Tree] (config>service>nat syslog)

Full Context

configure service nat syslog

Description

Commands in this context configure syslog reporting of NAT flow parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

syslog

Syntax

syslog *syslog-id* [**name** *syslog-name*]

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no syslog *syslog-id*

Context

[Tree] (config>log syslog)

Full Context

configure log syslog

Description

Commands in this context configure a Syslog target host capable of receiving selected syslog messages from this network element.

A valid *syslog-id* must have the target Syslog host address configured.

A maximum of 10 Syslog IDs can be configured.

Log events are not sent to a Syslog target address until the *syslog-id* is configured as the log destination (**to**) in the node specified by the Log ID.

The Syslog ID configured in the **config**>**service**>**vprn** context has a local VPRN scope and only needs to be unique within the specific VPRN instance. The same ID can be reused under a different VPRN service or in the global log context under **config**>**log**.

The **no** form of this command removes the Syslog configuration.

Parameters

syslog-id

Specifies the Syslog ID for the Syslog destination.

Values 1 to 10

name syslog-name

Configures an optional Syslog name, up to 64 characters, that can be used to refer to the Syslog destination after it is created.

Platforms

All

45.114 syslog-export-policy

syslog-export-policy

Syntax

syslog-export-policy *policy-name*

no syslog-export-policy

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Context

[Tree] (config>service>nat>nat-policy syslog-export-policy)

Full Context

configure service nat nat-policy syslog-export-policy

Description

This command creates a syslog export policy with a set of transport parameters that will be used to transmit NAT flow records in syslog format to an external collector node. This policy name is then referenced from the nat-policy applied to an inside routing context.

Default

no syslog-export-policy

Parameters

policy-name

Specifies the name of the syslog export policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

syslog-export-policy

Syntax

syslog-export-policy *name* [**create**]

no syslog-export-policy *name*

Context

[Tree] (config>service>nat>syslog syslog-export-policy)

Full Context

configure service nat syslog syslog-export-policy

Description

This command creates a syslog export policy with a set of transport parameters that are used to transmit NAT flow records in syslog format to an external collector node. This policy name is then referenced from the NAT policy applied to an inside routing context.

The **no** form of the command removes the policy name from the configuration.

Parameters

name

Specifies the syslog export policy name, up to 32 characters.

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create

Keyword used to create the syslog export policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.115 system

system

Syntax

system

Context

[Tree] (config>eth-cfm system)

Full Context

configure eth-cfm system

Description

Commands in this context configure Connectivity Fault Management (CFM) general system parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

system

Syntax

[**no**] **system**

Context

[Tree] (debug system)

Full Context

debug system

Description

This command displays system debug information.

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Platforms

All

system

Syntax

system

Context

[Tree] (admin system)

Full Context

admin system

Description

Commands in this context perform system operations.

Platforms

All

45.116 system-base-mac

system-base-mac

Syntax

system-base-mac *mac-address*

no system-base-mac

Context

[Tree] (bof system-base-mac)

Full Context

bof system-base-mac

Description

This command is used to specify the base MAC address for a VSR-based system. The specified MAC address is used as the first MAC address by the system to assign MAC addresses to individual interfaces.

It is strongly recommended that a unique base MAC address is assigned to each VSR instance with a minimum gap of 1024 between base addresses to avoid a MAC address overlap.

The **no** form of this command removes the configured system base MAC address.

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Default
no system-base-mac

Parameters
mac-address
Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS-20, 7950 XRS-20e, VSR

45.117 system-behavior

system-behavior

Syntax
system-behavior

Context
[Tree] (config>subscr-mgmt system-behavior)

Full Context
configure subscriber-mgmt system-behavior

Description
Commands in this context configure system-wide subscriber management behavior parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

45.118 system-filter

system-filter

Syntax
system-filter

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Context

[Tree] (config>filter system-filter)

Full Context

configure filter system-filter

Description

Commands in this context activate system filter policies.

Platforms

All

45.119 system-id

system-id

Syntax

system-id *system-id*

no system-id

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>host-ident system-id)

Full Context

configure subscriber-mgmt local-user-db ipoe host host-identification system-id

Description

This command specifies the system ID to match for a host lookup. When the LUDB is accessed through a DHCPv4 server, the system ID is matched against the Nokia vendor specific sub-option in DHCP Option 82.

Note:
This command is only used when **system-id** is configured as one of the **match-list** parameters.

The **no** form of this command removes the system ID from the configuration.

Parameters

system-id

Specifies the system ID, up to 255 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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system-id

Syntax

[**no**] **system-id**

Context

[Tree] (config>service>vpls>sap>dhcp>option>vendor system-id)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option>vendor system-id)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>dhcp>option>vendor system-id)

[Tree] (config>service>vprn>if>dhcp>option>vendor system-id)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option>vendor system-id)

Full Context

configure service vpls sap dhcp option vendor-specific-option system-id

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option system-id

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option system-id

configure service vprn interface dhcp option vendor-specific-option system-id

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option system-id

Description

This command specifies whether the system-id is encoded in the Nokia vendor-specific sub-option of Option 82.

The **no** form of this command reverts to the default.

Platforms

All

- configure service vprn interface dhcp option vendor-specific-option system-id
- configure service vpls sap dhcp option vendor-specific-option system-id

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option system-id
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option system-id
- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option system-id

system-id

Syntax

system-id *isis-system-id*

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no system-id

Context

[Tree] (config>service>vprn>isis system-id)

Full Context

configure service vprn isis system-id

Description

This command configures the IS-IS system ID. The system ID has a fixed length of 6 octets; it is determined using the following preference order:

1. **config>service>vprn>isis>system-id**
2. **config>service>vprn>isis>router-id**
3. **config>service>vprn>router-id**
4. **config>service>vprn>if>address**
5. The default system ID 2550.0000.0000, based on the default router ID 255.0.0.0

The system ID is integral to IS-IS; therefore, for the **system-id** command to take effect, a **shutdown** and then **no shutdown** must be performed on the IS-IS instance. This will ensure that the configured and operational system ID are always the same.

The **no** form of this command removes the system ID from the configuration. The router ID is used when no system ID is specified.

Default

no system-id

Parameters

isis-system-id

12 hexadecimal characters in dotted-quad notation.

Values aaaa.bbbb.cccc, where aaaa, bbbb, and cccc are hexadecimal numbers

Platforms

All

system-id

Syntax

[**no**] **system-id**

Context

[Tree] (config>router>if>dhcp>option>vendor-specific-option system-id)

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Full Context

configure router interface dhcp option vendor-specific-option system-id

Description

This command specifies whether the system-id is encoded in the Nokia vendor-specific sub-option of Option 82.

Default

no system-id

Platforms

All

system-id

Syntax

system-id *isis-system-id*

no system-id

Context

[Tree] (config>router>isis system-id)

Full Context

configure router isis system-id

Description

This command configures the IS-IS system ID. The system ID has a fixed length of 6 octets; it is determined using the following preference:

1. **config>router>isis>system-id**
2. **config>router>isis>router-id**
3. **config>router>router-id**
4. **config>router>interface>system> address**
5. The default system ID 2550.0000.0000, based on the default router ID 255.0.0.0

The system ID is integral to IS-IS; therefore, for the **system-id** command to take effect, the IS-IS instance must be **shutdown** and then **no shutdown**. This will ensure that the configured and operational system ID are always the same.

The **no** form of this command removes the system ID from the configuration. The router ID is used when no system ID is specified.

Parameters

isis-system-id

Specifies 12 hexadecimal characters in dotted-quad notation.

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Values aaaa.bbbb.cccc, where aaaa, bbbb, and cccc are hexadecimal numbers

Platforms

All

45.120 system-ip-load-balancing

system-ip-load-balancing

Syntax

[**no**] **system-ip-load-balancing**

Context

[Tree] (config>system>load-balancing system-ip-load-balancing)

Full Context

configure system load-balancing system-ip-load-balancing

Description

This command enables the use of the system IP address in the ECMP hash algorithm to add a per system variable. This can help guard against cases where multiple routers, in series, will end up hashing traffic to the same ECMP/LAG path.

This command is set at a system wide basis, however if certain IOMs do not support the new load-balancing algorithm, they will continue to use the default algorithm. By default, the IPv4 system IP address is used in the hash algorithm. When no IPv4 system IP address is configured, the IPv6 system IP address, when configured, is used in the hash algorithm.

The **no** form of the command resets the system wide algorithm to default.

Default

no system-ip-load-balancing

Platforms

All

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45.121 system-mac

system-mac

Syntax

system-mac *mac-address*

no system-mac

Context

[Tree] (config>system>ned>profile system-mac)

Full Context

configure system network-element-discovery profile system-mac

Description

This command configures the MAC address to be advertised.

The **no** form of this command removes any explicitly defined MAC address and chassis MAC address will be advertised.

Default

no system-mac

Parameters

mac-address

Specifies the MAC address to be associated with the profile in *xx:xx:xx:xx:xx:xx* or *xx-xx-xx-xx-xx-xx* format.

Platforms

All

45.122 system-name

system-name

Syntax

system-name *name*

[**no**] **system-name**

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Context

[Tree] (config>app-assure>group>cflowd system-name)

Full Context

configure application-assurance group cflowd system-name

Description

This command configures the system name of the cflowd AA group. This is exported to the comprehensive cflowd template as **aaSystemName**.

The **no** form of this command removes the cflowd system name.

Default

no system-name

Parameters

name

Specifies the name of the system, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

45.123 system-password

system-password

Syntax

system-password admin-password

system-password dynsvc-password

Context

[Tree] (admin>system>security system-password)

Full Context

admin system security system-password

Description

This operational command changes a local system password.

Parameters

admin-password

Specifies to change the administrative password.

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dynsvc-password

Specifies to change the dynamic services password.

Platforms

All

45.124 system-priority

system-priority

Syntax

system-priority *value*

no system-priority

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ep system-priority)

Full Context

configure redundancy multi-chassis peer mc-endpoint system-priority

Description

This command allows the operator to set the system priority. The peer configured with the lowest value is chosen to be the master. If system-priority are equal then the one with the highest system-id (chassis MAC address) is chosen as the master.

The **no** form of this command sets the system priority to default.

Default

no system-priority

Parameters

value

Specifies the priority assigned to the local MC-EP peer.

Values 1 to 255

Platforms

All

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45.125 system-profile

system-profile

Syntax

system-profile {**profile-a** | **profile-b**}

no system-profile

Context

[Tree] (bof system-profile)

Full Context

bof system-profile

Description

This command configures the system profile in the BOF.

System profile none represents the existing system capabilities and allows hardware based on FP3 and later generations (for example, FP4, FP5) to co-exist within a system. This profile is indicated by the omission of the **system-profile** parameter in the BOF.

System profile **profile-a** is primarily targeted at subscriber services and layer 2 and 3 VPN business services.

System profile **profile-b** is primarily targeted at infrastructure routing, core, peering, and DC-GW applications.

System profiles **profile-a** and **profile-b** support only line cards based on FP4 and later generations (for example, FP5).

On 7750 SR-1 and 7750 SR-s systems, the following conditions apply about the profile parameter:

- The parameter should be configured to either **profile-a** or **profile-b**.
- If the parameter is omitted, profile **profile-a** is used by the system.
- If the parameter is configured to an invalid value, it is ignored and profile **profile-a** is used by the system.

On 7750 SR-7-B/12-B/12e and 7950 XRS-20/20e systems, the following conditions apply about the profile parameter:

- The default system profile is **none** when the parameter is omitted.
- The parameter can be configured to either **profile-a** or **profile-b**, in which case only FP4-based line cards are supported.
- If the parameter is configured to an invalid value, it is ignored and profile **none** is used by the system.

On all other systems, the following conditions apply about the profile parameter:

- These systems must use profile **none** (the existing system capabilities). As a result, the parameter must not be configured.

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- If the parameter is configured to **profile-a** or **profile-b**, the system boots, allowing access using the console and CPM management interface, but FP2-based and FP3-based line cards cannot be provisioned; if these card types are present in the boot configuration, the boot sequence aborts loading the configuration file when it encounters their configuration. This issue can be corrected by removing the parameter and rebooting the system.
- If the parameter is configured to an invalid value, it is ignored and profile **none** is used by the system.

See "System profiles" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide* for more information.

The **no** form of this command removes the **system-profile** parameter from the BOF.

Parameters

profile-a

Specifies that the system profile is for subscriber services and Layer 2 and 3 VPN business services.

profile-b

Specifies that the system profile is primarily targeted at infrastructure routing, core, peering, and DC-GW applications.

Platforms

All

45.126 system-reserve

system-reserve

Syntax

system-reserve *percent-of-buffers*

no system-reserve

Context

[Tree] (config>qos>hs-pool-policy system-reserve)

Full Context

configure qos hs-pool-policy system-reserve

Description

This command defines the amount of HSQ IOM buffers that is set aside for internal system use. By default, 5% of the total buffer space is reserved for system internal queues. The command is provided for the case where the reserved buffer space is either insufficient or excessive. Exercise care when modifying this value.

When the system reserve value is changed, all the provisioned port-class, mid-tier, and root pool sizes are reevaluated and possibly changed.

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Use the **show hs-pools** *card-slot-number* **fp** *forwarding-plane* **egress** command to display the current buffer allocation and buffer usage conditions on an HSQ IOM.

The **no** form of the command reverts to the default system reserve value.

Default

system-reserve 5.0

Parameters

percent-of-buffers

Specifies the percentage of HS buffers that are reserved for internal system use. This parameter is required when executing the **system-reserve** command. The parameter accepts a percent value with two decimal places (100th of a percent).

Values 1.00 to 30.00

Platforms

7750 SR-7/12/12e

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46 t Commands – Part I

46.1 t2-paths

t2-paths

Syntax

t2-paths

Context

[Tree] (config>mcast-mgmt>bw-plcy t2-paths)

Full Context

configure mcast-management bandwidth-policy t2-paths

Description

Commands in this context configure T2 path queuing parameters for primary and secondary paths.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

46.2 t391

t391

Syntax

t391 [*value*]

no t391

Context

[Tree] (config>port>ethernet>elmi t391)

Full Context

configure port ethernet elmi t391

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Description

This command configures the polling timer for UNI-C.

Parameters

value

Specifies the polling timer for UNI-C.

Values 5 to 30

Platforms

All

46.3 t392

t392

Syntax

t392 [*value*]

no t392

Context

[Tree] (config>port>ethernet>elmi t392)

Full Context

configure port ethernet elmi t392

Description

This command configures the polling verification timer for UNI-N.

Parameters

value

Specifies the polling verification timer for UNI-N.

Values 5 to 30

Platforms

All

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46.4 tab

tab

Syntax

[**no**] **tab**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>command-completion tab)

Full Context

configure system management-interface cli md-cli environment command-completion tab

Description

This command enables completion on the tab character.

The **no** form of this command reverts to the default value.

Default

tab

Platforms

All

46.5 table-size

table-size

Syntax

table-size *table-size*

Context

[Tree] (config>service>vpls>proxy-nd table-size)

[Tree] (config>service>vpls>proxy-arp table-size)

Full Context

configure service vpls proxy-nd table-size

configure service vpls proxy-arp table-size

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Description

This command adds a table-size limit per service. By default, the table-size limit is 250; it can be set up to 16k entries per service. A non-configurable implicit high watermark of 95% and low watermark of 90% exists, per service and per system. When those watermarks are reached, a syslog/trap is triggered. When the system/service limit is reached, entries for a specified IP can be replaced (a different MAC can be learned and added) but no new IP entries will be added, regardless of the type (Static, evpn, dynamic). If the user attempts to change the **table-size** value to a value that cannot accommodate the number of existing entries, the attempt will fail.

Default

table-size 250

Parameters

table-size

Specifies the table-size as number of entries for the service.

Values 1 to 16384

Platforms

All

46.6 tacplus

tacplus

Syntax

no tacplus

tacplus [**create**]

Context

[Tree] (config>service>vprn>aaa>rmt-srv tacplus)

Full Context

configure service vprn aaa remote-servers tacplus

Description

This command creates the context to configure TACACS+ authentication on the VPRN.

Configure multiple server addresses for each router for redundancy.

The **no** form of this command removes the TACACS+ configuration.

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Parameters

create

Keyword to create the TACACS+ configuration.

Platforms

All

tacplus

Syntax

[**no**] **tacplus**

Context

[Tree] (config>system>security tacplus)

Full Context

configure system security tacplus

Description

This command creates the context to configure TACACS+ authentication on the router.

Configure multiple server addresses for each router for redundancy.

The **no** form of this command removes the TACACS+ configuration.

Platforms

All

46.7 tacplus-map-to-priv-lvl

tacplus-map-to-priv-lvl

Syntax

tacplus-map-to-priv-lvl [*admin-priv-lvl*]

no tacplus-map-to-priv-lvl

Context

[Tree] (config>system>security>password>enable-admin-control tacplus-map-to-priv-lvl)

Full Context

configure system security password enable-admin-control tacplus-map-to-priv-lvl

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Description

When **tacplus-map-to-priv-lvl** is enabled, and tacplus authorization is enabled with the *use-priv-lvl* option, typing **enable-admin** starts an interactive authentication exchange from the node to the TACACS+ server. The start message (service=enable) contains the user-id and the requested *admin-priv-lvl*. Successful authentication results in the use of a new profile (as configured under **config>system>security>tacplus>priv-lvl-map**).

Platforms

All

46.8 tag

tag

Syntax

tag *tag*

no tag [*tag*]

Context

[Tree] (config>service>vprn>static-route-entry tag)

Full Context

configure service vprn static-route-entry tag

Description

This command associates a 4-byte route-tag with the static route. The tag value can be used in route policies to control distribution of the static route into other protocols.

The tag specified at this level of the static route causes tag values configured under the next-hop, black-hole, and indirect contexts of the static route to be ignored.

The **no** form of this command removes the tag association.

Default

no tag

Parameters

tag

Specifies an integer value.

Values 1 to 4294967295

Platforms

All

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tag

Syntax

tag *tag-value*

no tag [*tag-value*]

Context

[Tree] (config>service>vprn>static-route-entry>next-hop tag)

[Tree] (config>service>vprn>static-route-entry>indirect tag)

[Tree] (config>service>vprn>static-route-entry>ipsec-tunnel tag)

Full Context

configure service vprn static-route-entry next-hop tag

configure service vprn static-route-entry indirect tag

configure service vprn static-route-entry ipsec-tunnel tag

Description

This command adds a 32-bit integer tag to the associated static route.

The tag value can be used in route policies to control distribution of the route into other protocols.

Default

no tag

Parameters

tag-value

Specifies an integer tag value.

Values 32 bit integer

Platforms

All

tag

Syntax

tag *tag*

no tag

Context

[Tree] (config>service>vprn>isis>if tag)

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Full Context

configure service vprn isis interface tag

Description

This command configures a route tag to the specified IP address of an interface.

Parameters

tag

Specifies the tag value.

Values 1 to 4294967295

Platforms

All

tag

Syntax

tag *tag*

no tag [*tag*]

Context

[Tree] (config>router>static-route-entry>next-hop tag)

[Tree] (config>router>static-route-entry tag)

[Tree] (config>router>static-route-entry>black-hole tag)

[Tree] (config>router>static-route-entry>indirect tag)

Full Context

configure router static-route-entry next-hop tag

configure router static-route-entry tag

configure router static-route-entry black-hole tag

configure router static-route-entry indirect tag

Description

This command associates a 4-byte route-tag with the static route. The tag value can be used in route policies to control distribution of the static route into other protocols.

The tag specified at this level of the static route causes tag values configured under the next-hop, black-hole and indirect contexts of the static route to be ignored.

The **no** form of this command removes the tag association.

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Default

no tag

Parameters

tag

Specifies an integer tag value.

Values 1 to 4294967295

Platforms

All

tag

Syntax

tag *tag*

no tag

Context

[Tree] (config>router>isis>if tag)

Full Context

configure router isis interface tag

Description

This command configures a route tag to the specified IP address of an interface.

The **no** form of this command removes the tag value from the configuration.

Parameters

tag

Specifies a route tag.

Values 1 to 4294967295

Platforms

All

tag

Syntax

tag {**no-tag** | *tag*}

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no tag

Context

[Tree] (config>router>policy-options>policy-statement>entry>from tag)

Full Context

configure router policy-options policy-statement entry from tag

Description

This command matches the tag value in static or IGP routes. A decimal or hexadecimal value of 4 octets can be entered. For IS-IS, OSPF, and static routes, all four octets can be used. For RIP and RIPng, only the two most significant octets are used if more than two octets are configured.

The **no** form of this command removes the tag field match criterion.

Default

no tag

Parameters

tag

Matches the configured tag value.

Values Accepts decimal or hexadecimal formats:

- IS-IS, OSPF and static routes: 0x0 – 0xFFFFFFFF or 1 – 4294967295
- RIP and RIPng: 0x0 – 0xFFFF or 1 – 65535

no-tag

Specifies that no tag value is set.

Platforms

All

tag

Syntax

tag *tag*

no tag

Context

[Tree] (config>router>policy-options>policy-statement>default-action tag)

[Tree] (config>router>policy-options>policy-statement>entry>action tag)

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Full Context

configure router policy-options policy-statement default-action tag

configure router policy-options policy-statement entry action tag

Description

This command assigns a tag to routes matching the entry, which is then applied to IGP routes. A decimal or hexadecimal value of 4 octets can be entered.

For IS-IS and OSPF, all four octets can be used.

For RIP and RIPng, only the two most significant octets are used if more than two octets are configured.

The **no** form of this command removes the tag.

Default

no tag

Parameters

tag

Assigns an IS-IS, OSPF, RIP or RIPng tag to routes matching the entry.

Values Accepts decimal or hexadecimal formats:

IS-IS and OSPF: 0x0–0xFFFFFFFF or 1–4294967295

RIP and RIPng: 0x0–0xFFFF or 1–65535

name — The tag parameter variable name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@”.

Platforms

All

tag

Syntax

tag *tag-id*

no tag

Context

[Tree] (config>qos>sap-ingress>ip-criteria>entry tag)

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry tag)

Full Context

configure qos sap-ingress ip-criteria entry tag

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configure qos sap-ingress ipv6-criteria entry tag

Description

This command associates a tag with the criteria entry.

Tag identifiers are not supported in SAP ingress QoS policies, MAC criteria statements, or in SAP egress QoS policies.

The **no** form of this command removes the tag.

Parameters

tag-id

Specifies the tag ID.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tag

Syntax

tag *tag*

no tag

Context

[Tree] (config>router>isis>srv6>locator tag)

Full Context

configure router isis segment-routing-v6 locator tag

Description

This command configures a route tag to advertise in the locator TLV.

The **no** form of this command removes the tag value from the configuration.

Default

no tag

Parameters

tag

Specifies a route tag.

Values 1 to 4294967295

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

tag

Syntax

tag *value*

no tag

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry tag)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry tag)

Full Context

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry tag

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry tag

Description

This command associates a route tag with the provisioned managed route.

The **no** form of this command returns the tag to its default value.

Default

no tag

Parameters

value

Specifies the tag value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

46.9 tag-protocol-id

tag-protocol-id

Syntax

tag-protocol-id *tag-protocol-id*

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no tag-protocol-id

Context

[Tree] (config>test-oam>build-packet>header>dot1q tag-protocol-id)

[Tree] (debug>oam>build-packet>packet>field-override>header>dot1q tag-protocol-id)

Full Context

configure test-oam build-packet header dot1q tag-protocol-id

debug oam build-packet packet field-override header dot1q tag-protocol-id

Description

This command defines the Dot1Q tag protocol ID to be used in the test Dot1Q header.

The **no** form of this command removes the tag protocol ID value.

Default

tag-protocol-id 0x8100 (33024)

Parameters

tag-protocol-id

Specifies the Dot1Q tag protocol ID to be used in the test Dot1Q header in either decimal or hexadecimal.

Values 1536 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tag-protocol-id

Syntax

tag-protocol-id *tag-protocol-id*

no tag-protocol-id

Context

[Tree] (config>test-oam>build-packet>header>pbb tag-protocol-id)

Full Context

configure test-oam build-packet header pbb tag-protocol-id

Description

This command defines the PBB Tag Protocol Identifier (TPID) to be used in the test PBB header.

The **no** form of this command reverts to the default.

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Default

tag-protocol-id 0x88E7 (35047)

Parameters

tag-protocol-id

Specifies a tag Protocol Identifier (TPID) for a PBB packet header to be launched by the OAM **find-egress** tool.

Values 1536 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tag-protocol-id

Syntax

tag-protocol-id *tag-protocol-id*

no tag-protocol-id

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>pbb tag-protocol-id)

Full Context

debug oam build-packet packet field-override header pbb tag-protocol-id

Description

This command defines the PBB TPID to be used in the PBB header.

The **no** form of this command reverts to the default.

Default

tag-protocol-id 0

Parameters

tag-protocol-id

Specifies a TPID for a PBB packet header to be launched by the OAM **find-egress** tool.

Values 1536 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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46.10 taii-type2

taii-type2

Syntax

taii-type2 *global-id:node-id:ac-id*

no taii-type2

Context

[Tree] (config>service>epipe>spoke-sdp>pw-path-id taii-type2)

[Tree] (config>service>cpipe>spoke-sdp>pw-path-id taii-type2)

[Tree] (config>service>vpls>spoke-sdp>pw-path-id taii-type2)

Full Context

configure service epipe spoke-sdp pw-path-id taii-type2

configure service cpipe spoke-sdp pw-path-id taii-type2

configure service vpls spoke-sdp pw-path-id taii-type2

Description

This command configures the Target Individual Attachment Identifier (TAII) for an MPLS-TP spoke SDP. If this is configured on a spoke SDP for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the saii-type2 of the mate spoke SDP.

Parameters

global-id

Specifies the global ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values a.b.c.d or 0 to 4294967295

ac-id

Specifies the attachment circuit ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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taii-type2

Syntax

taii-type2 *global-id:prefix:ac-id*

no taii-type2

Context

[Tree] (config>service>epipe>spoke-sdp-fec taii-type2)

Full Context

configure service epipe spoke-sdp-fec taii-type2

Description

taii-type2 configures the target attachment individual identifier for the SDP SDP. This is only applicable to FEC129 AII type 2.

This command is blocked in CLI if this end of the spoke SDP is configured for single-sided auto configuration (using the **auto-config** command).

Parameters

global-id

Specifies a global ID of this router T-PE. This value must correspond to one of the global_id values configured for a local-prefix under **config>service>pw-routing>local-prefix** context.

Values 1 to 4294967295

prefix

Speecifies prefix on this router T-PE that the spoke SDP SDP is associated with. This value must correspond to one of the prefixes configured under **config>service>pw-routing>local-prefix** context.

Values an IPv4-formatted address a.b.c.d or 1 to 4294967295

ac-id

Specifies an unsigned integer representing a locally unique identifier for the spoke SDP.

Values 1 to 4294967295

Platforms

All

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taii-type2

Syntax

taii-type2 *global-id:node-id:ac-id*

no taii-type2

Context

[Tree] (config>service>ies>if>spoke-sdp>pw-path-id taii-type2)

Full Context

configure service ies interface spoke-sdp pw-path-id taii-type2

Description

This command configures the target individual attachment identifier (TAII) for an MPLS-TP spoke-sdp. If this is configured on a spoke-sdp for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the saii-type2 of the mate spoke-sdp.

Parameters

global-id

Specifies the global ID at the target PE or T-PE for the MPLS-TP PW for a spoke-SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the target PE or T-PE for the MPLS-TP PW for a spoke-SDP.

Values a.b.c.d or 0 to 4294967295

ac-id

Specifies the attachment circuit ID at the target PE or T-PE for the MPLS-TP PW for a spoke-SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

taii-type2

Syntax

taii-type2 *global-id:node-id:ac-id*

no taii-type2

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Context

[Tree] (config>service>vprn>red-if>spoke-sdp>pw-path-id taii-type2)

Full Context

configure service vprn redundant-interface spoke-sdp pw-path-id taii-type2

Description

This command configures the target individual attachment identifier (TAII) for an MPLS-TP spoke SDP. If this is configured on a spoke SDP for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the saii-type2 of the mate spoke SDP.

Parameters

global-id

Specifies the global ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values a.b.c.d or 1 to 4294967295

ac-id

Specifies the attachment circuit ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

taii-type2

Syntax

taii-type2 *global-id:node-id:ac-id*

no taii-type2

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>pw-path-id taii-type2)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>pw-path-id taii-type2)

Full Context

configure mirror mirror-dest spoke-sdp pw-path-id taii-type2

configure mirror mirror-dest remote-source spoke-sdp pw-path-id taii-type2

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Description

This command configures the target individual attachment identifier (TAII) for an MPLS-TP spoke SDP. If this is configured on a spoke SDP for which vc-switching is also configured (for example, it is at an S-PE), then the values must match those of the saii-type2 of the mate spoke SDP.

Parameters

global-id

Specifies the global ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values 0 to 4294967295

node-id

Specifies the node ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP.

Values a.b.c.d or 0 to 4294967295

ac-id

Specifies the attachment circuit ID at the target PE or T-PE for the MPLS-TP PW for a spoke SDP. If this node is the source of the PW, then the AC ID must be set to a locally unique value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.11 tail-end

tail-end

Syntax

[**no**] **tail-end**

Context

[Tree] (config>router>lsp-bfd tail-end)

Full Context

configure router lsp-bfd tail-end

Description

This command enables the context to configure LSP BFD tail end parameters.

The **no** form of this command removes the context.

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Default

no tail-end

Platforms

All

46.12 target-name

target-name

Syntax

target-name {node-name | user-agent | custom-string *name***}**

no target-name

Context

[Tree] (config>system>grpc-tunnel>tunnel target-name)

Full Context

configure system grpc-tunnel tunnel target-name

Description

This command assigns a target name that the node will register with.

The **no** form of this command removes the target name.

Default

no target-name

Parameters

node-name

Keyword to register the tunnel with the node name configured using the **configure system name** command.

user-agent

Keyword to register the tunnel with the user agent name string defined as *node-name:vendor:model:software-version*.

custom-string

Assigns an arbitrary string as the target name.

name

Specifies a string, up to 64 characters, that defines the target name.

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Platforms
All

46.13 target-power

target-power

Syntax
target-power *power*

Context
[Tree] (config>port>dwdm>coherent target-power)

Full Context
configure port dwdm coherent target-power

Description
This command configures the target transmit optical power for the port.

Default
target-power 1.00

Parameters
power
Specifies the desired average output power in dBm.

Values -20.00 to 3.00

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.14 target-retry-wait

target-retry-wait

Syntax
target-retry-wait *seconds*

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Context

[Tree] (config>li>x-interfaces>x3>timeouts target-retry-wait)

Full Context

configure li x-interfaces x3 timeouts target-retry-wait

Description

This command configures the retry interval for target tunnel set up.

Parameters

seconds

Specifies the time that the system must wait before attempting another tunnel creation request to avoid overloading the LIC.

Values 300 to 1200

Default 300

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.15 target-type

target-type

Syntax

target-type {grpc-server | ssh-server | custom-type *type***}**

no target-type

Context

[Tree] (config>system>grpc-tunnel>tunnel>handler target-type)

Full Context

configure system grpc-tunnel tunnel handler target-type

Description

This command assigns a server as a handler for all tunnel sessions.

The **no** form of this command disables the tunnel handler server.

Default

no target-type

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Parameters

grpc-server

Keyword that assigns the gRPC server as a handler for all tunnels sessions. The gRPC-tunnel protocol value corresponds to "GNMI_GNOI”.

ssh-server

Keyword that assigns the SSH server as a handler for all tunnels sessions. The gRPC-tunnel protocol value corresponds to "SSH”.

custom-type

Keyword that assigns an arbitrary string as the target type.

type

Specifies a string, up to 255 characters, defining the client to serve as a handler for all tunnel sessions. Values used by gRPC tunnel protocol, such as "GNMI_GNOI” or "SSH” can also be used.

Platforms

All

46.16 targeted-session

targeted-session

Syntax

targeted-session

Context

[Tree] (config>router>ldp targeted-session)

Full Context

configure router ldp targeted-session

Description

This command configures targeted LDP sessions. Targeted sessions are LDP sessions between non-directly connected peers. Hello messages are sent directly to the peer platform instead of to all the routers on this subnet multicast address. The user can configure different default parameters for IPv4 and IPv6 LDP targeted hello adjacencies.

The discovery messages for an indirect LDP session are addressed to the specified peer and not to the multicast address.

Platforms

All

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46.17 task

task

Syntax

task [**detail**]

no task

Context

[Tree] (debug>router>pcep>pcc task)

[Tree] (debug>router>pcep>pcc>conn task)

Full Context

debug router pcep pcc task

debug router pcep pcc connection task

Description

This command enables debugging for PCC or connection task events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCC or connection task events.

Platforms

All

task

Syntax

task [**detail**]

no task

Context

[Tree] (debug>router>pcep>pce task)

[Tree] (debug>router>pcep>pce>conn task)

Full Context

debug router pcep pce task

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debug router pcep pce connection task

Description

This command enables debugging for PCE or connection task events.

The **no** form of this command disables debugging.

Parameters

detail

Keyword used to specify detailed information about PCE or connection task events.

Platforms

VSR-NRC

46.18 task-scheduling-int

task-scheduling-int

Syntax

task-scheduling-int *percent-of-default*

no task-scheduling-int

Context

[Tree] (config>card>virt-sched-adj task-scheduling-int)

Full Context

configure card virtual-scheduler-adjustment task-scheduling-int

Description

This command overrides the system default time between scheduling the hierarchical virtual scheduling task. By default, the system "wakes” the virtual scheduler task every 50ms; this is equivalent to five 10ms timer ticks. The task-scheduling-int command uses a percent value parameter to modify the number of timer ticks.

While the system accepts a wide range of percent values, the result is rounded to the nearest 10ms tick value. The fastest wake interval is 10ms (1 timer tick).

The **no** form of this command restores the default task scheduling interval of the card’s hierarchical virtual scheduler task.

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Parameters

percent-of-default:

Specifies that the percent-of-default parameter is required and is used to modify the default task scheduling interval for the hierarchical virtual scheduling task on the card. Defining 100.00 percent is equivalent to removing the override.

Values 0.01% to 1000.00%

Default 100.00%

Platforms

All

46.19 tcp

tcp

Syntax

tcp

Context

[Tree] (debug>oam>build-packet>packet>field-override>header tcp)

[Tree] (config>test-oam>build-packet>header tcp)

Full Context

debug oam build-packet packet field-override header tcp

configure test-oam build-packet header tcp

Description

This command creates a TCP header and enables the context to define the associated parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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46.20 tcp-ack

tcp-ack

Syntax

tcp-ack {**true** | **false**}

no tcp-ack

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match tcp-ack)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match tcp-ack)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match tcp-ack)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match tcp-ack)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match tcp-ack

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match tcp-ack

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match tcp-ack

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match tcp-ack

Description

This command configures the TCP ACK match condition.

The **no** form of this command reverts to the default.

Parameters

true

Enables checking for the ACK bit.

false

Disables checking for the ACK bit.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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tcp-ack

Syntax

tcp-ack {**true** | **false**}

no tcp-ack

Context

[Tree] (config>filter>ip-filter>entry>match tcp-ack)

[Tree] (config>filter>ipv6-filter>entry>match tcp-ack)

Full Context

configure filter ip-filter entry match tcp-ack

configure filter ipv6-filter entry match tcp-ack

Description

This command configures an IP filter match criterion based on the Acknowledgment (ACK) TCP Flag bit, defined in RFC 793, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-ack

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

tcp-ack

Syntax

tcp-ack {**true** | **false**}

no tcp-ack

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Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match tcp-ack)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match tcp-ack)

Full Context

configure system security cpm-filter ipv6-filter entry match tcp-ack

configure system security cpm-filter ip-filter entry match tcp-ack

Description

This command configures matching on the ACK bit being set or reset in the control bits of the TCP header of an IP or IPv6 packet as an IP filter match criterion.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The **no** form of this command removes the criterion from the match entry.

Default

no tcp-ack

Parameters

true

Specifies matching on IP or IPv6 packets that have the ACK bit set in the control bits of the TCP header of an IP or IPv6 packet.

false

Specifies matching on IP or IPv6 packets that do not have the ACK bit set in the control bits of the TCP header of the IP or IPv6 packet.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.21 tcp-adv-func

tcp-adv-func

Syntax

tcp-adv-func *size*

Context

[Tree] (config>isa>aa-grp>shr-res-pool tcp-adv-func)

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Full Context

configure isa application-assurance-group shared-resources tcp-adv-func

Description

This command configures the allocation of shared resource pool for TCP advanced functions.

Default

tcp-adv-func 100

Parameters

size

Specifies the allocation of the shared resource pool.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.22 tcp-client-reset

tcp-client-reset

Syntax

[**no**] **tcp-client-reset**

Context

[Tree] (config>app-assure>group>http-redirect tcp-client-reset)

Full Context

configure application-assurance group http-redirect tcp-client-reset

Description

This command enables an HTTP-redirect policy to initiate a TCP reset towards the client if the AA policy results in a redirect with packet drop but the http redirect cannot be delivered. Scenarios for this include HTTPs (TLS) sessions, blocking of non-HTTP TCP traffic, and blocking of existing flows after a policy re-evaluate of an existing subscriber.

The **no** form of this command disables the command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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46.23 tcp-cwr

tcp-cwr

Syntax

tcp-cwr {**true** | **false**}

no tcp-cwr

Context

[Tree] (config>filter>ip-filter>entry>match tcp-cwr)

[Tree] (config>filter>ipv6-filter>entry>match tcp-cwr)

Full Context

configure filter ip-filter entry match tcp-cwr

configure filter ipv6-filter entry match tcp-cwr

Description

This command configures an IP filter match criterion based on the Congestion Window Reduced (CWR) TCP Flag bit, defined in RFC 3168, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-cwr

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

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46.24 tcp-ece

tcp-ece

Syntax

tcp-ece {**true** | **false**}

no tcp-ece

Context

[Tree] (config>filter>ipv6-filter>entry>match tcp-ece)

[Tree] (config>filter>ip-filter>entry>match tcp-ece)

Full Context

configure filter ipv6-filter entry match tcp-ece

configure filter ip-filter entry match tcp-ece

Description

This command configures an IP filter match criterion based on the ECN-Echo (ECE) TCP Flag bit, defined in RFC 3168, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-ece

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

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46.25 tcp-established

tcp-established

Syntax

tcp-established [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no tcp-established

Context

[Tree] (config>service>nat>up-nat-policy>timeouts tcp-established)

[Tree] (config>service>nat>nat-policy>timeouts tcp-established)

[Tree] (config>service>nat>firewall-policy>timeouts tcp-established)

Full Context

configure service nat up-nat-policy timeouts tcp-established

configure service nat nat-policy timeouts tcp-established

configure service nat firewall-policy timeouts tcp-established

Description

This command configures the idle timeout applied to a TCP session in the established state.

Default

tcp-established hrs 2 min 4

Parameters

hours

Specifies the timeout hours field.

Values 1 to 24

minutes

Specifies the timeout minutes field.

Values 1 to 59

seconds

Specifies the timeout seconds field.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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- configure service nat up-nat-policy timeouts tcp-established
- configure service nat nat-policy timeouts tcp-established

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts tcp-established

tcp-established

Syntax

[**no**] **tcp-established**

Context

[Tree] (config>filter>ip-filter>entry>match tcp-established)

[Tree] (config>filter>ipv6-filter>entry>match tcp-established)

Full Context

configure filter ip-filter entry match tcp-established

configure filter ipv6-filter entry match tcp-established

Description

This command matches packets with the TCP flag ACK or RST.

Default

tcp-established

Platforms

All

46.26 tcp-fin

tcp-fin

Syntax

tcp-fin {**true** | **false**}

no tcp-fin

Context

[Tree] (config>filter>ip-filter>entry>match tcp-fin)

[Tree] (config>filter>ipv6-filter>entry>match tcp-fin)

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Full Context

configure filter ip-filter entry match tcp-fin

configure filter ipv6-filter entry match tcp-fin

Description

This command configures an IP filter match criterion based on the FIN TCP Flag bit, defined in RFC 793, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-fin

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

46.27 tcp-keepalive

tcp-keepalive

Syntax

tcp-keepalive

Context

[Tree] (config>system>grpc tcp-keepalive)

Full Context

configure system grpc tcp-keepalive

Description

Commands in this context configure the sending of TCP keepalives by the router towards all gRPC clients.

Enabling TCP keepalive speeds up the detection of certain failures. The TCP keepalives sent by the router are controlled by three commands: **idle-time**, **interval**, and **retries**. The router starts sending TCP keepalives when the connection has been idle (no TCP segments sent or received) for more than **idle-time**

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seconds. At that point, the router sends a probe (TCP ACK with a sequence number = current sequence number - 1) and expects a TCP ACK. It repeats this probe every **interval** seconds for the configured number of **retries**. If no response is received to any of the probes, the connection is immediately closed, which starts the purge timer if the TCP connection is currently supporting the RibApi service.

Platforms

All

tcp-keepalive

Syntax

tcp-keepalive

Context

[Tree] (config>bmp>station>connection tcp-keepalive)

Full Context

configure bmp station connection tcp-keepalive

Description

Commands in this context configure TCP keepalive parameters for the station.

Platforms

All

tcp-keepalive

Syntax

tcp-keepalive

Context

[Tree] (config>system>grpc-tunnel>destination-group tcp-keepalive)

[Tree] (config>system>telemetry>destination-group tcp-keepalive)

Full Context

configure system grpc-tunnel destination-group tcp-keepalive

configure system telemetry destination-group tcp-keepalive

Description

Commands in this context configure TCP keepalive commands.

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Platforms

All

46.28 tcp-mss

tcp-mss

Syntax

tcp-mss *mss-value*

no tcp-mss

Context

[Tree] (config>service>ies>if>ipv6 tcp-mss)

[Tree] (config>service>ies>if tcp-mss)

Full Context

configure service ies interface ipv6 tcp-mss

configure service ies interface tcp-mss

Description

This command statically sets the TCP maximum segment size (MSS) for TCP connections originated from the associated IP interface to the specified value.

The **no** form of this command removes the static value and allows the TCP MSS value to be calculated based on the IP MTU value by subtracting the base IP and TCP header lengths from the IP MTU value (tcp_mss = ip_mtu – 40).

Default

no tcp-mss

Parameters

mss-value

The TCP MSS value that should be used in the TCP SYN packet during the three-way handshake negotiation of a TCP connection.

Note: 9158 = max-IP_MTU (9198)-40

Values 536 to 9746 (IPv4) 1220 to 9726 (IPv6)

Platforms

All

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tcp-mss

Syntax

tcp-mss *mss-value*

no tcp-mss

Context

[Tree] (config>service>vprn>nw-if tcp-mss)

[Tree] (config>service>vprn>if tcp-mss)

[Tree] (config>service>vprn>if>ipv6 tcp-mss)

Full Context

configure service vprn network-interface tcp-mss

configure service vprn interface tcp-mss

configure service vprn interface ipv6 tcp-mss

Description

This command statically sets the TCP maximum segment size (MSS) for TCP connections originated from the associated IP or network interface to the specified value.

The **no** form of this command removes the static value and allows the TCP MSS value to be calculated based on the IP MTU value by subtracting the base IP and TCP header lengths from the IP MTU value (tcp_mss = ip_mtu – 40).

Default

no tcp-mss

Parameters

mss-value

Specifies the TCP MSS value that should be used in the TCP SYN packet during the three-way handshake negotiation of a TCP connection.

Note: 9746 = max-IP_MTU (9786)-40

Values 384 to 9746 (IPv4 or network)

1220 to 9726(IPv6)

Platforms

All

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tcp-mss

Syntax

tcp-mss *mss-value*

no tcp-mss

Context

[Tree] (config>router>if>ipv6 tcp-mss)

[Tree] (config>router>if tcp-mss)

Full Context

configure router interface ipv6 tcp-mss

configure router interface tcp-mss

Description

This command statically sets the TCP maximum segment size (MSS) for TCP connections originated from the associated IP interface to the specified value.

The **no** form of this command removes the static value and allows the TCP MSS value to be calculated based on the IP MTU value by subtracting the base IP and TCP header lengths from the IP MTU value (tcp_mss = ip_mtu – 40).

Default

no tcp-mss

Parameters

mss-value

Specifies the TCP MSS value that should be used in the TCP SYN packet during the three-way handshake negotiation of a TCP connection.

9158 = max-IP_MTU (9198)-40

Values 536 to 9746 (IPv4) 1220 to 9726 (IPv6)

Platforms

All

tcp-mss

Syntax

tcp-mss *mss-value*

no tcp-mss

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Context

[Tree] (config>router>bgp tcp-mss)

[Tree] (config>service>vprn>bgp tcp-mss)

Full Context

configure router bgp tcp-mss

configure service vprn bgp tcp-mss

Description

This command configures an override for the TCP maximum segment size to use with a specific peer or set of peers (depending on the scope of the command).

The configured value controls two properties of the TCP connection as follows:

- TCP MSS option — The router advertises the TCP MSS option value in the TCP SYN packet it sends as part of the 3-way handshake. The advertised value may be lower than the configured value, depending on the IP MTU of the first hop IP interface. The peers are asked to abide by this value when sending TCP segments to the local router.
- TCP maximum segment size — The actual transmitted size may be lower than the configured value, depending on the TCP MSS option value signaled by the peers, the effect of path MTU discovery, or other factors.

The **no** form of this command removes the TCP MSS override values from the configuration.

Default

no tcp-mss

Parameters

mss-value

Specifies the The router uses the TCP SYN to advertise the TCP MSS option value towards its peer. MSS value, in bytes, to use with the peers that fall within the scope of the command.

Values 384 to 9746

Platforms

All

tcp-mss

Syntax

tcp-mss ip-stack

tcp-mss *mss-value*

no tcp-mss

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Context

[Tree] (config>service>vprn>bgp>group>neighbor tcp-mss)

[Tree] (config>router>bgp>group>neighbor tcp-mss)

[Tree] (config>service>vprn>bgp>group tcp-mss)

[Tree] (config>router>bgp>group tcp-mss)

Full Context

configure service vprn bgp group neighbor tcp-mss

configure router bgp group neighbor tcp-mss

configure service vprn bgp group tcp-mss

configure router bgp group tcp-mss

Description

This command configures an override for the TCP maximum segment size to use with a specific peer or set of peers (depending on the scope of the command).

The configured value controls two properties of the TCP connection as follows:

- TCP MSS option — The router advertises the TCP MSS option value in the TCP SYN packet it sends as part of the 3-way handshake. The advertised value may be lower than the configured value, depending on the IP MTU of the first hop IP interface. The peers are asked to abide by this value when sending TCP segments to the local router.
- TCP maximum segment size — The actual transmitted size may be lower than the configured value, depending on the TCP MSS option value signaled by the peers, the effect of path MTU discovery, or other factors.

The **no** form of this command removes the TCP MSS override values from the configuration.

Default

no tcp-mss

Parameters

mss-value

Specifies the TCP MSS value, in bytes, to use with the peers that fall within the scope of the command.

Values 384 to 9746

ip-stack

This keyword requests that TCP MSS be derived from mechanisms and configurations outside of BGP, including the configuration of **tcp-mss** at the IP interface level. It provides a method to override inheritance within the BGP configuration.

Platforms

All

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46.29 tcp-mss-adjust

tcp-mss-adjust

Syntax

tcp-mss-adjust *segment-size*

no tcp-mss-adjust

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw tcp-mss-adjust)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw tcp-mss-adjust)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw tcp-mss-adjust

configure service ies subscriber-interface group-interface wlan-gw tcp-mss-adjust

Description

This command configures the TCP Maximum Segment Size (MSS) adjustment for the wlan-gw gateway.

The **no** form of this command disables adjusting tcp-mss values.

For DSM, this only applies to packets sent in the downstream direction (TCP SYN towards UE). For the upstream direction, it is also required to configure MSS adjust under the applicable NAT-policy.

Parameters

segment-size

Specifies the value to put into the TCP Maximum Segment Size (MSS) option if not already present, or if the present value is higher.

Values 160 to 10240

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

tcp-mss-adjust

Syntax

tcp-mss-adjust *segment-size*

no tcp-mss-adjust

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Context

[Tree] (config>app-assure>group>policy>aqp>entry>action tcp-mss-adjust)

Full Context

configure application-assurance group policy app-qos-policy entry action tcp-mss-adjust

Description

This command configures the value to adjust the TCP Maximum Segment Size (MSS) option. The no form of this command disables the segment size adjustment.

Default

no tcp-mss-adjust

Parameters

segment-size

Specifies the value to put into the TCP Maximum Segment Size (MSS) option if not already present, or if the present value is higher.

Values 160 to 10240

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tcp-mss-adjust

Syntax

tcp-mss-adjust *segment-size*

no tcp-mss-adjust

Context

[Tree] (config>service>nat>firewall-policy tcp-mss-adjust)

[Tree] (config>service>nat>nat-policy tcp-mss-adjust)

[Tree] (config>service>nat>up-nat-policy tcp-mss-adjust)

Full Context

configure service nat firewall-policy tcp-mss-adjust

configure service nat nat-policy tcp-mss-adjust

configure service nat up-nat-policy tcp-mss-adjust

Description

This command configures the value to adjust the TCP Maximum Segment Size (MSS) option.

The **no** form of the command returns the segment size to the default.

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Default

no tcp-mss-adjust

Parameters

segment-size

Specifies the value to put into the TCP Maximum Segment Size (MSS) option if not already present, or if the present value is higher.

Values 160 to 10240

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy tcp-mss-adjust

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy tcp-mss-adjust
- configure service nat nat-policy tcp-mss-adjust

tcp-mss-adjust

Syntax

tcp-mss-adjust

Context

[Tree] (config>filter>ipv6-filter>entry>action tcp-mss-adjust)

[Tree] (config>filter>ip-filter>entry>action tcp-mss-adjust)

Full Context

configure filter ipv6-filter entry action tcp-mss-adjust

configure filter ip-filter entry action tcp-mss-adjust

Description

This command activates the adjustment of the TCP Maximum Segment Size (MSS) option of TCP packets matching the entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tcp-mss-adjust

Syntax

tcp-mss-adjust *segment-size*

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no tcp-mss-adjust

Context

[Tree] (config>service>nat>map-domain tcp-mss-adjust)

Full Context

configure service nat map-domain tcp-mss-adjust

Description

This command enables the TCP maximum segment size (MSS) adjustments in a MAP domain. The TCP SYN and SYN-ACK packets are intercepted in both directions, and if their MSS value is larger than the one configured using this command, the MSS value in the packet is re-written (lowered) to the configured value. The end hosts use the lowest setting of the two hosts. The MSS value does not account for the IP or TCP header length.

If the MSS value in the SYN or SYN-ACK is not found, a new value is added and set to the configured value.

Default

no tcp-mss-adjust

Parameters

segment-size

Specifies the maximum size of the segment.

Values 160 to 8626

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

46.30 tcp-ns

tcp-ns

Syntax

tcp-ns {**true** | **false**}

no tcp-ns

Context

[Tree] (config>filter>ipv6-filter>entry>match tcp-ns)

[Tree] (config>filter>ip-filter>entry>match tcp-ns)

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Full Context

configure filter ipv6-filter entry match tcp-ns

configure filter ip-filter entry match tcp-ns

Description

This command configures an IP filter match criterion based on the Nonce Sum (NS) TCP Flag bit, defined in RFC 3540, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-ns

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

46.31 tcp-optimizer

tcp-optimizer

Syntax

tcp-optimizer *tcp-optimizer-name [***create***]*

no tcp-optimizer *tcp-optimizer-name*

Context

[Tree] (config>app-assure>group tcp-optimizer)

Full Context

configure application-assurance group tcp-optimizer

Description

This command configures the TCP optimizer policy. When a TCP optimizer policy is removed or deleted, the existing flows using this policy are abandoned, and optimization is stopped. If, however, the TCP

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optimizer action is removed from a session-filter entry (in the **config>app-assure>group>sess-fltr>entry action** context), the existing flows are not affected.

The **no** form of this command removes the specified TCP optimizer policy.

Parameters

tcp-optimizer-name

Specifies the name of the TCP optimizer policy, up to 32characters.

create

This keyword is mandatory when creating a TCP optimizer policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.32 tcp-option-number

tcp-option-number

Syntax

tcp-option-number

Context

[Tree] (config>system>security>keychain tcp-option-number)

Full Context

configure system security keychain tcp-option-number

Description

Commands in this context configure the TCP option number to be placed in the TCP packet header.

Platforms

All

46.33 tcp-performance

tcp-performance

Syntax

tcp-performance

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Context

[Tree] (config>app-assure>group>cflowd tcp-performance)

Full Context

configure application-assurance group cflowd tcp-performance

Description

Commands in this context configure Cflowd TCP performance export parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.34 tcp-protocols

tcp-protocols

Syntax

tcp-protocols *protocol-set*

Context

[Tree] (config>app-assure>group>tether-detect>ttl-mon tcp-protocols)

Full Context

configure application-assurance group tethering-detection ttl-monitoring tcp-protocols

Description

This command configures whether AA analyzes all TCP traffic or only traffic from standard applications that generate consistent TTL values. Configuring AA to analyze all TCP traffic is typically recommended.

Default

tcp-protocols standard

Parameters

protocol-set

Specifies the scope of analysis for TCP traffic.

Values standard, all

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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46.35 tcp-psh

tcp-psh

Syntax

tcp-psh {**true** | **false**}

no tcp-psh

Context

[Tree] (config>filter>ipv6-filter>entry>match tcp-psh)

[Tree] (config>filter>ip-filter>entry>match tcp-psh)

Full Context

configure filter ipv6-filter entry match tcp-psh

configure filter ip-filter entry match tcp-psh

Description

This command configures an IP filter match criterion based on the Push (PSH) TCP Flag bit, defined in RFC 793, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-psh

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

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46.36 tcp-rst

tcp-rst

Syntax

tcp-rst [min *minutes*] **[sec** *sec*]

no tcp-rst

Context

[Tree] (config>service>nat>up-nat-policy>timeouts tcp-rst)

[Tree] (config>service>nat>nat-policy>timeouts tcp-rst)

[Tree] (config>service>nat>firewall-policy>timeouts tcp-rst)

Full Context

configure service nat up-nat-policy timeouts tcp-rst

configure service nat nat-policy timeouts tcp-rst

configure service nat firewall-policy timeouts tcp-rst

Description

This command suspends the use of the outside TCP ports that have been used in translations for TCP connections that are closed via TCP RST. Once this timer expires, the outside ports can be reused for new TCP translations.

The **no** form of the command reverts to the default.

Default

no tcp-rst

Parameters

minutes

Specifies the timeout, in minutes, after receiving a RST and closing the session before going to the LISTEN state again.

Values 1 to 4

sec

Specifies the timeout, in seconds, after receiving a RST and closing the session before going to the LISTEN state again.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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- configure service nat nat-policy timeouts tcp-rst
- configure service nat up-nat-policy timeouts tcp-rst

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts tcp-rst

tcp-rst

Syntax

tcp-rst {**true** | **false**}

no tcp-rst

Context

[Tree] (config>filter>ip-filter>entry>match tcp-rst)

[Tree] (config>filter>ipv6-filter>entry>match tcp-rst)

Full Context

configure filter ip-filter entry match tcp-rst

configure filter ipv6-filter entry match tcp-rst

Description

This command configures an IP filter match criterion based on the Reset (RST) TCP Flag bit, defined in RFC 793, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-rst

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

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46.37 tcp-session-parameters

tcp-session-parameters

Syntax

tcp-session-parameters

Context

[Tree] (config>router>ldp tcp-session-parameters)

Full Context

configure router ldp tcp-session-parameters

Description

Commands in this context configure parameters applicable to TCP transport session of an LDP session to remote peer.

Platforms

All

46.38 tcp-stack

tcp-stack

Syntax

tcp-stack *tcp-stack-type*

Context

[Tree] (config>app-assure>group>tcp-optimizer tcp-stack)

Full Context

configure application-assurance group tcp-optimizer tcp-stack

Description

This command configures the TCP stack used toward the subscriber.

Note: The following considerations apply to the TCP stack:

- The TCP stack used toward the core network is new-reno, and it is not configurable.

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- TCP BBR, BBRv2, TCP Illinois, and TCP Westwood implement a sender-side modification of the TCP congestion window algorithm that improves on the performance of TCP Reno in wireless networks with lossy links.

The **no** form of this command configures the router to use the default value.

Default

tcp-westwood

Parameters

tcp-stack-type

Specifies the TCP stack used toward the subscriber.

Values tcp-westwood | tcp-illinois | tcp-new-reno | tcp-bbr | tcp-bbr-v2

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.39 tcp-syn

tcp-syn

Syntax

tcp-syn {**true** | **false**}

no tcp-syn

Context

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ip>entry>match tcp-syn)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>egr-ipv6>entry>match tcp-syn)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ipv6>entry>match tcp-syn)

[Tree] (config>subscr-mgmt>cat-map>category>exh-lvl>ingr-ip>entry>match tcp-syn)

Full Context

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ip-filter-entries entry match tcp-syn

configure subscriber-mgmt category-map category exhausted-credit-service-level egress-ipv6-filter-entries entry match tcp-syn

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ipv6-filter-entries entry match tcp-syn

configure subscriber-mgmt category-map category exhausted-credit-service-level ingress-ip-filter-entries entry match tcp-syn

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Description

This command configures the TCP SYN match condition.

The **no** form of this command reverts to the default.

Parameters

true

Enables checking for the SYN bit.

false

Disables checking for the SYN bit.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

tcp-syn

Syntax

tcp-syn [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no tcp-syn

Context

[Tree] (config>service>nat>up-nat-policy>timeouts tcp-syn)

[Tree] (config>service>nat>firewall-policy>timeouts tcp-syn)

[Tree] (config>service>nat>nat-policy>timeouts tcp-syn)

Full Context

configure service nat up-nat-policy timeouts tcp-syn

configure service nat firewall-policy timeouts tcp-syn

configure service nat nat-policy timeouts tcp-syn

Description

This command configures the timeout applied to a TCP session in the SYN state.

Default

tcp-syn sec 15

Parameters

hours

Specifies the timeout hours field.

Values 1 to 24

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minutes

Specifies the timeout minutes field.

Values 1 to 59

seconds

Specifies the timeout seconds field.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts tcp-syn
- configure service nat up-nat-policy timeouts tcp-syn

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts tcp-syn

tcp-syn

Syntax

tcp-syn {**true** | **false**}

no tcp-syn

Context

[Tree] (config>filter>ip-filter>entry>match tcp-syn)

[Tree] (config>filter>ipv6-filter>entry>match tcp-syn)

Full Context

configure filter ip-filter entry match tcp-syn

configure filter ipv6-filter entry match tcp-syn

Description

This command configures an IP filter match criterion based on the Synchronize (SYN) TCP Flag bit, defined in RFC 793, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-syn

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

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false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

tcp-syn

Syntax

tcp-syn {**true** | **false**}

no tcp-syn

Context

[Tree] (cfg>sys>sec>cpm>ipv6-filter>entry>match tcp-syn)

[Tree] (cfg>sys>sec>cpm>ip-filter>entry>match tcp-syn)

Full Context

configure system security cpm-filter ipv6-filter entry match tcp-syn

configure system security cpm-filter ip-filter entry match tcp-syn

Description

This command configures matching on the SYN bit being set or reset in the control bits of the TCP header of an IP or IPv6 packet as an IP filter match criterion.

Note:
An entry containing Layer 4 match criteria will not match non-initial (2nd, 3rd, etc) fragments of a fragmented packet since only the first fragment contains the Layer 4 information.

The SYN bit is normally set when the source of the packet wants to initiate a TCP session with the specified destination IP or IPv6 address.

The **no** form of this command removes the criterion from the match entry.

Default

no tcp-syn

Parameters

true

Specifies matching on IP or IPv6 packets that have the SYN bit set in the control bits of the TCP header.

false

Specifies matching on IP or IPv6 packets that do not have the SYN bit set in the control bits of the TCP header.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.40 tcp-time-wait

tcp-time-wait

Syntax

tcp-time-wait [**min** *minutes*] [**sec** *seconds*]

no tcp-time-wait

Context

[Tree] (config>service>nat>nat-policy>timeouts tcp-time-wait)

[Tree] (config>service>nat>firewall-policy>timeouts tcp-time-wait)

[Tree] (config>service>nat>up-nat-policy>timeouts tcp-time-wait)

Full Context

configure service nat nat-policy timeouts tcp-time-wait

configure service nat firewall-policy timeouts tcp-time-wait

configure service nat up-nat-policy timeouts tcp-time-wait

Description

This command configures the timeout applied to a TCP session in a time-wait state.

Default

no tcp-time-wait

Parameters

minutes

Specifies the timeout minutes field.

Values 1 to 4

seconds

Specifies the timeout seconds field.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts tcp-time-wait

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- configure service nat up-nat-policy timeouts tcp-time-wait

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts tcp-time-wait

46.41 tcp-transitory

tcp-transitory

Syntax

tcp-transitory [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no tcp-transitory

Context

[Tree] (config>service>nat>nat-policy>timeouts tcp-transitory)

[Tree] (config>service>nat>firewall-policy>timeouts tcp-transitory)

[Tree] (config>service>nat>up-nat-policy>timeouts tcp-transitory)

Full Context

configure service nat nat-policy timeouts tcp-transitory

configure service nat firewall-policy timeouts tcp-transitory

configure service nat up-nat-policy timeouts tcp-transitory

Description

This command configures the idle timeout applied to a TCP session in a transitory state.

Default

tcp-transitory min 4

Parameters

hours

Specifies the timeout hours field.

Values 1 to 24

minutes

Specifies the timeout minutes field.

Values 1 to 59

seconds

Specifies the timeout seconds field.

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Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts tcp-transitory
- configure service nat up-nat-policy timeouts tcp-transitory

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts tcp-transitory

46.42 tcp-urg

tcp-urg

Syntax

tcp-urg {**true** | **false**}

no tcp-urg

Context

[Tree] (config>filter>ipv6-filter>entry>match tcp-urg)

[Tree] (config>filter>ip-filter>entry>match tcp-urg)

Full Context

configure filter ipv6-filter entry match tcp-urg

configure filter ip-filter entry match tcp-urg

Description

This command configures an IP filter match criterion based on the Urgent (URG) TCP Flag bit, defined in RFC 793, as being set or not in the TCP header of an IP packet.

The **no** form of the command removes the criterion from the match entry.

Default

no tcp-urg

Parameters

true

Specifies matching on IP packets that have the selected TCP flag bit set in the TCP header.

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false

Specifies matching on IP packets that do not have the selected TCP flag bit set in the TCP header.

Platforms

All

46.43 tcp-validate

tcp-validate

Syntax

tcp-validate *tcp-validate-name*

no tcp-validate

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action tcp-validate)

Full Context

configure application-assurance group policy app-qos-policy entry action tcp-validate

Description

This command assigns an existing TCP validation policy as an action on flows matching this AQP entry.

tcp-validate can only be called from AQP entries that:

- have no matching conditions that relate to information extracted from the incoming IP packets; for example, no application or IP address.
- allow the following match conditions:
  - none
  - aa-sub
  - characteristic
  - traffic-direction (both only)

    traffic-direction cannot be unidirectional (from or to sub). It can either be set to both or left unspecified.

The **no** form of this command removes the TCP validation policy action from flows matching this AQP entry.

Default

no tcp-validate

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Parameters

tcp-validate-name

Specifies the name of the TCP validation policy for this application assurance profile. The TCP validation policy is configured using the **config**>**app-assure**>**group**>**tcp-validate** *tcp-validate-name* command.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tcp-validate

Syntax

tcp-validate *tcp-validate-name* **direction** *direction* [**create**]

no tcp-validate *tcp-validate-name* **direction** *direction*

Context

[Tree] (config>app-assure>group>statistics>tca tcp-validate)

Full Context

configure application-assurance group statistics threshold-crossing-alert tcp-validate

Description

This command configures TCA for the counter, and enables the capture of drop or admit events due to the specified TCP validation function.

Parameters

tcp-validate-name

Specifies the name of the TCP validation policy up to 32 characters.

direction

Specifies the traffic direction in relation to the AA subscriber.

Values from-sub, to-sub

create

This keyword is mandatory when creating a TCA instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tcp-validate

Syntax

tcp-validate *tcp-validate-name* [**create**]

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no tcp-validate *tcp-validate-name*

Context

[Tree] (config>app-assure>group tcp-validate)

Full Context

configure application-assurance group tcp-validate

Description

This command configures a TCP validation policy.

The **no** form of this command removes the specified TCP validation policy.

Default

no tcp-validate

Parameters

tcp-validate-name

Specifies the name of the TCP validation policy up to 32 characters.

create

This keyword is mandatory when creating a TCP validation policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.44 tcp-validate-stats

tcp-validate-stats

Syntax

[**no**] **tcp-validate-stats**

Context

[Tree] (config>app-assure>group>statistics>aa-admit-deny tcp-validate-stats)

Full Context

configure application-assurance group statistics aa-admit-deny tcp-validate-stats

Description

This command configures whether to include or exclude TCP validation admit-deny statistics in accounting records.

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Default

no tcp-validate-stats

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.45 tdm

tdm

Syntax

tdm

Context

[Tree] (config>port tdm)

Full Context

configure port tdm

Description

Commands in this context configure DS-1/E-1 and DS-3/E-3 parameters for a port on a channelized MDA T1/E1. This context cannot be accessed on non-channelized MDAs.

TDM is a mechanism to divide the bandwidth of a stream into separate channels or time slots by assigning each stream a different time slot in a set. TDM repeatedly transmits a fixed sequence of time slots over a single transmission channel. Each individual data stream is reassembled at the receiving end based on the timing.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

46.46 te

te

Syntax

[**no**] **te**

Context

[Tree] (debug>router>mpls>event te)

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Full Context

debug router mpls event te

Description

This command debugs te events.

The **no** form of the command disables the debugging.

Platforms

All

46.47 te-class

te-class

Syntax

te-class *te-class-number* **class-type** *ct-number* **priority** *priority*

no te-class te-class-number

Context

[Tree] (config>router>rsvp>diffserv-te te-class)

Full Context

configure router rsvp diffserv-te te-class

Description

This command configures a TE class. A TE class is defined as:

TE Class = {Class Type (CT), LSP priority}

Eight TE classes are supported. There is no default TE class once Diff-Serv is enabled. The user has to explicitly define each TE class.

When Diff-Serv is disabled, there will be an internal use of the default CT (CT0) and eight pre-emption priorities as shown in Table 176: Default Class Type.

Table 176: Default Class Type

Class Type (CT internal)	LSP Priority
0	7
0	6
0	5

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Class Type (CT internal)	LSP Priority
0	4
0	3
0	2
0	1
0	0

The **no** form of this command deletes the TE class.

Parameters

te-class ***te-class-number***

Specifies the TE class number.

Values 0 to 7

class-type ***ct-number***

Specifies the Diff-Serv Class Type number. One or more system forwarding classes can be mapped to a CT.

Values 0 to 7

priority ***priority***

Specifies the LSP priority.

Values 0 to 7

Platforms

All

46.48 te-down-threshold

te-down-threshold

Syntax

te-down-threshold *threshold-level* [*threshold-level*]

no te-down-threshold

Context

[Tree] (config>router>rsvp>interface te-down-threshold)

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[Tree] (config>router>rsvp te-down-threshold)

Full Context

configure router rsvp interface te-down-threshold

configure router rsvp te-down-threshold

Description

This command configures the specific threshold levels per node and per interface. Threshold levels are for reserved bandwidth per interface. The **te-threshold-update** command is used to enable or disable threshold-based IGP TE updates. Any reserved bandwidth change per interface is compared with all the threshold levels and trigger an IGP TE update if a defined threshold level is crossed in either direction (LSP setup or teardown). Threshold-based updates must be supported with both ISIS and OSPF. A minimum of one and a maximum of 16 threshold levels is supported.

Threshold levels configured per node is inherited by all configured RSVP interfaces. Threshold levels defined under the RSVP interface is used to trigger IGP updates if non-default threshold levels are configured.

The **no** form of this command resets te-down-threshold to its default value.

Default

no te-down-threshold (equals following values 100 99 98 97 96 95 90 85 80 75 60 45 30 15 0)

Parameters

threshold-level

Specifies the threshold level.

Values 0 to 100

Platforms

All

46.49 te-metric

te-metric

Syntax

te-metric *value*

no te-metric

Context

[Tree] (config>router>mpls>interface te-metric)

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Full Context

configure router mpls interface te-metric

Description

This command configures the TE metric used on the interface. This metric is in addition to the interface metric used by IGP for the shortest path computation.

This metric is flooded as part of the TE parameters for the interface using an opaque LSA or an LSP. The IS-IS TE metric is encoded as sub-TLV 18 as part of the extended IS reachability TLV. The metric value is encoded as a 24-bit unsigned integer. The OSPF TE metric is encoded as a sub-TLV Type 5 in the Link TLV. The metric value is encoded as a 32-bit unsigned integer.

When the use of the TE metric is enabled for an LSP, CSPF will first prune all links in the network topology which do not meet the constraints specified for the LSP path. Such constraints include bandwidth, admin-groups, and hop limit. Then, CSPF will run an SPF on the remaining links. The shortest path among the all SPF paths will be selected based on the TE metric instead of the IGP metric which is used by default.

The TE metric in CSPF LSP path computation can be configured by entering the command **config>router>mpls>lsp>metric-type te**.

Note that the TE metric is only used in CSPF computations for MPLS paths and not in the regular SPF computation for IP reachability.

The **no** form of this command reverts to the default value.

Default

no te-metric

The value of the IGP metric is advertised in the TE metric sub-TLV by IS-IS and OSPF.

Parameters

value

Specifies the metric value.

Values 1 to 16777215

Platforms

All

46.50 te-threshold-update

te-threshold-update

Syntax

[**no**] **te-threshold-update**

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Context

[Tree] (config>router>rsvp te-threshold-update)

Full Context

configure router rsvp te-threshold-update

Description

This command is used to control threshold-based IGP TE updates. The **te-threshold-update** command must enable IGP TE update based only on bandwidth reservation thresholds per interface and must block IGP TE update on bandwidth changes for each reservation. Threshold levels can be defined using the **te-up-threshold** and **te-down-threshold** commands at the global RSVP or per-interface level.

The **no** form of this command should reset te-threshold-update to the default value and disable threshold based update.

Default

no te-threshold-update

Platforms

All

te-threshold-update

Syntax

te-threshold-update

no te-threshold-update

Context

[Tree] (debug>router>rsvp>event te-threshold-update)

Full Context

debug router rsvp event te-threshold-update

Description

This command debugs the TE threshold update and the dark bandwidth threshold events.

The **no** form of this command disables the debugging.

Platforms

All

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46.51 te-up-threshold

te-up-threshold

Syntax

te-up-threshold *threshold-level* [*threshold-level*]

no te-up-threshold

Context

[Tree] (config>router>rsvp>interface te-up-threshold)

[Tree] (config>router>rsvp te-up-threshold)

Full Context

configure router rsvp interface te-up-threshold

configure router rsvp te-up-threshold

Description

This command configures the specific threshold levels per node and per interface. Threshold levels are for reserved bandwidth per interface. The **te-threshold-update** command is used to enable or disable threshold-based IGP TE updates. Any reserved bandwidth change per interface is compared with all the threshold levels and trigger an IGP TE update if a defined threshold level is crossed in either direction (LSP setup or teardown). Threshold-based updates must be supported with both ISIS and OSPF. A minimum of one and a maximum of 16 threshold levels must be supported.

Threshold levels configured per node is inherited by all configured RSVP interfaces. Threshold levels defined under the RSVP interface is used to trigger IGP updates if non-default threshold levels are configured.

The **no** form of this command resets te-up-threshold to its default value.

Default

no te-up-threshold (equals values of 0 15 30 45 60 75 80 85 90 95 96 97 98 99 100)

Parameters

threshold-level

Specifies the threshold level.

Values 0 to 100

Platforms

All

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46.52 tech-support

tech-support

Syntax

tech-support [*file-url*]

Context

[Tree] (admin tech-support)

[Tree] (admin>satellite>eth-sat tech-support)

Full Context

admin tech-support

admin satellite eth-sat tech-support

Description

This command creates a system core dump. If the *file-url* is omitted, and a *ts-location* is defined, then the **tech support** file will have an automatic SR OS generated file name based on the system name and the date and time and will be saved to the directory indicated by the configured *ts-location*.

The format of the auto-generated filename is ts-XXXXX.YYYYMMDD.HHMMUTC.dat where:

- XXXXX: system name with special characters expanded to avoid problems with file systems (for example, a '.' is expanded to %2E.)
- YYYYMMDD: Date with leading zeros on year, month and day
- HHMM: Hours and Minutes in UTC time (24hr format, always 4 chars, with leading zeros on hours and minutes)

Note:
This command should only be used with authorized direction of Nokia support.

Parameters

file-url

Specifies the file URL location to save the binary file.

Values

local-url | *remote-url*	
local-url	[*cflash-id*/][*file-path*] 200 chars max, including cflash-id directory length 99 chars max each
remote-url	[{ftp:// | tftp://}*login:pswd@remote-locn*/][*file-path*] 199 chars max

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remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
	x:x:x:x:x:x:d.d.d.d[*-interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

- admin tech-support

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- admin satellite eth-sat tech-support

46.53 tei-set

tei-set

Syntax

[**no**] **tei-set**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms tei-set)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms tei-set)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms tei-set)

Full Context

configure mcast-management multicast-info-policy bundle channel video analyzer alarms tei-set

configure mcast-management multicast-info-policy bundle video analyzer alarms tei-set

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms tei-set

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Description

This command configures the analyzer to check for TEI set errors.

Default

no tei-set

Platforms

7450 ESS, 7750 SR, 7750 SR-s

46.54 teid-load-balancing

teid-load-balancing

Syntax

[**no**] **teid-load-balancing**

Context

[Tree] (config>service>vpls>load-balancing teid-load-balancing)

[Tree] (config>service>template>vpls-template>load-balancing teid-load-balancing)

Full Context

configure service vpls load-balancing teid-load-balancing

configure service template vpls-template load-balancing teid-load-balancing

Description

This command enables inclusion of TEID in hashing for GTP-U/C encapsulates traffic for GTPv1/GTPv2. The **no** form of this command ignores TEID in hashing.

Default

no teid-load-balancing

Platforms

All

teid-load-balancing

Syntax

[**no**] **teid-load-balancing**

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Context

[Tree] (config>service>ies>if>load-balancing teid-load-balancing)

Full Context

configure service ies interface load-balancing teid-load-balancing

Description

This command enables inclusion of TEID in hashing for GTP-U/C encapsulates traffic for GTPv1/GTPv2.
The **no** form of this command ignores TEID in hashing.

Default

no teid-load-balancing

Platforms

All

teid-load-balancing

Syntax

[**no**] **teid-load-balancing**

Context

[Tree] (config>service>vprn>nw-if>load-balancing teid-load-balancing)

[Tree] (config>service>vprn>if>load-balancing teid-load-balancing)

Full Context

configure service vprn network-interface load-balancing teid-load-balancing

configure service vprn interface load-balancing teid-load-balancing

Description

This command enables inclusion of TEID in hashing for GTP-U/C encapsulates traffic for GTPv1/GTPv2.

The **no** form of this command ignores TEID in hashing.

Default

no teid-load-balancing

Platforms

All

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teid-load-balancing

Syntax

[**no**] **teid-load-balancing**

Context

[Tree] (config>router>if>load-balancing teid-load-balancing)

Full Context

configure router interface load-balancing teid-load-balancing

Description

This command enables inclusion of TEID in hashing for GTP-U/C encapsulates traffic for GTPv1/GTPv2. The **no** form of this command ignores TEID in hashing.

Default

no teid-load-balancing

Platforms

All

46.55 teidc-change

teidc-change

Syntax

[**no**] **teidc-change**

Context

[Tree] (config>subscr-mgmt>acct-plcy>triggered-updates>gc teidc-change)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change teidc-change

Description

This command configures the router to send an interim accounting update when GTP-C TEIDs are changed.

Note: Changes to GTP-C TEIDs typically indicate an MME change.

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The **no** form of the command configures the router not to send an interim accounting update when GTP-C TEIDs are changed.

Default

no teidc-change

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.56 teidu-change

teidu-change

Syntax

[**no**] **teidu-change**

Context

[Tree] (config>subscr-mgmt>acct-plcy>triggered-updates>gc teidu-change)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change teidu-change

Description

This command configures the router to send an interim accounting update when GTP-U TEIDs are changed. This update typically happens during mobility, idling, or service request procedures.

The **no** form of the command configures the router not to send an interim accounting update when GTP-U TEIDs are changed.

Default

no teidu-change

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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46.57 telemetry

telemetry

Syntax

telemetry

Context

[Tree] (config>system telemetry)

[Tree] (admin>system telemetry)

Full Context

configure system telemetry

admin system telemetry

Description

Commands in this context configure the dial-out telemetry commands.

Platforms

All

46.58 telemetry-data

telemetry-data

Syntax

[**no**] **telemetry-data**

Context

[Tree] (config>system>security>management-interface>output-authorization telemetry-data)

Full Context

configure system security management-interface output-authorization telemetry-data

Description

This command controls output authorization of telemetry configuration and state data in gNMI Subscribe RPC responses.

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When enabled, telemetry data output authorization is performed, which may significantly increase the system response time with command authorization requests, especially when remote AAA servers are used.

By default, authorization checks are not performed for telemetry data.

The **no** form of this command reverts to the default value.

Default

no telemetry-data

Platforms

All

46.59 telemetry-default-user

telemetry-default-user

Syntax

telemetry-default-user *user-name*

no telemetry-default-user

Context

[Tree] (config>system>security>management-interface>output-authorization telemetry-default-user)

Full Context

configure system security management-interface output-authorization telemetry-default-user

Description

This command configures the local user for telemetry data authorization in gNMI Publish RPCs for dial-out telemetry. The administrator must configure the local user to ensure the subscription is operational.

The **no** form of this command removes the user and causes all subscriptions to be operationally down.

Default

no telemetry-default-user

Parameters

user-name

Specifies the local user name, up to 32 characters.

Platforms

All

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46.60 telnet

telnet

Syntax

telnet {*ip-address* | *dns-name*} [*port*] **service-name** *service-name* [**source** *ip-address*]

telnet {*ip-address* | *dns-name*} [*port*] [**router** *router-instance*] [**source** *ip-address*]

Context

[Tree] (telnet)

Full Context

telnet

Description

This command opens a Telnet session to a remote host. In 7450 ESS, 7750 SR, 7950 XRS, and VSR networks, the Telnet servers limit Telnet clients to three login attempts; if unsuccessful, the Telnet client session is disconnected. The number is not user configurable.

If a source address is specified, it is used for the source IP address in the originated IP packets for the Telnet session.

Parameters

ip-address

Specifies the IP address or the DNS name (if DNS name resolution is configured).

Values

ipv4-address	*a.b.c.d*	
ipv6-address	*x:x:x:x:x:x:x:x*[-interface]	*x*: [0 to FFFF]H
	x:x:x:x:x:x:d.d.d.d[-interface]	*d*: [0 to 255]D *ipv6-address*
		interface: up to 32 characters, mandatory for link local addresses
dns-name	up to 128 characters	

Note:
IPv6 applies to the 7750 SR and 7950 XRS.

dns-name

Specifies the DNS name (if DNS name resolution is configured), up to 128 characters.

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port

Specifies the TCP port number to use Telnet to the remote host, expressed as a decimal integer.

Values 1 to 65535

Default 23

router-instance

Specifies the router name or service ID used to identify the router instance.

Values

router-instance: *router-name* or *vprn-svc-id*

router-name	"Base", "management", vpls-management"
vprn-svc-id	1 to 2147483647

Default Base

service-name

Specifies the service name, up to 64 characters.

source ip-address

Specifies the source IP address to use as the source of the Telnet packets.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]

Platforms

All

telnet

Syntax

telnet

Context

[Tree] (config>system>security telnet)

[Tree] (config>system>login-control telnet)

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Full Context

configure system security telnet

configure system login-control telnet

Description

Commands in this context configure the Telnet parameters.

Platforms

All

46.61 telnet-max-sessions

telnet-max-sessions

Syntax

telnet-max-sessions *number-of-sessions*

no telnet-max-sessions

Context

[Tree] (config>system>security>profile telnet-max-sessions)

[Tree] (config>system>security>cli-session-group telnet-max-sessions)

Full Context

configure system security profile telnet-max-sessions

configure system security cli-session-group telnet-max-sessions

Description

This command is used to limit the number of Telnet-based CLI sessions available to all users that are part of a particular profile, or to all users of all profiles that are part of the same cli-session-group.

The **no** form of this command disables the command and the profile/group limit is not applied on the number of sessions.

Default

no telnet-max-sessions

Parameters

number-of-sessions

Specifies the maximum number of allowed Telnet-based CLI sessions.

Values 0 to 50

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Platforms

All

46.62 telnet-reply

telnet-reply

Syntax

[**no**] **telnet-reply**

Context

[Tree] (config>service>ies>if>ipv6>vrrp telnet-reply)

Full Context

configure service ies interface ipv6 vrrp telnet-reply

Description

This command enables the non-owner master to reply to TCP port 23 Telnet requests directed at the virtual router instances IP addresses. The Telnet request can be received on any routed interface. Telnet must not have been disabled at the management security level (either on the parental IP interface or based on the Telnet source host address). Proper login and CLI command authentication is still enforced.

When telnet-reply is not enabled, TCP port 23 Telnet packets to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to Telnet requests regardless of the telnet-reply configuration.

The **telnet-reply** command is only available in non-owner VRRP nodal context. If the telnet-reply command is not executed, Telnet packets to the virtual router instance IP addresses will be silently discarded.

The **no** form of this command restores the default operation of discarding all Telnet packets destined to the non-owner virtual router instance IP addresses.

Default

no telnet-reply

Platforms

All

telnet-reply

Syntax

[**no**] **telnet-reply**

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Context

[Tree] (config>service>ies>if>vrrp telnet-reply)

Full Context

configure service ies interface vrrp telnet-reply

Description

The telnet-reply command enables the non-owner master to reply to TCP port 23 Telnet Requests directed at the virtual router instances IP addresses. The Telnet request can be received on any routed interface. Telnet must not have been disabled at the management security level (either on the parental IP interface or based on the Telnet source host address). Proper login and CLI command authentication is still enforced.

When telnet-reply is not enabled, TCP port 23 Telnet packets to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to Telnet Requests regardless of the telnet-reply configuration.

The telnet-reply command is only available in non-owner VRRP nodal context. If the telnet-reply command is not executed, Telnet packets to the virtual router instance IP addresses will be silently discarded.

The **no** form of this command restores the default operation of discarding all Telnet packets destined to the non-owner virtual router instance IP addresses.

Default

no telnet-reply

Platforms

All

telnet-reply

Syntax

[**no**] **telnet-reply**

Context

[Tree] (config>service>vprn>if>vrrp telnet-reply)

[Tree] (config>service>vprn>if>ipv6>vrrp telnet-reply)

Full Context

configure service vprn interface vrrp telnet-reply

configure service vprn interface ipv6 vrrp telnet-reply

Description

This command enables the non-owner master to reply to TCP port 23 Telnet Requests directed at the virtual router instance's IP addresses. The Telnet request can be received on any routed interface. Telnet

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must not have been disabled at the management security level (either on the parental IP interface or based on the Telnet source host address). Proper login and CLI command authentication is still enforced.

When telnet-reply is not enabled, TCP port 23 Telnet packets to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to Telnet Requests regardless of the telnet-reply configuration.

The telnet-reply command is only available in non-owner **VRRP** nodal context. If the telnet-reply command is not executed, Telnet packets to the virtual router instance IP addresses will be silently discarded.

The **no** form of this command restores the default operation of discarding all Telnet packets destined to the non-owner virtual router instance IP addresses.

Default

no telnet-reply

Platforms

All

telnet-reply

Syntax

[**no**] **telnet-reply**

Context

[Tree] (config>router>if>ipv6>vrrp telnet-reply)

[Tree] (config>router>if>vrrp telnet-reply)

Full Context

configure router interface ipv6 vrrp telnet-reply

configure router interface vrrp telnet-reply

Description

This command enables the non-owner master to reply to TCP port 23 Telnet requests directed at the virtual router instances' IP addresses.

Non-owner virtual router instances are limited by the VRRP specifications to responding to ARP requests destined to the virtual router IP addresses and routing IP packets not addressed to the virtual router IP addresses. Many network administrators find this limitation frustrating when troubleshooting VRRP connectivity issues.

This limitation can be disregarded for certain applications. Ping, SSH and Telnet can each be individually enabled or disabled on a per-virtual-router-instance basis.

The **telnet-reply** command enables the non-owner master to reply to Telnet requests directed at the virtual router instances' IP addresses. The Telnet request can be received on any routed interface. Telnet must not have been disabled at the management security level (either on the parental IP interface or based on the Telnet source host address). Correct login and CLI command authentication is still enforced.

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When **telnet-reply** is not enabled, Telnet requests to non-owner master virtual IP addresses are silently discarded.

Non-owner backup virtual routers never respond to Telnet requests regardless of the **telnet-reply** setting.

The **telnet-reply** command is only available in non-owner **vrrp** nodal context.

By default, Telnet requests to the virtual router instance IP addresses will be silently discarded.

The **no** form of the command configures discarding all Telnet request messages destined to the non-owner virtual router instance IP addresses.

Default

no telnet-reply — Telnet requests to the virtual router instance IP addresses are discarded.

Platforms

All

46.63 telnet-server

telnet-server

Syntax

[**no**] **telnet-server**

Context

[Tree] (config>system>security telnet-server)

Full Context

configure system security telnet-server

Description

This command enables Telnet servers running on the system.

Telnet servers are shut down by default. At system startup, only SSH servers are enabled.

Telnet servers in networks limit a Telnet clients to three retries to login. The Telnet server disconnects the Telnet client session after three retries.

The **no** form of this command disables Telnet servers running on the system.

Platforms

All

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46.64 telnet6-server

telnet6-server

Syntax

[**no**] **telnet6-server**

Context

[Tree] (config>system>security telnet6-server)

Full Context

configure system security telnet6-server

Description

This command enables Telnet IPv6 servers running on the system and only applies to the 7750 SR and 7950 XRS.

Telnet servers are shut down by default. At system startup, only SSH servers are enabled.

The **no** form of this command disables Telnet IPv6 servers running on the system.

Platforms

All

46.65 temp-flooding

temp-flooding

Syntax

temp-flooding flood-time

no temp-flooding

Context

[Tree] (config>service>template>vpls-template temp-flooding)

[Tree] (config>service>vpls temp-flooding)

Full Context

configure service template vpls-template temp-flooding

configure service vpls temp-flooding

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Description

The temporary flooding is designed to minimize failover times by eliminating the time it takes to flush the MAC tables and if MVRP is enabled the time it takes for MVRP registration. Temporary flooding is initiated only upon xSTP TCN reception. During this procedure while the MAC flush takes place the frames received on one of the VPLS SAPs/pseudowires are flooded in a VPLS context which for MVRP case includes also the unregistered MVRP trunk ports. The MAC Flush action is initiated by the STP TCN reception or if MVRP is enabled for the data VPLS, by the reception of a MVRP New message for the SVLAN ID associated with the data VPLS. As soon as the MAC Flush is done, regardless of whether the temp-flooding timer expired or not, traffic will be delivered according to the regular FDB content which may be built from MAC Learning or based on MVRP registrations. This command provides a flood-time value that configures a fixed amount of time, in seconds, during which all traffic is flooded (BUM or known unicast) as a safety mechanism. Once the flood-time expires, traffic will be delivered according to the regular FDB content which may be built from MAC Learning or based on MVRP registrations. The temporary flooding timer should be configured in such a way to allow auxiliary processes like MAC Flush, MMRP and/or MVRP to complete/converge. The temporary flooding behavior applies to regular VPLS, VPLS instantiated with VPLS-template, IVPLS and BVPLS when MMRP is disabled.

The **no** form of this command disables the temporary flooding behavior.

Default

no temp-flooding

Parameters

flood-time

Specifies the flood time, in seconds

Values 3 to 600

Platforms

All

46.66 template

template

Syntax

template

Context

[Tree] (config>service template)

Full Context

configure service template

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Description

This is the node for service templates.

Platforms

All

template

Syntax

template

Context

[Tree] (config>app-assure>group>cflowd>tcp-perf template)

[Tree] (config>app-assure>group>cflowd>comp template)

[Tree] (config>app-assure>group>cflowd>volume template)

Full Context

configure application-assurance group cflowd tcp-performance template

configure application-assurance group cflowd comprehensive template

configure application-assurance group cflowd volume template

Description

Commands in this context configure the template for cflowd comprehensive, TCP performance, or volume fields.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

template

Syntax

template *template-id*

no template

Context

[Tree] (config>app-assure>group template)

[Tree] (config>app-assure>group>http-error-redirect template)

Full Context

configure application-assurance group template

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configure application-assurance group http-error-redirect template

Description

This command refers to the template of parameters passed from the AA-ISA to the redirect server via JavaScript in the redirect packet. The template is specific to the redirect server being used in the network.

Currently, two partners are used and tested with AA-ISA redirect solution, Barefruit and Xerocole.

The **no** form of this command reverts to the default.

Parameters

template-id

Specifies an HTTP error redirect template.

1 = Barefruit specific template

2 = xerocole specific template.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

template

Syntax

template *value*

no template

Context

[Tree] (config>app-assure>group>http-notif template)

Full Context

configure application-assurance group http-notification template

Description

This command configures the template which defines the format and parameters included in the http notification message.

The **no** form of this command removes the template from the configuration.

Default

no template

Parameters

value

Specifies the template id of this HTTP Notification.

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Values 1 — Javascript-url with SubID and optional Http-Url-Param

2 — Javascript-url and optional Http-Url-Param

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

template

Syntax

template *template-id*

no template

Context

[Tree] (config>app-assure>group>http-redirect template)

Full Context

configure application-assurance group http-redirect template

Description

This command configures the template that defines which parameters are appended to the HTTP host redirect field in the redirect message.

The HTTP redirect template provides HTTP 302 redirect containing only the URL specified in the redirect policy, with no other parameters.

The **no** form of this command removes the template from the configuration.

Default

no template

Parameters

template-id

Specifies the HTTP Policy Redirect template.

Values 1 — Javascript based redirect embedded in HTTP 200 OK response with a predefined number of arguments automatically appended to the redirect URL

2 — HTTP 302 Redirect with a predefined number of arguments automatically appended to the redirect URL.

3 — HTTP 302 Redirect with no parameters appended to the URL (empty).

4 — Empty Redirect format using Javascript.

5 — Redirect supporting macro substitution using HTTP 302.

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6 — Redirect supporting macro substitution using Javascript.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

template

Syntax

[**no**] **template** *template-name*

Context

[Tree] (config>router>bier template)

Full Context

configure router bier template

Description

This command creates a BIER template to be assigned to IGP.

The **no** form of this command removes a specific template.

Parameters

template-name

The name of the template to be created or removed, up to 32 characters.

Platforms

All

template

Syntax

[**no**] **template** *name*

Context

[Tree] (config>router>route-next-hop-policy template)

Full Context

configure router route-next-hop-policy template

Description

This command creates a template to configure the attributes of a Loop-Free Alternate (LFA) Shortest Path First (SPF) policy. An LFA SPF policy allows the user to apply specific criteria, such as admin group and

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SRLG constraints, to the selection of an LFA backup next-hop for a subset of prefixes that resolve to a specific primary next-hop.

The user first creates a route next-hop policy template under the global router context and then applies it to a specific OSPF or IS-IS interface in the global routing instance or in a VPRN instance.

A policy template can be used in both IS-IS and OSPF to apply the specific criteria to prefixes protected by LFA. Each instance of IS-IS or OSPF can apply the same policy template to one or more interface.

The commands within the route next-hop policy template use the **begin-commit-abort** model. The following are the steps to create and modify the template:

To create a template, the user enters the name of the new template directly under the route-next-hop-policy context.

1. To delete a template that is not in use, the user enters the **no** form for the template name under the route-next-hop-policy context.
2. The user enters the editing mode by executing the begin command under the route-next-hop-policy context. The user can then edit and change any number of route next-hop policy templates. However, the parameter value will still be stored temporarily in the template module until the commit is executed under the route-next-hop-policy context. Any temporary parameter changes will be lost if the user enters the abort command before the commit command.
3. The user is allowed to create or delete a template instantly once in the editing mode without the need to enter the commit command. Furthermore, the abort command, if entered, will have no effect on the prior deletion or creation of a template.

Once the commit command is issued, IS-IS or OSPF will re-evaluate the templates and if there are any net changes, it will schedule a new LFA SPF to re-compute the LFA next-hop for the prefixes associated with these templates.

Parameters

name

Specifies the name of the template, up to 32 characters.

Platforms

All

template

Syntax

template *template-name*

no template

Context

[Tree] (config>router>isis>level>bier template)

Full Context

configure router isis level bier template

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Description

This command assigns a BIER template to an IS-IS level.

The **no** form of this command removes templates from the IS-IS level.

Parameters

template-name

Specifies the BIER template name.

Platforms

All

template

Syntax

template *template-name*

no template

Context

[Tree] (config>router>ospf>area>bier template)

Full Context

configure router ospf area bier template

Description

This command configures an OSPF BIER template at the OSPF area level.

The **no** form of this command removes templates from the OSPF area.

Parameters

template-name

The name of the template, up to 32 characters.

Platforms

All

46.67 template-format

template-format

Syntax

template-format {**format1** | **format2**}

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no template-format

Context

[Tree] (config>service>ipfix>ipfix-export-policy template-format)

Full Context

configure service ipfix ipfix-export-policy template-format

Description

This command selects one of two template formats that contains a set of element IDs and their interpretation in IPFIX NAT flow logging. The difference between the two formats is related to the fields conveying information about the translated source IP addresses and ports (outside IP addresses and ports). Further, format 1 conveys information about the translated source port (post NAT) in the sourceTransportPort information element while format 2 conveys this information in the postNAPTsourceTrasportPort element.

Further, format1 conveys information about the translated source port (post NAT) in the information element sourceTransportPort while a new information element postNAPTsourceTrasportPort is introduced in format2 to carry this information.

For more information about template formats, refer to "Template Formats” in the *7450 ESS, 7750 SR, and VSR Multiservice Integrated Service Adapter and Extended Services Appliance Guide*, where the table lists supported information elements and their description for each format.

The **no** form of the command reverts to the default value.

Default

template-format format1

Parameters

format1

Specifies that template format 1 is used by the IPFIX collectors associated with this IPFIX Export policy.

format2

Specifies that template format 2 is used by the IPFIX collectors associated with this IPFIX Export policy.

Platforms

All

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46.68 template-refresh-timeout

template-refresh-timeout

Syntax

template-refresh-timeout [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*] [**days** *days*]

no template-refresh-timeout

Context

[Tree] (config>service>ipfix>export-policy>collector template-refresh-timeout)

Full Context

configure service ipfix ipfix-export-policy collector template-refresh-timeout

Description

This command configures the time interval in which Template Set messages are sent to the collector node. Template sets is an IPFIX message that defines fields for subsequent IPFIX messages but contains no data of its own. In other words, IPFIX data is not passed as set of TLVs, but instead data is encoded with a scheme defined through the Template Set message.

Default

template-refresh-timeout min 10

Parameters

hours

Specifies the time interval, in hours, after which IPFIX templates are resent to this collector.

Values 1 to 24

minutes

Specifies the time interval, in minutes, after which IPFIX templates are resent to this collector.

Values 1 to 59

seconds

Specifies the time interval, in seconds, after which IPFIX templates are resent to this collector.

Values 1 to 59

days

Specifies the time interval, in days, after which IPFIX templates are resent to this collector.

Values 1

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Platforms

All

46.69 template-retransmit

template-retransmit

Syntax

template-retransmit *seconds*

no template-retransmit

Context

[Tree] (config>app-assure>group>cflowd template-retransmit)

Full Context

configure application-assurance group cflowd template-retransmit

Description

This command configures the period of time, in seconds, for the template to be retransmitted.

Default

template-retransmit 600

Parameters

seconds

Specifies the time period for the template to be retransmitted.

Values 10 to 600

Default 600

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

template-retransmit

Syntax

template-retransmit *seconds*

no template-retransmit

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Context

[Tree] (config>cflowd template-retransmit)

Full Context

configure cflowd template-retransmit

Description

This command specifies the interval for sending template definitions.

Default

template-retransmit 600

Parameters

seconds

Specifies the value expressed in seconds before sending template definitions.

Values 10 to 600

Platforms

All

46.70 template-set

template-set

Syntax

template-set {**basic** | **mpls-ip** | **l2-ip** | **mpls-transport**}

Context

[Tree] (config>cflowd>collector template-set)

Full Context

configure cflowd collector template-set

Description

This command specifies the set of templates sent to the collector when using cflowd Version 9 or Version 10.

Default

template-set basic

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Parameters

basic

Specifies that basic flow data is sent.

mpls-ip

Specifies that extended flow data is sent that includes IP and MPLS flow information.

If the sampled traffic is part of a locally configured service or IPv4 or IPv6 traffic is being forwarded with an MPLS shortcut, then the MPLS labels associated with that service encapsulation are included in the extended flow data for both network ingress and egress sampling.

l2-ip

Specifies that extended flow data is sent that includes Layer 2 (Ethernet) and IP flow information. This template is only applicable for V10 (IPFIX) collectors.

mpls-transport

Specifies that cflowd can collect flow statistics for MPLS traffic using only the outer transport label, EXP bit value, and ingress interface as the flow identifier. This template enables the collection of flow statistics on a core router to develop LSP usage statistics.

Platforms

All

46.71 terminal

terminal

Syntax

terminal

no terminal

Context

[Tree] (environment terminal)

Full Context

environment terminal

Description

Commands in this context configure the terminal screen length for the current CLI session.

Platforms

All

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46.72 termination-fpe

termination-fpe

Syntax

termination-fpe *termination-fpe*

no termination-fpe

Context

[Tree] (conf>router>sr>srv6>ms>block termination-fpe)

[Tree] (config>router>segment-routing>srv6>locator termination-fpe)

Full Context

configure router segment-routing segment-routing-v6 micro-segment block termination-fpe

configure router segment-routing segment-routing-v6 locator termination-fpe

Description

This command configures the association between the FPE ID and the locator for termination of SRv6 in local services. One or more FPEs can be configured for SRv6 termination, where a termination SRv6 FPE is assigned one or more configured locators or micro-segment locators.

The **no** form of this command removes the association.

Parameters

termination-fpe

Specifies the FPE ID for SRv6 termination.

Values 1 to 64

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

46.73 tertiary

tertiary

Syntax

tertiary

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Context

[Tree] (config>subscr-mgmt>sub-ident-pol tertiary)

Full Context

configure subscriber-mgmt sub-ident-policy tertiary

Description

Commands in this context configure tertiary identification script parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

46.74 tertiary-config

tertiary-config

Syntax

tertiary-config *file-url*

no tertiary-config

Context

[Tree] (bof tertiary-config)

Full Context

bof tertiary-config

Description

This command specifies the name and location of the tertiary configuration file.

The system attempts to use the configuration specified in **tertiary-config** if both the primary and secondary config files cannot be located. If this file cannot be located, the system boots with the factory default configuration.

Note that if an error in the configuration file is encountered, the boot process aborts.

The **no** form of this command removes the **tertiary-config** configuration.

Parameters

file-url

Specifies the tertiary configuration file location, expressed as a file URL.

Values

file-url	{*local-url* | *remote-url*} (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]

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remote-url	[{ftp://| tftp://} *login:pswd@remote-locn/*][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

46.75 tertiary-dns

tertiary-dns

Syntax

tertiary-dns *ip-address*

no tertiary-dns

Context

[Tree] (config>service>vprn>dns tertiary-dns)

Full Context

configure service vprn dns tertiary-dns

Description

This command configures the tertiary DNS server for DNS name resolution. The tertiary DNS server is used only if the primary DNS server and the secondary DNS server do not respond.

DNS name resolution can be used when executing ping, traceroute, and service-ping, and also when defining file URLs. DNS name resolution is not supported when DNS names are embedded in configuration files.

The **no** form of this command removes the tertiary DNS server from the configuration.

Default

no tertiary-dns — No tertiary DNS server is configured.

Parameters

ip-address

The IP or IPv6 address of the tertiary DNS server.

Values

ipv4-address -a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

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x: [0 to FFFF]H

d: [0 to 255]D

interface - 32 characters max, for link local addresses.

Platforms

All

tertiary-dns

Syntax

tertiary-dns *ip-address*

no tertiary-dns [*ip-address*]

Context

[Tree] (bof tertiary-dns)

Full Context

bof tertiary-dns

Description

This command configures the tertiary DNS server for DNS name resolution. The tertiary DNS server is used only if the primary DNS server and the secondary DNS server do not respond.

DNS name resolution can be used when executing ping, traceroute, and service-ping, and also when defining file URLs. DNS name resolution is not supported when DNS names are embedded in configuration files.

The **no** form of this command removes the tertiary DNS server from the configuration.

Default

no tertiary-dns

Parameters

ip-address

Specifies the IP or IPv6 address of the tertiary DNS server.

Values

ipv4-address	a.b.c.d
ipv6-address	*x:x:x:x:x:x:x:x*[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H

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		d: [0 to 255]D
	interface	32 chars max, for link local addresses

Note:
IPv6 is applicable to the 7750 SR and 7950 XRS only.

Platforms

All

46.76 tertiary-image

tertiary-image

Syntax

tertiary-image *file-url*

no tertiary-image

Context

[Tree] (bof tertiary-image)

Full Context

bof tertiary-image

Description

This command specifies the tertiary directory location for runtime image file loading.

The system attempts to load all runtime image files configured in the **primary-image** first. If this fails, the system attempts to load the runtime images from the location configured in the **secondary-image**. If the secondary image load fails, the tertiary image specified in **tertiary-image** is used.

All runtime image files (*.tim files) must be located in the same directory.

The **no** form of this command removes the **tertiary-image** configuration.

Parameters

file-url

Specifies the file URL; can be either local (this CPM) or a remote FTP server.

Values

file-url	{*local-url* | *remote-url*} (up to 180 characters)
local-url	[*cflash-id*/][*file-path*]
remote-url	[{ftp://| tftp://} *login:pswd@remote-locn*/][*file-path*]

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cflash-id cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

46.77 tertiary-ip-address

tertiary-ip-address

Syntax

tertiary-ip-address *ipv4-address*

no tertiary-ip-address

Context

[Tree] (config>router>bgp>orr>location tertiary-ip-address)

Full Context

configure router bgp optimal-route-reflection location tertiary-ip-address

Description

This command specifies the tertiary IP address of a reference location used for BGP optimal route reflection. Up to three IPv4 addresses and three IPv6 addresses can be specified per location.

If the TE DB is unable to find a node in its topology database that matches the primary address, then the TE DB tries to find a node with the matching secondary address. If this attempt also fails, the TE DB then tries to find a node with the matching tertiary address.

The IP addresses specified for a location should be topologically "close" to a set of clients that should all receive the same optimal path for that location.

The **no** form of this command removes the tertiary IP address information.

Default

no tertiary-ip-address

Parameters

ipv4-address

Specifies the tertiary IPv4 address of a location, expressed in dotted decimal notation.

Values a.b.c.d

Platforms

All

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46.78 tertiary-ipv6-address

tertiary-ipv6-address

Syntax

tertiary-ipv6-address *ipv6-address*

no tertiary-ipv6-address

Context

[Tree] (config>router>bgp>orr>location tertiary-ipv6-address)

Full Context

configure router bgp optimal-route-reflection location tertiary-ipv6-address

Description

This command specifies the tertiary IPv6 address of a reference location used for BGP optimal route reflection. Up to three IPv4 addresses and three IPv6 addresses can be specified per location.

If the TE DB is unable find a node in its topology database that matches a primary address of the location, then it tries to find a node matching a secondary address. If this attempt also fails, the TE DB tries to find a node matching a tertiary address.

The IP addresses specified for a location should be topologically "close" to a set of clients that should all receive the same optimal path for that location.

The **no** form of this command removes the tertiary IPv6 address information.

Default

no tertiary-ipv6-address

Parameters

ipv6-address

Specifies the tertiary IPv6 address of a location.

Values ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

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46.79 tertiary-location

tertiary-location

Syntax

tertiary-location *file-url*

no tertiary-location

Context

[Tree] (config>system>software-repository tertiary-location)

Full Context

configure system software-repository tertiary-location

Description

This command configures the tertiary location for the files in the software repository. See the **software-repository** command description for more information.

The **no** form of the command removes the tertiary location.

Parameters

file-url

Specifies the tertiary location to be used to access the files in the software repository.

Values

file url	*local-url* | *remote-url*	
local-url	[*cflash-id/*][*file-path*]	up to 200 characters, including cflash-id directory length 99 characters each
remote-url	[{ftp://} *login:pswd@remote-locn/*][*file-path*]	
	243 characters maximum	
	directory length, up to 99 characters each	
	remote-locn	[*hostname* | *ipv4-address* | [*ipv6-address*]]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
		x:x:x:x:x:x:d.d.d.d[*-interface*]
		x - [0 to FFFF]H
		d - [0 to 255]D

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interface - up to 32 characters, for link local addresses

cflash-id cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.80 tertiary-url

tertiary-url

Syntax

tertiary-url *url*

no tertiary-url

Context

[Tree] (config>python>py-script tertiary-url)

Full Context

configure python python-script tertiary-url

Description

This command specifies the location of tertiary Python script. The system supports three locations for each Python-script. Users can store scripts file on either a local CF card or a FTP server.

The **no** form of this command removes the URL.

Parameters

url

Specifies the tertiary URL of the Python script up to 180 characters, either a local CF card URL or a FTP server URL.

Platforms

All

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46.81 test

test

Syntax

[**no**] **test** *test-name* [**owner** *test-owner*]

Context

[Tree] (config>saa test)

Full Context

configure saa test

Description

This command identifies a test and enables the context to provide the test parameters for the named test. After the creation of the test instance, the test can be started in the OAM context.

A test can only be modified while it is shut down.

The **no** form of this command removes the test from the configuration. To remove a test, it cannot be active at the time.

Parameters

test-name

Identifies the SAA test name, up to 32 characters.

test-owner

Specifies the owner, up to 32 characters, of an SAA operation. If a value is not specified, the default owner is used.

Default "TiMOS CLI"

Platforms

All

46.82 test-account

test-account

Syntax

test-account

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Context

[Tree] (config>aaa>radius-srv-plcy>servers>health-check test-account)

Full Context

configure aaa radius-server-policy servers health-check test-account

Description

This command sets up a test account as a probing mechanism to check the connectivity of all configured RADIUS authentication servers within the RADIUS server policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

46.83 test-completion-enable

test-completion-enable

Syntax

[**no**] **test-completion-enable**

Context

[Tree] (config>saa>test>trap-gen test-completion-enable)

Full Context

configure saa test trap-gen test-completion-enable

Description

This command enables the generation of a trap when an SAA test completes.

The **no** form of this command disables the trap generation.

Platforms

All

46.84 test-duration

test-duration

Syntax

test-duration *seconds*

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no test-duration

Context

[Tree] (config>oam-pm>session>ethernet>lmm test-duration)

[Tree] (config>oam-pm>session>ethernet>dmm test-duration)

[Tree] (config>oam-pm>session>ethernet>slm test-duration)

Full Context

configure oam-pm session ethernet lmm test-duration

configure oam-pm session ethernet dmm test-duration

configure oam-pm session ethernet slm test-duration

Description

Thiscommand, which is optional, configures the length of time the test runs before stopping automatically. This command is only a valid option when a session has been configured with a **session-type** of **on-demand**. This is not an option when the **session-type** is configured as **proactive**. On-demand tests do not start until the **oam-pm session start** command has been issued and they stop when the **oam-pm session stop** command is issued.

The **no** form of this command removes a previously configured test duration and allow the test to run until manually stopped.

Parameters

seconds

Specifies the number of seconds the test runs from its start time.

Values 1 to 86400

Platforms

All

test-duration

Syntax

test-duration *seconds*

no test-duration

Context

[Tree] (config>oam-pm>session>ip>twamp-light test-duration)

Full Context

configure oam-pm session ip twamp-light test-duration

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Description

This command defines the length of time the test runs before stopping automatically. This optional command is only valid when a session has been configured with a **session-type** of **on-demand**. This is not an option when the **session-type** is configured as **proactive**. On-demand tests do not start until the **config>oam-pm>session>start** command has been issued and they stop when the **config>oam-pm>session>stop** command is issued.

The **no** form of this command removes a previously configured test-duration value and allows the TWAMP Light test to execute until it is stopped manually.

Parameters

seconds

Specifies the length of time, in seconds, that the TWAMP Light test runs.

Values 1 to 86400

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-duration

Syntax

test-duration *seconds*

no test-duration

Context

[Tree] (config>oam-pm>session>mpls>dm test-duration)

Full Context

configure oam-pm session mpls dm test-duration

Description

This command defines the length of time the test runs before stopping automatically. This command is only valid when a session has been configured with a **session-type** of **on-demand**. This is not an option when the **session-type** is configured as **proactive**.

On-demand tests do not start until the **oam-pm>session>start** command has been issued and they stops when scheduled or the **oam-pm>session>stop** command is issued.

The **no** form of this command removes a previously configured test-duration and allow the test to run until manually stopped.

Parameters

seconds

Specifies the number of seconds the test runs from its start time.

Values 1 to 8640

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-duration

Syntax

test-duration

Context

[Tree] (config>test-oam>sath>svc-test test-duration)

Full Context

configure test-oam service-activation-testhead service-test test-duration

Description

Commands in this context configure the test duration for the various functional test types.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

46.85 test-fail-enable

test-fail-enable

Syntax

[**no**] **test-fail-enable**

Context

[Tree] (config>saa>test>trap-gen test-fail-enable)

Full Context

configure saa test trap-gen test-fail-enable

Description

This command enables the generation of a trap when a test fails. In the case of a ping test, the test is considered failed (for trap generation) if the number of failed probes is at least the value of the **test-fail-threshold** parameter.

The **no** form of this command disables the trap generation.

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Platforms

All

46.86 test-fail-threshold

test-fail-threshold

Syntax

test-fail-threshold *threshold*

no test-fail-threshold

Context

[Tree] (config>saa>test>trap-gen test-fail-threshold)

Full Context

configure saa test trap-gen test-fail-threshold

Description

This command configures the threshold for trap generation on test failure.

This command has no effect when **test-fail-enable** is disabled. This command is not applicable to SAA trace route tests.

The **no** form of this command returns the threshold value to the default.

Default

test-fail-threshold 1

Parameters

threshold

Specifies the number of consecutive test failures required to generate a trap.

Values 0 to 15

Platforms

All

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46.87 test-oam

test-oam

Syntax

test-oam

Context

[Tree] (config test-oam)

Full Context

configure test-oam

Description

Commands in this context configure operations, administration, and maintenance (OAM) test parameters.

Platforms

All

46.88 test-pattern

test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep>eth-test-enable test-pattern)

Full Context

configure eth-tunnel path eth-cfm mep eth-test-enable test-pattern

Description

This command configures the test pattern for eth-test frames.

The **no** form of this command removes the values from the configuration.

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Parameters

all-zeros

Specifies to use all zeros in the test pattern.

all-ones

Specifies to use all ones in the test pattern.

crc-enable

Generates a CRC checksum.

Default all-zeros

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

Context

[Tree] (config>router>if>eth-cfm>mep>eth-test test-pattern)

[Tree] (config>lag>eth-cfm>mep>eth-test test-pattern)

[Tree] (config>port>ethernet>eth-cfm>mep>eth-test test-pattern)

Full Context

configure router interface eth-cfm mep eth-test-enable test-pattern

configure lag eth-cfm mep eth-test-enable test-pattern

configure port ethernet eth-cfm mep eth-test-enable test-pattern

Description

This command specifies the test pattern of the ETH-TEST frames. The test pattern does not have to be configured the same on the sender and the receiver.

The **no** form of this command reverts to the default values.

Default

test-pattern all-zeros

Parameters

all-zeros

Specifies to use all zeros in the test pattern.

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all-ones

Specifies to use all ones in the test pattern.

crc-enable

Generates a CRC checksum.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>eth-test-enable test-pattern)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>eth-test-enable test-pattern)

[Tree] (config>service>epipe>sap>eth-cfm>mep>eth-test-enable test-pattern)

Full Context

configure service epipe spoke-sdp eth-cfm mep eth-test-enable test-pattern

configure service ipipe sap eth-cfm mep eth-test-enable test-pattern

configure service epipe sap eth-cfm mep eth-test-enable test-pattern

Description

This command configures the test pattern for eth-test frames.

The **no** form of this command removes the values from the configuration.

Default

test-pattern all-zeros

Parameters

all-zeros

Specifies to use all zeros in the test pattern.

all-ones

Specifies to use all ones in the test pattern.

crc-enable

Generates a CRC checksum.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>eth-test-enable test-pattern)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>eth-test-enable test-pattern)

[Tree] (config>service>vpls>sap>eth-cfm>mep>eth-test-enable test-pattern)

Full Context

configure service vpls spoke-sdp eth-cfm mep eth-test-enable test-pattern

configure service vpls mesh-sdp eth-cfm mep eth-test-enable test-pattern

configure service vpls sap eth-cfm mep eth-test-enable test-pattern

Description

This command configures the test pattern for eth-test frames.

The **no** form of this command removes the values from the configuration.

Parameters

all-zeros

Specifies to use all zeros in the test pattern

all-ones

Specifies to use all ones in the test pattern

crc-enable

Generates a CRC checksum

Default all-zeros

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

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Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep>eth-test-enable test-pattern)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>eth-test-enable test-pattern)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>eth-test-enable test-pattern)

Full Context

configure service ies interface sap eth-cfm mep eth-test-enable test-pattern

configure service ies interface spoke-sdp eth-cfm mep eth-test-enable test-pattern

configure service ies subscriber-interface group-interface sap eth-cfm mep eth-test-enable test-pattern

Description

This command configures the test pattern for eth-test frames.

The **no** form of this command removes the values from the configuration.

Parameters

all-zeros

Specifies to use all zeros in the test pattern.

all-ones

Specifies to use all ones in the test pattern.

crc-enable

Generates a CRC checksum.

Default all-zeros

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface spoke-sdp eth-cfm mep eth-test-enable test-pattern
- configure service ies interface sap eth-cfm mep eth-test-enable test-pattern

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep eth-test-enable test-pattern

test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>eth-test-enable test-pattern)

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>eth-test-enable test-pattern)

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[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>eth-test-enable test-pattern)

Full Context

configure service vprn subscriber-interface group-interface sap eth-cfm eth-test-enable test-pattern

configure service vprn interface sap eth-cfm mep eth-test-enable test-pattern

configure service vprn interface spoke-sdp eth-cfm mep eth-test-enable test-pattern

Description

This command configures the test pattern for eth-test frames.

The **no** form of this command removes the values from the configuration.

Default

test-pattern all-zeros

Parameters

all-zeros

Specifies to use all zeros in the test pattern.

all-ones

Specifies to use all ones in the test pattern.

crc-enable

generates a CRC checksum.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-pattern

Syntax

test-pattern {**all-zeros** | **all-ones**} [**crc-enable**]

no test-pattern

Context

[Tree] (config>eth-ring>path>eth-cfm>mep>eth-test-enable test-pattern)

Full Context

configure eth-ring path eth-cfm mep eth-test-enable test-pattern

Description

This command configures the test pattern for eth-test frames.

The **no** form of the command removes the values from the configuration.

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Default

test-pattern all-zeros

Parameters

all-zeros

Specifies to use all zeros in the test pattern.

all-ones

Specifies to use all ones in the test pattern.

crc-enable

Generates a CRC checksum.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.89 test-types

test-types

Syntax

test-types

Context

[Tree] (config>test-oam>sath>svc-test>svc-stream test-types)

Full Context

configure test-oam service-activation-testhead service-test service-stream test-types

Description

Commands in this context configure the types of tests to perform on a specific service stream.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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46.90 tethered-flow

tethered-flow

Syntax

[no] tethered-flow

Context

[Tree] (config>app-assure>group>policy>chrg-fltr>entry>match tethered-flow)

Full Context

configure application-assurance group policy charging-filter entry match tethered-flow

Description

This command configures the addition of the tethering status to the match criteria used by this charging filter entry.

The **no** form of this command removes the tethering status match criteria.

Default

no tethered-flow

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.91 tethering-detection

tethering-detection

Syntax

tethering-detection

Context

[Tree] (config>app-assure>group tethering-detection)

Full Context

configure application-assurance group tethering-detection

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Description

Commands in this context configure tethering detection for the group. The **shutdown** and **no shutdown** commands are used in this context to enable or disable tethering detection.

Default

tethering-detection shutdown

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.92 tethering-summary

tethering-summary

Syntax

[**no**] **tethering-summary**

Context

[Tree] (config>app-assure>group>statistics>aa-partition tethering-summary)

Full Context

configure application-assurance group statistics aa-partition tethering-summary

Description

This command enables tethering summary statistics collection within an aa-partition.

The **no** form of this command disables tethering summary statistics collection.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.93 third-party

third-party

Syntax

[**no**] **third-party**

Context

[Tree] (config>service>nat>pcp-server-policy>option third-party)

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Full Context

configure service nat pcp-server-policy option third-party

Description

This command enables/disables support for the **third-party** option.

Default

no third-party

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.94 third-party-nexthop

third-party-nexthop

Syntax

third-party-nexthop

no third-party-nexthop

Context

[Tree] (config>service>vprn>bgp>group>neighbor third-party-nexthop)

[Tree] (config>service>vprn>bgp>group third-party-nexthop)

[Tree] (config>service>vprn>bgp third-party-nexthop)

Full Context

configure service vprn bgp group neighbor third-party-nexthop

configure service vprn bgp group third-party-nexthop

configure service vprn bgp third-party-nexthop

Description

Use this command to enable the router to send third-party next-hop to EBGP peers in the same subnet as the source peer, as described in RFC 4271. If enabled when an IPv4 or IPv6 route is received from one EBGP peer and advertised to another EBGP peer in the same IP subnet, the BGP next-hop is left unchanged. Third-party next-hop is not done if the address family of the transport does not match the address family of the route.

The **no** form of this command prevents BGP from performing any third party next-hop processing toward any single-hop EBGP peers within the scope of the command. No third-party next-hop means the next-hop will always carry the IP address of the interface used to establish the TCP connection to the peer.

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Default

no third-party-nexthop

Platforms

All

third-party-nexthop

Syntax

third-party-nexthop

no third-party-nexthop

Context

[Tree] (config>router>bgp third-party-nexthop)

[Tree] (config>router>bgp>group>neighbor third-party-nexthop)

Full Context

configure router bgp third-party-nexthop

configure router bgp group neighbor third-party-nexthop

Description

Use this command to enable the router to send third-party next-hop to EBGP peers in the same subnet as the source peer, as described in RFC 4271. If enabled when an IPv4 or IPv6 route is received from one EBGP peer and advertised to another EBGP peer in the same IP subnet, the BGP next-hop is left unchanged. Third-party next-hop is not done if the address family of the transport does not match the address family of the route.

The **no** form of this command prevents BGP from performing any third party next-hop processing toward any single-hop EBGP peers within the scope of the command. No third-party next-hop means the next-hop will always carry the IP address of the interface used to establish the TCP connection to the peer.

Default

no third-party-nexthop

Platforms

All

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46.95 three-way-hello

three-way-hello

Syntax

[**no**] **three-way-hello**

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>pim three-way-hello)

Full Context

configure service vprn mvpn provider-tunnel inclusive pim three-way-hello

Description

This command enables PIM three-way hello on the inclusive provider tunnel.

The **no** form of this command disables the PIM three-way hello.

Default

disabled

Platforms

All

three-way-hello

Syntax

[**no**] **three-way-hello**

Context

[Tree] (config>service>vprn>pim>if three-way-hello)

Full Context

configure service vprn pim interface three-way-hello

Description

This command configures the compatibility mode for enabling the three way hello.

Platforms

All

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three-way-hello

Syntax

three-way-hello [**compatibility-mode**]

no three-way-hello

Context

[Tree] (config>router>pim>interface three-way-hello)

Full Context

configure router pim interface three-way-hello

Description

This command sets the compatibility mode to enable three-way hello. By default, the value is disabled on all interface which specifies that the standard two-way hello is supported. When enabled, the three-way hello is supported.

The **no** form of this command disables three-way hello.

Default

no three-way-hello

Platforms

All

46.96 threshold

threshold

Syntax

threshold *xpl-errors*

Context

[Tree] (config>card>mda>egress-xpl threshold)

Full Context

configure card mda egress-xpl threshold

Description

This command configures the Egress XPL Error Threshold value used by the **fail-on-error** feature.

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Default

threshold 1000

Parameters

xpl-errors

Specifies an upper limit on the frequency of Egress XPL Errors that can occur on the MDA. When **fail-on-error** is enabled, if the MDA experiences more than *xpl-errors* errors per minute for the specified number of minutes from the **window** *minutes* command, the MDA will be put in the failed state.

The threshold value cannot be changed while **fail-on-error** is enabled for this MDA.

Values 1 to 1000000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

threshold

Syntax

threshold *xpl-errors*

Context

[Tree] (config>card>mda>ingress-xpl threshold)

Full Context

configure card mda ingress-xpl threshold

Description

This command configures the Ingress XPL Error Threshold value used by the **fail-on-error** feature.

Default

threshold 1000

Parameters

xpl-errors

Specifies an upper limit on the frequency of Ingress XPL Errors that can occur on the MDA. When **fail-on-error** is enabled, if the MDA experiences more than *xpl-errors* errors per minute for the specified number of minutes from the **window** *minutes* command, the MDA will be put in the failed state.

The threshold value cannot be changed while **fail-on-error** is enabled for this MDA.

Values 1 to 1000000

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

threshold

Syntax

threshold *threshold*

no threshold

Context

[Tree] (config>router>segment-routing>maintenance-policy threshold)

Full Context

configure router segment-routing maintenance-policy threshold

Description

This command configures the minimum number of S-BFD sessions that must be up in order to consider the SR policy candidate path to which the maintenance template is bound to be up. If it is below this number, then the policy candidate path is marked as BFD degraded by the system. This command is only valid in the **ecmp-protected** mode.

The **no** form of this command reverts to the default.

Default

threshold 1

Parameters

threshold

Specifies the minimum number of S-BFD sessions that must be up.

Values 1 to 32

Platforms

All

threshold

Syntax

threshold

Context

[Tree] (config>test-oam>link-meas>template>asw threshold)

[Tree] (config>test-oam>link-meas>template>sw threshold)

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Full Context

configure test-oam link-measurement measurement-template aggregate-sample-window threshold

configure test-oam link-measurement measurement-template sample-window threshold

Description

Commands in this context configure the applicable thresholds for the sample windows.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.97 threshold-crossing-alert

threshold-crossing-alert

Syntax

threshold-crossing-alert

Context

[Tree] (config>app-assure>group>statistics threshold-crossing-alert)

Full Context

configure application-assurance group statistics threshold-crossing-alert

Description

Commands in this context configure the generation of threshold crossing alerts (TCAs).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

46.98 thresholds

thresholds

Syntax

thresholds

Context

[Tree] (config>service>vprn>dhcp6>server>pool>prefix thresholds)

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[Tree] (config>router>dhcp6>server>pool>prefix thresholds)

[Tree] (config>service>vprn>dhcp6>server>pool thresholds)

[Tree] (config>router>dhcp6>server>pool thresholds)

Full Context

configure service vprn dhcp6 local-dhcp-server pool prefix thresholds

configure router dhcp6 local-dhcp-server pool prefix thresholds

configure service vprn dhcp6 local-dhcp-server pool thresholds

configure router dhcp6 local-dhcp-server pool thresholds

Description

Commands in this context configure pool level thresholds.

Default

thresholds

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

thresholds

Syntax

thresholds

Context

[Tree] (config>system thresholds)

Full Context

configure system thresholds

Description

Commands in this context configure monitoring thresholds.

Platforms

All

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46.99 throttle-rate

throttle-rate

Syntax

throttle-rate *events* [**interval** *seconds*]

no throttle-rate

Context

[Tree] (config>log throttle-rate)

Full Context

configure log throttle-rate

Description

This command configures the number of events and interval length to be applied to all event types that have throttling enabled by the **event-control** command and do not have a **specific-throttle-rate** configured.

The **no** form of this command reverts to the default values.

Default

throttle-rate 2000 interval 1

Parameters

events

Specifies the number of log events that can be logged within the specified interval for a specific event. Once the limit has been reached, any additional events of that type will be dropped, for example, the event drop count will be incremented. At the end of the throttle interval if any events have been dropped a trap notification will be sent.

Values 1 to 20000

Default 2000

seconds

Specifies the number of seconds that an event throttling interval lasts.

Values 1 to 1200

Default 1

Platforms

All

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46.100 throughput-alarm

throughput-alarm

Syntax

throughput-alarm high-threshold *Mbps* **low-threshold** *Mbps*

no throughput-alarm

Context

[Tree] (config>li>x-interfaces>x3>alarms throughput-alarm)

Full Context

configure li x-interfaces x3 alarms throughput-alarm

Description

This command configures the thresholds for raising the throughput alarm. The throughput is shared with other ISA BB applications. The low threshold value must be configured with a smaller value than the high threshold.

The **no** form of this command reverts to the default values.

Parameters

high-threshold *Mbps*

Specifies the high threshold value.

Values 1 to 4294967295

low-threshold *Mbps*

Specifies the low threshold value.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

46.101 ti-lfa

ti-lfa

Syntax

ti-lfa [**max-sr-frr-labels** *value*] [**max-srv6-frr-sids** *sids-value*]

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no ti-lfa

Context

[Tree] (config>router>isis>lfa ti-lfa)

Full Context

configure router isis loopfree-alternates ti-lfa

Description

This command enables the use of the Topology-Independent LFA (TI-LFA) algorithm in the LFA SPF calculation for this IS-IS instance.

The **no** form of this command disables the use of the TI-LFA algorithm in the LFA SPF calculation for this IS-IS instance.

Default

no ti-lfa

Parameters

value

Specifies the maximum number of labels allowed in the segment list of the TI-LFA repair tunnel. A higher value results in better coverage by TI-LFA at the expense of increased packet encapsulation overhead. The TI-LFA algorithm uses this value to limit the search for the Q-node from the P-node on the post-convergence path.

Values 0 to 3

Default 2

sids-value

Specifies the maximum number of SRv6 SIDs allowed in the segment list of the TI-LFA repair tunnel. A higher value results in better coverage by TI-LFA at the expense of increased packet encapsulation overhead. The TI-LFA algorithm uses this value to limit the search for the Q-node from the P-node on the post-convergence path.

Values 0 to 3

Default 1

Platforms

All

ti-lfa

Syntax

ti-lfa [**max-sr-frr-labels** *value*]

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no ti-lfa

Context

[Tree] (config>router>ospf>loopfree-alternates ti-lfa)

[Tree] (config>router>ospf3>loopfree-alternates ti-lfa)

Full Context

configure router ospf loopfree-alternates ti-lfa

configure router ospf3 loopfree-alternates ti-lfa

Description

This command enables the use of the Topology Independent Loop-Free Alternate (TI-LFA) algorithm in the LFA SPF calculation for this OSPF or OSPFv3 instance.

The **no** form of this command disables the use of the TI-LFA algorithm in the LFA SPF calculation in this OSPF or OSPFv3 instance.

Default

no ti-lfa

Parameters

max-sr-frr-labels [*value*]]

Specifies the maximum number of labels allowed in the segment list of the TI-LFA repair tunnel. A higher value results in better coverage by TI-LFA at the expense of increased packet encapsulation overhead. The TI-LFA algorithm uses this value to limit the search for the Q-node from the P-node on the post-convergence path.

Values 0 to 3

Default 2

Platforms

All

46.102 tier

tier

Syntax

tier {**1** | **2**}

Context

[Tree] (config>qos>policer-control-policy tier)

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Full Context

configure qos policer-control-policy tier

Description

This command is used to create, configure, and delete tiered arbiters. Two tiers are supported that always exist, specified as tier 1 and tier 2. Tiered arbiters enable the creation of a bandwidth control hierarchy for managing child policers in an arbitrary fashion. Each arbiter enables parenting of child policers within eight strict levels of priority and a maximum aggregate rate may be defined for the children that the arbiter will enforce. Arbiters created on tier 1 are automatically parented to the root arbiter that is always present. Arbiters created on tier 2 default to the root arbiter as parent but can also be explicitly parented to a tier 2 arbiter. Child policers associated with an instance of the **policer-control-policy** can be parented to any tiered arbiter or to the root arbiter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

tier

Syntax

[**no**] **tier** *tier*

Context

[Tree] (config>qos>scheduler-policy tier)

Full Context

configure qos scheduler-policy tier

Description

This command identifies the level of hierarchy that a group of schedulers are associated with. Within a tier level, a scheduler can be created or edited. Schedulers created within a tier can only be a child (take bandwidth from a scheduler in a higher tier). Tier levels increase sequentially with 1 being the highest tier. All tier 1 schedulers are considered to be root and cannot be a child of another scheduler. Schedulers defined in tiers other than 1 can also be root (parentless).

3 tiers (levels 1, 2, and 3) are supported.

The **save config** and **show config** commands only display information on scheduler tiers that contain defined schedulers. When all schedulers have been removed from a level, that level ceases to be included in output from these commands.

Parameters

tier

This parameter is required to indicate the group of schedulers to create or be edited. Tier levels cannot be created or deleted. If a value for level is given that is out-of-range, an error will occur and the current context of the CLI session will not change.

Values 1 to 3

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Platforms
All

46.103 time

time

Syntax
time

Context
[Tree] (config>system time)

Full Context
configure system time

Description
Commands in this context configure the system time zone and time synchronization parameters.

Platforms
All

time

Syntax
time *time*

Context
[Tree] (config>system>security>pki>cert-upd-prof>sched time)

Full Context
configure system security pki certificate-update-profile schedule time

Description
This command configures the time relative to the valid certificate period.

Default
time 86400

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Parameters

time

Specifies the time relative to valid certificate period.

Values 3600 to 157680000

Platforms

All

46.104 time-average-factor

time-average-factor

Syntax

time-average-factor *taf-value* [**dec-only**]

no time-average-factor

Context

[Tree] (config>qos>adv-config-policy>child-control>offered-measurement time-average-factor)

Full Context

configure qos adv-config-policy child-control offered-measurement time-average-factor

Description

This command is used to weight the new offered rate with a portion of the previous offered rate. It would be expected that this command would mainly be used with the dec-only option enabled.

The adjustment to the offered rate is performed using the following formula when taf-value is not set to '0':

Adjusted_Rate = ((Prev_Offered_Rate x (taf-value – 1)) + New_Offered_Rate) / taf-value

If the dec-only option is specified, the adjustment is only applied when New_Offered_Rate is less than the Prev_Offered_Rate. When taf-value is set to '0', the adjustment is never applied.

The **no** form of this command is used to remove the time average factor adjustments to new offered rate measurements.

Parameters

taf-value

The taf-value is specified as a whole number between 0 and 64. The value '0' has special meaning in that it disables the time average factor adjustment and has the same effect as no time-average-factor.

Default 0

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Values 0 to 64

dec-only

This keyword is an optional parameter. When enabled, the time average factor adjustment is only applied if the new offered rate is decreasing compared to the previous offered rate. If the new offered rate is greater than the previous offered rate, the adjustment is not applied.

Platforms

All

time-average-factor

Syntax

time-average-factor *value*

no time-average-factor

Context

[Tree] (config>qos>slope-policy time-average-factor)

Full Context

configure qos slope-policy time-average-factor

Description

This command sets a weighting factor to calculate the new shared buffer average utilization after assigning buffers for a packet entering a queue. To derive the new shared buffer average utilization, the buffer pool takes a portion of the previous shared buffer average and adds it to the inverse portion of the instantaneous shared buffer utilization.

The **time-average-factor** command sets the weighting factor between the old shared buffer average utilization and the current shared buffer instantaneous utilization when calculating the new shared buffer average utilization

The TAF value applies to all high- and low-priority RED slopes for ingress and egress access buffer pools controlled by the slope policy.

The **no** form of this command restores the default setting.

Default

time-average-factor 7

Parameters

value

Represents the Time Average Factor (TAF), expressed as a decimal integer. The value specified for TAF affects the speed at which the shared buffer average utilization tracks the instantaneous shared buffer utilization. A low value weights the new shared buffer average utilization calculation more to the shared buffer instantaneous utilization; zero using it

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exclusively. A high value weights the new shared buffer average utilization calculation more to the previous shared buffer average utilization value.

Values 0 to 15

Platforms

All

46.105 time-display

time-display

Syntax

time-display {**local** | **utc**}

Context

[Tree] (environment time-display)

Full Context

environment time-display

Description

This command displays time stamps in the CLI session based on local time or Coordinated Universal Time (UTC).

The system keeps time internally in UTC and is capable of displaying the time in either UTC or local time based on the time zone configured.

This environment command only applies to times displayed in the current CLI session. This includes displays of event logs and all other places where a time stamp is displayed.

In event logs, the selected time is used to control the timestamps in the CLI output of **show log log-id** and in YANG state in the /state/log/log-id branch (for logs such as session, cli, memory, SNMP and NETCONF).

Also see the **configure log log-id time-format** command.

Default

time-display local

Parameters

local

Indicates that local time should be used.

utc

Indicates that UTC time should be used.

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Platforms

All

time-display

Syntax

time-display {**local** | **utc**}

Context

[Tree] (config>system>management-interface>cli>md-cli>environment time-display)

Full Context

configure system management-interface cli md-cli environment time-display

Description

This command configures whether the time is displayed in coordinated Universal Time (UTC) or local time (as configured in **config**>**system**>**time**).

Default

time-display local

Parameters

local

Specifies that the local time zone is used.

utc

Specifies that UTC is used.

Platforms

All

46.106 time-exceeded

time-exceeded

Syntax

time-exceeded [*number seconds*]

no time-exceeded

Context

[Tree] (config>service>ies>if>ipv6>icmp6 time-exceeded)

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Full Context

configure service ies interface ipv6 icmp6 time-exceeded

Description

This command specifies whether time-exceeded ICMP messages should be sent. When enabled, ICMPv6 time-exceeded messages are generated by this interface.

When disabled, ICMPv6 time-exceeded messages are not sent.

The **no** form of this command reverts to the default.

Default

time-exceeded 100 10

Parameters

number

Specifies the number of time-exceeded ICMP messages are to be issued in the time frame specified by the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time frame, in seconds, that is used to limit the number of time-exceeded ICMP message to be issued.

Values 1 to 60

Platforms

All

time-exceeded

Syntax

time-exceeded [*number seconds*]

no time-exceeded

Context

[Tree] (config>router>if>ipv6>icmp6 time-exceeded)

[Tree] (config>service>vprn>if>ipv6>icmp6 time-exceeded)

Full Context

configure router interface ipv6 icmp6 time-exceeded

configure service vprn interface ipv6 icmp6 time-exceeded

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Description

This command configures rate for ICMPv6 time-exceeded messages.

Parameters

number

Limits the number of time-exceeded messages issued per the time frame specified in *seconds* parameter.

Values 10 to 2000

seconds

Determines the time frame, in seconds, that is used to limit the number of time-exceeded messages issued per time frame.

Values 1 to 60

Platforms

All

46.107 time-format

time-format

Syntax

time-format {**local** | **utc**}

Context

[Tree] (config>service>vprn>log>log-id time-format)

Full Context

configure service vprn log log-id time-format

Description

This command specifies whether the time should be displayed in local or Coordinated Universal Time (UTC) format.

Default

time-format utc

Parameters

local

Specifies that timestamps are written in the system's local time.

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utc

Specifies that timestamps are written using the UTC value. This was formerly called Greenwich Mean Time (GMT) and Zulu time.

Platforms

All

time-format

Syntax

time-format {**local** | **utc**}

Context

[Tree] (config>li>log>log-id time-format)

Full Context

configure li log log-id time-format

Description

This command specifies whether the time should be displayed in local or Coordinated Universal Time (UTC) format.

Default

time-format utc

Parameters

local

Specifies that timestamps are written in the system's local time.

utc

Specifies that timestamps are written using the UTC value. This was formerly called Greenwich Mean Time (GMT) and Zulu time.

Platforms

All

time-format

Syntax

time-format {**local** | **utc**}

Context

[Tree] (config>log>log-id time-format)

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Full Context

configure log log-id time-format

Description

This command specifies whether the time should be output in local or Coordinated Universal Time (UTC) format in the following event log locations:

- in the syslog TIMESTAMP field
- in the timestamp of log events inside log files on local storage devices

The timestamp in the filename of event log files is not affected by this command.

The output of **show log log-id** and the output of YANG state under /state/log/log-id are not affected by this command. See the **environment time-display** command.

Default

time-format utc

Parameters

local

Specifies that timestamps are written in the system's local time.

utc

Specifies that timestamps are written using the UTC value. This was formerly called Greenwich Mean Time (GMT) and Zulu time.

Platforms

All

46.108 time-limit

time-limit

Syntax

time-limit *limit-value*

Context

[Tree] (config>call-trace>trace-profile time-limit)

Full Context

configure call-trace trace-profile time-limit

Description

This command specifies how long a trace may run before it is stopped.

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Default

time-limit 86400

Parameters

limit-value

Specifies the maximum duration of a single call trace job in seconds. After reaching the limit the call trace job for a given host is automatically terminated.

Values 1 to 604800

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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47 t Commands – Part II

47.1 time-range

time-range

Syntax

time-range daily start *start-time* **end** *end-time* [**on** *day* [*day*]]

time-range weekly start *start-time* **end** *end-time*

no time-range

Context

[Tree] (config>app-assure>group>tod-override time-range)

Full Context

configure application-assurance group policer tod-override time-range

Description

This command configures up to seven time-ranges applicable to a particular override-id. The time-range can be configured as daily or weekly policies.

When using a daily override the operator can select which days during the week from Sunday to Saturday it is applicable along with the start/end hour/min time range repeated over these days.

When using a weekly override the operator can select between which days in the week the policy start up to the hours/min for both start day and end day.

Default

no time-range

Parameters

daily

Schedule the override as a daily occurrence.

weekly

Schedule the override as a weekly occurrence.

Values

start-time	daily	<hh>:<mm>
	weekly	<day>,<hh>:<mm>

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		<hh> : 0..23
		<mm> : 0 | 15 | 30 | 45
end-time	daily	<hh>:<mm>
	weekly	<day>,<hh>:<mm>
		<hh> 0..23
		<mm> 0 | 15 | 30 | 45
day	sunday | monday | tuesday | wednesday | thursday | friday | saturday	

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.2 time-stamp

time-stamp

Syntax

[**no**] **time-stamp**

Context

[Tree] (environment time-stamp)

Full Context

environment time-stamp

Description

This command specifies whether the time-stamp should be displayed before the prompt.

Platforms

All

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47.3 timeout

timeout

Syntax

timeout [**sec** *seconds*] [**min** *minutes*]

Context

[Tree] (config>aaa>l2tp-acct-plcy>radius-acct-server timeout)

Full Context

configure aaa l2tp-accounting-policy radius-accounting-server timeout

Description

This command configures the time that the router waits for a response from a RADIUS server.

The **no** form of this command reverts to the default value.

Default

timeout sec 5

Parameters

seconds

Specifies the time, in seconds, that the router waits for a response from a RADIUS server.

Values 1 to 59

minutes

Specifies the time, in minutes, that the router waits for a response from a RADIUS server.

Values 1 to 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

Context

[Tree] (config>app-assure>rad-acct-plcy>server timeout)

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Full Context

configure application-assurance radius-accounting-policy radius-accounting-server timeout

Description

This command configures the number of seconds the router waits for a response from a RADIUS server.

The **no** form of this command reverts to the default value.

Default

timeout 5

Parameters

seconds

Specifies the time the router waits for a response from a RADIUS server.

Values 1 to 90

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

Context

[Tree] (config>service>vprn>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check timeout)

[Tree] (config>service>ies>sub-if>grp-if>sap>static-host>managed-routes>route-entry>cpe-check timeout)

Full Context

configure service vprn subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check timeout

configure service ies subscriber-interface group-interface sap static-host managed-routes route-entry cpe-check timeout

Description

This command configures the time the system waits for a reply to a specific ping before concluding the ping has been missed.

Default

timeout 1

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Parameters

seconds

Specifies the time, in seconds, that the router waits for a response.

Values 1 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>subscr-mgmt>auth-plcy>radius-auth-server timeout)

[Tree] (config>subscr-mgmt>acct-plcy>server timeout)

Full Context

configure subscriber-mgmt authentication-policy radius-authentication-server timeout

configure subscriber-mgmt radius-accounting-policy radius-accounting-server timeout

Description

This command configures the number of seconds the router waits for a response from a RADIUS server.

The **no** form of this command reverts to the default value.

Default

timeout 3

Parameters

seconds

Specifies the time, in seconds, that the router waits for a response from a RADIUS server, expressed as a decimal integer.

Values 1 to 90

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>subscr-mgmt>shcv-policy>periodic timeout)

Full Context

configure subscriber-mgmt shcv-policy periodic timeout

Description

This command configures the timeout before a retransmission in triggered connectivity verification.

The **no** form of this command reverts to the default.

Default

timeout 10

Parameters

seconds

Specifies the timeout, in seconds, before a retransmission in triggered connectivity verification.

Values 10 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>subscr-mgmt>shcv-policy>trigger timeout)

Full Context

configure subscriber-mgmt shcv-policy trigger timeout

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Description

This command configures the timeout before a retransmission.

The **no** form of this command reverts to the default.

Default

timeout 1 — trigger-type ip-conflict, host-limit-exceeded and mobility

timeout 2 — trigger-type inactivity and mac-learning

Parameters

seconds

Specifies the retry timeout in seconds.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout [**sec** *seconds*] [**min** *minutes*]

no timeout

Context

[Tree] (config>aaa>radius-srv-plcy>servers timeout)

Full Context

configure aaa radius-server-policy servers timeout

Description

This command configures the time the router waits for a response from a RADIUS server.

The no form of this command reverts to the default value.

Default

timeout sec 5

Parameters

seconds

Specifies the number of seconds for the timeout.

Values 1 to 59

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minutes

Specifies the number of minutes for the timeout.

Values 1 to 5

Values Max. value = 5 min 40 sec

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no timeout

Context

[Tree] (config>router>radius-proxy>server>cache timeout)

[Tree] (config>service>vprn>radius-proxy>server>cache timeout)

Full Context

configure router radius-proxy server cache timeout

configure service vprn radius-proxy server cache timeout

Description

This command configures the time for which the cache entry is kept if there is no corresponding DHCP DISCOVER. At the expiry of this time, the cache entry is deleted.

The **no** form of this command reverts to the default value.

Default

timeout min 5

Parameters

hours

Specifies, in hours, the timeout after which an entry in the cache will expire.

Values 1

minutes

Specifies, in minutes, the timeout after which an entry in the cache will expire.

Values 1 to 59

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seconds

Specifies, in seconds, the timeout after which an entry in the cache will expire.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

Context

[Tree] (config>subscr-mgmt>pfcp-association>heartbeat timeout)

Full Context

configure subscriber-mgmt pfcp-association heartbeat timeout

Description

This command configures the timeout period, after which, a Heartbeat Request message is considered unanswered.

Default

timeout 5

Parameters

seconds

Specifies the timeout value, in seconds. This interval should be identical on both the BNG UPF and CPF. For information about the BNG CUPS CPF configuration, refer to the *CMG BNG CUPS Control Plane Function Guide* and the *7750 SR MG and CMG CLI Reference Guide*.

Values 1 to 20

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

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Context

[Tree] (config>subscr-mgmt>pfcp-association>tx timeout)

Full Context

configure subscriber-mgmt pfcp-association tx timeout

Description

This command configures the timeout period, after which, a message is considered unanswered. This timeout value is also known as T1.

Default

timeout 5

Parameters

seconds

Specifies the timeout value, in seconds.

This value must be identical on both the BNG UPF and CPF. For information about the BNG CUPS CPF configuration, refer to the *CMG BNG CUPS Control Plane Function Guide* and the *7750 SR MG and CMG CLI Reference Guide*.

Values 1 to 30

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>system>security>radius timeout)

[Tree] (config>service>vprn>aaa>rmt-srv>radius timeout)

Full Context

configure system security radius timeout

configure service vprn aaa remote-servers radius timeout

Description

This command configures the number of seconds the router waits for a response from a RADIUS server.

The **no** form of this command reverts to the default value.

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Default

timeout 3

Parameters

seconds

Specifies the number of seconds the router waits for a response from a RADIUS server, expressed as a decimal integer.

Values 1 to 90

Platforms

All

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>system>security>tacplus timeout)

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus timeout)

Full Context

configure system security tacplus timeout

configure service vprn aaa remote-servers tacplus timeout

Description

This command configures the number of seconds the router waits for a response from a TACACS+ server.

The **no** form of this command reverts to the default value.

Default

timeout 3

Parameters

seconds

Specifies the number of seconds the router waits for a response from a TACACS+ server, expressed as a decimal integer.

Values 1 to 90

Platforms

All

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timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>router>mpls>lsp-self-ping timeout)

Full Context

configure router mpls lsp-self-ping timeout

Description

This command configures a timeout value for LSP Self Ping. The LSP Self Ping timer is started when the RESV message is received for an LSP. The system then periodically sends LSP Self Ping packets until the timer expiry or the receipt of the first LSP Self Ping reply, whichever comes first. If the timeout expires before an LSP Self Ping packet is received, then the configured **timeout-action** is performed.

The **no** form of this command reverts to the default value.

Default

timeout 300

Parameters

seconds

Specifies the value, in seconds, of the fast retry timer for a secondary path.

Values 3 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

timeout

Syntax

timeout *seconds*

Context

[Tree] (config>system>file-trans-prof timeout)

Full Context

configure system file-transmission-profile timeout

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Description

This command specifies timeout value in seconds for transport protocol. The timeout is the maximum waiting time to receive any data from the server (e.g., FTP or HTTP server).

Default

timeout 60

Parameters

seconds

Specifies the connection timeout (in seconds) for the file transmission.

Values 1 to 3600

Platforms

All

timeout

Syntax

timeout [**sec** *seconds*] [**min** *minutes*]

no timeout

Context

[Tree] (config>aaa>isa-radius-plcy>servers timeout)

Full Context

configure aaa isa-radius-policy servers timeout

Description

This command configures the number of seconds the router waits for a response from a RADIUS server.

The **no** form of the command reverts to the default value.

Default

timeout sec 5

Parameters

seconds

Specifies the wait for a response from a RADIUS server, in seconds.

minutes

Specifies the wait for a response from a RADIUS server, in minutes.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

timeout

Syntax

timeout *timeout*

no timeout

Context

[Tree] (config>test-oam>ldp-treetrace>path-discovery timeout)

Full Context

configure test-oam ldp-treetrace path-discovery timeout

Description

This command configures the time the node waits for the response to an LSP Trace message discovering the path of an LDP FEC before it declares failure. After consecutive failures equal to the **retry-count** parameter, the node gives up.

The **no** form of this command resets the timeout to its default value.

Default

timeout 30

Parameters

timeout

Specifies the *timeout* parameter, in seconds, within a range of 1 to 60, expressed as a decimal integer.

Values 1 to 60

Platforms

All

timeout

Syntax

timeout *timeout*

no timeout

Context

[Tree] (config>test-oam>ldp-treetrace>path-probing timeout)

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Full Context

configure test-oam ldp-treetrace path-probing timeout

Description

This command configures the time the node waits for the response to an LSP Ping message probing the path of an LDP FEC before it declares failure. After consecutive failures equal to the **retry-count** parameter, the node gives up.

The **no** form of this command resets the time out to its default value.

Default

timeout 1

Parameters

timeout

Specifies the timeout parameter, in minutes, expressed as a decimal integer.

Values 1 to 3

Platforms

All

timeout

Syntax

timeout *timeout*

no timeout

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping timeout)

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy timeout)

Full Context

configure saa test type-multi-line lsp-ping timeout

configure saa test type-multi-line lsp-ping sr-policy timeout

Description

This command configures the number, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the last probe for a specific test. Upon the expiration of the time out, the test is marked complete and no more packets are processed for any of the request probes.

The **no** form of this command reverts to the default value.

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Default

timeout 5

Parameters

timeout

Specifies the timeout value in seconds.

Values 1 to 10

Default 5

Platforms

All

timeout

Syntax

timeout *timeout*

no timeout

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy timeout)

Full Context

configure saa test type-multi-line lsp-trace sr-policy timeout

Description

This command configures the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response is not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

The **no** form of this command reverts to the default value.

Default

timeout 3

Parameters

timeout

Specifies the timeout value in seconds.

Values 1 to 60

Default 3

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Platforms

All

timeout

Syntax

timeout [*seconds*]

no timeout

Context

[Tree] (config>filter>redirect-policy>dest>ping-test timeout)

Full Context

configure filter redirect-policy destination ping-test timeout

Description

Specifies the amount of time, in seconds, that is allowed for receiving a response from the far-end host. If a reply is not received within this time the far-end host is considered unresponsive.

Default

timeout 1

Parameters

seconds

Specifies the amount of time, in seconds, that is allowed for receiving a response from the far end host.

Values 1 to 60

Platforms

All

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>vrrp>policy>priority-event>host-unreachable timeout)

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Full Context

configure vrrp policy priority-event host-unreachable timeout

Description

This command defines the time, in seconds, that must pass before considering the far-end IP host unresponsive to an outstanding ICMP echo request message.

The **timeout** value is not directly related to the configured **interval** parameter. The **timeout** value may be larger, equal, or smaller, relative to the **interval** value.

If the **timeout** value is larger than the **interval** value, multiple ICMP echo request messages may be outstanding. Every ICMP echo request message transmitted to the far end host is tracked individually according to the message identifier and sequence number.

With each consecutive attempt to send an ICMP echo request message, the timeout timer is loaded with the **timeout** value. The timer decrements until:

- an internal error occurs preventing message sending (request unsuccessful)
- an internal error occurs preventing message reply receiving (request unsuccessful)
- a required route table entry does not exist to reach the IP address (request unsuccessful)
- a required ARP entry does not exist and ARP request timed out (request unsuccessful)
- a valid reply is received (request successful)

It is possible for a required ARP request to succeed or timeout after the message timeout timer expires. In this case, the message request is unsuccessful.

If an ICMP echo reply message is not received prior to the **timeout** period for a given ICMP echo request, that request is considered to be dropped and increments the consecutive message drop counter for the priority event.

If an ICMP echo reply message with the same sequence number as an outstanding ICMP echo request message is received prior to that message timing out, the request is considered successful. The consecutive message drop counter is cleared and the request message no longer is outstanding.

If an ICMP Echo Reply message with a sequence number equal to an ICMP echo request sequence number that had previously timed out is received, that reply is silently discarded while incrementing the priority event reply discard counter.

The **no** form of the command reverts to the default value.

Default

timeout 1

Parameters

seconds

The number of seconds before an ICMP echo request message is timed out. Once a message is timed out, a reply with the same identifier and sequence number is discarded.

Values 1 to 60

Platforms

All

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timeout

Syntax

timeout *timeout*

no timeout

Context

[Tree] (config>service>sdp>keep-alive timeout)

Full Context

configure service sdp keep-alive timeout

Description

This command configures the time interval that the SDP waits before tearing down the session.

Default

timeout 5

Parameters

timeout

Specifies the timeout time, in seconds.

Values 1 to 10

Platforms

All

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>system>security>ldap timeout)

Full Context

configure system security ldap timeout

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Description

The **timeout** value is the number of seconds that the SR OS will wait for a response from the current server that it is trying to establish a connection with. If the server does not reply within the configured **timeout** value, the SR OS will increment the retry counter by 1. The SR OS attempts to establish the connection to the current server up to the configured **retry** value before it moves to the next configured server.

The **no** form of this command reverts to the default value.

Default

timeout 3

Parameters

seconds

The length of time that the SR OS waits for a response from the server.

Values 1 to 90

Default 3

Platforms

All

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>system>security>dot1x>radius-plcy timeout)

Full Context

configure system security dot1x radius-plcy timeout

Description

This command configures the number of seconds the router waits for a response from a RADIUS server.

The **no** form of this command reverts to the default value.

Default

timeout 3

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Parameters

seconds

Specifies the number of seconds the router waits for a response from a RADIUS server, expressed as a decimal integer.

Values 1 to 90

Platforms

All

timeout

Syntax

timeout *seconds*

no timeout

Context

[Tree] (config>test-oam>icmp>ping-template timeout)

Full Context

configure test-oam icmp ping-template timeout

Description

This command configures the time the function waits before declaring an ICMP echo request packet is lost. This is the timer used to time out the interval transmitted packets. The timeout can be equal to or lower than the interval but not higher.

The **no** form of this command reinstates the default value for timeout.

Default

timeout 5

Parameters

seconds

Specifies the time, in seconds, before declaring an ICMP echo request being lost.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

timeout

Syntax

timeout *timeout*

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no timeout

Context

[Tree] (config>subscr-mgmt>idle-timeout-policy timeout)

Full Context

configure subscriber-mgmt idle-timeout-policy timeout

Description

This command configures the idle period before an action is triggered.

When the aggregate data rate of all monitored queues and policers of a subscriber session is below the activity threshold for the specified timeout interval, the configured action is triggered.

The **no** form of this command removes the configured timeout.

Parameters

timeout

Specifies the timeout, in seconds.

Values 60 to 15552000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.4 timeout-action

timeout-action

Syntax

timeout-action *action*

no timeout-action

Context

[Tree] (config>router>l2tp>tunnel-selection-blacklist timeout-action)

[Tree] (config>service>vprn>l2tp>tunnel-selection-blacklist timeout-action)

Full Context

configure router l2tp tunnel-selection-blacklist timeout-action

configure service vprn l2tp tunnel-selection-blacklist timeout-action

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Description

This command defines an action that is executed on the entity (peer/tunnel) in the denylist once the entity becomes eligible for selection again.

The **no** form of this command reverts to the default.

Default

timeout-action remove-from-blacklist

Parameters

action

Specifies the Action to be taken when a tunnel or peer has been in the denylist for the max-period of time.

Values **remove-from-blacklist** — The peer or tunnel in the denylist is removed completely from the denylist and made eligible for the selection process once the max-time expires. In this mode of operation, multiple new sessions can be mapped into the same, newly released tunnel from the denylist. The first such session will try to setup the tunnel, while the other is buffered until the tunnel establishment process is completed. In case that the tunnel remains unavailable, it is placed in the denylist again. Consequently, all new sessions are re-negotiated over an alternate tunnel.

try-one-session — Once the max-time expired, the peer or tunnel in the denylist is made available for selection only to a single new session request. Only upon successful tunnel establishment will the incoming new sessions be eligible to be mapped into this tunnel. This behavior will avoid session establishment delays in case that the tunnel just removed from the denylist is still unavailable.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timeout-action

Syntax

timeout-action {**retry** | **switch**}

no timeout-action

Context

[Tree] (config>router>mpls>lsp-self-ping timeout-action)

Full Context

configure router mpls lsp-self-ping timeout-action

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Description

This command configures an action that the router takes when the timeout LSP self ping timeout timer expires. The lsp-self-ping timer is started when the RESV is received for an LSP. If the retry is configured and the timeout expires before an LSP self ping packet is received, then the system tears down the candidate path and goes back to CSPF for a new path. If the switch is configured and the timeout expires before an LSP self ping packet is received, then the system switches to the candidate path.

The **no** form of this command reverts to the default value.

Default

timeout-action retry

Parameters

retry

Specifies to retry the candidate path when the timeout expires.

switch

Specifies to switch to the candidate path when the timeout expires.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.5 timeouts

timeouts

Syntax

[**no**] **timeouts**

Context

[Tree] (config>service>nat>firewall-policy timeouts)

[Tree] (config>service>nat>nat-policy timeouts)

[Tree] (config>service>nat>up-nat-policy timeouts)

Full Context

configure service nat firewall-policy timeouts

configure service nat nat-policy timeouts

configure service nat up-nat-policy timeouts

Description

This command configures session idle timeouts for this policy.

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts
- configure service nat up-nat-policy timeouts

timeouts

Syntax

timeouts

Context

[Tree] (config>li>x-interfaces>x2 timeouts)

[Tree] (config>li>x-interfaces>x1 timeouts)

[Tree] (config>li>x-interfaces>x3 timeouts)

Full Context

configure li x-interfaces x2 timeouts

configure li x-interfaces x1 timeouts

configure li x-interfaces x3 timeouts

Description

This command configures the X1, X2, and X3 messages timeout.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.6 timers

timers

Syntax

timers

Context

[Tree] (config>service>dynsvc timers)

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Full Context
configure service dynamic-services timers

Description
Commands in this context configure dynamic data services related timers.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

timers

Syntax
timers

Context
[Tree] (config>service>vpls>spb timers)

Full Context
configure service vpls spb timers

Description
Commands in this context configure SPB timers.

Platforms
All

timers

Syntax
[**no**] **timers**

Context
[Tree] (config>service>vprn>isis timers)

Full Context
configure service vprn isis timers

Description
Commands in this context configure the IS-IS timer values.

Default
n/a

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Platforms

All

timers

Syntax

timers

Context

[Tree] (config>service>vprn>ospf3 timers)

[Tree] (config>service>vprn>ospf timers)

Full Context

configure service vprn ospf3 timers

configure service vprn ospf timers

Description

Commands in this context configure OSPF timers. Timers control the delay between receipt of a LSA requiring a Dijkstra (Shortest Path First (SPF)) calculation and the minimum time between successive SPF calculations.

Changing the timers affect CPU utilization and network reconvergence times. Lower values reduce convergence time but increase CPU utilization. Higher values reduce CPU utilization but increase reconvergence time.

Platforms

All

timers

Syntax

timers *update timeout flush*

no timers

Context

[Tree] (config>service>vprn>rip>group>neighbor timers)

[Tree] (config>service>vprn>ripng>group timers)

[Tree] (config>service>vprn>rip timers)

[Tree] (config>service>vprn>rip>group timers)

[Tree] (config>service>vprn>ripng>group>neighbor timers)

[Tree] (config>service>vprn>ripng timers)

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Full Context

configure service vprn rip group neighbor timers

configure service vprn ripng group timers

configure service vprn rip timers

configure service vprn rip group timers

configure service vprn ripng group neighbor timers

configure service vprn ripng timers

Description

This command configures the values for the update, timeout, and flush timers:

- **update timer**

  Determines how often RIP updates are sent.

- **timeout timer**

  If a router is not updated by the time the timer expires, the route is declared invalid, but maintained in the RIP database.

- **flush timer**

  Determines how long a route is maintained in the RIP database, after it has been declared invalid. Once this timer expires it is flushed from the RIP database completely.

The **no** form of this command resets all timers to their default values of 30, 180, and 120 seconds respectively.

Default

no timers

Parameters

update

The RIP update timer value in seconds.

Values 1 to 600

Default 30

timeout

The RIP timeout timer value in seconds.

Values 1 to 1200

Default 180

flush

The RIP flush timer value in seconds.

Values 1 to 1200

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Default 120

Platforms

All

timers

Syntax

timers [**neighbor** *ip-address* | **group** *name*]

no timers

Context

[Tree] (debug>router>bgp timers)

Full Context

debug router bgp timers

Description

This command logs all BGP timer events to the debug log.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

Platforms

All

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timers

Syntax

[**no**] **timers**

Context

[Tree] (config>router>isis timers)

Full Context

configure router isis timers

Description

This command configures the IS-IS timer values.

Platforms

All

timers

Syntax

timers

Context

[Tree] (config>router>ospf3 timers)

[Tree] (config>router>ospf timers)

Full Context

configure router ospf3 timers

configure router ospf timers

Description

Commands in this context configure OSPF timers. Timers control the delay between receipt of a link state advertisement (LSA) requiring a Dijkstra (Shortest Path First (SPF)) calculation and the minimum time between successive SPF calculations.

Changing the timers affects CPU utilization and network re-convergence times. Lower values reduce convergence time but increase CPU utilization. Higher values reduce CPU utilization but increase re-convergence time.

Platforms

All

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timers

Syntax

timers *update timeout flush*

no timers

Context

[Tree] (config>router>rip timers)

[Tree] (config>router>ripng>group timers)

[Tree] (config>router>ripng timers)

[Tree] (config>router>rip>group>neighbor timers)

[Tree] (config>router>ripng>group>neighbor timers)

[Tree] (config>router>rip>group timers)

Full Context

configure router rip timers

configure router ripng group timers

configure router ripng timers

configure router rip group neighbor timers

configure router ripng group neighbor timers

configure router rip group timers

Description

This command configures values for the update, timeout and flush RIP timers.

The RIP update timer determines how often RIP updates are sent.

If the route is not updated by the time the RIP timeout timer expires, the route is declared invalid but is maintained in the RIP database.

The RIP flush timer determines how long a route is maintained in the RIP database after it has been declared invalid. After the flush timer expires, the route is removed from the RIP database.

The **no** form of the command reverts to the default values.

Default

timers 30 180 120

Parameters

update

Specifies the RIP update timer value in seconds expressed as a decimal integer.

Values 1 to 600

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timeout

Specifies the RIP timeout timer value in seconds expressed as a decimal integer.

Values 1 to 1200

flush

Specifies the RIP flush timer value in seconds expressed as a decimal integer.

Values 1 to 1200

Platforms

All

47.7 timestamp

timestamp

Syntax

[**no**] **timestamp**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>prompt timestamp)

Full Context

configure system management-interface cli md-cli environment prompt timestamp

Description

This command displays the timestamp before the first prompt line.

The **no** form of this command suppresses the timestamp before the first prompt line.

Default

timestamp

Platforms

All

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47.8 timestamp-format

timestamp-format

Syntax

timestamp-format millisecond

no timestamp-format

Context

[Tree] (config>log>syslog timestamp-format)

Full Context

configure log syslog timestamp-format

Description

This command controls the format of the syslog timestamp.

The **no** form of this command reverts to the default.

Default

no timestamp-format

Parameters

millisecond

Keyword to set the timestamp format to milliseconds.

Platforms

All

timestamp-format

Syntax

timestamp-format *timestamp-format*

Context

[Tree] (config>test-oam>link-meas>template>twl timestamp-format)

Full Context

configure test-oam link-measurement measurement-template twamp-light timestamp-format

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Description

This command configures the format of the timestamp used in the TWAMP Light PDU. This configuration places the requested timestamp format in the packet using the appropriate epoch. This is unrelated to any time distribution protocol being used to synchronize time between clocks.

Default

timestamp-format ntp

Parameters

parameter

Specifies the timestamp format to be used in the TWAMP Light PDU.

Values ntp, ptp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

timestamp-format

Syntax

timestamp-format *timestamp-format*

Context

[Tree] (config>test-oam>lag-meas>template>twl timestamp-format)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light timestamp-format

Description

This command configures the timestamp field format for launched TWAMP Light packets.

Default

timestamp-format ntp

Parameters

timestamp-format

Specifies the timestamp field format.

Values ntp, ptp

Default ntp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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47.9 timing

timing

Syntax

timing frames-per-delta-t *frames* **consec-delta-t** *deltas* **chli-threshold** *threshold*

no timing

Context

[Tree] (config>oam-pm>session>ethernet>lmm>availability timing)

Full Context

configure oam-pm session ethernet lmm availability timing

Description

This command defines various availability parameters for LMM availability testing. This command does not define the probe interval. Validation occurs when the LMM test is activated using the **no shutdown** command. The maximum size of the availability window cannot exceed 100 seconds (100 000 milliseconds). LMM test activation fails if the availability window exceeds the maximum value.

The **no** form of this command restores the default values for all timing parameters, and uses those values to compute availability and set the loss frequency.

Parameters

frames

Specifies the number of SLM frames that define the size of the small measurement window. Each delta-t is marked as a high-loss interval or non-high-loss interval based on the **flr-threshold**. The size of the delta-t measurement is the product of the number of frames and the interval.

Values 1 to 50

Default 10

deltas

Specifies the number of consecutive delta-t measurement intervals that make up the sliding window over which availability and unavailability determined. Transitions from one state to another occurs when the **consec-delta-t** are in a new state. The sliding window cannot exceed 100 seconds.

Values 2 to 10

Default 10

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threshold

Specifies the number of consecutive unavailable delta-t intervals that, when reached or exceeded, increments the CHLI counter. A CHLI counter is an indication that the sliding window is available but has crossed a threshold of consecutive unavailable delta-t intervals. A CHLI can only be incremented once during a sliding window and, by default, is incremented during times of availability.

Values 1 to 9

Default 5

Platforms

All

timing

Syntax

timing frames-per-delta-t *frames* **consec-delta-t** *deltas* **interval** *milliseconds* **chli-threshold** *threshold*

no timing

Context

[Tree] (config>oam-pm>session>ethernet>slm timing)

Full Context

configure oam-pm session ethernet slm timing

Description

This command configures availability parameters and the probe spacing (interval) for the SLM frames. The maximum size of the availability window cannot exceed 10 s (10 000 ms).

The **no** form of this command installs the default values for all timing parameters and use those values to compute availability and set the SLM frequency. If an SLM test is in the **no shutdown** state, it always has timing parameters, default or user configured.

Parameters

frames

Specifies the of SLM frames that define the size of the Delta-T (small measurement window). Each Delta-T is marked as available or unavailable based on the **flr-threshold**. The size of the Delta-T measurement is the product of the number of frames and the interval.

Values 1 to 50

Default 10

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deltas

Specifies the number of consecutive Delta-T small measurement intervals that make up the sliding window over which availability and unavailability is determined. Transitions from one state to another occurs when the **consec-delta-t** is in a new state.

Values 2 to 10

Default 10

milliseconds

Specifies the number of milliseconds between the transmission of the SLM frames.

Values 50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000

Default 100

threshold

Specifies the number of consecutive high loss intervals (unavailable Delta-T) that when equal to or exceeded increments the CHLI counter. A CHLI counter is an indication that the sliding window is available but has crossed a threshold consecutive of unavailable Delta-T intervals. A CHLI can only be incremented once during a sliding window and, by default, it is only incremented during times of availability.

Values 1 to 9

Default 5

Platforms

All

timing

Syntax

timing frames-per-delta-t *frames* **consec-delta-t** *deltas* **chli-threshold** *threshold*

no timing

Context

[Tree] (config>oam-pm>session>ip>twamp-light>loss timing)

Full Context

configure oam-pm session ip twamp-light loss timing

Description

This command defines various availability parameters but not the probe interval. A single TWAMP-Light frame is used to collect both delay and loss metrics; the interval is common to both and as such not unique per metric type. Any TWAMP light test that is attempting to become active validates the configuration of the timing parameter regardless of which statistics are being recorded.

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The **no** form of this command restores the default values for all timing parameters and use those values to compute availability and set the loss frequency.

Default

timing frames-per-delta-t 1 consec-delta-t 10 chli-threshold 5

Parameters

frames

Defines the size of the small measurement window. Each delta-t is marked as available of unavailable based on the flr-threshold. The size of the delta-t measurement is the product of the number of frames and the interval. This value defaults to a different value thank single probe per metric approaches.

Values 1 to 50

Default 1

deltas

Specifies the number of consecutive delta-t small measurement intervals that make up the sliding window over which availability and unavailability are determined. Transitions from one state to another occurs when the consec-delta-t are now in a new state. The sliding window cannot exceed 100 seconds.

Values 2 to 10

Default 10

threshold

Specifies the number of consecutive high loss intervals (unavailable delta-t) that when equal to or exceeded increments the CHLI counter. A CHLI counter is an indication that the sliding window is available but has crossed a threshold consecutive of unavailable delta-t intervals. A CHLI can only be incremented once during a sliding window and, by default, is only incremented during times of availability.

Values 1 to 9

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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47.10 tls

tls

Syntax
tls

Context
[Tree] (config>system>security tls)

Full Context
configure system security tls

Description
This command configures TLS parameters.

Platforms
All

47.11 tls-authentication

tls-authentication

Syntax
tls-authentication

Context
[Tree] (config>system>security>management-interface>grpc tls-authentication)

Full Context
configure system security management-interface grpc tls-authentication

Description
Commands in this context configure the gRPC TLS authentication parameters.

Platforms
All

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47.12 tls-client-profile

tls-client-profile

Syntax

tls-client-profile *name*

no tls-client-profile

Context

[Tree] (config>system>grpc-tunnel>destination-group tls-client-profile)

[Tree] (config>system>telemetry>destination-group tls-client-profile)

Full Context

configure system grpc-tunnel destination-group tls-client-profile

configure system telemetry destination-group tls-client-profile

Description

This command configures a TLS client profile to a destination group.

This command is mutually exclusive with the **allow-unsecured-connection** command.

The **no** form of this command removes the TLS client profile.

Default

no tls-client-profile

Parameters

name

Specifies the TLS client profile name, up to 32 characters.

Platforms

All

tls-client-profile

Syntax

tls-client-profile *tls-client-profile*

no tls-client-profile

Context

[Tree] (config>service>vprn>log>syslog tls-client-profile)

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[Tree] (config>log>syslog tls-client-profile)

Full Context

configure service vprn log syslog tls-client-profile

configure log syslog tls-client-profile

Description

This command specifies the Transport Layer Security (TLS) client profile used to encrypt syslog communications for event logs. When configured, log event syslog messages are sent using TLS.

This command is ignored for filter logs.

Any change to this command results in a brief interruption of the event log, which may cause the loss of a few syslog messages.

The **no** form of this command removes TLS encryption of syslog communications and sends syslog messages over UDP.

Parameters

tls-client-profile

Specifies the name of a TLS profile configured in the **config**>**system**>**security**>**tls** context, up to 32 characters.

Platforms

All

tls-client-profile

Syntax

tls-client-profile *profile-name*

no tls-client-profile

Context

[Tree] (config>router>pcep>pcc>peer tls-client-profile)

Full Context

configure router pcep pcc peer tls-client-profile

Description

This command configures a TLS client profile on the PCC. When the TLS profile is configured, the PCC tries to establish a PCEP connection with the PCE over TLS. Because SR OS supports a strict TLS-only mode, both the PCE and PCC must support TLS. If a TLS failure occurs, the connection over TLS is closed and a new connection is retried within 60 seconds.

The **no** form of this command removes TLS encryption from the communication between this PCC and the PCE.

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Default

no tls-client-profile

Parameters

profile-name

Specifies the TLS client profile name, up to 32 characters.

Platforms

All

47.13 tls-profile

tls-profile

Syntax

tls-profile *tls-profile-name*

no tls-profile

Context

[Tree] (config>system>security>ldap>server tls-profile)

Full Context

configure system security ldap server tls-profile

Description

This command attaches a TLS client profile to the LDAP client. The parameter in the TLS profile is used to encrypt the LDAP connection to the server. Each LDAP server can use its own TLS profile.

When a TLS profile is assigned, the LDAP application will send encrypted PDUs from the client to the LDAP server. If TLS is operationally down, the LDAP application should not send any PDUs.

The **no** form of this command removes the TLS profile from LDAP and disables the TLS encryption from LDAP.

Parameters

tls-profile-name

Specifies the TLD profile for encryption.

Platforms

All

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47.14 tls-re-negotiate-timer

tls-re-negotiate-timer

Syntax

tls-re-negotiate-timer *timer-min*

no tls-re-negotiate-timer

Context

[Tree] (config>system>security>tls>server-tls-profile tls-re-negotiate-timer)

Full Context

configure system security tls server-tls-profile tls-re-negotiate-timer

Description

This command configures the timed interval after which the server is triggered to send a Hello request message to all clients and force a renegotiation of the symmetric encryption key. When an interval of 0 is configured, the server will never send a hello request message.

Default

tls-re-negotiate-timer 0

Parameters

timer-min

Specifies the interval, in minutes, after which the server is triggered to send a Hello request message.

Values 0 to 65000

Platforms

All

47.15 tls-server-profile

tls-server-profile

Syntax

tls-server-profile *name*

no tls-server-profile

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Context

[Tree] (config>system>grpc tls-server-profile)

Full Context

configure system grpc tls-server-profile

Description

This command adds a configured TLS server profile to the gRPC session. The TLS server is used for encryption of the gRPC session. gRPC will not transmit any PDUs if there is a TLS server profile assigned to it and the TLS connection is down.

The **no** form of this command removes the specified TLS server profile from the gRPC session.

Parameters

name

Specifies the name of the TLS server profile configured under the **config**>**system**>**security**>**tls** context.

Platforms

All

tls-server-profile

Syntax

tls-server-profile *name*

no tls-server-profile

Context

[Tree] (config>router>pcep>pce tls-server-profile)

Full Context

configure router pcep pce tls-server-profile

Description

This command configures a TLS server profile on the PCE. When a TLS server profile is configured, the PCE accepts TLS handshakes from the PCC. Because SR OS supports a strict TLS mode only, both the PCE and the PCC must support TLS. If a TLS failure occurs, the connection over TLS is closed and a new connection is retried within 60 seconds.

The **no** form of this command removes the specified TLS server profile.

Default

no tls-server-profile

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Parameters

name

Specifies the name of the TLS server profile, up to 32 characters.

Platforms

VSR-NRC

47.16 tls-wait-timer

tls-wait-timer

Syntax

tls-wait-timer *tls-wait-timer*

no tls-wait-timer

Context

[Tree] (config>router>pcep>pcc>peer tls-wait-timer)

Full Context

configure router pcep pcc peer tls-wait-timer

Description

This command configures the time that the PCC waits before declaring a TLS handshake failure if the handshake is not established.

The **no** form of this command reverts to the default.

Default

tls-wait-timer 60

Parameters

tls-wait-timer

Specifies the time, in seconds.

Values 60 to 255

Platforms

All

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47.17 tls13-cipher

tls13-cipher

Syntax

tls13-cipher *index* **name** *cipher-suite-code*

no tls13-cipher *index*

Context

[Tree] (config>system>security>tls>server-cipher-list tls13-cipher)

[Tree] (config>system>security>tls>client-cipher-list tls13-cipher)

Full Context

configure system security tls server-cipher-list tls13-cipher

configure system security tls client-cipher-list tls13-cipher

Description

This command configures the TLS 1.3-supported ciphers that are used by the client and server.

The **no** form of this command removes the cipher suite.

Parameters

index

Specifies the index number, which provides the location of the cipher in the negotiation list. The lower index numbers are higher in the negotiation list, and the higher index numbers are at the bottom of the list.

Values 1 to 255

cipher-suite-code

Specifies the cipher suite code.

Values tls-aes128-gcm-sha256
tls-aes256-gcm-sha384
tls-chacha20-poly1305-sha256
tls-aes128-ccm-sha256
tls-aes128-ccm8-sha256

Platforms

All

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47.18 tls13-group

tls13-group

Syntax

tls13-group *index* **name** *group-suite-code*

no tls13-group *index*

Context

[Tree] (config>system>security>tls>client-group-list tls13-group)

[Tree] (config>system>security>tls>server-group-list tls13-group)

Full Context

configure system security tls client-group-list tls13-group

configure system security tls server-group-list tls13-group

Description

This command configures the TLS 1.3-supported group suite codes sent by the client or server in their respective Hello messages.

SR OS supports the use of Elliptic-curve Diffie-Hellman Ephemeral (ECDHE) groups.

The **no** form of this command removes the group suite code.

Parameters

index

Specifies the index number , which provides the location of the group suite code in the client or server group list. The lower index numbers are higher in the list and the higher index numbers are at the bottom of the list.

Values 1 to 255

group-suite-code

Specifies the group suite code.

Values tls-ecdhe-256
tls-ecdhe-384
tls-ecdhe-521
tls-x25519
tls-x448

Platforms

All

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47.19 tls13-signature

tls13-signature

Syntax

tls13-signature *index* **name** *signature-suite-code*

no tls13-signature *index*

Context

[Tree] (config>system>security>tls>server-signature-list tls13-signature)

[Tree] (config>system>security>tls>client-signature-list tls13-signature)

Full Context

configure system security tls server-signature-list tls13-signature

configure system security tls client-signature-list tls13-signature

Description

This command configures the TLS 1.3-supported signature suite codes sent by the client or server in their respective Hello messages.

The **no** form of this command removes the signature suite code.

Parameters

index

Specifies the index number, which provides the location of the signature suite code in the client or server group list. The lower index numbers are higher in the list, and the higher index numbers are at the bottom of the list.

Values 1 to 255

signature-suite-code

Specifies the signature suite code.

Values tls-rsa-pkcs1-sha256
tls-rsa-pkcs1-sha384
tls-rsa-pkcs1-sha512
tls-ecdsa-secp256r1-sha256
tls-ecdsa-secp384r1-sha384
tls-ecdsa-secp521r1-sha512
tls-rsa-pss-rsae-sha256
tls-rsa-pss-rsae-sha384
tls-rsa-pss-rsae-sha512

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tls-rsa-pss-pss-sha256
tls-rsa-pss-pss-sha384
tls-rsa-pss-pss-sha512
tls-ed25519
tls-ed448

Platforms

All

47.20 to

to

Syntax

to [*ip-address* | **node-id** [*a.b.c.d* | *1...4294967295*]]

Context

[Tree] (config>router>mpls>lsp to)

Full Context

configure router mpls lsp to

Description

This command specifies the IP address or MPLS-TP node-id of the egress router for the LSP. This command is mandatory to create an LSP.

An IP address for which a route does not exist is allowed in the configuration. If the LSP signaling fails because the destination is not reachable, an error is logged and the LSP operational status is set to down.

For a non MPLS-TP LSP, the **to** *ip-address* can be an IP address of a network IP interface, the system interface, or a loopback interface of the egress router. When used in a SDP, if the LSP **to** address does not match the SDP address, the LSP is not included in the SDP definition.

For an MPLS-TP LSP, the **to node-id** may be either in 4-octet IPv4 address format, or a 32-bit unsigned integer. This command is mandatory to create an MPLS-TP LSP. A value of zero is invalid. This **to** address is used in the MPLS-TP LSP ID, and the MPLS-TP MEP ID for the LSP.

Default

no default

Parameters

ip-address

Specifies the IP address of the egress router. When the LSP type is **sr-te**, then an IPv6 address can be used.

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Values ipv4-address — a.b.c.d
ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x — 0 to FFFF (hexadecimal)
d — 0 to 255 (decimal)

node-id ***a.b.c.d.*** **|** ***1...4294967295***
4-octet IPv4 formatted or unsigned 32-bit integer MPLS-TP node-id of the egress router.

Platforms
All

to

Syntax
to *ip-address*
no to

Context
[Tree] (config>router>mpls>lsp-cont to)

Full Context
configure router mpls lsp-container to

Description
This command configures the IP address of the egress router for member LSPs in the LSP container.

The **no** form of this command reverts to the default value.

Default
no to

Parameters
ip-address
Specifies the IP address for member LSPs in this LSP container.

Values a.b.c.d

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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to

Syntax

to *ip-address*

Context

[Tree] (config>router>mpls>static-lsp to)

Full Context

configure router mpls static-lsp to

Description

This command specifies the IP address of the egress router for the static LSP. When creating an LSP this command is required. The **to** IP address may be the address of a local interface, the system IP interface, or of a loopback interface of the egress router. When used in a SDP and the **to** address does not match the far-end SDP address, the LSP is not included in the SDP definition.

Parameters

ip-address

Specifies the system IP address of the egress router.

Platforms

All

to

Syntax

to memory [*size*]

to netconf [*size*]

to session

to snmp [*size*] [**send-using-vprn** *service-id*]

Context

[Tree] (config>li>log>log-id to)

Full Context

configure li log log-id to

Description

Commands in this context configure the destination type for the event log.

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The source of the data stream must be specified in the **from** command prior to configuring the destination with the **to** command.

The **to** command cannot be modified or re-entered. If the destination or maximum size of a memory log, NETCONF log, or SNMP log needs to be modified, the log ID must be removed and then re-created.

Parameters

memory

Specifies that log events are directed to a memory file. A memory file is a circular buffer; when the file is full, each new entry replaces the oldest entry in the log. If the optional size parameter is not configured, the default value is used.

Default 100

netconf

Specifies that log events are directed to a NETCONF session as notifications. A NETCONF client can subscribe to a NETCONF log using the configured **netconf-stream** *stream-name* for the log in a subscription request. One or more NETCONF sessions can subscribe to a NETCONF log or stream.

session

Specifies that log events are directed to the current console or telnet session. This command is only valid for the duration of the session. When the session is terminated, the **to session** configuration is removed. A log ID with a **session** destination is saved in the configuration file but the **to session** part is not stored.

snmp

Specifies that log events are directed to the **snmp-trap-group** associated with the log ID. A local circular memory log is maintained for SNMP logs.

size

The size parameter indicates the number of events that can be stored into memory.

Default 100

Values 50 to 1024

send-using-vprn ***service-id***

Configures the lawful intercept (LI) SNMP notifications to transmit in a VPRN. The parameter is the service ID of the VPRN. This configuration is useful when doing management of LI using a VPRN.

The specified VPRN service must exist. After an LI log is configured using the **send-using-vprn** command, the VPRN service cannot be deleted without removing the LI log ID first.

When this command is configured, an LI log ID uses the snmp-trap-group configured for the VPRN.

When unconfigured, the outgoing routing instance of LI SNMP notifications is determined by the **configure log route-preference** command, and the LI log ID uses the **snmp-trap-group** configured in the main system log configuration.

Platforms

All

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to

Syntax

to *ipv4-address*

no to

Context

[Tree] (config>oam-pm>session>mpls>lsp>rsvp-auto to)

Full Context

configure oam-pm session mpls lsp rsvp-auto to

Description

This command specifies an IPv4 address used (with the LSP template) to identify the LSP to be tested.

One of three mandatory configuration statements that are required to identify automatically created RSVP LSPs, using **config>router>mpls>lsp-template**. The **config>router>mpls>auto-lsp>lsp-template** links three distinct functions, the **config>router>policy-options>prefix-list**, **config>router>policy-options>policy-statement>entry>from** and the **config>router>mpls> lsp-template**. The **to** address is the same address configured as the **from** address for the **config>router>policy-options>policy-statement>entry>from**. The required identifiers are **from**, **lsp-template** and **to**, all under this node.

Parameters

ipv4-address

Specifies the IPv4 address.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

to

Syntax

to file *file-id*

Context

[Tree] (config>log>accounting-policy to)

Full Context

configure log accounting-policy to

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Description

This command specifies the destination for the accounting records selected for the accounting policy.

Parameters

file-id

Specifies the destination for the accounting records selected for this destination. The characteristics of the file ID must have already been defined in the **config>log>file** context. A file ID can only be used once.

The file is generated when the file policy is referenced. This command identifies the type of accounting file to be created. The file definition defines its characteristics.

If the **to** command is executed while the accounting policy is in operation, then it becomes active during the next collection interval.

Values 1 to 99

Platforms

All

to

Syntax

[**no**] **to**

Context

[Tree] (config>router>policy-options>policy-statement>entry to)

Full Context

configure router policy-options policy-statement entry to

Description

This command creates the context to configure export policy match criteria based on a route's destination or the protocol into which the route is being advertised.

If no condition is specified, all route destinations are considered to match.

The **to** command context only applies to export policies. If it is used for an import policy, match criteria is ignored.

The **no** form of this command deletes export match criteria for the route policy statement entry.

Platforms

All

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to

Syntax

to cli [*size*]

to console

to file *log-file-id*

to memory [*size*]

to netconf [*size*]

to session

to snmp [*size*]

to syslog *syslog-id*

Context

[Tree] (config>log>log-id to)

Full Context

configure log log-id to

Description

This command specifies a destination for the log event data.

The source of the data stream must be specified in the **from** command before configuring the destination with the **to** command.

The **to** command cannot be modified or re-entered. If the destination or maximum size of an SNMP or memory log needs to be modified, the log ID must be removed and then recreated.

Parameters

cli

Specifies that log events are directed to any subscribed CLI session. Subscribe to a CLI log from within a CLI session using the **tools**>**perform**>**log**>**subscribe-to log-id** *log-id* command. Events are sent to the CLI session for the duration of that CLI session, or until an **unsubscribe-from** command is issued. A local circular memory log is maintained for CLI logs.

console

Specifies that log events events are directed to the console port. If the console is not connected, all the entries are dropped.

file *log-file-id*

Specifies that log events are directed to a file with the specified *log-file-id*. The characteristics of the *log-file-id* referenced in this parameter must have already been defined in the **config**>**log**>**file** *file-id* context. When the *file-id* location parameter is modified, log files are not written to the new location until a rollover occurs or the log is manually cleared. A rollover can be forced by using the **clear**>**log** command. Subsequent

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log entries are then written to the new location. If a rollover does not occur or the log is not cleared, the old location continues to be used.

Values 1 to 99, *name* (up to 64 characters max)

memory

Specifies that log events are directed to a memory file. A memory file is a circular buffer; when the file is full, each new entry replaces the oldest entry in the log. If the optional size parameter is not configured, the default value is used.

Default 100

netconf

Specifies that log events are directed to a NETCONF session as notifications. A NETCONF client can subscribe to a NETCONF log using the configured **netconf-stream** *stream-name* for the log in a subscription request. One or more NETCONF sessions can subscribe to a NETCONF log or stream.

session

Specifies that log events are directed to the current console or telnet session. This command is only valid for the duration of the session. When the session is terminated, the **to session** configuration is removed. A log ID with a **session** destination is saved in the configuration file but the **to session** part is not stored.

size

Specifies the maximum size of the log data destination, in bytes.

Values 50 to 3000

snmp

Specifies that log events are directed to the **snmp-trap-group** associated with the log ID. A local circular memory log is maintained for SNMP logs.

syslog *syslog-id*

Specifies that log events are directed to the specified syslog collector. To remain consistent with the standards governing syslog, messages to syslog are truncated to 1024 bytes. The characteristics of the *syslog-id* referenced in this parameter must have already been defined in the **config**>**log**>**syslog** *syslog-id* context.

Values 1 to 10

Platforms

All

to

Syntax

to *ipv4-address*

no to

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Context

[Tree] (config>oam-pm>session>ip>tunnel>mpls>rsvp-te-auto to)

Full Context

configure oam-pm session ip tunnel mpls rsvp-te-auto to

Description

This command configures the termination point of the RSV LSP. Configure the following three commands to identify an RSVP-TE Auto LSP: **from**, **to**, and **lsp-template**.When all three of these values are configured, the specific RSVP LSP can be identified and the test packets can be carried across the tunnel

The **no** form of this command removes the IPv4 address.

Parameters

ipv4-address

Specifies IPv4 address.

Values ipv4-address: a.b.c.d (host bits must be 0)

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.21 to-aa-sub-counters

to-aa-sub-counters

Syntax

to-aa-sub-counters

no to-aa-sub-counters

Context

[Tree] (config>log>acct-policy>cr>aa to-aa-sub-counters)

Full Context

configure log accounting-policy custom-record aa-specific to-aa-sub-counters

Description

Commands in this context configure Application Assurance "to subscriber” counter parameters and only applies to the 7750 SR.

The **no** form of this command excludes the "to subscriber” count.

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Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.22 to-client-options

to-client-options

Syntax
to-client-options

Context
[Tree] (config>subscr-mgmt>loc-user-db>ppp>host to-client-options)
[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host to-client-options)

Full Context
configure subscriber-mgmt local-user-db ppp host to-client-options
configure subscriber-mgmt local-user-db ipoe host to-client-options

Description
Commands in this context configure DHCP options to send to the client.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.23 to-sap

to-sap

Syntax
to-sap *sap-id*
no to-sap

Context
[Tree] (config>service>vpls>sap>igmp-snp>mvr to-sap)

Full Context
configure service vpls sap igmp-snooping mvr to-sap

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Description

In some situations, the multicast traffic should not be copied from the MVR VPLS to the SAP on which the IGMP message was received (standard MVR behavior), but to another SAP.

This command configures the SAP to which the multicast data needs to be copied.

The **no** form of this command reverts to the default value.

Parameters

sap-id

Specifies the SAP to which multicast channels should be copied.

Platforms

All

47.24 to-server-options

to-server-options

Syntax

[**no**] **to-server-options**

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host to-server-options)

Full Context

configure subscriber-mgmt local-user-db ipoe host to-server-options

Description

Commands in this context configure DHCP options to send to the server.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.25 to-subscriber

to-subscriber

Syntax

to-subscriber

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Context

[Tree] (config>isa>aa-grp>qos>egress to-subscriber)

Full Context

configure isa application-assurance-group qos egress to-subscriber

Description

Commands in this context configure Quality of Service for this application assurance group to-subscriber logical port, traffic destined to AA subscribers and entering an application assurance engine.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.26 tod-override

tod-override

Syntax

tod-override *tod-override-id* [**create**]

no tod-override *tod-override-id*

Context

[Tree] (config>app-assure>group>policer tod-override)

Full Context

configure application-assurance group policer tod-override

Description

This commands creates a time of day override policy for a given policer. Up to 8 overrides can be configured per policer. Rate/mbs/cbs/flow-rate/flow-count configured in each override-id will override the default policer values at the specified time of day configured in the override.

Parameters

tod-override-id

Specifies the time of day override ID.

Values 1 to 255

create

Keyword used to create the time of day override policy.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.27 tolerance

tolerance

Syntax

tolerance [*seconds* | **forever**]

no tolerance

Context

[Tree] (config>system>security>keychain>direction>uni>receive>entry tolerance)

[Tree] (config>system>security>keychain>direction>bi>entry tolerance)

[Tree] (config>system>security>keychain>macsec>entry tolerance)

Full Context

configure system security keychain direction uni receive entry tolerance

configure system security keychain direction bi entry tolerance

configure system security keychain macsec entry tolerance

Description

This command configures the amount of time that the key entry MKA session can overlap with the newly active key entry MKA session. The current key entry MKA session is established up to the tolerance time but is not the principle (encrypting) MKA if the new key entry MKA session is established.

Parameters

seconds

Specifies the duration that an eligible receive key overlaps with the active send key.

Values 0 to 4294967294 seconds

20 to 4294967294 seconds (these values only apply to the **configure system security keychain macsec entry tolerance** context)

forever

Specifies that an eligible receive key overlap with the active send key forever.

Platforms

All

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47.28 tos-marking-state

tos-marking-state

Syntax

tos-marking-state {**trusted** | **untrusted**}

no tos-marking-state

Context

[Tree] (config>service>ies>if tos-marking-state)

[Tree] (config>service>ies>sub-if>grp-if tos-marking-state)

[Tree] (config>service>vprn>interface tos-marking-state)

[Tree] (config>service>vprn>sub-if>grp-if tos-marking-state)

Full Context

configure service ies interface tos-marking-state

configure service ies subscriber-interface group-interface tos-marking-state

configure service vprn interface tos-marking-state

configure service vprn subscriber-interface group-interface tos-marking-state

Description

This command is used to alter the default trusted state to a non-trusted state. When unset or reverted to the trusted default, the ToS field are not remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set, in which case the egress network interface treats all VPRN and network IP interface as untrusted.

When the ingress interface is set to untrusted, all egress network IP interfaces remark IP packets received on the network interface according to the egress marking definitions on each network interface. The egress network remarking rules also apply to the ToS field of IP packets routed using IGP shortcuts (tunneled to a remote next-hop). However, the tunnel QoS markings are always derived from the egress network QoS definitions.

Egress marking and remarking is based on the internal forwarding class and profile state of the packet once it reaches the egress interface. The forwarding class is derived from ingress classification functions. The profile of a packet is either derived from ingress classification or ingress policing.

The default marking state for network IP interfaces is trusted. This is equivalent to declaring no tos-marking-state on the network IP interface. When undefined or set to tos-marking-state trusted, the trusted state of the interface will not be displayed when using show config or show info unless the detail parameter is given. The **save config** command will not store the default tos-marking-state trusted state for network IP interfaces unless the detail parameter is also specified.

The **no** form of this command restores the trusted state to a network IP interface. This is equivalent to executing the tos-marking-state trusted command.

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Default

tos-marking-state trusted

Parameters

trusted

The default prevents the ToS field to not be remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set.

untrusted

Specifies that all egress network IP interfaces will remark IP packets received on the network interface according to the egress marking definitions on each network interface.

Platforms

All

- configure service vprn interface tos-marking-state
- configure service ies interface tos-marking-state

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface tos-marking-state
- configure service ies subscriber-interface group-interface tos-marking-state

tos-marking-state

Syntax

tos-marking-state {**trusted** | **untrusted**}

no tos-marking-state

Context

[Tree] (config>service>vprn>nw-if tos-marking-state)

Full Context

configure service vprn network-interface tos-marking-state

Description

This command is used to alter the default trusted state to a non-trusted state. When unset or reverted to the trusted default, the ToS field will not be remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set, in which case the egress network interface treats all VPRN and network IP interface as untrusted.

When the ingress interface is set to untrusted, all egress network IP interfaces will remark IP packets received on the network interface according to the egress marking definitions on each network interface. The egress network remarking rules also apply to the ToS field of IP packets routed using IGP shortcuts (tunneled to a remote next-hop). However, the tunnel QoS markings are always derived from the egress network QoS definitions. Egress marking and remarking is based on the internal forwarding class and profile state of the packet once it reaches the egress interface. The forwarding class is derived from

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ingress classification functions. The profile of a packet is either derived from ingress classification or ingress policing.

The default marking state for network IP interfaces is trusted. This is equivalent to declaring no tos-marking-state on the network IP interface. When undefined or set to tos-marking-state trusted, the trusted state of the interface will not be displayed when using show config or show info unless the detail parameter is given. The **save config** command will not store the default tos-marking-state trusted state for network IP interfaces unless the detail parameter is also specified.

The **no** tos-marking-state command is used to restore the trusted state to a network IP interface. This is equivalent to executing the tos-marking-state trusted command.

Default

tos-marking-state trusted

Parameters

trusted

The default prevents the ToS field to not be remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set.

untrusted

Specifies that all egress network IP interfaces will remark IP packets received on the network interface according to the egress marking definitions on each network interface.

Platforms

All

tos-marking-state

Syntax

tos-marking-state {**trusted** | **untrusted**}

no tos-marking-state

Context

[Tree] (config>router>if tos-marking-state)

Full Context

configure router interface tos-marking-state

Description

This command is used on a network IP interface to alter the default trusted state to a non-trusted state. When unset or reverted to the trusted default, the ToS field will not be remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set, in which case the egress network interface treats all IES and network IP interface as untrusted. When the ingress network IP interface is set to untrusted, all egress network IP interfaces will remark IP packets received on the network interface according to the egress marking definitions on each network interface. The egress network remarking rules also apply to the ToS field of IP packets routed using IGP shortcuts (tunneled to

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a remote next-hop). However, the tunnel QoS markings are always derived from the egress network QoS definitions. Egress marking and remarking is based on the internal forwarding class and profile state of the packet once it reaches the egress interface. The forwarding class is derived from ingress classification functions. The profile of a packet is either derived from ingress classification or ingress policing. The default marking state for network IP interfaces is trusted. This is equivalent to declaring no tos-marking-state on the network IP interface. When undefined or set to tos-marking-state trusted, the trusted state of the interface will not be displayed when using show config or show info unless the detail parameter is given. The **save config** command will not store the default tos-marking-state trusted state for network IP interfaces unless the detail parameter is also specified.

The **no** form of this command is used to restore the trusted state to a network IP interface. This is equivalent to executing the tos-marking-state trusted command.

Default

tos-marking-state trusted

Parameters

trusted

Specifies that the default prevents the ToS field to not be remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set

untrusted

Specifies that all egress network IP interfaces will remark IP packets received on the network interface according to the egress marking definitions on each network interface.

Platforms

All

47.29 total

total

Syntax

total *percent*

Context

[Tree] (config>isa>video-group>watermark>bandwidth total)

[Tree] (config>isa>video-group>watermark>session total)

Full Context

configure isa video-group watermark bandwidth total

configure isa video-group watermark session total

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Description

This command sets the watermark to trigger the SNMP trap if the combined FCC and RET bandwidth or session exceeds the configured percentage. The bandwidth is the available egress bandwidth of the ISA. The SNMP trap is cleared when the consumption is lowered by 10%. For example, if the system resource of the bandwidth available is 10 Gb/s and the watermark is configured to be 90%, the SNMP trap is raised as the bandwidth exceeds 9 Gb/s (90% of 10 Gb/s). The SNMP trap is cleared when the bandwidth drops below 8.1 Gb/s (10% of 9 Gb/s = 0.9 Gb/s, and 9 Gb/s - 0.9 Gb/s = 8.1 Gb/s). The default value of the watermark is set at 90% of the system resources for both bandwidth and session.

Default

total 90

Parameters

percent

Specifies the percentage of the system resources per ISA.

Values 1 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-s

47.30 total-capacity

total-capacity

Syntax

total-capacity *capacity*

no total-capacity

Context

[Tree] (config>mcast-mgmt>chassis-level>plane-capacity total-capacity)

Full Context

configure mcast-management chassis-level per-mcast-plane-capacity total-capacity

Description

This command configures the total multicast plane capacity supported individually by all switch fabric multicast planes.

The multicast plane capacity is determined based on the provisioned line cards and switch fabrics in the chassis.

The **no** form of this command reverts to the default.

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Parameters

capacity

Specifies the multicast plane capacity in Mb/s.

Values 2000, 4000, 5250, 8250, 15000, 19000, dynamic (Specifies that multicast plane capacity is determined based on provisioned line cards and switch fabrics in the chassis.)

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

47.31 total-flow-duration

total-flow-duration

Syntax

[**no**] **total-flow-duration**

Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-cntr total-flow-duration)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters total-flow-duration

Description

This command includes the total flow duration flow count in the AA subscriber's custom record. This command only applies to the 7750 SR.

The **no** form of this command excludes the total flow duration flow count.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.32 total-flows-completed-count

total-flows-completed-count

Syntax

[**no**] **total-flows-completed-count**

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Context

[Tree] (config>log>acct-policy>cr>aa>aa-sub-cntr total-flows-completed-count)

Full Context

configure log accounting-policy custom-record aa-specific aa-sub-counters total-flows-completed-count

Description

This command includes the total flows completed count in the AA subscriber's custom record. This command only applies to the 7750 SR.

The **no** form of this command excludes the total flow duration flow count.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.33 total-pool-in-use

total-pool-in-use

Syntax

total-pool-in-use *percentage*

no total-pool-in-use

Context

[Tree] (config>port>network>egress>pool>monitor-depth>alarm total-pool-in-use)

[Tree] (config>card>fp>ingress>network>pool>monitor-depth>alarm total-pool-in-use)

[Tree] (config>port>access>ingress>pool>monitor-depth>alarm total-pool-in-use)

[Tree] (config>port>access>egress>pool>monitor-depth>alarm total-pool-in-use)

Full Context

configure port network egress pool monitor-pool-depth alarm-thresholds total-pool-in-use

configure card fp ingress network pool monitor-pool-depth alarm-thresholds total-pool-in-use

configure port access ingress pool monitor-pool-depth alarm-thresholds total-pool-in-use

configure port access egress pool monitor-pool-depth alarm-thresholds total-pool-in-use

Description

This command configures the threshold for the total pool in use.

A tmnxTotalPoolUseThreshExcd trap is generated when the total pool usage exceeds this threshold percentage. When the usage returns below the threshold percentage, the tmnxTotalPoolUseThreshNotExcd trap is generated

The **no** form of this command removes the threshold on which to alarm.

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Default

no total-pool-in-use

Parameters

percentage

Specifies the total pool in-use alarm threshold.

Values 0.01 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.34 tp-tunnel-id-range

tp-tunnel-id-range

Syntax

tp-tunnel-id-range *start-id end-id*

no tp-tunnel-id-range

Context

[Tree] (config>router>mpls>mpls-tp tp-tunnel-id-range)

Full Context

configure router mpls mpls-tp tp-tunnel-id-range

Description

This command configures the range of MPLS tunnel IDs reserved for MPLS-TP LSPs. The maximum difference between the start-id and end-id is 4K.

The tunnel ID referred to here is the RSVP-TE tunnel ID. This maps to the MPLS-TP Tunnel Number. There are some cases where the dynamic LSPs may have caused fragmentation to the number space such that contiguous range [*end-id* – *start-id*] is not available. In these cases, the command will fail.

There are no default values for the *start-id* and *end-id* of the tunnel id range, and they must be configured to enable MPLS-TP.

Default

no tp-tunnel-id-range

Parameters

start-id

Specifies the start ID.

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Values 1 to 61440

end-id

Specifies the end ID.

Values 1 to 61440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.35 trace

trace

Syntax

trace sap *sap-id* [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

trace mac *ieee-address* [**sap** *sap-id*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

trace circuit-id *circuit-id* [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

trace remote-id *remote-id* [**profile** *trace-profile-name*] [**trace-existing-sessions**] [**max-jobs** *num*] [**name** *trace-name*]

no trace [**sap** *sap-id*] [**mac** *ieee-address*] [{**circuit-id** *circuit-id* | **remote-id** *remoteid*}]

no trace name *trace-name*

Context

[Tree] (debug>call-trace>ipoe trace)

Full Context

debug call-trace ipoe trace

Description

This command enables tracing for IPoE sessions specified by the configured parameters. This command can trace a single session or multiple sessions, and can use wildcard characters.

This command can be executed multiple times to start multiple traces. When rules overlap, such as for a wildcard SAP and a specific SAP, the rule that a specific trace is associated with cannot be guaranteed.

The **no** form of this command prevents new traces from being configured and terminates all trace jobs that were previously started using the **trace** command.

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Parameters

circuit-id

Specifies a circuit ID that is used to filter sessions to trace. The *circuit-id* and *remote-id* parameters are mutually exclusive.

ieee-address

Specifies a MAC address that is used to identify a session to trace, in the format "ab:cd:ef:01:23:45”. A wildcard character can be used to match all remaining octets; for example, the format "ab:cd:ef:*” can be used to filter by OUI.

num

Specifies the maximum number of jobs that may be started with this rule.

Values 1 to 50

Default 1

remote-id

Specifies a remote ID that is used to filter sessions to trace. The *remote-id* and *circuit-id* parameters are mutually exclusive.

sap-id

Specifies a SAP to trace. The following formats are accepted:

- *port*/*lag*/*pw-port*:*svlan*.*cvlan*
- *port*/*lag*/*pw-port*:*vlan*
- *port*/*lag*/*pw-port*
- *port*/*lag*/*pw-port*:*vlan*.*
- *port*/*lag*/*pw-port*:* (also matches *.*)

trace-existing-sessions

Specifies that existing IPoE sessions is traced. If this parameter is not included, only new IPoE sessions is traced.

trace-name

Specifies the name by which the trace is referenced, up to 16 characters.

trace-profile-name

Specifies the name of the trace profile to be applied. The default parameters is used if a trace profile is not specified.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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47.36 trace-profile

trace-profile

Syntax

trace-profile *profile-name* [**create**]

no trace-profile *profile-name*

Context

[Tree] (config>call-trace trace-profile)

Full Context

configure call-trace trace-profile

Description

This command creates a profile that can be applied to a specific trace job.

Parameters

profile-name

Specifies the unique name of the call trace profile.

create

Keyword used to create the trace profile instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.37 traceroute

traceroute

Syntax

Context

[Tree] (traceroute)

Full Context

traceroute

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Description

This command determines the route to a destination address. DNS lookups for the responding hosts are enabled by default.

Parameters

candidate-path

Specifies a candidate path of the SRv6 policy to traceroute. The candidate path does not need to be the currently active candidate path.

dest-port-udp-fixed

Specifies that the destination UDP port number should not increment with each packet transmitted. By default, the UDP traceroute starts with destination UDP port 33434 and each subsequent packet sent to this destination UDP port increases by 1. The next packet uses UDP seat port 33435, the next 33436, and so on.

For a UDP test, this parameter prevents the per-transmitted packet increment of the destination UDP port number. The TCP protocol does not increment the destination TCP port, using a single destination TCP port for all traceroute packets for the test.

decode

Perform additional original datagram parsing functions. This parameter must be used with the **detail** parameter.

detail

Specifies to display additional information about the resulting packet.

distinguisher

Specifies the distinguisher of the SRv6 policy candidate path to send the traceroute probe on. This parameter must be configured if **protocol-owner** is configured to **bgp**.

Values 1 to 4294967295

dns-name

Specifies the DNS name, up to 63 characters, of the far-end device on which to send the traceroute request message.

endpoint *ipv6-address*

Specifies an SRv6 policy for a specific endpoint as the target of the traceroute.

Values

ipv6-address:	x:x:x:x:x:x:x:x	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

ip-address

Specifies the far-end IP address on which to send the traceroute request message in dotted decimal notation.

Values

ipv4-address:	a.b.c.d

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ipv6-address: x:x:x:x:x:x:x:x
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D

max-ttl

Specifies the maximum Time-To-Live (TTL) value to include in the traceroute request, expressed as a decimal integer.

Values 1 to 255

Default 30

milliseconds

Specifies the time in milliseconds to wait for a response to a probe, expressed as a decimal integer.

Values 1 to 60000

Default 5000

min-ttl

Specifies the IP TTL in the initial traceroute packet to target a specific node or starting node along the path.

Values 1 to 255

Default 1

no-dns

Specifies that, when the **no-dns** keyword is specified, DNS lookups of the responding hosts are not performed, and only the IP addresses are printed.

original-datagram

Parse the returned original datagram including any IPv6 and SRH header information.

pad-size

Specifies the number of bytes added to the UDP or TCP payload.

Values 0 to 9786

Default 0

port-number

Specifies the transport protocol destination port number.

Values 1 to 65535

Default 33434

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preference

Specifies the preference of the SRv6 policy candidate path to send the traceroute probe on.

Values 0 to 4294967295

Default 100

probes-per-hop

Specifies the number of probes per hop.

Values 1 to 10

Default 3

protocol-owner

Specifies the protocol owner of the SRv6 policy candidate path to traceroute.

Values bgp — Specifies a BGP SRv6 policy.

static — Specifies a locally configured static SRv6 policy.

protocol udp | tcp

Sets the transport protocol for the traceroute packet. The TCP protocol is silently discarded on a targeted VRPN service. VPRN services only respond to UDP traceroutes.

Default udp

router-or-service

Specifies the routing instance or service, by number. The *router-instance* parameter is the preferred parameter to specify the router or service.

Values router-name: Base, management, vpls-management

vprn-svc-id: 1 to 2147483647

Default Base

router-instance

Specifies the preferred method for entering a service name. Stored as the service name, this is the only service-linking function allowed for both mixed-mode and model-driven configuration modes.

Values router-name: Base, management, vpls-management

vprn-svc-name: up to 64 characters

service-name

Specifies the alias function that allows the service name to be used, converted, and stored as service ID.

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source *ip-address*

Specifies the source IP address to use as the source of the probe packets, in dotted decimal notation. If the IP address is not one of the device's interfaces, an error is returned.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

type-of-service

Specifies the Type-of-Service (ToS) bits in the IP header of the probe packets, expressed as a decimal integer.

Values 0 to 255

Default 0

srv6-policy

Keyword to specify that the traceroute probe is applied to an SRv6 policy matching a specific color and endpoint. The traceroute probe may optionally be targeted at a specific segment list of the SRv6 policy. When the segment list is not specified, the traceroute probe is sent on the lowest available segment list.

color-id

Specifies the SRv6 policy color ID.

Values 0 to 4294967295

segment-list

Specifies the SRv6 policy segment list to trace.

Values 1 to 32

Platforms

All

Output

Table 177: ICMPv4 Type 3 symbols in CLI, Table 178: ICMPv6 Type 1 symbols in CLI, and Table 179: ICMPv6 Type 2 symbols in CLI describe the ICMPv4 Type 3, and the ICMPv6 Type 1 and 2 symbols in the CLI outputs. For references without a symbol in the form !<code>, see www.iana.org/assignments/icmp-parameters/icmp-parameters.xhtml.

The following output is an example of traceroute for an IPv4 prefix.

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Output Example

```
A:node-2# traceroute 192.168.xx.xx4
traceroute to 192.168.xx.xx4, 30 hops max, 40 byte packets
 1  192.168.xx.xx4 0.000 ms  0.000 ms  0.000 ms
```

The following output is an example of traceroute for an IPv4 prefix resolved to an IPv4 SR policy with ICMP tunneling enabled.

Output Example

```
A:node-2# traceroute 11.21.1.6 detail no-dns
traceroute to 11.21.1.6, 30 hops max, 40 byte packets
  1   1  10.10.11.3  3.36 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28303, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28306, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524283, Exp = 7, TTL =   1, S = 1
  1   2  10.10.11.3  3.68 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28303, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28306, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524283, Exp = 7, TTL =   1, S = 1
  1   3  10.10.11.3  4.18 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28303, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28306, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524283, Exp = 7, TTL =   1, S = 1
  2   1  10.10.10.5  3.77 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28506, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =  524283, Exp = 7, TTL =   2, S = 1
  2   2  10.10.10.5  8.02 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28506, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =  524283, Exp = 7, TTL =   2, S = 1
  2   3  10.10.10.5  4.72 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28506, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =  524283, Exp = 7, TTL =   2, S = 1
  3   1  11.21.1.6  5.33 ms
  3   2  11.21.1.6  4.77 ms
  3   3  11.21.1.6  4.07 ms
```

The following output is an example of traceroute for an IPv6 prefix resolved to an IPv4 SR policy with ICMP tunneling enabled.

Output Example

```
A:node-2# traceroute fc00::b15:106 detail no-dns
traceroute to fc00::b15:106, 30 hops max, 60 byte packets
  1   1  fc00::a0a:b03  3.41 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28303, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28306, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =       2, Exp = 7, TTL =   1, S = 1
  1   2  fc00::a0a:b03  2.58 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28303, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28306, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =       2, Exp = 7, TTL =   1, S = 1
  1   3  fc00::a0a:b03  3.90 ms
```


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```
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28303, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28306, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =       2, Exp = 7, TTL =   1, S = 1
  2   1  fc00::a0a:a05  4.65 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28506, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =       2, Exp = 7, TTL =   2, S = 1
  2   2  fc00::a0a:a05  4.85 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28506, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =       2, Exp = 7, TTL =   2, S = 1
  2   3  fc00::a0a:a05  4.78 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28506, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =       2, Exp = 7, TTL =   2, S = 1
  3   1  fc00::b15:106  2.89 ms
  3   2  fc00::b15:106  3.58 ms
  3   3  fc00::b15:106  4.15 ms
```

The following output is an example of traceroute for an IPv6 prefix resolved to an IPv6 SR-OSPF3 tunnel with ICMP tunneling enabled.

Output Example

```
A:node-2# traceroute fc00::b14:106 detail
traceroute to fc00::b14:106, 30 hops max, 60 byte packets
  1   1  fc00::a0a:402  (fc00::a0a:402)  4.38 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   29266, Exp = 7, TTL =   1, S = 1
  1   2  fc00::a0a:402  (fc00::a0a:402)  3.42 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   29266, Exp = 7, TTL =   1, S = 1
  1   3  fc00::a0a:402  (fc00::a0a:402)  4.19 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   29266, Exp = 7, TTL =   1, S = 1
  2   1  fc00::a0a:904  (fc00::a0a:904)  4.05 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   29466, Exp = 7, TTL =   1, S = 1
  2   2  fc00::a0a:904  (fc00::a0a:904)  3.62 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   29466, Exp = 7, TTL =   1, S = 1
  2   3  fc00::a0a:904  (fc00::a0a:904)  4.64 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   29466, Exp = 7, TTL =   1, S = 1
  3   1  fc00::b14:106  (fc00::b14:106)  3.35 ms
  3   2  fc00::b14:106  (fc00::b14:106)  4.02 ms
  3   3  fc00::b14:106  (fc00::b14:106)  3.30 ms
```

The following output is an example of traceroute for a label-ipv4 prefix resolved to an IPv6 SR-TE LSP with ICMP tunneling enabled (requires IPv4 system address).

Output Example

```
A:node-2# traceroute 11.21.1.1 source 11.21.1.6 detail
traceroute to 11.21.1.1 from 11.21.1.6, 30 hops max, 40 byte packets
  1   1  10.20.1.4  (10.20.1.4)  4.96 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =  524270, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524236, Exp = 7, TTL =   1, S = 1
  1   2  10.20.1.4  (10.20.1.4)  5.35 ms
         returned MPLS Label Stack Object
```


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```
            entry  1:  MPLS Label =  524270, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  3:  MPLS Label =  524236, Exp = 7, TTL =   1, S = 1
  1   3  10.20.1.4  (10.20.1.4)  5.43 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524270, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  3:  MPLS Label =  524236, Exp = 7, TTL =   1, S = 1
  2   1  10.20.1.2  (10.20.1.2)  4.72 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524236, Exp = 7, TTL =   2, S = 1
  2   2  10.20.1.2  (10.20.1.2)  5.71 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524236, Exp = 7, TTL =   2, S = 1
  2   3  10.20.1.2  (10.20.1.2)  5.03 ms
         returned MPLS Label Stack Object
           entry  1:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524236, Exp = 7, TTL =   2, S = 1
  3   1  11.21.1.1  (11.21.1.1)  3.51 ms
  3   2  11.21.1.1  (11.21.1.1)  3.91 ms
  3   3  11.21.1.1  (11.21.1.1)  3.09 ms
```

The following output is an example of traceroute for a label-ipv6 prefix resolved to an IPv4 SR-TE LSP with ICMP tunneling enabled.

Output Example

```
A:node-2# traceroute fc00::b15:101 detail
traceroute to fc00::b15:101, 30 hops max, 60 byte packets
  1   1  fc00::a0a:404  (fc00::a0a:404)  3.36 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524270, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  3:  MPLS Label =       2, Exp = 7, TTL =   1, S = 1
  1   2  fc00::a0a:404  (fc00::a0a:404)  3.46 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524270, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  3:  MPLS Label =       2, Exp = 7, TTL =   1, S = 1
  1   3  fc00::a0a:404  (fc00::a0a:404)  3.77 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524270, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  3:  MPLS Label =       2, Exp = 7, TTL =   1, S = 1
  2   1  fc00::a0a:102  (fc00::a0a:102)  4.54 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =       2, Exp = 7, TTL =   2, S = 1
  2   2  fc00::a0a:102  (fc00::a0a:102)  4.70 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =       2, Exp = 7, TTL =   2, S = 1
  2   3  fc00::a0a:102  (fc00::a0a:102)  3.63 ms
         returned MPLS Label Stack Object
            entry  1:  MPLS Label =  524285, Exp = 7, TTL =   1, S = 0
            entry  2:  MPLS Label =       2, Exp = 7, TTL =   2, S = 1
  3   1  fc00::b15:101  (fc00::b15:101)  3.40 ms
  3   2  fc00::b15:101  (fc00::b15:101)  3.15 ms
  3   3  fc00::b15:101  (fc00::b15:101)  3.23 ms
```


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The following output is an example of traceroute for a vpn-ipv4 prefix resolved to an IPv6 SR-TE LSP with ICMP tunneling enabled (requires IPv4 system address).

Output Example

```
A:node-2# traceroute router-instance "vprn.sr-te.4" 1.0.4.1 source 6.0.4.1 detail
traceroute to 1.0.4.1 from 6.0.4.1, 30 hops max, 40 byte packets
  1   1  10.20.1.4  (10.20.1.4)  5.03 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28462, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   1, S = 1
  1   2  10.20.1.4  (10.20.1.4)  4.52 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28462, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   1, S = 1
  1   3  10.20.1.4  (10.20.1.4)  5.61 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28462, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   1, S = 1
  2   1  10.20.1.2  (10.20.1.2)  5.38 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28262, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   2, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   2, S = 1
  2   2  10.20.1.2  (10.20.1.2)  5.39 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28262, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   2, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   2, S = 1
  2   3  10.20.1.2  (10.20.1.2)  5.27 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28262, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   2, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   2, S = 1
  3   1  1.0.4.1  (1.0.4.1)  4.09 ms
  3   2  1.0.4.1  (1.0.4.1)  4.47 ms
  3   3  1.0.4.1  (1.0.4.1)  4.13 ms
```

The following output is an example of traceroute for a vpn-ipv6 prefix resolved to an IPv6 SR-TE LSP with ICMP tunneling enabled.

Output Example

```
A:node-2# traceroute router 5004 fc00::100:401 detail
traceroute to fc00::100:401, 30 hops max, 60 byte packets
  1   1  fc00::a0a:404  (fc00::a0a:404)  5.45 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28462, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   1, S = 1
  1   2  fc00::a0a:404  (fc00::a0a:404)  5.14 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28462, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   1, S = 1
  1   3  fc00::a0a:404  (fc00::a0a:404)  5.31 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28462, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   1, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   1, S = 1
```


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```
  2   1  fc00::a0a:102  (fc00::a0a:102)  4.70 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28262, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   2, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   2, S = 1
  2   2  fc00::a0a:102  (fc00::a0a:102)  5.20 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28262, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   2, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   2, S = 1
  2   3  fc00::a0a:102  (fc00::a0a:102)  5.16 ms
         returned MPLS Label Stack Object
             entry  1:  MPLS Label =   28262, Exp = 7, TTL =   1, S = 0
             entry  2:  MPLS Label =   28261, Exp = 7, TTL =   2, S = 0
             entry  3:  MPLS Label =  524241, Exp = 7, TTL =   2, S = 1
  3   1  fc00::100:401  (fc00::100:401)  5.38 ms
  3   2  fc00::100:401  (fc00::100:401)  4.48 ms
  3   3  fc00::100:401  (fc00::100:401)  4.39 ms
```

The following output is an example of traceroute for an IPv4 prefix using the tcp and the detail options.

Output Example

Note: Reaching the destination and the port is closed on the destination.

```
A:node-2# traceroute 192.168.34.2 protocol tcp detail
traceroute to 192.168.34.2, 30 hops max, 40 byte packets
  1   1  192.168.13.2  (192.168.13.2)  0.755 ms
  1   2  192.168.13.2  (192.168.13.2)  0.913 ms
  1   3  192.168.13.2  (192.168.13.2)  0.928 ms
  2   1  192.168.34.2  (192.168.34.2)  1.19 ms (port closed)
  2   2  192.168.34.2  (192.168.34.2)  1.29 ms (port closed)
  2   3  192.168.34.2  (192.168.34.2)  1.59 ms (port closed)
```

The following output is an example of traceroute for an IPv4 prefix using the tcp and the detail options.

Output Example

Note: Reaching the destination and the port is open on the destination.

```
A:node-2# traceroute 192.168.34.2 protocol tcp dest-port 862 detail
traceroute to 192.168.34.2, 30 hops max, 40 byte packets
  1   1  192.168.13.2  (192.168.13.2)  0.915 ms
  1   2  192.168.13.2  (192.168.13.2)  0.861 ms
  1   3  192.168.13.2  (192.168.13.2)  0.825 ms
  2   1  192.168.34.2  (192.168.34.2)  1.42 ms (port open)
  2   2  192.168.34.2  (192.168.34.2)  1.27 ms (port open)
  2   3  192.168.34.2  (192.168.34.2)  1.52 ms (port open)
```

The following output is an example of traceroute of an SRv6 SID using the **decode original-datagram** option.

Output Example

```
A:node-2# traceroute 2002:abcd:1100:102:1:: detail decode original-datagram probe-count 1
traceroute to 2002:abcd:1100:102:1::, 30 hops max, 60 byte packets
  1   1  2001:100:4:12::4  (2001:100:4:12::4)  1.23 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
```


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```
                SA = 2001:1:1:1::112, DA = 2002:abcd:1100:102:1::
  2   1  2001:100:3:4::3  (2001:100:3:4::3)  2.25 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
                 SA = 2001:1:1:1::112, DA = 2002:abcd:1100:101:1::
             Segment Routing Header SRv6, Segments Left 1
                 Segment_List[0] = 2002:abcd:1100:102:1::
  3   1  2001:100:1:3::1  (2001:100:1:3::1)  3.21 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
                 SA = 2001:1:1:1::112, DA = 2002:abcd:1100:101:1::
             Segment Routing Header SRv6, Segments Left 1
                 Segment_List[0] = 2002:abcd:1100:102:1::
  4   1  2001:1:1:1::102  (2001:1:1:1::102)  9.16 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
                 SA = 2001:1:1:1::112, DA = 2002:abcd:1100:102:1::
             Segment Routing Header SRv6, Segments Left 0
                 Segment_List[0] = 2002:abcd:1100:102:1::
```

The following output is an example of traceroute of an SRv6 policy.

Output Example

```
A:node-2# traceroute srv6-policy color 10 endpoint 6:6:6:6::86 probe-count 1

traceroute srv6-policy color 10 endpoint 6:6:6:6::86, 30 hops max, 60 byte packets (excluding
 SRH)
  1  fc00::a0a:203 (fc00::a0a:203)    2.76 ms
  2  fc00::a0a:505 (fc00::a0a:505)    5.11 ms
  3  6:6:6:6::86 (6:6:6:6::86)    6.18 ms
```

The following output is an example of traceroute of an SRv6 policy using the **decode original-datagram** option.

Output Example

```
A:node-2# traceroute srv6-policy color 10 endpoint 6:6:6:6::86 probe-count 1 detail decode
 original-datagram
traceroute srv6-policy color 10 endpoint 6:6:6:6::86, 30 hops max, 60 byte packets (excluding
 SRH)
  1   1  fc00::a0a:203  (fc00::a0a:203)  2.70 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
                 SA = 1:1:1:1::61, DA = 3:3:3:3:0:a::
             Segment Routing Header SRv6, Segments Left 2
                 Segment_List[0] = 6:6:6:6::86
                 Segment_List[1] = 5:5:5:5:0:a::
  2   1  fc00::a0a:505  (fc00::a0a:505)  4.88 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
                 SA = 1:1:1:1::61, DA = 5:5:5:5:0:a::
             Segment Routing Header SRv6, Segments Left 1
                 Segment_List[0] = 6:6:6:6::86
                 Segment_List[1] = 5:5:5:5:0:a::
  3   1  6:6:6:6::86  (6:6:6:6::86)  5.51 ms
         Original Datagram
             IPv6 Header, Hop Limit 1, DSCP be
                 SA = 1:1:1:1::61, DA = 6:6:6:6::86
```

The following output is an example of traceroute for a candidate path of an SRv6 policy.

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Output Example

```
A:node-2# traceroute srv6-policy color 20 endpoint fc00::a14:106 probe-count 1 detail
 candidate-path protocol-owner static distinguisher 126 preference 100
traceroute srv6-policy color 20 endpoint fc00::a14:106 candidate-path protocol-owner static
 preference 100 distinguisher 126, 30 hops max, 60 byte packets (excluding SRH)
  1   1  fc00::a0a:203  (fc00::a0a:203)  2.87 ms
  2   1  fc00::a0a:505  (fc00::a0a:505)  4.58 ms
  3   1  fc00::a14:106  (fc00::a14:106)  6.28 ms
```

Table 177: ICMPv4 Type 3 symbols in CLI

Symbol	Description	Code
!N	Destination Network Unreachable	0
!P	Destination Protocol Unreachable	2
!	Destination Port Unreachable	3
!F-mtu	Fragmentation Needed and Don't Fragment was Set	4
!S	Source Route Failed	5
!X	Communication Administratively Prohibited	13
!V	Host Precedence Violation	14
!C	Precedence Cutoff In Effect	15

Table 178: ICMPv6 Type 1 symbols in CLI

Symbol	Description	Code
!N	No Route to Destination	0
!H	Destination Address Unreachable	3
!	Destination Port Unreachable	4

Table 179: ICMPv6 Type 2 symbols in CLI

Symbol	Description	Code
!F-mtu	MTU Exceeded - Fragmentation Required	0

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47.38 traceroute-reply

traceroute-reply

Syntax

[**no**] **traceroute-reply**

Context

[Tree] (config>service>ies>if>ipv6>vrrp traceroute-reply)

Full Context

configure service ies interface ipv6 vrrp traceroute-reply

Description

This command is valid only if the VRRP virtual router instance associated with this entry is a non-owner.

When this command is enabled, a non-owner master can reply to traceroute requests directed to the virtual router instance IP addresses.

A non-owner backup virtual router never responds to such traceroute requests regardless of the **traceroute-reply** status.

Default

no traceroute-reply

Platforms

All

traceroute-reply

Syntax

[**no**] **traceroute-reply**

Context

[Tree] (config>service>ies>if>vrrp traceroute-reply)

Full Context

configure service ies interface vrrp traceroute-reply

Description

This command is valid only if the VRRP virtual router instance associated with this entry is a non-owner.

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When this command is enabled, a non-owner master can reply to traceroute requests directed to the virtual router instance IP addresses.

A non-owner backup virtual router never responds to such traceroute requests regardless of the **traceroute-reply** status.

Default

no traceroute-reply

Platforms

All

traceroute-reply

Syntax

[**no**] **traceroute-reply**

Context

[Tree] (config>service>vprn>if>ipv6>vrrp traceroute-reply)

[Tree] (config>service>vprn>if>vrrp traceroute-reply)

Full Context

configure service vprn interface ipv6 vrrp traceroute-reply

configure service vprn interface vrrp traceroute-reply

Description

This command is valid only if the VRRP virtual router instance associated with this entry is a non-owner.

When this command is enabled, a non-owner master can reply to traceroute requests directed to the virtual router instance IP addresses.

A non-owner backup virtual router never responds to such traceroute requests regardless of the **traceroute-reply** status.

Default

no traceroute-reply

Platforms

All

traceroute-reply

Syntax

[**no**] **traceroute-reply**

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Context

[Tree] (config>router>if>vrrp traceroute-reply)

[Tree] (config>router>if>ipv6>vrrp traceroute-reply)

Full Context

configure router interface vrrp traceroute-reply

configure router interface ipv6 vrrp traceroute-reply

Description

This command is valid only if the VRRP virtual router instance associated with this entry is a non-owner.

When this command is enabled, a non-owner master can reply to traceroute requests directed to the virtual router instance IP addresses.

A non-owner backup virtual router never responds to such traceroute requests regardless of the **traceroute-reply** status.

Traceroute must not have been disabled at the management security level (either on the parental IP interface or the source host address).

Default

no traceroute-reply

Platforms

All

47.39 track-accounting

track-accounting

Syntax

track-accounting [**start**] [**stop**][**interim-update**][**accounting-on**] [**accounting-off**]

no track-accounting

Context

[Tree] (config>service>vprn>radius-proxy>server>cache track-accounting)

[Tree] (config>router>radius-proxy>server>cache track-accounting)

Full Context

configure service vprn radius-proxy server cache track-accounting

configure router radius-proxy server cache track-accounting

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Description

This command specifies the type of RADIUS accounting packets from RADIUS client (a WIFI AP) that the router should track.

The **no** form of this command removes the parameters from the configuration.

Parameters

start

Specifies that the router will update the associated ESM-host with the RADIUS client (for example, a WIFI AP) that generated the accounting-start. This is required in cases where a UE roams to a new AP that does not re-authenticate due to key caching.

stop

Specifies that the router will remove the corresponding ESM host and forward the accounting-stop packet to the external RADIUS server.

accounting-on | accounting-off

Specifies that the router will remove all ESM hosts associated with the RADIUS client (a WIFI AP), and forward the accounting-on packet to the external RADIUS server.

interim-update

Specifies that the router will update the associated ESM-host with the RADIUS client (a WIFI AP) that generated the interim-update. The interim-updates with the updated information are sent to the RADIUS server as scheduled.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.40 track-authentication

track-authentication

Syntax

track-authentication [**accept**]

no track-authentication

Context

[Tree] (config>service>vprn>radius-proxy>server>cache track-authentication)

[Tree] (config>router>radius-proxy>server>cache track-authentication)

Full Context

configure service vprn radius-proxy server cache track-authentication

configure router radius-proxy server cache track-authentication

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Description

This command specifies if RADIUS authentication (from the AP) should be tracked in order to update the ESM host with the RADIUS client (for example, WIFI AP) on UE mobility. It also specifies the authentication packet from RADIUS client (for example, a WIFI AP) that the router should track for mobility.

The **no** form of this command stops tracking authentication for UE mobility.

Default

track-authentication accept

Parameters

accept

Indicates access-accept is tracked for mobility.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.41 track-delete-hold-time

track-delete-hold-time

Syntax

track-delete-hold-time *seconds*

no track-delete-hold-time

Context

[Tree] (config>router>radius-proxy>server>cache track-delete-hold-time)

Full Context

configure router radius-proxy server cache track-delete-hold-time

Description

This command specifies the delete hold-time in case the DHCP host gets a trigger to delete from the matched RADIUS Proxy server.

The **no** form of this command reverts to the default.

Default

track-delete-hold-time 0

Parameters

seconds

Specifies the delete hold time, in seconds.

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Values 0 to 600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.42 track-mobility

track-mobility

Syntax

track-mobility

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range track-mobility)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range track-mobility)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range track-mobility

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range track-mobility

Description

Commands in this context configure RADIUS-proxy cache information required for subscribers that are created via data-triggered authentication. The RADIUS proxy cache enables efficient handling of UE mobility.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.43 track-password-change

track-password-change

Syntax

[**no**] **track-password-change**

Context

[Tree] (config>service>vprn>l2tp>group>l2tpv3 track-password-change)

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Full Context

configure service vprn l2tp group l2tpv3 track-password-change

Description

This command enables tracking of password changes, allowing password tunnel passwords to be changed without bringing down active tunnels or sessions. This is only supported with L2TPv3.

The **no** form of this command disables password change tracking.

Default

no track-password-change

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.44 track-srrp

track-srrp

Syntax

track-srrp *srrp-instance* **peer** *ip-address* **sync-tag** *sync-tag*

no track-srrp *srrp-instance*

Context

[Tree] (config>router>l2tp>failover track-srrp)

[Tree] (config>service>vprn>l2tp>failover track-srrp)

Full Context

configure router l2tp failover track-srrp

configure service vprn l2tp failover track-srrp

Description

This command sets the sync-tag to be used to synchronize the tunnels with track-srrp *srrp-id* to MCS *peer IP-@*. The same sync-tag should be configured on the MCS peer.

The **no** form of this command reverts to the default.

Default

Removes the sync-tag for the indicated track-srrp.

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Parameters

srrp-instance

Specifies the Simple Router Redundancy Protocol (SRRP) instance used for Multi-Chassis redundancy failover that is associated with this Layer Two Tunneling Protocol Tunnel.

sync-tag

Specifies a synchronization tag to be used while synchronizing with the peer.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

track-srrp

Syntax

[**no**] **track-srrp** [*srrp-instance*]

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>track-srrp-instances track-srrp)

Full Context

configure redundancy multi-chassis peer sync track-srrp-instances track-srrp

Description

This command configures a tracked SRRP instance.

The **no** form of this command removes the SRRP instance identifier from the configuration.

Parameters

srrp-instance

Indicates the unique identifier of the tracked SRRP instance.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

track-srrp

Syntax

track-srrp *srrp-id*

no track-srrp

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Context

[Tree] (config>service>vpls>sap track-srrp)

Full Context

configure service vpls sap track-srrp

Description

This command configures the SRRP instance this capture SAP will track. This is a capture SAP level command. This command is important in PPPoE deployments with MSAPs. PPPoE operation requires that the MAC address learned by the client at the very beginning of the session negotiation phase remains unchanged for the lifetime of the session (RFC 2516). This command ensures that the virtual MAC address used during the PPPoE session negotiation phase on the capture SAP is the same virtual MAC address that is used by the SRRP on the group interface on which the session is established. Therefore, it is mandated that the SRRP instance (and implicitly the group-interface) where the session belongs to is known in advance. If the group interface name for the session is returned by the RADIUS, it must be ensured that this group interface is the one on which the tracked SRRP instance is configured. PPPoE sessions on the same capture SAP cannot be shared across multiple group interfaces, but instead they all must belong to a single group interface that is known in advance.

The same restrictions apply to IPoE clients in MC Redundancy scenario if they are to be supported concurrently on the same capture SAP as PPPoE.

The supported capture SAP syntax is this:

sap <port-id>:X.* capture-sap

The capture SAP syntax that is not supported is this:

sap <port-id>:*.* capture-sap

The **no** form of this command removes the SRRP ID from this configuration.

Parameters

srrp-id

Specifies the SRRP instance number.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.45 track-srrp-instances

track-srrp-instances

Syntax

track-srrp-instances

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Context

[Tree] (config>redundancy>multi-chassis>peer>sync track-srrp-instances)

Full Context

configure redundancy multi-chassis peer sync track-srrp-instances

Description

Commands in this context configure tracked SRRP instances.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

47.46 tracking-support

tracking-support

Syntax

[**no**] **tracking-support**

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>pim tracking-support)

Full Context

configure service vprn mvpn provider-tunnel inclusive pim tracking-support

Description

This command enables the setting of the T bit in the LAN Prune Delay option of the Hello message. This indicates the router's capability to disable Join message suppression.

The **no** form of this command disables the setting.

Default

no tracking-support

Platforms

All

tracking-support

Syntax

[**no**] **tracking-support**

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Context

[Tree] (config>service>vprn>pim>if tracking-support)

Full Context

configure service vprn pim interface tracking-support

Description

This command sets the T bit in the LAN Prune Delay option of the Hello Message. This indicates the router's capability to disable Join message suppression.

Default

no tracking-support

Platforms

All

tracking-support

Syntax

[**no**] **tracking-support**

Context

[Tree] (config>router>pim>interface tracking-support)

Full Context

configure router pim interface tracking-support

Description

This command sets the T bit in the LAN Prune Delay option of the Hello Message. This indicates the router's capability to enable join message suppression. This capability allows for upstream routers to explicitly track join membership.

The **no** form of this command disables tracking support.

Default

no tracking-support

Platforms

All

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47.47 traffic-capture

traffic-capture

Syntax

[**no**] **traffic-capture**

Context

[Tree] (debug>app-assure>group traffic-capture)

Full Context

debug application-assurance group traffic-capture

Description

This command configures debugging for traffic capture.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.48 traffic-class

traffic-class

Syntax

traffic-class *traffic-class*

no traffic-class

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>mpls traffic-class)

[Tree] (config>test-oam>build-packet>header>mpls traffic-class)

Full Context

debug oam build-packet packet field-override header mpls traffic-class

configure test-oam build-packet header mpls traffic-class

Description

This command defines the traffic class value to be used in the MPLS header.

The **no** form of this command removes the traffic class value.

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Default

traffic-class 0 (BE)

Parameters

traffic-class

Specifies the MPLS traffic class to be used in the MPLS header.

Values 0 to 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.49 traffic-direction

traffic-direction

Syntax

traffic-direction {**subscriber-to-network** | **network-to-subscriber** | **both**}

Context

[Tree] (config>app-assure>group>policy>aqp>entry>match traffic-direction)

Full Context

configure application-assurance group policy app-qos-policy entry match traffic-direction

Description

This command specifies the direction of traffic where the AQP match entry will be applied.

To use a policer action with the AQP entry the match criteria must specify a traffic-direction of either subscriber-to-network or network-to-subscriber.

Default

traffic-direction both

Parameters

subscriber-to-network

Traffic from a local subscriber will match this AQP entry.

network-to-subscriber

Traffic to a local subscriber will match this AQP entry.

both

Combines subscriber-to-network and network-to-subscriber.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.50 traffic-engineering

traffic-engineering

Syntax

[**no**] **traffic-engineering**

Context

[Tree] (config>router>isis traffic-engineering)

Full Context

configure router isis traffic-engineering

Description

This command enables this IS-IS instance to advertise TE link attributes for RSVP-TE and SR-TE enabled interfaces.

Default

no traffic-engineering

Platforms

All

traffic-engineering

Syntax

[**no**] **traffic-engineering**

Context

[Tree] (config>router>ospf traffic-engineering)

Full Context

configure router ospf traffic-engineering

Description

This command enables the advertisement of the traffic engineering information for the router and its links.

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Traffic engineering enables the router to perform route calculations constrained by nodes or links. The traffic engineering of this router are limited to calculations based on link and nodal constraints.

The **no** form of this command disables the advertisement of the traffic engineering information.

Default

no traffic-engineering

Platforms

All

47.51 traffic-engineering-options

traffic-engineering-options

Syntax

[**no**] **traffic-engineering-options**

Context

[Tree] (config>router>isis traffic-engineering-options)

Full Context

configure router isis traffic-engineering-options

Description

Commands in this context configure advanced traffic-engineering options.

The **no** form of this command deletes the context.

Default

no traffic-engineering-options

Platforms

All

traffic-engineering-options

Syntax

[**no**] **traffic-engineering-options**

Context

[Tree] (config>router>ospf traffic-engineering-options)

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Full Context

configure router ospf traffic-engineering-options

Description

Commands in this context configure the advanced traffic-engineering options.

The **no** form of this command removes the context to configure the advanced traffic-engineering options.

Default

no traffic-engineering-options

Platforms

All

47.52 traffic-identification

traffic-identification

Syntax

traffic-identification

Context

[Tree] (config>service>vprn>nat>inside traffic-identification)

[Tree] (config>router>nat>inside traffic-identification)

Full Context

configure service vprn nat inside traffic-identification

configure router nat inside traffic-identification

Description

Commands in this context configure traffic idenification for NAT processing.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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47.53 traffic-threshold

traffic-threshold

Syntax

traffic-threshold *rate*

no traffic-threshold

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive>umh-rm traffic-threshold)

[Tree] (config>service>vprn>mvpn>pt>selective>umh-rm>group>source traffic-threshold)

Full Context

configure service vprn mvpn provider-tunnel inclusive umh-rate-monitoring traffic-threshold

configure service vprn mvpn provider-tunnel selective umh-rate-monitoring group source traffic-threshold

Description

This command configures the bandwidth threshold rate, below which the traffic is switched from the primary UMH to the standby UMH.

The **no** form of this command removes the configuration.

Parameters

rate

Specifies the bandwidth delta, in kb/s.

Values 1 to 4294967294

Platforms

All

47.54 traffic-type

traffic-type

Syntax

[**no**] **traffic-type**

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Context

[Tree] (config>app-assure>group>statistics>aa-partition traffic-type)

Full Context

configure application-assurance group statistics aa-partition traffic-type

Description

This command enables traffic type statistics collection within an aa-partition.

The no form of this command disables traffic type statistics collection.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.55 transceiver

transceiver

Syntax

transceiver

Context

[Tree] (config>port transceiver)

Full Context

configure port transceiver

Description

Commands in this context configure transceiver parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

47.56 transform

transform

Syntax

transform *transform-id* [*transform-id*]

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no transform

Context

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn transform)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn transform)

[Tree] (config>service>vprn>if>sap>ipsec-gw transform)

[Tree] (config>service>ies>if>sap>ipsec-gw transform)

[Tree] (config>ipsec>tnl-temp transform)

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn transform)

[Tree] (config>ipsec>trans-mode-prof>dyn transform)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel transform)

Full Context

configure router interface ipsec ipsec-tunnel dynamic-keying transform

configure service ies interface ipsec ipsec-tunnel dynamic-keying transform

configure service vprn interface sap ipsec-gw transform

configure service ies interface sap ipsec-gw transform

configure ipsec tunnel-template transform

configure service vprn interface ipsec ipsec-tunnel dynamic-keying transform

configure ipsec ipsec-transport-mode-profile dynamic-keying transform

configure service vprn interface sap ipsec-tunnel transform

Description

This command associates the IPsec transform sets allowed for this the CHILD_SA. A maximum of four transforms can be specified. The transforms are listed in decreasing order of preference (the first one specified is the most preferred).

The **no** form of this command removes the transform ID from the configuration.

Default

no transform

Parameters

transform-id

Specifies a number to identify a tranform used for CHILD_SA negotiation. Up to four transform ID can be specified.

Values 1 to 2048

Platforms

VSR

- configure service ies interface ipsec ipsec-tunnel dynamic-keying transform

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- configure service vprn interface ipsec ipsec-tunnel dynamic-keying transform
- configure router interface ipsec ipsec-tunnel dynamic-keying transform

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- configure ipsec ipsec-transport-mode-profile dynamic-keying transform
- configure service vprn interface sap ipsec-tunnel transform
- configure ipsec tunnel-template transform
- configure service vprn interface sap ipsec-gw transform
- configure service ies interface sap ipsec-gw transform

transform

Syntax

transform *transform-id* [*transform-id*]

no transform

Context

[Tree] (config>service>vprn>if>sap>ipsec-tun>dyn transform)

Full Context

configure service vprn interface sap ipsec-tunnel dynamic-keying transform

Description

This command associates the IPsec transform sets allowed for this tunnel. A maximum of four transforms can be specified. The transforms are listed in decreasing order of preference (the first one specified is the most preferred).

Default

no transform

Parameters

transform-id

Specifies the value used for transforms for dynamic keying.

Values 1 to 2048

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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47.57 transit

transit

Syntax

transit [**inherit** | **all** | **vc-only** | **none**]

Context

[Tree] (config>service>vprn>ttl-propagate transit)

Full Context

configure service vprn ttl-propagate transit

Description

This command overrides the global configuration of the TTL propagation for in transit packets which are forwarded over a MPLS LSPs in a given VPRN service context.

The global configuration is performed under config>router>ttl-propagate>vprn-transit.

The default behavior for a given VPRN instance is to inherit the global configuration for the same command. The user can explicitly set the default behavior by configuring the inherit value.

Default

transit inherit

Parameters

inherit

specifies the TTL propagation behavior is inherited from the global configuration under config>router>ttl-propagate>vprn-transit.

none

specifies the TTL of the IP packet is not propagated into the VC label or labels in the transport label stack.

vc-only

specifies the TTL of the IP packet is propagated into the VC label and not into the labels. in the transport label stack

all

specifies the TTL of the IP packet is propagated into the VC label and all labels in the transport label stack.

Platforms

All

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47.58 transit-auto-create

transit-auto-create

Syntax

transit-auto-create

Context

[Tree] (config>app-assure>group>transit-ip-policy transit-auto-create)

Full Context

configure application-assurance group transit-ip-policy transit-auto-create

Description

This command enables seen-IP auto creation of transit subscribers using the transit-IP-policy name and subscriber IP address as the AA-sub name. The default app-profile configured against the transit-ip-policy is applied to these subscribers.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.59 transit-delay

transit-delay

Syntax

transit-delay *seconds*

no transit-delay

Context

[Tree] (config>service>vprn>ospf3>area>virtual-link transit-delay)

[Tree] (config>service>vprn>ospf>area>sham-link transit-delay)

[Tree] (config>service>vprn>ospf>area>virtual-link transit-delay)

[Tree] (config>service>vprn>ospf3>area>if transit-delay)

[Tree] (config>service>vprn>ospf>area>if transit-delay)

Full Context

configure service vprn ospf3 area virtual-link transit-delay

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configure service vprn ospf area sham-link transit-delay

configure service vprn ospf area virtual-link transit-delay

configure service vprn ospf3 area interface transit-delay

configure service vprn ospf area interface transit-delay

Description

This command configures the estimated time, in seconds, that it takes to transmit a LSA on the interface or virtual link or sham-link.

The **no** form of this command reverts to the default delay time.

Default

transit-delay 1

Parameters

seconds

The transit delay in seconds expressed as a decimal integer.

Values 0 to 3600

Platforms

All

transit-delay

Syntax

transit-delay *seconds*

no transit-delay

Context

[Tree] (config>router>ospf3>area>virtual-link transit-delay)

[Tree] (config>router>ospf>area>virtual-link transit-delay)

[Tree] (config>router>ospf>area>interface transit-delay)

[Tree] (config>router>ospf3>area>interface transit-delay)

Full Context

configure router ospf3 area virtual-link transit-delay

configure router ospf area virtual-link transit-delay

configure router ospf area interface transit-delay

configure router ospf3 area interface transit-delay

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Description

This command configures the estimated time, in seconds, that it takes to transmit a link state advertisement (LSA) on the interface or virtual link.

The **no** form of this command reverts to the default delay time.

Default

transit-delay 1

Parameters

seconds

Specifies the transit delay in seconds expressed as a decimal integer.

Values 1 to 1800

Platforms

All

47.60 transit-ip-policy

transit-ip-policy

Syntax

transit-ip-policy *ip-policy-id* [**create**]

no transit-ip-policy *ip-policy-id*

Context

[Tree] (config>app-assure>group transit-ip-policy)

Full Context

configure application-assurance group transit-ip-policy

Description

This command defines a transit AA subscriber IP policy. Transit AA subscribers are managed by the system through the use of this policy assigned to services, which determines how transit subs are created and removed for that service.

The **no** form of this command deletes the policy from the configuration. All associations must be removed in order to delete a policy.

Parameters

ip-policy-id

An integer that identifies a transit IP profile entry.

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Values 1 to 65535

create

Keyword used to create the entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.61 transit-path

transit-path

Syntax

transit-path *path-name*

no transit-path

Context

[Tree] (config>router>mpls>mpls-tp transit-path)

Full Context

configure router mpls mpls-tp transit-path

Description

This command enables the configuration or editing of an MPLS-TP transit path at an LSR.

Default

no transit-path

Parameters

path-name

Specifies the template of up to 32 characters in printable 7-bit ASCII, enclosed in double quotes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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47.62 transit-policy

transit-policy

Syntax

transit-policy ip *ip-aasub-policy-id*

transit-policy prefix *prefix-aasub-policy-id*

no transit-policy

Context

[Tree] (config>service>vprn>if>spoke-sdp transit-policy)

[Tree] (config>service>ies>if>spoke-sdp transit-policy)

[Tree] (config>service>epipe>sap transit-policy)

[Tree] (config>service>vpls>sap transit-policy)

[Tree] (config>service>ies>if>sap transit-policy)

[Tree] (config>service>vpls>spoke-sdp transit-policy)

[Tree] (config>service>epipe>spoke-sdp transit-policy)

[Tree] (config>service>vprn>if>sap transit-policy)

Full Context

configure service vprn interface spoke-sdp transit-policy

configure service ies interface spoke-sdp transit-policy

configure service epipe sap transit-policy

configure service vpls sap transit-policy

configure service ies interface sap transit-policy

configure service vpls spoke-sdp transit-policy

configure service epipe spoke-sdp transit-policy

configure service vprn interface sap transit-policy

Description

This command associates a transit AA subscriber IP or prefix policy to the service. The transit policy must be defined prior to associating the policy with a SAP in the **config**>**app-assure**>**group**>**transit-ip-policy** or **transit-prefix-policy** context.

The **no** form of this command removes the association of the policy to the service.

Default

no transit-policy

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Parameters

ip-aasub-policy-id

Specifies a transit IP policy ID.

Values 1 to 65535

prefix-aasub-policy-id

Specifies a transit prefix policy ID.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

transit-policy

Syntax

transit-policy prefix *prefix-aasub-policy-id*

no transit-policy

Context

[Tree] (config>service>ipipe>sap transit-policy)

[Tree] (config>service>ipipe>spoke-sdp transit-policy)

Full Context

configure service ipipe sap transit-policy

configure service ipipe spoke-sdp transit-policy

Description

This command associates an AA transit policy to the service. The transit IP policy must be defined prior to associating the policy with a SAP in the **config>application assurance>group>policy>transit-ip-policy** context.

Transit AA subscribers are managed by the system through this service policy, which determines how transit subs are created and removed for that service.

The no form of this command removes the association of the policy to the service.

Default

no transit-policy

Parameters

prefix-aasub-policy-id

Specifies an integer identifying a prefix transit profile entry.

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Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.63 transit-prefix-ipv4-entries

transit-prefix-ipv4-entries

Syntax

transit-prefix-ipv4-entries *entries* [**create**]

no transit-prefix-ipv4-entries

Context

[Tree] (config>isa>aa-grp transit-prefix-ipv4-entries)

Full Context

configure isa application-assurance-group transit-prefix-ipv4-entries

Description

This command defines the number of transit-prefix IPv4 entries for an ISA.

The **no** form of this command removes the assignment of entries space from the configuration. All entries must be removed in order to delete the configuration.

Default

no transit-prefix-ipv4-entries

Parameters

entries

Specifies an integer that determines the number of transit-prefix-ipv4 entries.

Values 0 to 16383

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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47.64 transit-prefix-ipv6-entries

transit-prefix-ipv6-entries

Syntax

transit-prefix-ipv6-entries *entries* [**create**]

no transit-prefix-ipv6-entries

Context

[Tree] (config>isa>aa-grp transit-prefix-ipv6-entries)

Full Context

configure isa application-assurance-group transit-prefix-ipv6-entries

Description

This command configures the ISA-AA-group transit prefix IPv6 entry limit for each ISA in the group. This entry space is allocated on the IOM within a common area with the second MDA / ISA position of the IOM and also used for ipv6-filter entries for system SDPs. The per-ISA size allocated for transit-prefix-ipv6 entries should be set to allow sufficient space on the IOM for SDP ipv6-filters.

The **no** form of this command removes the assignment of entries space from the configuration. All entries must be removed in order to delete the configuration.

Default

no transit-prefix-ipv6-entries

Parameters

entries

Specifies the ISA-AA-Group transit prefix IPv6 entry limit.

Values 0 to 8191

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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47.65 transit-prefix-policy

transit-prefix-policy

Syntax

transit-prefix-policy *prefix-policy-id* [**create**]

no transit-prefix-policy *prefix-policy-id*

Context

[Tree] (config>app-assure>group transit-prefix-policy)

Full Context

configure application-assurance group transit-prefix-policy

Description

This command defines a transit aa subscriber prefix policy. Transit AA subscribers are managed by the system through the use of this policy assigned to services, which determines how transit subs are created and removed for that service.

The **no** form of this command deletes the policy from the configuration. All associations must be removed in order to delete a policy.

Parameters

prefix-policy-id

Indicates the transit prefix policy to which this subscriber belongs.

Values 1 to 65535

create

Mandatory keyword used when creating transit prefix policy. The create keyword requirement can be enabled/disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.66 transmission-profile

transmission-profile

Syntax

transmission-profile *name*

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no transmission-profile

Context

[Tree] (config>system>security>pki>ca-profile>ocsp transmission-profile)

Full Context

configure system security pki ca-profile ocsp transmission-profile

Description

This command specifies the transmission-profile for OCSP. When specified, this configuration overrides the **service** *service-id* or **service** *service-name* configured in the **config>system>security>pki>ca-profile>ocsp** context.

The **no** form of the command removes the profile name from the configuration.

Default

no transmission-profile

Parameters

name

Specifies the file transmission profile name, up to 32 characters.

Platforms

All

transmission-profile

Syntax

transmission-profile *name*

no transmission-profile

Context

[Tree] (config>system>security>pki>est-profile transmission-profile)

Full Context

configure system security pki est-profile transmission-profile

Description

This command specifies the transmission profile name created in the **config>system file-transmission-profile** context for the EST profile.

The **no** form of the command removes the name from the EST profile configuration.

Default

no transmission-profile

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Parameters

name

Specifies the file transmission profile name, up to 32 characters.

Platforms

All

47.67 transmit-interval

transmit-interval

Syntax

[**no**] **transmit-interval** *interval* [**multiplier** *multiplier*]

Context

[Tree] (config>port>ethernet>efm-oam transmit-interval)

Full Context

configure port ethernet efm-oam transmit-interval

Description

This command configures the transmit interval of OAM PDUs.

Default

transmit-interval 10 multiplier 5

Parameters

interval

Specifies the transmit interval, in 100 milliseconds.

Values 1 to 600

multiplier

Specifies the multiplier for transmit-interval to set local link down timer.

Values 2 to 5

Platforms

All

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transmit-interval

Syntax

transmit-interval *transmit-interval*

no transmit-interval

Context

[Tree] (config>lag>bfd>family transmit-interval)

Full Context

configure lag bfd family transmit-interval

Description

This command specifies the transmit timer used for micro-BFD session over the associated LAG links.

The **no** form of this command removes the transmit timer from the configuration.

Default

transmit-interval 100

Parameters

transmit-interval

Specifies the interval value, in milliseconds.

Values 10 to 100000

Default 100 for CPM3 or later, 1000 for all others

Platforms

All

transmit-interval

Syntax

transmit-interval *transmit-interval*

no transmit-interval

Context

[Tree] (config>router>bfd>bfd-template transmit-interval)

Full Context

configure router bfd bfd-template transmit-interval

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Description

This command specifies the transmit timer used for BFD packets. If the template is used for a BFD session on an MPLS-TP LSP, then this timer is used for CC packets.

The **no** form of this command reverts to the default value.

Default

transmit-interval 100

Parameters

transmit-interval

Specifies the transmit interval. The minimum interval that can be configured is hardware dependent.

Values 10 ms to 100,000 ms in 1 ms intervals

Default 10 ms for CPM3 or higher; 1 second for other hardware

Platforms

All

transmit-interval

Syntax

transmit-interval *transmit-interval*

no transmit-interval

Context

[Tree] (config>router>lsp-bfd>tail-end transmit-interval)

Full Context

configure router lsp-bfd tail-end transmit-interval

Description

This command configures the LSP BFD minimum transmit interval for the tail end of LSP BFD sessions.

The **no** form of this command reverts to the default value.

Default

transmit-interval 1000

Parameters

transmit-interval

Specifies the transmit interval, in milliseconds.

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Values 100 to 1000

Default 1000

Platforms

All

47.68 transmit-period

transmit-period

Syntax

transmit-period *seconds*

no transmit-period

Context

[Tree] (config>port>ethernet>dot1x transmit-period)

Full Context

configure port ethernet dot1x transmit-period

Description

This command configures the period after which the router sends a new EAPOL request message.

The **no** form of this command returns the value to the default.

Default

transmit-period 30

Parameters

seconds

Specifies the server transmit period in seconds.

Values 1 to 3600

Platforms

All

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47.69 transport

transport

Syntax

transport *transport-protocol*

no transport

Context

[Tree] (config>system>snmp transport)

Full Context

configure system snmp transport

Description

This command configures the transport protocol used by the SNMP agent.

The **no** form of this command removes the transport protocol.

Default

no transport

Parameters

transport-protocol

Specifies the transport protocol.

Values **udp** — Keyword to specify UDP only.
tcp — Keyword to specify TCP only.
both — Keyword to specify TCP and UDP.

Default udp

Platforms

All

transport

Syntax

transport *transport*

no transport

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Context

[Tree] (config>system>netconf>call-home>netconf-client transport)

Full Context

configure system netconf call-home netconf-client transport

Description

This command configures the transport type for the NETCONF client.

The **no** form of this command disables the transport type.

Default

transport ssh

Parameters

transport

Keyword to specify the transport type.

Default ssh

Platforms

All

47.70 transport-address

transport-address

Syntax

transport-address {**interface** | **system**}

no transport-address

Context

[Tree] (config>router>ldp>if-params>if>ipv6 transport-address)

[Tree] (config>router>ldp>if-params>ipv6 transport-address)

[Tree] (config>router>ldp>if-params>ipv4 transport-address)

[Tree] (config>router>ldp>if-params>if>ipv4 transport-address)

Full Context

configure router ldp interface-parameters interface ipv6 transport-address

configure router ldp interface-parameters ipv6 transport-address

configure router ldp interface-parameters ipv4 transport-address

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configure router ldp interface-parameters interface ipv4 transport-address

Description

This command configures the transport address to be used when setting up the LDP TCP sessions. The transport address can be configured as **interface** or **system**. The transport address can be configured globally (applies to all LDP interfaces) or per interface. The most specific value is used.

The **config**>**router**>**ldp**>**if-params**>**ipv6**> **transport-address** command is not supported on the 7450 ESS.

With the transport-address command, you can set up the LDP interface to the connection which can be set to the interface address or the system address. However, there can be an issue of which address to use when there are parallel adjacencies. This situation can not only happen with parallel links, it could be a link and a targeted adjacency since targeted adjacencies request the session to be set up only to the system IP address.

The **transport-address** value should not be **interface** if multiple interfaces exist between two LDP neighbors. Depending on the first adjacency to be formed, the TCP endpoint is chosen. In other words, if one LDP interface is set up as **transport-address interface** and another for **transport-address system**, then, depending on which adjacency was set up first, the TCP endpoint addresses are determined. After that, because the hello contains the LSR ID, the LDP session can be checked to verify that it is set up and then match the adjacency to the session.

For any iLDP interface, as the **local-lsr-id** parameters is changed to **interface**, the **transport-address** configuration loses effectiveness. Since it will be ignored and the iLDP session will always use the relevant interface IP address as transport-address even though system is chosen.

The **no** form of this command, at the global level, sets the transport address to the default value.

The **no** form of this command, at the interface level, sets the transport address to the value defined under the global level.

Default

system

Parameters

interface

Specifies the IP interface address is used to set up the LDP session between neighbors. The transport address interface cannot be used if multiple interfaces exist between two neighbors, since only one LDP session is set up between two neighbors.

system

Specifies the system IP address is used to set up the LDP session between neighbors.

Platforms

All

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47.71 transport-encryption

transport-encryption

Syntax

transport-encryption

Context

[Tree] (config>redundancy>multi-chassis>peer>sync transport-encryption)

Full Context

configure redundancy multi-chassis peer sync transport-encryption

Description

Commands in this context configure MCS applications that need to encrypt synchronized states for transportation .

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

47.72 transport-tunnel

transport-tunnel

Syntax

transport-tunnel

Context

[Tree] (config>router>bgp>next-hop-res>labeled-routes transport-tunnel)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel

Description

Commands in this context configure options for the next-hop resolution of BGP labeled routes (VPN-IP and labeled-unicast) using tunnels in TTM. The context allows the selection of different tunnel resolution options for different types of BGP labeled routes: label-unicast IPv4, label-unicast IPv6, and VPN-IP routes (both VPN-IPv4 and VPN-IPv6).

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By default (if this context and the resolution options are not configured), these routes resolve only to LDP tunnels.

If the **resolution** option is explicitly set to **disabled**, the default binding to LDP tunnel resumes. If **resolution** is set to **any**, then any supported tunnel type is allowed and the selection is based on the lowest numerical TTM preference value.

Platforms

All

47.73 transport-type

transport-type

Syntax

transport-type {**ip**}

no transport-type

Context

[Tree] (config>router>l2tp>l2tpv3 transport-type)

[Tree] (config>service>vprn>l2tp>l2tpv3 transport-type)

Full Context

configure router l2tp l2tpv3 transport-type

configure service vprn l2tp l2tpv3 transport-type

Description

This command configures the transport type to be used to carry the L2TPv3 tunnel. Currently, only IP transport is supported.

The **no** form of this command returns the **transport-type** to the default value.

Default

no transport-type

Parameters

ip

Specifies that IP should be used as the transport type for the L2TPv3 tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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47.74 trap-gen

trap-gen

Syntax

trap-gen

Context

[Tree] (config>saa>test trap-gen)

Full Context

configure saa test trap-gen

Description

Commands in this context configure trap generation for the SAA test.

Platforms

All

47.75 trap-target

trap-target

Syntax

trap-target name address *ip-address* [**port port**] [**snmpv1** | **snmpv2c** | **snmpv3**] **notify-community** *communityName* | *snmpv3SecurityName* [**security-level** {**no-auth-no-privacy** | **auth-no-privacy** | **privacy**}] [**replay**]

no trap-target *name*

Context

[Tree] (config>service>vprn>log>snmp-trap-group trap-target)

Full Context

configure service vprn log snmp-trap-group trap-target

Description

This command adds/modifies a trap receiver and configures the operational parameters for the trap receiver. A trap reports significant events that occur on a network device such as errors or failures.

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Before an SNMP trap can be issued to a trap receiver, the **log-id**, **snmp-trap-group**, and at least one **snmp-trap-group** must be configured.

The **snmp-trap-group** command is used to add or remove a trap receiver from an **snmp-trap-group**. The operational parameters specified in the command include:

- The IP address of the trap receiver
- The UDP port used to send the SNMP trap
- SNMP version
- SNMP community name for SNMPv1 and SNMPv2c receivers.
- Security name and level for SNMPv3 trap receivers.

A single **snmp-trap-group** *log-id* can have multiple trap-receivers. Each trap receiver can have different operational parameters.

An address can be configured as a trap receiver more than once as long as a different port is used for each instance.

To prevent resource limitations, only configure a maximum of 10 trap receivers.

If the same **trap-target** *name* **port** *port* parameter value is specified in more than one SNMP trap group, each trap destination should be configured with a different *notify-community* value. This allows a trap receiving an application, such as NMS, to reconcile a separate event sequence number stream for each router event log when multiple event logs are directed to the same IP address and port destination.

The **no** form of this command removes the SNMP trap receiver from the SNMP trap group.

Default

No SNMP trap targets are defined.

Parameters

name

specifies the name of the trap target up to 28 characters in length

address ***ip-address***

The IP address of the trap receiver in dotted decimal notation. Only one IP address destination can be specified per trap destination group.

Values		
	ipv4-address	a.b.c.d (host bits must be 0)
	ipv6-address	x:x:x:x:x:x:x:x[-interface]
		x:x:x:x:x:x:d.d.d.d[-interface]
		x: [0 to FFFF]H
		d: [0 to 255]D
		interface: 32 characters maximum, mandatory for link local addresses

The ipv6-address applies to the 7750 SR.

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port

Specifies the destination UDP port used to send traps to the destination, expressed as a decimal integer. Only one port can be specified per **trap-target** statement. If multiple traps need to be issued to the same address then multiple ports must be configured.

Values 1 to 65535

Default 162

snmpv1* | *snmpv2c* | *snmpv3

Specifies the SNMP version format to use for traps sent to the trap receiver.

The keyword **snmpv1** selects the SNMP version 1 format. When specifying **snmpv1**, the **notify-community** must be configured for the proper SNMP community string that the trap receiver expects to be present in alarms and traps messages. If the SNMP version is changed from **snmpv3** to **snmpv1,** then the **notify-community** parameter must be changed to reflect the community string rather than the *security-name* that is used by **snmpv3**.

The keyword **snmpv2c** selects the SNMP version 2c format. When specifying **snmpv2c**, the **notify-community** must be configured for the proper SNMP community string that the trap receiver expects to be present in alarms and traps messages. If the SNMP version is changed from **snmpv3** to **snmpv2c,** then the **notify-community** parameter must be changed to reflect the community string rather than the *security-name* that is used by **snmpv3**.

The keyword **snmpv3** selects the SNMP version 3 format. When specifying **snmpv3**, the **notify-community** must be configured for the SNMP *security-name*. If the SNMP version is changed from **snmpv1** or **snmpv2c** to **snmpv3**, then the **notify-community** parameter must be changed to reflect the *security-name* rather than the community string used by **snmpv1** or **snmpv2c**.

Pre-existing conditions are checked before the snmpv3SecurityName is accepted. These are:

- The username must be configured.
- The v3 access group must be configured.
- The v3 notification view must be configured.

Values snmpv1, snmpv2c, snmpv3

Default snmpv3

notify-community community* | *security-name

Specifies the community string for **snmpv1** or **snmpv2c** or the **snmpv3** *security-name*. If no **notify-community** is configured, then no alarms nor traps will be issued for the trap destination. If the SNMP version is modified, the **notify-community** must be changed to the proper form for the SNMP version.

community

The community string as required by the **snmpv1** or **snmpv2c** trap receiver. Allowed values are any string up to 31 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (for example, #, $, spaces), the entire string must be enclosed within double quotes.

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security-name

The *security-name* as defined in the config>system>security>user context for SNMP v3. The *security-name* can be an ASCII string up to 31 characters in length.

security-level {no-auth-no-privacy | auth-no-privacy | privacy}

Specifies the required authentication and privacy levels required to access the views configured on this node when configuring an **snmpv3** trap receiver.

The keyword **no-auth-no-privacy** specifies no authentication and no privacy (encryption) are required.

The keyword **auth-no-privacy** specifies authentication is required but no privacy (encryption) is required. When this option is configured the *security-name* must be configured for **authentication**.

The keyword **privacy** specifies both authentication and privacy (encryption) is required. When this option is configured the *security-name* must be configured for **authentication** and **privacy**.

Values no-auth-no-privacy, auth-no-privacy, privacy

Default no-auth-no-privacy. This parameter can only be configured if SNMPv3 is also configured.

replay

Enable replay of missed events to target. If replay is applied to an SNMP trap target address, the address is monitored for reachability. Reachability is determined by whether or not there is a route in the routing table by which the target address can be reached. Before sending a trap to a target address, the SNMP module asks the PIP module if there is either an in-band or out-of-band route to the target address. If there is no route to the SNMP target address, the SNMP module saves the sequence-id of the first event that will be missed by the trap target. When the routing table changes again so that there is now a route by which the SNMP target address can be reached, the SNMP module replays (for example, retransmits) all events generated to the SNMP notification log while the target address was removed from the route table. Because of route table change convergence time, it is possible that one or more events may be lost at the beginning or end of a replay sequence. The cold-start-wait and route-recovery-wait timers under config>log>app-route-notifications can help reduce the probability of lost events.

Platforms

All

trap-target

Syntax

trap-target *name* [**address** *ip-address*] [**port** *port*] [**snmpv1** | **snmpv2c** | **snmpv3**] **notify-community** *communityName* | *snmpv3SecurityName* [**security-level** {**no-auth-no-privacy** | **auth-no-privacy** | **privacy**}] [**replay**]

no trap-target *name*

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Context

[Tree] (config>log>snmp-trap-group trap-target)

Full Context

configure log snmp-trap-group trap-target

Description

This command configures a trap receiver and configures the operational parameters for the trap receiver. A trap reports significant events that occur on a network device such as errors or failures.

Before an SNMP trap can be issued to a trap receiver, the **log-id**, **snmp-trap-group** and at least one **trap-target** must be configured.

The **trap-target** command is used to add/remove a trap receiver from an **snmp-trap-group**. The operational parameters specified in the command include:

- The IP address of the trap receiver
- The UDP port used to send the SNMP trap
- SNMP version
- SNMP community name for SNMPv1 and SNMPv2c receivers.
- Security name and level for SNMPv3 trap receivers.

A single **snmp-trap-group** *log-id* can have multiple trap-receivers. Each trap receiver can have different operational parameters.

An address can be configured as a trap receiver more than once as long as a different port is used for each instance.

To prevent resource limitations, only configure a maximum of 10 trap receivers.

Note:
If the same **trap-target** *name* **port** *port* parameter value is specified in more than one SNMP trap group, each trap destination should be configured with a different *notify-community* value. This allows a trap receiving an application, such as NMS, to reconcile a separate event sequence number stream for each router event log when multiple event logs are directed to the same IP address and port destination.

The **no** form of this command removes the SNMP trap receiver from the SNMP trap group.

Parameters

name

Specifies the name of the trap target, up to 28 characters.

ip-address

Specifies the IP address of the trap receiver in dotted decimal notation. Only one IP address destination can be specified per trap destination group. ipv6 applies to the 7750 SR only.

Values

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x[-interface]

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x:x:x:x:x:x:d.d.d.d[-interface]

x: [0..FFFF]H

d: [0..255]D

interface: 32 characters maximum, mandatory for link local addresses

port

Specifies the destination UDP port used for sending traps to the destination, expressed as a decimal integer. Only one port can be specified per **trap-target** statement. If multiple traps need to be issued to the same address then multiple ports must be configured.

Default 162

Values 1 **to** 65535

snmpv1* | *snmpv2c* | *snmpv3

Specifies the SNMP version format to use for traps sent to the trap receiver.

The keyword **snmpv1** selects the SNMP version 1 format. When specifying **snmpv1**, the **notify-community** must be configured for the proper SNMP community string that the trap receiver expects to be present in alarms and traps messages. If the SNMP version is changed from **snmpv3** to **snmpv1,** then the **notify-community** parameter must be changed to reflect the community string rather than the *security-name* that is used by **snmpv3**.

The keyword **snmpv2c** selects the SNMP version 2c format. When specifying **snmpv2c**, the **notify-community** must be configured for the proper SNMP community string that the trap receiver expects to be present in alarms and traps messages. If the SNMP version is changed from **snmpv3** to **snmpv2c,** then the **notify-community** parameter must be changed to reflect the community string rather than the *security-name* that is used by **snmpv3**.

The keyword **snmpv3** selects the SNMP version 3 format. When specifying **snmpv3**, the **notify-community** must be configured for the SNMP *security-name*. The security name is the name of a locally configured user. If the SNMP version is changed from **snmpv1** or **snmpv2c** to **snmpv3**, then the **notify-community** parameter must be changed to reflect the *security-name* rather than the community string used by **snmpv1** or **snmpv2c**.

The following conditions must all be met before traps will be issued using an SNMPv3 trap-target:

The user name must be configured, and must be configured with an snmp group that exists.

The v3 access group must be configured, or be one of the built-in SR OS views.

The v3 notification view must be configured, or be one of the built-in SR OS views.

Default snmpv3

Values snmpv1, snmpv2c, snmpv3

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community* | *security-name

Specifies the community string for **snmpv1** or **snmpv2c** or the **snmpv3** *security-name*. If the **notify-community** is not configured, then no alarms or traps will be issued for the trap destination. If the SNMP version is modified, the **notify-community** must be changed to the proper form for the SNMP version.

community-name

Specifies the community string as required by the **snmpv1** or **snmpv2c** trap receiver. Allowed values are any string up to 31 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (for example, #, $, spaces), the entire string must be enclosed within double quotes.

security-name

For SNMPv3 trap targets, specifies the *security-name* as defined in the **config>system>security>user** context. The *security-name* can be an ASCII string up to 31 characters in length.

security-level {no-auth-no-privacy | auth-no-privacy | privacy}

Specifies the required authentication and privacy levels required to access the views configured on this node when configuring an **snmpv3** trap receiver.

The keyword **no-auth-no-privacy** specifies no authentication and no privacy (encryption) are required.

The keyword **auth-no-privacy** specifies authentication is required but no privacy (encryption) is required. When this option is configured the *security-name* must be configured for **authentication**.

The keyword **privacy** specifies both authentication and privacy (encryption) is required. When this option is configured the *security-name* must be configured for **authentication** and **privacy**.

Default **no-auth-no-privacy**. This parameter can only be configured if SNMPv3 is also configured.

Values no-auth-no-privacy, auth-no-privacy, privacy

replay

Enables the replay of missed events to target. If replay is applied to an SNMP trap target address, the address is monitored for reachability. Reachability is determined by whether or not there is a route in the routing table by which the target address can be reached. Before sending a trap to a target address, the SNMP module asks the PIP module if there is either an in-band or out-of-band route to the target address. If there is no route to the SNMP target address, the SNMP module saves the sequence-id of the first event that will be missed by the trap target. When the routing table changes again so that there is now a route by which the SNMP target address can be reached, the SNMP module replays (for example, retransmits) all events generated to the SNMP notification log while the target address was removed from the route table.

Note:
Due to route table change convergence time, it is possible that one or more events may be lost at the beginning or end of a replay sequence. The cold-

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start-wait and route-recovery-wait timers under the **config>log>app-route-notifications** context can help reduce the probability of lost events.

Platforms

All

47.76 tree

tree

Syntax

tree [**detail**] [**flat**]

Context

[Tree] (tree)

Full Context

tree

Description

This command displays the command hierarchy structure of the current working context.

Parameters

detail

Displays parameter information for each command shown in the tree output.

flat

Displays the full context on each line.

Platforms

All

47.77 tree-id

tree-id

Syntax

tree-id *tree-id*

no tree-id

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Context

[Tree] (config>router>p2mp-sr-tree>p2mp-policy tree-id)

Full Context

configure router p2mp-sr-tree p2mp-policy tree-id

Description

This command configures the P2MP SR tree ID on the root node of the P2MP policy. The root tree ID and the root address uniquely identify the P2MP policy on the root node.

The **no** form of this command removes the root tree ID entry.

Default

no tree-id

Parameters

tree-id

Specifies the ID of the tree.

Values 8193 to 16286

Platforms

All

tree-id

Syntax

tree-id *tree-id*

no tree-id

Context

[Tree] (config>router>p2mp-sr-tree>replication-segment tree-id)

Full Context

configure router p2mp-sr-tree replication-segment tree-id

Description

This command configures the tree ID for the replication segment of the P2MP SR tree.

The **no** form of this command removes the tree ID from the replication segment.

Default

no tree-id

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Parameters

tree-id

Specifies the tree ID.

Values 8193 to 16286

Platforms

All

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48 t Commands – Part III

48.1 trigger

trigger

Syntax

trigger *trigger-type*

Context

[Tree] (config>subscr-mgmt>shcv-policy trigger)

Full Context

configure subscriber-mgmt shcv-policy trigger

Description

This command enables to context to configure SHCV triggers.

Parameters

trigger-type

Specifies the trigger SHCV properties for the subscriber management group-interface.

Values **ip-conflict** — Upon detecting an IP conflict for the new host, a trigger SHCV is sent using a unicast ARP/NS. The request verifies the old host's connectivity to the BNG. An unresponsive host is removed from the system, allowing the new host to connect. The new host must resend its address request in order to be created as an ESM host in the system.

host-limit-exceeded — Upon exceeding the limit for (**sla-profile host-limits** or **session-limits**, **sub-profile host-limits** or **session-limits**, **ipoe-session sap-session-limit**, **ipoe-session session-limit**, and **arp-host host-limit**), a trigger SHCV is sent. The request verifies the old host's connectivity to the BNG. An unresponsive host is removed from the system, allowing the new host to connect. The new host must resend its address request in order to be created as an ESM host in the system.

inactivity — A trigger SHCV is sent to the idle host to verify the host's connectivity to the BNG. An unresponsive host is removed from the system.

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mobility — Detects an IP or MAC conflict between different SAPs. Upon detecting a MAC or an IP conflict, a trigger SHCV is sent. The request verifies the old host's connectivity to the BNG. An unresponsive host is removed from the system, allowing the new host to connect. The new host must resend its address request in order to be created as an ESM host in the system.

mac-learning — Specifies the trigger SHCV properties to learn the MAC address of static hosts. Upon a **no shutdown**, a trigger SHCV is sent to the host to learn the host's MAC address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

trigger

Syntax

trigger [**data**] [**iapp**] [**control**]

no trigger

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>mobility trigger)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>mobility trigger)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw mobility trigger

configure service ies subscriber-interface group-interface wlan-gw mobility trigger

Description

This command specifies the type of packet used as a mobility trigger.

The **no** form of this command removes the parameters from the configuration and disables data-plane mobility.

Parameters

data

Specifies that data traffic be used as a trigger.

iapp

Specifies that Inter Access Point Protocol (IAPP) messages be used as a trigger.

control

Specifies that control traffic can be used as a trigger.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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trigger

Syntax

[**no**] **trigger** [**neighbor** *ip-int-name* | *ip-address*]

Context

[Tree] (debug>router>rip trigger)

Full Context

debug router rip trigger

Description

This command enables debugging for RIP trigger updates.

Parameters

ip-int-name* | *ip-address

Debugs the RIP updates sent on the neighbor IP address or interface.

Platforms

All

trigger

Syntax

[**no**] **trigger** [**neighbor** *ip-int-name* | *ipv6-address*]

Context

[Tree] (debug>router>ripng trigger)

Full Context

debug router ripng trigger

Description

This command enables debugging for RIP trigger updates.

Parameters

ip-int-name*| *ipv6-address

Debugs the RIP updates sent on the neighbor IP address or interface.

Platforms

All

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48.2 trigger-alarm-msg

trigger-alarm-msg

Syntax

trigger-alarm-msg *message-string*

no trigger-alarm-msg

Context

[Tree] (config>system>alarm-contact-input trigger-alarm-msg)

Full Context

configure system alarm-contact-input trigger-alarm-msg

Description

This command configures a message string to send with SNMP trap and log event messages that are generated when the system generates an alarm. The system generates the default message "Alarm Input Triggered" if no message is configured. The **trigger-alarm-msg** string is included in the log event when the pin changes from the normal state.

The **no** form of this command reverts to the default message "Alarm Input Triggered".

Default

no-trigger-alarm-msg

Parameters

message-string

Specifies a printable character string, up to 160 characters.

Platforms

7750 SR-a

48.3 trigger-entry

trigger-entry

Syntax

[**no**] **trigger-entry** *entry-id*

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Context

[Tree] (config>log>event-trigger>event trigger-entry)

Full Context

configure log event-trigger event trigger-entry

Description

This command configures an instance of a trigger for an EHS handler. A trigger entry binds a set of matching criteria for a log event to a particular handler. If the log event occurs in the system and matches the criteria configured in the associated log filter then the handler will be executed.

The **no** form of this command removes the specified trigger entry.

Parameters

entry-id

Specifies the identifier of the EHS event trigger entry.

Values 1 to 1500

Platforms

All

48.4 trigger-fault

trigger-fault

Syntax

trigger-fault {**dying-gasp** | **critical-event**}

no trigger-fault

Context

[Tree] (config>port>ethernet>efm-oam trigger-fault)

Full Context

configure port ethernet efm-oam trigger-fault

Description

This command configures the appropriate flag field in the Information OAM PDU, bursting three consecutive packets during the off cycle. If the local port state is operational, this command changes the local port state to "Link Up". If the local port state is not operational, this configuration is installed as an EFM reason to prevent the port from returning to an Up operational state. This command can be used as a precursor to a port shutdown. This terminates the peering relationship without having to wait for protocol

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timeouts, assuming the peer supports the necessary action when receiving the dying gasp or critical event flag setting.

The **no** form of this command disables this functionality.

Default

no trigger-fault

Parameters

dying-gasp

Keyword to set the dying gasp flag.

critical-event

Keyword to set the critical event flag.

Platforms

All

48.5 trigger-packet

trigger-packet

Syntax

trigger-packet [**dhcp**] [**pppoe**] [**arp**] [**dhcp6**] [**rtr-solicit**] [**data**]

no trigger-packet

Context

[Tree] (config>service>vpls>sap trigger-packet)

Full Context

configure service vpls sap trigger-packet

Description

This command enables triggering packet to initiate RADIUS authentication that provides a service context. The authentication, together with the service context for this request, creates a managed SAP. The VLAN is the same as the triggering packet. This SAP behaves as a regular SAP but the configuration is not user-editable and not maintained in the configuration file. The managed SAP remains active as long as the session is active.

The **no** form of this command reverts to the default.

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Parameters

dhcp

Specifies whether the receipt of DHCP trigger packets on this VPLS SAP when the keyword **capture-sap** is specified in the **sap** command creation string, will result in a RADIUS authentication that will provide a service context and the creation of a SAP with a value of managed.

pppoe

Specifies whether the receipt of PPPoE trigger packets on this VPLS SAP when the keyword **capture-sap** is specified in the **sap** command creation string, will result in a RADIUS authentication that will provide a service context and the creation of a SAP with a value of managed.

arp

Indicates that ARP is the type of trigger packets for this entry.

dhcp6

Indicates that DHCP6 is the type of trigger packets for this entry.

rtr-solicit

Indicates that router solicit is the type of trigger packets for this entry.

data

Indicates that data is the type of trigger packets for this entry.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

trigger-packet

Syntax

[**no**] **trigger-packet**

Context

[Tree] (config>subscr-mgmt>git trigger-packet)

Full Context

configure subscriber-mgmt group-interface-template trigger-packet

Description

This command configures the router to process the specified types of trigger packets on dynamic SAPs.

The **no** form of this command disables the processing of trigger packets.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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48.6 triggered-policy

triggered-policy

Syntax

[**no**] **triggered-policy**

Context

[Tree] (config>router triggered-policy)

Full Context

configure router triggered-policy

Description

This command triggers route policy re-evaluation.

By default, when a change is made to a policy in the **config router policy options** context and then committed, the change is effective immediately. There may be circumstances when the changes should or must be delayed; for example, if a policy change is implemented that would affect every BGP peer on a router, the consequences could be dramatic. It is more effective to control changes on a peer by peer basis.

If the **triggered-policy** command is enabled, and a given peer is established, and you want the peer to remain up, then, in order for a change to a route policy to take effect, a **clear** command with the *soft* or *soft-inbound* option must be used. In other words, when a **triggered-policy** is enabled, any routine policy change or policy assignment change within the protocol will not take effect until the protocol is reset or a clear command is issued to re-evaluate route policies; for example, **clear router bgp neighbor x.x.x.x soft**. This keeps the peer up and the change made to a route policy is applied only to that peer, or group of peers.

Default

no triggered-policy

Platforms

All

48.7 triggered-updates

triggered-updates

Syntax

triggered-updates

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Context

[Tree] (config>subscr-mgmt>acct-plcy triggered-updates)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates

Description

Commands in this context configure non-periodic accounting updates that are triggered by specific events.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

48.8 trust-anchor

trust-anchor

Syntax

[**no**] **trust-anchor** *ca-profile-name*

Context

[Tree] (config>ipsec>trust-anchor-profile trust-anchor)

Full Context

configure ipsec trust-anchor-profile trust-anchor

Description

This command specifies a CA profile as a trust anchor CA. Up to 8 multiple trust anchors can be specified in a single trust anchor profile.

The **no** form of this command removes the name from the configuration.

Parameters

ca-profile-name

Specifies the name of the trust anchor profile, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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trust-anchor

Syntax

[**no**] **trust-anchor** *ca-profile-name*

Context

[Tree] (config>system>security>tls>trust-anchor-profile trust-anchor)

Full Context

configure system security tls trust-anchor-profile trust-anchor

Description

This command configures a trust anchor with a CA profile used by the TLS profile. Up to eight CA profiles can be configured under the trust anchor. TLS will read the CA profiles one by one to try to authenticate the server certificate.

Parameters

ca-profile-name

Specifies the name of the TLS trust anchor, up to 32 characters.

Platforms

All

48.9 trust-anchor-profile

trust-anchor-profile

Syntax

trust-anchor-profile *name* [**create**]

no trust-anchor-profile *name*

Context

[Tree] (config>ipsec trust-anchor-profile)

Full Context

configure ipsec trust-anchor-profile

Description

This command specifies the trust anchor profile name for the IPsec tunnel or IPsec GW.

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Default

no trust-anchor-profile

Parameters

name

Specifies the name of trust anchor profile up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

trust-anchor-profile

Syntax

trust-anchor-profile *name*

no trust-anchor-profile

Context

[Tree] (config>service>vprn>if>ipsec>ipsec-tunnel>dyn>cert trust-anchor-profile)

[Tree] (config>service>vprn>if>sap>ipsec-gw>cert trust-anchor-profile)

[Tree] (config>service>ies>if>sap>ipsec-gw>cert trust-anchor-profile)

[Tree] (config>ipsec>trans-mode-prof>dyn>cert trust-anchor-profile)

[Tree] (config>router>if>ipsec>ipsec-tunnel>dyn>cert trust-anchor-profile)

[Tree] (config>service>vprn>if>sap>ipsec-tunnel>cert trust-anchor-profile)

[Tree] (config>service>ies>if>ipsec>ipsec-tunnel>dyn>cert trust-anchor-profile)

Full Context

configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert trust-anchor-profile

configure service vprn interface sap ipsec-gw cert trust-anchor-profile

configure service ies interface sap ipsec-gw cert trust-anchor-profile

configure ipsec ipsec-transport-mode-profile dynamic-keying cert trust-anchor-profile

configure router interface ipsec ipsec-tunnel dynamic-keying cert trust-anchor-profile

configure service vprn interface sap ipsec-tunnel cert trust-anchor-profile

configure service ies interface ipsec ipsec-tunnel dynamic-keying cert trust-anchor-profile

Description

This command specifies the name of trust anchor profile used for certificate authentication.

The **no** form of this command removes the name from the configuration.

Default

no trust-anchor-profile

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Parameters

name

Specifies the name of trust anchor profile, up to 32 characters.

Platforms

VSR

- configure router interface ipsec ipsec-tunnel dynamic-keying cert trust-anchor-profile
- configure service ies interface ipsec ipsec-tunnel dynamic-keying cert trust-anchor-profile
- configure service vprn interface ipsec ipsec-tunnel dynamic-keying cert trust-anchor-profile

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn interface sap ipsec-gw cert trust-anchor-profile
- configure service ies interface sap ipsec-gw cert trust-anchor-profile
- configure ipsec ipsec-transport-mode-profile dynamic-keying cert trust-anchor-profile

trust-anchor-profile

Syntax

trust-anchor-profile *name*

no trust-anchor-profile

Context

[Tree] (config>system>security>tls>client-tls-profile trust-anchor-profile)

[Tree] (config>system>security>tls>server-tls-profile>authenticate-client trust-anchor-profile)

Full Context

configure system security tls client-tls-profile trust-anchor-profile

configure system security tls server-tls-profile authenticate-client trust-anchor-profile

Description

This command assigns the trust anchor used by this TLS profile to authenticate the server or client.

The **no** form of the command removes the configured trust anchor profile.

Parameters

name

Specifies the name of the trust anchor profile.

Platforms

All

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trust-anchor-profile

Syntax

trust-anchor-profile *name* [**create**]

no trust-anchor-profile *name*

Context

[Tree] (config>system>security>tls trust-anchor-profile)

Full Context

configure system security tls trust-anchor-profile

Description

This command configures a trust anchor profile to be used in the TLS profile. The trust anchor is used for authentication of the server certificate.

Parameters

name

Specifies the name of the trust anchor profile, up to 32 characters.

create

Keyword used to create the trust anchor profile.

Platforms

All

48.10 trusted

trusted

Syntax

[**no**] **trusted**

Context

[Tree] (config>router>if>dhcp trusted)

[Tree] (config>service>vprn>if>dhcp trusted)

[Tree] (config>service>ies>sub-if>grp-if>dhcp trusted)

[Tree] (config>service>ies>if>dhcp trusted)

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Full Context

configure router interface dhcp trusted

configure service vprn interface dhcp trusted

configure service ies subscriber-interface group-interface dhcp trusted

configure service ies interface dhcp trusted

Description

This command enables relaying untrusted packets. According to RFC 3046, *DHCP Relay Agent Information Option*, a DHCP request where the giaddr is 0.0.0.0 and which contains an Option 82 field in the packet, should be discarded, unless it arrives on a "trusted" circuit. If the **trusted** mode is enabled on an IP interface, the Relay Agent (the router) modifies the requested giaddr to be equal to the ingress interface and forward the request.

The **no** form of this command reverts to the default.

Default

no trusted

Platforms

All

- configure service ies interface dhcp trusted
- configure router interface dhcp trusted
- configure service vprn interface dhcp trusted

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface dhcp trusted

48.11 trusted-mac-time

trusted-mac-time

Syntax

trusted-mac-time *range*

Context

[Tree] (config>service>vpls>bgp-evpn>mac-duplication trusted-mac-time)

Full Context

configure service vpls bgp-evpn mac-duplication trusted-mac-time

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Description

This command determines how long a MAC address needs to stay in the FDB as type learned without being flushed or changed in its type so that the MAC is declared as trusted for the mac-duplication procedures. If the MAC changes from SAP to SAP within the same VPLS service and node, the MAC does not reset its trusted MAC timer.

Default

trusted-mac-time 5

Parameters

range

Specifies the time, in minutes, before the MAC address can be flushed from the FDB.

Values 1 to 15

Platforms

All

48.12 trusted-server

trusted-server

Syntax

trusted-server *address* [**create**]

[**no**] **trusted-server** *address*

Context

[Tree] (config>app-assure>group>ip-id-asst>pdns trusted-server)

Full Context

configure application-assurance group ip-identification-assist passive-dns trusted-server

Description

Commands in this context configure a DNS server that the IP identification assist feature is allowed to passively monitor.

The **no** form of this command deletes the DNS server.

Parameters

address

Specifies the IPv4 or IPv6 address for the DNS server.

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Values	ipv4-address:	a.b.c.d
	ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.13 ts-list

ts-list

Syntax

ts-list *list-name* [**create**]

no ts-list *list-name*

Context

[Tree] (config>ipsec ts-list)

Full Context

configure ipsec ts-list

Description

This command creates a new traffic selector (TS).

The **no** form of this command removes the list name from the configuration.

Parameters

list-name

Specifies the name of the TS-list.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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48.14 ts-location

ts-location

Syntax

ts-location *file-url*

no ts-location

Context

[Tree] (config>system>security>tech-support ts-location)

Full Context

configure system security tech-support ts-location

Description

The **ts-location** command is used (along with an automatic system generated file name) when no *file-url* parameter is provided for the **admin tech-support** command. If **no ts-location** is defined then the operator must provide a file-url with the **admin tech-support** command itself.

The directory specified for the ts-location is not auto-created by SR OS. The operator must ensure that it exists.

See the **admin tech-support** command for more details about the system generated file name.

Default

no ts-location

Parameters

file-url

Specifies the destination directory for auto-named tech-support files (when no *file-url* is specified with the **admin tech-support** command). The *file-url* for the **ts-location** must be a directory (no filename or extension). The root directory (for example, cf1:\) is blocked for local compact flash destinations. A sub-directory (for example, cf2:\tech-support) must be used if local cf is the location.

Values

local-url | *remote-url*	
local-url	[*cflash-id*/][*file-path*] 200 chars max, including cflash-id
	directory length 99 chars max each
remote-url	[ftp://*login:pswd@remote-locn*/][*file-path*]
	247 chars max

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	directory length 99 chars max each
remote-locn	[*hostname* | *ipv4-address* | "["*ipv6-address*"]"]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[*-interface*]
	x:x:x:x:x:x:d.d.d.d[*-interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - 32 chars max, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

Platforms

All

48.15 ts-negotiation

ts-negotiation

Syntax

ts-negotiation ts-list *list-name*

no ts-negotiation

Context

[Tree] (config>ipsec>client-db>client ts-negotiation)

Full Context

configure ipsec client-db client ts-negotiation

Description

This command specifies the traffic selector (TS) to be used for tunnel setup.

The no form of this command reverts to the default.

Default

no ts-negotiation

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Parameters

list-name

Specifies the TS list used by this tunnel, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

ts-negotiation

Syntax

ts-negotiation ts-list *list-name*

no ts-negotiation

Context

[Tree] (config>service>ies>if>sap>ipsec-gw ts-negotiation)

[Tree] (config>service>vprn>if>sap>ipsec-gw ts-negotiation)

Full Context

configure service ies interface sap ipsec-gw ts-negotiation

configure service vprn interface sap ipsec-gw ts-negotiation

Description

This command enables the IKEv2 traffic selector negotiation with the specified ts-list.

Parameters

list-name

Specifies the ts-list name

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.16 ts-sync-loss

ts-sync-loss

Syntax

[**no**] **ts-sync-loss**

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms ts-sync-loss)

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[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms ts-sync-loss)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms ts-sync-loss)

Full Context

configure mcast-management multicast-info-policy bundle video analyzer alarms ts-sync-loss

configure mcast-management multicast-info-policy bundle channel video analyzer alarms ts-sync-loss

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms ts-sync-loss

Description

This command configures the analyzer to check for synchronization loss errors.

Default

no ts-sync-loss

Platforms

7450 ESS, 7750 SR, 7750 SR-s

48.17 ttl

ttl

Syntax

ttl *value*

Context

[Tree] (config>subscr-mgmt>pfcp-association>tx ttl)

Full Context

configure subscriber-mgmt pfcp-association tx ttl

Description

This command configures initial TTL value that is sent in the IP header.

Default

ttl 255

Parameters

value

Specifies the TTL value, in seconds.

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This value must be identical on both the BNG UPF and CPF. For information about the BNG CUPS CPF configuration, refer to the *CMG BNG CUPS Control Plane Function Guide* and the *7750 SR MG and CMG CLI Reference Guide*.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ttl

Syntax

ttl *label-ttl*

no ttl

Context

[Tree] (config>saa>test>type-multi-line>lsp-ping>sr-policy ttl)

[Tree] (config>saa>test>type-multi-line>lsp-ping ttl)

Full Context

configure saa test type-multi-line lsp-ping sr-policy ttl

configure saa test type-multi-line lsp-ping ttl

Description

This command configures a time-to-live value for the MPLS label.

The **no** form of this command reverts to the default value.

Default

ttl 255

Parameters

label-ttl

Specifies the time-to-live value.

Values 1 to 255

Default 255

Platforms

All

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ttl

Syntax

ttl min-ttl *min-label-ttl* **max-ttl** *max-label-ttl*

no ttl

Context

[Tree] (config>saa>test>type-multi-line>lsp-trace>sr-policy ttl)

Full Context

configure saa test type-multi-line lsp-trace sr-policy ttl

Description

This command configures minimum and maximum time-to-live values.

The **no** form of this command removes the configuration.

Parameters

min-label-ttl

Specifies the minimum TTL value in the MPLS label for the LSP trace test, expressed as a decimal integer.

Values 1 to 255

Default 1

max-label-ttl

Specifies the maximum TTL value in the MPLS label for the LDP treetrace test, expressed as a decimal integer.

Values 1 to 255

Default 30

Platforms

All

ttl

Syntax

ttl *time-to-live*

no ttl

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Context

[Tree] (config>oam-pm>session>ip ttl)

Full Context

configure oam-pm session ip ttl

Description

This command defines the value of the TTL field of the packet header.

The **no** form of this command restores the default value.

Default

ttl 225

Parameters

time-to-live

Specifies the value to be used in the TTL field.

Values 1 to 255

Default 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ttl

Syntax

ttl *time-to-live*

no ttl

Context

[Tree] (config>oam-pm>session>mpls ttl)

Full Context

configure oam-pm session mpls ttl

Description

This command defines the value of the MPLS TTL for DM packets.

The **no** form of this command reverts the default value.

Default

ttl 255

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Parameters

time-to-live

Specifies the value to be used in the TTL field.

Values 1 to 255

Default 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ttl

Syntax

ttl *value*

no ttl

Context

[Tree] (config>test-oam>icmp>ping-template ttl)

Full Context

configure test-oam icmp ping-template ttl

Description

This command configures the TTL value used in the outgoing ping packet. The interface being tested must be directly connected on the same subnet.

The **no** form of this command reinstates the default value for TTL.

Default

ttl 1

Parameters

value

Specifies the value to be used in the TTL field.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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ttl

Syntax

ttl *time-to-live*

Context

[Tree] (config>test-oam>link-meas>template>twl ttl)

Full Context

configure test-oam link-measurement measurement-template twamp-light ttl

Description

This command configures the Time to Live (TTL) value in the TWAMP Light test packet.

Default

ttl 1

Parameters

time-to-live

Specifies the value to be used in the TTL field.

Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ttl

Syntax

ttl {**lt** | **gt** | **eq**} *ttl-value*

ttl range *ttl-value ttl-value*

no ttl

Context

[Tree] (config>filter>ip-filter>entry>match ttl)

Full Context

configure filter ip-filter entry match ttl

Description

This command configures the Time To Live (TTL) match criteria.

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The **no** form of this command removes the configuration.

Default

no ttl

Parameters

lt

Specifies "less than”. The **lt** parameter cannot be used with the lowest possible numerical value for the parameter.

gt

Specifies "greater than”. The **gt** parameter cannot be used with the highest possible numerical value for the parameter.

eq

Specifies "equal to”.

ttl-value

Specifies the maximum TTL value.

Values 0 to 255

Platforms

All

ttl

Syntax

ttl *time-to-live*

Context

[Tree] (config>test-oam>lag-meas>template>twl ttl)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light ttl

Description

This command configures the time-to-live (TTL) in the IP header of the launched TWAMP Light packet.

Default

ttl 1

Parameters

time-to-live

Specifies the TTL value, expressed as a decimal integer.

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Values 1 to 255

Default 1

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.18 ttl-expired

ttl-expired

Syntax

ttl-expired *number seconds*

no ttl-expired [*number seconds*]

Context

[Tree] (config>service>ies>if>icmp ttl-expired)

Full Context

configure service ies interface icmp ttl-expired

Description

This command configures the rate Internet Control Message Protocol (ICMP) TTL expired messages are issued by the IP interface.

By default, generation of ICMP TTL expired messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the limiting the rate of TTL expired messages on the router interface and reverts to the default values.

Default

ttl-expired 100 10

Parameters

number

The maximum number of ICMP TTL expired messages to send, expressed as a decimal integer. This parameter must be specified with the *seconds* parameter.

Values 10 to 2000

seconds

The time frame in seconds used to limit the *number* of ICMP TTL expired messages that can be issued, expressed as a decimal integer.

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Values 1 to 60

Platforms

All

ttl-expired

Syntax

ttl-expired *number seconds* [**use-matching-address**]

no ttl-expired [*number seconds*]

Context

[Tree] (config>service>ies>sub-if>grp-if>icmp ttl-expired)

[Tree] (config>service>vprn>sub-if>grp-if>icmp ttl-expired)

Full Context

configure service ies subscriber-interface group-interface icmp ttl-expired

configure service vprn subscriber-interface group-interface icmp ttl-expired

Description

This command configures the rate Internet Control Message Protocol (ICMP) TTL expired messages are issued by the IP interface.

By default, generation of ICMP TTL expired messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables limiting the rate of TTL expired messages on the router interface and reverts to the default values.

Default

ttl-expired 100 10

Parameters

number

Specifies the maximum number of ICMP TTL expired messages to send, expressed as a decimal integer. This parameter must be specified with the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time frame in seconds used to limit the *number* of ICMP TTL expired messages that can be issued, expressed as a decimal integer.

Values 1 to 60

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use-matching-address

Specifies to use a matching subscriber interface address as the source address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ttl-expired

Syntax

ttl-expired [**number** *number*] [**seconds** *seconds*]

no ttl-expired

Context

[Tree] (config>subscr-mgmt>git>ipv4>icmp ttl-expired)

Full Context

configure subscriber-mgmt group-interface-template ipv4 icmp ttl-expired

Description

This command configures the rate at which ICMP TTL expired messages are issued by the IP interface.

By default, generation of ICMP TTL expired messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables limiting of the rate at which TTL expired messages are generated on the router interface.

Default

ttl-expired number 100 seconds 10

Parameters

number

Specifies the maximum number of ICMP TTL expired messages to send. This parameter must be specified with the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time, in seconds, used to limit the number of ICMP TTL expired messages that can be generated, expressed as a decimal integer.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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ttl-expired

Syntax

ttl-expired [*number seconds*]

no ttl-expired

Context

[Tree] (config>service>vprn>nw-if>icmp ttl-expired)

[Tree] (config>service>vprn>if>icmp ttl-expired)

Full Context

configure service vprn network-interface icmp ttl-expired

configure service vprn interface icmp ttl-expired

Description

This command configures the rate of Internet Control Message Protocol (ICMP) TTL expired messages are issued by the IP interface.

By default, generation of ICMP TTL expired messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the limiting the rate of TTL expired messages on the router interface.

Default

ttl-expired 100 10

Parameters

number

Specifies the maximum number of ICMP TTL expired messages to send, expressed as a decimal integer. This parameter must be specified with the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time frame in seconds used to limit the *number* of ICMP TTL expired messages that can be issued, expressed as a decimal integer.

Values 1 to 60

Platforms

All

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ttl-expired

Syntax

ttl-expired [*number seconds*]

no ttl-expired

Context

[Tree] (config>router>if>icmp ttl-expired)

Full Context

configure router interface icmp ttl-expired

Description

This command configures the rate that Internet Control Message Protocol (ICMP) Time To Live (TTL) expired messages are issued by the IP interface.

By default, generation of ICMP TTL expired messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the generation of TTL expired messages.

Default

ttl-expired 100 10 — Maximum of 100 TTL expired message in 10 seconds.

Parameters

number

The maximum number of ICMP TTL expired messages to send, expressed as a decimal integer. The *seconds* parameter must also be specified.

Values 10 to 2000

seconds

The time frame, in seconds, used to limit the *number* of ICMP TTL expired messages that can be issued, expressed as a decimal integer.

Values 1 to 60

Platforms

All

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48.19 ttl-monitoring

ttl-monitoring

Syntax

ttl-monitoring

Context

[Tree] (config>app-assure>group>tether-detect ttl-monitoring)

Full Context

configure application-assurance group tethering-detection ttl-monitoring

Description

Commands in this context configure the scope of analysis for TCP and UDP traffic for tethering detection.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.20 ttl-propagate

ttl-propagate

Syntax

ttl-propagate

Context

[Tree] (config>service>vprn ttl-propagate)

Full Context

configure service vprn ttl-propagate

Description

Commands in this context configure TTL propagation for transit and locally generated packets in a given VPRN routing context.

Platforms

All

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ttl-propagate

Syntax

ttl-propagate

Context

[Tree] (config>router ttl-propagate)

Full Context

configure router ttl-propagate

Description

Commands in this context configure TTL propagation for transit and locally generated packets in the Global Routing Table (GRT) and VPRN routing contexts

Platforms

All

48.21 ttl-security

ttl-security

Syntax

ttl-security *min-ttl-value*

no ttl-security

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy ttl-security)

Full Context

configure subscriber-mgmt bgp-peering-policy ttl-security

Description

This command configures the TTL security parameters for incoming packets.

The **no** form of this command reverts to the default.

Parameters

min-ttl-value

Specifies the minimum TTL value for an incoming BGP packet.

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Values 1 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

ttl-security

Syntax

ttl-security *min-ttl-value*

no ttl-security

Context

[Tree] (config>service>vprn>bgp>group ttl-security)

[Tree] (config>service>vprn>bgp>group>neighbor ttl-security)

Full Context

configure service vprn bgp group ttl-security

configure service vprn bgp group neighbor ttl-security

Description

Configure TTL security parameters for incoming packets.

Parameters

min-ttl-value

Specifies the minimum TTL value for an incoming BGP packet.

Values 1 to 255

Default 1

Platforms

All

ttl-security

Syntax

ttl-security *min-ttl-value*

no ttl-security

Context

[Tree] (config>router>bgp>group ttl-security)

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[Tree] (config>router>bgp>group>neighbor ttl-security)

[Tree] (config>router>ldp>tcp-session-params>peer-transport ttl-security)

[Tree] (config>system>login-control>telnet ttl-security)

[Tree] (config>system>login-control>ssh ttl-security)

Full Context

configure router bgp group ttl-security

configure router bgp group neighbor ttl-security

configure router ldp tcp-session-parameters peer-transport ttl-security

configure system login-control telnet ttl-security

configure system login-control ssh ttl-security

Description

This command configures TTL security parameters for incoming packets. When the feature is enabled, LDP will accept incoming IP packets from a peer only if the TTL value in the packet is greater than or equal to the minimum TTL value configured for that peer. Per-peer-queueing must be enabled in order for TTL protection to operate.

The **no** form of this command disables TTL security.

Parameters

min-ttl-value

Specifies the minimum TTL value for an incoming BGP packet.

Values 1 to 255

Platforms

All

48.22 tunnel

tunnel

Syntax

tunnel *tunnel-name* [**create**]

no tunnel *tunnel-name*

Context

[Tree] (config>router>l2tp>group tunnel)

[Tree] (config>service>vprn>l2tp>group tunnel)

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Full Context

configure router l2tp group tunnel

configure service vprn l2tp group tunnel

Description

This command configures an L2TP tunnel. A tunnel exists between a LAC-LNS pair and consists of a Control Connection and zero or more L2TP sessions. The tunnel carries encapsulated PPP datagrams and control messages between the LAC and the L2TP Network Server (LNS).

The **no** form of this command removes the tunnel name from the configuration.

Parameters

tunnel-name

Specifies a valid string to identify an L2TP, up to 32 characters.

create

Mandatory keyword to create a new tunnel.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

tunnel

Syntax

tunnel *connection-id*

Context

[Tree] (debug>router>l2tp tunnel)

Full Context

debug router l2tp tunnel

Description

This command enables debugging for an L2TP tunnel.

Parameters

connection-id

Specifies the connection ID of the L2TP session associated with this session.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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tunnel

Syntax

tunnel *service-id* **backbone-dest-mac** *mac-name* **isid** *ISID*

tunnel *service-id* **backbone-dest-mac** *ieee-address* **isid** *ISID*

no tunnel

Context

[Tree] (config>service>epipe>pbb tunnel)

Full Context

configure service epipe pbb tunnel

Description

This command configures a Provider Backbone Bridging (PBB) tunnel with Backbone VPLS (B-VPLS) service information.

Parameters

service-id

Specifies the B-VPLS service for the PBB tunnel associated with this service.

Values *service-id*: 1 to 2147483648

svc-name: 64 characters maximum

backbone-dest-mac *mac-name*

Specifies the backbone destination MAC name for PBB packets up to 32 characters in length.

backbone-dest-mac *ieee-address*

Specifies the backbone destination MAC-address for PBB packets as xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

isid *ISID*

Specifies a 24 bit service instance identifier for the PBB tunnel associated with this service. As part of the PBB frames, it is used at the destination PE as a demultiplexer field.

Values 0 to 16777215

Platforms

All

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tunnel

Syntax

tunnel *ipsec-tunnel-name* [**detail**] [**no-dpd-debug**] [**display-keys**]

no tunnel *ipsec-tunnel-name*

Context

[Tree] (debug>ipsec tunnel)

Full Context

debug ipsec tunnel

Description

This command enables debugging for specified IPsec tunnel.

Note:
Up to 16 IPsec tunnels are allowed, to enable debugging, at a time.

Parameters

ipsec-tunnel-name

Specifies the name of ipsec-tunnel, up to 32 characters.

detail

Displays detailed debug information.

no-dpd-debug

Stops logging IKEv1 and IKEv2 DPD events for less noise during debug.

display-keys

Specifies the IKE-SA and CHILD-SA keys for inclusion in the debug output.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tunnel

Syntax

[**no**] **tunnel** *ip-address*

Context

[Tree] (debug>router>rib-api tunnel)

Full Context

debug router rib-api tunnel

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Description

This command enables debugging for the specified RIB-API tunnel.

Parameters

ip-address

Specifies the IPv4 or IPv6 address of the RIB-API tunnel.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

Platforms

All

tunnel

Syntax

tunnel *name* **[create]**

no tunnel *name*

Context

[Tree] (config>system>grpc-tunnel tunnel)

Full Context

configure system grpc-tunnel tunnel

Description

Commands in this context configure gRPC tunnel parameters for the specified tunnel. There can be multiple tunnels to one or more destinations.

The **no** form of this command removes the specified gRPC tunnel.

Parameters

name

Specifies the tunnel name, up to 32 characters.

create

Keyword used to create a tunnel.

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Platforms

All

tunnel

Syntax

tunnel

Context

[Tree] (config>oam-pm>session>ip tunnel)

Full Context

configure oam-pm session ip tunnel

Description

Commands in this context configure packet tunneling options for the session. This command and the **oam-pm session ip forwarding** command are mutually exclusive.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.23 tunnel-client-attrs

tunnel-client-attrs

Syntax

[**no**] **tunnel-client-attrs**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute tunnel-client-attrs)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute tunnel-client-attrs

Description

This command specifies that tunnel attributes should be included into RADIUS accounting messages.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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48.24 tunnel-dot1ad-etype

tunnel-dot1ad-etype

Syntax

[**no**] **tunnel-dot1ad-etype**

Context

[Tree] (config>service>system tunnel-dot1ad-etype)

Full Context

configure service system tunnel-dot1ad-etype

Description

This command enables tunneling of 802.1ad Ethertype frames on EVPN tunnels. When configured, tagged frames using an outer TPID or Ethertype of 0x88a8 or 0x8100 can be tunneled on EVPN tunnels. On reception, this command allows the processing of EVPN encapsulated tagged frames when the outer Ethertype is 0x88a8.

The **no** form of this command disables the tunneling of Ethertype frames 0x88a8 and 0x8100 on EVPN tunnels.

Default

no tunnel-dot1ad-etype

Platforms

7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.25 tunnel-dot1q

tunnel-dot1q

Syntax

[**no**] **tunnel-dot1q**

Context

[Tree] (config>port>ethernet>dot1x tunnel-dot1q)

Full Context

configure port ethernet dot1x tunnel-dot1q

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Description

This command configures the tunneling of single tagged (dot1q) dot1x packets arriving on the port. When enabled, the router extracts these packets to the CPM.

The **no** form of this command disables the tunelling of the dot1q dot 1x packets on the port.

Default

tunnel-dot1q

Platforms

All

48.26 tunnel-down-damp-time

tunnel-down-damp-time

Syntax

tunnel-down-damp-time *seconds*

no tunnel-down-damp-time

Context

[Tree] (config>router>ldp tunnel-down-damp-time)

Full Context

configure router ldp tunnel-down-damp-time

Description

This command specifies the time interval (in s), that LDP waits before posting a tunnel down event to the Tunnel Table Manager (TTM).

When LDP can no longer resolve a FEC and de-activates it, it de-programs the NHLFE in the data path. It will however delay deleting the LDP tunnel entry in the TTM until the tunnel-down-damp-time timer expires. This means users of the LDP tunnel, such as SDPs (all services) and BGP (L3 VPN), will not be notified immediately. Traffic is still blackholed because the forwarding engine NHLFE has been de-programmed.

If the FEC gets resolved before the tunnel-down-damp-time timer expires, then LDP programs the forwarding engine with the new NHLFE and performs a tunnel modify event in TTM updating the dampened entry in TTM with the new NHLFE information. If the FEC does not get resolved and the tunnel-down-damp-time timer expires, LDP posts a tunnel down event to TTM which deletes the LDP tunnel.

When there is an upper layer (user of LDP) which depends of LDP control plane for failover detection then label withdrawal delay and tunnel-down-damp-time options must be set to 0.

An example is pseudowire redundancy where the primary PW does not have its own fast failover detection mechanism and the node depends on LDP tunnel down event to activate the standby PW.

The **no** form of this command resumes the default value of this command.

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Default

no tunnel-down-damp-time (which equals a value of 3 seconds)

Parameters

seconds

Specifies the time interval (in s), that LDP waits before posting a tunnel down event to the Tunnel Table Manager.

Platforms

All

48.27 tunnel-elmi

tunnel-elmi

Syntax

[**no**] **tunnel-elmi**

Context

[Tree] (config>service>vpls tunnel-elmi)

Full Context

configure service vpls tunnel-elmi

Description

This command enables the tunneling of E-LMI packets in a VPLS service. The following must also be the case for this command to function:

- the **configure port ethernet elmi mode uni-n** command is not configured
- the **configure service vpls tunnel-elmi true** command is enabled
- the E-LMI packets map to that VPLS service

This command configures E-LMI packets in a VPLS service to be tunneled when the **configure port ethernet elmi mode uni-n** is not configured and the **configure service vpls tunnel-elmi** is enabled and the E-LMI packets map to that VPLS service.

The **no** form of this command disables tunneling of the E-LMI packets for a VPLS service.

Default

no tunnel-elmi

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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48.28 tunnel-encaps

tunnel-encaps

Syntax

tunnel-encaps

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw tunnel-encaps)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw tunnel-encaps)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw tunnel-encaps

configure service ies subscriber-interface group-interface wlan-gw tunnel-encaps

Description

Commands in this context configure tunnel encapsulation parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.29 tunnel-encryption

tunnel-encryption

Syntax

tunnel-encryption

Context

[Tree] (config>anysec>mpls tunnel-encryption)

Full Context

configure anysec mpls tunnel-encryption

Description

Commands in this context configure tunnel encryption.

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Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

48.30 tunnel-endpoint

tunnel-endpoint

Syntax

tunnel-endpoint [**tunnel-spf**] [**tunnel-leak** *ip-address*]

no tunnel-endpoint

Context

[Tree] (debug>router>isis tunnel-endpoint)

Full Context

debug router isis tunnel-endpoint

Description

This command enables debugging for an ISIS tunnel endpoint.

The **no** form of the command disables the debugging.

Parameters

tunnel-spf

Debugs tunnel SPF information.

ip-address

When specified, only packets with the specified address are debugged.

Platforms

All

tunnel-endpoint

Syntax

tunnel-endpoint [**tunnel-spf** *ip-address*] [**tunnel-leak** *ip-address*]

Context

[Tree] (debug>router>ospf3 tunnel-endpoint)

[Tree] (debug>router>ospf tunnel-endpoint)

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Full Context

debug router ospf3 tunnel-endpoint

debug router ospf tunnel-endpoint

Description

This command enables debugging for OSPF tunnel endpoints.

Parameters

tunnel-spf

Specifies the tunnel SPF IP address.

tunnel-leak

Specifies the tunnel leak IP address.

ip-address

Specifies the IP address.

Platforms

All

48.31 tunnel-endpoint-id

tunnel-endpoint-id

Syntax

tunnel-endpoint-id *tunnel-endpoint-id*

no tunnel-endpoint-id

Context

[Tree] (config>test-oam>build-packet>header>gtp-user tunnel-endpoint-id)

Full Context

configure test-oam build-packet header gtp-user tunnel-endpoint-id

Description

This command defines the GTP tunnel endpoint ID for the GTP user header.

The **no** form of this command removes the tunnel endpoint ID value.

Default

tunnel-endpoint-id 0

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Parameters

tunnel-endpoint-id

Specifies the GTP tunnel endpoint ID to be used in the test GTP header.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tunnel-endpoint-id

Syntax

tunnel-endpoint-id *tunnel-endpoint-id*

no tunnel-endpoint-id

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>gtp-user tunnel-endpoint-id)

Full Context

debug oam build-packet packet field-override header gtp-user tunnel-endpoint-id

Description

This command debugs the GTP tunnel endpoint ID for the GTP user header.

The **no** form of this command removes the tunnel endpoint ID value.

Default

no override

Parameters

tunnel-endpoint-id

Specifies the GTP tunnel endpoint ID to be used in the test GTP header.

Values 0 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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48.32 tunnel-far-end

tunnel-far-end

Syntax

tunnel-far-end *ip-address* | *ipv6-address*

no tunnel-far-end [*ip-address* | *ipv6-address*]

Context

[Tree] (config>service>sdp tunnel-far-end)

Full Context

configure service sdp tunnel-far-end

Description

This command enables the user to specify an SDP tunnel destination address that is different from the configuration in the SDP far-end option. The SDP must be shutdown first to add or change the configuration of the **tunnel-far-end** option.

When this option is enabled, service packets are encapsulated using an LDP LSP with a FEC prefix matching the value entered in ip-address. By default, service packets are encapsulated using an LDP LSP with a FEC prefix matching the address entered in the SDP far-end option.

The T-LDP session to the remote PE is still targeted to the address configured under the **far-end option**. This means that targeted hello messages are sent to the far-end address, which is also the LSR-ID of the remote node. TCP based LDP messages, such as initialization and label mapping messages, are sent to the address specified in the transport-address field of the "hello" message received from the remote PE. This address can be the same as the remote PE LSR-ID, or a different address. This feature works, however, if the signaling option in the SDP is set to off instead of tldp, in which case, the service labels are statically configured.

This feature operates on an SDP of type LDP only. It can be used with VLL, VPLS, and VPRN services when an explicit binding to an SDP with the **tunnel-far-end** is specified. It also operates with a spoke interface on an IES or VPRN service. Finally, this feature operates with a BGP AD based VPLS service when the **use-provisioned-sdp** option is enabled in the pseudowire template.

This feature is not supported in an SDP of type MPLS when an RSVP LSP name is configured under the SDP. It also does not work with a mixed-lsp SDP.

The **no** form of this command disables the use of the **tunnel-far-end** option and returns to using the address specified in the far-end.

Default

no tunnel-far-end

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Parameters

ip-address* | *ipv6-address

Specifies the system address of the far-end router for the SDP in dotted decimal notation.

Platforms

All

48.33 tunnel-fault

tunnel-fault

Syntax

tunnel-fault {**accept** | **ignore**}

Context

[Tree] (config>service>vprn>eth-cfm tunnel-fault)

[Tree] (config>service>ipipe>sap>eth-cfm tunnel-fault)

[Tree] (config>service>ies>eth-cfm tunnel-fault)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm tunnel-fault)

[Tree] (config>service>vpls>eth-cfm tunnel-fault)

[Tree] (config>service>ies>if>sap>eth-cfm tunnel-fault)

[Tree] (config>service>epipe>sap>eth-cfm tunnel-fault)

[Tree] (config>service>vpls>sap>eth-cfm tunnel-fault)

[Tree] (config>service>ipipe>eth-cfm tunnel-fault)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm tunnel-fault)

[Tree] (config>service>epipe>eth-cfm tunnel-fault)

[Tree] (config>service>vprn>if>sap>eth-cfm tunnel-fault)

Full Context

configure service vprn eth-cfm tunnel-fault

configure service ipipe sap eth-cfm tunnel-fault

configure service ies eth-cfm tunnel-fault

configure service ies subscriber-interface group-interface sap eth-cfm tunnel-fault

configure service vpls eth-cfm tunnel-fault

configure service ies interface sap eth-cfm tunnel-fault

configure service epipe sap eth-cfm tunnel-fault

configure service vpls sap eth-cfm tunnel-fault

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configure service ipipe eth-cfm tunnel-fault

configure service vprn subscriber-interface group-interface sap eth-cfm tunnel-fault

configure service epipe eth-cfm tunnel-fault

configure service vprn interface sap eth-cfm tunnel-fault

Description

Allows the individual service SAPs to react to changes in the tunnel MEP state. When tunnel-fault accept is configured at the service level, the SAP will react according to the service type, Epipe will set the operational flag and VPLS, IES and VPRN SAP operational state will become down on failure or up on clear. This command triggers the OAM mapping functions to mate SAPs and bindings in an Epipe service as well as setting the operational flag. If AIS generation is the requirement for the Epipe services this command is not required. See the **ais-enable** command under the **config>service>epipe>sap>eth-cfm>ais-enable** context for more details. This works in conjunction with the tunnel-fault accept on the individual SAPs. Both must be set to accept to react to the tunnel MEP state. By default the service level command is "ignore” and the SAP level command is "accept”. This means simply changing the service level command to "accept” will enable the feature for all SAPs. This is not required for Epipe services that only wish to generate AIS on failure.

Default

tunnel-fault ignore (Service Level)

tunnel-fault accept (SAP Level for Epipe and VPLS)

Parameters

accept

Shares fate with the facility tunnel MEP.

ignore

Does not share fate with the facility tunnel MEP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service epipe sap eth-cfm tunnel-fault
- configure service ies eth-cfm tunnel-fault
- configure service ipipe eth-cfm tunnel-fault
- configure service vpls eth-cfm tunnel-fault
- configure service vprn interface sap eth-cfm tunnel-fault
- configure service vprn eth-cfm tunnel-fault
- configure service epipe eth-cfm tunnel-fault
- configure service ipipe sap eth-cfm tunnel-fault
- configure service ies interface sap eth-cfm tunnel-fault
- configure service vpls sap eth-cfm tunnel-fault

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm tunnel-fault

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- configure service vprn subscriber-interface group-interface sap eth-cfm tunnel-fault

48.34 tunnel-group

tunnel-group

Syntax

tunnel-group *tunnel-group-id* [**create**]

tunnel-group *tunnel-group-id* **isa-scale-mode** *isa-scale-mode* [**create**]

no tunnel-group *tunnel-group-id*

Context

[Tree] (config>isa tunnel-group)

Full Context

configure isa tunnel-group

Description

This command allows a tunnel group to be created or edited. A tunnel group is a set of one or more MS-ISAs that support the origination and termination of IPsec and IP/GRE tunnels. All of the MS-ISAs in a tunnel group must have **isa-tunnel** as their configured mda-type.

The **no** form of this command deletes the specified tunnel group from the configuration

Parameters

tunnel-group-id

Identifies the tunnel group.

Values 1 to 16

isa-scale-mode

Defines the maximum number of tunnels (all types combined) which can be established on each ISA of the tunnel group and for the whole tunnel-group. When it is not explicitly specified, **isa-scale-mode** has a default value, but that value is different on different platforms.

Values tunnel-limit-2k, tunnel-limit-32k, tunnel-limit-64k, tunnel-limit-8, tunnel-limit-32

create

Mandatory keyword used when creating tunnel group in the ISA context. The create keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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tunnel-group

Syntax

tunnel-group *tunnel-group-id* [**create**]

no tunnel-group *tunnel-group-id*

Context

[Tree] (config>redundancy>multi-chassis>peer>mc-ipsec tunnel-group)

Full Context

configure redundancy multi-chassis peer mc-ipsec tunnel-group

Description

This command enables multi-chassis redundancy for specified tunnel-group; or enters an already configured tunnel-group context. The configured tunnel-group could failover independently.

The **no** form of this command removes the tunnel group ID from the configuration.

Parameters

tunnel-group-id

Specifies the tunnel-group identifier.

Values 1 to 16

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tunnel-group

Syntax

tunnel-group *tunnel-group-id* **sync-tag** *tag-name* [**create**]

no tunnel-group *tunnel-group-id*

Context

[Tree] (config>redundancy>multi-chassis>peer>sync tunnel-group)

Full Context

configure redundancy multi-chassis peer sync tunnel-group

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Description

This command enables multi-chassis synchronization of IPsec states of specified tunnel-groups with a peer. The **sync-tag** parameter is used to match corresponding tunnel-group on both peers. IPsec states will be synchronized between tunnel-groups with same sync-tag.

Parameters

tunnel-group-id

Specifies the ID of the tunnel group.

tag-name

Specifies the name of the sync-tag.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tunnel-group

Syntax

tunnel-group *tunnel-group-id*

no tunnel-group

Context

[Tree] (config>redundancy>multi-chassis>ipsec-domain tunnel-group)

Full Context

configure redundancy multi-chassis ipsec-domain tunnel-group

Description

This command specifies the tunnel group ID for the IPsec domain.

The **no** form of this command removes the tunnel group ID from the configuration.

Default

no tunnel-group

Parameters

tunnel-group-id

Specifies the tunnel group ID, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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48.35 tunnel-id

tunnel-id

Syntax

tunnel-id *tunnel-id*

no tunnel-id

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>l2tp tunnel-id)

[Tree] (config>test-oam>build-packet>header>l2tp tunnel-id)

Full Context

debug oam build-packet packet field-override header l2tp tunnel-id

configure test-oam build-packet header l2tp tunnel-id

Description

This command defines the tunnel ID to be used in the L2TP header.

The **no** form of this command removes the tunnel ID value.

Default

tunnel-id 0

Parameters

tunnel-id

Specifies the L2TP tunnel ID to be used in the L2TP header.

Values 0 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.36 tunnel-interface

tunnel-interface

Syntax

[**no**] **tunnel-interface** {**rsvp-p2mp** *lsp-name* | **ldp-p2mp** *p2mp-id* **sender** *sender-address* [**root-node**]}

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Context

[Tree] (config>router tunnel-interface)

[Tree] (config>router>igmp tunnel-interface)

Full Context

configure router tunnel-interface

configure router igmp tunnel-interface

Description

This command creates a tunnel interface associated with an RSVP P2MP LSP. IPv4 multicast packets are forwarded over the P2MP LSP at the ingress LER based on a static join configuration of the multicast group against the tunnel interface associated with the originating P2MP LSP. At the egress LER, packets of a multicast group are received from the P2MP LSP via a static assignment of the specific <S,G> to the tunnel interface associated with a terminating LSP.

At ingress LER, the tunnel interface identifier consists of a string of characters representing the LSP name for the RSVP P2MP LSP. The user can create one or more tunnel interfaces and associate each to a different RSVP P2MP LSP.

At egress LER, the tunnel interface identifier consists of a couple of string of characters representing the LSP name for the RSVP P2MP LSP followed by the system address of the ingress LER. The LSP name must correspond to a P2MP LSP name configured by the user at the ingress LER. The LSP name string must not contain "::" (two :s) nor contain a ":" (single ":") at the end of the LSP name. However, a ":" (single ":") can appear anywhere in the string except at the end of the name.

Parameters

rsvp-p2mp *lsp-name*

Specifies the LSP. The LSP name can be up to 32 characters long and must be unique.

ldp-p2mp *p2mp-id*

Identifier used for signaling MLDP P2MP LSP.

Values 1 to 4294967296 (on leaf node)

1 to 8192 (on root node)

sender *sender-address*

Specifies the sender IP address: a.b.c.d.

Platforms

All

tunnel-interface

Syntax

tunnel-interface [**rsvp-p2mp** *lsp-name*] [**sender** *ip-address*] [**detail**]

tunnel-interface [**ldp-p2mp** *p2mp-id*] [**sender** *ip-address*] [**detail**]

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no tunnel-interface [**rsvp-p2mp** *lsp-name*] [**sender** *ip-address*]

no tunnel-interface [**ldp-p2mp** *p2mp-id*] [**sender** *ip-address*]

Context

[Tree] (debug>router>pim tunnel-interface)

Full Context

debug router pim tunnel-interface

Description

This command enables debugging for PIM tunnel interfaces.

The **no** form of this command disables debugging for PIM tunnel interfaces.

Parameters

lsp-name

Specifies the LSP for RSVP P2MP.

ip-address

Specifies the IP address of the sender.

p2mp-id

Specifies the P2MP ID for LDP P2MP.

detail

Displays detailed information for PIM tunnel interfaces.

Platforms

All

tunnel-interface

Syntax

[**no**] **tunnel-interface rsvp-p2mp** *lsp-name* **sender** *ip-address*

Context

[Tree] (config>router>pim tunnel-interface)

Full Context

configure router pim tunnel-interface

Description

This command creates a tunnel interface associated with an RSVP P2MP LSP. IPv4 multicast packets are forwarded over the P2MP LSP at the ingress LER based on a static join configuration of the multicast group against the tunnel interface associated with the originating P2MP LSP. At the egress LER, packets

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of a multicast group are received from the P2MP LSP via a static assignment of the specific <S,G> to the tunnel interface associated with a terminating LSP.

At ingress LER, the tunnel interface identifier consists of a string of characters representing the LSP name for the RSVP P2MP LSP. The user can create one or more tunnel interfaces in PIM and associate each to a different RSVP P2MP LSP.

At egress LER, the tunnel interface identifier consists of a couple of string of characters representing the LSP name for the RSVP P2MP LSP followed by the system address of the ingress LER. The LSP name must correspond to a P2MP LSP name configured by the user at the ingress LER. The LSP name string must not contain "::" (two :s) nor contain a ":" (single ":") at the end of the LSP name. However, a ":" (single ":") can appear anywhere in the string except at the end of the name.

The **no** form of this command removes the tunnel parameters.

Parameters

lsp-name

Specifies the LSP, up to 32 characters.

ip-address

Specifies the sender IP address.

Platforms

All

48.37 tunnel-local-address

tunnel-local-address

Syntax

tunnel-local-address *ip-address*

no tunnel-local-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query tunnel-local-address)

Full Context

configure subscriber-mgmt wlan-gw ue-query tunnel-local-address

Description

This command enables matching on UEs that are active on a tunnel which is connected to the specified IP address on the WLAN-GW.

The **no** form of this command disables matching on the local tunnel address.

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Default

no tunnel-local-address

Parameters

ip-address

Specifies the IPv4 or IPv6 address of the local tunnel.

Values		
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.38 tunnel-member-pool

tunnel-member-pool

Syntax

tunnel-member-pool *name* [**create**]

no tunnel-member-pool *name*

Context

[Tree] (config>isa tunnel-member-pool)

Full Context

configure isa tunnel-member-pool

Description

Commands in this context configure associated ESA VM and MDAs.

The **no** form of this command removes the pool name from the configuration.

Parameters

name

Specifies the tunnel member pool name of the command, up to 32 characters.

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create

Keyword used to create the command instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.39 tunnel-mtu

tunnel-mtu

Syntax

tunnel-mtu *mtu-bytes*

no tunnel-mtu

Context

[Tree] (config>service>vprn>nat>inside>dslite>address tunnel-mtu)

[Tree] (config>router>nat>inside>dslite>address tunnel-mtu)

Full Context

configure service vprn nat inside dual-stack-lite address tunnel-mtu

configure router nat inside dual-stack-lite address tunnel-mtu

Description

This command configures the DS-Lite tunnel MTU for this DS-Lite address.

The **no** form of this command reverts the default.

Default

tunnel-mtu 1500

Parameters

mtu-bytes

Specifies the DS-Lite tunnel MTU.

Values 512 to 9212

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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tunnel-mtu

Syntax

tunnel-mtu *bytes*

no tunnel-mtu

Context

[Tree] (config>router>isis>segment-routing tunnel-mtu)

Full Context

configure router isis segment-routing tunnel-mtu

Description

This command configures the MTU of all SR tunnels within each IGP instance.

The MTU of a SR tunnel populated into TTM is determined like in the case of an IGP tunnel; for example, LDP LSP, based on the outgoing interface MTU minus the label stack size. Remote LFA can add, at most, one more label to the tunnel for a total of two labels. There is no default value for this command. If the user does not configure an SR tunnel MTU, the MTU is determined by IGP as explained below.

The MTU of the SR tunnel in bytes is then determined as follows:

*SR_Tunnel_MTU = MIN {Cfg_SR_MTU, IGP_Tunnel_MTU- (1+frr-overhead)*4}*

Where:

Cfg_SR_MTU is the MTU configured by the user for all SR tunnels within a given IGP instance using the above CLI. If no value was configured by the user, the SR tunnel MTU will be determined by the IGP interface calculation explained next.

IGP_Tunnel_MTU is the minimum of the IS-IS or OSPF interface MTU among all the ECMP paths or among the primary and LFA backup paths of this SR tunnel.

frr-overhead is set to 1 if **segment-routing** and **remote-lfa** options are enabled in the IGMP instance. Otherwise, it is set to 0.

The SR tunnel MTU is dynamically updated anytime any of the above parameters used in its calculation changes. This includes when the set of the tunnel next-hops changes or the user changes the configured SR MTU or interface MTU value.

Default

no tunnel-mtu

Parameters

bytes

Specifies the size of the Maximum Transmission Unit (MTU) in bytes.

Values 512 to 9786

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Platforms

All

tunnel-mtu

Syntax

tunnel-mtu *bytes*

no tunnel-mtu

Context

[Tree] (config>router>ospf3>segm-rtng tunnel-mtu)

[Tree] (config>router>ospf>segm-rtng tunnel-mtu)

Full Context

configure router ospf3 segment-routing tunnel-mtu

configure router ospf segment-routing tunnel-mtu

Description

This command configures the MTU of all SR tunnels within each IGP instance.

The MTU of a SR tunnel populated into the TTM is determined as the same as an IGP tunnel; for example, for an LDP LSP, based on the outgoing interface MTU minus the label stack size. Remote LFA can add, at most, one more label to the tunnel for a total of two labels. There is no default value for this command. If the user does not configure an SR tunnel MTU, the MTU will be determined by IGP as follows:

The MTU of the SR tunnel in bytes is then determined as follows:

SR_Tunnel_MTU = MIN {Cfg_SR_MTU, IGP_Tunnel_MTU- (1+frr—overhead)X4}

Where:

- *Cfg_SR_MTU* is the MTU configured by the user for all SR tunnels within an IGP instance using the tunnel-mtu command. If no value is configured by the user, the SR tunnel MTU is determined by the IGP interface calculation explained in the next bullet point.
- *IGP_Tunnel_MTU* is the minimum of the IS-IS or OSPF interface MTU among all the ECMP paths or among the primary and LFA backup paths of this SR tunnel.
- *frr-overhead* is set to 1 if the **segment-routing** and **remote-lfa** options are enabled in the IGMP instance. Otherwise, it is set to 0.

The SR tunnel MTU is dynamically updated whenever any of the above parameters used in its calculation changes. This includes if the set of the tunnel next-hops changes or the user changes the configured SR MTU or interface MTU value.

Default

no tunnel-mtu

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Parameters

bytes

Specifies the size of the MTU in bytes.

Values 512 to 9786

Platforms

All

48.40 tunnel-nearest-bridge

tunnel-nearest-bridge

Syntax

[**no**] **tunnel-nearest-bridge**

Context

[Tree] (cfg>port>eth>lldp>dstmac tunnel-nearest-bridge)

Full Context

configure port ethernet lldp dest-mac tunnel-nearest-bridge

Description

This command enables tunneling of LLDP packets received on the port with the destination address of the nearest bridge, without being intercepted on the local port. The **dest-mac nearest-bridge** command must be disabled for tunneling to occur. This applies only to NULL SAP Epipe and VPLS services.

The **no** form of this command disables nearest bridge tunneling.

Default

no tunnel-nearest-bridge

Platforms

All

tunnel-nearest-bridge

Syntax

[**no**] **tunnel-nearest-bridge**

Context

[Tree] (config>lag>lldp-member-template>dstmac tunnel-nearest-bridge)

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Full Context

configure lag lldp-member-template dest-mac tunnel-nearest-bridge

Description

This command allows LLDP packets received on the port with the destination address of the nearest bridge to be tunneled without being intercepted on the local port. The **dest-mac nearest-bridge** must be disabled for tunneling to occur. This is applicable to NULL SAP Epipe and VPLS services only.

The **no** form of this command disables the packets from being tunneled.

Default

no tunnel-nearest-bridge

Platforms

All

48.41 tunnel-nearest-customer

tunnel-nearest-customer

Syntax

[no] tunnel-nearest-customer

Context

[Tree] (config>port>ethernet>lldp>dest-mac tunnel-nearest-customer)

Full Context

configure port ethernet lldp dest-mac tunnel-nearest-customer

Description

This command enables tunneling of LLDP packets received on the port with the destination address of the nearest customer, without being intercepted on the local port. The **dest-mac nearest-customer** command must be disabled for tunneling to occur.

The **no** form of this command disables nearest customer tunneling.

Default

tunnel-nearest-customer

Platforms

All

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tunnel-nearest-customer

Syntax

[no] tunnel-nearest-customer

Context

[Tree] (config>lag>lldp-member-template>dest-mac tunnel-nearest-customer)

Full Context

configure lag lldp-member-template dest-mac tunnel-nearest-customer

Description

This command enables tunneling of LLDP packets received on the port with the destination address of the nearest customer, without being intercepted on the local port. The **dest-mac nearest-customer** command must be disabled for tunneling to occur.

The **no** form of this command disables nearest customer tunneling.

Default

tunnel-nearest-customer

Platforms

All

48.42 tunnel-nearest-non-tpmr

tunnel-nearest-non-tpmr

Syntax

[no] tunnel-nearest-non-tpmr

Context

[Tree] (config>port>ethernet>lldp>dest-mac tunnel-nearest-non-tpmr)

Full Context

configure port ethernet lldp dest-mac tunnel-nearest-non-tpmr

Description

This command enables tunneling of LLDP packets received on the port with the destination address of the nearest non-TPMR, without being intercepted on the local port. The **dest-mac nearest-non-tpmr** command must be disabled for tunneling to occur.

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The **no** form of this command disables the use of the nearest non-TPMR tunnel.

Default

tunnel-nearest-non-tpmr

Platforms

All

tunnel-nearest-non-tpmr

Syntax

[no] tunnel-nearest-non-tpmr

Context

[Tree] (config>lag>lldp-member-template>dest-mac tunnel-nearest-non-tpmr)

Full Context

configure lag lldp-member-template dest-mac tunnel-nearest-non-tpmr

Description

This command enables tunneling of LLDP packets received on the port with the destination address of the nearest non-TPMR, without being intercepted on the local port. The **dest-mac nearest-non-tpmr** command must be disabled for tunneling to occur.

The **no** form of this command disables the use of the nearest non-TPMR tunnel.

Default

tunnel-nearest-non-tpmr

Platforms

All

48.43 tunnel-next-hop

tunnel-next-hop

Syntax

tunnel-next-hop

Context

[Tree] (config>router>static-route-entry>indirect tunnel-next-hop)

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Full Context

configure router static-route-entry indirect tunnel-next-hop

Description

Commands in this context configure the static route's nexthop to be resolved to an indirect tunnel next-hop.

Platforms

All

tunnel-next-hop

Syntax

tunnel-next-hop

Context

[Tree] (config>router>isis>igp-shortcut tunnel-next-hop)

Full Context

configure router isis igp-shortcut tunnel-next-hop

Description

Commands in this context configure the resolution of IGP IPv4 prefix families, IGP IPv6 prefix families, SR-ISIS IPv4 tunnel families, SR-ISIS IPv6 tunnel families, and SR-OSPF IPv4 tunnel families using IGP shortcuts.

The **resolution** node is introduced to provide flexibility in the selection of the tunnel types for each of the IP prefix and SR tunnel families.

The IPv4 **family** option causes the IS-IS or OSPF SPF to include the IPv4 IGP shortcuts in the IP reach calculation of IPv4 nodes and prefixes. RSVP-TE or SR-TE LSPs terminating on a node identified by its router ID can be used to reach IPv4 prefixes owned by this node or for which this node is the IPv4 next hop.

The IPv6 **family** option causes the IS-IS or OSPFv3 SPF to include the IPv4 IGP shortcuts in the IP reach calculation of IPv6 nodes and prefixes. RSVP-TE or SR-TE LSPs terminating on a node identified by its router ID can be used to reach IPv6 prefixes owned by this node or for which this node is the IPv6 next-hop. The resolution of IPv6 prefixes is supported in OSPFv3 and in both IS-IS MT=0 and MT=2.

The IS-IS and OSPFv3 IPv6 routes resolved to IPv4 IGP shortcuts are used to:

- forward packets of IS-IS or OSPFv3 prefixes matching these routes
- forward CPM-originated IPv6 packets
- resolve the BGP next hop of BGP IPv6 prefixes
- resolve the indirect next hop of static IPv6 routes

In the data path, a packet for an IPv6 prefix has a label stack that consists of the IPv6 Explicit-Null label value of 2 at the bottom of the label stack followed by the label stack of the IPv4 RSVP-TE LSP.

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There is no default behavior for IPv4 prefixes to automatically resolve to RSVP-TE or SR-TE LSPs used as IGP shortcuts by only enabling the **igp-shortcut** context. Instead, the user must enable the **ipv4 family** or **ipv6 family** and set the resolution to the value of **rsvp-te** to select the RSVP-TE tunnel type, or to the value of **sr-te** to select the SR-TE tunnel type.

Setting the **resolution** to the **any** value means that IGP selects the tunnels used as IGP shortcuts according to the TTM preference for the tunnel type. The RSVP-TE LSP type is of higher priority than the SR-TE LSP type.

An IP prefix of family=ipv4 or family=ipv6 always resolves to a single type of tunnel **rsvp-te** or **sr-te**. **Rsvp-te** type is preferred if both types are allowed by the prefix family resolution and both types exist in the set of tunnel next-hops of the prefix. The feature does not support mixing tunnel types per prefix.

If **resolution** for the IPv4 or IPv6 family is set to **disabled**, the corresponding prefixes are resolved to IP next-hops in the multicast routing table.

The **srv4 family** enables the resolution of SR-OSPF IPv4 tunnels and SR-ISIS IPv4 tunnels in MT=0 over RSVP-TE IPv4 IGP shortcuts. A maximum of 32 ECMP tunnel next-hops can be programmed for an SR-OSPF or an SR-ISIS IPv4 tunnel.

The **srv6 family** enables the resolution of SR-ISIS IPv6 tunnels in MT=0 over RSVP-TE IPv4 IGP shortcuts. A maximum of 32 ECMP tunnel next-hops can be programmed for an SR-ISIS IPv6 tunnel.

One or more RSVP-TE LSPs can be selected if **resolution**=**match-family-ip** and the corresponding IPv4 or IPv6 prefix resolves to RSVP-TE LSPs.

Note:
An SR tunnel cannot resolve to SR-TE IGP shortcuts.

If **resolution** for the SRv4 or SRv6 tunnel family is set to **disabled**, the corresponding tunnels are resolved to IP next-hops in the multicast routing table.

To enable (disable) IGP shortcuts in the IGP instance, the user must perform a **shutdown** or **no shutdown** in the **igp-shortcut** context.

Platforms

All

tunnel-next-hop

Syntax

tunnel-next-hop

Context

[Tree] (config>router>ospf3>igp-shortcut tunnel-next-hop)

[Tree] (config>router>ospf>igp-shortcut tunnel-next-hop)

Full Context

configure router ospf3 igp-shortcut tunnel-next-hop

configure router ospf igp-shortcut tunnel-next-hop

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Description

Commands in this context configure the resolution of IGP IPv4 prefix families, IGP IPv6 prefix families, SR-ISIS IPv4 tunnel families, SR-ISIS IPv6 tunnel families, and SR-OSPF IPv4 tunnel families using IGP shortcuts.

The **resolution** node is introduced to provide flexibility in the selection of the tunnel types for each of the IP prefix and SR tunnel families.

The IPv4 **family** option causes the IS-IS or OSPF SPF to include the IPv4 IGP shortcuts in the IP reach calculation of IPv4 nodes and prefixes. RSVP-TE or SR-TE LSPs terminating on a node identified by its router ID can be used to reach IPv4 prefixes owned by this node or for which this node is the IPv4 next hop.

The IPv6 **family** option causes the IS-IS or OSPFv3 SPF to include the IPv4 IGP shortcuts in the IP reach calculation of IPv6 nodes and prefixes. RSVP-TE or SR-TE LSPs terminating on a node identified by its router ID can be used to reach IPv6 prefixes owned by this node or for which this node is the IPv6 next hop. The resolution of IPv6 prefixes is supported in OSPFv3 and in both IS-IS MT=0 and MT=2.

The IS-IS and OSPFv3 IPv6 routes resolved to IPv4 IGP shortcuts are used to:

- forward packets of IS-IS or OSPFv3 prefixes matching these routes
- forward CPM-originated IPv6 packets
- resolve the BGP next hop of BGP IPv6 prefixes
- resolve the indirect next hop of static IPv6 routes

In the data path, a packet for an IPv6 prefix has a label stack that consists of the IPv6 Explicit-Null label value of 2 at the bottom of the label stack followed by the label stack of the IPv4 RSVP-TE LSP.

There is no default behavior for IPv4 prefixes to automatically resolve to RSVP-TE or SR-TE LSPs used as IGP shortcuts by only enabling the **igp-shortcut** context. Instead, the user must enable the **ipv4 family** or **ipv6 family** and set the resolution to the value of **rsvp-te** to select the RSVP-TE tunnel type, or to the value of **sr-te** to select the SR-TE tunnel type.

Setting the **resolution** to the **any** value means that IGP selects the tunnels used as IGP shortcuts according to the TTM preference for the tunnel type. The RSVP-TE LSP type is of higher priority than the SR-TE LSP type.

An IP prefix of family=ipv4 or family=ipv6 always resolves to a single type of tunnel **rsvp-te** or **sr-te**. **Rsvp-te** type is preferred if both types are allowed by the prefix family resolution and both types exist in the set of tunnel next-hops of the prefix. The feature does not support mixing tunnel types per prefix.

If **resolution** for the IPv4 or IPv6 family is set to **disabled**, the corresponding prefixes are resolved to IP next-hops in the multicast routing table.

The **srv4 family** enables the resolution of SR-OSPF IPv4 tunnels and SR-ISIS IPv4 tunnels in MT=0 over RSVP-TE IPv4 IGP shortcuts. A maximum of 32 ECMP tunnel next-hops can be programmed for an SR-OSPF or an SR-ISIS IPv4 tunnel.

The **srv6 family** enables the resolution of SR-ISIS IPv6 tunnels in MT=0 over RSVP-TE IPv4 IGP shortcuts. A maximum of 32 ECMP tunnel next-hops can be programmed for an SR-ISIS IPv6 tunnel.

One or more RSVP-TE LSPs can be selected if **resolution**=**match-family-ip** and the corresponding IPv4 or IPv6 prefix resolves to RSVP-TE LSPs.

Note:
An SR tunnel cannot resolve to SR-TE IGP shortcuts.

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If **resolution** for the SRv4 or SRv6 tunnel family is set to **disabled**, the corresponding tunnels are resolved to IP next-hops in the multicast routing table.

To enable or disable IGP shortcuts in the IGP instance, the user must perform a **shutdown** or **no shutdown** in the **igp-shortcut** context.

Platforms

All

48.44 tunnel-port-policy

tunnel-port-policy

Syntax

tunnel-port-policy [*tunnel-port-policy*]

no tunnel-port-policy

Context

[Tree] (config>isa>wlan-gw-group tunnel-port-policy)

Full Context

configure isa wlan-gw-group tunnel-port-policy

Description

This command configures the tunnel port policy of this WLAN Gateway ISA group. If a tunnel port policy is associated with a WLAN Gateway ISA group, ports created for this group can take applicable configuration from that policy. This policy is applicable to those ports that take part in the per-tunnel QoS processing.

The **no** form of the command removes the **tunnel-port-policy** name from the configuration.

Default

no-tunnel-policy

Parameters

tunnel-port-policy

Specifies the tunnel port policy of this WLAN Gateway ISA group, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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48.45 tunnel-qinq

tunnel-qinq

Syntax

[**no**] **tunnel-qinq**

Context

[Tree] (config>port>ethernet>dot1x tunnel-qinq)

Full Context

configure port ethernet dot1x tunnel-qinq

Description

This command configures the tunneling of double tagged (QinQ) dot1x packets. When enabled, the router extracts the packets to the CPM.

The **no** form of this command disables the tunelling of the QinQ dot1x packets on the port.

Default

tunnel-qinq

Platforms

All

48.46 tunnel-query

tunnel-query

Syntax

tunnel-query *query-id* [**name** *name*] [**create**]

no tunnel-query *query-id*

Context

[Tree] (config>subscr-mgmt>wlan-gw tunnel-query)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query

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Description

This command creates a tunnel query where filter criteria over WLAN-GW tunnels are defined. This query can later be used to retrieve the state of the tunnels and Layer 2 access points (which are modeled as tunnels) matching the configured criteria.

The **no** form of this command removes the query.

Parameters

query-id

Specifies the ID assigned to a query.

Values 1 to 1024

name

Specifies the name assigned to a query, up to 32 characters.

create

Creates a tunnel query.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.47 tunnel-remote-address

tunnel-remote-address

Syntax

tunnel-remote-address *ip-address*

no tunnel-remote-address

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query tunnel-remote-address)

Full Context

configure subscriber-mgmt wlan-gw ue-query tunnel-remote-address

Description

This command enables matching on UEs that are active on a tunnel with the specified source IP address.

The **no** form of this command disables matching on the remote tunnel address.

Default

no tunnel-remote-address

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Parameters

ip-address

Specifies the IPv4 or IPv6 address of the remote tunnel.

Values		
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.48 tunnel-resource-limit

tunnel-resource-limit

Syntax

tunnel-resource-limit direction *direction* [**create**]

no tunnel-resource-limit direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter tunnel-resource-limit)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter tunnel-resource-limit

Description

This command configures a TCA for the counter capturing the usage of the total number of GTP tunnel resources. A tunnel-resource-limit TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or from the network side (**to-sub**). The **create** keyword is mandatory when creating a TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.49 tunnel-router

tunnel-router

Syntax

tunnel-router *router-instance*

no tunnel-router

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query tunnel-router)

Full Context

configure subscriber-mgmt wlan-gw ue-query tunnel-router

Description

This command enables matching on UEs that are active on a tunnel which is terminated in the specified router instance.

The **no** form of this command disables matching on the tunnel router instance.

Default

no tunnel-router

Parameters

router-instance

Specifies the routing instance.

Values *router-name* - Base

vprn-svc-id - 1 to 2147483647

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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48.50 tunnel-selection-blacklist

tunnel-selection-blacklist

Syntax

tunnel-selection-blacklist

Context

[Tree] (config>router>l2tp tunnel-selection-blacklist)

[Tree] (config>service>vprn>l2tp tunnel-selection-blacklist)

Full Context

configure router l2tp tunnel-selection-blacklist

configure service vprn l2tp tunnel-selection-blacklist

Description

Commands in this context configure L2TP tunnel selection denylist parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

48.51 tunnel-server-attrs

tunnel-server-attrs

Syntax

[**no**] **tunnel-server-attrs**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute tunnel-server-attrs)

[Tree] (config>subscr-mgmt>auth-policy>include-radius-attribute tunnel-server-attrs)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute tunnel-server-attrs

configure subscriber-mgmt authentication-policy include-radius-attribute tunnel-server-attrs

Description

This command enables the generation of the tunnel-server RADIUS attribute.

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The **no** form of this command disables the generation of the **tunnel-server-attrs** RADIUS attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

48.52 tunnel-session-limit

tunnel-session-limit

Syntax

tunnel-session-limit *session-limit*

tunnel-session-limit unlimited

no tunnel-session-limit

Context

[Tree] (config>router>l2tp tunnel-session-limit)

[Tree] (config>service>vprn>l2tp tunnel-session-limit)

Full Context

configure router l2tp tunnel-session-limit

configure service vprn l2tp tunnel-session-limit

Description

This command configures the L2TP session limit for each tunnel of the specified router.

The **no** form of this command removes the tunnel session limit value from the configuration.

Default

no tunnel-session-limit

Parameters

session-limit

Specifies the allowed number of sessions within the given context.

Values 1 to 65535

unlimited

Specifies to use the maximum number of sessions available.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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48.53 tunnel-set-size

tunnel-set-size

Syntax

tunnel-set-size *tunnel-set-size*

no tunnel-set-size

Context

[Tree] (config>router>flex-algo-class-forwarding tunnel-set-size)

Full Context

configure router flex-algo-class-forwarding tunnel-set-size

Description

This command controls the maximum number of tunnels that IS-IS is allowed to include in a single flexible algorithm bundle of tunnels. The algorithm 0 tunnel is always included in this count, so the maximum number of non-zero-algorithm tunnels toward any remote router is **tunnel-set-size** minus 1. A commit is rejected if the number of unique algorithms across all configured **map** entries is greater than **tunnel-set-size** minus 1.

The **no** form of this command reverts to the default.

Default

no tunnel-set-size

Parameters

tunnel-set-size

Specifies the tunnel set size value.

Values 2 to 8

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

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48.54 tunnel-source-ip

tunnel-source-ip

Syntax

tunnel-source-ip *ipv6-address/prefix-length*

no tunnel-source-ip

Context

[Tree] (config>router>wlan-gw>xconnect tunnel-source-ip)

[Tree] (config>service>vprn>wlan-gw>xconnect tunnel-source-ip)

Full Context

configure router wlan-gw xconnect tunnel-source-ip

configure service vprn wlan-gw xconnect tunnel-source-ip

Description

This command configures the IPv6 address and prefix for the tunnel source.

The **no** form of this command removes IPv6 address and prefix length from the cross-connect configuration.

Parameters

ipv6-address/prefix-length

Specifies the tunnel source IPv6 address and prefix length of the cross-connect.

Values ipv6-address/prefix: ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x [0..FFFF]H
d [0..255]D
(no multicast address)
prefix-length [1 to 128]

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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48.55 tunnel-table

tunnel-table

Syntax

tunnel-table [*ip-address*] [{**ldp** | **rsvp** [**tunnel-id** *tunnel-id*] | **sdp** [**sdp-id** *sdp-id*}]]

Context

[Tree] (debug>router>ip tunnel-table)

Full Context

debug router ip tunnel-table

Description

This command enables debugging for tunnel tables.

Platforms

All

48.56 tunnel-table-pref

tunnel-table-pref

Syntax

tunnel-table-pref *preference*

no tunnel-table-pref

Context

[Tree] (config>router>ldp tunnel-table-pref)

Full Context

configure router ldp tunnel-table-pref

Description

This command configures the tunnel table preference for LDP tunnel type away from its default value.

The tunnel table preference applies to the next-hop resolution of BGP routes of the following families: EVPN, IPv4, IPv6, VPN-IPv4, VPN-IPv6, label-IPv4, and label-IPv6 in the tunnel table.

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This feature does not apply to a VPRN, VPLS, or VLL service with explicit binding to an SDP that enabled the **mixed-lsp-mode** option. The tunnel preference in such an SDP is fixed and is controlled by the service manager. The configuration of the tunnel table preference parameter does not modify the behavior of such an SDP and the services that bind to it.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command reverts to the default value.

Default

tunnel-table-pref 9

Parameters

preference

Specifies the preference value.

Values 1 to 255

Default 9

Platforms

All

tunnel-table-pref

Syntax

tunnel-table-pref

Context

[Tree] (config>router>mpls tunnel-table-pref)

Full Context

configure router mpls tunnel-table-pref

Description

Commands in this context configure the tunnel table preference for RSVP-TE LSP and SR-TE LSP tunnel types.

Platforms

All

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tunnel-table-pref

Syntax

tunnel-table-pref *preference-value*

no tunnel-table-pref

Context

[Tree] (config>router>mpls>fwd-policies>fwd-policy tunnel-table-pref)

Full Context

configure router mpls forwarding-policies forwarding-policy tunnel-table-pref

Description

This command configures the TTM preference value of an MPLS forwarding policy.

The *preference-value* parameter is used by applications to select one tunnel type to bind to in TTM when multiple tunnel types are enabled for the application.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command removes the configured TTM preference parameter value of the MPLS forwarding policy and assigns the default value.

Default

no tunnel-table-pref

Parameters

preference-value

Specifies the preference value.

Values 1 to 255

Default 4

Platforms

All

tunnel-table-pref

Syntax

tunnel-table-pref *preference*

no tunnel-table-pref

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Context

[Tree] (config>router>isis>segment-routing tunnel-table-pref)

Full Context

configure router isis segment-routing tunnel-table-pref

Description

This command configures the TTM preference of SR tunnels created by the IGP instance. This is used in the case of BGP shortcuts, VPRN auto-bind, or BGP transport tunnel when the new tunnel binding commands are configured to the **any** value which parses the TTM for tunnels in the protocol preference order. The user can choose to either go with the global TTM preference or list explicitly the tunnel types they want to use. When they list the tunnel types explicitly, the TTM preference will still be used to select one type over the other. In both cases, a fallback to the next preferred tunnel type is performed if the selected one fails. Also, a reversion to a more preferred tunnel type is performed as soon as one is available.

The SR module adds to TTM a SR tunnel entry for each resolved remote node SID prefix and programs the data path with the corresponding LTN with the push operation pointing to the primary and LFA backup NHLFEs.

The default preference for SR tunnels in the TTM is set lower than LDP tunnels but higher than BGP tunnels to allow controlled migration of customers without disrupting their current deployment when they enable segment routing. The following is the setting of the default preference of the various tunnel types. This includes the preference of SR tunnels based on shortest path (referred to as **SR-ISIS** and **SR-OSPF**).

The global default TTM preference for the tunnel types is as follows:

- ROUTE_PREF_RSVP 7
- ROUTE_PREF_SR_TE 8
- ROUTE_PREF_LDP 9
- ROUTE_PREF_OSPF_TTM 10
- ROUTE_PREF_ISIS_TTM 11
- ROUTE_PREF_BGP_TTM 12
- ROUTE_PREF_GRE 255

The default value for SR-ISIS or SR-OSPF is the same regardless if one or more instances of that protocol programmed a tunnel for the same prefix. The selection of a SR tunnel in this case is based on the lowest preference IGP instance. In the case of a tie, the instance with the lowest metric SR tunnel is selected over the lowest numbered IGP instance.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command reverts to the default value for each tunnel type.

Default

tunnel-table-pref 11

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Parameters

preference

Specifies the integer value to represent the preference of IS-IS or OSPF SR tunnels in TTM.

Values 1 to 255

Platforms

All

tunnel-table-pref

Syntax

tunnel-table-pref *preference*

no tunnel-table-pref

Context

[Tree] (config>router>ospf>segm-rtng tunnel-table-pref)

[Tree] (config>router>ospf3>segm-rtng tunnel-table-pref)

Full Context

configure router ospf segment-routing tunnel-table-pref

configure router ospf3 segment-routing tunnel-table-pref

Description

This command configures the TTM preference of shortest path SR tunnels created by the IGP instance. This is used for BGP shortcuts, VPRN auto-bind, or BGP transport tunnel when the tunnel binding commands are configured to the **any** value, which parses the TTM for tunnels in the protocol preference order. The user can choose to either accept the global TTM preference or explicitly list the tunnel types they want to use. If the user lists the tunnel types explicitly, the TTM preference is still used to select one type over the other. In both cases, a fallback to the next preferred tunnel type is performed if the selected type fails. A reversion to a more preferred tunnel type is performed as soon as one is available.

The SR module adds to the TTM an SR tunnel entry for each resolved remote node SID prefix and programs the data path having the corresponding LTN with the push operation pointing to the primary and LFA backup NHLFEs.

The default preference for shortest path SR tunnels in the TTM is set lower than LDP tunnels but higher than BGP tunnels to allow controlled migration of customers without disrupting their current deployment when they enable segment routing. The following is the value of the default preference for the various tunnel types. This includes the preference of SR tunnels based on shortest path (referred to as SR-ISIS and SR-OSPF).

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Note:
The preference of an SR-TE LSP is not configurable and is the second most preferred tunnel type after RSVP-TE. The preference is the same whether if the SR-TE LSP was resolved in IS-IS or OSPF.

The global default TTM preference for the tunnel types is as follows:

- ROUTE_PREF_RSVP 7
- ROUTE_PREF_SR_TE 8
- ROUTE_PREF_LDP 9
- ROUTE_PREF_OSPF_TTM 10
- ROUTE_PREF_ISIS_TTM 11
- ROUTE_PREF_BGP_TTM 12
- ROUTE_PREF_GRE 255

The default value for SR-ISIS or SR-OSPF is the same regardless if one or more instances of that protocol programmed a tunnel for the same prefix. The selection of a SR tunnel in this case is based on the lowest preference IGP instance. In the case of a tie, the instance with the lowest metric SR tunnel is selected over the lowest numbered IGP instance. Similarly, IPv6 SR-ISIS and SR-OSPF3 tunnels are programmed into TTMv6 with the same default preference value as IPv4 SR-ISIS and IPv4 SR-OSPF respectively.

It is recommended to not set two or more tunnel types to the same preference value. In such a situation, the tunnel table prefers the tunnel type which was first introduced in SR OS implementation historically.

The **no** form of this command reverts to the default value for each tunnel type.

Default

tunnel-table-pref 10

Parameters

preference

Specifies the integer value to represent the preference of IS-IS, OSPF, or OSPF3 SR tunnels in the TTM.

Values 1 to 255

Platforms

All

48.57 tunnel-template

tunnel-template

Syntax

tunnel-template *tunnel-template-id*

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no tunnel-template

Context

[Tree] (config>ipsec>client-db>client tunnel-template)

Full Context

configure ipsec client-db client tunnel-template

Description

This command specifies the tunnel template to be used for tunnel setup.

The **no** form of this command reverts to the default.

Default

no tunnel-template

Parameters

tunnel-template-id

Specifies the identifier of the tunnel template.

Values 1 to 2048

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

tunnel-template

Syntax

tunnel-template *ipsec-template-identifier* [**create**]

no tunnel-template *ipsec-template-identifier*

Context

[Tree] (config>ipsec tunnel-template)

Full Context

configure ipsec tunnel-template

Description

This command creates a tunnel template. Up to 2000 templates are allowed.

Parameters

ipsec-template-identifier

Specifies the template identifier.

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Values 1 to 2048

create

Mandatory keyword used when creating a tunnel-template in the IPsec context. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.58 tunnel-termination

tunnel-termination

Syntax

tunnel-termination {*ip-address* | *ipv6-address*} **fpe** *fpe-id* [**create**]

no tunnel-termination {*ip-address* | *ipv6-address*}

Context

[Tree] (config>service>vprn>vxlan tunnel-termination)

Full Context

configure service vprn vxlan tunnel-termination

Description

This command instructs the system to redirect traffic to the corresponding PXC interface associated with the configured FPE when the destination IP address matches the configured tunnel termination IP address. Because the IP address is registered, the system can respond to ICMP packets directed to it.

The **no** form of this command removes the non-system IP address as the tunnel termination IP address.

Parameters

ip-address* | *ipv6-address

Specifies the non-system IPv4 or IPv6 address that terminates the VXLAN.

Values ip-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

where:

x: [0 to FFFF]H

d: [0 to 255]D

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fpe-id

Specifies the FPE identifier associated with the PXC port or LAG that processes and terminates the VXLAN.

Values 1 to 64

create

Mandatory keyword to create the FPE.

Platforms

All

tunnel-termination

Syntax

tunnel-termination *ip-address* **fpe** *fpe-id* [**create]**

no tunnel-termination *ip-address*

Context

[Tree] (config>service>system>vxlan tunnel-termination)

Full Context

configure service system vxlan tunnel-termination

Description

This command instructs the system to redirect traffic to the corresponding PXC interface associated with the configured Forwarding Path Extension (FPE) when the destination IP address matches the configured tunnel-termination IP address. The IP address is also registered, which enables the system to respond to ICMP packets directed to it.

Parameters

ip-address

Specifies the non-system IPv4 or IPv6 address that terminates the VXLAN.

fpe-id

Specifies the FPE identifier associated with the PXC port or LAG that processes and terminates the VXLAN.

Values 1 to 64

create

Creates the FPE.

Platforms

All

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tunnel-termination

Syntax

tunnel-termination [*ip-address* | *ipv6-address*] **fpe** *fpe-id* [**create**]

no tunnel-termination [*ip-address* | *ipv6-address*]

Context

[Tree] (config>service>system>gre-eth-bridged tunnel-termination)

Full Context

configure service system gre-eth-bridged tunnel-termination

Description

This command configures an end-point IP address for a GRE tunnel carrying Ethernet payload that is to be terminated on a PW SAP. It also associates this IP address with the FPE object that is providing cross-connect logic between the tunnel and the PW port. This IP address fully supports ICMP protocols such as PING, traceroute, and others.

Parameters

ip-address

The tunnel end-point IP address in the SR OS node.

ipv6-address

The tunnel end-point IPv6 address in the SR OS node.

fpe id

The FPE ID that is providing cross-connect service between the GRE tunnel and the PW port.

Values 1 to 64

Platforms

All

48.59 tunnel-type

tunnel-type

Syntax

tunnel-type {**gre** | **l2tp** | **l2** | **vxlan** | **not-specified**}

no tunnel-type

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Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query tunnel-type)

Full Context

configure subscriber-mgmt wlan-gw ue-query tunnel-type

Description

This command enables matching on UEs that are active on a tunnel of the specified type. The **not-specified** value disables matching on the tunnel type.

The **no** form of this command reverts to the default.

Default

tunnel-type not-specified

Parameters

gre

Specifies that the tunnel is of type GRE.

l2tp

Specifies that the tunnel is of type L2TPv3.

l2

Specifies that the UE is connected over a Layer 2 access point.

vxlan

Specifies that the tunnel is of type VXLAN.

not-specified

Specifies that no tunnel type matches on UEs.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

48.60 tunneling

tunneling

Syntax

[**no**] **tunneling**

Context

[Tree] (config>port>ethernet>efm-oam tunneling)

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Full Context

configure port ethernet efm-oam tunneling

Description

This command enables EFM OAM PDU tunneling. Enabling tunneling will allow a port mode Epipe SAP to pass OAM frames through the pipe to the far end.

The **no** form of this command disables tunneling.

Default

no tunneling

Platforms

All

tunneling

Syntax

[**no**] **tunneling**

Context

[Tree] (config>port>ethernet>dot1x tunneling)

Full Context

configure port ethernet dot1x tunneling

Description

This command enables the tunneling of untagged 802.1x frames received on a port and is supported only when **dot1x port-control** is set to **force-auth**. 802.1x tunneling is applicable to both Epipe and VPLS services using either a null SAP or a default SAP on a dot1q port. When configured, untagged 802.1x frames will be switched into the service with the corresponding supported SAP.

The **no** form of this command disables tunneling of untagged 802.1x frames.

Default

no tunneling

Platforms

All

tunneling

Syntax

[**no**] **tunneling**

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Context

[Tree] (config>router>ldp>targ-session>peer-template tunneling)

[Tree] (config>router>ldp>targ-session>peer tunneling)

Full Context

configure router ldp targeted-session peer-template tunneling

configure router ldp targeted-session peer tunneling

Description

This command enables LDP over tunnels.

The **no** form of this command disables tunneling.

Default

no tunneling

Platforms

All

tunneling

Syntax

[**no**] **tunneling**

Context

[Tree] (config>router>ldp>targ-session>auto-tx>ipv4 tunneling)

[Tree] (config>router>ldp>targ-session>auto-rx>ipv4 tunneling)

Full Context

configure router ldp targeted-session auto-tx ipv4 tunneling

configure router ldp targeted-session auto-rx ipv4 tunneling

Description

This command enables the local system to use the targeted LDP session to send FEC/label bindings that it has advertised to other LDP peers. For LDP rLFA, the source node requires the PQ node's label binding information in order to reach the destination. Therefore, this command must be enabled for the **auto-rx** context. However, because **auto-rx** has lower precedence, **tunneling** must be enabled under the **auto-tx** command, in case **auto-rx** is in a **no shutdown** state on the same system.

The **no** form of this command disables the local system from sending FEC/label bindings.

Default

no tunneling

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Platforms
All

tunneling

Syntax
[no] tunneling

Context
[Tree] (config>port>ethernet>down-when-looped tunneling)

Full Context
configure port ethernet down-when-looped tunneling

Description
This command configures DWL tunneling on the port.

The **no** form of this command disables DWL tunneling.

Default
tunneling

Platforms
All

48.61 twamp

twamp

Syntax
twamp

Context
[Tree] (config>test-oam twamp)

Full Context
configure test-oam twamp

Description
This command enables TWAMP functionality.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.62 twamp-light

twamp-light

Syntax

twamp-light [**test-id** *test-id*] [**create**]

no twamp-light

Context

[Tree] (config>oam-pm>session>ip twamp-light)

Full Context

configure oam-pm session ip twamp-light

Description

This command assigns an identifier to the TWAMP Light test and creates the individual test.

The **no** form of this command removes the TWAMP Light test function from the OAM-PM session.

Parameters

test-id

Specifies the value of the 4-byte local test identifier not sent in the TWAMP Light packets.

Values 0 to 2147483647 | **auto**

auto - automatically assigns a *test-id*

create

Creates the test.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp-light

Syntax

twamp-light

Context

[Tree] (config>router twamp-light)

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[Tree] (config>service>vprn twamp-light)

[Tree] (config>test-oam>twamp twamp-light)

Full Context

configure router twamp-light

configure service vprn twamp-light

configure test-oam twamp twamp-light

Description

Commands in this context configure TWAMP Light parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp-light

Syntax

twamp-light

Context

[Tree] (config>test-oam>link-meas>template twamp-light)

Full Context

configure test-oam link-measurement measurement-template twamp-light

Description

Commands in this context configure TWAMP Light test values.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp-light

Syntax

twamp-light

Context

[Tree] (config>router>if>if-attr>delay>dyn twamp-light)

Full Context

configure router interface if-attribute delay dynamic twamp-light

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Description

Commands in this context configure TWAMP Light parameters that are used with the **measurement-template** when assigned to IP interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp-light

Syntax

twamp-light

Context

[Tree] (config>test-oam>lag-meas>template twamp-light)

Full Context

configure test-oam lag-ip-measurement lag-ip-measurement-template twamp-light

Description

Commands in this context configure the TWAMP Light packet values.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.63 two-way-delay-test

two-way-delay-test

Syntax

two-way-delay-test {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*]

Context

[Tree] (oam>eth-cfm two-way-delay-test)

Full Context

oam eth-cfm two-way-delay-test

Description

This command issues an ETH-CFM two-way delay test.

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Parameters

mac-address

Specifies a unicast destination MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

remote-mepid *mep-id*

Specifies the remote MEP ID of the peer within the association. The domain and association information are derived from the **source mep** for the session. The Layer 2 IEEE MAC address is resolved from previously-learned remote MAC addressing, derived from the reception and processing of the ETH-CC PDU. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

priority

Specifies the priority.

Values 0 to 7

Default 7

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.64 two-way-slm-test

two-way-slm-test

Syntax

two-way-slm-test {*mac-address* | **remote-mepid** *mep-id*} **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**priority** *priority*] [**send-count** *send-count*] [**size** *data-size*] [**timeout** *timeout*] [**interval** *interval*]

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Context

[Tree] (oam>eth-cfm two-way-slm-test)

Full Context

oam eth-cfm two-way-slm-test

Description

This command configures an Ethernet CFM two-way SLM test in SAA.

Parameters

mac-address

Specifies a unicast destination MAC address in the format xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

remote-mepid *mep-id*

Specifies the remote MEP ID of the peer within the association. The domain and association information are derived from the source MEP for the session. The Layer 2 IEEE MAC address is resolved from previously-learned remote MAC addressing, derived from the reception and processing of the ETH-CC PDU. The local MEP must be administratively enabled.

Values 1 to 8191

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

priority

Specifies the priority.

Values 0 to 7

Default 7

send-count

Specifies the number of messages to send, expressed as a decimal integer. The count parameter is used to override the default number of message requests sent. The message interval value must be expired before the next message request is sent.

Values 1 to 1000

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Default 1

data-size

Specifies the size of the data portion of the data TLV. If 0 is specified, no data TLV is added to the packet.

Values 0 to 1500

Default 0

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. After the expiration of message time out, the requesting router assumes that the message response is not received. Any response received after the request times out is silently discarded. The *timeout* value must be less than the interval.

Values 1 to 10

Default 5

interval

Specifies the **interval** parameter in seconds, expressed as a decimal integer. This parameter is used to configure the spacing between probes within a test run.

Values 0.1 to 0.9, 1 to 10

Default 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.65 tx

tx

Syntax

tx

Context

[Tree] (config>subscr-mgmt>pfcp-association tx)

Full Context

configure subscriber-mgmt pfcp-association tx

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Description

Commands in this context configure parameters that determine how PFCP messages are sent.

Default

tx

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

tx

Syntax

tx auto-generated

tx bytes *byte-string* [*byte-string*...(up to 64 byte-strings max, 64 bytes max)]

tx string *identifier*

no tx

Context

[Tree] (config>port>otu>pm-tti tx)

Full Context

configure port otu pm-tti tx

Description

This command enables the user to configure the transmit (tx) trail trace identifier (TTI) for path monitoring (PM) in the ODU overhead. This identifier can be a string or a non-printable sequence of bytes. The length of the string or sequence of bytes cannot exceed 64 bytes.

The **no** form of this command reverts to the default TTI value.

Default

Auto-generated in the format of *nodename:iomnum/mdanum/portnum/dwdmchan*

The auto-generated value has five sections:

- Nodename — The first section is the name of the node.
- iomnum — The second section contains the IOM slot number.
- mdanum — The third section contains the MDA slot number.
- portnum — The fourth section contains the port number.
- dwdmchan — The fifth section contains the DWDM channel number (see the table "DWDM Channel Numbers” in the **channel** command [**config>port>dwdm channel** and **config>port>dwdm>coherent channel**]).

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Parameters

auto-generated

Specifies to use the system generated (default) TTI.

identifier

Sets the PM TTI to the string provided by the user. If the string is less than 64 bytes, the remaining bytes will be set to 0.

byte-string

Sets the PM TTI to the sequence of bytes provided by the user. If the user provides less than 64 bytes, the remaining bytes will be set to 0. A 1 byte sequence of 0xFF will set the default strings. Up to 64 byte strings can be specified in a single statement.

Values 0 to FF, in hexadecimal byte notation

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx

Syntax

tx *byte*

tx auto

Context

[Tree] (config>port>otu>psi-payload tx)

Full Context

configure port otu psi-payload tx

Description

This command allows the user to configure the transmit payload type value in byte 0 of the payload structure identifier (PSI) of the OPU overhead.

Default

3 for 10GE-LAN/WAN or OC192 with OTU encapsulation; 5 for GFP framed 10GE-LAN with OTU encapsulation.

Parameters

auto

Transmits the standard value in the payload type field.

byte

Specifies the transmit payload type value in bytes.

Values [00 to FF] Hexadecimal notation

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Default 00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx

Syntax

tx auto-generated

tx bytes *byte-string* [*byte-string*)]

tx string *identifier*

no tx

Context

[Tree] (config>port>otu>sm-tti tx)

Full Context

configure port otu sm-tti tx

Description

This command allows the user to configure the transmit (tx) trail trace identifier (TTI) for section monitoring (SM) in the OTU overhead. This identifier can be a string or a non-printable sequence of bytes. The length of the string or sequence of bytes cannot exceed 64 bytes.

The **no** form of this command reverts to the default TTI value.

Default

Auto-generated in the format of *nodename:iomnum/mdanum/portnum/dwdmchan*

The auto-generated value has five sections:

- Nodename — The first section is the name of the node.
- iomnum — The second section contains the IOM slot number.
- mdanum — The third section contains the MDA slot number.
- portnum — The fourth section contains the port number.
- dwdmchan — The fifth section contains the DWDM channel number (see the table "DWDM Channel Numbers” in the **channel** command [**config>port>dwdm channel** and **config>port>dwdm>coherent channel**]).

Parameters

auto-generated

Specifies to use the system generated (default) TTI.

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identifier

Sets the SM TTI to the string provided by the user. If the string is less than 64 bytes, the remaining bytes will be set to 0. Up to 64 byte strings can be specified in a single statement.

byte-string

Sets the SM TTI to the sequence of bytes provided by the user. If the user provides less than 64 bytes, the remaining bytes will be set to 0. A 1 byte sequence of 0xFF will set the default strings.

Values 0 to FF, in hexadecimal byte notation

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.66 tx-credit-max

tx-credit-max

Syntax

tx-credit-max *count*

no tx-credit-max

Context

[Tree] (config>system>lldp tx-credit-max)

Full Context

configure system lldp tx-credit-max

Description

This command configures the maximum consecutive LLDPDUs transmitted.

The **no** form of this command reverts to the default value.

Default

no tx-credit-max

Parameters

count

Specifies the maximum consecutive LLDPDUs transmitted.

Values 1 to 100

Default 5

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Platforms

All

48.67 tx-dus

tx-dus

Syntax

[**no**] **tx-dus**

Context

[Tree] (config>port>sonet-sdh tx-dus)

[Tree] (config>port>ethernet>ssm tx-dus)

Full Context

configure port sonet-sdh tx-dus

configure port ethernet ssm tx-dus

Description

This command forces the QL value transmitted from the SSM channel of the SONET/SDH port or the Synchronous Ethernet port to be set to QL-DUS/QL-DNU. This capability is provided to block the use of the interface from the SR/ESS for timing purposes.

This command is supported on TDM satellite.

Default

no tx-dus

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure port sonet-sdh tx-dus

All

- configure port ethernet ssm tx-dus

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48.68 tx-eth-ed

tx-eth-ed

Syntax

[**no**] **tx-eth-ed**

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>port>ethernet>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>lag>eth-cfm>mep>grace>eth-ed tx-eth-ed)

Full Context

configure eth-tunnel path eth-cfm mep grace eth-ed tx-eth-ed

configure eth-ring path eth-cfm mep grace eth-ed tx-eth-ed

configure port ethernet eth-cfm mep grace eth-ed tx-eth-ed

configure lag eth-cfm mep grace eth-ed tx-eth-ed

Description

This command enables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP when a system soft reset notification is received for one or more cards.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP.

Default

no tx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx-eth-ed

Syntax

[**no**] **tx-eth-ed**

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Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

Full Context

configure service epipe spoke-sdp eth-cfm mep grace eth-ed tx-eth-ed

configure service epipe sap eth-cfm mep grace eth-ed tx-eth-ed

configure service ipipe sap eth-cfm mep grace eth-ed tx-eth-ed

Description

This command enables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP when a system soft reset notification is received for one or more cards.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP.

Default

no tx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx-eth-ed

Syntax

[**no**] **tx-eth-ed**

Context

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>vpls>eth-cfm>mep>grace>eth-ed tx-eth-ed)

Full Context

configure service vpls mesh-sdp eth-cfm mep grace eth-ed tx-eth-ed

configure service vpls sap eth-cfm mep grace eth-ed tx-eth-ed

configure service vpls spoke-sdp eth-cfm mep grace eth-ed tx-eth-ed

configure service vpls eth-cfm mep grace eth-ed tx-eth-ed

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Description

This command enables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP when a system soft reset notification is received for one or more cards.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP.

Default

no tx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx-eth-ed

Syntax

[**no**] **tx-eth-ed**

Context

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

Full Context

configure service ies interface sap eth-cfm mep grace eth-ed tx-eth-ed

configure service ies interface spoke-sdp eth-cfm mep grace eth-ed tx-eth-ed

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed tx-eth-ed

Description

This command enables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP when a system soft reset notification is received for one or more cards.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP.

Default

no tx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure service ies interface spoke-sdp eth-cfm mep grace eth-ed tx-eth-ed
- configure service ies interface sap eth-cfm mep grace eth-ed tx-eth-ed

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-ed tx-eth-ed

tx-eth-ed

Syntax

[**no**] **tx-eth-ed**

Context

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace>eth-ed tx-eth-ed)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-ed tx-eth-ed)

Full Context

configure service vprn interface sap eth-cfm mep grace eth-ed tx-eth-ed

configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed tx-eth-ed

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed tx-eth-ed

Description

This command enables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP when a system soft reset notification is received for one or more cards.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP.

Default

no tx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep grace eth-ed tx-eth-ed
- configure service vprn interface sap eth-cfm mep grace eth-ed tx-eth-ed

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-ed tx-eth-ed

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tx-eth-ed

Syntax

[**no**] **tx-eth-ed**

Context

[Tree] (config>router>if>eth-cfm>mep>grace>eth-ed tx-eth-ed)

Full Context

configure router interface eth-cfm mep grace eth-ed tx-eth-ed

Description

This command enables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP when a system soft reset notification is received for one or more cards.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the ITU-T Y.1731 ETH-ED PDU from the MEP.

Default

no tx-eth-ed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.69 tx-eth-vsm-grace

tx-eth-vsm-grace

Syntax

[**no**] **tx-eth-vsm-grace**

Context

[Tree] (config>eth-tunnel>path>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>port>ethernet>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>lag>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>eth-ring>path>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

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Full Context

configure eth-tunnel path eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure port ethernet eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure lag eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure eth-ring path eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

Description

This command enables the transmission of the Nokia ETH-CFM Grace PDU from the MEP when a system soft reset notification is received for one or more cards.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the Nokia ETH-CFM Grace PDU from the MEP.

Default

tx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx-eth-vsm-grace

Syntax

[**no**] **tx-eth-vsm-grace**

Context

[Tree] (config>service>epipe>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>epipe>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>ipipe>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

Full Context

configure service epipe spoke-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service epipe sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service ipipe sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

Description

This command enables the transmission of the Nokia ETH-CFM Grace PDU from the MEP when a system soft reset notification is received for one or more cards.

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The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the Nokia ETH-CFM Grace PDU from the MEP.

Default

tx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx-eth-vsm-grace

Syntax

[**no**] **tx-eth-vsm-grace**

Context

[Tree] (config>service>vpls>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>vpls>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>vpls>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

Full Context

configure service vpls spoke-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service vpls sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service vpls mesh-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service vpls eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

Description

This command enables the transmission of the Nokia ETH-CFM Grace PDU from the MEP when a system soft reset notification is received for one or more cards.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the Nokia ETH-CFM Grace PDU from the MEP.

Default

tx-eth-vsm-grace

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

tx-eth-vsm-grace

Syntax

[**no**] **tx-eth-vsm-grace**

Context

[Tree] (config>service>ies>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>ies>if>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>ies>if>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

Full Context

configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service ies interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service ies interface spoke-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

Description

This command enables the transmission of the Nokia ETH-CFM Grace PDU from the MEP when a system soft reset notification is received for one or more cards.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the Nokia ETH-CFM Grace PDU from the MEP.

Default

tx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service ies subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service ies interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace
- configure service ies interface spoke-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

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tx-eth-vsm-grace

Syntax

[**no**] **tx-eth-vsm-grace**

Context

[Tree] (config>service>vprn>if>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>vprn>if>spoke-sdp>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

[Tree] (config>service>vprn>sub-if>grp-if>sap>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

Full Context

configure service vprn interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service vprn interface spoke-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

Description

This command enables the transmission of the Nokia ETH-CFM Grace PDU from the MEP when a system soft reset notification is received for one or more cards.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the Nokia ETH-CFM Grace PDU from the MEP.

Default

tx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service vprn interface spoke-sdp eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace
- configure service vprn interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service vprn subscriber-interface group-interface sap eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

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tx-eth-vsm-grace

Syntax

[**no**] **tx-eth-vsm-grace**

Context

[Tree] (config>router>if>eth-cfm>mep>grace>eth-vsm-grace tx-eth-vsm-grace)

Full Context

configure router interface eth-cfm mep grace eth-vsm-grace tx-eth-vsm-grace

Description

This command enables the transmission of the Nokia ETH-CFM Grace PDU from the MEP when a system soft reset notification is received for one or more cards.

The Nokia Grace function is a vendor-specific PDU that informs MEP peers that the local node may be entering a period of expected defect.

The **config**>**eth-cfm**>**system**>**grace-tx-enable** command must be configured to instruct the system that the node is capable of transmitting expected defect windows to the peers. Only one form of ETH-CFM grace (Nokia ETH-CFM Grace or ITU-T Y.1731 ETH-ED) may be transmitted.

The **no** form of this command disables the transmission of the Nokia ETH-CFM Grace PDU from the MEP.

Default

tx-eth-vsm-grace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.70 tx-extended-ql-tlv

tx-extended-ql-tlv

Syntax

[**no**] **tx-extended-ql-tlv**

Context

[Tree] (config>port>ethernet>ssm tx-extended-ql-tlv)

Full Context

configure port ethernet ssm tx-extended-ql-tlv

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Description

This command configures the extended QL TLV for inclusion in transmitted ESMC messages.

The **no** form of this command disables the inclusion of the TLV in the ESMC frames.

Default

tx-extended-ql-tlv

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.71 tx-hold-multiplier

tx-hold-multiplier

Syntax

tx-hold-multiplier *multiplier*

no tx-hold-multiplier

Context

[Tree] (config>system>lldp tx-hold-multiplier)

Full Context

configure system lldp tx-hold-multiplier

Description

This command configures the multiplier of the tx-interval.

The **no** form of this command reverts to the default value.

Default

no tx-hold-multiplier

Parameters

multiplier

Specifies the multiplier of the tx-interval.

Values 2 to 10

Default 4

Platforms

All

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48.72 tx-interval

tx-interval

Syntax

tx-interval *interval*

no tx-interval

Context

[Tree] (config>system>lldp tx-interval)

Full Context

configure system lldp tx-interval

Description

This command configures the LLDP transmit interval time.

The **no** form of this command reverts to the default value.

Default

no tx-interval

Parameters

interval

Specifies the LLDP transmit interval time.

Values 5 to 32768

Default 30

Platforms

All

48.73 tx-mgmt-address

tx-mgmt-address

Syntax

tx-mgmt-address [**system**] [**system-ipv6**] [**oob**] [**oob-ipv6**]

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no tx-mgmt-address

Context

[Tree] (config>port>ethernet>lldp>dstmac tx-mgmt-address)

Full Context

configure port ethernet lldp dest-mac tx-mgmt-address

Description

This command specifies which management address to transmit. The operator can choose to send the system IPv4 address, the system IPv6 address, the out-of-band IPv4 address, the out-of-band IPv6 address, or any combination of these. The system address is sent only once. The address must be configured for the specific version of the protocol in order to send the management address.

The **no** form of the command resets value to the default.

Default

no tx-mgmt-address

Parameters

system

Specifies to use the system IP address. The system address will only be transmitted once it has been configured if this parameter is specified.

system-ipv6

Specifies to use the system IPv6 address. The system address will only be transmitted once it has been configured if this parameter is specified.

oob

Specifies to use the out-of-band IPv4 address for active CPM.

oob-ipv6

Specifies to use the out-of-band IPv6 address for active CPM.

Platforms

All

tx-mgmt-address

Syntax

tx-mgmt-address [**system**] [**system-ipv6**] [**oob**] [**oob-ipv6**]

no tx-mgmt-address

Context

[Tree] (config>lag>lldp-member-template>dstmac tx-mgmt-address)

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Full Context

configure lag lldp-member-template dest-mac tx-mgmt-address

Description

This command configures the management address to transmit. The operator can choose to send the system IPv4 address, system IPv6 address, out-of-band IPv4 address, out-of-band IPv6 address, or any combination of these. The system address is sent only once. The address must be configured for the specific version of the protocol to send the management address.

The **no** form of this command reverts to the default value.

Default

no tx-mgmt-address

Parameters

system

Keyword to use the system IP address. The system address is only transmitted after it has been configured if this keyword is specified.

system-ipv6

Keyword to use the system IPv6 address. The system address must be configured before it can be transmitted using this keyword.

oob

Keyword to use the out-of-band IPv4 address for active CPM.

oob-ipv6

Keyword to use the out-of-band IPv6 address for active CPM.

Platforms

All

48.74 tx-path-trace

tx-path-trace

Syntax

[**no**] **tx-path-trace**

Context

[Tree] (config>system>ptp tx-path-trace)

Full Context

configure system ptp tx-path-trace

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Description

This command configures the local PTP clock to include the PATH_TRACE TLV in Announce messages.

The **no** form of this command disables the inclusion of the PATH_TRACE TLV in Announce messages transmitted by the local PTP clock.

Default

no tx-path-trace

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.75 tx-pause-frames

tx-pause-frames

Syntax

[**no**] **tx-pause-frames**

Context

[Tree] (config>port>ethernet tx-pause-frames)

Full Context

configure port ethernet tx-pause-frames

Description

This command enables the transmission of PAUSE frames, when required, based on the rate of the received traffic.

This command is only supported for FP4- or FP5-based ports on the 7750 SR and 7950 XRS.

This command is not supported for ports configured as satellite host, ESA host, or PXC.

The **no** form of this command disables the transmission of the PAUSE frames.

Default

tx-pause-frames

Platforms

All

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48.76 tx-timer

tx-timer

Syntax

tx-timer *seconds*

no tx-timer

Context

[Tree] (config>subscr-mgmt>diameter-application-policy tx-timer)

Full Context

configure subscriber-mgmt diameter-application-policy tx-timer

Description

This command defines the time-out period for the application's request messages (CCR-I/U/T).

The **on-failure** configuration determines the action that taken once the message times out.

The **no** form of this command reverts to the default value.

Default

tx-timer 10

Parameters

seconds

Specifies the Tx Timer value (in seconds) for this policy.

Values 10 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

48.77 tx-tlvs

tx-tlvs

Syntax

tx-tlvs [**port-desc**] [**sys-name**] [**sys-desc**] [**sys-cap**]

no tx-tlvs

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Context

[Tree] (config>port>ethernet>lldp>dstmac tx-tlvs)

Full Context

configure port ethernet lldp dest-mac tx-tlvs

Description

This command specifies which LLDP TLVs to transmit. The TX TLVs, defined as a bitmap, includes the basic set of LLDP TLVs whose transmission is allowed on the local LLDP agent by the network management. Each bit in the bitmap corresponds to a TLV type associated with a specific optional TLV. Organizationally-specific TLVs are excluded from this bitmap.

There is no bit reserved for the management address TLV type since transmission of management address TLVs are controlled by another object.

The **no** form of this command resets the value to the default.

Default

no tx-tlvs

Parameters

port-desc

Indicates that the LLDP agent should transmit port description TLVs.

sys-name

Indicates that the LLDP agent should transmit system name TLVs.

sys-desc

Indicates that the LLDP agent should transmit system description TLVs.

sys-cap

Indicates that the LLDP agent should transmit system capabilities TLVs.

Platforms

All

tx-tlvs

Syntax

tx-tlvs [**port-desc**] [**sys-name**] [**sys-desc**] [**sys-cap**]

no tx-tlvs

Context

[Tree] (config>lag>lldp-member-template>dstmac tx-tlvs)

Full Context

configure lag lldp-member-template dest-mac tx-tlvs

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Description

This command configures which LLDP TLVs to transmit. The TX TLVs, defined as a bitmap, include the basic set of LLDP TLVs whose transmission is allowed on the local LLDP agent by the network management. Each bit in the bitmap corresponds to a TLV type associated with a specific optional TLV. Organizationally specific TLVs are excluded from this bitmap.

No bit is reserved for the management address TLV type because transmission of these TLVs is controlled by another object.

The **no** form of this command reverts to the default value.

Default

no tx-tlvs

Parameters

port-desc

Keyword to specify that the LLDP agent transmits port description TLVs.

sys-name

Keyword to specify that the LLDP agent transmits system name TLVs.

sys-desc

Keyword to specify that the LLDP agent transmits system description TLVs.

sys-cap

Keyword to specify that the LLDP agent transmits system capabilities TLVs.

Platforms

All

48.78 tx-while-sync-uncertain

tx-while-sync-uncertain

Syntax

[**no**] **tx-while-sync-uncertain**

Context

[Tree] (config>system>ptp tx-while-sync-uncertain)

Full Context

configure system ptp tx-while-sync-uncertain

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Description

This command configures the local PTP clock to transmit Announce messages to downstream clocks, indicating it has not yet stabilized on the recovered synchronization source (upstream clocks or GM clock). While the PTP clock is unsynchronized, the SyncUncertain state is true.

The **no** form of this command prevents the local PTP clock from sending Announce messages to downstream clocks to indicate it is not synchronized to a valid timing source. If the **no** form of this command is used while the clock's SyncUncertain state is true, unicast negotiation grant requests are not granted and current grants are canceled.

Default

tx-while-sync-uncertain

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

48.79 type

type

Syntax

type {**sr-mpls** | **srv6**}

Context

[Tree] (conf>router>segment-routing>sr-policies>policy type)

Full Context

configure router segment-routing sr-policies static-policy type

Description

This command configures the type of the static policy. Only commands relevant to the type of the static policy (SRv6 or SR-MPLS) can be executed. The type of the static policy can only be changed to a new type if there is no configuration present for the old type, or if all configuration for the old type is deleted.

Default

type sr-mpls

Parameters

sr-mpls

Specifies segment routing MPLS.

srv6

Specifies segment routing IPv6.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

type

Syntax

type *reflector-type*

Context

[Tree] (config>service>vprn>twamp-light>refl type)

[Tree] (config>router>twamp-light>reflector type)

Full Context

configure service vprn twamp-light reflector type

configure router twamp-light reflector type

Description

This command configures the processing behavior of the TWAMP Light reflector. When the value is **twamp-light**, the reflector does not check the received PDU as a traditional base TWAMP Light packet without TLV processing. When the value is **stamp**, the reflector attempts to find and process supported STAMP TLVs that follow the base STAMP packet.

In mixed environments where different types of session senders may be targeting a common TWAMP Light reflector, the value should be set to stamp. When the reflector is operating in stamp mode, the primary parsing is based on STAMP, checking and processing known TLVs, and also determining when TLVs are not present and the arriving PDU is a TWAMP Light PDU. A session sender launching a TWAMP Light-based packet must use all zeros and a padding pattern zero when the pad size is non zero.

Default

type twamp-light

Parameters

reflector-type

Specifies the type of processing behavior for the reflector.

Values stamp, twamp-light

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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type

Syntax

[**no**] **type** {**internal** | **external**}

Context

[Tree] (config>subscr-mgmt>bgp-prng-plcy type)

Full Context

configure subscriber-mgmt bgp-peering-policy type

Description

This command designates the BGP peer as type internal or external.

The type of **internal** indicates the peer is an IBGP peer while the type of **external** indicates that the peer is an EBGP peer.

By default, the OS derives the type of neighbor based on the local AS specified. If the local AS specified is the same as the AS of the router, the peer is considered **internal**. If the local AS is different, then the peer is considered **external**.

The **no** form of this command used at the group level reverts to the default value.

Parameters

internal

Configures the peer as internal.

external

Configures the peer as external.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

type

Syntax

[**no**] **type**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query type)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query type

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Description

This command enables matching on specific tunnel types. If no tunnel type match criteria is specified, type matching is implicitly disabled.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

type

Syntax

type [*type*] [**vendor-id** *vendor-id*]

no type

Context

[Tree] (config>router>radius-proxy>server>attribute-matching type)

[Tree] (config>service>vprn>radius-proxy>server>attribute-matching type)

Full Context

configure router radius-proxy server attribute-matching type

configure service vprn radius-proxy server attribute-matching type

Description

This command specifies the RADIUS VSA type for the entries to be matched with.

Parameters

type

Specifies the RADIUS server policy matching attribute-type.

Values 1 to 255

vendor-id

Specifies the vendor ID number.

Values 1 to 16777215, **nokia**

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

type

Syntax

[**no**] **type** {**internal** | **external**}

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Context

[Tree] (config>service>vprn>bgp>group type)

[Tree] (config>service>vprn>bgp>group>neighbor type)

Full Context

configure service vprn bgp group type

configure service vprn bgp group neighbor type

Description

This command designates the BGP peer as type internal or external.

The type of **internal** indicates the peer is an IBGP peer while the type of external indicates that the peer is an EBGP peer.

By default, the OS derives the type of neighbor based on the local AS specified. If the local AS specified is the same as the AS of the router, the peer is considered **internal**. If the local AS is different, then the peer is considered **external**.

The **no** form of this command used at the group level reverts to the default value.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no type

Parameters

internal

Configures the peer as internal.

external

Configures the peer as external.

no type

Type of neighbor is derived on the local AS specified.

Platforms

All

type

Syntax

type [**hub** | **spoke** | **subscriber-split-horizon**]

no type

Context

[Tree] (config>service>vprn type)

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Full Context

configure service vprn type

Description

This command designates the type of VPRN instance being configured for hub and spoke topologies. Use the **no** form to reset to the default of a fully meshed VPRN.

Default

no type

Parameters

hub

Specifies a hub VPRN which allows all traffic from the hub SAPs to be routed to the destination directly, while all traffic from spoke VPRNs or network interfaces can only be routed to a hub SAP.

spoke

Specifies a spoke VPRN which allows traffic from associated SAPs or spoke terminations to only be forwarded through routes learned from separate VPRN, which should be configured as a type Hub VPRN.

subscriber-split-horizon

Controls the flow of traffic for wholesale subscriber applications.

Platforms

All

type

Syntax

[**no**] **type**

Context

[Tree] (config>saa>test type)

Full Context

configure saa test type

Description

This command creates the context to provide the test type for the named test. Only a single test type can be configured.

A test can only be modified while the test is in shut down mode.

Once a test type has been configured, the command can be modified by re-entering the command. However, the test type must be the same as the previously entered test type.

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To change the test type, the old command must be removed using the **config>saa>test>no type** command.

The **no** form of this command removes the test type parameters from the configuration.

Platforms

All

type

Syntax

type *filter-type*

no type

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria type)

[Tree] (config>qos>sap-ingress>ip-criteria type)

Full Context

configure qos sap-ingress ipv6-criteria type

configure qos sap-ingress ip-criteria type

Description

This command sets the **ip-criteria** and **ipv6-criteria** type to control the type of match entries configurable in this context.

Default

type normal

Parameters

filter-type

Specifies which type of entries that the **ip-criteria** and **ipv6-criteria** statements can contain.

Values **normal** — Regular match criteria are allowed; VXLAN VNI matching is not allowed.

tagged-entries — Specifies that entries within that criteria statement are tagged. Tagged entries are not populated by default, they are only populated when their tag value is activated using the criteria override under an Ethernet SAP.

The **type** can only be changed from **normal** to **tagged-entries** if there are no **ip-criteria** or **ipv6-criteria** entries configured and the SAP ingress QoS policy is not applied to any object.

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A SAP ingress QoS policy configured with a criteria statement with **type tagged-entries** is not supported within an SLA profile, sub profile or MSAP policy, or under an IES/VPRN group interface SAP.

The configuration of **type tagged-entries** is mutually exclusive with the configuration of the **match dst-port** in the same criteria statement.

vxlan-vni — Matching is allowed on a VXLAN VNI for VXLAN and VXLAN GPE frames.

The type cannot be changed when **ip-criteria** or **ipv6-criteria** entries are configured. If there are no **ip-criteria** or **ipv6-criteria** entries configured, the type can be changed from **vxlan-vni** to **normal**. The type can only be changed from **normal** to **vxlan-vni** if there are no **ip-criteria** or **ipv6-criteria** entries configured but it is necessary that the SAP ingress QoS policy is also not applied to any object in order to change from **normal** to **vxlan-vni**.

A SAP ingress QoS policy configured with **type vxlan-vni** can be applied to any Ethernet SAPs, except for a PW-SAP, B-VPLS SAP, or CCAG SAP, in any applicable service.

Platforms

All

type

Syntax

type *filter-type*

no type

Context

[Tree] (config>qos>sap-ingress>mac-criteria type)

Full Context

configure qos sap-ingress mac-criteria type

Description

This command sets the mac-criteria type.

Default

type normal

Parameters

filter-type

Specifies which type of entries this MAC filter can contain.

Values **normal** — Regular match criteria are allowed; ISID match not allowed.

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vid — Configures the VID filter type used to match on ethernet_II frame types. This allows matching VLAN tags for explicit filtering.

Platforms

All

type

Syntax

type *redirect-list-type*

no type

Context

[Tree] (config>qos>queue-group-redirect-list type)

Full Context

configure qos queue-group-redirect-list type

Description

This command configures the type of a queue group redirect list. The default value is **vxlan-vni**, which is the only possible value.

Parameters

redirect-list-type

Specifies the type of the queue group redirect list. The queue group redirect list is used to match VXLAN VNIs in IPv4 and IPv6 VXLAN or VXLAN GPE packets.

Values vxlan-vni

Platforms

All

type

Syntax

type {**normal** | **src-mac** | **packet-length**| **destination-class**}

Context

[Tree] (config>filter>ip-filter type)

[Tree] (config>filter>ipv6-filter type)

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Full Context

configure filter ip-filter type

configure filter ipv6-filter type

Description

This command configures the filter policy type. The policy type defines the list of match criteria supported in a filter policy.

Default

type normal

Parameters

normal

Specifies the default filter policy type.

src-mac

Specifies the source MAC filter policy type to match on source MAC addresses in VPLS services.

packet-length

Specifies the packet-length filter policy type to match on the total packet length.

destination-class

Specifies the destination-class filter policy. This filter policy type is supported on egress networks, IES, VPRN, and R-VPLS interfaces.

Platforms

All

type

Syntax

type *filter-type*

Context

[Tree] (config>filter>mac-filter type)

Full Context

configure filter mac-filter type

Description

This command configures the MAC Filter Policy type as being either normal, ISID or VID.

Default

type normal

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Parameters

filter-type

Specifies which type of entry this MAC filter can contain.

Values **normal** — regular match criteria are allowed; ISID or VID filter match criteria not allowed

isid — only ISID match criteria are allowed

vid — only VID match criteria are allowed on ethernet_II frame types

Platforms

All

type

Syntax

type {**cpm-np**}

no type

Context

[Tree] (config>router>bfd>bfd-template type)

Full Context

configure router bfd bfd-template type

Description

This command selects the CPM network processor as the local termination point for the BFD session. This is enabled by default.

The **no** form of this command reverts to the default behavior.

Default

no type

Platforms

All

type

Syntax

type *file-url* [**no-redirect**] [**client-tls-profile** *profile*] [**proxy** *proxy-url*] [**router** *router-instance*]

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Context

[Tree] (file type)

Full Context

file type

Description

This command displays the contents of a text file.

Parameters

file-url

Specifies the file contents to display.

Values		
	local-url	[*cflash-id/*][*file-path*] up to 200 characters, including cflash-id directory length up to 99 each
	remote-url	[{ftp | tftp | sftp | http | https}:///*login*:*pswd@remote-locn/*][*file-path*]
		up to 247 characters
		directory length up to 99 characters each
	remote-locn	[hostname | ipv4-address | [ipv6-address]]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
		x:x:x:x:x:x:d.d.d.d[-*interface*]
		x - [0 to FFFF]H
		d - [0 to 255]D
		interface - up to 32 characters, for link local addresses
	cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

profile

Specifies the TLS client profile configured under **config**>**system**>**security**>**tls**> **client-tls-profile** to use.

proxy-url

Specifies the URL of an HTTP proxy. For example, http://proxy.mydomain.com:8000. This URL must be an HTTP URL and not an HTTPS URL.

no-redirect

Keyword to automatically refuse any HTTP redirects without prompting the user.

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router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance: *router-name* | *vprn-svc-id*

router-name: "Base" | "management" | "vpls-management"

vprn-svc-id: 1 to 2147483647

Platforms

All

type

Syntax

type *schedule-type*

Context

[Tree] (config>system>cron>sched type)

Full Context

configure system cron schedule type

Description

This command specifies how the system should interpret the commands contained within the schedule node.

Default

type periodic

Parameters

schedule-type

Specifies the type of schedule for the system to interpret the commands contained within the schedule node.

Values

periodic — Specifies a schedule which runs at a given interval. The interval must be specified for this feature to run successfully.

calendar — Specifies a schedule which runs based on a calendar. The month, weekday, day-of-month, and minute parameters must be specified for this feature to run successfully.

oneshot — Specifies a schedule which runs one time only. As soon as the first event specified in these parameters takes place and the associated event occurs, the schedule enters a shutdown state. The

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month, weekday, day-of-month, and minute parameters must be specified for this feature to run successfully.

Default periodic

Platforms

All

type

Syntax

type *indicator-type*

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>progress-indicator type)

Full Context

configure system management-interface cli md-cli environment progress-indicator type

Description

This command specifies the type of progress indicator used in the MD-CLI.

Default

type dots

Parameters

indicator-type

Specifies the progress indicator type.

Values **dots**: displays the progress indicator as dynamically changing dots

Platforms

All

type

Syntax

type all

type [**gnmi-capabilities**] [**gnmi-get**] [**gnmi-set**] [**gnmi-subscribe**] [**gnoi-cert-mgmt-rpcs**]

no type

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Context

[Tree] (debug>system>grpc type)

Full Context

debug system grpc type

Description

This command enables debugging for all RPCs or a particular RPC.

The **no** form of this command deactivates debugging for all RPCs.

Parameters

all

Specifies that debugging is enabled for all RPCs.

gnmi-capabilities

Specifies that debugging is enabled for gNMI capability RPC.

gnmi-get

Specifies that debugging is enabled for gNMI get RPC.

gnmi-set

Specifies that debugging is enabled for gNMI set RPC.

gnmi-subscribe

Specifies that debugging is enabled for gNMI subscribe RPC.

gnoi-cert-mgmt-rpcs

Specifies that debugging is enabled for gNOI certificate management RPCs.

Platforms

All

type

Syntax

[**no**] **type** {**internal** | **external**}

Context

[Tree] (config>router>bgp>group type)

[Tree] (config>router>bgp>group>neighbor type)

Full Context

configure router bgp group type

configure router bgp group neighbor type

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Description

This command designates the BGP peer as type internal or external.

The type of **internal** indicates the peer is an IBGP peer while the type of external indicates that the peer is an EBGP peer.

By default, the router derives the type of neighbor based on the local AS specified. If the local AS specified is the same as the AS of the router, the peer is considered **internal**. If the local AS is different, then the peer is considered **external**.

The **no** form of this command used at the group level reverts to the default value.

The **no** form of this command used at the neighbor level reverts to the value defined at the group level.

Default

no type

Parameters

internal

Configures the peer as internal.

external

Configures the peer as external.

Platforms

All

type

Syntax

type {**1** | **2**}

no type

Context

[Tree] (config>router>policy-options>policy-statement>entry>from type)

Full Context

configure router policy-options policy-statement entry from type

Description

This command configures an OSPF type metric as a match criterion in the route policy statement entry.

If no type is specified, any OSPF type is considered a match.

The **no** form of this command removes the OSPF type match criterion.

Default

no type

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Parameters

1

Matches OSPF routes with type 1 LSAs.

2

Matches OSPF routes with type 2 LSAs.

Platforms

All

type

Syntax

type {*type* | *param-name*}

no type

Context

[Tree] (config>router>policy-options>policy-statement>entry>action type)

[Tree] (config>router>policy-options>policy-statement>default-action type)

Full Context

configure router policy-options policy-statement entry action type

configure router policy-options policy-statement default-action type

Description

This command sets the subtype for the Type 5 LSA (external LSA).

The **no** form of this command disables assigning a type in the route policy entry.

Default

type 2

Parameters

type

Specifies the type metric.

Values Subtype 1 — The external metric in the external LSA is comparable with the internal metric, and thus one can sum up all the metrics along the path (both internal and external) to get the total cost to the destination.

Subtype 2 — The metric in the external LSA is much more important than the internal metric, so the internal metrics should only be considered when comparing two external routes that have the same external metric.

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param-name

The type parameter variable name. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Policy parameters must start and end with at-signs (@); for example, "@variable@".

Platforms

All

48.80 type-multi-line

type-multi-line

Syntax

[**no**] **type-multi-line**

Context

[Tree] (config>saa>test type-multi-line)

Full Context

configure saa test type-multi-line

Description

This command creates the context to configure the OAM probe type and its parameters in a flexible multi-line format.

The **no** form of this command removes the context.

Platforms

All

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49 u Commands

49.1 ua

ua

Syntax

[**no**] **ua** *function-value*

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func ua)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function ua

Description

Commands in this context configure the attributes of the uA micro-SID function associated with a P2P interface. The uA micro-SID function encodes the behavior of an adjacency SID.

The range of allowed configurable values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uA micro-SID.

Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

A static function value can be configured for each combination of SRH mode and protection type.

For a specified interface, the static function value associated with the same combination of protection type and SRH mode overrides any corresponding automatically allocated function value (**ua-auto-allocate** command configuration).

If more than one value is configured for an interface and combination of SRH mode and protection type, they are all advertised in IS-IS.

When used in remote TI-LFA repair tunnel programming, IS-IS uses rules to select one uA value from the multiple values received in IS-IS link advertisements.

The values assigned to loopback and system interfaces are not advertised in IS-IS.

The uA micro-SID functions for adjacencies over broadcast interfaces are always automatically allocated based on the configuration of the following command:

```
configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator
 function ua-auto-allocate
```

The **no** form of this command removes the function value from the configuration.

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Parameters

function-value

Specifies the SRv6 uA function.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.2 ua-auto-allocate

ua-auto-allocate

Syntax

[**no**] **ua-auto-allocate srh-mode** *srh-mode* **protection** *protection*

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func ua-auto-allocate)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function ua-auto-allocate

Description

This command configures a list entry for the automatic allocation of the uA micro-SID function for all adjacencies over all network interfaces on the router (P2P and broadcast interfaces).

Auto-allocated uA function value (N) is drawn by the system from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

A list entry is a combination of the protection type and the SRH mode. Any combinations in addition to the maximum number of entries supported by this command must be allocated statically for each P2P interface. The maximum number of entries in this list is two.

When no list entries are configured, no uA function values are automatically allocated by default for a micro-segment locator.

Note:
Any change to this list causes a re-allocation of new function values to all interfaces on the router that results in flooding them to the network and triggers a new SPF in all routers.

The **no** form of this command removes the function value from the configuration.

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Parameters

srh-mode

Specifies the SRH mode for the SID.

Values psp — Penultimate Segment Pop (PSP) of the SRH

usp — Ultimate Segment Pop (USP) of the SRH

psp-usd — Supports both PSP of the SRH and Ultimate Segment Decapsulation (USD) on the same SID

usp-usd — Supports both USP of the SRH and USD on the same SID

psp-usp-usd — Supports PSP and USP of the SRH with USD on the same SID

protection

Specifies whether the adjacency SID is protected.

Values protected, unprotected

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.3 udp

udp

Syntax

[**no**] **udp**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter udp)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel>resolution-filter udp)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter udp)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel>resolution-filter udp)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel resolution-filter udp

configure service vprn bgp-ipvpn mpls auto-bind-tunnel resolution-filter udp

configure service epipe bgp-evpn mpls auto-bind-tunnel resolution-filter udp

configure service vprn bgp-evpn mpls auto-bind-tunnel resolution-filter udp

Description

This command selects the MPLS-over-UDP tunnel type programmed in TTM.

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The **udp** value instructs BGP EVPN to search for a UDP LSP to the address of the BGP next hop.

The **no** form of this command removes the selected MPLS-over-UDP tunnel type.

Default

no udp

Platforms

All

udp

Syntax

udp [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no udp

Context

[Tree] (config>service>nat>up-nat-policy>timeouts udp)

[Tree] (config>service>nat>nat-policy>timeouts udp)

[Tree] (config>service>nat>firewall-policy>timeouts udp)

Full Context

configure service nat up-nat-policy timeouts udp

configure service nat nat-policy timeouts udp

configure service nat firewall-policy timeouts udp

Description

This command configures the UDP mapping timeout.

Default

udp min 5

Parameters

hours

Specifies the timeout hours field.

Values 1 to 24

minutes

Specifies the timeout minutes field.

Values 1 to 59

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seconds

Specifies the timeout seconds field.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts udp
- configure service nat up-nat-policy timeouts udp

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts udp

udp

Syntax

udp src *udp-port* **dest** *udp-port*

no udp

Context

[Tree] (config>mirror>mirror-dest>encap>layer-3-encap>gateway udp)

Full Context

configure mirror mirror-dest encap layer-3-encap gateway udp

Description

This command configures the source UDP port and destination UDP port to use in the UDP header part of the routable LI encapsulation.

Parameters

udp-port

Specifies source UDP port.

Values 1 to 65535

Platforms

All

udp

Syntax

udp

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Context

[Tree] (debug>oam>build-packet>packet>field-override>header udp)

[Tree] (config>test-oam>build-packet>header udp)

Full Context

debug oam build-packet packet field-override header udp

configure test-oam build-packet header udp

Description

This command creates a UDP header and enables the context to define the associated parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

udp

Syntax

[**no**] **udp**

Context

[Tree] (config>router>bgp>next-hop-resolution>labeled-routes>transport-tunnel>family>resolution-filter udp)

Full Context

configure router bgp next-hop-resolution labeled-routes transport-tunnel family resolution-filter udp

Description

This command selects UDP tunnel in TTM for next-hop resolution.

Platforms

All

udp

Syntax

udp

Context

[Tree] (config>service>vprn>auto-bind-tunnel>res-filter udp)

Full Context

configure service vprn auto-bind-tunnel resolution-filter udp

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Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

49.4 udp-dns

udp-dns

Syntax

udp-dns [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no udp-dns

Context

[Tree] (config>service>nat>up-nat-policy>timeouts udp-dns)

[Tree] (config>service>nat>nat-policy>timeouts udp-dns)

[Tree] (config>service>nat>firewall-policy>timeouts udp-dns)

Full Context

configure service nat up-nat-policy timeouts udp-dns

configure service nat nat-policy timeouts udp-dns

configure service nat firewall-policy timeouts udp-dns

Description

This command configures the timeout applied to a UDP session with destination port 53.

Default

udp-dns sec 15

Parameters

hours

Specifies the timeout hours field.

Values 1 to 24

minutes

Specifies the timeout minutes field.

Values 1 to 59

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seconds

Specifies the timeout seconds field.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts udp-dns
- configure service nat up-nat-policy timeouts udp-dns

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts udp-dns

49.5 udp-dst

udp-dst

Syntax

udp-dst *udp-port*

no udp-dst

Context

[Tree] (config>li>mirror-dest-template>layer-3-encap udp-dst)

Full Context

configure li mirror-dest-template layer-3-encap udp-dst

Description

This command configures the destination UDP port to be used in the UDP header of the routable LI encapsulation.

Parameters

udp-port

Specifies the destination UDP port.

Values 1 to 65535

Platforms

All

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49.6 udp-dst-port

udp-dst-port

Syntax

udp-dst-port *port*

no udp-dst-port

Context

[Tree] (config>mcast-mgmt>mcast-rprt-dest udp-dst-port)

Full Context

configure mcast-management mcast-reporting-dest udp-dst-port

Description

This command specifies the UDP destination port of the external node to which IGMP events are exported.

The **no** form of this command reverts to the default.

Parameters

port

Specifies the UDP port to send multicast reports.

Values 1 to 65535

Platforms

All

49.7 udp-inbound-refresh

udp-inbound-refresh

Syntax

[**no**] **udp-inbound-refresh**

Context

[Tree] (config>service>nat>nat-policy udp-inbound-refresh)

[Tree] (config>service>nat>up-nat-policy udp-inbound-refresh)

[Tree] (config>service>nat>firewall-policy udp-inbound-refresh)

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Full Context

configure service nat nat-policy udp-inbound-refresh

configure service nat up-nat-policy udp-inbound-refresh

configure service nat firewall-policy udp-inbound-refresh

Description

This command enables UDP session timeout extended on inbound traffic.

The **no** form of the command disables UDP session timeout extended on inbound traffic.

Default

no udp-inbound-refresh

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy udp-inbound-refresh
- configure service nat nat-policy udp-inbound-refresh

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy udp-inbound-refresh

49.8 udp-initial

udp-initial

Syntax

udp-initial [**min** *minutes*] [**sec** *seconds*]

no udp-initial

Context

[Tree] (config>service>nat>up-nat-policy>timeouts udp-initial)

[Tree] (config>service>nat>firewall-policy>timeouts udp-initial)

[Tree] (config>service>nat>nat-policy>timeouts udp-initial)

Full Context

configure service nat up-nat-policy timeouts udp-initial

configure service nat firewall-policy timeouts udp-initial

configure service nat nat-policy timeouts udp-initial

Description

This command configures the UDP mapping timeout applied to new sessions.

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Default

udp-initial sec 15

Parameters

minutes

Specifies the timeout minutes field.

Values 1 to 59

seconds

Specifies the timeout seconds field.

Values 1 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat nat-policy timeouts udp-initial
- configure service nat up-nat-policy timeouts udp-initial

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy timeouts udp-initial

49.9 udp-port

udp-port

Syntax

udp-port *udp-port-number*

Context

[Tree] (config>service>vprn>mtrace2 udp-port)

[Tree] (config>router>mtrace2 udp-port)

Full Context

configure service vprn mtrace2 udp-port

configure router mtrace2 udp-port

Description

This command specifies the destination and listening port for the **mtrace2** command. When it is configured, this command generates Mtrace2 packets with the configured UDP port, and also listens on the same port for any incoming Mtrace2 packets.

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Port 33435 is the IANA-assigned port for Mtrace2. On several operating systems (for example, Linux OS, SR OS), this port is also used by traceroute. On SR OS, if port 33435 is configured as the Mtrace2 port, SR OS does not respond to traceroute on this port.

Default

5000

Parameters

udp-port-number

Specifies the UDP port for the test.

Values 1024 to 49151

Platforms

All

49.10 udp-protocols

udp-protocols

Syntax

udp-protocols *protocol-set*

Context

[Tree] (config>app-assure>group>tether-detect>ttl-mon udp-protocols)

Full Context

configure application-assurance group tethering-detection ttl-monitoring udp-protocols

Description

This command configures whether AA analyzes all UDP traffic or only traffic from standard applications that generate consistent TTL values. Configuring AA to analyze only standard UDP traffic is recommended.

Default

udp-protocols standard

Parameters

protocol-set

Specifies the scope of analysis for UDP traffic.

Values standard, all

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.11 udp-return-object

udp-return-object

Syntax

udp-return-object *ip-address*

no udp-return-object

Context

[Tree] (config>oam-pm>session>mpls>lsp>rsvp udp-return-object)

[Tree] (config>oam-pm>session>mpls>lsp>rsvp-auto udp-return-object)

Full Context

configure oam-pm session mpls lsp rsvp udp-return-object

configure oam-pm session mpls lsp rsvp-auto udp-return-object

Description

This command configures the destination IP address used by the far end of the test to send a test response. The UDP port in the UDP-Return Object is set to 64353 for MPLS DM PDUs.

RSVP tunnels are unidirectional and must include a configured local address for the responder can route the response back by the IP control plane. If the configuration is absent, the DN test fails to activate. If the configured IP address is not a local address, the command fails.

The **no** form of this command removes the udp-return-object IP address.

Parameters

ip-address

Specifies the destination IP.

Values

ipv4-address -a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x: [0..FFFF]H

d: [0..255]D

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

49.12 udp-src

udp-src

Syntax

udp-src *udp-port*

no udp-src

Context

[Tree] (config>li>mirror-dest-template>layer-3-encap udp-src)

Full Context

configure li mirror-dest-template layer-3-encap udp-src

Description

This command configures the source UDP port to be used in the UDP header of the routable LI encapsulation.

Parameters

udp-port

Specifies the source UDP port.

Values 1 to 65535

Platforms

All

49.13 udt2m

udt2m

Syntax

udt2m [*function-value*]

no udt2m

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Context

[Tree] (config>service>vpls>srv6>ms-locator>function udt2m)

Full Context

configure service vpls segment-routing-v6 micro-segment-locator function udt2m

Description

This command configures the SRv6 uDT2M behavior and function value that is associated with the SRv6 instance in the service. This means that decapsulation and table lookup for IPv6 prefixes occurs in the VPLS service.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT2M micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

If no value is configured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT2M function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.14 udt2u

udt2u

Syntax

udt2u [*function-value*]

no udt2u

Context

[Tree] (config>service>vpls>srv6>ms-locator>function udt2u)

Full Context

configure service vpls segment-routing-v6 micro-segment-locator function udt2u

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Description

This command configures the SRv6 uDT2U behavior and function value that is associated with the SRv6 instance in the service. This means that decapsulation and table lookup for IPv6 prefixes occurs in the VPLS service.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT2U micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

If no value is configured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT2U function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.15 udt4

udt4

Syntax

udt4 [*function-value*]

no udt4

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func udt4)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function udt4

Description

This command configures the SRv6 micro-segment uDT4 behavior and function value associated with the base routing instance. This implies that decapsulation and table lookup for IPv4 prefixes occurs in the base routing table. These prefixes can be static routes or routes advertised in BGP.

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The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT4 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

When unconfigured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT4 function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

udt4

Syntax

udt4 [*function-value*]

no udt4

Context

[Tree] (config>service>vprn>srv6>ms-locator>function udt4)

Full Context

configure service vprn segment-routing-v6 micro-segment-locator function udt4

Description

This command configures the SRv6 uDT4 behavior and function value that is associated with the SRv6 instance in the service. This implies that decapsulation and table lookup for IPv4 prefixes occurs in the VPRN.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT4 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

If no value is configured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

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Parameters

function-value

Specifies the SRv6 micro-segment uDT4 function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.16 udt46

udt46

Syntax

udt46 [*function-value*]

no udt46

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func udt46)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function udt46

Description

This command configures the SRv6 micro-segment uDT46 behavior and function value associated with the base routing instance. This implies that decapsulation and table lookup for IPv4 prefixes occurs in the base routing table. These prefixes can be static routes or routes advertised in BGP.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT46 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

When unconfigured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT46 function value.

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Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

udt46

Syntax

udt46 [*function-value*]

no udt46

Context

[Tree] (config>service>vprn>srv6>ms-locator>function udt46)

Full Context

configure service vprn segment-routing-v6 micro-segment-locator function udt46

Description

This command configures the SRv6 uDT46 behavior and function value that is associated with the SRv6 instance in the service. This implies that decapsulation and table lookup for IPv4 and IPv6 prefixes occurs in the VPRN.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT46 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

If no value is configured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT46 function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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49.17 udt6

udt6

Syntax

udt6 [*function-value*]

no udt6

Context

[Tree] (config>router>segment-routing>srv6>inst>ms-loc>func udt6)

Full Context

configure router segment-routing segment-routing-v6 base-routing-instance micro-segment-locator function udt6

Description

This command configures the SRv6 micro-segment uDT6 behavior and function value associated with the base routing instance. This implies that decapsulation and table lookup for IPv4 prefixes occurs in the base routing table. These prefixes can be static routes or routes advertised in BGP.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT6 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

When unconfigured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT6 function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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udt6

Syntax

udt6 [*function-value*]

no udt6

Context

[Tree] (config>service>vprn>srv6>ms-locator>function udt6)

Full Context

configure service vprn segment-routing-v6 micro-segment-locator function udt6

Description

This command configures the SRv6 uDT6 behavior and function value that is associated with the SRv6 instance in the service. This implies that decapsulation and table lookup for IPv6 prefixes occurs in the VPRN.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDT6 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

If no value is configured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDT6 function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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49.18 udx2

udx2

Syntax

udx2 [*function-value*]

no udx2

Context

[Tree] (config>service>epipe>srv6>ms-locator>function udx2)

Full Context

configure service epipe segment-routing-v6 micro-segment-locator function udx2

Description

This command configures the SRv6 micro-segment uDX2 behavior and function value that is associated with the SRv6 instance in the service. This means that decapsulation and cross-connect to the egress SAP occurs in the Epipe service.

The range of allowed configurables values is [1, max-entries]. This draws the Nth value (where N = function-value) of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1] to form a uDX2 micro-SID. Static micro-SID values range in [1024*global-sid-entries, 1024*global-sid-entries + max-entries – 1].

If no value is configured, the system draws a function value (N) from the following range [max-entries + 1, 2^sid-length – 1024*global-sid-entries] and the effective micro-SID value is the Nth value of the local micro-SID range [1024*global-sid-entries, 2^sid-length – 1]. Dynamic micro-SID values range in [1024*global-sid-entries + max-entries, 2^sid-length – 1].

The **no** form of this command removes the function behavior and value from the configuration.

Parameters

function-value

Specifies the SRv6 micro-segment uDX2 function value.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

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49.19 ue

ue

Syntax

ue *ieee-address* [**profile** *trace-profile-name*]

no ue *ieee-address*

Context

[Tree] (debug>call-trace>wlan-gw ue)

Full Context

debug call-trace wlan-gw ue

Description

This command starts tracing the UE with the specified MAC address. The trace is started with default parameters or optionally parameters specified in the trace-profile.

The **no** form of this command stops the trace and make sure no new traces are started.

Parameters

ieee-address

Displays information about the MAC address of this UE.

trace-profile-name

Specifies the name of a configured trace profile.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.20 ue-creation-type

ue-creation-type

Syntax

[**no**] **ue-creation-type**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes ue-creation-type)

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Full Context

configure aaa isa-radius-policy acct-include-attributes ue-creation-type

Description

This command enables including the Alc-Wlan-Ue-Creation-Type.

Default

no ue-creation-type

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.21 ue-query

ue-query

Syntax

ue-query *query-id* [**name** *name*] [**create**]

no ue-query *query-id*

Context

[Tree] (config>subscr-mgmt>wlan-gw ue-query)

Full Context

configure subscriber-mgmt wlan-gw ue-query

Description

This command creates a UE query where filter criteria over WLAN-GW ISA UEs are defined. This query can later be used to retrieve state of the UEs matching the configured criteria.

The **no** form of this command removes the query.

Parameters

query-id

Specifies the ID assigned to a query.

Values 1 to 1024

name

Specifies the name assigned to a query, up to 32 characters.

create

Creates a UE query.

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.22 ue-state

ue-state

Syntax

[**no**] **ue-state**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query ue-state)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query ue-state

Description

This command enables matching on a specific UE state. Multiple states can be provisioned. If no UE state specifier is configured, UE state matching is disabled (all UEs match).

This match criteria can be combined with minimum and maximum match criteria, which will then apply only to UEs of the specified state.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.23 uli

uli

Syntax

[**no**] **uli**

Context

[Tree] (config>subscr-mgmt>auth-plcy>include-radius-attribute uli)

Full Context

configure subscriber-mgmt authentication-policy include-radius-attribute uli

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Description

This command enables the inclusion of the User Location Information in AAA protocols as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the attribute.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

uli

Syntax

[**no**] **uli**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute uli)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute uli

Description

This command, in case of ESM over GTP access, includes the ULI VSA in accounting. This VSA contains the last VSA as received via GTP. Use the **configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change uli-change** command to trigger an interim accounting update whenever ULI changes.

The **no** form of this command disables inclusion of the ULI VSA.

Default

no uli

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.24 uli-change

uli-change

Syntax

[**no**] **uli-change**

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Context

[Tree] (config>subscr-mgmt>acct-plcy>triggered-updates>gc uli-change)

Full Context

configure subscriber-mgmt radius-accounting-policy triggered-updates gtp-change uli-change

Description

This command configures the router to send an interim accounting update when a user location change is detected.

The **no** form of the command configures the router not to send an interim accounting update when a user location change is detected.

Default

no uli-change

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.25 umh-pe

umh-pe

Syntax

umh-pe *ip-address* **standby** *ip-address*

no umh-pe *ip-address*

Context

[Tree] (config>service>vprn>mvpn>umh-pe-backup umh-pe)

Full Context

configure service vprn mvpn umh-pe-backup umh-pe

Description

This command assigns a standby PE to each primary PE that must be selected as an alternative PE in case the UFD session on tunnel from primary PE is detected down. Standby for a PE cannot be modified without shutting down the MVPN instance.

If a primary PE is not assigned a standby PE then the UMH selection would fall back to the default method.

Platforms

All

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49.26 umh-pe-backup

umh-pe-backup

Syntax

umh-pe-backup

Context

[Tree] (config>service>vprn>mvpn umh-pe-backup)

Full Context

configure service vprn mvpn umh-pe-backup

Description

This command enables context to configure primary and standby upstream PE association for the MVPN.

Platforms

All

49.27 umh-rate-monitoring

umh-rate-monitoring

Syntax

umh-rate-monitoring

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive umh-rate-monitoring)

[Tree] (config>service>vprn>mvpn>pt>selective umh-rate-monitoring)

Full Context

configure service vprn mvpn provider-tunnel inclusive umh-rate-monitoring

configure service vprn mvpn provider-tunnel selective umh-rate-monitoring

Description

Commands in this context configure bandwidth monitoring for UMH redundancy.

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Platforms

All

49.28 umh-selection

umh-selection

Syntax

umh-selection {**highest-ip** | **hash-based** | **tunnel-status** | **unicast-rt-pref**}

no umh-selection

Context

[Tree] (config>service>vprn>mvpn umh-selection)

Full Context

configure service vprn mvpn umh-selection

Description

This command specifies which UMH selection mechanism to use, highest IP address, hash based or provider tunnel status.

The **no** form of this command resets it back to default.

Default

umh-selection highest-ip

Parameters

highest-ip

Specifies that the highest next-hop IP address is selected as UMH. The RTM may have just one next-hop to the source, but **highest-ip** uses all of the next-hops available to BGP that appear in the BGP database.

hash-based

Specifies that the UMH selection is based on hash-based procedures set out in RFC 6513, section 5.1.3. The RTM may have just one next-hop to the source, but **hash-based** uses all of the next-hops available to BGP that appear in the BGP database.

tunnel-status

Specifies that UMH selection is based on the state of the tunnel as well as the available unicast routes through the tunnel. Not supported for IPv6.

unicast-rt-pref

When selected, best unicast route will decide which UMH is chosen. All PE routers shall prefer the same route to the UMH for the UMH selection criterion (for example BGP path selection criteria must not influence one PE to choose different UMH from another PE).

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Platforms
All

49.29 un

un

Syntax
un

Context
[Tree] (conf>router>segment-routing>srv6>micro-segment-locator un)

Full Context
configure router segment-routing segment-routing-v6 micro-segment-locator un

Description
Commands in this context configure parameters associated with the uN function.

Platforms
7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.30 unavailability-event

unavailability-event

Syntax
unavailability-event {**forward** | **backward** | **aggregate**} **threshold** *raise-threshold* [**clear** *clear-threshold*]
no unavailability-event {**forward** | **backward** | **aggregate**}

Context
[Tree] (config>oam-pm>session>ip>twamp-light>loss-events unavailability-event)
[Tree] (config>oam-pm>session>ethernet>slm>loss-events unavailability-event)
[Tree] (config>oam-pm>session>ethernet>lmm>loss-events unavailability-event)

Full Context
configure oam-pm session ip twamp-light loss-events unavailability-event
configure oam-pm session ethernet slm loss-events unavailability-event

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configure oam-pm session ethernet lmm loss-events unavailability-event

Description

This command sets the threshold to be applied to the overall count of the unavailability indicators, not transitions, per configured direction. This value is compared to the 32-bit unavailability counter specific to the direction which tracks the number of individual Delta-Ts that have been recorded as unavailable.

The **no** form of this command removes the event threshold for the frame loss ratio. The direction must be included with the **no** command.

Default

no unavailability-event forward

no unavailability-event backward

no unavailability-event aggregate

Parameters

forward

Keyword to apply the threshold to the forward direction count.

backward

Keyword to apply the threshold to the backward direction count.

aggregate

Keyword to apply the threshold to the aggregate count (sum of forward and backward). The aggregate is a function of summing forward and backward. This value is only used as a threshold mechanism and is not part of the stored statistics.

raise-threshold

Specifies a numerical value compared to the unavailability counter that is the rising threshold that determines when the event is to be generated, when value reached.

Values 1 to 864000

clear-threshold

Specifies an optional value used for stateful behavior to configure a percentage of loss value lower than the rising percentage to indicate when to generate the clear event.

If the optional **clear** *clear-threshold* parameter is not specified, the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and regardless of any previous window. Each unique event can only be raised once within the measurement interval.

If the optional **clear** *clear-threshold* parameter is specified, the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to the following measurement intervals. If a threshold crossing event is raised another is raised until a measurement interval completes and the clear threshold has not been exceeded. A clear event is raised under that condition.

Values 0 to 863999

A value of zero means that the unavailability counter must be 0.

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Default clear threshold disabled

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure oam-pm session ip twamp-light loss-events unavailability-event

All

- configure oam-pm session ethernet lmm loss-events unavailability-event
- configure oam-pm session ethernet slm loss-events unavailability-event

49.31 uncoloured-octets-offered-count

uncoloured-octets-offered-count

Syntax

[**no**] **uncoloured-packets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters uncoloured-octets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters uncoloured-octets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters uncoloured-octets-offered-count

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters uncoloured-octets-offered-count

Description

This command includes the uncolored octets offered in the count.

The **no** form of this command excludes the uncolored octets offered in the count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

uncoloured-octets-offered-count

Syntax

[**no**] **uncoloured-octets-offered-count**

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Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters uncoloured-octets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters uncoloured-octets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters uncoloured-octets-offered-count

configure log accounting-policy custom-record policer e-counters uncoloured-octets-offered-count

Description

This command includes the uncoloured octets offered count.

The **no** form of this command excludes the uncoloured octets offered count.

Default

no uncoloured-octets-offered-count

Platforms

All

uncoloured-octets-offered-count

Syntax

[**no**] **uncoloured-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters uncoloured-octets-offered-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters uncoloured-octets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters uncoloured-octets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters uncoloured-octets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer i-counters uncoloured-octets-offered-count

configure log accounting-policy custom-record queue i-counters uncoloured-octets-offered-count

configure log accounting-policy custom-record policer i-counters uncoloured-octets-offered-count

configure log accounting-policy custom-record ref-queue i-counters uncoloured-octets-offered-count

Description

This command includes the uncoloured octets offered in the count.

The **no** form of this command excludes the uncoloured octets offered in the count.

Default

no uncoloured-octets-offered-count

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Platforms

All

49.32 uncoloured-packets-offered-count

uncoloured-packets-offered-count

Syntax

[**no**] **uncoloured-packets-offered-count**

Context

[Tree] (config>subscr-mgmt>acct-plcy>cr>ref-queue>i-counters uncoloured-packets-offered-count)

[Tree] (config>subscr-mgmt>acct-plcy>cr>queue>i-counters uncoloured-packets-offered-count)

Full Context

configure subscriber-mgmt radius-accounting-policy custom-record ref-queue i-counters uncoloured-packets-offered-count

configure subscriber-mgmt radius-accounting-policy custom-record queue i-counters uncoloured-packets-offered-count

Description

This command includes the uncoloured packets offered count.

The **no** form of this command excludes the uncoloured packets offered count.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

uncoloured-packets-offered-count

Syntax

[**no**] **uncoloured-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-policer>e-counters uncoloured-packets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>e-counters uncoloured-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-policer e-counters uncoloured-packets-offered-count

configure log accounting-policy custom-record policer e-counters uncoloured-packets-offered-count

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Description

This command includes the uncoloured packets offered count.

The **no** form of this command excludes the uncoloured packets offered count.

Default

no uncoloured-packets-offered-count

Platforms

All

uncoloured-packets-offered-count

Syntax

[**no**] **uncoloured-packets-offered-count**

Context

[Tree] (config>log>acct-policy>cr>ref-queue>i-counters uncoloured-packets-offered-count)

[Tree] (config>log>acct-policy>cr>policer>i-counters uncoloured-packets-offered-count)

[Tree] (config>log>acct-policy>cr>ref-policer>i-counters uncoloured-packets-offered-count)

[Tree] (config>log>acct-policy>cr>queue>i-counters uncoloured-packets-offered-count)

Full Context

configure log accounting-policy custom-record ref-queue i-counters uncoloured-packets-offered-count

configure log accounting-policy custom-record policer i-counters uncoloured-packets-offered-count

configure log accounting-policy custom-record ref-policer i-counters uncoloured-packets-offered-count

configure log accounting-policy custom-record queue i-counters uncoloured-packets-offered-count

Description

This command includes the uncolored packets offered count.

The **no** form of this command excludes the uncoloured packets offered count.

Default

no uncoloured-packets-offered-count

Platforms

All

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49.33 uncommitted-changes-indicator

uncommitted-changes-indicator

Syntax

[**no**] **uncommitted-changes-indicator**

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>prompt uncommitted-changes-indicator)

Full Context

configure system management-interface cli md-cli environment prompt uncommitted-changes-indicator

Description

This command displays the change indicator.

The **no** form of this command suppresses the change indicator.

Default

uncommitted-changes-indicator

Platforms

All

49.34 unconstrained-bw

unconstrained-bw

Syntax

unconstrained-bw *bandwidth* **mandatory-bw** *mandatory-bw*

no unconstrained-bw

Context

[Tree] (config>subscr-mgmt>sub-mcac-plcy unconstrained-bw)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac unconstrained-bw)

Full Context

configure subscriber-mgmt sub-mcac-policy unconstrained-bw

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configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac unconstrained-bw

Description

This command configures the bandwidth for the interface or subscriber's multicast CAC policy traffic. When disabled (**no unconstrained-bw**), there is no checking of bandwidth constraints on the interface or subscriber level. When enabled and a policy is defined, enforcement is performed. The allocated bandwidth for optional channels should not exceed the **unconstrained-bw** minus the **mandatory-bw** and the mandatory channels have to stay below the specified value for the **mandatory-bw**. After this interface and subscriber check, the bundle checks are performed.

The **no** form of this command reverts to the default.

Parameters

bandwidth

Specifies bandwidth assigned for interface's MCAC policy traffic, in kilobits per second (kb/s).

Values 0 to 2147483647

mandatory-bw

Specifies the bandwidth pre-reserved for all the mandatory channels on a given interface in kilobits per second (kb/s).

If the *bandwidth* value is 0, no mandatory channels are allowed. If the value of *bandwidth* is '-1', then all mandatory and optional channels are allowed.

If the value of *mandatory-bw* is equal to the value of *bandwidth*, then all the unconstrained bandwidth on a given interface is allocated to mandatory channels configured through multicast CAC policy on that interface and no optional groups (channels) are allowed.

The value of *mandatory-bw* should always be less than or equal to that of *bandwidth*, An attempt to set the value of *mandatory-bw* greater than that of *bandwidth*, will result in inconsistent value error.

Values 0 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure subscriber-mgmt sub-mcac-policy unconstrained-bw

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac unconstrained-bw

unconstrained-bw

Syntax

unconstrained-bw *bandwidth* **mandatory-bw** *mandatory-bw*

no unconstrained-bw

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Context

[Tree] (config>service>vpls>spoke-sdp>mld-snooping>mcac unconstrained-bw)

[Tree] (config>service>vpls>sap>mld-snooping>mcac unconstrained-bw)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping>mcac unconstrained-bw)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping>mcac unconstrained-bw)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping>mcac unconstrained-bw)

[Tree] (config>service>vpls>sap>igmp-snooping>mcac unconstrained-bw)

Full Context

configure service vpls spoke-sdp mld-snooping mcac unconstrained-bw

configure service vpls sap mld-snooping mcac unconstrained-bw

configure service vpls mesh-sdp igmp-snooping mcac unconstrained-bw

configure service vpls spoke-sdp igmp-snooping mcac unconstrained-bw

configure service vpls mesh-sdp mld-snooping mcac unconstrained-bw

configure service vpls sap igmp-snooping mcac unconstrained-bw

Description

This command configures the bandwidth for the interface's multicast CAC policy traffic. When disabled (**no unconstrained-bw**) there will be no checking of bandwidth constraints on the interface level. When enabled and a policy is defined, enforcement is performed. The allocated bandwidth for optional channels should not exceed the **unconstrained-bw** minus the **mandatory-bw** and the mandatory channels have to stay below the specified value for the **mandatory-bw**. After this interface check, the bundle checks are performed.

Parameters

bandwidth

The bandwidth assigned for interface's MCAC policy traffic, in kilobits per second (kb/s)

Values 0 to 2147483647

mandatory-bw *mandatory-bw*

Specifies the bandwidth pre-reserved for all the mandatory channels on a specified interface in kilobits per second (kb/s)

If the *bandwidth* value is 0, no mandatory channels are allowed. If *bandwidth* is not configured, then all mandatory and optional channels are allowed.

If the value of *mandatory-bw* is equal to the value of *bandwidth*, then all the unconstrained bandwidth on a specified interface is allocated to mandatory channels configured through multicast CAC policy on that interface and no optional groups (channels) are allowed.

The value of *mandatory-bw* should always be less than or equal to that of *bandwidth*, An attempt to set the value of *mandatory-bw* greater than that of *bandwidth*, will result in inconsistent value error.

Values 0 to 2147483647

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Platforms

All

unconstrained-bw

Syntax

unconstrained-bw *bandwidth* **mandatory-bw** *mandatory-bw*

no unconstrained-bw

Context

[Tree] (config>service>vprn>igmp>if>mcac unconstrained-bw)

[Tree] (config>service>vprn>mld>grp-if>mcac unconstrained-bw)

[Tree] (config>service>vprn>pim>if>mcac unconstrained-bw)

[Tree] (config>service>vprn>mld>if>mcac unconstrained-bw)

[Tree] (config>service>vprn>igmp>grp-if>mcac unconstrained-bw)

Full Context

configure service vprn igmp interface mcac unconstrained-bw

configure service vprn mld group-interface mcac unconstrained-bw

configure service vprn pim interface mcac unconstrained-bw

configure service vprn mld interface mcac unconstrained-bw

configure service vprn igmp group-interface mcac unconstrained-bw

Description

This command configures the bandwidth for the interface's multicast CAC policy traffic. When disabled (**no unconstrained-bw**) there will be no checking of bandwidth constraints on the interface level. When enabled and a policy is defined, enforcement is performed. The allocated bandwidth for optional channels should not exceed the **unconstrained-bw** minus the **mandatory-bw** and the mandatory channels have to stay below the specified value for the **mandatory-bw**. After this interface check, the bundle checks are performed.

Parameters

bandwidth

The bandwidth assigned for the interface’s MCAC policy traffic in kb/s.

Values 0 to 2147483647

mandatory-bw ***mandatory-bw***

Specifies the bandwidth pre-reserved for all the mandatory channels on a given interface, in kb/s.

If the *bandwidth* value is 0, no mandatory channels are allowed. If *bandwidth* is not configured, then all mandatory and optional channels are allowed.

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If the value of *mandatory-bw* is equal to the value of *bandwidth*, then all the unconstrained bandwidth on a given interface is allocated to mandatory channels configured through multicast CAC policy on that interface and no optional groups (channels) are allowed.

The value of *mandatory-bw* should always be less than or equal to that of *bandwidth*, An attempt to set the value of *mandatory-bw* greater than that of *bandwidth*, will result in inconsistent value error.

Values 0 to 2147483647

Platforms

All

- configure service vprn pim interface mcac unconstrained-bw
- configure service vprn mld interface mcac unconstrained-bw
- configure service vprn igmp interface mcac unconstrained-bw

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn mld group-interface mcac unconstrained-bw
- configure service vprn igmp group-interface mcac unconstrained-bw

unconstrained-bw

Syntax

unconstrained-bw *bandwidth* **mandatory-bw** *mandatory-bw*

no unconstrained-bw

Context

[Tree] (config>router>igmp>grp-if>mcac unconstrained-bw)

[Tree] (config>router>pim>interface>mcac unconstrained-bw)

[Tree] (config>router>mld>grp-if>mcac unconstrained-bw)

[Tree] (config>router>igmp>interface>mcac unconstrained-bw)

[Tree] (config>router>mld>interface>mcac unconstrained-bw)

[Tree] (config>router>mcac>if-policy unconstrained-bw)

Full Context

configure router igmp group-interface mcac unconstrained-bw

configure router pim interface mcac unconstrained-bw

configure router mld group-interface mcac unconstrained-bw

configure router igmp interface mcac unconstrained-bw

configure router mld interface mcac unconstrained-bw

configure router mcac if-policy unconstrained-bw

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Description

This command enables MCAC (or HMCAC) function on the corresponding level (subscriber, group-interface or redirected interface). When MCAC (or HMCAC) is enabled and a channel definition policy is referenced, admission control is performed. The allocated bandwidth for optional channels should not exceed the unconstrained-bw minus the mandatory-bw. The mandatory channels have to stay below the specified value for the mandatory-bw.

In HMCAC, the subscriber is checked first against its bandwidth limits followed by the check on the redirected interface or the group-interface against the bandwidth limits defined there.

In case that redirection is enabled and HMCAC enabled, the channel definition policy must be referenced under the redirected interface level. If it is referenced under the group-interface level, it will be ignored.

Subscriber MCAC (only subscriber is checked for available resources) is supported only with direct subscriber replication (no redirection). In this case the channel definition policy must be referenced under the group-interface.

If the redirection is enabled but the policy is referenced only under the group-interface, no admission control is executed (HMCAC or MCAC).

The **no** form of this command removes the values from the configuration.

Default

no unconstrained-bw

Parameters

bandwidth

Specifies the unconstrained bandwidth in kb/s for the MCAC policy.

Values 0 to 2147483647

mandatory-bw

Specifies the mandatory bandwidth in kb/s for the MCAC policy.

Values 0 to 2147483647

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface mcac unconstrained-bw
- configure router igmp group-interface mcac unconstrained-bw

All

- configure router mld interface mcac unconstrained-bw
- configure router pim interface mcac unconstrained-bw
- configure router igmp interface mcac unconstrained-bw
- configure router mcac if-policy unconstrained-bw

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49.35 unconsumed-agg-rate

unconsumed-agg-rate

Syntax

unconsumed-agg-rate percent *percent-of-unconsumed-agg-rate*

no unconsumed-agg-rate

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution>above-offered-allowance unconsumed-agg-rate)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution above-offered-allowance unconsumed-agg-rate

Description

This command configures the percentage of the unconsumed aggregate rate that can be given to a queue at the end of an H-QoS below CIR pass and above CIR pass. This command is only applicable when the port scheduler is configured to use the **above-offered-allowance-control** algorithm, otherwise it is ignored.

The **no** form of this command reverts the **unconsumed-agg-rate percent** to its default value.

Default

unconsumed-agg-rate 100.00

Parameters

percent-of-unconsumed-agg-rate

Specifies the percentage of the unconsumed aggregate rate that can be given to a queue.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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49.36 unconsumed-higher-tier-rate

unconsumed-higher-tier-rate

Syntax

unconsumed-higher-tier-rate percent *percent-of-unconsumed-higher-tier-rate*

no unconsumed-higher-tier-rate

Context

[Tree] (config>qos>adv-config-policy>child-control>bandwidth-distribution>above-offered-allowance unconsumed-higher-tier-rate)

Full Context

configure qos adv-config-policy child-control bandwidth-distribution above-offered-allowance unconsumed-higher-tier-rate

Description

This command configures the percentage of the unconsumed higher tier rate that can be given to a queue at the end of an H-QoS below CIR pass and above CIR pass. Higher tier refers to the Vport aggregate rate and port scheduler level, group, and maximum rates.

This command is only applicable when the port scheduler is configured to use the **above-offered-allowance-control** algorithm, otherwise it is ignored.

The **no** form of this command reverts the **unconsumed-higher-tier-rate percent** to its default value.

Default

unconsumed-higher-tier-rate 100.00

Parameters

percent-of-unconsumed-higher-tier-rate

Specifies the percentage of the unconsumed higher tier rate that can be given to a queue.

Values 0.00 to 100.00

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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49.37 underflow-limit

underflow-limit

Syntax

underflow-limit *number* **threshold** *percent* [**bw** *rate-in-mbps*]

no underflow-limit

Context

[Tree] (config>router>mpls>lsp-template>auto-bandwidth underflow-limit)

[Tree] (config>router>mpls>lsp>auto-bandwidth underflow-limit)

Full Context

configure router mpls lsp-template auto-bandwidth underflow-limit

configure router mpls lsp auto-bandwidth underflow-limit

Description

This command configures underflow-triggered auto-bandwidth adjustment. An underflow auto-bandwidth adjustment can occur any time during the adjust interval; it is triggered when the number of consecutive underflow samples reaches the threshold *number* configured for this command. The new bandwidth of the LSP after a successful underflow adjustment is the maximum data rate observed in the last *number* of consecutive underflow samples.

A sample interval is counted as an underflow if the average data rate during the sample interval is lower than the currently reserved bandwidth by at least the thresholds configured for this command.

The **no** form of this command disables underflow-triggered auto-bandwidth adjustment.

Default

no underflow-limit

Parameters

number

Specifies the number of consecutive underflow samples to trigger an underflow auto-bandwidth adjustment attempt.

Values 1 to 10

percent

Specifies the minimum difference between the current bandwidth reservation of the LSP and the sampled data rate, expressed as a percentage of the current bandwidth reservation, for counting an underflow sample.

Values 0 to100

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rate-in-mbps

Specifies the minimum difference between the current bandwidth reservation of the LSP and the sampled data rate, expressed as an absolute bandwidth (Mb/s), for counting an underflow sample.

Values 0 to 6400000

Platforms

All

49.38 undet-availability-event

undet-availability-event

Syntax

undet-availability-event {**forward** | **backward** | **aggregate**} **threshold** *raise-threshold* [**clear** *clear-threshold*]

no undet-availability-event {**forward** | **backward** | **aggregate**}

Context

[Tree] (config>oam-pm>session>ip>twamp-light>loss-events undet-availability-event)

[Tree] (config>oam-pm>session>ethernet>slm>loss-events undet-availability-event)

[Tree] (config>oam-pm>session>ethernet>lmm>loss-events undet-availability-event)

Full Context

configure oam-pm session ip twamp-light loss-events undet-availability-event

configure oam-pm session ethernet slm loss-events undet-availability-event

configure oam-pm session ethernet lmm loss-events undet-availability-event

Description

This command configures the threshold to apply to the overall count of the undetermined availability indicators, not transitions, per configured direction. This value is compared to the 32-bit unavailability counter specific to the direction which tracks the number of individual Delta-Ts that have been recorded as undetermined available.

The **no** form of this command removes the event threshold for the frame loss ratio. The direction must be included with the **no** command.

Default

no undet-availability-event forward

no undet-availability-event backward

no undet-availability-event aggregate

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Parameters

forward

Keyword to apply the threshold to the forward direction count.

backward

Keyword to apply the threshold to the backward direction count.

aggregate

Keyword to apply the threshold to the aggregate count (sum of forward and backward). The aggregate is a function of summing forward and backward. This value is only used as a threshold mechanism and is not part of the stored statistics.

raise-threshold

Specifies the rising threshold that determines when the event is to be generated, when value reached.

Values 1 to 864000

clear-threshold

Specifies an optional value used for stateful behavior that allows the operator to configure a percentage of loss value lower than the rising percentage to indicate when the clear event should be generated.

If the optional **clear** *clear-threshold* parameter is not specified, the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and regardless of any previous window. Each unique event can only be raised once within the measurement interval.

If the optional **clear** *clear-threshold* parameter is specified, the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to following measurement intervals. If a threshold crossing event is raised another is raised until a measurement interval completes and the clear threshold has not been exceeded. A clear event is raised under that condition.

Values 0 to 863999

A value of zero means that the undetermined availability counter must be 0.

Default clear threshold disabled

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure oam-pm session ip twamp-light loss-events undet-availability-event

All

- configure oam-pm session ethernet slm loss-events undet-availability-event
- configure oam-pm session ethernet lmm loss-events undet-availability-event

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49.39 undet-unavailability-event

undet-unavailability-event

Syntax

undet-unavailability-event {**forward** | **backward** | **aggregate**} **threshold** *raise-threshold* [**clear** *clear-threshold*]

no undet-unavailability-event {**forward** | **backward** | **aggregate**}

Context

[Tree] (config>oam-pm>session>ip>twamp-light>loss-events undet-unavailability-event)

[Tree] (config>oam-pm>session>ethernet>slm>loss-events undet-unavailability-event)

[Tree] (config>oam-pm>session>ethernet>lmm>loss-events undet-unavailability-event)

Full Context

configure oam-pm session ip twamp-light loss-events undet-unavailability-event

configure oam-pm session ethernet slm loss-events undet-unavailability-event

configure oam-pm session ethernet lmm loss-events undet-unavailability-event

Description

This command configures the threshold to apply to the overall count of the undetermined unavailability indicators, not transitions, per configured direction. This value is compared to the 32-bit unavailability counter specific to the direction which tracks the number of individual Delta-Ts that have been recorded as undetermined unavailable.

The **no** form of this command removes the event threshold for the frame loss ratio. The direction must be included with the **no** command.

Default

no undet-unavailability-event forward

no undet-unavailability-event backward

no undet-unavailability-event aggregate

Parameters

forward

Keyword to apply the threshold to the forward direction count.

backward

Keyword to apply the threshold to the backward direction count.

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aggregate

Keyword to apply the threshold to the aggregate count (sum of forward and backward). The aggregate is a function of summing forward and backward. This value is only used as a threshold mechanism and is not part of the stored statistics.

raise-threshold

Specifies the rising threshold that determines when the event is to be generated, when the value is reached.

Values 1 to 864000

clear-threshold

Specifies an optional value used for stateful behavior that allows the operator to configure a percentage of loss value lower than the rising percentage to indicate when the clear event should be generated.

If the **clear** *clear-threshold* parameter is not specified the traffic crossing alarm is stateless. Stateless means the state is not carried forward to other measurement intervals. Each measurement interval is analyzed independently and without regard to any previous window. Each unique event can only be raised once within the measurement interval.

If the optional **clear** *clear-threshold* parameter is specified the traffic crossing alarm uses stateful behavior. Stateful means each unique previous event state is carried forward to following measurement intervals. If a threshold crossing event is raised another is not raised until a measurement interval completes and the clear threshold has not been exceeded. A clear event is raised under that condition.

Values 0 to 863999

A value of zero means that the undetermined availability counter must be 0.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure oam-pm session ip twamp-light loss-events undet-unavailability-event

All

- configure oam-pm session ethernet slm loss-events undet-unavailability-event
- configure oam-pm session ethernet lmm loss-events undet-unavailability-event

49.40 undo

undo

Syntax

undo [*count*]

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Context

[Tree] (candidate undo)

Full Context

candidate undo

Description

This command removes the most recent change(s) done to the candidate. The changes can be reapplied using the **redo** command. All undo or redo history is lost when the operator exits the **edit-cfg** mode. Undo can not be used to recover a candidate that has been discarded with **candidate discard**.

An **undo** command is blocked if another user has made changes in the same CLI branches that would be impacted during the undo.

Parameters

count

Specifies the number of previous changes to remove.

Values 1 to 50

Default 1

Platforms

All

49.41 uni

uni

Syntax

uni

Context

[Tree] (config>system>security>keychain>direction uni)

Full Context

configure system security keychain direction uni

Description

This command configures keys for send or receive stream directions.

Platforms

All

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49.42 unicast-address

unicast-address

Syntax

[**no**] **unicast-address** *ip-address*

Context

[Tree] (config>service>vprn>rip>group>neighbor unicast-address)

Full Context

configure service vprn rip group neighbor unicast-address

Description

This command configures the unicast IPv4 address, RIP updates messages will be sent to if the RIP **send** command is set to **send unicast**.

Multiple unicast-address entries can be configured, in which case unicast messages will be sent to each configured unicast IPv4 address.

The **no** form of this command deletes the specified IPv4 unicast address from the configuration.

Parameters

ip-address

Specifies the unicast IPv4 address in a.b.c.d format.

Platforms

All

unicast-address

Syntax

[**no**] **unicast-address** *ipv6-address*

Context

[Tree] (config>service>vprn>ripng>group>neighbor unicast-address)

Full Context

configure service vprn ripng group neighbor unicast-address

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Description

This command configures the unicast IPv6 address, RIPng updates messages will be sent to if the RIPng **send** command is set to **send unicast**.

Multiple unicast-address entries can be configured, in which case unicast messages will be sent to each configured unicast IPv6 address.

The **no** form of this command deletes the specified IPv6 unicast address from the configuration.

Parameters

ipv6-address

Specifies the unicast IPv6 address.

Values

ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x [0 to FFFF]H
	d [0 to 255]D

Platforms

All

unicast-address

Syntax

[**no**] **unicast-address** *ipv6-address*

Context

[Tree] (config>router>rip>group>neighbor unicast-address)

[Tree] (config>router>ripng>group>neighbor unicast-address)

Full Context

configure router rip group neighbor unicast-address

configure router ripng group neighbor unicast-address

Description

This command configures the unicast IPv6 address that RIP and RIPng update messages will be sent to if the **send** command is set to **send unicast**.

Multiple unicast-address entries can be configured, in which case unicast messages will be sent to each configured unicast IPv6 address.

The **no** form of the command deletes the specified IPv6 unicast address from the configuration.

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Parameters

ipv6-address

Specifies the IPv6 unicast address to which unicast RIP or RIPng updates should be sent.

Platforms

All

49.43 unicast-import-disable

unicast-import-disable

Syntax

[**no**] **unicast-import-disable** [**ipv4**]

[**no**] **unicast-import-disable** [**ipv6**]

[**no**] **unicast-import-disable** [**both**]

Context

[Tree] (config>service>vprn>isis unicast-import-disable)

Full Context

configure service vprn isis unicast-import-disable

Description

This command allows one IGP to import its routes into RPF RTM while another IGP imports routes only into the unicast RTM. Import policies can redistribute routes from an IGP protocol into the RPF RTM (the multicast routing table). By default, the IGP routes will not be imported into RPF RTM as such an import policy must be explicitly configured.

Default

no unicast-import-disable

Parameters

ipv4

Allows importation of IPv4 routes only.

ipv6

Allows importation of IPv6 routes only.

both

Allows importation of both IPv4 and IPv6 routes.

Platforms

All

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unicast-import-disable

Syntax

[**no**] **unicast-import-disable**

Context

[Tree] (config>service>vprn>ospf unicast-import-disable)

Full Context

configure service vprn ospf unicast-import-disable

Description

This command allows one IGP to import its routes into RPF RTM while another IGP imports routes only into the unicast RTM.

Import policies can redistribute routes from an IGP protocol into the RPF RTM (the multicast routing table). By default, the IGP routes will not be imported into RPF RTM as such an import policy must be explicitly configured

Default

no unicast-import-disable

Platforms

All

unicast-import-disable

Syntax

[**no**] **unicast-import-disable** [**ipv4**]

[**no**] **unicast-import-disable** [**ipv6**]

[**no**] **unicast-import-disable** [**both**]

Context

[Tree] (config>router>isis unicast-import-disable)

Full Context

configure router isis unicast-import-disable

Description

This command allows one IGP to import its routes into RPF RTM while another IGP imports routes only into the unicast RTM.

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Import policies can redistribute routes from an IGP protocol into the RPF RTM (the multicast routing table). By default, the IGP routes are not imported into RPF RTM, thus, an import policy must be explicitly configured.

Default

no unicast-import-disable both

Parameters

ipv4

Allows importation of IPv4 routes only.

ipv6

Allows importation of IPv6 routes only.

both

Allows importation of both IPv4 and IPv6 routes.

Platforms

All

unicast-import-disable

Syntax

[**no**] **unicast-import-disable**

Context

[Tree] (config>router>ospf unicast-import-disable)

[Tree] (config>router>ospf3 unicast-import-disable)

Full Context

configure router ospf unicast-import-disable

configure router ospf3 unicast-import-disable

Description

This command allows one IGP to import its routes into RPF RTM while another IGP imports routes only into the unicast RTM. Import policies can redistribute routes from an IGP protocol into the RPF RTM (the multicast routing table). By default, the IGP routes are not imported into RPF RTM as such an import policy must be explicitly configured.

Default

no unicast-import-disable

Platforms

All

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49.44 unicast-rt-test

unicast-rt-test

Syntax

[**no**] **unicast-rt-test**

Context

[Tree] (config>filter>redirect-policy>dest unicast-rt-test)

Full Context

configure filter redirect-policy destination unicast-rt-test

Description

This command configures a unicast route test for this destination. A destination is eligible for redirect if a valid unicast route to that destination exists in the routing instance specified by **config>filter>redirect-policy>router**. The unicast route test is mutually exclusive with other redirect-policy test types.

The test cannot be configured if **no router** is configured for this redirect policy.

The **no** form of the command disables the test.

Default

no unicast-rt-test

Platforms

All

49.45 unidirectional-measurement

unidirectional-measurement

Syntax

unidirectional-measurement *measurement-type*

Context

[Tree] (config>test-oam>link-meas>template unidirectional-measurement)

Full Context

configure test-oam link-measurement measurement-template unidirectional-measurement

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Description

This command specifies the method used to compute the unidirectional delay value.

Default

unidirectional-measurement derived

Parameters

measurement-type

Specifies the method to compute a unidirectional delay measurement.

Values **actual** — Keyword to use the forward delay as the unidirectional measurement. The forward delay is calculated using T2-T1 timestamps.

derived — Keyword to compute the unidirectional measurement using the round trip delay divided by two. This option should be used when the nodal clocks are not synchronized using an accurate time synchronization method or protocol, like PTP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

49.46 unique-sid-per-sap

unique-sid-per-sap

Syntax

unique-sid-per-sap [**per-msap**]

no unique-sid-per-sap

Context

[Tree] (config>subscr-mgmt>ppp-policy unique-sid-per-sap)

Full Context

configure subscriber-mgmt ppp-policy unique-sid-per-sap

Description

This command assigns a unique session ID to each PPPoE session active on a single SAP.

On a capture SAP, a unique session ID is assigned per capture SAP: multiple sessions that are active on the same or different MSAP have a unique session ID per capture SAP.

With the optional parameter **per-msap**, a unique session ID is assigned per MSAP:

- multiple sessions that are active on the same MSAP have a unique session ID per MSAP

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- multiple sessions that are active on different MSAPs are not guaranteed to have a unique session ID

The session ID range is 1 to 8191.

By default, all PPPoE sessions with a different client MAC address and active on a given SAP or MSAP have a session ID of 1 (**sid-allocation sequential**) or a random value in the range 1 to 8191 (**sid-allocation random**).

The **no** form of this command reverts to the default.

Parameters

per-msap

Assigns a unique session ID for PPPoE sessions that are active on the same MSAP. This parameter has no effect on regular SAPs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.47 unknown-arp-request-flood-evpn

unknown-arp-request-flood-evpn

Syntax

[**no**] **unknown-arp-request-flood-evpn**

Context

[Tree] (config>service>vpls>proxy-arp unknown-arp-request-flood-evpn)

Full Context

configure service vpls proxy-arp unknown-arp-request-flood-evpn

Description

This command controls whether unknown ARP-requests are flooded into the EVPN network. By default, the system floods ARP-requests, including EVPN (with source squelching), if there is no active proxy-arp entry for the requested IP.

The **no** form of the command will only flood to local SAPs/SDP-bindings and not to EVPN destinations.

Default

unknown-arp-request-flood-evpn

Platforms

All

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49.48 unknown-mac-route

unknown-mac-route

Syntax

[**no**] **unknown-mac-route**

Context

[Tree] (config>service>vpls>bgp-evpn unknown-mac-route)

Full Context

configure service vpls bgp-evpn unknown-mac-route

Description

This command enables the advertisement of the unknown-mac-route in BGP. This will be coded in an EVPN MAC route where the MAC address is zero and the MAC address length 48. By using this unknown-mac-route advertisement, the user may decide to optionally turn off the advertisement of MAC addresses learned from SAPs and SDP-bindings, hence reducing the control plane overhead and the size of the FDB tables in the data center. All the receiving NVEs supporting this concept will send any unknown-unicast packet to the owner of the unknown-mac-route, as opposed to flooding the unknown-unicast traffic to all other nodes part of the same VPLS. Although the 7750 SR, 7450 ESS, or 7950 XRS can be configured to generate and advertise the unknown-mac-route, the router will never honor the unknown-mac-route and will flood to the vpls flood list when an unknown-unicast packet arrives to an ingress SAP/SDP-binding.

Use of the unknown-mac-route is only supported for BGP-EVPN VXLAN.

Default

no unknown-mac-route

Platforms

All

49.49 unknown-message-rate

unknown-message-rate

Syntax

unknown-message-rate *integer*

no unknown-message-rate

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Context

[Tree] (config>router>pcep>pce unknown-message-rate)

[Tree] (config>router>pcep>pcc unknown-message-rate)

Full Context

configure router pcep pce unknown-message-rate

configure router pcep pcc unknown-message-rate

Description

This command configures the maximum rate of unknown messages which can be received on a PCEP session.

When the rate of received unrecognized or unknown messages reaches the configured limit, the PCEP speaker closes the session to the peer.

The **no** form of the command returns the unknown message rate to the default value.

Default

unknown-message-rate 10

Parameters

integer

the rate of unknown messages, in messages per minute

Values 1 to 255

Platforms

VSR-NRC

- configure router pcep pce unknown-message-rate

All

- configure router pcep pcc unknown-message-rate

49.50 unknown-ns-flood-evpn

unknown-ns-flood-evpn

Syntax

[**no**] **unknown-ns-flood-evpn**

Context

[Tree] (config>service>vpls>proxy-nd unknown-ns-flood-evpn)

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Full Context

configure service vpls proxy-nd unknown-ns-flood-evpn

Description

This command controls whether unknown Neighbor Solicitation messages are flooded into the EVPN network. By default, the system floods NS (with source squelching) to SAPs/SDP-bindings including EVPN, if there is no active proxy-nd entry for the requested IPv6.

The **no** form of the command will only flood to local SAPs/SDP-bindings but not to EVPN destinations.

Default

unknown-ns-flood-evpn

Platforms

All

49.51 unknown-policer

unknown-policer

Syntax

unknown-policer *policer-id* [**fp-redirect-group**]

no unknown-policer

Context

[Tree] (config>qos>sap-ingress>fc unknown-policer)

Full Context

configure qos sap-ingress fc unknown-policer

Description

Within a **sap-ingress** QoS policy forwarding class context, the **unknown-policer** command is used to map packets that match the forwarding class and are considered unknown in nature to the specified policer-id. The specified policer-id must already exist within the **sap-ingress** QoS policy. While the system is determining the forwarding class of a packet, it is also looking up its forwarding destination based on the ingress service type and the service instance forwarding records. If the service type is VPLS and the destination MAC address is unicast, but the MAC has not been learned and populated within the VPLS services FDB, the packet is classified into the unknown forwarding type.

Unknown forwarding type packets are mapped to either an ingress multipoint queue (using the **unknown** *queue-id* or **unknown** *queue-id* **group** *ingress-queue-group* commands) or an ingress policer (**unknown-policer** *policer-id*). The **unknown** and **unknown-policer** commands within the forwarding class context are mutually exclusive. By default, the unknown forwarding type is mapped to the SAP ingress default multipoint queue. If the **unknown-policer** *policer-id* command is executed, any previous policer mapping

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or queue mapping for the unknown forwarding type within the forwarding class is overridden if the policer mapping is successful.

A policer defined within the **sap-ingress** policy is not actually created on an ingress SAP or a subscriber using an **sla-profile** where the policy is applied until at least one forwarding type (unicast, broadcast, unknown, or multicast) from one of the forwarding classes is mapped to the policer. If insufficient policer resources exist to create the policer for a SAP or subscriber or multiservice site, or ingress policing is not supported on the port associated with the SAP or subscriber or multiservice site, the initial forwarding class forwarding type mapping will fail.

The **unknown-policer** command is ignored for instances of the policer applied to SAPs or subscribers' multiservice site where unknown packets are not supported.

When the unknown forwarding type within a forwarding class is mapped to a policer, the unknown packets classified to the subclasses within the forwarding class are also mapped to the policer.

The **no** form of this command is used to restore the mapping of the unknown forwarding type within the forwarding class to the default multipoint queue. If all forwarding class forwarding types had been removed from the default multipoint queue, the queue will not exist on the SAPs or subscriber or multiservice site associated with the QoS policy and the **no broadcast-policer** command will cause the system to attempt to create the default multipoint queue on each object. If the system cannot create the queue on each instance, the **no unknown-policer** command will fail and the unknown forwarding type within the forwarding class will continue its mapping to the existing *policer-id*. If the **no unknown-policer** command results in a policer without any current mappings, the policer will be removed from the SAPs and subscribers associated with the QoS policy. All statistics associated with the policer on each SAP and subscriber will be lost.

Parameters

policer-id

When the forwarding class **unknown-policer** command is executed, a valid *policer-id* must be specified. The parameter *policer-id* references a *policer-id* that has already been created within the **sap-ingress** QoS policy.

Values 1 to 63

fp-redirect-group

Redirects a forwarding class to a forwarding plane queue-group as specified in a SAP QoS policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

49.52 unknown-protocol

unknown-protocol

Syntax

unknown-protocol [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

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no unknown-protocol

Context

[Tree] (config>service>nat>firewall-policy>timeouts unknown-protocol)

Full Context

configure service nat firewall-policy timeouts unknown-protocol

Description

This command configures the timeout interval for unknown protocol mappings.

The **no** form of the command reverts the timeout interval to the default of 5 minutes.

Default

unknown-protocol min 5

Parameters

hours

Specifies the number of hours in the unknown protocol mapping timeout interval.

Values 0 to 24

minutes

Specifies the number of minutes in the unknown protocol mapping timeout interval.

Values 1 to 59

seconds

Specifies the number of seconds in the unknown protocol mapping timeout interval.

Values 0 to 59

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.53 unknown-protocols

unknown-protocols

Syntax

unknown-protocols

Context

[Tree] (config>service>nat>firewall-policy unknown-protocols)

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Full Context

configure service nat firewall-policy unknown-protocols

Description

Commands in this context configure the treatment of flows of unknown Layer 4 protocols, which are protocols that cannot be natively handled by the system.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.54 unknown-queue

unknown-queue

Syntax

unknown-queue *queue-id* [**group** *queue-group-name*]

no unknown-queue

Context

[Tree] (config>qos>sap-ingress>fc unknown-queue)

Full Context

configure qos sap-ingress fc unknown-queue

Description

This command overrides the default unknown unicast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all unknown traffic on a SAP using this policy is forwarded using the *queue-id*.

The unknown forwarding type usually tracks the multicast forwarding type definition. This command overrides that default behavior.

The **no** form of this command sets the unknown forwarding type *queue-id* back to the default of tracking the multicast forwarding type queue mapping.

Parameters

queue-id

Specifies an existing multipoint queue defined in the **config>qos>sap-ingress** context.

Values Any valid multipoint *queue-id* in the policy including 2 through 32.

Default 11

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group *queue-group-name*

This optional parameter is used to redirect the forwarding type within the forwarding class to the specified queue-id within the queue-group-name. When the policy is applied, all packets matching the forwarding class and forwarding type will be redirected to the queue within the specified queue group. The *queue-group-name* are configured in the **config>qos>queue-group-templates** egress and ingress contexts.

Platforms

All

unknown-queue

Syntax

unknown-queue *queue-id*

no unknown-queue

Context

[Tree] (config>qos>shared-queue>fc unknown-queue)

Full Context

configure qos shared-queue fc unknown-queue

Description

This command configures the unknown unicast forwarding type queue mapping for **fc** *fc-name*. The specified *queue-id* must exist within the policy as a multipoint queue before the mapping can be made. When the forwarding class mapping is executed, all unknown traffic on a SAP using this policy is forwarded using the *queue-id*.

The unknown forwarding type usually tracks the multicast forwarding type definition. This command overrides that default behavior.

The **no** form of this command sets the unknown forwarding type *queue-id* back to the default of tracking the multicast forwarding type queue mapping.

Parameters

queue-id

The *queue-id* must be an existing, multipoint queue defined in the **config>qos>sap-ingress** context policer-output-queues profile. For the 7950 XRS, this is not configurable in the policer-output-queues profile.

Values 25 to 32

Platforms

All

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49.55 unnumbered

unnumbered

Syntax

unnumbered [*ip-int-name* | *ip-address*]

no unnumbered

Context

[Tree] (config>service>vprn>sub-if unnumbered)

[Tree] (config>service>ies>sub-if unnumbered)

Full Context

configure service vprn subscriber-interface unnumbered

configure service ies subscriber-interface unnumbered

Description

This command can be configured only for subscriber interfaces that do not have an IPv4 address explicitly configured and is therefore operationally in a DOWN state. By configuring this command, the subscriber interface borrows the IPv4 address from the referenced interface (directly or indirectly via IP address) that must be operationally UP and located in the same routing instance as the subscriber interface. This allows the subscriber interface to be operationally UP and consequently allow forwarding of the subscriber traffic.

Such interface is referred as unnumbered interface, since it does not have explicitly configured a unique IP address. Subscriber hosts under the unnumbered subscriber interface are installed in the fib as /32 hosts.

Without this command the subscriber interface is operationally DOWN and subscriber-host instantiation is not possible.

This command is mutually exclusive with the allow-unmatched-subnets command under the same CLI hierarchy.

The operation of IPv6 host is not affected by this command.

The **no** form of this command reverts to the default.

Parameters

ip-int-name

Specifies the interface name from which an IPv4 address is borrowed.

ip-address

Specifies the IP address from an optionally up interface that is used for subscriber interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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unnumbered

Syntax

unnumbered [*ip-int-name* | *ip-address*]

no unnumbered

Context

[Tree] (config>service>vpls>interface unnumbered)

Full Context

configure service vpls interface unnumbered

Description

This command configures the interface as an unnumbered interface.

Parameters

ip-int-name

Specifies the name of the IP interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes

ip-address

Specifies an IP address which must be a valid address of another interface

Platforms

All

unnumbered

Syntax

unnumbered {*ip-int-name* | *ip-address*}

no unnumbered

Context

[Tree] (config>service>ies>if unnumbered)

Full Context

configure service ies interface unnumbered

Description

This command configures the interface as an unnumbered interface. Unnumbered IP interfaces are supported on a SONET/SDH access port with the PPP, ATM, Frame Relay, cisco-HDLC encapsulation. It is not supported on access ports that do not carry IP traffic, but are used for native TDM circuit emulation.

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Parameters

ip-int-name

Specifies the name of an IP interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

ip-address

Specifies an IP address.

Platforms

All

unnumbered

Syntax

unnumbered [*ip-int-name* | *ip-address*]

no unnumbered

Context

[Tree] (config>service>vprn>if unnumbered)

Full Context

configure service vprn interface unnumbered

Description

This command configures the interface as an unnumbered interface. An unnumbered IP interface is supported on a SONET/SDH access port with the PPP, ATM, Frame Relay, cisco-HDLC encapsulation. It is not supported on access ports that do not carry IP traffic, but are used for native TDM circuit emulation.

Parameters

ip-int-name

Specifies the name of an IP interface. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

ip-address

Specifies an IP address.

Platforms

All

unnumbered

Syntax

unnumbered [{*ip-int-name* | *ip-address*}]

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no unnumbered

Context

[Tree] (config>router>if unnumbered)

Full Context

configure router interface unnumbered

Description

This command sets an IP interface as an unnumbered interface and specifies the IP address to be used for the interface.

To conserve IP addresses, unnumbered interfaces can be configured. The address used when generating packets on this interface is the *ip-addr* parameter configured.

An error message will be generated if an **unnumbered** interface is configured, and an IP address already exists on this interface.

The **no** form of this command removes the IP address from the interface, effectively removing the unnumbered property. The interface must be **shutdown** before **no unnumbered** is issued to delete the IP address from the interface, or an error message will be generated.

Default

no unnumbered

Parameters

ip-int-name* | *ip-address

Optional. Specifies the IP address or IP interface name to associate with the unnumbered IP interface in dotted decimal notation. The configured IP address must exist on this node. It is recommended to use the system IP address as it is not associated with a specific interface and is therefore always reachable. The system IP address is the default if no *ip-addr* or *ip-int-name* is configured.

Platforms

All

49.56 unnumbered-source-ip

unnumbered-source-ip

Syntax

unnumbered-source-ip {*ip-address*}

no unnumbered-source-ip

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Context

[Tree] (config>subscr-mgmt>shcv-policy>layer-3 unnumbered-source-ip)

Full Context

configure subscriber-mgmt shcv-policy layer-3 unnumbered-source-ip

Description

This command configures the source IPv4 address (also known as the sender IP address) used in SHCV ARP requests for unnumbered hosts. When unconfigured, 0.0.0.0 is used as the source IPv4 address in SHCV ARP requests.

The **no** form of this command removes the IPv4 address from Layer 3.

Parameters

ip-address

Specifies the unicast IPv4 address to be used as the source address in SHCV ARP requests for unnumbered hosts.

Values a.b.c.d

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.57 unreachables

unreachables

Syntax

unreachables [*number seconds*]

no unreachables[*number seconds*]

Context

[Tree] (config>service>vprn>nw-if>icmp unreachables)

[Tree] (config>service>ies>sub-if>grp-if>icmp unreachables)

[Tree] (config>service>vprn>sub-if>grp-if>icmp unreachables)

[Tree] (config>service>ies>if>icmp unreachables)

[Tree] (config>service>vprn>if>icmp unreachables)

[Tree] (config>service>vprn>if>ipv6>icmp6 unreachables)

Full Context

configure service vprn network-interface icmp unreachables

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configure service ies subscriber-interface group-interface icmp unreachables

configure service vprn subscriber-interface group-interface icmp unreachables

configure service ies interface icmp unreachables

configure service vprn interface icmp unreachables

configure service vprn interface ipv6 icmp6 unreachables

Description

This command configures the rate for ICMP host and network destination unreachable messages issued on the router interface.

The **unreachables** command enables the generation of ICMP destination unreachables on the router interface. The rate at which ICMP unreachables is issued can be controlled with the optional *number* and *seconds* parameters by indicating the maximum number of destination unreachable messages which can be issued on the interface for a given time interval.

By default, generation of ICMP destination unreachables messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the generation of ICMP destination unreachable messages on the router interface and reverts to the default values.

Default

unreachables 100 10

Parameters

number

Specifies the maximum number of ICMP unreachable messages to send. This parameter must be specified with the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time frame, in seconds, used to limit the *number* of ICMP unreachable messages that can be issued.

Values 1 to 60

Platforms

All

- configure service ies interface icmp unreachables
- configure service vprn interface icmp unreachables
- configure service vprn network-interface icmp unreachables
- configure service vprn interface ipv6 icmp6 unreachables

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface icmp unreachables
- configure service vprn subscriber-interface group-interface icmp unreachables

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unreachables

Syntax

unreachables [*number seconds*]

no unreachables

Context

[Tree] (config>service>ies>if>ipv6>icmp6 unreachables)

Full Context

configure service ies interface ipv6 icmp6 unreachables

Description

This command specifies that ICMPv6 host and network unreachable messages are generated by this interface.

When disabled, ICMPv6 host and network unreachable messages are not sent.

The **no** form of this command reverts to the default.

Default

unreachables 100 10

Parameters

number

Specifies the number of destination unreachable ICMPv6 messages are issued in the time frame specified by the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time frame, in seconds, that is used to limit the number of destination unreachable ICMPv6 messages to be issued.

Values 1 to 60

Platforms

All

unreachables

Syntax

unreachables [**number** *number*] [**seconds** *seconds*]

no unreachables

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Context

[Tree] (config>subscr-mgmt>git>ipv4>icmp unreachables)

Full Context

configure subscriber-mgmt group-interface-template ipv4 icmp unreachables

Description

This command configures the generation of ICMP destination unreachable messages on the router interface. The rate at which ICMP unreachable messages are issued can be controlled with the optional *number* and *seconds* parameters, which indicate the maximum number of destination unreachable messages that can be issued on the interface for a given time interval.

By default, generation of ICMP destination unreachables messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the generation of ICMP destination unreachable messages on the router interface.

Default

unreachables number 100 seconds 10

Parameters

number

Specifies the maximum number of ICMP unreachable messages sent. This parameter must be specified with the *seconds* parameter.

Values 10 to 2000

seconds

Specifies the time frame, in seconds, used to limit the *number* of ICMP unreachable messages that can be issued.

Values 1 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

unreachables

Syntax

unreachables [*number seconds*]

no unreachables

Context

[Tree] (config>router>if>icmp unreachables)

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Full Context

configure router interface icmp unreachables

Description

This command enables and configures the rate for ICMP host and network destination unreachable messages issued on the router interface.

The **unreachables** command enables the generation of ICMP destination unreachables on the router interface. The rate at which ICMP unreachables is issued can be controlled with the optional *number* and *seconds* parameters by indicating the maximum number of destination unreachable messages that can be issued on the interface for a given time interval.

By default, generation of ICMP destination unreachables messages is enabled at a maximum rate of 100 per 10 second time interval.

The **no** form of this command disables the generation of ICMP destination unreachables on the router interface.

Default

unreachables 100 10 — Maximum of 100 unreachable messages in 10 seconds.

Parameters

number

The maximum number of ICMP unreachable messages to send, expressed as a decimal integer. The *seconds* parameter must also be specified.

Values 10 to 2000

seconds

The time frame, in seconds, used to limit the *number* of ICMP unreachable messages that can be issued, expressed as a decimal integer.

Values 1 to 60

Platforms

All

unreachables

Syntax

unreachables [*number seconds*]

no unreachables

Context

[Tree] (config>router>if>ipv6>icmp6 unreachables)

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Full Context

configure router interface ipv6 icmp6 unreachables

Description

This command configures the rate for ICMPv6 unreachable messages. When enabled, ICMPv6 host and network unreachable messages are generated by this interface.

The **no** form of this command disables the generation of ICMPv6 host and network unreachable messages by this interface.

Default

unreachables 100 10 (when IPv6 is enabled on the interface)

Parameters

number

Determines the number destination unreachable ICMPv6 messages to issue in the time frame specified in *seconds* parameter.

Values 10 to 2000

seconds

Sets the time frame, in seconds, to limit the number of destination unreachable ICMPv6 messages issued per time frame.

Values 1 to 60

Platforms

All

49.58 untrusted

untrusted

Syntax

untrusted [**default-forwarding** *default-forwarding*]

no untrusted

Context

[Tree] (config>router>if untrusted)

Full Context

configure router interface untrusted

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Description

This command configures the state of untrusted for a network IP interface.

The untrusted state identifies the participating interfaces in the label security feature for prefixes of a VPN family at an inter-AS boundary. The router supports a maximum of 15 network interfaces that can participate in this feature.

The user normally applies this command to an inter-AS interface. PIP keeps track of the untrusted status of each interface. In the data path, such an interface causes the default forwarding to be set to the *default-forwarding* value.

For backward compatibility reasons, the interface **default-forwarding** is set to the **forward** value; this means that labeled packets are checked in the normal way against the table of programmed ILMs to decide if they should be dropped or forwarded in a GRT, a VRF, or a L2 service context.

If the user sets the *default-forwarding* value to **drop**, all labeled packets received on that interface are automatically dropped.

This command sets the default behavior for an untrusted interface in the data path and for all ILMs. When enabling the label security for VPN IPv4 or VPN IPv6 prefixes, BGP programs the data path to provide an exception to the normal way of forwarding handling away from the default for those VPRN ILMs.

The **no** form of this command returns the interface into the default state of trusted.

Default

no untrusted

Parameters

default-forwarding

Specifies the default forwarding behavior of labeled packets received on this interface.

Values forward, drop

Default forward

Platforms

All

49.59 unzip

unzip

Syntax

unzip *source-file-url* [*dest-file-url*] **list** [**router** *router-instance*]

unzip *source-file-url dest-file-url* [**create-destination**] [**force**] [**router** *router-instance*]

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Context

[Tree] (file unzip)

Full Context

file unzip

Description

This command expands the contents of a ZIP file to the local file system. Any file that is zipped using the store, deflate, or zip64 compression methods can be unzipped. The source ZIP file location can be a locally installed solid-state storage device or a remote FTP or TFTP server. Files can only be unzipped to the active CPM.

Parameters

source-file-url, dest-file-url

Specifies the source or destination file URL.

Values

local-url	[*cflash-id*/]*file-path*
	200 chars max, including cflash-id
	directory length 99 chars max each
remote-url	{ftp | tftp | sftp}://[*login*:*pswd*@]
	remote-locn / [*file-path*]
	247 chars max, *file-path* 199 chars max
remote-locn	{*hostname* | *ipv4-address* | "["i*pv6-address*"]" }[:*port*]|
ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H
	d: [0 to 255]D
	interface - 32 characters max, for link local addresses
port	[0 to 65535]
cflash-id	cf1: | cf1-A: | cf2: | cf2-A: | cf3: | cf3-A:

create-destination

Specifies that a non-existent directory structure that is explicitly entered as the destination file URL is created as part of the unzip operation. This parameter is required to create new directories.

list

Keyword that lists the content of the ZIP file without performing the unzip operation.

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force

Keyword that overwrites, without prompting, any file or directory contained within the ZIP file that already exists in the destination URL. This keyword does not automatically create new directories explicitly specified by *dest-file-url*. To create these directories, use the **create-destination** flag.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

49.60 up

up

Syntax

up ip *seconds*

no up ip

up ipv6 *seconds*

no up ipv6

Context

[Tree] (config>service>ies>if>hold-time up)

[Tree] (config>service>vprn>if>hold-time up)

[Tree] (config>service>vprn>sub-if>hold-time up)

[Tree] (config>service>vprn>red-if>hold-time up)

[Tree] (config>service>ies>red-if>hold-time up)

[Tree] (config>service>ies>sub-if>hold-time up)

[Tree] (config>service>vprn>nw-if>hold-time up)

[Tree] (config>service>vpls>if>hold-time up)

Full Context

configure service ies interface hold-time up

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configure service vprn interface hold-time up

configure service vprn subscriber-interface hold-time up

configure service vprn redundant-interface hold-time up

configure service ies redundant-interface hold-time up

configure service ies subscriber-interface hold-time up

configure service vprn network-interface hold-time up

configure service vpls interface hold-time up

Description

This command causes a delay in the deactivation of the associated IP interface by the specified number of seconds. The delay is invoked whenever the system attempts to bring the associated IP interface down.

The **no** form of this command removes the command from the active configuration and removes the delay in deactivating the associated IP interface. If the configuration is removed during a delay period, the currently running delay will continue until it expires.

Default

no up ip

Parameters

seconds

The time delay, in seconds, to make the interface operational.

Values 1 to 1200

Platforms

All

- configure service vprn interface hold-time up
- configure service vprn network-interface hold-time up
- configure service vpls interface hold-time up
- configure service ies interface hold-time up

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface hold-time up
- configure service vprn subscriber-interface hold-time up
- configure service ies redundant-interface hold-time up
- configure service vprn redundant-interface hold-time up

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49.61 up-link

up-link

Syntax

up-link gbr *rate* **mbr** *rate*

no up-link

Context

[Tree] (config>subscr-mgmt>gtp>peer-profile>ggsn>qos up-link)

[Tree] (config>subscr-mgmt>gtp>peer-profile>pgw>qos up-link)

[Tree] (config>subscr-mgmt>gtp>peer-profile>mme>qos up-link)

Full Context

configure subscriber-mgmt gtp peer-profile ggsn qos up-link

configure subscriber-mgmt gtp peer-profile pgw qos up-link

configure subscriber-mgmt gtp peer-profile mme qos up-link

Description

This command configures the up-link bitrate in kb/s to be used in the GTP messages.

The **no** form of this command reverts to the default.

Default

up-link gbr 5000 mbr 5000 - for ggsn

up-link gbr 0 mbr 0 - for mme and pgw

Parameters

gbr ***rate***

Specifies the uplink Guaranteed Bit Rate (GBR) to be used in the GTP messages as QOS IE (GTPv1) or Bearer QOS (GTPv2).

mbr ***rate***

Specifies the uplink Maximum Bit Rate (MBR) to be used in the GTP messages as QOS IE (GTPv1) or Bearer QOS (GTPv2).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.62 up-nat-policy

up-nat-policy

Syntax

up-nat-policy *name* [**create**]

Context

[Tree] (config>service>nat up-nat-policy)

Full Context

configure service nat up-nat-policy

Description

This command creates a NAT policy template for BNG CUPS UPF. This template is instantiated for a set of subscribers sharing in a NAT pool. The policy includes parameters that define the BNG CUPS UPF NAT behavior, such as, but not limited to, the following:

- ALGs
- filtering mode
- watermarks
- ports and NAT flow limits
- priority NAT flows
- protocol timers

When the BNG CPF does not receive the NAT policy template, a default template takes effect if it is configured on the BNG UPF. The name of the default NAT policy template on the BNG UPF must equal default.

Parameters

create

Keyword required to create a new NAT policy for BNG CUPS UPF.

name

Specifies the UP NAT policy name, up to 32 characters. The name default has a special meaning representing the default NAT policy template. The system uses the default template when the BNG CPF does not receive a more specific name when the subscriber is instantiated.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.63 up-resiliency

up-resiliency

Syntax

up-resiliency

Context

[Tree] (config>subscr-mgmt up-resiliency)

Full Context

configure subscriber-mgmt up-resiliency

Description

Commands in this context configure the inter-BNG-UP resiliency in a CUPS system.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

up-resiliency

Syntax

up-resiliency

Context

[Tree] (config>service>vprn>subscriber-mgmt up-resiliency)

[Tree] (config>service>vpls>sap>pfcp up-resiliency)

[Tree] (config>service>ies>subscriber-mgmt up-resiliency)

Full Context

configure service vprn subscriber-mgmt up-resiliency

configure service vpls sap pfcp up-resiliency

configure service ies subscriber-mgmt up-resiliency

Description

Commands in this context configure inter-BNG-UP resiliency service parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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49.64 up-threshold

up-threshold

Syntax

up-threshold *percent-change* [**bw** *absolute-change*]

Context

[Tree] (config>router>rsvp>dbw-accounting up-threshold)

Full Context

configure router rsvp dbw-accounting up-threshold

Description

This command sets the minimum change (in percent of the latest advertised value) above which an increase in MRLB (IS-IS TE sub-TLV 10) or MRB (OSPF TE sub-TLV 7) triggers an IGP-TE update. This configuration only applies to a change in MRLB or MRB caused by dark bandwidth. Other events affecting MRLB or MRB (such as the change of the subscription factor or the loss of link in a LAG over which the RSVP interface is defined) trigger an immediate TE update, regardless of the importance of the impact.

Optionally, the threshold can also be expressed as an absolute value. In this case, the evaluation of the change is made using the percent change and the absolute change. An IGP-TE update is sent if both of these thresholds are crossed. Changing this parameter in the course of dark bandwidth accounting does not affect the accounting cycle.

Default

up-threshold 0

Parameters

percent-change

Specifies the minimum increase in MRLB/MRB, expressed in percent.

Values 0 to 100

absolute-change

Specifies the minimum increase in MRLB/MRB, expressed in Mb/s.

Values 0 to 1000000

Platforms

7750 SR, 7750 SR-s, 7950 XRS, VSR

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49.65 upa-lifetime

upa-lifetime

Syntax

upa-lifetime *upa-lifetime*

no upa-lifetime

Context

[Tree] (config>router>isis>upa upa-lifetime)

Full Context

configure router isis prefix-unreachable upa-lifetime

Description

This command configures the amount of time a UPA is advertised.

The **no** form of this command reverts to the default.

Default

180

Parameters

upa-lifetime

Specifies the amount of time, in seconds, the UPA is advertised.

Values 30 to 1800

Platforms

All

49.66 upa-metric

upa-metric

Syntax

upa-metric *upa-metric*

no upa-metric

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Context

[Tree] (config>router>isis>upa upa-metric)

Full Context

configure router isis prefix-unreachable upa-metric

Description

This command configures a specific metric to an advertised UPA.

The **no** form of this command reverts to the default.

Default

4261412865

Parameters

upa-metric

Specifies the metric to an advertised UPA.

Values 4261412865 to 4294967294

Platforms

All

49.67 upa-trigger

upa-trigger

Syntax

upa-trigger

Context

[Tree] (config>service>vprn>bgp-evpn>srv6 upa-trigger)

[Tree] (config>router>bgp>srv6>family upa-trigger)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 upa-trigger)

Full Context

configure service vprn bgp-evpn segment-routing-v6 upa-trigger

configure router bgp segment-routing-v6 family upa-trigger

configure service vprn bgp-ipvpn segment-routing-v6 upa-trigger

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Description

Commands in this context configure the the UPA trigger handling for the next hop.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

49.68 update

update

Syntax

update [**neighbor** *ip-address* | **group** *name*]

no update

Context

[Tree] (debug>router>bgp update)

Full Context

debug router bgp update

Description

This command decodes and logs all sent and received update messages in the debug log.

The **no** form of this command disables debugging.

Parameters

neighbor *ip-address*

Debugs only events affecting the specified BGP neighbor.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface] (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters for link local addresses

group *name*

Debugs only events affecting the specified peer group name, up to 64 characters, and associated neighbors.

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Platforms

All

Output

The following output is an example of debug router BGP update information.

Output Example

```
debug router bgp update
```

```
17 2022/05/04 17:39:07.566 UTC MINOR: DEBUG #2001 Base Peer 1: 192.0.2.4
"Peer 1: 192.0.2.4: UPDATE
Peer 1: 192.0.2.4 - Received BGP UPDATE:
    Withdrawn Length = 0
    Total Path Attr Length = 76
    Flag: 0x90 Type: 14 Len: 32 Multiprotocol Reachable NLRI:
        Address Family L2VPN
        NextHop len 4 NextHop 192.0.2.4
        [VPLS/VPWS] preflen 21, veid: 4, vbo: 5, vbs: 1, label-base: 524252, RD
192.0.2.4:801, csv: 0x00000000, type 1, len 1,
    Flag: 0x40 Type: 1 Len: 1 Origin: 0
    Flag: 0x40 Type: 2 Len: 0 AS Path:
    Flag: 0x80 Type: 4 Len: 4 MED: 0
    Flag: 0x40 Type: 5 Len: 4 Local Preference: 100
    Flag: 0xc0 Type: 16 Len: 16 Extended Community:
        target:64500:801
        l2-vpn/vrf-imp:Encap=5: Flags=-TRC: MTU=1514: PREF=0
```

```
158 2022/05/10 08:05:21.767 UTC MINOR: DEBUG #2001 Base Peer 1: 2001:db8::2
"Peer 1: 2001:db8::2: UPDATE
Peer 1: 2001:db8::2 - Send BGP UPDATE:
    Withdrawn Length = 0
    Total Path Attr Length = 81
    Flag: 0x90 Type: 14 Len: 36 Multiprotocol Reachable NLRI:
        Address Family EVPN
        NextHop len 4 NextHop 192.0.2.5
        Type: EVPN-AD Len: 25 RD: 192.0.2.5:201 ESI: ESI-0, tag: 5 Label: 838804
8 (Raw Label: 0x7ffdd0) PathId:
    Flag: 0x40 Type: 1 Len: 1 Origin: 0
    Flag: 0x40 Type: 2 Len: 0 AS Path:
    Flag: 0x40 Type: 5 Len: 4 Local Preference: 100
    Flag: 0xc0 Type: 16 Len: 24 Extended Community:
        target:64500:201
        l2-attribute:MTU: 1514 C: 1 F: 1 P: 0 B: 0
        bgp-tunnel-encap:MPLS
"

367 2022/05/10 08:04:47.560 UTC MINOR: DEBUG #2001 Base Peer 1: 2001:db8::5
"Peer 1: 2001:db8::5: UPDATE
Peer 1: 2001:db8::5 - Send BGP UPDATE:
    Withdrawn Length = 0
    Total Path Attr Length = 77
    Flag: 0x90 Type: 14 Len: 28 Multiprotocol Reachable NLRI:
        Address Family EVPN
        NextHop len 4 NextHop 192.0.2.2
        Type: EVPN-INCL-MCAST Len: 17 RD: 192.0.2.2:500, tag: 0, orig_addr len:
32, orig_addr: 192.0.2.2
    Flag: 0x40 Type: 1 Len: 1 Origin: 0
    Flag: 0x40 Type: 2 Len: 0 AS Path:
```


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```
    Flag: 0x40 Type: 5 Len: 4 Local Preference: 100
    Flag: 0xc0 Type: 16 Len: 16 Extended Community:
        target:64500:500
        l2-attribute:MTU: 1514 C: 1 F: 1 P: 0 B: 0
        bgp-tunnel-encap:MPLS
    Flag: 0xc0 Type: 22 Len: 9 PMSI:
        Tunnel-type Ingress Replication (6)
        Flags: (0x0)[Type: None BM: 0 U: 0 Leaf: not required]
        MPLS Label 8388512
        Tunnel-Endpoint 192.0.2.2
```

```
2840 2024/09/04 18:22:17.332 UTC MINOR: DEBUG #2001 Base Peer 1: 2001:db8::1
"Peer 1: 2001:db8::1: UPDATE
Peer 1: 2001:db8::1 - Send BGP UPDATE:
    Withdrawn Length = 0
    Total Path Attr Length = 93
    Flag: 0x90 Type: 14 Len: 48 Multiprotocol Reachable NLRI:
        Address Family EVPN
        NextHop len 16 Global NextHop 2001:db8::2
        Type: EVPN-AD Len: 25 RD: 192.0.2.2:500 ESI: 01:66:00:00:00:00:00:00:00:
00, tag: 23 Label: 8388416 (Raw Label: 0x7fff40) PathId:
    Flag: 0x40 Type: 1 Len: 1 Origin: 0
    Flag: 0x40 Type: 2 Len: 0 AS Path:
    Flag: 0x40 Type: 5 Len: 4 Local Preference: 100
    Flag: 0xc0 Type: 16 Len: 24 Extended Community:
        target:64500:500
        l2-attribute:MTU: 1514 V: Double-VID M: Default F: 1 C: 1 P: 1 B: 0
        bgp-tunnel-encap:MPLS
"
```

49.69 update-fault-tolerance

update-fault-tolerance

Syntax

[**no**] **update-fault-tolerance**

Context

[Tree] (config>service>vprn>bgp>error-handling update-fault-tolerance)

[Tree] (config>service>vprn>bgp>group>neighbor>error-handling update-fault-tolerance)

[Tree] (config>service>vprn>bgp>group>error-handling update-fault-tolerance)

Full Context

configure service vprn bgp error-handling update-fault-tolerance

configure service vprn bgp group neighbor error-handling update-fault-tolerance

configure service vprn bgp group error-handling update-fault-tolerance

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Description

This command enables **treat-as-withdraw** and other similarly non-disruptive approaches for handling a wide range of UPDATE message errors, as long as there are no length errors that prevent all of the NLRI fields from being correctly identified and parsed.

Default

no update-fault-tolerance

Platforms

All

update-fault-tolerance

Syntax

[**no**] **update-fault-tolerance**

Context

[Tree] (config>router>bgp>group>error-handling update-fault-tolerance)

[Tree] (config>router>bgp>group>neighbor>error-handling update-fault-tolerance)

[Tree] (config>router>bgp>error-handling update-fault-tolerance)

Full Context

configure router bgp group error-handling update-fault-tolerance

configure router bgp group neighbor error-handling update-fault-tolerance

configure router bgp error-handling update-fault-tolerance

Description

This command enables **treat-as-withdraw** and other similarly non-disruptive approaches for handling a wide range of UPDATE message errors, as long as there are no length errors that prevent all of the NLRI fields from being correctly identified and parsed.

Default

no update-fault-tolerance

Platforms

All

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49.70 update-interval

update-interval

Syntax

update-interval [**hrs** *hours*] [**min** *minutes*] [**days** *days*]

no update-interval

Context

[Tree] (config>service>dynsvc>acct-1 update-interval)

[Tree] (config>service>dynsvc>acct-2 update-interval)

Full Context

configure service dynamic-services dynamic-services-policy accounting-1 update-interval

configure service dynamic-services dynamic-services-policy accounting-2 update-interval

Description

This command specifies the interval between each RADIUS Accounting Interim-Update message (minimum 5 minutes; maximum 180 days).

The **no** form of this command disables the sending of Accounting Interim-Update messages.

A RADIUS specified Accounting Interim Interval overrides the CLI configured value.

Default

no update-interval (do not send Accounting Interim-Update messages)

Parameters

hrs

specifies the interval in hours.

Values 1 to 23

min

Specifies the interval in minutes.

Values 1 to 59

days

specifies the interval in days.

Values 1 to 180

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

update-interval

Syntax

update-interval [**hrs** *hours*] [**min** *minutes*] [**days** *days*]

no update-interval

Context

[Tree] (config>service>dynsvc>ladb>user>idx>acct update-interval)

Full Context

configure service dynamic-services local-auth-db user-name index accounting update-interval

Description

This command specifies the time between each dynamic data service accounting interim update for this accounting destination. This command overrides the local configured value in the dynamic services policy.

The **no** form of this command disables the generation of interim accounting updates to this destination.

The minimum update interval is 5 minutes.

Parameters

hours

Specifies the interval in hours.

Values 1 to 23

minutes

Specifies the interval in minutes.

Values 1 to 59

days

Specifies the interval in days.

Values 1 to 180

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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update-interval

Syntax

update-interval *minutes*

no update-interval

Context

[Tree] (config>subscr-mgmt>acct-plcy update-interval)

Full Context

configure subscriber-mgmt radius-accounting-policy update-interval

Description

This command specifies the interval at which accounting data of subscriber hosts is updated in a RADIUS Accounting Interim-Update message. Requires interim-update to be enabled when specifying the accounting mode in the radius accounting policy.

A RADIUS specified interim interval (attribute [85] Acct-Interim-Interval) overrides the CLI configured value.

The **no** form of this command reverts to the default.

Parameters

minutes

Specifies the interval, in minutes, at which accounting data of subscriber hosts is updated.

Values 5 to 259200

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

update-interval

Syntax

update-interval *minutes* [**jitter** *seconds*]

no update-interval

Context

[Tree] (config>ipsec>rad-acct-plcy update-interval)

Full Context

configure ipsec radius-accounting-policy update-interval

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Description

This command enables the system to send RADIUS interim-update packets for IKEv2 remote-access tunnels. The RADIUS attributes in the interim-update packet are the same as acct-start. The value of the Acct-status-type in the interim-update message is 3.

Default

update-interval 10

Parameters

minutes

Specifies the interval in minutes.

Values 5 to 259200

seconds

Specifies the jitter as the number of seconds when the system sends each interim-update packet.

Values 0 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

update-interval

Syntax

update-interval *seconds*

Context

[Tree] (config>test-oam>link-meas>template>twl>ipv6-dest-disc update-interval)

Full Context

configure test-oam link-measurement measurement-template twamp-light ipv6-destination-discovery update-interval

Description

This command configures the transmission frequency used to maintain the peer address. IPv6 discovery packets are generated to ensure that the peer address has not changed. After the **discovery-timer** expires or a peer is discovered during the **discovery-timer** phase the value of **update-interval** is used to continue to monitor the address of the peer. When set to zero, maintaining the peer address is disabled after the initial discovery phase. If the peer has not been discovered during that phase, disabling and enabling the IPv6 protocol can be used to restart the discovery process.

Default

update-interval 600

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Parameters

seconds

Specifies the frequency used for probe packets once **discovery-timer** expires.

Values 0 to 3600

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

49.71 update-interval-jitter

update-interval-jitter

Syntax

update-interval-jitter absolute *seconds*

no update-interval-jitter

Context

[Tree] (config>service>dynsvc>acct-2 update-interval-jitter)

[Tree] (config>service>dynsvc>acct-1 update-interval-jitter)

Full Context

configure service dynamic-services dynamic-services-policy accounting-2 update-interval-jitter

configure service dynamic-services dynamic-services-policy accounting-1 update-interval-jitter

Description

This command specifies the absolute maximum random delay introduced on the update interval between two RADIUS Accounting Interim Update messages. The effective maximum random delay value is the minimum of the configured absolute jitter value and 10% of the configured update-interval.

A value of zero sends the accounting interim update message without introducing an additional random delay.

The **no** form of this command sets the default to 10% of the configured update-interval.

Default

no update-interval-jitter (10% of the configured update-interval)

Parameters

seconds

Specifies the absolute maximum jitter value in seconds.

Values 0 to 3600

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

update-interval-jitter

Syntax

update-interval-jitter absolute *seconds*

no update-interval-jitter

Context

[Tree] (config>subscr-mgmt>acct-plcy update-interval-jitter)

Full Context

configure subscriber-mgmt radius-accounting-policy update-interval-jitter

Description

This command specifies the absolute maximum random delay introduced on the update interval between two accounting interim update messages. The effective maximum random delay value is the minimum of the configured absolute jitter value and 10% of the configured update-interval.

A value of zero will send the accounting interim update message without introducing an additional random delay.

The **no** form of this command sets the default to 10% of the configured update-interval.

Parameters

seconds

Specifies the absolute maximum jitter value in seconds.

Values 0 to 36000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.72 update-key

update-key

Syntax

update-key card *cpm-slot* **serial-number** *cpm-serial-number* **confirmation-code** *code* **software-image** *file-url*

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Context

[Tree] (admin>system>security>secure-boot update-key)

Full Context

admin system security secure-boot update-key

Description

This command updates secure boot keys.

Parameters

cpm-slot

Specifies the CPM slot.

Values A,B

cpm-serial-number

Specifies the CPM serial number, up to 256 characters.

code

Specifies the signed software confirmation code, up to 32 characters.

file-url

Specifies the URL for the software image.

Values [*local-url* | *remote-url*] (up to 180 characters)

where:

- *local-url* — [*cflash-id/*] [*file-path*]
  180 chararcters max, including *cflash-id*
  directory length 99 characters max each
- *remote-url* — [{ftp://| tftp://} *login*:*pswd*@*remote-locn*/][*file-path*]
  180 characters max
  directory length 99 characters max each
  where: *remote-locn* — [*hostname* | *ipv4-address* | *ipv6-address*]

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x - [0..FFFF]H
	d - [0..255]D
	interface - 32 chars max, for link
	local addresses

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cflash-id	cf1:| cf1-A:| cf1-B:| cf2:| cf2-A:| cf2-B:| cf3:| cf3-A:| cf3-B:

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

49.73 update-timer

update-timer

Syntax

update-timer *seconds*

no update-timer

Context

[Tree] (config>router>rsvp>te-threshold-update update-timer)

Full Context

configure router rsvp te-threshold-update update-timer

Description

This command is to control timer-based IGP TE updates. Timer-based IGP updates can be enabled by specifying a non-zero time value. Default value of update-timer is 0.

The **no** form of this command should reset update-timer to the default value and disable timer-based IGP update.

Default

no update-timer

Parameters

seconds

Specifies the time in seconds.

Values 0 to 300

Platforms

All

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49.74 updated-error-handling

updated-error-handling

Syntax

[**no**] **updated-error-handling**

Context

[Tree] (config>service>vprn>bgp>group>neighbor updated-error-handling)

[Tree] (config>service>vprn>bgp>group updated-error-handling)

Full Context

configure service vprn bgp group neighbor updated-error-handling

configure service vprn bgp group updated-error-handling

Description

This command controls whether SR OS utilizes the new neighbor-complete bit when processing optional transitive path attributes and advertising them to the associated BGP neighbor.

This command also control if SR OS utilizes the error handling mechanism for optional-transitive path attributes.

Default

no updated-error-handling

Platforms

All

49.75 updates

updates

Syntax

[**no**] **updates** [**neighbor** *ip-int-name* | *ip-address*]

Context

[Tree] (debug>router>rip updates)

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Full Context

debug router rip updates

Description

This command enables debugging for RIP updates.

Parameters

ip-int-name* | *ip-address

Debugs the RIP updates sent on the neighbor IP address or interface.

Platforms

All

updates

Syntax

[**no**] **updates** [**neighbor** *ip-int-name* | *ipv6-address*]

Context

[Tree] (debug>router>ripng updates)

Full Context

debug router ripng updates

Description

This command enables debugging for RIP updates.

Parameters

ip-int-name*| *ipv6-address

Debugs the RIP updates sent on the neighbor IP address or interface.

Platforms

All

49.76 upf-data-endpoint

upf-data-endpoint

Syntax

upf-data-endpoint interface *interface-name* **fpe** *fpe-id*

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no upf-data-endpoint

Context

[Tree] (config>service>vprn>gtp upf-data-endpoint)

[Tree] (config>router>gtp upf-data-endpoint)

Full Context

configure service vprn gtp upf-data-endpoint

configure router gtp upf-data-endpoint

Description

This command configures the GTP - User Plane (GTP-U) endpoint used by BNG CUPS FWA sessions.

The **no** form of the command disables GTP-U termination for BNG CUPS FWA sessions.

Default

no upf-data-endpoint

Parameters

interface-name

Specifies an interface name on which GTP-U packets terminate. The name must start with a letter and can be up to 32 characters.

fpe-id

Specifies the forwarding path extension (FPE) ID used to encapsulate and decapsulate GTP-U traffic.

Values 1 to 64

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.77 upgrade

upgrade

Syntax

upgrade *index* **path** *upgrade-name*

no upgrade *index*

Context

[Tree] (config>card>xiom upgrade)

[Tree] (config>card upgrade)

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[Tree] (config>card>mda upgrade)

Full Context

configure card xiom upgrade

configure card upgrade

configure card mda upgrade

Description

This command assigns a license level upgrade to the card, XIOM, or XMA. There can be multiple upgrades applied to a card, XIOM, or XMA. The first upgrade must use index 1 and then next index 2 and so on. Also, when removing upgrades, the largest index must be removed first and then the next largest removed and so on.

The path indicates the starting level and the new level that will apply due to the upgrade. For example, "cr1200g-cr1600g" can be applied to an XMA that is currently at the cr1200g level and after application of the upgrade, the operational level of the XMA shall be cr1600g.

There must be an upgrade license available for the path specified. Available upgrades can be checked using the **show licensing entitlements** command.

Note:
Some upgrades require a hard reset of the card or MDA to take effect. In general, this is required when the Full Duplex bandwidth is being changed.

Parameters

index

Specifies the order of the upgrade.

Values 1 to 6

upgrade-name

Specifies the upgrade name to be applied, up to 32 characters.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom upgrade

7450 ESS, 7750 SR, 7750 SR-1se

- configure card upgrade

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

- configure card mda upgrade

upgrade

Syntax

upgrade

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Context

[Tree] (admin>app-assure upgrade)

Full Context

admin application-assurance upgrade

Description

Use this command to load a new isa-aa.tim file as part of a router-independent signature upgrade. An AA ISA reboot is required.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.78 uplink

uplink

Syntax

[**no**] **uplink**

Context

[Tree] (config>router>gtp uplink)

[Tree] (config>service>vprn>gtp uplink)

Full Context

configure router gtp uplink

configure service vprn gtp uplink

Description

This command enables GTP configuration related to a GTP uplink using the Gn, S2a, or S2b interface.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

uplink

Syntax

uplink arbiter *arbiter-name*

uplink policer *policer-id*

uplink queue *queue-id*

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uplink scheduler *scheduler-name*

no uplink

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn>ambr-qos-mapping uplink)

Full Context

configure subscriber-mgmt gtp apn-policy apn ambr-qos-mapping uplink

Description

When enabled, the uplink rate in the APN-AMBR IE in an incoming GTP message is interpreted as a rate override for the specified ingress QoS object. For queues and policers, the PIR is overridden.

This override uses standard SR OS QoS overrides. Therefore, a subsequent Gx/RADIUS-based override removes this override.

The **no** form of this command disables the override mechanism.

Default

no uplink

Parameters

arbiter-name

Specifies the name of the arbiter to be overridden, up to 32 characters.

policer-id

Specifies the ID of the policer to be overridden.

Values 1 to 63

queue-id

Specifies the ID of the queue to be overridden.

Values 1 to 32

scheduler-name

Specifies the name of the scheduler to be overridden, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

uplink

Syntax

uplink *port-id*

uplink system-default

uplink none

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Context

[Tree] (config>system>satellite>port-template>port uplink)

Full Context

configure system satellite port-template port uplink

Description

This command configures the uplink association to be used for the associated satellite port.

Parameters

port-id

Specifies the satellite physical port ID. This must use the format *slot*/*mda*/*port*. All satellites have a single slot and a single MDA, so these values will always be 1. For example, port 10 would be specified as 1/1/10.

system-default

Specifies that the uplink association is returned to the system default.

none

Clears the uplink association.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

49.79 uplink-forwarding-while-standby

uplink-forwarding-while-standby

Syntax

[**no**] **uplink-forwarding-while-standby**

Context

[Tree] (config>subscr-mgmt>up-resiliency>fsg-template uplink-forwarding-while-standby)

Full Context

configure subscriber-mgmt up-resiliency fate-sharing-group-template uplink-forwarding-while-standby

Description

This command allows a standby BNG-UP to forward uplink traffic. To prevent the possibility of packet replication toward the network, only enable this command if the access network is provisioned not to replicate unicast packets to the BNG-UP.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.80 uplink-initial-wait

uplink-initial-wait

Syntax

uplink-initial-wait *seconds*

Context

[Tree] (config>subscr-mgmt>vrgw>brg>brg-profile uplink-initial-wait)

Full Context

configure subscriber-mgmt vrgw brg brg-profile uplink-initial-wait

Description

This command specifies how long to wait for the uplink to fully establish when using a non-routed uplink such as a PPPoE client. During this initial wait time, setup of devices in the home is blocked.

After the timer expires, if an uplink was successful on only one of two IP stacks, devices continue to be configured with the successful IP stack. Control plane message for the failed IP stack are dropped.

Default

uplink-initial-wait 30

Parameters

seconds

Specifies the timeout in seconds.

Values 10 to 300

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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49.81 uplink-mbr-gbr

uplink-mbr-gbr

Syntax

uplink-mbr-gbr arbiter *arbiter-name*

uplink-mbr-gbr policer *policer-id*

uplink-mbr-gbr queue *queue-id*

uplink-mbr-gbr scheduler *scheduler-name*

no uplink-mbr-gbr

Context

[Tree] (config>subscr-mgmt>sla-prof>pfcp>seq uplink-mbr-gbr)

Full Context

configure subscriber-mgmt sla-profile pfcp-mappings session-qer uplink-mbr-gbr

Description

This command configures the uplink MBR/GBR to QoS override mapping.

The **no** form of the command disables the uplink MBR/GBR mapping.

Default

no uplink-mbr-gbr

Parameters

arbiter-name

Specifies the arbiter target of the MBR/GBR override. The arbiter name can be up to 32 characters.

policer-id

Specifies the policer ID target of the MBR/GBR override.

Values 1 to 63

queue-id

Specifies the queue ID target of the MBR/GBR override.

Values 1 to 8

scheduler-name

Specifies the scheduler name target of the MBR/GBR override. The scheduler name can be up to 32 characters.

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Platforms
7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.82 upnp

upnp

Syntax
upnp

Context
[Tree] (config>service upnp)

Full Context
configure service upnp

Description
Commands in this context configure UPnP parameters.

Platforms
7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.83 upnp-mappings

upnp-mappings

Syntax
upnp-mappings [*upnp-mappings*]
no upnp-mappings

Context
[Tree] (config>isa>wlan-gw-group>nat>session-limits upnp-mappings)

Full Context
configure isa wlan-gw-group nat session-limits upnp-mappings

Description
This command limits the number of Universal Plug 'n Play mappings per member

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The **no** form of this command reverts to the default value.

Default

upnp-mappings 524288

Parameters

upnp-mappings

specifies, for each MDA in this ISA group, the maximum number of Universal Plug 'n Play (UPnP) mappings.

Values 1 to 524288

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

upnp-mappings

Syntax

upnp-mappings *limit* **no upnp-mappings**

Context

[Tree] (config>isa>nat-group>session-limits upnp-mappings)

Full Context

configure isa nat-group session-limits upnp-mappings

Description

This command specifies the maximum number of UPnP mappings per ISA.

Default

524288

Parameters

limit

Specifies the maximum number of UPnP mappings.

Values 1 to 524288

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.84 upnp-policy

upnp-policy

Syntax

upnp-policy *policy-name* [**create**]

no upnp-policy *policy-name*

Context

[Tree] (config>service>upnp upnp-policy)

Full Context

configure service upnp upnp-policy

Description

This command creates a new upnp-policy or enters the configuration context of an existing upnp-policy.

The **no** form of the command removes the upnp-policy policy-name from the configuration.

Parameters

policy-name

Specifies the name of the UPnP policy up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

upnp-policy

Syntax

upnp-policy *policy-name*

no upnp-policy

Context

[Tree] (config>subscr-mgmt>sub-prof upnp-policy)

Full Context

configure subscriber-mgmt sub-profile upnp-policy

Description

This command enables UPnP IGD services for the subscriber. All ESM hosts of the subscriber could use the UPnP protocol to create port mapping. This feature only support L2-Aware NAT host.

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UPnP parameters are defined in the referenced upnp-policy configured in the **configure service upnp** context.

Default

no upnp-policy

Parameters

policy-name

Specifies the UPnP policy associated with this subscriber profile up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.85 upstream-ip-filter

upstream-ip-filter

Syntax

upstream-ip-filter *filter-id*

no upstream-ip-filter

Context

[Tree] (config>service>vprn>nat>outside upstream-ip-filter)

[Tree] (config>router>nat>outside upstream-ip-filter)

Full Context

configure service vprn nat outside upstream-ip-filter

configure router nat outside upstream-ip-filter

Description

This command configures the ip-filter for upstream traffic. This filter is applied to the upstream traffic after the NAT function and before it enters the outside virtual router instance; it is useful for traffic that bypasses the ingress filters applied in the inside virtual router instance, such as DS-Lite traffic.

Default

no upstream-ip-filter

Parameters

filter-id

Specifies the identifier of an IP filter.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.86 upstream-ipv6-filter

upstream-ipv6-filter

Syntax

upstream-ipv6-filter *filter-id*

no upstream-ipv6-filter

Context

[Tree] (config>service>vprn>nat>outside upstream-ipv6-filter)

[Tree] (config>router>nat>outside upstream-ipv6-filter)

Full Context

configure service vprn nat outside upstream-ipv6-filter

configure router nat outside upstream-ipv6-filter

Description

This command configures the ipv6-filter for upstream traffic. This filter is applied to the upstream traffic after the NAT function and before it enters the outside virtual router instance. This is useful for shared v6 filters that apply to all v6 DSM hosts.

Default

no upstream-ipv6-filter

Parameters

filter-id

Specifies the identifier of an ipv6-filter.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.87 url

url

Syntax

url *rdr-url-sting*

no url

Context

[Tree] (config>subscr-mgmt>http-rdr-plcy url)

Full Context

configure subscriber-mgmt http-redirect-policy url

Description

This command configures the HTTP URL to re-direct the matching traffic to. It also can specify inclusion of original URL, MAC address and IP address of the subscriber in the redirect URL.

Parameters

rdr-url-sting

Specifies the URL to redirect to.

Values

rdr-url-string		Up to 255 characters
macro substitutions:		
	$URL	Request-URI in the HTTP GET Request received
	$MAC	A string that represents the MAC address of the subscriber host
	$IP	A string that represents the IP address of the subscriber host

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

url

Syntax

url *url*

no url

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Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update>crl-urls>url-entry url)

Full Context

configure system security pki ca-profile auto-crl-update crl-urls url-entry url

Description

This command specifies the HTTP URL of the CRL file for the **url-entry**. The system supports both IPv4 and IPv6 HTTP connections.

Note:
The URL must point to a DER encoded CRL.

Default

no url

Parameters

url

Specifies the URL, which specifies the location, where an updated CRL can be downloaded from.

Platforms

All

url

Syntax

url *url-string* [**service-id** *service-id*]

url *url-string* [**service-name** *service-name*]

no url

Context

[Tree] (config>system>security>pki>ca-profile>cmpv2 url)

Full Context

configure system security pki ca-profile cmpv2 url

Description

This command specifies HTTP URL of the CMPv2 server. The URL must be unique across all configured ca-profiles.

The URL is resolved by the DNS server configured (if configured) in the corresponding router context.

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If the *service-id* is 0 or omitted, then system tries to resolve the FQDN via DNS server configured in bof.cfg. After resolution, the system connects to the address in the management routing instance first, then the base routing instance.

Note:
If the service is VPRN, the system only allows HTTP ports 80 and 8080.

Parameters

url-string

Specifies the HTTP URL of the CMPv2 server, up to 180 characters.

service-id *service-id*

Specifies the service instance that used to reach CMPv2 server.

This variant of this command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **url** *url-string* **service-name** *service-name* variant can be used in all configuration modes.

Values service-id: 1 to 2147483647 base-router: 0

service-name service-name

Identifies the service, up to 64 characters.

Platforms

All

49.88 url-entry

url-entry

Syntax

url-entry *entry-id* [**create**]

no url-entry *entry-id*

Context

[Tree] (config>system>security>pki>ca-prof>auto-crl-update>crl-urls url-entry)

Full Context

configure system security pki ca-profile auto-crl-update crl-urls url-entry

Description

This command creates a new **crl-url** entry with the **create** parameter, or enters an existing url-entry configuration context without **create** parameter.

The **no** form of this command removes the specified entry.

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Parameters

entry-id

Specifies a URL configured on this system.

Values 1 to 8

create

Creates an auto URL entry.

Platforms

All

49.89 url-filter

url-filter

Syntax

url-filter *url-filter-name* [**characteristic** *characteristic-name*]

no url-filter

Context

[Tree] (config>app-assure>group>policy>aqp>entry>action url-filter)

Full Context

configure application-assurance group policy app-qos-policy entry action url-filter

Description

This command configures a url-filter action for flows matching this entry. The **characteristic** parameter enables the system to use the value of the characteristic name specified in the app-qos-policy url-filter action for the configurable ICAP x-header name provisioned in the url-filter policy. The ICAP server can then use this value to decide which url-filter policy to apply instead of applying a filter policy based on the subscriber name.

Parameters

url-filter-name

Specifies the name of the url-filter policy, up to 32 characters.

characteristic-name

Specifies the name of the application service option characteristic used to determine the custom X-Header value.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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url-filter

Syntax

url-filter *url-filter-name* [**create**]

no url-filter *url-filter-name*

Context

[Tree] (config>app-assure>group url-filter)

Full Context

configure application-assurance group url-filter

Description

This command configures a URL filter action for flows of a specific type matching this entry.

If no URL filters are specified then no URL filters will be evaluated.

Parameters

url-filter-name

Specifies the Application-Assurance URL filter that will be evaluated.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.90 url-list

url-list

Syntax

url-list *url-list-name* [**create**]

no url-list *url-list-name*

Context

[Tree] (config>app-assure>group url-list)

Full Context

configure application-assurance group url-list

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Description

This command configures a url-list object. The url-list points to a file containing a list of URLs located on the system Compact Flash. The url-list is then referenced in a url-filter object in order to filter and redirect subscribers when a URL from this file is accessed.

The **no** form of this command removes the url-list object.

Parameters

url-list-name

Specify the Application-Assurance url-list

create

Keyword used to create the URL list.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

url-list

Syntax

url-list *url-list-name* **upgrade**

Context

[Tree] (admin>app-assure>group url-list)

Full Context

admin application-assurance group url-list

Description

This command upgrades the URL list.

Parameters

url-list-name

Specifies the application assurance URL list, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.91 urpf-check

urpf-check

Syntax

[**no**] **urpf-check**

Context

[Tree] (config>service>vprn>if>ipv6 urpf-check)

[Tree] (config>service>ies>if>ipv6 urpf-check)

[Tree] (config>service>vprn>if urpf-check)

[Tree] (config>service>ies>sub-if>grp-if>ipv6 urpf-check)

[Tree] (config>service>vprn>sub-if>grp-if urpf-check)

[Tree] (config>service>vprn>nw-if urpf-check)

[Tree] (config>service>ies>if urpf-check)

Full Context

configure service vprn interface ipv6 urpf-check

configure service ies interface ipv6 urpf-check

configure service vprn interface urpf-check

configure service ies subscriber-interface group-interface ipv6 urpf-check

configure service vprn subscriber-interface group-interface urpf-check

configure service vprn network-interface urpf-check

configure service ies interface urpf-check

Description

This command enables unicast RPF (uRPF) check on this interface.

The **no** form of this command disables unicast RPF (uRPF) Check on this interface.

Default

no urpf-check

Platforms

All

- configure service vprn interface urpf-check
- configure service vprn network-interface urpf-check
- configure service ies interface urpf-check
- configure service vprn interface ipv6 urpf-check

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- configure service ies interface ipv6 urpf-check

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn subscriber-interface group-interface urpf-check
- configure service ies subscriber-interface group-interface ipv6 urpf-check

urpf-check

Syntax

[**no**] **urpf-check**

Context

[Tree] (config>subscr-mgmt>git>ipv4 urpf-check)

Full Context

configure subscriber-mgmt group-interface-template ipv4 urpf-check

Description

This command enables the uRPF check on this interface.

The **no** form of this command disables the uRPF check on this interface.

Default

no urpf-check

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

urpf-check

Syntax

urpf-check

no urpf-check

Context

[Tree] (config>service>vprn>network>ingress urpf-check)

Full Context

configure service vprn network ingress urpf-check

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Description

This command enables the unicast RPF (uRPF) check of network ingress traffic to include traffic associated with the VPRN if the incoming network interface is configured with the **urpf-selected-vprns** command

If the command is not configured, then traffic associated with this VPRN that arrives on a network interface with **urpf-selected-vprns** configured bypasses the uRPF checking options specified for that network interface.

Default

no urpf-check

Platforms

All

urpf-check

Syntax

[**no**] **urpf-check**

Context

[Tree] (config>router>if urpf-check)

[Tree] (config>router>if>ipv6 urpf-check)

Full Context

configure router interface urpf-check

configure router interface ipv6 urpf-check

Description

This command enables unicast RPF (uRPF) Check on this interface.

The **no** form of this command disables unicast RPF (uRPF) Check on this interface.

Platforms

All

49.92 urpf-selected-vprns

urpf-selected-vprns

Syntax

[**no**] **urpf-selected-vprns**

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Context

[Tree] (config>router>if urpf-selected-vprns)

Full Context

configure router interface urpf-selected-vprns

Description

This command enables uRPF checking of incoming traffic on the network interface for the following packets.

- Packets associated with the global routing table (base router) context.
- Packets associated with VPRNs that have enabled the uRPF check using the **config**>**service**>**vprn**>**network**> **ingress**>**urpf-check** command.

If the command is not configured, the default action is to perform uRPF checks for all ingress traffic on the network interface (associated with the base router and all VPRNs) based on the IPv4 and IPv6 **urpf-check** configuration options of the network interface.

Default

no urpf-selected-vprns

Platforms

All

49.93 usage-monitoring

usage-monitoring

Syntax

[**no**] **usage-monitoring**

Context

[Tree] (config>app-assure>group>statistics>aa-sub usage-monitoring)

Full Context

configure application-assurance group statistics aa-sub usage-monitoring

Description

This command enables Gx usage monitoring the given AA group/partition. It can only be enabled if there is enough usage monitoring resources for all existing subs. Once disabled, all monitoring instances for AA subscribers are silently removed (no PCRF notifications) and all subsequent AA Gx usage monitoring messages are ignored.

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Default

no usage-monitoring

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.94 use-arp

use-arp

Syntax

[**no**] **use-arp**

Context

[Tree] (config>service>vprn>if>dhcp use-arp)

[Tree] (config>service>ies>if>dhcp use-arp)

Full Context

configure service vprn interface dhcp use-arp

configure service ies interface dhcp use-arp

Description

This command enables the use of ARP to determine the destination hardware address.

The **no** form of this command disables the use of ARP to determine the destination hardware address.

Platforms

All

49.95 use-bgp-routes

use-bgp-routes

Syntax

[**no**] **use-bgp-routes**

Context

[Tree] (config>service>vprn>bgp>next-hop-res use-bgp-routes)

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Full Context

configure service vprn bgp next-hop-resolution use-bgp-routes

Description

This command enables the use of BGP routes to resolve BGP next hops. When this command is enabled, any unlabeled IPv4 or IPv6 BGP route received from a VPRN BGP peer becomes resolvable by up to four other BGP routes in order to resolve the route to a VPRN IP interface.

This command also allows unlabeled IPv4 or IPv6 BGP routes leaked from the GRT with unresolved next hops (in the GRT) to be resolvable by BGP-VPN routes (of the VPRN).

The **no** form of this command reverts to the default behavior. By default, a VPRN BGP route is not resolvable by another VPRN BGP route or by a BGP-VPN route.

Default

no use-bgp-routes

Platforms

All

use-bgp-routes

Syntax

[**no**] **use-bgp-routes**

Context

[Tree] (config>router>bgp>next-hop-res use-bgp-routes)

Full Context

configure router bgp next-hop-resolution use-bgp-routes

Description

This command specifies whether to use BGP routes to recursively resolve the BGP next-hop of unlabeled IPv4 and unlabeled IPv6 routes. Up to four levels of recursion are supported.

The **no** form of this command reverts to the default behavior. By default, a BGP route is not resolvable by another BGP route.

Default

no use-bgp-routes

Platforms

All

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use-bgp-routes

Syntax

use-bgp-routes

Context

[Tree] (config>router>bgp>next-hop-res>lbl-routes use-bgp-routes)

Full Context

configure router bgp next-hop-resolution labeled-routes use-bgp-routes

Description

Commands in this context configure labeled route options for next-hop resolution.

Platforms

All

49.96 use-broadcast-address

use-broadcast-address

Syntax

[**no**] **use-broadcast-address**

Context

[Tree] (config>port>ethernet>dwl use-broadcast-address)

Full Context

configure port ethernet down-when-looped use-broadcast-address

Description

This command specifies whether or not the down when looped destination MAC address is the broadcast address, or the local port MAC address, as specified in the port's MAC address.

Platforms

All

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49.97 use-broadcast-mac

use-broadcast-mac

Syntax

[**no**] **use-broadcast-mac**

Context

[Tree] (config>service>ipipe>sap use-broadcast-mac)

Full Context

configure service ipipe sap use-broadcast-mac

Description

This command enables the user of a of broadcast MAC on SAP.

An Ipipe VLL service with the command enabled forwards unicast IP packets using the broadcast MAC address until the ARP cache is populated with a valid entry for the CE IP and MAC addresses.

The **no** form of this command enables the user of a of broadcast MAC on SAP.

Default

no use-broadcast-mac

Platforms

All

49.98 use-def-mcast

use-def-mcast

Syntax

[**no**] **use-def-mcast**

Context

[Tree] (config>service>vpls>isid-policy>entry use-def-mcast)

Full Context

configure service vpls isid-policy entry use-def-mcast

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Description

The **use-def-mcast** option prevents local installation of the ISIDs in the range in the MFIB and uses the default multicast tree instead for a B-VPLS. In a node that does not have I-VPLS or static-isids, this command prevents the building of an MFIB entry for this ISID when received in a SPBM TLV and allows the broadcast of ISID based traffic on the default multicast tree. If an **isid-policy** exists, the core nodes can have this policy to prevent connectivity problems when some nodes are advertising an ISID and others are not. In a I-VPLS service if the customer MAC (C-MAC) is unknown, a frame will have the Multicast DA for an ISID (PBB-OUI + ISID) flooded on the default multicast tree and not pruned.

Default

no use-def-mcast

Platforms

All

49.99 use-default-template

use-default-template

Syntax

[**no**] **use-default-template**

Context

[Tree] (config>service>vprn>aaa>rmt-srv>tacplus use-default-template)

[Tree] (config>system>security>tacplus use-default-template)

Full Context

configure service vprn aaa remote-servers tacplus use-default-template

configure system security tacplus use-default-template

Description

This command specifies whether the **user-template tacplus_default** is actively applied to the TACACS+ user. When enabled, some parameters of the **user-template tacplus_default** are actively applied to all users that authenticate via TACACS+. See the **user-template tacplus_default** command for more details.

When disabled, the parameters of the template are not applied to TACACS+ users, and TACACS+ users cannot connect to an SR OS router since the user access parameters are not available. In this case, TACACS+ can only be used for accounting.

Default

use-default-template

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Platforms

All

use-default-template

Syntax

[**no**] **use-default-template**

Context

[Tree] (config>system>security>radius use-default-template)

[Tree] (config>service>vprn>aaa>rmt-srv>radius use-default-template)

Full Context

configure system security radius use-default-template

configure service vprn aaa remote-servers radius use-default-template

Description

This command specifies whether the RADIUS default user template is actively applied to the RADIUS user if no VSAs are returned with the auth-accept from the RADIUS server. When enabled, the radius_default user-template is actively applied if no VSAs are returned with the auth-accept from the RADIUS server and radius authorization is enabled.

The **no** form of this command disables the use of the RADIUS default template.

Default

no use-default-template

Platforms

All

use-default-template

Syntax

[**no**] **use-default-template**

Context

[Tree] (config>system>security>ldap use-default-template)

Full Context

configure system security ldap use-default-template

Description

This command specifies whether the default template is to be actively applied to LDAP users.

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Default

use-default-template

Platforms

All

49.100 use-direct-map-as-default

use-direct-map-as-default

Syntax

[**no**] **use-direct-map-as-default**

Context

[Tree] (config>subscr-mgmt>sub-ident-pol>app-profile-map use-direct-map-as-default)

Full Context

configure subscriber-mgmt sub-ident-policy app-profile-map use-direct-map-as-default

Description

This command enables direct mapping of application profile as default. With this flag, a script returned string is used as the named profile. If the named profiled cannot be found, the default profile is used.

The **no** form of this command disables the direct mapping.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

use-direct-map-as-default

Syntax

[**no**] **use-direct-map-as-default**

Context

[Tree] (config>subscr-mgmt>sub-prof>sla-prof-map use-direct-map-as-default)

[Tree] (config>subscr-mgmt>sub-ident-pol>sub-profile-map use-direct-map-as-default)

[Tree] (config>subscr-mgmt>sub-ident-pol>sla-profile-map use-direct-map-as-default)

Full Context

configure subscriber-mgmt sub-profile sla-profile-map use-direct-map-as-default

configure subscriber-mgmt sub-ident-policy sub-profile-map use-direct-map-as-default

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configure subscriber-mgmt sub-ident-policy sla-profile-map use-direct-map-as-default

Description

This command enables direct mapping of the profiles as default. With this flag, a string returned in authentication is used as the named profile. If the named profiled cannot be found, the default profile is used.

The **no** form of this command disables direct mapping.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.101 use-es-bmac

use-es-bmac

Syntax

[**no**] **use-es-bmac**

Context

[Tree] (config>service>vpls>pbb use-es-bmac)

Full Context

configure service vpls pbb use-es-bmac

Description

This command is only supported in B-VPLS instances where BGP-EVPN is enabled and controls the source B-MAC used by the system for packets coming from the SAP or spoke-SDPs when they belong to an EVPN Ethernet-Segment.

If enabled, the system will use a source B-MAC derived from the source-bmac (high order four bytes) and the least significant two bytes configured in **config>service>system>bgp-evpn>eth-seg>source-bmac-lsb** for all the packets coming from the local ethernet-segment.

If **no use-es-bmac** is configured, the system will use the regular source-bmac (provided by the **config>service>vpls>pbb>source-bmac** command, or the chassis bmac if the source-bmac is not configured).

Default

no use-es-bmac

Platforms

All

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49.102 use-gi-address

use-gi-address

Syntax

use-gi-address [**scope** *scope*]

Context

[Tree] (config>router>dhcp>server use-gi-address)

[Tree] (config>service>vprn>dhcp>server use-gi-address)

Full Context

configure router dhcp local-dhcp-server use-gi-address

configure service vprn dhcp local-dhcp-server use-gi-address

Description

This command enables the use of gi-address matching. If the gi-address flag is enabled, a pool can be used even if a subnets is not found. If the **local-user-db-name** is not used, the gi-address flag is used and addresses are handed out by GI only. If a user must be blocked from getting an address the server maps to a local user database and configures the user with no address.

A pool can include multiple subnets. Since the GI is shared by multiple subnets in a subscriber interface the pool may provide IP addresses from any of the subnets included when the GI is matched to any of its subnets. This allows a pool to be created that represents a sub-int.

The **no** form of the reverts to the default.

Parameters

scope

Specifies if addresses are handed out for a certain subnet where the gi-address belongs to only or for all subnets part of the pool.

Values **subnet** — Addresses are only handed out for the subnet where the gi-address is part.

pool — All subnets part of the pool which contain subnet where the gi-address is part of can hand out addresses.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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49.103 use-global-sampling-rate

use-global-sampling-rate

Syntax

[**no**] **use-global-sampling-rate**

Context

[Tree] (config>mirror>mirror-dest use-global-sampling-rate)

Full Context

configure mirror mirror-dest use-global-sampling-rate

Description

This command configures each mirror destination service to use the global sampling rate, which allows a single high-rate sampling rate for the entire system.

The **no** form of this command disables use of the global sampling rate for the mirror destination service. Disabling the global sampling rate causes each mirror destination to mirror either at the full rate (all packets) or to mirror at the mirror destination sampling rate if the sampling rate is specified under the **sampling-rate** command.

Default

no use-global-sampling-rate

Platforms

All

49.104 use-ingress-l2tp-dscp

use-ingress-l2tp-dscp

Syntax

[**no**] **use-ingress-l2tp-dscp**

Context

[Tree] (config>subscr-mgmt>sla-prof>egress use-ingress-l2tp-dscp)

Full Context

configure subscriber-mgmt sla-profile egress use-ingress-l2tp-dscp

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Description

This command enables the use of the DSCP marking taken from the L2TP header received on an L2TP Access Concentrator (LAC) for egress classification for the subscriber host using the associated sla-profile.

This command is ignored if the ingress packet is not identified as an L2TP packet.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.105 use-lag-port-weight

use-lag-port-weight

Syntax

[**no**] **use-lag-port-weight**

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only>igmp-snp>mcac>mc-constraints use-lag-port-weight)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping mcac mc-constraints use-lag-port-weight

Description

This command enables port weight to be used when determining available bandwidth per level when LAG ports go down/come up. The command is required for proper operation on mixed port-speed LAGs and can be used for non-mixed port-speed LAGs as well.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

use-lag-port-weight

Syntax

use-lag-port-weight

no use-lag-port-weight

Context

[Tree] (config>service>vpls>sap>igmp-snooping>mcac>mc-constraints use-lag-port-weight)

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Full Context

configure service vpls sap igmp-snooping mcac mc-constraints use-lag-port-weight

Description

This command enables port weight to be used when determining available bandwidth per level when LAG ports go down/come up. The command is required for correct operation on mixed port-speed LAGs and can be used for non-mixed port-speed LAGs as well.

Default

no use-lag-port-weight — The port number is used when determining available BW per level when LAG ports go down/come up.

Platforms

All

use-lag-port-weight

Syntax

[**no**] **use-lag-port-weight**

Context

[Tree] (config>service>vprn>igmp>if>mcac>mc-constraints use-lag-port-weight)

[Tree] (config>service>vprn>mld>if>mcac>mc-constraints use-lag-port-weight)

[Tree] (config>service>vprn>pim>if>mcac>mc-constraints use-lag-port-weight)

Full Context

configure service vprn igmp interface mcac mc-constraints use-lag-port-weight

configure service vprn mld interface mcac mc-constraints use-lag-port-weight

configure service vprn pim interface mcac mc-constraints use-lag-port-weight

Description

This command enables the port weight to be used when determining available bandwidth per level when LAG ports go down or come up. This command is required for proper operation on mixed port-speed LAGs and can also be used for non-mixed port-speed LAGs. The port number is used when determining available the bandwidth per level when LAG ports go down or come up.

Default

no use-lag-port-weight

Platforms

All

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use-lag-port-weight

Syntax

[**no**] **use-lag-port-weight**

Context

[Tree] (config>router>igmp>interface>mcac>mc-constraints use-lag-port-weight)

[Tree] (config>router>pim>interface>mcac>mc-constraints use-lag-port-weight)

[Tree] (config>router>mcac>policy>bundle>mc-constraints use-lag-port-weight)

[Tree] (config>router>mld>interface>mcac>mc-constraints use-lag-port-weight)

Full Context

configure router igmp interface mcac mc-constraints use-lag-port-weight

configure router pim interface mcac mc-constraints use-lag-port-weight

configure router mcac policy bundle mc-constraints use-lag-port-weight

configure router mld interface mcac mc-constraints use-lag-port-weight

Description

This command enables port weight to be used when determining available bandwidth per level when LAG ports go down/come up. The command is required for proper operation on mixed port-speed LAGs and can be used for non-mixed port-speed LAGs as well.

The port number is used when determining available BW per level when LAG ports go down/come up.

The **no** form of this command disables the port weight.

Default

no use-lag-port-weight

Platforms

All

49.106 use-last-adj-bw

use-last-adj-bw

Syntax

use-last-adj-bw [**secondary-retry-limit** {*number* | **infinite**}]

no use-last-adj-bw

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Context

[Tree] (config>router>mpls>lsp>auto-bandwidth use-last-adj-bw)

Full Context

configure router mpls lsp auto-bandwidth use-last-adj-bw

Description

This command enables the carryover of the last adjusted bandwidth from the previous path to the new path, whether primary or secondary, when the LSP switches between paths. It also configures the retry attempt limit for secondary paths.

The **no** form of this command disables the carryover of the last adjusted bandwidth from the previous path to the new path.

Default

no use-last-adj-bw

Parameters

number

Specifies the retry attempt limit for secondary paths.

Values 1 to 10

infinite

Keyword to allow an unlimited number of retry attempts.

Platforms

All

49.107 use-leaked-routes

use-leaked-routes

Syntax

use-leaked-routes

Context

[Tree] (config>router>bgp>next-hop-res use-leaked-routes)

[Tree] (config>service>vprn>bgp>next-hop-res use-leaked-routes)

Full Context

configure router bgp next-hop-resolution use-leaked-routes

configure service vprn bgp next-hop-resolution use-leaked-routes

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Description

Commands in this context configure the use of leaked static routes to resolve BGP next hops.

Platforms

All

49.108 use-link-address

use-link-address

Syntax

use-link-address [**scope** *scope*]

no use-link-address

Context

[Tree] (config>router>dhcp6>server use-link-address)

[Tree] (config>service>vprn>dhcp6>server use-link-address)

Full Context

configure router dhcp6 local-dhcp-server use-link-address

configure service vprn dhcp6 local-dhcp-server use-link-address

Description

This command configures the local pool selection for IPv6 address or prefix assignment for the configured link-address under relay configuration. The selected pool will contain a prefix covering the link-address. The scope option defines the scope for the match. With scope **subnet**, the prefix or address selection is limited to the prefix in the pool that covers the link-address. With scope **pool**, all the prefixes in the selected pool are eligible for assignment.

The **no** form of the reverts to the default.

Default

scope subnet

Parameters

scope

Specifies the scope of the IP address selection.

Values **subnet** — Specifies that the prefix or address selection is limited to the prefix in the pool that covers the link address.

pool — Specifies that all prefixes in the selected pool are eligible for assignment.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.109 use-outside-ip-address

use-outside-ip-address

Syntax

[**no**] **use-outside-ip-address**

Context

[Tree] (config>li use-outside-ip-address)

Full Context

configure li use-outside-ip-address

Description

This command enables LI to be performed on an L2-Aware NAT subscriber after NAT. The LI traffic will contain the subscriber's outside public IP address instead of the default private IP address.

The **no** form of this command disables the use of the outside public IP address for the L2-Aware NAT subscriber.

Platforms

All

49.110 use-policer-result-marking-dot1p-inner

use-policer-result-marking-dot1p-inner

Syntax

[**no**] **use-policer-result-marking-dot1p-inner**

Context

[Tree] (config>qos>sap-egress use-policer-result-marking-dot1p-inner)

Full Context

configure qos sap-egress use-policer-result-marking-dot1p-inner

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Description

This command enables using the egress policer value as a criteria with which to mark dot1p-inner bits.

The **no** form of this command disables this feature.

Default

no use-policer-result-marking-dot1p-inner

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS

49.111 use-pool-from-client

use-pool-from-client

Syntax

use-pool-from-client delimiter *delimiter*

use-pool-from-client

no use-pool-from-client

Context

[Tree] (config>service>vprn>dhcp>server use-pool-from-client)

[Tree] (config>router>dhcp>server use-pool-from-client)

Full Context

configure service vprn dhcp local-dhcp-server use-pool-from-client

configure router dhcp local-dhcp-server use-pool-from-client

Description

This command enables the use of the pool indicated by DHCP client. When enabled, the IP address pool to be used by this server is the pool is indicated by the vendor-specific sub-option 13 of the DHCP option 82. When disabled or if there is no sub-option 13 in the DHCP message, the pool selection falls back to the **use-gi-address** configuration.

The **no** form of this command disables the use of the pool indicated by DHCP client.

Parameters

delimiter

A single ASCII character specifies the delimiter of separating primary and secondary pool names in Option82 VSO.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.112 use-sap-bmac

use-sap-bmac

Syntax

[**no**] **use-sap-bmac**

Context

[Tree] (config>service>vpls>pbb use-sap-bmac)

Full Context

configure service vpls pbb use-sap-bmac

Description

This command enables on a per BVPLS basis the use of source B-MACs allocated to multi-homed SAPs (assigned to an MC-LAG) in the related IVPLS or Epipe service. The command will fail if the value of the source-bmac assigned to the BVPLS is the hardware (chassis) B-MAC. That is, the **source-bmac** must be a configured one.

Default

no use-sap-bmac

Platforms

All

49.113 use-sdp-bmac

use-sdp-bmac

Syntax

[**no**] **use-sdp-bmac**

Context

[Tree] (config>service>epipe>spoke-sdp use-sdp-bmac)

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Full Context

configure service epipe spoke-sdp use-sdp-bmac

Description

This command indicates that this spoke SDP is expected to be part of a redundant pseudowire connected to a PBB Epipe service. Enabling this parameter will cause traffic forwarded from this spoke SDP into the B-VPLS domain to use a virtual backbone MAC as its source MAC address when both this, and the control pseudowire, are in the active state on this BEB. This virtual backbone MAC is derived from the SDP source-bmac-lsb configuration.

This command will fail when configuring it under a spoke SDP within a PBB-Epipe that is connected to a B-VPLS with mac-notification enabled.

Default

no use-sdp-bmac

Platforms

All

49.114 use-virtual-mac

use-virtual-mac

Syntax

[**no**] **use-virtual-mac**

Context

[Tree] (config>service>vprn>router-advert>if use-virtual-mac)

Full Context

configure service vprn router-advertisement interface use-virtual-mac

Description

This command enables sending router advertisement messages using the VRRP virtual MAC address, provided that the virtual router is currently the master.

If the virtual router is not the master, no router advertisement messages are sent.

The **no** form of this command disables sending router advertisement messages.

Default

no use-virtual-mac

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Platforms

All

use-virtual-mac

Syntax

[**no**] **use-virtual-mac**

Context

[Tree] (config>router>router-advert>if use-virtual-mac)

Full Context

configure router router-advertisement interface use-virtual-mac

Description

This command enables sending router advertisement messages using the VRRP virtual MAC address, provided that the virtual router is currently the master.

If the virtual router is not the master, no router advertisement messages are sent.

The **no** form of this command disables sending router advertisement messages.

Default

no use-virtual-mac

Platforms

All

49.115 use-vrtr-if-index

use-vrtr-if-index

Syntax

[**no**] **use-vrtr-if-index**

Context

[Tree] (config>cflowd use-vrtr-if-index)

Full Context

configure cflowd use-vrtr-if-index

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Description

This command is used to export flow data using interface indexes (ifIndex values), which can be used directly as the index into the IF-MIB tables for retrieving interface statistics. Specifically, if this command is enabled, the ingressInterface (ID=10) and egressInterface (ID= 14) fields in IP flow templates used to export the flow data to cflowd version 9 and version 10 collectors will be populated with the IF-MIB ifIndex of that interface. In addition, for version 10 templates, two fields are available in the IP flow templates to specify the virtual router ID associated with the ingress and egress interfaces.

The **no** form of this command removes the command from the active configuration and causes cflowd to return to the default behavior of populating the ingress and egress interface ID with the global IF index IDs.

Default

no use-vrtr-if-index

Platforms

All

49.116 user

user

Syntax

[**no**] **user** *user-name*

Context

[Tree] (config>system>security user)

Full Context

configure system security user

Description

This command creates a local user and a context to edit the user configuration.

If a new *user-name* is entered, the user is created. When an existing *user-name* is specified, the user parameters can be edited.

When creating a new user and then entering the **info** command, the system displays a password in the output. This is expected behavior in the hash2 scenario. However, when using that user name, there will be no password required. The user can login to the system and then <ENTER> at the password prompt, the user will be logged in.

Unless an administrator explicitly changes the password, it will be null. The hashed value displayed uses the username and null password field, so when the username is changed, the displayed hashed value will change.

The **no** form of this command deletes the user and all configuration data. Users cannot delete themselves.

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Parameters

user-name

Specifies the name of the user up to 32 characters.

Platforms

All

49.117 user-db

user-db

Syntax

user-db *local-user-db-name*

no user-db

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host user-db)

Full Context

configure subscriber-mgmt local-user-db ppp host user-db

Description

This command specifies local user database for PPP PAP/CHAP access.

With this configuration, system will access the specified DB again during PPP PAP/CHAP phase.

This configuration only becomes effective when system is accessing parent DB during PPPoE discovery phase.

The **no** form of this command removes the name from the configuration.

Parameters

local-user-db-name

Specifies the name of the local user database for PAP/CHAP access.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-db-name*

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no user-db

Context

[Tree] (config>service>vprn>sub-if>grp-if>pppoe user-db)

[Tree] (config>service>ies>sub-if>grp-if>pppoe user-db)

Full Context

configure service vprn subscriber-interface group-interface pppoe user-db

configure service ies subscriber-interface group-interface pppoe user-db

Description

This command configures the local user database to use for PPP PAP/CHAP authentication.

The **no** form of this command reverts to the default.

Parameters

local-user-db-name

Specifies the local user database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-db-name* [**create**]

no user-db

Context

[Tree] (config>service>vprn>sub-if>grp-if>dhcp6 user-db)

[Tree] (config>router>dhcp>server user-db)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 user-db)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp user-db)

[Tree] (config>service>ies>sub-if>grp-if>dhcp user-db)

[Tree] (config>service>ies>sub-if>grp-if>dhcp6 user-db)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 user-db)

Full Context

configure service vprn subscriber-interface group-interface dhcp6 user-db

configure router dhcp local-dhcp-server user-db

configure service ies subscriber-interface group-interface ipv6 dhcp6 user-db

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configure service vprn subscriber-interface group-interface dhcp user-db

configure service ies subscriber-interface group-interface dhcp user-db

configure service ies subscriber-interface group-interface dhcp6 user-db

configure service vprn subscriber-interface group-interface ipv6 dhcp6 user-db

Description

This command configures a local user database for authentication.

The **no** form of this command reverts to the default.

Parameters

local-user-db-name

Specifies the name of a user database, up to 32 characters.

create

Keyword used to create the user database. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-db-name*

no user-db

Context

[Tree] (config>service>vprn>if>ipv6>dhcp6-relay user-db)

[Tree] (config>service>ies>if>ipv6>dhcp6-relay user-db)

Full Context

configure service vprn interface ipv6 dhcp6-relay user-db

configure service ies interface ipv6 dhcp6-relay user-db

Description

This command enables access to the LUDB for DHCPv6 messages under a routed interface. The name of this LUDB must match the name of the LUDB configured by the **config>sub-gmt>local-user-db** command.

The **no** form of this command reverts to the default.

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Parameters

local-user-db-name

Specifies the name of the local user database, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-database-name*

no user-db

Context

[Tree] (config>subscr-mgmt>gtp>apn-policy>apn user-db)

Full Context

configure subscriber-mgmt gtp apn-policy apn user-db

Description

This command configures the LUDB with which the GTP connection is authenticated.

The **no** form of this command removes the user database for authentication with this APN. Only new session setups are affected.

Default

no user-db

Parameters

local-user-database-name

Specifies the name of the LUDB to be used, up to 32 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-db-name*

no user-db

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Context

[Tree] (config>service>vprn>l2tp>group>tunnel>ppp user-db)

[Tree] (config>service>vprn>l2tp>group>ppp user-db)

[Tree] (config>router>l2tp>group>tunnel>ppp user-db)

[Tree] (config>router>l2tp>group>ppp user-db)

Full Context

configure service vprn l2tp group tunnel ppp user-db

configure service vprn l2tp group ppp user-db

configure router l2tp group tunnel ppp user-db

configure router l2tp group ppp user-db

Description

This command configures the local user database to use for PPP PAP/CHAP authentication.

Default

no user-db

Parameters

local-user-db-name

Specifies the local user database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-db-name*

no user-db

Context

[Tree] (config>service>ies>sub-if>grp-if>wpp user-db)

[Tree] (config>service>vprn>sub-if>grp-if>wpp user-db)

Full Context

configure service ies subscriber-interface group-interface wpp user-db

configure service vprn subscriber-interface group-interface wpp user-db

Description

This command configures the user database.

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Note:
If configured, the values configured under grp-if will only be used if there is no corresponding value returned from LUDB lookup.

This command specifies the LUDB system use to lookup while creating initial host before WPP authentication. LUDB could return WPP attributes such as portal name, **initial-sla-profile**, **initial-sub-profile**, and so on LUDB is configured in **config>subscr-mgmt>local-user-db** context.

The **no** form of this command reverts to the default.

Parameters

local-user-db-name

Specifies the Local User Database name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

[**no**] **user-db**

Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-sol user-db)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-solicit user-db

Description

This command enables the use of the local-user-database for authentication.

The **no** form of this command reverts to the default.

Parameters

local-user-db-name

Specifies the name of the local-user-database to authenticate the router-solicit. The local-user-database can also return a static prefix or a pool name for address assignment.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *local-user-db-name*

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no user-db

Context

[Tree] (config>service>ies>sub-if>grp-if>ipoe-session user-db)

[Tree] (config>service>vprn>sub-if>grp-if>ipoe-session user-db)

[Tree] (config>service>vpls>sap>ipoe-session user-db)

Full Context

configure service ies subscriber-interface group-interface ipoe-session user-db

configure service vprn subscriber-interface group-interface ipoe-session user-db

configure service vpls sap ipoe-session user-db

Description

This command configures the local user database to use for IPoE session authentication.

When configured on a capture SAP, the group interface must have the same local user database configured.

On a wlan-gw group interface, the **no** form of this command indicates that the user database is picked from the following sources in the order shown:

1. dhcp
2. ipv6>dhcp6
3. ipv6>router-solicit

If no user database can be found in any of these locations, processing continues as if no user database was configured. This behavior is for backwards compatibility reasons only; when using a LUDB, it should be explicitly added to the IPoE session configuration.

The **no** form of this command reverts to the default.

Parameters

local-user-db-name

Specifies the local user database name up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-db

Syntax

user-db *name*

no user-db

Context

[Tree] (config>li>x-interfaces user-db)

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Full Context

configure li x-interfaces user-db

Description

This command configures the location of the data-trigger host for the LIC.

The **no** form of this command reverts to the default.

Parameters

name

Specifies the local user database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

user-db

Syntax

user-db *local-user-db-name*

no user-db

Context

[Tree] (config>service>vprn>dhcp6>server user-db)

[Tree] (config>router>dhcp6>server user-db)

Full Context

configure service vprn dhcp6 local-dhcp-server user-db

configure router dhcp6 local-dhcp-server user-db

Description

This command assigns a local user database for DHCP lease data lookup.

The **no** form of this command removes the configuration.

Default

no user-db

Parameters

local-user-db-name

Specifies the local user database name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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49.118 user-equipment-info

user-equipment-info

Syntax

user-equipment-info [**type** *ue-info-type*]

no user-equipment-info

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>include-avp user-equipment-info)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp user-equipment-info)

Full Context

configure subscriber-mgmt diameter-application-policy gy include-avp user-equipment-info

configure subscriber-mgmt diameter-application-policy gx include-avp user-equipment-info

Description

This command includes the **user-equipment-info** in CCR messages.

The **no** form of this command resets the command to the default setting.

Default

user-equipment-info type mac

Parameters

ue-into-type

Specifies what is included in the Diameter User-Equipment-Info attribute if included in Diameter Gx messages.

Values eui64, imeisv, mac, modified-eui64

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt diameter-application-policy gy include-avp user-equipment-info

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt diameter-application-policy gx include-avp user-equipment-info

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49.119 user-ident

user-ident

Syntax

user-ident *user-ident*

no user-ident

Context

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6 user-ident)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6 user-ident)

Full Context

configure service vprn subscriber-interface group-interface ipv6 dhcp6 user-ident

configure service ies subscriber-interface group-interface ipv6 dhcp6 user-ident

Description

This feature is only applicable when DHCPv6-snooping is enabled. The Ethernet header MAC address on DHCPv6 is used as the default key host identification. This command allows addition the keys for identifying the DHCPv6 host. The *interface-id* can be included in addition to the MAC key to further differentiate each DHCPv6 host.

The **no** form of this command reverts to the default.

Default

user-ident mac

Parameters

user-ident

Specifies the DHCP6 user-identification for this interface.

Values **mac** — Specifies to use only the Ethernet MAC of the DHCPv6 message to identify the host.

mac-interface-id — Specifies to additionally use the interface-id to identify the DHCPv6 host.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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user-ident

Syntax

user-ident *user-ident*

no user-ident

Context

[Tree] (config>router>dhcp>server user-ident)

[Tree] (config>service>vprn>dhcp>server user-ident)

Full Context

configure router dhcp local-dhcp-server user-ident

configure service vprn dhcp local-dhcp-server user-ident

Description

This command configures the user identification method for the DHCPv4 server.

The **no** form of the reverts to the default.

Default

user-ident mac-circuit-id

Parameters

user-ident

Specifies the user identification method

Values **client-id** — Specifies to use the DHCPv4 client identifier as the user identification method.

circuit-id — Specifies to use the circuit identifier of the DHCPv4 client as the user identification method.

mac — Specifies to use the MAC address of the DHCPv4 client as the user identification method.

mac-circuit-id — Specifies to use the MAC address and circuit identifier of the DHCPv4 client as the user identification method.

remote-id — Specifies to use the MAC address of the remote end as the user identification method.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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user-ident

Syntax

user-ident *user-ident*

no user-ident

Context

[Tree] (config>router>dhcp6>server user-ident)

[Tree] (config>service>vprn>dhcp6>server user-ident)

Full Context

configure router dhcp6 local-dhcp-server user-ident

configure service vprn dhcp6 local-dhcp-server user-ident

Description

This command configures the keys for identification of the DHCPv6 lease being held in the lease-database (for configured period after lease timeout). Subscriber requesting a lease via DHCPv6 that matches an existing lease based on this configured key is handed the matched prefix or address. This allows address and prefix "stickiness" for DHCPv6 assigned prefixes (IA_NA or PD).

The **no** form of the reverts to the default.

Default

user-ident duid

Parameters

user-ident

Specifies the user identification method.

Values **duid** — Specifies the IPv6 DHCP unique identifier from DHCPv6.

interface-id — Specifies the IPv6 interface-id option.

interface-id-link-local — Specifies the interface-id and link-local address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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49.120 user-location-info

user-location-info

Syntax

[**no**] **user-location-info**

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq>include-avp user-location-info)

[Tree] (config>subscr-mgmt>diam-appl-plcy>gx>include-avp user-location-info)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq include-avp user-location-info

configure subscriber-mgmt diameter-application-policy gx include-avp user-location-info

Description

This command enables the inclusion of the 3GPP-User-Location-Information AVP as signaled in the incoming GTP setup message.

The **no** form of this command disables the inclusion of the AVP.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

49.121 user-name

user-name

Syntax

user-name *name* [**create**]

no user-name *name*

Context

[Tree] (config>service>dynsvc>ladb user-name)

Full Context

configure service dynamic-services local-auth-db user-name

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Description

This command creates a user name entry in the local authentication database. The user name entry is used to match with the user name of a local authenticated dynamic service data trigger. The user name of a dynamic service data trigger is fixed to the **sap-id**. When matched, the corresponding authentication data is used to set up the dynamic data services.

The **no** form of this command removes the user name entry from the local authentication database configuration.

Parameters

name

Specifies the user name entry name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-name

Syntax

[**no**] **user-name**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute user-name)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute user-name

Description

This command enables the inclusion of the **user-name** attribute.

The **no** form of this command disables the inclusion of the **user-name** attribute.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-name

Syntax

user-name *user-name*

no user-name

Context

[Tree] (config>aaa>radius-srv-plcy>servers>health-check>test-account user-name)

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Full Context

configure aaa radius-server-policy servers health-check test-account user-name

Description

This command specifies the username that the test account will use to send its access requests to probe the RADIUS servers.

The no form of this command removes the username from the test-account configuration.

Parameters

user-name

Specifies the probing username, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-name

Syntax

[**no**] **user-name**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes user-name)

Full Context

configure aaa isa-radius-policy acct-include-attributes user-name

Description

This command enables the inclusion of user name attributes.

The **no** form of the command excludes user name attributes.

Default

no user-name

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.122 user-name-format

user-name-format

Syntax

user-name-format *format* [**mac-format** *mac-format*]

user-name-format *format* **append** [*domain-name*] [**mac-format** *mac-format*]

user-name-format *format* **append** *domain-name*

user-name-format *format* **default-domain** *domain-name* [**mac-format** *mac-format*]

user-name-format *format* **replace** *domain-name* [**mac-format** *mac-format*]

user-name-format *format* **strip** [**mac-format** *mac-format*]

no user-name-format

Context

[Tree] (config>subscr-mgmt>auth-plcy user-name-format)

Full Context

configure subscriber-mgmt authentication-policy user-name-format

Description

This command defines the format of the "user-name" field in the session authentication request sent to the RADIUS server. By default, the MAC source address of the DHCPv4 DISCOVER or DCHPv6 SOLICIT message is used in the user-name field.

The **no** form of this command reverts to the default.

Parameters

format

Specifies the user name format in RADIUS message.

Values ascii-converted-circuit-id, ascii-converted-tuple, circuit-id, dhcp-client-vendor-opts, mac, mac-giaddr, tuple

ascii-converted-circuit-id — Identical to circuit-id, but the user name is sent to the RADIUS server as a string of hex digits, for use if there is binary data in the circuit-id

ascii-converted-tuple — Identical to tuple, but the circuit-id part of the user name is sent to the RADIUS server as a string of hex digits, for use if there is binary data in the circuit-id

circuit-id — If the system serves as a DHCP relay server which inserts option 82 info, the user name is formatted as defined under DHCP information option. If the system is not a DHCP relay server, the circuit-id is taken from option 82 in the received DHCP message. If no circuit-id can be found, the DHCP-msg is rejected.

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dhcp-client-vendor-opts — IPoEv4 host (IPoE session enabled or disabled on group-interface) — The RADIUS user-name is a concatenation of the DHCPv4 Client Identifier Option 61, an "@" delimiter, and the DHCPv4 Vendor Class Identifier Option 60. Non-printing characters in the DHCP option values are converted as described below.

IPoEv6 host (IPoE session enabled on group-interface) — The RADIUS user-name is a concatenation of the identifier field of a type 2 DUID in the DHCPv6 Client Identifier Option 1, the "@" delimiter, and the opaque data field of the first vendor class data in the DHCPv6 Vendor Class Option 16. Non-printing characters in the DHCP option values are converted as described below.

IPoEv6 host (IPoE session disabled on group-interface) — The MAC source address of the DHCPv6 SOLICIT message.

In the absence of a DHCPv4 Client Identifier Option 61 or a DHCPv6 Client Identifier Option 1 containing a DUID type 2, the DHCP client MAC address is used.

In the absence of a DHCPv4 Vendor Class Identifier Option 60 or a DHCPv6 Vendor Class Option 16, the "@" delimited is omitted and nothing is appended.

Non-printing characters, that is, characters outside the ASCII range hex 21 through hex 7E, are converted into an underscore (hex 5F) character.

mac — The MAC source address of the DHCPv4 DISCOVER or DHCPv6 SOLICIT message is used in the user-name field. The format of the MAC address string used as the user name in the RADIUS authentication requests uses lowercase hex digits, and ":" as the inter-digit separator, for example, 00:11:22:aa:bb:cc is valid but 00-11-22-AA-BB-CC will return an error. The RADIUS server must be configured accordingly, otherwise the authentication request will fail.

mac-giaddr — A concatenation of the MAC address and the Relay Agent IP address (giaddr)

tuple — Specifies that the concatenation of MAC source address and circuit-ID are used in the user-name field

mac-format

Specifies how a MAC address is represented when contacting a RADIUS server. This is only used while the value of is equal to the DHCP client vendor options and if the MAC address is used by default of the DHCP client vendor options.

Examples:	ab:	00:0c:f1:99:85:b8 7xxx style
	XY-	00-0C-F1-99-85-B8 IEEE canonical style
	mmmm.	0002.03aa.abff Cisco style

append

Specifies the data type which is an enumerated integer that indicates what needs to be appended to the user-name sent to the RADIUS server.

Values 1 — nothing 2 — domain name

domain

Specifies to user the domain name. In some instances it is desired to add a domain only to usernames which have omitted the domain (@domain). In these instances a default-domain can be appended to usernames which lack a @domain.

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append

Adds a "@” delimiter and the specified string after the PAP/CHAP username. No allowance is made for the presence of an existing domain or @ delimited.

replace

Replaces the character-string after the "@” delimiter with the string specified.

strip

Removes all characters after and including the "@” delimiter.

For example:

```
Command: append
String:     domainA-1.com
PAP/CHAP User:    someuser
Resulting User:    someuser@domainA-1.com

Command: append
String:     domainA-1.com
PAP/CHAP User:    someuser@existing-domain.net
Resulting User:    someuser@existing-domain.net@domainA-1.com

Command: strip
String:
PAP/CHAP User:    someuser@existing-domain.net
Resulting User:    someuser

Command: replace
String:     domainA-1.com
PAP/CHAP User:    someuser@existing-domain.net
Resulting User:    someuser@domainA-1.com

Command: default-domain
String:    domainA-1.com
PAP/CHAP User:    someuser@existing-domain.net
Resulting User:    someuser@existing-domain.net

Command: default-domain
String: domainA-1.com
PAP/CHAP User:    someuser
Resulting User:    someuser@domainA-1.com
```

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-name-format

Syntax

user-name-format *format*

no user-name-format

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq user-name-format)

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Full Context

configure subscriber-mgmt diameter-application-policy nasreq user-name-format

Description

This command defines the format of the User-Name AVP value in Diameter NASREQ AA-Requests for IPoE hosts.

The **no** form of this command reverts to the default.

Parameters

format

Specifies the format of the User-Name AVP value.

Values **mac** — Specifies to use the MAC source address of the DHCPv4 DISCOVER or DHCPv6 SOLICIT message in the user-name field. The format of the MAC address string is defined with the **mac-forma**t CLI command.

circuit-id — Specifies to use the circuit ID to identify the user toward the server. If the system serves as a DHCP relay server which inserts option 82 info, the user name is formatted as defined under DHCP information option. If the system is not a DHCP relay server, the circuit-id is taken from option 82 in the received DHCP message. If no circuit-id can be found, the DHCP-msg is rejected.

tuple — Specifies to use a concatenation of MAC source address and circuit-ID.

ascii-converted-circuit-id — Identical to circuit-id, but the user name is a string of hex digits, for use if there is binary data in the circuit-id.

ascii-converted-tuple — Specifies a string of hex digits, for use if there is binary data in the circuit-id.

dhcp-client-vendor-opts — Specifies to use a concatenation of the DHCPv4 Client Identifier Option 61, the "@" delimiter, and the DHCPv4 Vendor Class Identifier Option 60. Non-printing characters in the DHCP option values are converted as described below.

In the absence of a DHCPv4 Client Identifier Option 61, the DHCP client MAC address is used.

In the absence of a DHCPv4 Vendor Class Identifier Option 60, the "@" delimiter is omitted and nothing is appended.

Non-printing characters, that is, characters outside the ASCII range hex 21 through hex 7E, are converted into an underscore (hex 5F) character.

mac-giaddr — Specifies to use a concatenation of MAC source address and DHCP GI address.

nas-port-id — Specifies to use a value of the nas-port-id with format defined in the include-avp section.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

user-name-format

Syntax

user-name-format *user-name-format* [**mac-format** *mac-format*]

no user-name-format

Context

[Tree] (config>aaa>isa-radius-plcy user-name-format)

Full Context

configure aaa isa-radius-policy user-name-format

Description

This command defines the format of the user-name field in the session authentication request sent to the RADIUS server. For authentication of IPv6 triggers (ICMPv6, DHCPv6, IPv6 data-trigger) the user-name format will always fall back to mac only.

The **no** form of the command switches to the default format, **mac**.

Default

user-name-format mac mac-format alu (the MAC source address of the DHCP DISCOVER message is used in the user-name field)

Parameters

user-name-format

Specifies the user name format in RADIUS message.

mac-format

Specifies how a MAC address is represented when contacting a RADIUS server. This is only used while the value of is equal to the DHCP client vendor options and if the MAC address is used by default of the DHCP client vendor options.

Examples:	ab:	00:0c:f1:99:85:b8 Nokia 7xxx style
	XY-	00-0C-F1-99-85-B8 IEEE canonical style
	mmmm.	0002.03aa.abff Cisco style

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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49.123 user-name-operation

user-name-operation

Syntax

user-name-operation *operation* [**domain** *domain-name*]

no user-name-operation

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>nasreq user-name-operation)

Full Context

configure subscriber-mgmt diameter-application-policy nasreq user-name-operation

Description

This command enables domain name manipulation of the user name, such as append, strip, replace or add as default.

For IPoE, this command only applies when **user-name-format** is configured to **dhcp-client-vendor-opts**.

The **no** form of this command reverts to the default.

Parameters

operation

Specifies the user name manipulations with respect to domain name values.

Values **append-domain** – appends an "@" delimiter with the specified domain-name at the end of the user-name, independent if a domain name was already present

strip-domain – removes all characters after and including the "@" delimiter

default-domain – adds an "@" delimiter and the specified domain name to user-names that have no domain name present

replace-domain – replaces the characters after the "@" delimiter with the specified domain-name

domain-name

Specifies the domain name string to be used in the specified operation, up to 128 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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49.124 user-srlg-db

user-srlg-db

Syntax

user-srlg-db [**enable** | **disable**]

Context

[Tree] (config>router>mpls user-srlg-db)

Full Context

configure router mpls user-srlg-db

Description

This command enables the use of CSPF by the user SRLG database. When the MPLS module makes a request to CSPF for the computation of an SRLG secondary path, CSPF will query the local SRLG and compute a path after pruning links that are members of the SRLG IDs of the associated primary path. When MPLS makes a request to CSPF for an FRR bypass or detour path to associate with the primary path, CSPF queries the user SRLG database and computes a path after pruning links that are members of the SRLG IDs of the PLR outgoing interface.

If an interface was not entered into the user SRLG database, it is assumed that it does not have any SRLG membership. CSPF will not query the TE database for IGP advertised interface SRLG information.

The disable keyword disables the use of the user SRLG database. CSPF will then resume queries into the TE database for SRLG membership information. The user SRLG database is maintained.

Default

user-srlg-db disable

Platforms

All

49.125 user-template

user-template

Syntax

user-template {**tacplus_default** | **radius_default** | **ldap-default**}

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Context

[Tree] (config>system>security user-template)

Full Context

configure system security user-template

Description

This command configures default security user template parameters.

Parameters

tacplus_default

Specifies the default TACACS+ user template. All parameters of the tacplus_default template except the "profile" are actively applied to all TACACS+ users if tacplus **use-default-template** is enabled. The **profile** parameter is used for AAA command authorization if TACACS+ authorization is disabled, or if the TACACS+ server does not return a priv-lvl for a user when **use-priv-lvl** is enabled under **tacplus authorization**. See the **tacplus authorization** command for more details.

radius_default

Specifies the default RADIUS user template. The radius_default template is actively applied to a RADIUS user if radius authorization is enabled, radius **use-default-template** is enabled, and no VSAs are returned with the auth-accept from the RADIUS server.

ldap_default

Specifies the default LDAP user template.

Platforms

All

49.126 username

username

Syntax

username *user-name*

username *user-name* **no-domain**

username *user-name* **domain-only**

no username

Context

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>host-ident username)

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Full Context

configure subscriber-mgmt local-user-db ppp host host-identification username

Description

This command specifies the PPPoE username to match for a host lookup. When **no-domain** or **domain-only** is specified, the username "user[@domain]" is converted to a user and a domain entity by splitting it on the first @-sign before matching on the specific entity.

Note:
This command is only used when **username** is configured as one of the **match-list** parameters.

The **no** form of this command removes the username from the configuration.

Parameters

username

Specifies the user name, up to 253 characters, of this host. For example, "jane@nokia.com”.

no-domain

Only the user user part of the username is specified and used for matching. For example "jane".

domain-only

Only the domain part of the username is specified and used for matching, for example, nokia.com.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

username

Syntax

[**no**] **username** *username*

Context

[Tree] (debug>service>id>ppp username)

Full Context

debug service id ppp username

Description

This command enable PPP debug for the specified username. since not all PPP packets contain username, so a MAC debug filter is created automatically when system sees a PPP packet contain the specified username.

Multiple username filters can be specified in the same debug command.

The **no** form of this command disables debugging.

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Parameters

user-name

Specifies the PPP username.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

49.127 usm-community

usm-community

Syntax

usm-community *community-string* [**hash** | **hash2** | **custom**] **group** *group-name* [**src-access-list** *list-name*]

no usm-community *community-string* [**hash** | **hash2** | **custom**]

Context

[Tree] (config>system>security>snmp usm-community)

Full Context

configure system security snmp usm-community

Description

This command is used to associate a community string with an SNMPv3 access group and its view. The access granted with a community string is restricted to the scope of the configured group.

Nokia's SR OS implementation of SNMP uses SNMPv3. In order to implement SNMPv1 and SNMPv2c configurations, several access groups are predefined. In order to implement SNMP with security features (Version 3), security models, security levels, and USM communities must be explicitly configured. Optionally, additional views which specify more specific OIDs (MIB objects in the subtree) can be configured.

The **no** form of this command removes a community string.

Parameters

community-string

Specifies the SNMPv1/SNMPv2c community string to determine the SNMPv3 access permissions to be used. Allowed values are any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (for example, #, $, spaces), the entire string must be enclosed within double quotes.

group

Specifies the group that governs the access rights of this community string. This group must be configured first in the **config**>**system**>**security**>**snmp**> **access group** context.

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Nokia does not recommend associating a **usm-community** with an SNMP access group that is configured with the **li** (lawful intercept) context.

list-name

Specifies the usm-community to reference a specific src-access-list that will be used to validate the source IP address of all received SNMP requests that use this usm-community. Multiple **community**, **usm-community**, or **vprn snmp community** instances can reference the same **src-access-list**.

Platforms

All

49.128 util-stats-interval

util-stats-interval

Syntax

util-stats-interval *seconds*

Context

[Tree] (config>port>ethernet util-stats-interval)

Full Context

configure port ethernet util-stats-interval

Description

This command configures the interval used to calculate the utilization statistics.

Port utilization statistics are only available for physical Ethernet ports on a host system. These statistics are not available for the following:

- Ethernet ports on an Ethernet satellite
- Ethernet ports on a VSR
- PXC ports
- vsm-cca-xp ports

Parameters

seconds

Specifies the size of the interval, in seconds.

Values 30 to 600

Default 300

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Platforms

All

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50 v Commands

50.1 v4-routed-override-filter

v4-routed-override-filter

Syntax

v4-routed-override-filter *ip-filter-id*

no v4-routed-override-filter

Context

[Tree] (config>service>ies>if>vpls>egress v4-routed-override-filter)

Full Context

configure service ies interface vpls egress v4-routed-override-filter

Description

This command configures an IPv4 filter ID that is applied to packets egressing the IES R-VPLS interface. The filter overrides existing egress IPv4 filter applied to VPLS service endpoints such as SAPs or SDPs, if configured.

The **no** form of this command removes the IPv4 routed override filter from the egress IES R-VPLS interface. When removed, egress IPv4 packets will use the IPv4 egress filter applied to the VPLS endpoint, if configured.

Default

no v4-routed-override-filter

Parameters

ip-filter-id

Specifies the IP filter ID. This parameter is required when executing the **v4-routed-override-filter** command. The specified filter ID must exist as an IPv4 filter within the system or the override command fails.

Platforms

All

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v4-routed-override-filter

Syntax

v4-routed-override-filter *ip-filter-id*

no v4-routed-override-filter

Context

[Tree] (config>service>ies>if>vpls>ingress v4-routed-override-filter)

Full Context

configure service ies interface vpls ingress v4-routed-override-filter

Description

This command configures an IPv4 filter ID that is applied to routed unicast ingress packets entering the VPLS or I-VPLS service and destined to the R-VPLS interface MAC address. The filter overrides any existing ingress IPv4 filter applied to SAPs or SDP bindings for packets associated with the routing IP interface. The override filter is optional and when it is not defined or it is removed. The IPv4 routed packets use any existing ingress IPv4 filter on the VPLS virtual port.

The **no** form of this command removes the IPv4 routed override filter from the ingress IP interface. When removed, the IPv4 ingress routed packets within a VPLS service attached to the IP interface use the IPv4 ingress filter applied to the packets virtual port, when defined.

Parameters

ip-filter-id

Specifies the IP filter ID. This parameter is required when executing the **v4-routed-override-filter** command. The specified filter ID must exist as an IPv4 filter within the system or the override command fails.

Platforms

All

v4-routed-override-filter

Syntax

v4-routed-override-filter *ip-filter-id*

no v4-routed-override-filter

Context

[Tree] (config>service>vprn>if>vpls>egress v4-routed-override-filter)

Full Context

configure service vprn interface vpls egress v4-routed-override-filter

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Description

This command configures an IPv4 filter ID that is applied to packets egressing the VPRN R-VPLS interface. The filter overrides the existing egress IPv4 filter applied to VPLS service endpoints such as SAPs or SDPs, if configured.

The **no** form of this command removes the IPv4 routed override filter from the egress VPRN R-VPLS interface. When removed, egress IPv4 packets will use the IPv4 egress filter applied to VPLS endpoint, if configured.

Parameters

ip-filter-id

Specifies the IP filter ID. This parameter is required when executing the **v4-routed-override-filter** command. The specified filter ID must exist as an IPv4 filter within the system or the override command fails.

Platforms

All

v4-routed-override-filter

Syntax

v4-routed-override-filter *ip-filter-id*

no v4-routed-override-filter

Context

[Tree] (config>service>vprn>if>vpls>ingress v4-routed-override-filter)

Full Context

configure service vprn interface vpls ingress v4-routed-override-filter

Description

This command configures an IPv4 filter ID that is applied to all ingress packets entering the VPLS service. The filter overrides any existing ingress IPv4 filter applied to SAPs or SDP bindings for packets associated with the routing IP interface. The override filter is optional and when it is not defined or it is removed, the IPv4 routed packet's will use the any existing ingress IPv4 filter on the VPLS virtual port.

The **no** form of this command removes the IPv4 routed override filter from the ingress IP interface. When removed, the IPv4 ingress routed packets within a VPLS service attached to the IP interface will use the IPv4 ingress filter applied to the packets virtual port, when defined.

Parameters

ip-filter-id

Specifies the IP filter ID. This parameter is required when executing the **v4-routed-override-filter** command. The specified filter ID must exist as an IPv4 filter within the system or the override command fails.

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Platforms

All

50.2 v6-aggregate-stats

v6-aggregate-stats

Syntax

[**no**] **v6-aggregate-stats**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute v6-aggregate-stats)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute v6-aggregate-stats

Description

This command enables reporting of IPv6 aggregated forwarded octet and packet counters using RADIUS VSAs. Disabled by default. It requires **stat-mode v4-v6** for policers and queues for which the IPv6 aggregate forwarded packets should be counted.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.3 v6-frag-header

v6-frag-header

Syntax

[**no**] **v6-frag-header**

Context

[Tree] (config>service>nat>map-domain>ip-fragmentation v6-frag-header)

Full Context

configure service nat map-domain ip-fragmentation v6-frag-header

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Description

This command enables and disables the insertion of the fragmentation header in an IPv6 packet when translating non-fragmented IPv4 packet with DF=0. This option is disabled by default and the size of the IPv6 packet is reduced by 8 bytes.

Default

no v6-frag-header

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

50.4 v6-routed-override-filter

v6-routed-override-filter

Syntax

v6-routed-override-filter *ipv6-filter-id*

no v6-routed-override-filter

Context

[Tree] (config>service>ies>if>vpls>egress v6-routed-override-filter)

Full Context

configure service ies interface vpls egress v6-routed-override-filter

Description

This command configures an IPv6 filter ID that is applied to packets egressing the IES R-VPLS interface. The filter overrides existing egress IPv6 filter applied to VPLS service endpoints such as SAPs or SDPs, if configured.

The **no** form of this command removes the IPv4 routed override filter from the egress IES R-VPLS interface. When removed, egress IPv6 routed packets uses the IPv6 egress filter applied to VPLS endpoint, if configured

Parameters

ipv6-filter-id

Specifies the IPv6 filter ID. This parameter is required when executing the **v6-routed-override-filter** command. The specified filter ID must exist as an IPv6 filter within the system or the override command fails.

Platforms

All

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v6-routed-override-filter

Syntax

v6-routed-override-filter *ipv6-filter-id*

no v6-routed-override-filter

Context

[Tree] (config>service>ies>if>vpls>ingress v6-routed-override-filter)

Full Context

configure service ies interface vpls ingress v6-routed-override-filter

Description

This command configures an IPv6 filter ID that is applied to routed unicast ingress packets entering the VPLS or I-VPLS service and destined to the R-VPLS interface MAC address. The filter overrides any existing ingress IPv6 filter applied to SAPs or SDP bindings for packets associated with the routing IP interface. The override filter is optional and when it is not defined or it is removed, the IPv6 routed packets use any existing ingress IPv6 filter on the VPLS virtual port.

The no v6-routed-override-filter command is used to remove the IPv6 routed override filter from the ingress IP interface. When removed, the IPv6 ingress routed packets within a VPLS service attached to the IP interface will use the IPv6 ingress filter applied to the packet's virtual port, when defined.

Default

no v6-routed-override-filter

Parameters

ipv6-filter-id

Specifies the IPv6 filter ID. This parameter is required when executing the **v6-routed-override-filter** command. The specified filter ID must exist as an IPv6 filter within the system or the override command fails.

Platforms

All

v6-routed-override-filter

Syntax

v6-routed-override-filter *ipv6-filter-id*

no v6-routed-override-filter

Context

[Tree] (config>service>vprn>if>vpls>egress v6-routed-override-filter)

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Full Context

configure service vprn interface vpls egress v6-routed-override-filter

Description

This command configures an IPv6 filter ID that is applied to packets egressing the VPRN R-VPLS interface. The filter overrides existing egress IPv6 filter applied to VPLS service endpoints such as SAPs or SDPs, if configured.

The **no** form of the command removes the IPv4 routed override filter from the egress VPRN R-VPLS interface. When removed, egress IPv6 packets will use the IPv6 egress filter applied to the VPLS endpoint, if configured.

Parameters

ipv6-filter-id

Specifies the IPv6 filter ID. This parameter is required when executing the **v6-routed-override-filter** command. The specified filter ID must exist as an IPv6 filter within the system or the override command fails.

Platforms

All

v6-routed-override-filter

Syntax

v6-routed-override-filter *ipv6-filter-id*

no v6-routed-override-filter

Context

[Tree] (config>service>vprn>if>vpls>ingress v6-routed-override-filter)

Full Context

configure service vprn interface vpls ingress v6-routed-override-filter

Description

This command configures an IPv6 filter ID that is applied to all ingress packets entering the VPLS service. The filter overrides any existing ingress IPv6 filter applied to SAPs or SDP bindings for packets associated with the routing IP interface. The override filter is optional and when it is not defined or it is removed, the IPv6 routed packets use the any existing ingress IPv6 filter on the VPLS virtual port.

The **no** form of the command removes the IPv6 routed override filter from the ingress IP interface. When removed, the IPv6 ingress routed packets within a VPLS service attached to the IP interface uses the IPv6 ingress filter applied to the packet's virtual port, when defined.

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Parameters

ipv6-filter-id

Specifies the IPv6 filter ID. This parameter is required when executing the **v6-routed-override-filter** command. The specified filter ID must exist as an IPv6 filter within the system or the override command fails.

Platforms

All

50.5 valid-lifetime

valid-lifetime

Syntax

valid-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no valid-lifetime

Context

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>lease-split valid-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>lease-split valid-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>lease-split valid-lifetime)

[Tree] (config>service>ies>sub-if>ipv6>dhcp6>relay>lease-split valid-lifetime)

Full Context

configure service vprn subscriber-interface ipv6 dhcp6 relay lease-split valid-lifetime

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay lease-split valid-lifetime

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay lease-split valid-lifetime

configure service ies subscriber-interface ipv6 dhcp6 relay lease-split valid-lifetime

Description

This command configures the DHCPv6 lease split valid lifetime (short lease time). DHCPv6 lease split is active when enabled and for all IA_NA and IA_PD options in the transaction the configured lease split valid lifetime (short lease time) is less than or equal to the renew time T1 committed by the server (long renew time) or 50 percent of the preferred lifetime committed by the server when T1 committed by the server equals zero.

The **no** form of this command reverts to the default value.

Default

valid-lifetime hrs 1

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Parameters

[days *days*] [hrs *hours*] [min *minutes*] [sec *seconds*]

Specifies the valid lifetime values.

Values		
	days:	0 to 3650
	hours:	0 to 23
	minutes:	0 to 59
	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

valid-lifetime

Syntax

valid-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

valid-lifetime infinite

no valid-lifetime

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host>ipv6-lease-times valid-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>proxy-server valid-lifetime)

[Tree] (config>subscr-mgmt>loc-user-db>ppp>host>ipv6-lease-times valid-lifetime)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>proxy-server valid-lifetime)

Full Context

configure subscriber-mgmt local-user-db ipoe host ipv6-lease-times valid-lifetime

configure service vprn subscriber-interface group-interface ipv6 dhcp6 proxy-server valid-lifetime

configure subscriber-mgmt local-user-db ppp host ipv6-lease-times valid-lifetime

configure service ies subscriber-interface group-interface ipv6 dhcp6 proxy-server valid-lifetime

Description

This command configured valid-lifetime for DHCPv6 lease (address/prefix).

The valid lifetime is the length of time an address/prefix remains in the valid state (for example, the time until invalidation). The valid lifetime must be greater than or equal to the preferred lifetime. When the valid lifetime expires, the address/prefix becomes invalid and must not be used in communications. RFC 2461, sec 6.2.1 recommends default value of 30 days.

Each address/prefix assigned to the client has associated preferred and valid lifetimes specified by the address assignment authority (DHCP server, RADIUS, ESM). To request an extension of the lifetimes

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assigned to an address, the client sends a Renew message to the addressing authority. The addressing authority sends a Reply message to the client with the new lifetimes, allowing the client to continue to use the address/prefix without interruption.

The lifetimes are transmitted from the addressing authority to the client in the IA option on the top level (not the address or prefix level).

The **no** form of this command reverts to the default.

Default

valid-lifetime days 1

Parameters

infinite

Specifies that the valid lifetime is infinite.

Values		
	days:	0 to 49710
	hours:	0 to 23
	minutes:	0 to 59
	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

valid-lifetime

Syntax

valid-lifetime infinite

valid-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no valid-lifetime

Context

[Tree] (config>router>dhcp6>server>pool>prefix valid-lifetime)

[Tree] (config>service>vprn>dhcp6>local-dhcp-server>pool>prefix valid-lifetime)

Full Context

configure router dhcp6 local-dhcp-server pool prefix valid-lifetime

configure service vprn dhcp6 local-dhcp-server pool prefix valid-lifetime

Description

This command configures the valid lifetime for the IPv6 prefix or address in the option.

The **no** form of this command reverts to the default.

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Default

valid-lifetime days 1

Parameters

infinite

Sets the valid lifetime to infinite value.

valid-lifetime

Specifies the valid lifetime

Values	**days** *days*	0 to 49710
	hrs *hours*	0 to 23
	min *minutes*	0 to 59
	sec *seconds*	0 to 5

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

valid-lifetime

Syntax

valid-lifetime [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]

no valid-lifetime

Context

[Tree] (config>router>dhcp6>server>defaults valid-lifetime)

Full Context

configure router dhcp6 local-dhcp-server defaults valid-lifetime

Description

This command configures the valid lifetime.

The **no** form of this command reverts to the default.

Default

valid-lifetime days 1

Parameters

valid-lifetime

Specifies the valid lifetime for a prefix to remain valid.

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Values	days:	0 to 3650
	hours:	0 to 23
	minutes:	0 to 59
	seconds	0 to 59

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

valid-lifetime

Syntax

valid-lifetime *seconds*

valid-lifetime infinite

no valid-lifetime

Context

[Tree] (config>subscr-mgmt>rtr-adv>pfx-opt>stateful valid-lifetime)

[Tree] (config>subscr-mgmt>rtr-adv>pfx-opt>stateless valid-lifetime)

Full Context

configure subscriber-mgmt router-advertisement-policy prefix-options stateful valid-lifetime

configure subscriber-mgmt router-advertisement-policy prefix-options stateless valid-lifetime

Description

This command specifies the time for this prefix to remain valid.

The **no** form of this command reverts to the default.

Default

valid-lifetime 86400

Parameters

seconds

Specifies the time, in seconds, for the prefix to remain preferred.

Values 0, 900 to 86400

infinite

Specifies that the time never expires.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

valid-lifetime

Syntax

valid-lifetime *seconds*

valid-lifetime infinite

no valid-lifetime

Context

[Tree] (config>service>ies>if>ipv6>dhcp6>pfx-delegate>prefix valid-lifetime)

Full Context

configure service ies interface ipv6 dhcp6-server prefix-delegation prefix valid-lifetime

Description

This command configures the time, in seconds, that the prefix is valid.

The **no** form of this command reverts to the default value.

Default

valid-lifetime 2592000 (30 days)

Parameters

seconds

Specifies the time, in seconds, that this prefix remains valid.

Values 1 to 4294967294

infinite

Specifies that this prefix remains valid infinitely. The value 4294967295 is interpreted as infinite.

Platforms

All

valid-lifetime

Syntax

valid-lifetime *seconds*

valid-lifetime infinite

no valid-lifetime

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Context

[Tree] (config>service>ies>sub-if>grp-if>ipv6>rtr-adv>pfx-opt valid-lifetime)

[Tree] (config>service>vprn>sub-if>ipv6>rtr-adv>pfx-opt valid-lifetime)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>rtr-adv>pfx-opt valid-lifetime)

[Tree] (config>service>ies>sub-if>ipv6>rtr-adv>pfx-opt valid-lifetime)

Full Context

configure service ies subscriber-interface group-interface ipv6 router-advertisements prefix-options valid-lifetime

configure service vprn subscriber-interface ipv6 router-advertisements prefix-options valid-lifetime

configure service vprn subscriber-interface group-interface ipv6 router-advertisements prefix-options valid-lifetime

configure service ies subscriber-interface ipv6 router-advertisements prefix-options valid-lifetime

Description

This command specifies the remaining time for this prefix to be valid for the purpose of on-link determination.

The **no** form of this command reverts to the default.

Default

valid-lifetime 86400

Parameters

seconds

Specifies the time for the prefix to remain valid on this interface in seconds.

Values 0 to 4294967295

infinite

Specifies that the remaining time will never expire. The value 4294967295 is interpreted as infinite.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

valid-lifetime

Syntax

valid-lifetime {*seconds* | **infinite**}

no valid-lifetime

Context

[Tree] (config>service>vprn>router-advert>if>prefix valid-lifetime)

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Full Context

configure service vprn router-advertisement interface prefix valid-lifetime

Description

This command specifies the length of time in seconds that the prefix is valid for the purpose of on-link determination. A value of all one bits (0xffffffff) represents infinity.

The address generated from an invalidated prefix should not appear as the destination or source address of a packet.

Default

valid-lifetime 2592000

Parameters

seconds

Specifies the remaining length of time in seconds that this prefix will continue to be valid.

Values 0 to 429496729

infinite

Specifies that the prefix will always be valid. A value of 4,294,967,295 represents infinity.

Platforms

All

valid-lifetime

Syntax

valid-lifetime {*seconds* | **infinite**}

no valid-lifetime

Context

[Tree] (config>router>router-advert>if>prefix valid-lifetime)

Full Context

configure router router-advertisement interface prefix valid-lifetime

Description

This command specifies the length of time in seconds that the prefix is valid for the purpose of on-link determination. A value of all one bits (0xffffffff) represents infinity.

The address generated from an invalidated prefix should not appear as the destination or source address of a packet.

Default

valid-lifetime 2592000

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Parameters

seconds

Specifies the remaining length of time in seconds that this prefix will continue to be valid.

infinite

Specifies that the prefix will always be valid. A value of 4,294,967,295 represents infinity.

Platforms

All

50.6 validate

validate

Syntax

validate [*file-url*]

Context

[Tree] (admin>system>license validate)

Full Context

admin system license validate

Description

This command performs a validation on the license file pointed to by the command line argument. A validation ensures that the license is compatible with the current state of the target system but it does not change the existing license. Aspects that can cause a failure in the validation include:

- The license file was created for a different target system. The UUID encoded into the file must match that defined by the specific hardware platform.
- The license file does not include license information for the release of software currently running on the system.
- The current date/time reported to system is outside the validity period encoded in the license.
- The system is currently using a hardware upgrade license that is not included in the new file being validated.

Note:
If the CLM tool is being used for license management, it shall perform the validation and activation and there is no need to enter these commands manually.

Parameters

file-url

Specifies the file URL location to read the license file.

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Values local-url, remote-url

Note:
IPv6 addresses apply only to 7750 SR and 7950 XRS.

Platforms

All

validate

Syntax

[**no**] **validate**

Context

[Tree] (configure>system>security>profile>netconf>base-op-authorization validate)

Full Context

configure system security profile netconf base-op-authorization validate

Description

This command enables the NETCONF <validate> RPC.

The **no** form of this command disables the RPC.

Default

no validate

Note:
The operation is enabled by default in the built-in system-generated administrative profile.

Platforms

All

validate

Syntax

validate software-image *file-url*

Context

[Tree] (admin>system>security>secure-boot validate)

Full Context

admin system security secure-boot validate

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Description

This command validates the specified software image.

Parameters

file-url

Specifies the URL for the file.

Values [*local-url* | *remote-url*] (up to 180 characters)

where:

- *local-url* — [*cflash-id/*] [*file-path*]
  180 characters max, including *cflash-id*
  directory length 99 characters max each
- *remote-url* — [{ftp://| tftp://} *login*:*pswd@remote-locn/*][*file-path*]
  180 characters max
  directory length 99 characters max each
  where: *remote-locn* — [*hostname* | *ipv4-address* | *ipv6-address*]

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x - [0..FFFF]H
	d - [0..255]D
	interface - 32 characters max, for link
	local addresses
cflash-id	cf1:| cf1-A:| cf1-B:| cf2:| cf2-A:| cf2-B:| cf3:| cf3-A:| cf3-B:

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

50.7 validate-dest-prefix

validate-dest-prefix

Syntax

validate-dest-prefix

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no validate-dest-prefix

Context

[Tree] (config>service>vprn>bgp>flowspec validate-dest-prefix)

Full Context

configure service vprn bgp flowspec validate-dest-prefix

Description

This command enables the validation of received IPv4 and IPv6 FlowSpec routes that contain a destination-prefix subcomponent.

A FlowSpec route with a destination-prefix subcomponent is considered invalid if both of the following are true:

- the route was originated outside the local AS of the receiving BGP router
- the neighbor AS of the FlowSpec route does not match the neighbor AS of the best match BGP (unicast) route for the destination prefix or the neighbor AS of any longer match BGP (unicast) route for the destination prefix

An invalid route is retained in the BGP RIB, but it is not used for filtering traffic or propagated to other BGP routers.

The **no** form of this command disables the validation procedure based on the destination prefix.

Default

no validate-dest-prefix

Platforms

All

validate-dest-prefix

Syntax

[**no**] **validate-dest-prefix**

Context

[Tree] (config>router>bgp>flowspec validate-dest-prefix)

Full Context

configure router bgp flowspec validate-dest-prefix

Description

This command enables the validation of received IPv4 and IPv6 FlowSpec routes that contain a destination-prefix subcomponent.

A FlowSpec route with a destination-prefix subcomponent is considered invalid if both of the following are true:

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- the route was originated outside the local AS of the receiving BGP router
- the neighbor AS of the FlowSpec route does not match the neighbor AS of the best match BGP (unicast) route for the destination prefix or the neighbor AS of any longer match BGP (unicast) route for the destination prefix

An invalid route is retained in the BGP RIB, but it is not used for filtering traffic or propagated to other BGP routers.

The **no** form of this command disables the validation procedure based on the destination prefix.

Default

no validate-dest-prefix

Platforms

All

50.8 validate-gtp-tunnels

validate-gtp-tunnels

Syntax

validate-gtp-tunnels direction *direction* [**create**]

no validate-gtp-tunnels direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter validate-gtp-tunnels)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter validate-gtp-tunnels

Description

This command configures a TCA for the counter capturing drops because of the validation of GTP tunnel check. A validate-gtp-tunnels drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a validate-gtp-tunnels TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub, to-sub

create

Keyword used to create the TCA.

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

validate-gtp-tunnels

Syntax

[**no**] **validate-gtp-tunnels**

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>gtp-tunnel-database validate-gtp-tunnels)

Full Context

configure application-assurance group gtp gtp-filter gtp-tunnel-database validate-gtp-tunnels

Description

This command configures GTP tunnel validation. This allows for validation of TEIDs and is a prerequisite for sequence checking and UE IP address validation. This command applies only when AA GTP FW is deployed on S8/S5/Gp/Gn interfaces.

The **gtpc-inspection** command must be enabled before using this command.

The **no** form of this command disables GTP tunnel validation.

Default

no validate-gtp-tunnels

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.9 validate-next-hop

validate-next-hop

Syntax

[**no**] **validate-next-hop**

Context

[Tree] (config>service>vprn>static-route-entry>next-hop validate-next-hop)

Full Context

configure service vprn static-route-entry next-hop validate-next-hop

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Description

This optional command tracks the state of the next hop in the IPv4 ARP cache or IPv6 Neighbor Cache. When the next hop is not reachable and is removed from the ARP or Neighbor Cache, the next hop will no longer be considered valid and the associated static route state removed from the active route-table.

When the next hop is reachable again and present in the ARP/Neighbor Cache, the static route is considered valid and is subject to being placed into the active route-table.

Default

no validate-next-hop

Platforms

All

validate-next-hop

Syntax

[**no**] **validate-next-hop**

Context

[Tree] (config>router>static-route-entry>next-hop validate-next-hop)

Full Context

configure router static-route-entry next-hop validate-next-hop

Description

This optional command tracks the state of the next-hop in the IPv4 ARP cache or IPv6 Neighbor Cache. When the next-hop is not reachable and is removed from the ARP or Neighbor Cache, the next-hop will no longer be considered valid and the associated static-route state removed from the active route-table.

When the next-hop is reachable again and present in the ARP/Neighbor Cache, the static route is considered valid and is subject to being placed into the active route-table.

Default

no validate-next-hop

Platforms

All

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50.10 validate-redirect-ip

validate-redirect-ip

Syntax

validate-redirect-ip

no validate-redirect-ip

Context

[Tree] (config>service>vprn>bgp>flowspec validate-redirect-ip)

Full Context

configure service vprn bgp flowspec validate-redirect-ip

Description

This command enables the validation of the redirect-to-IPv4 action attached to FlowSpec-IPv4 routes received by the BGP instance.

The SR OS FlowSpec implementation supports the redirect-to-IPv4 action encoded as an IPv4-address-specific BGP extended community.

When this command is configured, a FlowSpec-IPv4 route is considered invalid and is not installed as a filter rule if it is determined to have originated from a different AS than the IP route that resolves the redirection IPv4 address. The originating AS of a FlowSpec route is identified based on its AS path.

The **no** form of this command disables the validation procedure based on the redirect-to-IPv4 action.

Default

no validate-redirect-ip

Platforms

All

validate-redirect-ip

Syntax

[**no**] **validate-redirect-ip**

Context

[Tree] (config>router>bgp>flowspec validate-redirect-ip)

Full Context

configure router bgp flowspec validate-redirect-ip

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Description

This command enables procedures to validate the **redirect-to-IPv4** action attached to FlowSpec IPv4 routes received by the BGP instance.

The SR OS FlowSpec implementation supports the **redirect-to-IPv4** action encoded as an IPv4-address-specific BGP extended community.

When this command is configured, a FlowSpec IPv4 route is considered invalid and not installed as a filter rule if the FlowSpec IPv4 route is deemed to have originated in a different AS than the IP route that resolves the redirection IPv4 address. The originating AS of a FlowSpec route is determined from its AS path.

The **no** form of this command disables the check described above.

Default

no validate-redirect-ip

Platforms

All

50.11 validate-sequence-number

validate-sequence-number

Syntax

validate-sequence-number direction *direction* [**create**]

no validate-sequence-number direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter validate-sequence-number)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter validate-sequence-number

Description

This command configures a TCA for the counter capturing drops because of the GTP filter invalid GTP sequence number. A validate-sequence-number drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**) or for traffic generated from the network toward the AA subscriber (**to-sub**). The **create** keyword is mandatory when creating a validate-sequence-number TCA.

Parameters

direction

Specifies the traffic direction.

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Values from-sub, to-sub

create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

validate-sequence-number

Syntax

[**no**] **validate-sequence-number**

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>gtp-tunnel-database validate-sequence-number)

Full Context

configure application-assurance group gtp gtp-filter gtp-tunnel-database validate-sequence-number

Description

This command configures GTP sequence number checking. GTP packets that fail the sequence number check are discarded.

The **validate-gtp-tunnels** command must be enabled before using this command.

The **no** form of this command disables GTP sequence number checking.

Default

no validate-sequence-number

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.12 validate-source-ip-addr

validate-source-ip-addr

Syntax

[**no**] **validate-source-ip-addr**

Context

[Tree] (config>app-assure>group>gtp>gtp-fltr>gtp-tunnel-database validate-source-ip-addr)

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Full Context

configure application-assurance group gtp gtp-filter gtp-tunnel-database validate-source-ip-addr

Description

This command configures the checking for spoofed or invalid UE IP addresses. Upstream GTP packets that contain invalid UE IP addresses are discarded. When a packet is dropped because of the **source-ip-address** "invalid source IP add", the statistics counter is updated.

The **validate-gtp-tunnels** command must be enabled before using this command.

The **no** form of this command disables the checking for spoofed or invalid UE IP addresses.

Default

no validate-source-ip-addr

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.13 validate-src-ip-addr

validate-src-ip-addr

Syntax

validate-src-ip-addr direction *direction* [**create**]

no validate-src-ip-addr direction *direction*

Context

[Tree] (config>app-assure>group>statistics>tca>gtp-filter validate-src-ip-addr)

Full Context

configure application-assurance group statistics threshold-crossing-alert gtp-filter validate-src-ip-addr

Description

This command configures a TCA for the counter capturing drops due to the GTP filter anti-spoofing of the UE IP address check. A validate-src-ip-addr drop TCA can be created for traffic generated from the subscriber side of AA (**from-sub**). The **create** keyword is mandatory when creating a validate-src-ip-addr TCA.

Parameters

direction

Specifies the traffic direction.

Values from-sub

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create

Keyword used to create the TCA.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.14 validity-time

validity-time

Syntax

validity-time *seconds*

no validity-time

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh>interim-c validity-time)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling interim-credit validity-time

Description

This command configures the validity time for the interim credit allocated to rating groups of a Diameter Gy session when Extended Failure Handling (EFH) is active. When either the allocated interim credit is consumed or the validity time expires, a new attempt is made to establish a Diameter Gy session with the Online Charging Server (OCS).The validity time applies to all interim credit allocated via the **config>subscr-mgmt>diam-appl-plcy** *application-policy-name*>**gy>extended-failure-handling>interim-credit>volume** and **config>subscr -mgmt>category-map** *category-map-name*>**category** *category-name*>**default-credit** CLI commands.

A validity time value of 0 (zero) disables the validity time for the assigned interim credit.

The **no** form of this command resets the value to the default value.

Default

validity-time 1800

Parameters

seconds

Specifies the validity time, in seconds, applicable to the interim credit.

Values 0 to 4294967295

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.15 value

value

Syntax

value *value*

Context

[Tree] (config>service>system>bgp-evpn>eth-seg>service-carving>manual>preference value)

Full Context

configure service system bgp-evpn ethernet-segment service-carving manual preference value

Description

This command modifies the default preference value used for the PE in the ES. An ES shutdown is not required to modify this value during maintenance operations.

Default

value 32767

Parameters

value

Determines the preference value used in the preference-based DF election algorithm.

Values 0 to 65535

Platforms

All

value

Syntax

value *function-value*

no value

Context

[Tree] (conf>router>segment-routing>srv6>ms-locator>un value)

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Full Context

configure router segment-routing segment-routing-v6 micro-segment-locator un value

Description

This command configures the function value for uN. This draws the Nth value (where N = function-value) of the global micro-SID range (0 excluded) to form a unique uN micro SID. The configured value must be a unique network-wide permicro-SID block.

Parameters

function-value

Specifies the function value for uN.

Values 1 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

value

Syntax

[**no**] **value** *value-name*

Context

[Tree] (config>app-assure>group>policy>aso>char value)

Full Context

configure application-assurance group policy app-service-options characteristic value

Description

This command configures a characteristic value.

The **no** form of this command removes the value for the characteristic.

Parameters

value-name

Specifies a string of up to 32 characters uniquely identifying this characteristic value.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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value

Syntax

value *value*

no value

Context

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>asel>pref-opt value)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>asel>pref-opt value)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>asel>pref-opt value)

Full Context

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection preference-option value

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection preference-option value

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection preference-option value

Description

This command configures the default preference option value. A DHCPv6 preference option with specified value is inserted in the DHCPv6 advertise message for DHCPv6 clients for which no per DHCPv6 server or per client-mac solicit delay or preference option value is configured.

The **no** form of this command removes the configuration.

Parameters

value

Specifies the default preference option value.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

value

Syntax

value *value*

no value

Context

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>asel>clnt-mac>pref-opt value)

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[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>asel>clnt-mac>pref-opt value)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>asel>clnt-mac>pref-opt value)

Full Context

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection client-mac preference-option value

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac preference-option value

configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection client-mac preference-option value

Description

This command configures the preference option value for DHCPv6 clients with an odd or an even source MAC address. A DHCPv6 preference option with specified value is inserted in the DHCPv6 advertise message for these DHCPv6 clients.

The **no** form of this command removes the configuration.

Parameters

value

Specifies the preference option value for DHCPv6 clients with an odd or an even source MAC address.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

value

Syntax

value *value*

no value

Context

[Tree] (config>service>vprn>sub-if>ipv6>dhcp6>relay>asel>srvr>pref-opt value)

[Tree] (config>service>vprn>sub-if>grp-if>ipv6>dhcp6>relay>asel>srvr>pref-opt value)

[Tree] (config>service>ies>sub-if>grp-if>ipv6>dhcp6>relay>asel>srvr>pref-opt value)

Full Context

configure service vprn subscriber-interface ipv6 dhcp6 relay advertise-selection server preference-option value

configure service vprn subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server preference-option value

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configure service ies subscriber-interface group-interface ipv6 dhcp6 relay advertise-selection server preference-option value

Description

This command configures the preference option value. A DHCPv6 preference option with specified value is inserted in the DHCPv6 advertise message from the server.

The **no** form of this command removes the configuration.

Parameters

value

Specifies the preference option value for DHCPv6 advertise messages from the server.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.16 vas-filter

vas-filter

Syntax

vas-filter *name* [**create**]

no vas-filter *name*

Context

[Tree] (config>subscr-mgmt>isa-svc-chain vas-filter)

Full Context

configure subscriber-mgmt isa-service-chaining vas-filter

Description

This command configures a Value Added Service filter.

The **no** form of this command removes the VAS filter name from the configuration.

Default

This command configures a value added service (VAS) filter that can be associated to an L2-aware NAT host, and is matched on the NAT ISA to select flows for a host that needs to be steered to remote value-added services.

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Parameters

name

Specifies a VAS filter name, up to 32 characters.

create

Keyword used to create the VAS filter instance. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.17 vas-if-type

vas-if-type

Syntax

vas-if-type {**to-from-access** | **to-from-network** | **to-from-both**}

no vas-if-type

Context

[Tree] (config>service>ies>if vas-if-type)

Full Context

configure service ies interface vas-if-type

Description

This command configures the type of a Value Added Service (VAS) facing interface. To change the **vas-if-type**, the **shutdown** command is required. The **vas-if-type** and **loopback** commands are mutually exclusive.

The **no** form of this command removes the VAS interface type configuration.

Default

no vas-if-type

Parameters

to-from-access

Used when two separate (**to-from-access** and **to-from-network**) interfaces are used for VAS connectivity. For service chaining, traffic arriving from access interfaces (upstream) is redirected to a PBR target reachable over this interface for upstream VAS processing. Downstream traffic after VAS processing must arrive on this interface, so that the traffic is subject to regular routing but is not subject to AA divert, nor egress subscriber PBR.

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to-from-network

Used when two separate (**to-from-access** and **to-from-network**) interfaces are used for VAS connectivity. For service chaining, traffic arriving from network interfaces (downstream) is redirected to a PBR target reachable over this interface for downstream VAS processing. Upstream traffic after VAS processing must arrive on this interface, so that regular routing can be applied.

to-from-both

Used when a single interface is used for VAS connectivity (no local-to-local traffic). For service chaining, both traffic arriving from access interfaces and from network interfaces is redirected to a PBR target reachable over this interface for upstream/downstream VAS processing. Traffic after VAS processing must arrive on this interface, so that the traffic is subject to regular routing but is not subject to AA divert, nor egress subscriber PBR.

Platforms

All

vas-if-type

Syntax

vas-if-type {**to-from-access** | **to-from-network** | **to-from-both**}

no vas-if-type

Context

[Tree] (config>service>vprn>if vas-if-type)

Full Context

configure service vprn interface vas-if-type

Description

This command configures the type of a Value Added Service (VAS) facing interface. To change the **vas-if-type**, the **shutdown** command is required. The **vas-if-type** and **loopback** commands are mutually exclusive.

The **no** form of this command removes the VAS interface type configuration.

Default

no vas-if-type

Parameters

to-from-access

Used when two separate (**to-from-access** and **to-from-network**) interfaces are used for VAS connectivity. For service chaining, traffic arriving from access interfaces (upstream) is redirected to a PBR target reachable over this interface for upstream VAS processing. Downstream traffic after VAS processing must arrive on this interface, so that the traffic is subject to regular routing but is not subject to AA divert, nor egress subscriber PBR.

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to-from-network

Used when two separate (**to-from-access** and **to-from-network**) interfaces are used for VAS connectivity. For service chaining, traffic arriving from network interfaces (downstream) is redirected to a PBR target reachable over this interface for downstream VAS processing. Upstream traffic after VAS processing must arrive on this interface, so that regular routing can be applied.

to-from-both

Used when a single interface is used for VAS connectivity (no local-to-local traffic). For service chaining, both traffic arriving from access and from network is redirected to a PBR target reachable over this interface for upstream/downstream VAS processing. Traffic after VAS processing must arrive on this interface, so that the traffic is subject to regular routing but is not subject to AA divert, nor egress subscriber PBR.

Platforms

All

vas-if-type

Syntax

vas-if-type {**to-from-access** | **to-from-network** | **to-from-both**}

no vas-if-type

Context

[Tree] (config>router>if vas-if-type)

Full Context

configure router interface vas-if-type

Description

This command configures the type of a Value Added Service (VAS) facing interface. To change the **vas-if-type**, the **shutdown** command is required. The **vas-if-type** and **loopback** commands are mutually exclusive.

The **no** form of this command removes the VAS interface type configuration.

Default

no vas-if-type

Parameters

to-from-access

Used when two separate (**to-from-access** and **to-from-network**) interfaces are used for VAS connectivity. For service chaining, traffic arriving from access interfaces (upstream) is redirected to a PBR target reachable over this interface for upstream VAS processing. Downstream traffic after VAS processing must arrive on this interface, so that the traffic is subject to regular routing but is not subject to AA divert, nor egress subscriber PBR.

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to-from-network

Used when two separate (**to-from-access** and **to-from-network**) interfaces are used for VAS connectivity. For service chaining, traffic arriving from network interfaces (downstream) is redirected to a PBR target reachable over this interface for downstream VAS processing. Upstream traffic after VAS processing must arrive on this interface, so that regular routing can be applied.

to-from-both

Used when a single interface is used for VAS connectivity (no local-to-local traffic). For service chaining, both traffic arriving from access interfaces and from network interfaces is redirected to a PBR target reachable over this interface for upstream/downstream VAS processing. Traffic after VAS processing must arrive on this interface, so that the traffic is subject to regular routing but is not subject to AA divert, nor to egress subscriber PBR.

Platforms

All

50.18 vc-id

vc-id

Syntax

vc-id *vc-id*

no vc-id

Context

[Tree] (config>service>epipe>sap>l2tpv3-session vc-id)

[Tree] (config>service>vpls>sap>l2tpv3-session vc-id)

Full Context

configure service epipe sap l2tpv3-session vc-id

configure service vpls sap l2tpv3-session vc-id

Description

This command specifies the VC-ID for the L2TPv3 session.

The **no** form of this command deletes the VC-ID configuration.

Parameters

vc-id

Specifies the VC-ID, up to 64 characters.

Values 1 to 4294967295

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Platforms

All

50.19 vc-id-range

vc-id-range

Syntax

vc-id-range *from* [**to** *vc-id*]

no vc-id-range *from*

Context

[Tree] (config>service>system>bgp-evpn>ethernet-segment vc-id-range)

Full Context

configure service system bgp-evpn ethernet-segment vc-id-range

Description

This command determines the VC-IDs associated with the virtual Ethernet Segment on a specific SDP based on the following considerations:

- VC-IDs for manual spoke-SDP and BGP-AD are included in the range.
- Th mesh-sdp VC-IDs are not allowed on a SDP used by a virtual ES.
- A maximum of 8 ranges are allowed.
- A range can be comprised of a single VC-ID.
- A **vc-id-range** can be comprised of a single VC-ID.
- Shutting down the ES is not required prior to making changes.

The **no** form of the command removes the configured range. Only the first VC-ID value is required to remove the range.

Parameters

vc-id

Specifies the VC-ID. When configuring a range of VC-IDs (and not a single value), the value of the second VC-ID must be greater than the first VC-ID.

Values 1 to 4294967295

Platforms

All

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50.20 vc-label

vc-label

Syntax

vc-label *egress-vc-label*

no vc-label [*egress-vc-label*]

Context

[Tree] (config>service>vprn>if>spoke-sdp>egress vc-label)

[Tree] (config>service>vprn>red-if>spoke-sdp>egress vc-label)

Full Context

configure service vprn interface spoke-sdp egress vc-label

configure service vprn redundant-interface spoke-sdp egress vc-label

Description

This command configures the egress VC label.

Parameters

vc-label

A VC egress value that indicates a specific connection.

Values 16 to 1048575

Platforms

All

- configure service vprn interface spoke-sdp egress vc-label

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp egress vc-label

vc-label

Syntax

vc-label *ingress-vc-label*

no vc-label [*ingress-vc-label*]

Context

[Tree] (config>service>vprn>red-if>spoke-sdp>ingress vc-label)

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[Tree] (config>service>vprn>if>spoke-sdp>ingress vc-label)

Full Context

configure service vprn redundant-interface spoke-sdp ingress vc-label

configure service vprn interface spoke-sdp ingress vc-label

Description

This command configures the ingress VC label.

Parameters

vc-label

A VC ingress value that indicates a specific connection.

Values 2048 to 18431

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service vprn redundant-interface spoke-sdp ingress vc-label

All

- configure service vprn interface spoke-sdp ingress vc-label

vc-label

Syntax

vc-label *egress-vc-label*

no vc-label [*egress-vc-label*]

Context

[Tree] (config>service>ies>if>spoke-sdp>egress vc-label)

[Tree] (config>service>vpls>mesh-sdp>egress vc-label)

[Tree] (config>service>ies>red-if>spoke-sdp>egress vc-label)

[Tree] (config>service>vpls>spoke-sdp>egress vc-label)

Full Context

configure service ies interface spoke-sdp egress vc-label

configure service vpls mesh-sdp egress vc-label

configure service ies redundant-interface spoke-sdp egress vc-label

configure service vpls spoke-sdp egress vc-label

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Description

This command configures the static MPLS VC label used by this device to send packets to the far-end device in this service via this SDP.

Parameters

egress-vc-label

Specifies a VC egress value that indicates a specific connection.

Values 16 to 1048575

Platforms

All

- configure service ies interface spoke-sdp egress vc-label
- configure service vpls spoke-sdp egress vc-label
- configure service vpls mesh-sdp egress vc-label

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies redundant-interface spoke-sdp egress vc-label

vc-label

Syntax

vc-label *ingress-vc-label*

no vc-label [*ingress-vc-label*]

Context

[Tree] (config>service>vpls>spoke-sdp>ingress vc-label)

[Tree] (config>service>vpls>mesh-sdp>ingress vc-label)

[Tree] (config>service>ies>if>spoke-sdp>ingress vc-label)

[Tree] (config>service>ies>red-if>spoke-sdp>ingress vc-label)

Full Context

configure service vpls spoke-sdp ingress vc-label

configure service vpls mesh-sdp ingress vc-label

configure service ies interface spoke-sdp ingress vc-label

configure service ies redundant-interface spoke-sdp ingress vc-label

Description

This command configures the static MPLS VC label used by the far-end device to send packets to this device in this service via this SDP.

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Parameters

ingress-vc-label

A VC ingress value that indicates a specific connection.

Values 2048 to 18431

Platforms

All

- configure service vpls spoke-sdp ingress vc-label
- configure service vpls mesh-sdp ingress vc-label
- configure service ies interface spoke-sdp ingress vc-label

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies redundant-interface spoke-sdp ingress vc-label

vc-label

Syntax

[**no**] **vc-label** *egress-vc-label* | *ingress-vc-label*

Context

[Tree] (config>service>cpipe>spoke-sdp>ingress vc-label)

[Tree] (config>service>cpipe>spoke-sdp>egress vc-label)

[Tree] (config>service>ipipe>spoke-sdp>egress vc-label)

[Tree] (config>service>ipipe>spoke-sdp>ingress vc-label)

Full Context

configure service cpipe spoke-sdp ingress vc-label

configure service cpipe spoke-sdp egress vc-label

configure service ipipe spoke-sdp egress vc-label

configure service ipipe spoke-sdp ingress vc-label

Description

This command configures the egress and ingress VC label.

The actual maximum value that can be configured is limited by the **config>router>mpls-labels>static-label-range** command.

Parameters

vc-label

A VC egress value that indicates a specific connection.

Values for egress: 16 to 1048575

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Values for ingress: 32 to 18431

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure service cpipe spoke-sdp ingress vc-label
- configure service cpipe spoke-sdp egress vc-label

All

- configure service ipipe spoke-sdp egress vc-label
- configure service ipipe spoke-sdp ingress vc-label

vc-label

Syntax

vc-label *vc-label*

no vc-label [*vc-label*]

Context

[Tree] (config>service>ies>aarp-interface>spoke-sdp>ingress vc-label)

[Tree] (config>service>ies>aarp-interface>spoke-sdp>egress vc-label)

Full Context

configure service ies aarp-interface spoke-sdp ingress vc-label

configure service ies aarp-interface spoke-sdp egress vc-label

Description

This command configures the egress and ingress VC label.

The **no** version of this command removes the VC label.

Parameters

vc-label

Specifies a VC egress value that indicates a specific connection.

Values egress: 16 to 1048575

ingress: 32 to 18431

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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vc-label

Syntax

vc-label *vc-label*

no vc-label [*vc-label*]

Context

[Tree] (config>service>vprn>aarp-interface>spoke-sdp>egress vc-label)

[Tree] (config>service>vprn>aarp-interface>spoke-sdp>ingress vc-label)

Full Context

configure service vprn aarp-interface spoke-sdp egress vc-label

configure service vprn aarp-interface spoke-sdp ingress vc-label

Description

This command configures the egress and ingress VC label.

The **no** version of this command removes the VC label.

Parameters

vc-label

A VC egress value that indicates a specific connection.

Values egress: 16 to 1048575

ingress: 32 to 18431

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vc-label

Syntax

vc-label *egress-vc-label*

no vc-label [*egress-vc-label*]

Context

[Tree] (config>mirror>mirror-dest>spoke-sdp>egress vc-label)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>egress vc-label)

Full Context

configure mirror mirror-dest spoke-sdp egress vc-label

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configure mirror mirror-dest remote-source spoke-sdp egress vc-label

Description

This command configures the spoke SDP egress VC label.

The **no** form of this command removes the egress VC label value from the configuration.

Parameters

egress-vc-label

Specifies a VC egress value that indicates a specific connection.

Values 16 to 1048575

Platforms

All

vc-label

Syntax

vc-label *ingress-vc-label*

no vc-label [*ingress-vc-label*]

Context

[Tree] (config>service>vprn>ipmirrorif>spoke-sdp>ingress vc-label)

[Tree] (config>mirror>mirror-dest>remote-src>spoke-sdp>ingress vc-label)

[Tree] (config>mirror>mirror-dest>spoke-sdp>ingress vc-label)

Full Context

configure service vprn ip-mirror-interface spoke-sdp ingress vc-label

configure mirror mirror-dest remote-source spoke-sdp ingress vc-label

configure mirror mirror-dest spoke-sdp ingress vc-label

Description

This command configures the spoke SDP ingress VC label.

Parameters

vc-label

Specifies the VC ingress value that indicates a specific connection.

Values 32 to 18431

Platforms

All

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- configure mirror mirror-dest remote-source spoke-sdp ingress vc-label
- configure service vprn ip-mirror-interface spoke-sdp ingress vc-label

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- configure mirror mirror-dest spoke-sdp ingress vc-label

vc-label

Syntax

vc-label *vc-label*

no vc-label

Context

[Tree] (config>service>sdp>binding>pw-port>egress vc-label)

Full Context

configure service sdp binding pw-port egress vc-label

Description

This command configures the egress VC label for the PW representing the PW-port.

Default

no vc-label

Parameters

vc-label

Specifies the VC egress value that indicates a specific connection.

Values 16 to 1048575

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vc-label

Syntax

vc-label *ingress-vc-label*

no vc-label

Context

[Tree] (config>service>sdp>binding>pw-port>ingress vc-label)

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Full Context

configure service sdp binding pw-port ingress vc-label

Description

This command configures the ingress VC label used for the PW representing the PW port.

Note that the maximum value of the vc-label that may be configured is limited by the **config**>**router**>**mpls-labels**>**static-label-range** command.

Default

no vc-label

Parameters

vc-label

Specifies a VC ingress value that indicates a specific connection.

Values 32 to 18431

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

50.21 vc-type

vc-type

Syntax

vc-type {**ether** | **vlan**}

no vc-type

Context

[Tree] (config>service>sdp>binding>pw-port vc-type)

Full Context

configure service sdp binding pw-port vc-type

Description

This command sets the forwarding mode for the pseudowire port. The vc-type is signaled to the peer, and must be configured consistently on both ends of the pseudowire. vc-type VLAN is only configurable with dot1q encapsulation on the pseudowire port. The tag with vc-type vlan only has significance for transport, and is not used for service delineation or ESM. The top (provider tag) is stripped while forwarding out of the pseudowire, and a configured vlan-tag (for vc-type vlan) is inserted when forwarding into the pseudowire. With vc-type ether, the tags if present (max 2), are transparently preserved when forwarding in our out of the pseudowire.

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The **no** form of the command reverts to the default value.

Default

vc-type ether

Parameters

ether

Specifies **ether** as the virtual circuit (VC) associated with the SDP binding.

vlan

Specifies **vlan** as the virtual circuit (VC) associated with the SDP binding.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vc-type

Syntax

vc-type {**ether** | **vlan**}

Context

[Tree] (config>service>pw-template vc-type)

Full Context

configure service pw-template vc-type

Description

This command overrides the default VC type signaled for the binding to the far end SDP. The VC type is a 15 bit-quantity containing a value which represents the type of VC. The actual signaling of the VC type depends on the signaling parameter defined for the SDP. If signaling is disabled, the **vc-type** command can still be used to define the dot1q value expected by the far-end provider equipment. A change of the bindings VC type causes the binding to signal the new VC type to the far end when signaling is enabled. VC types are derived according to IETF *draft-martini-l2circuit-trans-mpls*.

- The VC type value for Ethernet is 0x0005.
- The VC type value for an Ethernet VLAN is 0x0004.

Parameters

ether

Defines the VC type as Ethernet. The **ethernet** and **vlan** keywords are mutually exclusive. When the VC type is not defined then the default is Ethernet for spoke SDP bindings. Defining Ethernet is the same as executing **no vc-type** and restores the default VC type for the spoke SDP binding. (hex 5)

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vlan

Defines the VC type as VLAN. The top VLAN tag, if a VLAN tag is present, is stripped from traffic received on the pseudowire, and a vlan-tag is inserted when forwarding into the pseudowire. The **ethernet** and **vlan** keywords are mutually exclusive. When the VC type is not defined then the default is Ethernet for spoke SDP bindings.

Note:
The system expects a symmetrical configuration with its peer, specifically it expects to remove the same number of VLAN tags from received traffic as it adds to transmitted traffic. As some of the related configuration parameters are local and not communicated in the signaling plane, an asymmetrical behavior cannot always be detected and so cannot be blocked. Consequently, protocol extractions will not necessarily function for asymmetrical configurations as they would with a symmetrical configurations resulting in an unexpected operation.

Platforms

All

50.22 vccv-ping

vccv-ping

Syntax

vccv-ping [**fec-128**] *sdp-id:vc-id* [**reply-mode ip-routed** | **control-channel**] [**src-ip-address** *ip-addr* **dst-ip-address** *ip-addr* **pw-id** *pw-id*]

vccv-ping *sdp-id:vc-id* [**reply-mode** [**ip-routed** | **control-channel**] [**src-ip-address** *ip-addr* **dst-ip-address** *ip-addr* **pw-id** *pw-id*] [**target-fec-type static-pw-fec agi** *attachment-group-identifier* **pw-path-id-saii** *global-id:node-id:ac-id* **pw-path-id-taii** *global-id:node-id:ac-id*]

vccv-ping saii-type2 *global-id:prefix:ac-id* **taii-type2** *global-id:prefix:ac-id* [**reply-mode** [**ip-routed** | **control-channel**] [**src-ip-address** *ip-addr* **dst-ip-address** *ip-addr*]

vccv-ping spoke-sdp-fec *spoke-sdp-fec-id* [**reply-mode** [**ip-routed** | **control-channel**] [**saii-type2** *global-id:prefix:ac-id* **taii-type2** global-id:prefix:ac-id] [**src-ip-address** *ip-addr* **dst-ip-address** *ip-addr*]

vccv-ping static *sdp-id:vc-id* [**assoc-channel** [**ipv4** | **non-ip**] [**dest-global-id** *global-id* **dest-node-id** *node-id*] [**src-ip-address** *ip-addr*] [**target-fec-type pw-id-fec sender-src-address** *ip-addr* **remote-dst-address** *ip-addr* **pw-id** *pw-id* **pw-type** *pw-type*]

NOTE: Options common to all **vccv-ping** cases: [**count** *send-count*] [**fc** *fc-name* [**profile** {**in** | **out**}]] [**interval** *interval*] [**size** *octets*] [**timeout** *timeout*] [**ttl** *vc-label-ttl*]

Context

[Tree] (oam vccv-ping)

[Tree] (config>saa>test>type vccv-ping)

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Full Context

oam vccv-ping

configure saa test type vccv-ping

Description

This command configures a Virtual Circuit Connectivity Verification (VCCV) ping test. A VCCV ping test checks the connectivity of a VLL inband. This test verifies that the destination (target) PE is the egress for the Layer 2 Forwarding Equivalence Class (FEC), and provides a cross-check between the dataplane and the control plane. This test is inband, which means that the **vccv-ping** message is sent using the same encapsulation and along the same path as user packets in the VLL. The VCCV ping test is the equivalent of the LSP ping test for a VLL service. This command reuses an LSP ping message format and can be used to test a VLL configured over both an MPLS and a GRE SDP.

Note: A VCCV ping can be initiated on T-PE or S-PE. If initiated on the S-PE, the **reply-mode** parameter must be used with the **ip-routed** value. The ping from the T-PE can either have values or be omitted, in which case the default value is used.

If a VCCV ping is initiated from T-PE to a neighboring S-PE (one segment only), it is sufficient to use only the **spoke-sdp-fec-id** parameter. However, if the ping is across two or more segments, at least the **spoke-sdp-fec-id**, **src-ip-address** *ip-addr*, **dst-ip-address** *ip-addr*, **ttl** *vc-label-ttl* parameters are used

where:

- The **src-ip-address** is the system IP address of the router preceding the destination router.
- The *vc-label-ttl* parameter must have a value equal to or higher than the number of PW segments.

Note: VCCV ping is a multi-segment PW. For a single-hop PW, only the peer VCCV CC bit of the control word is advertised when the control word is enabled on the PW.

VCCV ping on multi-segment PWs requires that the control word is enabled in all segments of the VLL. If the control word is not enabled on a spoke SDP, it is signaled peer VCCV CC bits to the far end, consequently the **vccv-ping** command cannot be successfully initiated on the specific spoke SDP.

If the **saii-type-2** and **taii-type-2** parameters are specified for a FEC 129 PW, these values are used by the VCCV ping echo request message instead of the source access individual identifiers (SAII) and target attachment individual identifier (TAII) of the spoke-SDP indexed by the **spoke-sdp-fec** parameter, or any SAII and TAII received in a switching point TLV for the PW. Furthermore, the user must enter the SAII and TAII in accordance with the direction of the PW as seen from the node on which the **vccv-ping** command is executed. However, the values of the SAII and TAII sent in the echo request message are swapped with respect to the user-entered values to match the order in the installed FEC on the targeted node. The output of the command for a FEC 129 type 2 PW reflects the order of the SAII and TAII stored on the targeted node.

When used with the **static** option, this command configures a VCCV ping test for static MPLS-TP PWs used in a VLL service. The test verifies that the destination (target) PE is the egress for the static PW FEC, and provides a cross-check between the dataplane and the configuration. The **vccv-ping static** command reuses an **lsp-ping** message format and can be used to test an MPLS-TP PW VLL configured over an MPLS SDP. VCCV ping for MPLS-TP PWs always use the VCCV control word (associated channel header) with either an IPv4 channel type (0x0021) or on-demand CV message channel type (0x0025).

Note: vccv-ping static can only be initiated on a T-PE. Both the echo request and reply messages are sent using the same, in-band, encapsulation. If the **target-fec-type** option is not specified, the target FEC stack contains a static PW FEC TLV. The contents of this TLV

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are populated based on the source node ID, source global ID, destination global ID, and destination node ID in the **vccv-ping** command (or taken from the PW context, if omitted from the command).

The **target-fec-type** option allows the user to test a segment of a MS-PW that does not have the same FEC type as the local segment from the T-PE where the **vccv-ping** command is issued. This is applicable for performing VCCV ping on an MS-PW that consists of static PW FEC segments and dynamically signaled PW ID FEC segments.

The timestamp format that is sent, and is expected when received in a PDU, is configured using the **config>test-oam>mpls-time-stamp-format** command. If RFC 4379 (obsoleted by RFC 8029) is selected, the timestamp is in seconds and microseconds since 1900, otherwise it is in seconds and microseconds since 1970.

Parameters

fec-128

Keyword to specify that the VCCV ping test is of the type FEC 128.

sdp-id:vc-id

Specifies that if a FEC 128 PW is tested, its VC ID must be indicated with this parameter. The VC ID must exist on the local router and the far-end peer must indicate that it supports VCCV to allow the user to send a VCCV ping message.

Values sdp-id: 1 to 32767

vc-id: 1 to 4294967295

reply-mode {ip-routed | control-channel}

Indicates to the far end the method to send the reply message. The **ip-routed** option specifies an out-of-band reply mode using the VCCV control channel. The **control-channel** option specifies an in-band reply mode using the VCCV control channel.

Default control-channel

src-ip-address *ip-addr*

Specifies the source IP address.

Values a.b.c.d

dst-ip-address *ip-addr*

Specifies the destination IP address.

Values a.b.c.d

pw-id

Specifies the PW ID for performing a VCCV ping operation. The PW ID is a non-zero 32-bit connection ID required by FEC 128, as defined in RFC 8029, *Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures*.

Values 1 to 4294967295

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target-fec-type

Specifies the FEC type for a remote PW segment targeted by a VCCV ping echo request. This parameter is used if VCCV ping is used with an MS-PW, where a static MPLS-TP PW segment using the static PW FEC is switched to a T-LDP signaled segment using the PW ID FEC (FEC 128), or vice versa, which requires the user to explicitly specify a target FEC that is different from the local segment FEC.

Values **pw-id-fec** — Specifies that the FEC element for the remote target PW segment is of the type PW ID (FEC 128).

static-pw-fec — Specifies that the FEC element for the remote target PW segment is of the type static PW FEC.

attachment-group-identifier

Specifies the attachment group identifier for the target FEC. This parameter is valid only in combination with the **target-fec-type** *static-pw-fec* options.

Values 0 to 4294967295

pw-path-id-saii *global-id:node-id:ac-id*

Specifies the SAII of the target FEC. This parameter is valid only in combination with the **target-fec-type** *static-pw-fec* options.

global-id — Specifies the global ID for the SAII of the targeted static PW FEC element.

Values 0 to 4294967295

node-id — Specifies the node ID on far end T-PE that the PW being tested is associated with.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

ac-id — Specifies an unsigned integer representing a locally unique SAII for the PW being tested at the far end T-PE.

Values 1 to 4294967295

pw-path-id-taii *global-id:node-id:ac-id*

Specifies the TAII of the target FEC. This parameter is valid only in combination with the **target-fec-type** *static-pw-fec* options.

global-id — Specifies the global ID of the TAII of the targeted static PW FEC element.

Values 0 to 4294967295

node-id — Specifies the node ID on the far end T-PE that the PW being tested is associated with.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

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ac-id — Specifies an unsigned integer representing a locally unique TAII for the PW being tested at the far end T-PE.

Values 1 to 4294967295

saii-type2 *global-id*:*prefix*:*ac-id*

Specifies that if a FEC 129 AII type 2 PW is tested, the SAII must be indicated. The **saii-type2** parameter is mutually exclusive with *sdp-id:vc-id*.

taii-type2 *global-id:prefix:ac-id*

Specifies that if a FEC 129 AII type 2 PW is tested, the TAII must be indicated. The **taii-type2** parameter is mutually exclusive with *sdp-id:vc-id*.

global-id — Specifies the global ID of the far end T-PE of the FEC129 PW.

Values 0 to 4294967295

Default 0

node-id — Specifies the node ID on the far end T-PE that the PW being tested is associated with.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

ac-id — Specifies an unsigned integer representing a locally unique TAII for the PW being tested at the far end T-PE.

Values 1 to 4294967295

spoke-sdp-fec-id

Specifies that if a FEC 129 PW is tested, the *spoke-sdp-fec-id* option must be indicated using this parameter. The *spoke-sdp-fec-id* must already exist on the local router and the far-end peer must indicate that it supports VCCV to allow the user to send a message using the **vccv-ping** command.

spoke-sdp-fec is mutually exclusive with the *sdp-id:vc-id* parameter.

Values 1 to 4294967295

assoc-channel {ipv4 | non-ip}

Specifies the associated channel encapsulation format to use for the VCCV ping echo request and echo reply packet for a PW that uses the static PW FEC. An associated channel type of ipv4 must be used if a VCCV ping is performed to a remote segment of a different FEC type.

Values **ipv4**

IPv4 encapsulation in an IPv4 PW associated channel (channel type 0x0021)

non-ip

MPLS-TP encapsulation without UDP/IP headers, in a PW associated channel using the channel type 0x025.

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Default non-ip

global-id

Specifies the MPLS-TP global ID for the far end node of the PW under test. If this is not entered, the *dest-global-id* is taken from the PW context.

Values 0 to 4294967295

Default 0

node-id

Specifies the MPLS-TP node ID of the far end node for the PW under test. If this is not entered, then the *dest-global-id* is taken from the PW context.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

Default 0

sender-src-address ip-addr

Specifies the 4-octet IPv4 address of the node originating the VCCV Ping echo request. This parameter is only valid in combination with the **target-fec-type** *pw-id-fec*.

Values a.b.c.d

remote-dst-address ip-addr

Specifies the 4-octet IPv4 address of the far end node that is a target of the VCCV Ping echo request. This parameter is only valid in combination with the **target-fec-type** *pw-id-fec*.

Values a.b.c.d

pw-type

Specifies the PW type value of the PW segment targeted on the far end node. This field must be included to populate the PW type field of the PW ID FEC in the FEC static TLV, when the far end FEC type is different form the local FEC type and the **target-fec-type** *pw-id-fec*.

Values atm-cell (=3), atm-sdu (=2), atm-vcc (=9), atm-vpc (=10), cesopsn (=21), cesopsn-cas (=23), ether (=5), satop-e1 (=17), satop-t1 (=18), 1 to 65535

send-count

Specifies the number of messages to send, expressed as a decimal integer. The count parameter is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message interval value must have expired before the next message request is sent.

Values 1 to 100

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Default 1

fc-name

Specifies the **fc** parameter be used to indicate the forwarding class of the MPLS echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

The LSP-EXP mappings on the receive network interface controls the mapping back to the internal forwarding class used by the far-end 7750 SR that receives the message request. The egress mappings of the egress network interface on the far-end router controls the forwarding class markings on the return reply message. The LSP-EXP mappings on the receive network interface controls the mapping of the message reply at the originating SR.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

The ToS byte is not modified. Table 180: vccv-ping Request Packet and Behavior summarizes this behavior.

Table 180: vccv-ping Request Packet and Behavior

CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • packet queued as {fc1, profile1} • ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet {tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • packet queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band)

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	• EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation.

Default out

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the interval is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

octets

Specifies the size, in octets, expressed as a decimal integer, of the MPLS echo request packet, including the IP header but not the label stack. The request pay-load is padded with zeros to the specified size. Note that an OAM command is not failed if the user entered a size lower than the minimum required to build the packet for the echo request message. The payload is automatically padded to meet the minimum size.

Values 1 to 9786

Default 1

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of message time out, the requesting router assumes that the message response is not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

Values 1 to 10

Default 5

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vc-label-ttl

Specifies the time-to-live value for the vc-label of the echo request message. The outer label TTL is still set to the default of 255 regardless of this value.

Values 1 to 255

Default 1

Platforms

All

Output

The following output is an example of VCCV ping information.

Output Example

```
Ping TPE to SPE on a LDP/GRE tunnel
===================================

*A:Dut-B# oam vccv-ping 3:1
VCCV-PING 3:1 88 bytes MPLS payload
Seq=1, send from intf toSPE1-D-8 to NH 12.1.8.2
       reply from 4.4.4.4 via Control Channel
       udp-data-len=56 rtt=0.689ms rc=8 (DSRtrMatchLabel)

---- VCCV PING 3:1 Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 0.689ms, avg = 0.689ms, max = 0.689ms, stddev = 0.000ms


Ping TPE to SPE on a RSVP tunnel
================================

A:Dut-C# oam vccv-ping 5:1
VCCV-PING 5:1 88 bytes MPLS payload
Seq=1, send from intf toSPE2-E-5 to NH 12.3.5.1
       send from lsp toSPE2-E-5
       reply from 5.5.5.5 via Control Channel
       udp-data-len=56 rtt=1.50ms rc=8 (DSRtrMatchLabel)

---- VCCV PING 5:1 Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 1.50ms, avg = 1.50ms, max = 1.50ms, stddev = 0.000ms


Ping TPE to TPE over multisegment pseudowire
============================================
*A:Dut-C# oam vccv-ping 5:1 src-ip-address 4.4.4.4 dst-ip-address 2.2.2.2 pw-
id 1 ttl 3
VCCV-PING 5:1 88 bytes MPLS payload
Seq=1, send from intf toSPE2-E-5 to NH 12.3.5.1
       send from lsp toSPE2-E-5
       reply from 2.2.2.2 via Control Channel
       udp-data-len=32 rtt=2.50ms rc=3 (EgressRtr)

---- VCCV PING 5:1 Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 2.50ms, avg = 2.50ms, max = 2.50ms, stddev = 0.000ms
```


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```
Ping SPE to TPE (over LDP tunnel)
=================================

Single segment:
---------------

*A:Dut-D# oam vccv-ping 3:1 reply-mode ip-routed
VCCV-PING 3:1 88 bytes MPLS payload
Seq=1, send from intf toTPE1-B-8 to NH 12.1.8.1
       reply from 2.2.2.2 via IP
       udp-data-len=32 rtt=1.66ms rc=3 (EgressRtr)

---- VCCV PING 3:1 Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 1.66ms, avg = 1.66ms, max = 1.66ms, stddev = 0.000ms


Multisegment:
-------------
*A:Dut-D>config>router#  oam vccv-ping 4:200 src-ip-address 5.5.5.5 dst-ip-
address 3.3.3.3 pw-id 1 ttl 2 reply-mode ip-routed
VCCV-PING 4:200 88 bytes MPLS payload
Seq=1, send from intf toSPE2-E-5 to NH 12.2.5.2
       reply from 3.3.3.3 via IP
       udp-data-len=32 rtt=3.76ms rc=3 (EgressRtr)

---- VCCV PING 4:200 Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 3.76ms, avg = 3.76ms, max = 3.76ms, stddev = 0.000ms


Ping SPE to SPE
===============
*A:Dut-D# oam vccv-ping 4:200 reply-mode ip-routed
VCCV-PING 4:200 88 bytes MPLS payload
Seq=1, send from intf toSPE2-E-5 to NH 12.2.5.2
       reply from 5.5.5.5 via IP
       udp-data-len=56 rtt=1.77ms rc=8 (DSRtrMatchLabel)

---- VCCV PING 4:200 Statistics ----
1 packets sent, 1 packets received, 0.00% packet loss
round-trip min = 1.77ms, avg = 1.77ms, max = 1.77ms, stddev = 0.000ms
```

50.23 vccv-trace

vccv-trace

Syntax

vccv-trace *sdp-id:vc-id* [**reply-mode** { **ip-routed** | **control-channel**] [**target-fec-type static-pw-fec agi** *attachment-group-identifier* **pw-path-id-saii** *global-id:node-id:ac-id* **pw-path-id-taii** *global-id:node-id:ac-id*]

vccv-trace saii-type2 *global-id:prefix:ac-id* **taii-type2** *global-id:prefix:ac-id* [**reply-mode** {**ip-routed** | **control-channel**}]

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vccv-trace spoke-sdp-fec *spoke-sdp-fec-id* [**reply-mode** {**ip-routed** | **control-channel**}] [**saii-type2** *global-id:prefix:ac-id* **taii-type2** *global-id:prefix:ac-id*]

vccv-trace static *sdp-id:vc-id* [**assoc-channel** {**ipv4** | **non-ip**}] [**src-ip-address** *ipv4-address*] [**target-fec-type** **pw-id-fec sender-src-address** *ipv4-address* **remote-dst-address** *ipv4-address* **pw-id** *pw-id* **pw-type** *pw-type*]

NOTE: Options common to all **vccv-trace** cases: [**fc** *fc-name* [**profile** {**in** | **out**]] [**interval** *interval-value*] [**max-fail** *no-response-count*] [**max-ttl** *max-vc-label-ttl*] [**min-ttl** *min-vc-label-ttl*] [**probe-count** *probe-count*] [**size** *octets*] [**timeout** *timeout-value*]

Context

[Tree] (oam vccv-trace)

[Tree] (config>saa>test>type vccv-trace)

Full Context

oam vccv-trace

configure saa test type vccv-trace

Description

This command configures a Virtual Circuit Connectivity Verification (VCCV) automated trace test. The automated VCCV-trace can trace the entire path of a PW with a single command issued at the T-PE or at an S-PE. This is equivalent to LSP-Trace and is an iterative process by which the source T-PE or S-PE node sends successive VCCV-Ping messages with incrementing the TTL value, starting from TTL=1. In each iteration, the T-PE builds the MPLS echo request message in a way like VCCV-Ping. The first message with TTL=1 has the next-hop S-PE T-LDP session source address in the Remote PE Address field in the PW FEC TLV. Each S-PE which terminates and processes the message includes in the MPLS echo reply message the FEC 128 TLV corresponding the PW segment to its downstream node. The source T-PE or S-PE node can then build the next echo reply message with TTL=2 to test the next-next hop for the MS-PW. It copies the FEC TLV it received in the echo reply message into the new echo request message. The process is terminated when the reply is from the egress T-PE or when a time out occurs.

The user can specify to display the result of the VCCV-trace for a fewer number of PW segments of the end-to-end MS-PW path. In this case, the **min-ttl** and **max-ttl** parameters are configured accordingly. However, the T-PE/S-PE node still probes all hops up to **min-ttl** to correctly build the FEC of the subset of segments.

Note that if the **saii-type-2** and **taii-type-2** parameters are specified this command for a FEC129 pseudowire, then these values are used by the vccv-ping echo request message instead of the saii and taii of the spoke SDP indexed by the **spoke-sdp-fec** parameter, or any saii and taii received in a switching point TLV for the pseudowire. Furthermore, the use must enter the saii and taii in accordance with the direction of pseudowire as seen from the node on which the **vccv-trace** command is executed. However, the values of the saii and taii sent in the echo request message are swapped with respect to the user-entered values to match the order in the installed FEC on the targeted node. The output of the command for a FEC129 type 2 pseudowire reflects the order of the saii and taii stored on the targeted node.

This command, when used with the **static** option, configures a VCCV-automated trace test for static MPLS-TP pseudowires used in a VLL service. VCCV trace for MPLS-TP pseudowires always uses the VCCV control word (associated channel header) with either an IPv4 channel type (0x0021) or on-demand CV message channel type (0x0025).

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Note that **vccv-trace static** can only be initiated on a T-PE. Both the echo request and reply messages are send using the same, in-band, encapsulation. The target FEC stack contains a static PW FEC TLV. The contents of this TLV are populated based on the source Node ID, source global ID, and destination global ID and destination node ID taken from the pseudowire context.

The **target-fec-type** option allows the user to perform a vccv-trace to a segment of a MS-PW that does not have the same FEC type as the local segment from the T-PE where the **vccv-trace** command is issued. This is applicable for performing VCCV ping on an MS-PW consists of static PW FEC segments and dynamically signaled PW ID FEC segments.

Parameters

sdp-id:vc-id

Specifies that if a FEC 128 PW is being tested, then its VC ID must be indicated with this parameter. The VC ID needs to exist on the local router and the far-end peer needs to indicate that it supports VCCV to allow the user to send vccv-ping message.

Values sdp-id: 1 to 32767

vc-id: 1 to 4294967295

reply-mode {ip-routed | control-channel}

Indicates to the far end, the method to send the reply message. The option **ip-routed** indicates an out-of-band reply mode using the vccv control channel. The option **control-channel** indicates an in-band reply mode using the vccv control channel.

Default control-channel

target-fec-type

Specifies the FEC type for a remote PW segment targeted by a VCCV Ping echo request. This parameter is used if VCCV Ping is used along a MS-PW where a static MPLS-TP PW segment using the static PW FEC is switched to a T-LDP signaled segment using the PW ID FEC (FEC128), or vice versa, thus requiring the user to explicitly specify a target FEC that is different from the local segment FEC.

Values **pw-id-fec** — Indicates that FEC element for the remote target PW segment is of type PW ID (FEC128).

static-pw-fec — Indicates that FEC element for the remote target PW segment is of type Static PW FEC.

attachment-group-identifier

Specifies the attachment group identifier for the target FEC. This parameter is only valid in combination with the **target-fec-type static-pw-fec**.

Values 0 to 4,294,967,295

pw-path-id-saii *global-id:node-id:ac-id*

Specifies the SAII of the target FEC. This parameter is only valid in combination with the **target-fec-type** *static-pw-fec*.

global-id — Specifies the global ID of the SAII of the targeted static PW FEC element.

Values 0 to 4294967295

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Default 0

node-id — Specifies the node ID on far end T-PE that the pseudowire being tested is associated with.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

ac-id — Specifies an unsigned integer representing a locally unique SAII for the pseudowire being tested at the far end T-PE.

Values 1 to 4294967295

pw-path-id-taii *global-id:node-id:ac-id*

Specifies the SAII of the target FEC. This parameter is only valid in combination with the **target-fec-type** *static-pw-fec*.

global-id — Specifies the global ID of the SAII of the targeted static PW FEC element.

Values 0 to 4294967295

Default 0

node-id — Specifies the node ID of the far-end T-PE that the pseudowire being tested is associated with.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

ac-id — Specifies an unsigned integer representing a locally unique SAII for the pseudowire being tested at the far end T-PE.

Values 1 to 4294967295

saii-type2 *global-id:prefix:ac-id*

If a FEC129 AII Type 2 pseudowire is being tested, then the source attachment individual identifier (SAII) must be indicated.

The **saii-type2** parameter is mutually exclusive with the **sdp-id:vc-id** parameter.

global-id — Specifies the global ID of this T-PE node.

Values 1 to 4294967295

prefix — Specifies the prefix on this T-PE node that the spoke SDP is associated with.

ac-id — Specifies an unsigned integer representing a locally unique identifier for the spoke SDP.

Values 1 to 4294967295

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taii-type2 ***global-id:prefix:ac-id***

Specifies that if a FEC129 AII Type 2 pseudowire is being tested, then the target attachment individual identifier (TAII) must be indicated. The **taii-type2** parameter is mutually exclusive with *sdp-id:vc-id*.

global-id — Specifies the global ID of the far end T-PE of the FEC129 pseudowire.

Values 0 to 4294967295

node-id — Specifies the node ID on far end T-PE that the pseudowire being tested is associated with.

Values ipv4-formatted address: a.b.c.d

1 to 4294967295

ac-id — Specifies an unsigned integer representing a locally unique TAII for the pseudowire being tested at the far end T-PE.

Values 1 to 4294967295

spoke-sdp-fec-id

Specifies that if a FEC 129 PW is being tested, then its *spoke-sdp-fec-id* must be indicated with this parameter. The **spoke-sdp-fec-id** needs to exist on the local router and the far-end peer needs to indicate that it supports VCCV to allow the user to send vccv-ping message.

spoke-sdp-fec is mutually exclusive with the *sdp-id:vc-id* parameter.

Values 1 to 4294967295

assoc-channel {ipv4 | non-ip}

Specifies the associated channel encapsulation format to use for the VCCV trace echo request and echo reply packet for a PW that uses the static PW FEC. An associated channel type of ipv4 must be used if a vccv-ping is performed to a remote segment of a different FEC type.

Values ipv4 – IPv4 encapsulation in an IPv4 pseudowire associated channel (channel type 0x0021)

non-ip – MPLS-TP encapsulation without UDP/IP headers, in pseudowire associated channel using channel type 0x025.

Default non-ip

src-ip-address ***ipv4-address***

Specifies the 4-octet IPv4 address of the source node.

Values a.b.c.d

sender-src-address ***ipv4-address***

Specifies the 4-octet IPv4 address of the node originating the VCCV trace.

Values a.b.c.d

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remote-dst-address ***ipv4-address***

Specifies the 4-octet IPv4 address of the far end node that is a target of the VCCV Ping echo request. This parameter is only valid in combination with the **target-fec-type** *pw-id-fec*.

Values a.b.c.d

pw-id

Specifies the pseudowire ID to be used for performing a VCCV ping operation. The pseudowire ID is a non-zero 32-bit connection ID required by the FEC 128, as defined in RFC 8029, Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures.

Values 1 to 4294967295

pw-type

Specifies the PW type of the PW segment targeted on the far end node. This field must be included to populate the PW type field of the PW ID FEC in the FEC static TLV, when the far end FEC type is different form the local FEC type and the **target-fec-type** is **pw-id-fec**.

Values atm-cell (=3), atm-sdu (=2), atm-vcc (=9), atm-vpc (=10), cesopsn (=21), cesopsn-cas (=23), ether (=5), satop-e1 (=17), satop-t1 (=18), 1 to 65535

fc-name

Specifies the FC and profile parameters are used to indicate the forwarding class of the VCCV trace echo request packets. The actual forwarding class encoding is controlled by the network egress LSP-EXP mappings.

The LSP-EXP mappings on the receive network interface controls the mapping back to the internal forwarding class used by the far-end router that receives the message request. The egress mappings of the egress network interface on the far-end router controls the forwarding class markings on the return reply message. The LSP-EXP mappings on the receive network interface controls the mapping of the message reply at the originating router.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

When an MPLS echo request packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the specified FC and profile parameter values. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface. When the MPLS echo request packet is received on the responding node, The FC and profile parameter values are dictated by the LSP-EXP mappings of the incoming interface.

When an MPLS echo reply packet is generated in CPM and is forwarded to the outgoing interface, the packet is queued in the egress network queue corresponding to the FC and profile parameter values determined by the classification of the echo request packet, which is being replied to, at the incoming interface. The marking of the packet's EXP is dictated by the LSP-EXP mappings on the outgoing interface.

The ToS byte is not modified. Table 181: vccv trace Request Packet and Behavior summarizes this behavior.

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Table 181: vccv trace Request Packet and Behavior

CPM (sender node)	Echo request packet: • packet {tos=1, fc1, profile1} • fc1 and profile1 are as entered by user in OAM command or default values • tos1 as per mapping of {fc1, profile1} to IP precedence in network egress QoS policy of outgoing interface
Outgoing interface (sender node)	Echo request packet: • packet queued as {fc1, profile1} • ToS field=tos1 not remarked • EXP=exp1, as per mapping of {fc1, profile1} to EXP in network egress QoS policy of outgoing interface
Incoming interface (responder node)	Echo request packet: • packet {tos1, exp1} • exp1 mapped to {fc2, profile2} as per classification in network QoS policy of incoming interface
CPM (responder node)	Echo reply packet: • packet{tos=1, fc2, profile2}
Outgoing interface (responder node)	Echo reply packet: • packet queued as {fc2, profile2} • ToS filed= tos1 not remarked (reply inband or out-of-band) • EXP=exp2, if reply is inband, remarked as per mapping of {fc2, profile2} to EXP in network egress QoS policy of outgoing interface
Incoming interface (sender node)	Echo reply packet: • packet {tos1, exp2} • exp2 mapped to {fc1, profile1} as per classification in network QoS policy of incoming interface

profile {in | out}

Specifies the profile state of the VCCV trace echo request packet.

Default out

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interval-value

Specifies the interval parameter in seconds, expressed as a decimal integer. This parameter is used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the interval is set to 1 second, and the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 255

Default 1

no-response-count

Specifies the maximum number of consecutive VCCV trace echo requests, expressed as a decimal integer that do not receive a reply before the trace operation fails for a given TTL value.

Values 1 to 255

Default 5

max-vc-label-ttl

Specifies the TTL value for the VC label of the echo request message for the last hop of the MS-PW for which the results are to be displayed. This is expressed as a decimal integer. The outer label TTL is still set to the default regardless of the value of the VC label.

Values 1 to 255

Default 8

min-vc-label-ttl

Specifies the TTL value for the VC label of the echo request message for the first hop of the MS-PW for which the results are to be displayed. This is expressed as a decimal integer. Note that the outer label TTL is still set to the default regardless of the value of the VC label.

Values 1 to 255

Default 1

probe-count

Specifies the number of VCCV trace echo request messages to send per TTL value.

Values 1 to 10

Default 1

octets

Specifies the size in octets, expressed as a decimal integer, of the MPLS echo request packet, including the IP header but not the label stack. The request pay-load is padded

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with zeros to the specified size. An OAM command is not failed if the user enters a size lower than the minimum required to build the packet for the echo request message. The payload is automatically padded to meet the minimum size.

Values 1 to 9786

Default 1

timeout-value

Specifies the *timeout* parameter, in seconds, expressed as a decimal integer. This value is used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response are not received. A **request timeout** message is displayed by the CLI for each message request sent that expires. Any response received after the request times out is silently discarded.

Values 1 to 60

Default 3

Platforms

All

Output

Output Example

```
*A:138.120.214.60# oam vccv-trace 1:33
>>>>>>> 22.10.R1
VCCV-TRACE 1:33  with 88 bytes of MPLS payload
1  1.1.63.63  rtt<10ms rc=8(DSRtrMatchLabel)
2  1.1.62.62  rtt<10ms rc=8(DSRtrMatchLabel)
3  1.1.61.61  rtt<10ms rc=3(EgressRtr)
```

Trace with detail:

```
*A:138.120.214.60>oam vccv-trace 1:33 detail

VCCV-TRACE 1:33  with 88 bytes of MPLS payload
1  1.1.63.63  rtt<10ms rc=8(DSRtrMatchLabel)
   Next segment: VcId=34 VcType=AAL5SDU Source=1.1.63.63 Remote=1.1.62.62
2  1.1.62.62  rtt<10ms rc=8(DSRtrMatchLabel)
   Next segment: VcId=35 VcType=AAL5SDU Source=1.1.62.62 Remote=1.1.61.61
3  1.1.61.61  rtt<10ms rc=3(EgressRtr)
SAA:

*A:multisim3>config>saa# info
----------------------------------------------
        test "vt1"
            shutdown
            type
                vccv-trace 1:2 fc "af" profile in timeout 2 interval 3 size 200
min-ttl 2 max-ttl 5 max-fail 2 probe-count 3
            exit
        exit
```


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```
..
-------------------------------------------
*A:multisim3>config>saa#
```

50.24 ve-id

ve-id

Syntax

ve-id *value*

no ve-id

Context

[Tree] (config>service>epipe>bgp-vpws>ve-name ve-id)

[Tree] (config>service>epipe>bgp-vpws>remote-ve-name ve-id)

Full Context

configure service epipe bgp-vpws ve-name ve-id

configure service epipe bgp-vpws remote-ve-name ve-id

Description

This command configures a ve-id for either the local VPWS instance when configured under the ve-name, or for the remote VPWS instance when configured under the remote-ve-name.

A single ve-id can be configured per ve-name or remote-ve-name. The ve-id can be changed without shutting down the VPWS instance. When the ve-name ve-id changes, BGP withdraws the previously advertised route and sends a route-refresh to all the peers which would result in reception of all the remote routes again. The old PWs are removed and new ones are instantiated for the new ve-id value.

When the remote-ve-name ve-id changes, BGP withdraws the previously advertised route and send a new update matching the new ve-id. The old pseudowires are removed and new ones are instantiated for the new ve-id value.

NLRIs received whose advertised ve-id does not match the list of ve-ids configured under the remote ve-id will not have a spoke SDP binding auto-created but will remain in the BGP routing table but not in the Layer 2 route table. A change in the locally configured ve-ids may result in auto-sdp-bindings either being deleted or created, based on the new matching results.

Each ve-id configured within a service must be unique.

The **no** form of this command removes the configured ve-id. It can be used just when the BGP VPWS status is shutdown. The **no shutdown** command cannot be used if there is no ve-id configured.

Default

no ve-id

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Parameters

value

A two bytes identifier that represents the local or remote VPWS instance and is advertised through the BGP NLRI.

Values 1 to 65535

Platforms

All

ve-id

Syntax

ve-id *ve-id-value*

no ve-id

Context

[Tree] (config>service>vpls>bgp-vpls>ve-name ve-id)

Full Context

configure service vpls bgp-vpls ve-name ve-id

Description

This command configures a ve-id. Just one ve-id can be configured per BGP VPLS instance. The VE-ID can be changed without shutting down the VPLS Instance. When the VE-ID changes, BGP is withdrawing its own previously advertised routes and sending a route-refresh to all the peers which would result in reception of all the remote routes again. The old pseudowires are removed and new ones are instantiated for the new VE-ID value.

The **no** form of this command removes the configured ve-id. It can be used just when the BGP VPLS status is shutdown. The **no shutdown** command cannot be used if there is no ve-id configured.

Default

no ve-id

Parameters

value

Specifies a two-byte identifier that represents the local instance in a VPLS and is advertised through the BGP NLRI. Must be lower or equal with the max-ve-id.

Values 1 to 65535

Platforms

All

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50.25 ve-name

ve-name

Syntax

[**no**] **ve-name** *name*

Context

[Tree] (config>service>epipe>bgp-vpws ve-name)

Full Context

configure service epipe bgp-vpws ve-name

Description

This command configures the name of the local VPWS instance in this service.

The **no** form of this command removes the ve-name.

Parameters

name

Specifies a site name up to 32 characters in length.

Platforms

All

ve-name

Syntax

ve-name *name*

no ve-name

Context

[Tree] (config>service>vpls>bgp-vpls ve-name)

Full Context

configure service vpls bgp-vpls ve-name

Description

This command creates or edits a ve-name. Just one ve-name can be created per BGP VPLS instance.

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The **no** form of this command removes the configured ve-name from the bgp vpls node. It can be used only when the BGP VPLS status is shutdown. The **no shutdown** command cannot be used if there is no ve-name configured.

Default

no ve-name

Parameters

name

Specifies the A character string to identify the VPLS Edge instance up to 32 characters in length

Platforms

All

50.26 vendor-id

vendor-id

Syntax

vendor-id *vendor-id*

no vendor-id

Context

[Tree] (config>system>ned>profile vendor-id)

Full Context

configure system network-element-discovery profile vendor-id

Description

This command configures the vendor ID to be advertised.

The **no** form of this command reverts to the default value.

Default

vendor-id "Nokia"

Parameters

vendor-id

Specifies the vendor ID to be advertised with the profile, up to 255 characters.

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Platforms

All

50.27 vendor-specific-option

vendor-specific-option

Syntax

[**no**] **vendor-specific-option**

Context

[Tree] (config>service>vpls>sap>dhcp>option vendor-specific-option)

[Tree] (config>service>ies>if>dhcp>option vendor-specific-option)

[Tree] (config>service>ies>sub-if>grp-if>dhcp>option vendor-specific-option)

[Tree] (config>service>vprn>if>dhcp>option vendor-specific-option)

[Tree] (config>service>ies>sub-if>dhcp vendor-specific-option)

[Tree] (config>subscr-mgmt>msap-policy>vpls-only-sap-parameters>dhcp>option vendor-specific-option)

[Tree] (config>service>vprn>sub-if>grp-if>dhcp>option vendor-specific-option)

Full Context

configure service vpls sap dhcp option vendor-specific-option

configure service ies interface dhcp option vendor-specific-option

configure service ies subscriber-interface group-interface dhcp option vendor-specific-option

configure service vprn interface dhcp option vendor-specific-option

configure service ies subscriber-interface dhcp vendor-specific-option

configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option

configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option

Description

This command enables the Nokia vendor-specific sub-option of the DHCP relay packet.

The **no** form of this command reverts to the default.

Platforms

All

- configure service ies interface dhcp option vendor-specific-option
- configure service vpls sap dhcp option vendor-specific-option
- configure service vprn interface dhcp option vendor-specific-option

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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- configure service ies subscriber-interface group-interface dhcp option vendor-specific-option
- configure subscriber-mgmt msap-policy vpls-only-sap-parameters dhcp option vendor-specific-option
- configure service ies subscriber-interface dhcp vendor-specific-option
- configure service vprn subscriber-interface group-interface dhcp option vendor-specific-option

vendor-specific-option

Syntax

[**no**] **vendor-specific-option**

Context

[Tree] (config>router>if>dhcp>option vendor-specific-option)

Full Context

configure router interface dhcp option vendor-specific-option

Description

This command configures the Nokia vendor specific suboption of the DHCP relay packet.

Platforms

All

50.28 vendor-support

vendor-support

Syntax

vendor-support [**three-gpp** | **vodafone**]

no vendor-support

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy vendor-support)

Full Context

configure subscriber-mgmt diameter-application-policy gy vendor-support

Description

In a diameter peer policy, this command specifies the vendor support announced in the capability exchange. In a Gy diameter application policy, this command specifies the vendor specific attributes for the user sessions.

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The **no** form of this command reverts to the default value.

Default

vendor-support three-gpp

Parameters

three-gpp

Specifies the 3GPP diameter policy vendor type.

vodafone

Specifies the vodafone diameter policy vendor type.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.29 version

version

Syntax

version *version*

no version

Context

[Tree] (config>subscr-mgmt>igmp-policy version)

Full Context

configure subscriber-mgmt igmp-policy version

Description

This command configures the version of IGMP.

The **no** form of this command reverts to the default value.

Default

version 3

Parameters

version

Specifies the IGMP version.

Values 1, 2 or 3

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

version

Syntax

version *version*

no version

Context

[Tree] (config>subscr-mgmt>msap-policy>vpls-only-sap-parameters>igmp-snp version)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters igmp-snooping version

Description

This command specifies the version of IGMP which is running on an MSAP. This object can be used to configure a router capable of running either value. For IGMP to function correctly, all routers on a LAN must be configured to run the same version of IGMP on that LAN.

When the **send-query** command is configured, all type of queries generated are of the configured **version**. If a report of a version higher than the configured version is received, the report gets dropped and a new "wrong version" counter is incremented.

If the **send-query** command is not configured, the **version** command has no effect. The version used on that SAP or SDP is the version of the querier. This implies that, for example, when there is a v2 querier, a v3 group or group-source specific query when a host wants to leave a certain group will never be sent.

Default

version 3

Parameters

version

Specifies the IGMP version.

Values 1, 2, 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

version

Syntax

version *version*

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no version

Context

[Tree] (config>subscr-mgmt>mld-policy version)

Full Context

configure subscriber-mgmt mld-policy version

Description

This command configures the MLD version.

The **no** form of this command reverts to the default.

Default

version 2

Parameters

version

Specifies the MLD version.

Values 1, 2

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

version

Syntax

version *version*

no version

Context

[Tree] (config>router>wpp>portals>portal version)

[Tree] (config>service>vprn>wpp>portals>portal version)

Full Context

configure router wpp portals portal version

configure service vprn wpp portals portal version

Description

This command configure the protocol version that is expected by the WPP portal.

The **no** form of this command reverts to the default.

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Default

version 1

Parameters

version

Specifies the protocol version.

Values 1, 2

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

version

Syntax

version *version*

no version

Context

[Tree] (config>service>vpls>sap>igmp-snooping version)

[Tree] (config>service>vpls>spoke-sdp>mld-snooping version)

[Tree] (config>service>vpls>sap>mld-snooping version)

[Tree] (config>service>vpls>mesh-sdp>mld-snooping version)

[Tree] (config>service>vpls>mesh-sdp>igmp-snooping version)

[Tree] (config>service>vpls>spoke-sdp>igmp-snooping version)

Full Context

configure service vpls sap igmp-snooping version

configure service vpls spoke-sdp mld-snooping version

configure service vpls sap mld-snooping version

configure service vpls mesh-sdp mld-snooping version

configure service vpls mesh-sdp igmp-snooping version

configure service vpls spoke-sdp igmp-snooping version

Description

This command specifies the version of IGMP or MLD which is running on this SAP or SDP. This object can be used to configure a router capable of running either value. For IGMP or MLD to function correctly, all routers on a LAN must be configured to run the same version of IGMP or MLD on that LAN.

When the **send-query** command is configured, all type of queries generate ourselves are of the configured **version**. If a report of a version higher than the configured version is received, the report gets dropped and a new "wrong version" counter is incremented.

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If the **send-query** command is not configured, the **version** command has no effect. The version used on that SAP or SDP is the version of the querier. This implies that, for example, when there is a v2 querier, a v3 group or group-source specific query when a host wants to leave a certain group will never be sent.

Parameters

version

Specifies the IGMP or MLD version

Values 1, 2, 3

Platforms

All

version

Syntax

version *version*

no version

Context

[Tree] (config>service>vprn>igmp>grp-if version)

Full Context

configure service vprn igmp group-interface version

Description

This command configures the version of IGMP.

The **no** form of this command removes the version.

Parameters

version

Specifies the IGMP version.

Values 1, 2, or 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

version

Syntax

version *version*

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no version

Context

[Tree] (config>service>vprn>igmp>if version)

Full Context

configure service vprn igmp interface version

Description

This command specifies the IGMP version. If routers run different versions of IGMP, they will negotiate the lowest common version of IGMP that is supported by hosts on their subnet and operate in that version. For IGMP to function correctly, all routers on a LAN should be configured to run the same version of IGMP on that LAN.

For IGMPv3, a multicast router that is also a group member performs both parts of IGMPv3, receiving and responding to its own IGMP message transmissions as well as those of its neighbors.

Default

version 3

Parameters

version

Specifies the IGMP version number.

Values 1, 2, 3

Platforms

All

version

Syntax

version *version*

no version

Context

[Tree] (config>service>vprn>mld>if version)

Full Context

configure service vprn mld interface version

Description

This command specifies the MLD version. If routers run different versions, they will negotiate the lowest common version of MLD that is supported by hosts on their subnet and operate in that version. For MLD to function correctly, all routers on a LAN should be configured to run the same version of MLD on that LAN.

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Default

version 2

Parameters

version

Specifies the MLD version number.

Values 1, 2

Platforms

All

version

Syntax

version minimum *minimum* **maximum** *maximum*

no version

Context

[Tree] (config>service>nat>pcp-server-policy version)

Full Context

configure service nat pcp-server-policy version

Description

This command configures the accepted protocol version range.

Default

version minimum 1 maximum 1

Parameters

minimum

Specifies the minimum protocol version supported by the PCP servers using this PCP policy.

Values 1 to 255

maximum

Specifies the maximum protocol version supported by the PCP servers using this PCP policy.

Values 1 to 255

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

version

Syntax

version *version*

no version

Context

[Tree] (config>router>igmp>group-interface version)

[Tree] (config>router>igmp>if version)

Full Context

configure router igmp group-interface version

configure router igmp interface version

Description

This command specifies the IGMP version. If routers run different versions of IGMP, they will negotiate the lowest common version of IGMP that is supported by hosts on their subnet and operate in that version. For IGMP to function correctly, all routers on a LAN should be configured to run the same version of IGMP on that LAN.

For IGMPv3, a multicast router that is also a group member performs both parts of IGMPv3, receiving and responding to its own IGMP message transmissions as well as those of its neighbors.

Default

version 3

Parameters

version

Specifies the IGMP version number.

Values 1, 2, 3

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router igmp group-interface version

All

- configure router igmp interface version

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version

Syntax

version *version*

no version

Context

[Tree] (config>router>mld>interface version)

[Tree] (config>router>mld>group-interface version)

Full Context

configure router mld interface version

configure router mld group-interface version

Description

This command specifies the MLD version. If routers run different versions of MLD, they will negotiate the lowest common version of MLD that is supported by hosts on their subnet and operate in that version. For MLD to function correctly, all routers on a LAN should be configured to run the same version of MLD on that LAN.

Default

version 2

Parameters

version

Specifies the MLD version number.

Values 1, 2

Platforms

All

- configure router mld interface version

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure router mld group-interface version

version

Syntax

version *version*

no version

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Context

[Tree] (config>service>pw-template>igmp-snooping version)

Full Context

configure service pw-template igmp-snooping version

Description

This command specifies the version of IGMP. This object can be used to configure a router capable of running either value. For IGMP to function correctly, all routers on a LAN must be configured to run the same version of IGMP on that LAN.

When the **send-query** command is configured, all type of queries generated are of the configured **version**. If a report of a version higher than the configured version is received, the report gets dropped and a new "wrong version" counter is incremented.

If the **send-query** command is not configured, the **version** command has no effect. The version used on that SAP or SDP is the version of the querier. This implies that, for example, when there is a v2 querier, a v3 group or group-source specific query when a host wants to leave a certain group is never sent.

Default

version 3

Parameters

version

Specifies the IGMP version.

Values 1, 2, 3

Platforms

All

version

Syntax

version *file-url* [**check**] [**router** *router-instance*]

Context

[Tree] (file version)

Full Context

file version

Description

This command displays the version of an SR OS *.tim image file.

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Parameters

file-url

Specifies the file name of the target file.

Values

local-url	[*cflash-id*/][*file-path*]
	up to 200 characters, including *cflash-id*
	directory length up to 99 characters each
remote-url	[{ftp://| tftp://}*login*:*pswd*@*remote-locn*/ [*file-path*]
	up to 247 characters
	directory length 199 characters each
remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - up to 32 characters, for link local addresses
cflash-id	cf1:, cf1-A:, cf1-B:

check

Validates the SR OS *.tim image file.

router-instance

Specifies the router name or the VPRN service ID.

Values

router-instance:	*router-name* | *vprn-svc-id*
router-name:	"Base" | "management" | "vpls-management"
vprn-svc-id:	1 to 2147483647

Platforms

All

Output

The following output is an example of SR OS version information.

Output Example

```
A:Redundancy>file cf3:\ # version  ftp://test:1234@192.0.2.79/usr/global/images/6.1/R4/cpm.tim
```


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```
TiMOS-C-6.1.R4 for 7750
Thu Oct 30 14:21:09 PDT 2018 by builder in /relx.1/b1/Rx/panos/main
A:Redundancy>file cf3:\ # version check ftp://test:1234@192.0.2.79/usr/global/
images/6.1/R4/cpm.tim
TiMOS-C-6.1.R4 for 7750
Thu Oct 30 14:21:09 PDT 2018 by builder in /relx.1/b1/Rx/panos/main
Validation successful
A:Redundancy>file cf3:\ #
```

50.30 vi

vi

Syntax

vi *local-url*

Context

[Tree] (file vi)

Full Context

file vi

Description

Edit files with the text editor. For more information, refer to "Text Editor” in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Basic System Configuration Guide*.

Parameters

local-url

Specifies the local source file or directory.

Values *[cflash-id/]file-path*

cflash-id: cf1:, cf2:, cf3:

Platforms

All

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50.31 vid-pid-absent

vid-pid-absent

Syntax

vid-pid-absent *milli-seconds*

no vid-pid-absent

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video>analyzer>alarms vid-pid-absent)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video>analyzer>alarms vid-pid-absent)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video>analyzer>alarms vid-pid-absent)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video analyzer alarms vid-pid-absent

configure mcast-management multicast-info-policy bundle channel video analyzer alarms vid-pid-absent

configure mcast-management multicast-info-policy bundle video analyzer alarms vid-pid-absent

Description

This command configures the analyzer to check for a VID PID within the specified time interval.

Default

no vid-pid-absent

Parameters

milli-seconds

Specifies the time, in milliseconds, for which to check for a VID PID.

Values 100 to 5000

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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50.32 video

video

Syntax

video

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override video)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle video)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel video)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video

configure mcast-management multicast-info-policy bundle video

configure mcast-management multicast-info-policy bundle channel video

Description

Commands in this context configure video parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

50.33 video-group

video-group

Syntax

video-group *video-group-id* [**create**]

no video-group *video-group-id*

Context

[Tree] (config>isa video-group)

Full Context

configure isa video-group

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Description

This command configures an ISA video group.

Parameters

video-group-id

Specifies a video group ID.

Values 1 to 4

create

Keyword required when first creating the configuration context. Once the context is created, one can navigate into the context without the **create** keyword.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

video-group

Syntax

video-group *video-group-id*

video-group disable

no video-group

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>source-override>video video-group)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>channel>video video-group)

[Tree] (config>mcast-mgmt>mcast-info-plcy>bundle>video video-group)

Full Context

configure mcast-management multicast-info-policy bundle channel source-override video video-group

configure mcast-management multicast-info-policy bundle channel video video-group

configure mcast-management multicast-info-policy bundle video video-group

Description

This command assigns a video group ID to the channel.

Parameters

video-group-id

specifies the identifier for this video group. The video group must have been configured in the **config>isa** context.

Values 1 to 4

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disable

Explicitly disables the video group within the policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

50.34 video-interface

video-interface

Syntax

video-interface *ip-address* [**create**]

no video-interface *ip-address*

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy>video-policy video-interface)

Full Context

configure mcast-management multicast-info-policy video-policy video-interface

Description

This command creates a video interface policy context that correlates to the IP address assigned for a video interface. This interface is created in a subscriber service to which the multicast information policy is assigned. If the specified IP address does not correlate to a video interface ip address, the parameters defined within this context have no effect.

The **no** form of the command deletes the video interface policy context.

Parameters

ip-address

The IP address of a video interface provisioned within the context of a service to which the Multicast Information Policy is assigned. If the IP address does not match the IP address assigned to a video interface, the parameters defined within this context have no effect.

create

Mandatory keyword needed when creating a new video interface within the video policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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video-interface

Syntax

video-interface *ip-int-name* [**create**]

no video-interface *ip-int-name*

Context

[Tree] (config>service>ies video-interface)

[Tree] (config>service>vprn video-interface)

Full Context

configure service ies video-interface

configure service vprn video-interface

Description

This command creates a video interface within the service. The video interface and associated IP addresses are the addresses to which clients within the service will send requests. The video interface must be associated with an ISA group using the video-sap command and have IP addresses for it to be functional.

The **no** form of the command deletes the video interface. The video interface must be administratively shut down before issuing the **no video-interface** command.

Parameters

ip-int-name

Specifies the name of the video interface, up to 32 characters. An interface name cannot be in the form of an IP address. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

create

This keyword is mandatory when creating a video interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

video-interface

Syntax

[**no**] **video-interface** *video-ip-int-name*

Context

[Tree] (debug>service>id video-interface)

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Full Context

debug service id video-interface

Description

This command enables debugging for video interfaces.

The **no** form of the command disables the video interface debugging.

Parameters

video-ip-int-name

Specifies the video interface name.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

50.35 video-policy

video-policy

Syntax

video-policy

Context

[Tree] (config>mcast-mgmt>mcast-info-plcy video-policy)

Full Context

configure mcast-management multicast-info-policy video-policy

Description

Commands in this context configure video interfaces and video services.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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50.36 video-sap

video-sap

Syntax

video-sap *video-group-id*

no video-sap

Context

[Tree] (config>service>ies>video-interface video-sap)

[Tree] (config>service>vprn>video-interface video-sap)

Full Context

configure service ies video-interface video-sap

configure service vprn video-interface video-sap

Description

This command configures a service video interface association with a video group.

The **no** form of the command removes the video group association.

Parameters

video-group-id

Specifies the video group ID number.

Values 1 to 4

Platforms

7450 ESS, 7750 SR, 7750 SR-s

50.37 view

view

Syntax

view [*line*]

Context

[Tree] (candidate view)

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Full Context

candidate view

Description

This command displays the candidate configuration along with line numbers that can be used for editing the candidate configuration.

Parameters

line

Displays the candidate configuration starting at the point indicated by the following options (the display is not limited to the current CLI context/branch).

Values line, offset, **first**, **edit-point**, **last**

line	absolute line number
offset	relative line number to current edit point. Prefixed with '+' or '-'
first	keyword - first line
edit-point	keyword - current edit point
last	keyword - last line that is not 'exit'

Platforms

All

view

Syntax

view [*checkpoint-id* | **rescue** | **latest-rb**]

Context

[Tree] (admin>rollback view)

Full Context

admin rollback view

Description

This command displays the checkpoint.

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Parameters

latest-rb

Specifies the most recently created rollback checkpoint (corresponds to the file-url.rb rollback checkpoint file).

checkpoint-id

Indicates rollback checkpoint file to be viewed. Checkpoint-id of 1 corresponds to the file-url.rb.1 rollback checkpoint file. The higher the id, the older the checkpoint. Max is the highest rollback checkpoint supported or configured.

Values 1 to 9

rescue

Displays the rescue configuration.

Platforms

All

view

Syntax

view {**bootup-cfg** | **active-cfg** | **candidate-cfg** | **latest-rb**| *checkpoint-id* | **rescue**}

Context

[Tree] (admin view)

Full Context

admin view

Description

The context to configure administrative system viewing parameters. Only authorized users can execute the commands in the **admin** context.

Parameters

bootup-cfg

Specifies the bootup configuration.

active-cfg

Specifies current running configuration.

candidate-cfg

Specifies candidate configuration.

latest-rb

Specifies the latest configuration.

checkpoint-id

Specifies a specific checkpoint file configuration.

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Values 1 to 9

rescue

Specifies a rescue checkpoint configuration.

Platforms

All

view

Syntax

view *view-name* **subtree** *oid-value*

no view *view-name* [**subtree** *oid-value*]

Context

[Tree] (config>system>security>snmp view)

Full Context

configure system security snmp view

Description

This command configures a view. Views control the accessibility of a MIB object within the configured MIB view and subtree. Object identifiers (OIDs) uniquely identify MIB objects in the subtree. OIDs are organized hierarchically with specific values assigned by different organizations.

Once the subtree (OID) is identified, a mask can be created to select the portions of the subtree to be included or excluded for access using this particular view. See the **mask** command.

The view(s) configured with this command can subsequently be used in read, write, and notify commands which are used to assign specific access group permissions to created views and assigned to particular access groups.

Multiple subtrees can be added or removed from a view name to tailor a view to the requirements of the user access group.

A subtree statement matches (covers) any OID that is a descendant of the specified OID value. For example, the subtree 1.3.6.1 matches 1.3.6.1.x (for any value of x), 1.3.6.1.x.y (for any values of x & y), and so on.

Subtrees that are not covered by **view** statements are not accessible in the view.

Per RFC 2575, *View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP),* each MIB view is defined by two sets of view subtrees, the included view subtrees, and the excluded view subtrees (see the **included** and **excluded** parameters of the **mask** command). Every such view subtree, both the included and the excluded ones, are defined in this table. To determine if a particular object instance is in a particular MIB view, compare the object instance's OID with each of the MIB view's active entries in this table. If none match, then the object instance is not in the MIB view. If one or more match, then the object instance is included in, or excluded from, the MIB view according to the value of vacmViewTreeFamilyType in the entry whose value of vacmViewTreeFamilySubtree has the most sub-identifiers.

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The **no view** *view-name* command removes a view and all subtrees.

The **no view** *view-name* **subtree** *oid-value* removes a sub-tree from the view name.

Parameters

view-name

Specifies a view name, up to 32 characters.

oid-value

Specifies the object identifier (OID) value for the *view-name*. This value, for example, 1.3.6.1.6.3.11.2.1, combined with the mask and include and exclude statements, configures the access available in the view.

It is possible to have a view with different subtrees with their own masks and include and exclude statements. This allows for customizing visibility and write capabilities to specific user requirements**.**

Platforms

All

50.38 virtual-chassis-identifier

virtual-chassis-identifier

Syntax

virtual-chassis-identifier *dual-homing-key*

no virtual-chassis-identifier

Context

[Tree] (config>subscr-mgmt>wlan-gw virtual-chassis-identifier)

Full Context

configure subscriber-mgmt wlan-gw virtual-chassis-identifier

Description

This command specifies a virtual chassis identifier that can link two wlan-gws together.

The **no** form of this command removes the dual-homing-key.

Parameters

dual-homing-key

Specifies the name of the dual homing key, up to 16 characters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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50.39 virtual-link

virtual-link

Syntax

[**no**] **virtual-link** *router-id* **transit-area** *area-id*

Context

[Tree] (config>service>vprn>ospf3>area virtual-link)

[Tree] (config>service>vprn>ospf>area virtual-link)

Full Context

configure service vprn ospf3 area virtual-link

configure service vprn ospf area virtual-link

Description

This command configures a virtual link to connect area border routers to the backbone via a virtual link.

The *router-id* specified in this command must be associated with the virtual neighbor. The transit area cannot be a stub area or a Not So Stubby Area (NSSA).

The **no** form of this command deletes the virtual link.

Default

No virtual link is defined.

Parameters

router-id

The router ID of the virtual neighbor in IP address dotted decimal notation.

transit-area ***area-id***

The area-id specified identifies the transit area that links the backbone area with the area that has no physical connection with the backbone.

Platforms

All

virtual-link

Syntax

[**no**] **virtual-link** *router-id* **transit-area** *area-id*

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Context

[Tree] (config>router>ospf3>area virtual-link)

[Tree] (config>router>ospf>area virtual-link)

Full Context

configure router ospf3 area virtual-link

configure router ospf area virtual-link

Description

This command configures a virtual link to connect area border routers to the backbone via a virtual link.

The *router-id* specified in this command must be associated with the virtual neighbor. The transit area cannot be a stub area or a Not So Stubby Area (NSSA).

The **no** form of this command deletes the virtual link.

By default, no virtual link is defined.

Default

no virtual-link

Parameters

router-id

Specifies the router ID of the virtual neighbor in IP address dotted-decimal notation.

area-id

Specifies the area-id that identifies the transit area that links the backbone area with the area that has no physical connection with the backbone.

Platforms

All

50.40 virtual-neighbor

virtual-neighbor

Syntax

virtual-neighbor [*router-id*]

no virtual-neighbor

Context

[Tree] (debug>router>ospf3 virtual-neighbor)

[Tree] (debug>router>ospf virtual-neighbor)

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Full Context

debug router ospf3 virtual-neighbor

debug router ospf virtual-neighbor

Description

This command enables debugging for an OSPF virtual neighbor.

Parameters

router-id

Specifies the router ID of the virtual neighbor.

Platforms

All

50.41 virtual-scheduler-adjustment

virtual-scheduler-adjustment

Syntax

virtual-scheduler-adjustment

Context

[Tree] (config>card virtual-scheduler-adjustment)

Full Context

configure card virtual-scheduler-adjustment

Description

Commands in this context configure the virtual scheduler processing on the card. This is only applicable to queues and to policers parented to a scheduler.

Platforms

All

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50.42 virtual-subnet

virtual-subnet

Syntax

[**no**] **virtual-subnet**

Context

[Tree] (config>service>vprn>sub-if>dhcp virtual-subnet)

[Tree] (config>service>ies>sub-if>dhcp virtual-subnet)

Full Context

configure service vprn subscriber-interface dhcp virtual-subnet

configure service ies subscriber-interface dhcp virtual-subnet

Description

This command enables a virtual-subnet for DHCPv4 hosts under the subscriber interface. With this command configured, the system will snoop and record the default router address in the DHCP ACK message for the DHCPv4 ESM host. The system could answer ping or traceroute request even if the default router address is not configured on the subscriber-interface.

The **no** form of this command reverts to the default.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.43 vlan

vlan

Syntax

vlan [*vlan-encap*]

Context

[Tree] (config>redundancy>mc>peer>mcr>l3ring>node>cv vlan)

Full Context

configure redundancy multi-chassis peer mc-ring l3-ring ring-node connectivity-verify vlan

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Description

This command specifies the VLAN tag of the SAP used for ring-node connectivity verification of this ring node. It is only meaningful if the value of is not zero.

The **no** form of this command reverts to the default.

Parameters

vlan-encap

Specifies the node cc VLAN IP.

Platforms

All

vlan

Syntax

vlan *tag*

no vlan

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query vlan)

Full Context

configure subscriber-mgmt wlan-gw ue-query vlan

Description

This command enables matching on UEs, based on the VLAN tag within the tunnel, which typically used to indicate an SSID.

The **no** form of this command disables matching on the VLAN.

Default

no vlan

Parameters

tag

Specifies the VLAN tag.

Values 0 to 4096

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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vlan

Syntax

vlan *vlan-encap*

no vlan

Context

[Tree] (config>redundancy>mc>peer>mcr>node>cv vlan)

Full Context

configure redundancy multi-chassis peer mc-ring ring ring-node connectivity-verify vlan

Description

This command specifies the VLAN tag used for the Ring-node Connectivity Verification of this ring node. It is only meaningful if the value of service ID is not zero. A zero value means that no VLAN tag is configured.

Default

no vlan

Parameters

vlan-encap

Specifies the VLAN tag.

Values

vlan-encap:	dot1q	qtag, *
	qinq	qtag1.qtag2, qtag1.*, 0.*
	qtag	0 to 4094
	qtag1	1 to 4094
	qtag2	0 to 4094

Platforms

All

vlan

Syntax

vlan *vlan-id*

no vlan

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Context

[Tree] (cfg>eth-cfm>domain>assoc>bridge vlan)

Full Context

configure eth-cfm domain association bridge-identifier vlan

Description

This command configures the bridge identifier primary VLAN ID. This is informational only, and no verification is done to ensure MEPs on this association are on the configured VLAN.

The **no** form of this command reverts to the default value.

Default

no vlan

Parameters

vlan-id

Specifies a VLAN ID monitored by MA.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

50.44 vlan-aware-bundle

vlan-aware-bundle

Syntax

vlan-aware-bundle *name* [**eth-tag** *value*]

no vlan-aware-bundle

Context

[Tree] (config>service>vpls>bgp-evpn vlan-aware-bundle)

Full Context

configure service vpls bgp-evpn vlan-aware-bundle

Description

This command configures a name that is used to group a bundle of VPLS services (Broadcast Domains) that are part of the same VLAN-aware bundle instance. This name is optional and allows the user to execute **show** commands that are relevant to all the Broadcast Domains in a VLAN-aware bundle service group.

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The optional Ethernet Tag ID can be encoded in the EVPN routes for control-plane interoperability mode with VLAN-aware bundle services. The configuration of a non-default value requires the previous configuration of a VLAN-aware bundle name on the service.

When the Ethernet Tag ID is set to a non-zero value, the EVPN routes advertised for the VPLS service are advertised with this value into the Ethernet Tag ID field of the routes.

On reception of EVPN routes with non-zero Ethernet Tag ID, BGP imports the routes based on the import route target as usual. However, the system checks the received Ethernet Tag ID field and processes only routes whose Ethernet Tag ID matches the local VLAN-aware bundle Ethernet Tag value.

The **no** form of this command removes the configuration.

Parameters

name

Specifies the VLAN-aware bundle name, up to 32 characters.

value

Specifies the Ethernet Tag ID.

Values 1 to 16777215

Platforms

All

50.45 vlan-id

vlan-id

Syntax

vlan-id *service-port-vlan-id*

no vlan-id

Context

[Tree] (config>app-assure>group>evt-log>syslog vlan-id)

Full Context

configure application-assurance group event-log syslog vlan-id

Description

This command configures the service port VLAN ID to be used by application assurance to inject the syslog events inband. This VLAN ID needs also to be configured for application assurance interface.

Default

no vlan-id

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Parameters

service-port-vlan-id

Specifies the service port VLAN identifier.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vlan-id

Syntax

vlan-id *service-port-vlan-id*

no vlan-id

Context

[Tree] (config>app-assure>group>http-redirect>captive-redirect vlan-id)

Full Context

configure application-assurance group http-redirect captive-redirect vlan-id

Description

This command configures the VLAN ID for captive redirect. Captive redirect uses the provisioned VLAN ID to send the HTTP response to subscribers; therefore this VLAN ID must be properly assigned in the same VPN as the subscriber.

Parameters

service-port-vlan-id

Specifies the VLAN ID.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vlan-id

Syntax

vlan-id *service-port-vlan-id*

no vlan-id

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Context

[Tree] (config>app-assure>group>url-filter>icap vlan-id)

Full Context

configure application-assurance group url-filter icap vlan-id

Description

This command configures the VLAN ID on which the ISA-AA is expected to be emitting traffic mapping to a pre-configured aa-interface.

Default

no vlan-id

Parameters

service-port-vlan-id

Specifies the VLAN ID.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vlan-id

Syntax

vlan-id *vlan-id*

no vlan-id

Context

[Tree] (config>app-assure>group>url-filter>web-service vlan-id)

Full Context

configure application-assurance group url-filter web-service vlan-id

Description

This command configures the VLAN ID on which the AA ISA emits the traffic mapping to a preconfigured AA interface.

The **no** form of this command removes the VLAN ID configuration.

Default

no vlan-id

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Parameters

vlan-id

Specifies the VLAN ID to connect to the web service.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vlan-id

Syntax

vlan-id *vlan-id*

no vlan-id

Context

[Tree] (debug>oam>build-packet>packet>field-override>header>dot1q vlan-id)

[Tree] (config>test-oam>build-packet>header>dot1q vlan-id)

Full Context

debug oam build-packet packet field-override header dot1q vlan-id

configure test-oam build-packet header dot1q vlan-id

Description

This command defines the Dot1Q VLAN ID to be used in the test Dot1Q header.

The **no** form of this command removes the VLAN ID value.

Parameters

vlan-id

Specifies the Dot1Q VLAN ID to be used in the test Dot1Q header.

Values 0 to 4095

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vlan-id

Syntax

vlan-id *service-port-vlan-id*

no vlan-id

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Context

[Tree] (config>app-assure>group>cflowd>dir-exp vlan-id)

Full Context

configure application-assurance group cflowd direct-export vlan-id

Description

This command configures the VLAN ID on which the ISA-AA is expected to be emitting traffic.

The **no** form of this command removes the VLAN ID from the configuration.

Default

no vlan-id

Parameters

service-port-vlan-id

Specifies the VLAN ID of the service port.

Values 1 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.46 vlan-mismatch-timeout

vlan-mismatch-timeout

Syntax

vlan-mismatch-timeout *seconds*

no vlan-mismatch-timeout

Context

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>authentication vlan-mismatch-timeout)

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>authentication vlan-mismatch-timeout)

Full Context

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication vlan-mismatch-timeout

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range authentication vlan-mismatch-timeout

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Description

This command configures the timeout value for the RADIUS proxy cache if a packet is received with a non-matching VLAN tag. The new timeout value is the lesser of the **vlan-mismatch-timeout** value and the currently remaining proxy cache timeout value.

The **no** form of this command disables the timeout behavior. The cache timeout value will remain unchanged.

Parameters

seconds

Specifies the timeout value for the RADIUS proxy cache, in seconds.

Values 5 to 60

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.47 vlan-range

vlan-range

Syntax

[**no**] **vlan-range** [*vlan-range*]

Context

[Tree] (config>service>vpls>stp>mst-instance vlan-range)

Full Context

configure service vpls stp mst-instance vlan-range

Description

This command specifies a range of VLANs associated with a certain mst-instance. This range applies to all SAPs of the M-VPLS.

Every VLAN range that is not assigned within any of the created **config>service>vpls>stp mst-instance** is automatically assigned to mst-instance 0. This instance is automatically maintained by the software and cannot be modified. Changing the VLAN range value can be performed only when the specified mst-instance is shutdown.

The **no** form of this command removes the **vlan-range** from the specified **config>service>vpls>stp mst-instance**.

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Parameters

vlan-range

The first VLAN range specifies the left-bound (i.e., minimum value) of a range of VLANs that are associated with the M-VPLS SAP. This value must be smaller than (or equal to) the second VLAN range value. The second VLAN range specifies the right-bound (i.e., maximum value) of a range of VLANs that are associated with the M-VPLS SAP.

Values 1 to 4094 to 1 to 4094

Platforms

All

vlan-range

Syntax

vlan-range *from* [**to** *to*]

no vlan-range *from*

Context

[Tree] (config>connection-profile-vlan vlan-range)

Full Context

configure connection-profile-vlan vlan-range

Description

This command allows the user to configure different ranges in the connection-profile-vlan. The ranges have the following characteristics:

- Ranges can contain a single VID or start-and-end values. When the *to-vid* is not specified, the end vid value is the same as the start vid value.
- On the fly addition/removal of ranges is allowed.
- When removing an entry, the **no vlan-range** *vid* **to** *vid* must be configured by the user.
- Multiple ranges are allowed under the same connection-profile-vlan. No VLAN values should overlap within the same connection-profile-vlan.
- The index for connection-profile and connection-profile-vlan must be unique between the two. For example, if **connection-profile 100** is present, then **connection-profile-vlan 100** is disallowed.

Each connection-profile-vlan must be explicitly configured.

Parameters

from

Specifies the beginning of the **vlan-range** associated to the **connection-profile-vlan**.

Values 1 to 4094

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to

Specifies the end of the **vlan-range** associated to the **connection-profile-vlan**. If not specified, the **vlan-range** is comprised of only the *from* VLAN ID.

Values 1 to 4094

Platforms

All

50.48 vlan-signaled-flexible-cross-connect

vlan-signaled-flexible-cross-connect

Syntax

[**no**] **vlan-signaled-flexible-cross-connect**

Context

[Tree] (config>service>epipe>bgp-evpn>local-attachment-circuit vlan-signaled-flexible-cross-connect)

Full Context

configure service epipe bgp-evpn local-attachment-circuit vlan-signaled-flexible-cross-connect

Description

This command configures the FXC Epipe in VLAN-signaled mode. In addition, a separate EVPN Auto Discovery per-EVI route is advertised per SAP, with Ethernet tag IDs autoderived from the normalized tags for the SAP.

The **no** form of this command advertises a single Auto Discovery per-EVI route for the service with the configured local Ethernet tag ID.

Platforms

7750 SR-1, 7750 SR-s

50.49 vlan-tag-ranges

vlan-tag-ranges

Syntax

vlan-tag-ranges

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Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw vlan-tag-ranges)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw vlan-tag-ranges)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges

Description

Commands in this context configure VLAN-to-retail-map parameters to map dot1q tags to the retail service ID. The WIFI AP inserts a dot1Q tag in the Layer 2 frame within the GRE tunnel to indicate the retail service provider for the subscriber.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.50 vlan-translation

vlan-translation

Syntax

vlan-translation {*vlan-id* | **copy-outer**}

no vlan-translation

Context

[Tree] (config>service>vpls>sap>ingress vlan-translation)

[Tree] (config>service>epipe>sap>ingress vlan-translation)

Full Context

configure service vpls sap ingress vlan-translation

configure service epipe sap ingress vlan-translation

Description

This command configures ingress VLAN translation. If this command is enabled with an explicit VLAN value, the preserved VLAN ID is overwritten with this value. This setting is applicable to dot1q encapsulated ports. If enabled with the **copy-outer** keyword, the outer VLAN ID is copied to inner position on QinQ encapsulated ports. The feature is not supported on:

- dot1q SAPs
- QinQ saps with **qinq-vlan-translation** enabled
- connection profile VLAN SAPs if the **copy-outer** option is configured

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The **no** form of this command disables VLAN translation.

Default

no vlan-translation

Parameters

vlan-id

Specifies the VLAN ID.

Values 0 to 4094

copy-outer

Keyword to specify to use the outer VLAN ID.

Platforms

All

50.51 vlan-vc-etype

vlan-vc-etype

Syntax

vlan-vc-etype *ethernet-type*

no vlan-vc-etype [*ethernet-type*]

Context

[Tree] (config>service>sdp vlan-vc-etype)

Full Context

configure service sdp vlan-vc-etype

Description

This command configures the VLAN VC EtherType.

The **no** form of this command returns the value to the default.

Default

no vlan-vc-etype

Parameters

ethernet-type

Specifies a valid VLAN etype identifier.

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Values 0x0600 to 0xffff

Platforms

All

50.52 vlan-vc-tag

vlan-vc-tag

Syntax

vlan-vc-tag *vlan-id*

no vlan-vc-tag [*vlan-id*]

Context

[Tree] (config>service>vpls>spoke-sdp vlan-vc-tag)

[Tree] (config>service>vpls>mesh-sdp vlan-vc-tag)

Full Context

configure service vpls spoke-sdp vlan-vc-tag

configure service vpls mesh-sdp vlan-vc-tag

Description

This command specifies an explicit dot1q value used when encapsulating to the SDP far end. When signaling is enabled between the near and far end, the configured dot1q tag can be overridden by a received TLV specifying the dot1q value expected by the far end. This signaled value must be stored as the remote signaled dot1q value for the binding. The provisioned local dot1q tag must be stored as the administrative dot1q value for the binding.

When the dot1q tag is not defined, the default value of zero is stored as the administrative dot1q value. Setting the value to zero is equivalent to not specifying the value.

The **no** form of this command disables the command.

Default

no vlan-vc-tag

Parameters

vlan-id

Specifies a valid VLAN identifier to bind an 802.1Q VLAN tag ID.

Values 0 to 4094

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Platforms

All

vlan-vc-tag

Syntax

vlan-vc-tag *vlan-id*

no vlan-vc-tag

Context

[Tree] (config>service>sdp>binding>pw-port vlan-vc-tag)

Full Context

configure service sdp binding pw-port vlan-vc-tag

Description

This command sets tag relevant for vc-type vlan mode. This tag is inserted in traffic forwarded into the pseudowire.

The **no** form of the command reverts to the default value.

Default

no vlan-vc-tag

Parameters

vlan-id

Specifies the VLAN ID value.

Values 0 to 4094

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vlan-vc-tag

Syntax

vlan-vc-tag *tag*

no vlan-vc-tag *tag*

Context

[Tree] (config>service>epipe>spoke-sdp vlan-vc-tag)

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Full Context

configure service epipe spoke-sdp vlan-vc-tag

Description

This command specifies an explicit dot1q value used when encapsulating to the SDP far end. When signaling is enabled between the near and far end, the configured dot1q tag can be overridden by a received TLV specifying the dot1q value expected by the far end. This signaled value must be stored as the remote signaled dot1q value for the binding. The provisioned local dot1q tag must be stored as the administrative dot1q value for the binding.

When the dot1q tag is not defined, the default value of zero is stored as the administrative dot1q value. Setting the value to zero is equivalent to not specifying the value.

The **no** form of this command disables the command.

Default

no vlan-vc-tag

Parameters

tag

Specifies a valid VLAN identifier to bind an 802.1Q VLAN tag ID.

Values 0 to 4094

Platforms

All

vlan-vc-tag

Syntax

vlan-vc-tag *vlan-id*

no vlan-vc-tag

Context

[Tree] (config>service>pw-template vlan-vc-tag)

Full Context

configure service pw-template vlan-vc-tag

Description

This command specifies an explicit dot1q value used when encapsulating to the SDP far end. When signaling is enabled between the near and far end, the configured dot1q tag can be overridden by a received TLV specifying the dot1q value expected by the far end. This signaled value must be stored as the remote signaled dot1q value for the binding. The provisioned local dot1q tag must be stored as the administrative dot1q value for the binding.

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When the dot1q tag is not defined, the default value of zero is stored as the administrative dot1q value. Setting the value to zero is equivalent to not specifying the value.

The **no** form of this command disables the command.

Default

no vlan-vc-tag

Parameters

vlan-id

Specifies a valid VLAN identifier to bind an 802.1Q VLAN tag ID.

Values 0 to 4094

Platforms

All

50.53 vm

vm

Syntax

vm *vm-id* [**create**]

no vm *vm-id*

Context

[Tree] (config>esa vm)

Full Context

configure esa vm

Description

This command configures or creates an ESA-VM instance.

The **no** form of this command removes the ESA-VM from the system.

Parameters

vm-id

Specifies the VM identifier.

Values 1 to 4

create

Mandatory keyword used when creating an ESA-VM in the config context

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Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

50.54 vm-traffic-distribution-by-ip

vm-traffic-distribution-by-ip

Syntax

[**no**] **vm-traffic-distribution-by-ip**

Context

[Tree] (config>isa>aa-grp vm-traffic-distribution-by-ip)

Full Context

configure isa application-assurance-group vm-traffic-distribution-by-ip

Description

This command enables the distribution of packets by IP address across virtual CPUs of a data plane VM. This allows support for AA subscribers whose bandwidth exceeds the processing throughput of a single vCPU.

The **no** form of this command enables traffic distribution by AA subscriber.

Default

no vm-traffic-distribution-by-ip

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.55 vm-traffic-distribution-by-teid

vm-traffic-distribution-by-teid

Syntax

[**no**] **vm-traffic-distribution-by-teid**

Context

[Tree] (config>isa>aa-grp vm-traffic-distribution-by-teid)

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Full Context

configure isa application-assurance-group vm-traffic-distribution-by-teid

Description

This command configures AA in VSR mode to load-balance traffic across different VM cores using TEID. Load-balancing is required when VSR is deployed on 3GPP S5/S8 (Gn/Gp) interfaces to provide GTP firewalling.

The **no** form of this command disables load-balancing of the traffic across the VM cores.

Default

no vm-traffic-distribution-by-teid

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.56 vm-type

vm-type

Syntax

vm-type *vm-type*

no vm-type

Context

[Tree] (config>esa>vm vm-type)

Full Context

configure esa vm vm-type

Description

This command configures the type of ESA-VM instance.

The **no** form of this command removes the specified VM type.

Parameters

vm-type

Specifies the VM type.

Values **aa** — Specifies Application Assurance feature support.

bb — Specifies broadband feature support, such as NAT.

tunnel — Specifies tunnel feature support, such as IPsec tunnels.

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video — Specifies video feature support, such as FCC and RET (for 7750 SR and 7750 SR-12e only).

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

50.57 vmep-filter

vmep-filter

Syntax

[**no**] **vmep-filter**

Context

[Tree] (config>service>vpls>sap>eth-cfm vmep-filter)

[Tree] (config>service>vpls>mesh-sdp>eth-cfm vmep-filter)

[Tree] (config>service>vpls>spoke-sdp>eth-cfm vmep-filter)

Full Context

configure service vpls sap eth-cfm vmep-filter

configure service vpls mesh-sdp eth-cfm vmep-filter

configure service vpls spoke-sdp eth-cfm vmep-filter

Description

Suppress eth-cfm PDUs based on level lower than or equal to configured Virtual MEP. This command is not supported under a B-VPLS context. This will also delete any MIP configured on the SAP or Spoke-SDP.

The **no** form of this command reverts to the default values.

Default

no vmep-filter

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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50.58 volume

volume

Syntax

volume *credits* {**bytes** | **kilobytes** | **megabytes** | **gigabytes**}

no volume

Context

[Tree] (config>subscr-mgmt>diam-appl-plcy>gy>efh>interim-c volume)

Full Context

configure subscriber-mgmt diameter-application-policy gy extended-failure-handling interim-credit volume

Description

This command configures the default volume interim credit that is allocated to all rating groups of a Diameter Gy session when Extended Failure Handling (EFH) is active and for which no default credit is configured at the category map category level.

The **no** form of this command resets the value to the default value.

Default

volume 500 megabytes

Parameters

credits

Specifies the amount of volume credit that is allocated by default to all rating groups of a Diameter Gy session when EFH is active.

Values 1 to 4294967295

bytes | kilobytes | megabytes | gigabytes

Specifies whether credits are in bytes, kilobytes, megabytes, or gigabytes.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

volume

Syntax

volume

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Context

[Tree] (config>app-assure>group>cflowd volume)

Full Context

configure application-assurance group cflowd volume

Description

This command configures the cflowd volume export.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.59 volume-quota-direction

volume-quota-direction

Syntax

volume-quota-direction {both | ingress | egress}

no volume-quota-direction

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dsm volume-quota-direction)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dsm volume-quota-direction)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt volume-quota-direction

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range distributed-sub-mgmt volume-quota-direction

Description

This command specifies whether volume quota is applied in the egress (downstream), ingress (upstream), or both directions. Configuration changes apply only to new DSM UEs and not to existing UEs.

Parameters

both

Enforces the volume quota on the packets ingressing and egressing the WLAN-GW combined.

ingress

Enforces the volume quota on packets ingressing the WLAN-GW from the UE (upstream).

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egress

Enforces the volume quota on packets egressing the WLAN-GW to the UE (downstream).

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.60 volume-stats-type

volume-stats-type

Syntax

volume-stats-type {**ip** | **default**}

no volume-stats-type

Context

[Tree] (config>subscr-mgmt>sub-prof volume-stats-type)

Full Context

configure subscriber-mgmt sub-profile volume-stats-type

Description

This command enables the reporting of Layer 3 (IP) based subscriber host volume accounting data.

By default, subscriber host volume accounting data includes Layer 2 header octets and can be configured to include a fixed packet byte offset or last-mile encapsulation overhead.

The **no** form of this command reverts to the default.

Default

volume-stats-type default

Parameters

default

Specifies that the subscriber host volume accounting data is reported including the Layer 2 header octets and optional delta's introduced by configuration (for example: packet byte offset, last mile aware shaping, and so on).

ip

Specifies that the subscriber host volume accounting data reporting is based on Layer 3 (IP) packet sizes. This includes subscriber host ingress/egress queue and policer stats in snmp, CLI show commands, RADIUS and XML accounting, and Diameter Gx usage monitoring. RADIUS and Diameter (DCCA) based credit control volume quota are interpreted as Layer 3 (IP).

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.61 vpls

vpls

Syntax

vpls *service-id* [**customer** *customer-id*] [**create**] [**vpn** *vpn-id*] [**m-vpls**] [**b-vpls** | **i-vpls**] [**etree**] [**name** *name*]

no vpls *service-id*

Context

[Tree] (config>service vpls)

Full Context

configure service vpls

Description

This command creates or edits a Virtual Private LAN Services (VPLS) instance. The **vpls** command is used to create or maintain a VPLS service. If the *service-id* does not exist, a context for the service is created. If the *service-id* exists, the context for editing the service is entered.

A VPLS service connects multiple customer sites together acting like a zero-hop, Layer 2 switched domain. A VPLS is always a logical full mesh.

When a service is created, the **create** keyword must be specified if the **create** command is enabled in the **environment** context. When creating a service, you must enter the **customer** keyword and specify a *customer-id* to associate the service with a customer. The *customer-id* must already exist, having been created using the **customer** command in the **service** context. The *customer-id* must already exist having been created using the **customer** command in the service context. Once a service has been created with a customer association, it is not possible to edit the customer association. The service must be deleted and re-created with a new customer association.

To create a management VPLS on the 7450 ESS, the m-vpls keyword must be specified. See section **Hierarchical VPLS Redundancy** for an introduction to the concept of management VPLS.

Once a service is created, the use of the **customer** *customer-id* is optional for navigating into the service configuration context. Attempting to edit a service with the incorrect *customer-id* specified will result in an error.

More than one VPLS service may be created for a single customer ID.

By default, no VPLS instances exist until they are explicitly created.

The **no** form of this command deletes the VPLS service instance with the specified *service-id*. The service cannot be deleted until all SAPs and SDPs defined within the service ID have been shut down and deleted, and the service has been shut down.

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Parameters

service-id

Specifies unique service identification number identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every router on which this service is defined.

Values *service-id*: 1 to 2147483647

svc-name: 64 characters maximum

customer *customer-id*

Specifies the customer ID number to be associated with the service. This parameter is required on service creation and optional for service editing or deleting.

Values 1 to 2147483647

vpn vpn-id

Specifies the VPN ID number which allows you to identify virtual private networks (VPNs) by a VPN identification number

Values 1 to 2147483647

Default null (0)

create

Keyword used to create the service ID. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

m-vpls

Specifies a management VPLS

e-tree

Specifies a VPLS service as an E-Tree VPLS. E-Tree VPLS services have root and leaf attachment circuit (AC) and root leaf tag SAPs/SDP bindings for E-Tree interconnection. The access root AC SAP behaves as a SAP in non-E-tree VPLS services. The leaf AC SAP communicates only with root-connected services. Leaf and root AC SAPs behave externally the same as SAPs in non-E-Tree VPLS services.

The root AC SDP bind behaves as an SDP bind in non-E-tree VPLS services. The leaf AC SDP bind communicates only with root-connected services.

In the E-Tree VPLS, the root AC SAP/SDP bindings can communicate with other root and leaf AC SAP/SDP bind services locally and remotely. Root-originated traffic is marked internally with a root indication and the root is tagged externally on tag SAP/SDP binds. The leaf AC SAP/SDP bindings can communicate with other root SAP/SDP bindings locally and remotely. Leaf-originated traffic is marked internally with a leaf indication and tagged externally on leaf tag SAP/SDP bindings.

Any number of root or leaf AC SAPs can be used, up to the configured SAP limits in the E-Tree VPLS.

Network-side root leaf tag SAPs use additional SAP resources. These tag SAPs used two tags; one for root and one for leaf. Network-side tag SDPs use a hard coded tag of 1 for

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root and 2 for leaf. AC SDP bindings are designated as root or leaf SDP bindings but carry no tags marking traffic on the egress frames.

The E-Tree SAP type must be specified when the SAP is created. To change the SAP type, the SAP must be removed and recreated.

b-vpls | i-vpls

Creates a backbone-vpls or ISID-vpls

name name

Configures an optional service name identifier, up to 64 characters, to a given service. This service name can then be used in configuration references, display, and show commands throughout the system. A defined service name can help the service provider or administrator to identify and manage services within the SR OS platforms.

To create a service, you must assign a service ID; however, after it is created, either the service ID or the service name can be used to identify and reference a service.

If a name is not specified at creation time, then SR OS assigns a string version of the *service-id* as the name.

Platforms

All

vpls

Syntax

vpls *service-name*

no vpls

Context

[Tree] (config>service>ies>if vpls)

Full Context

configure service ies interface vpls

Description

The **vpls** command, within the IP interface context, is used to bind the IP interface to the specified service name (VPLS or I-VPLS).

The system does not attempt to resolve the service name provided until the IP interface is placed into the administratively up state (**no shutdown**). Once the IP interface is administratively up, the system will scan the available VPLS services that have the **allow-ip-int-bind** flag set for a VPLS service associated with the name. If the service name is bound to the service name when the IP interface is already in the administratively up state, the system will immediately attempt to resolve the given name.

If a VPLS service is found associated with the name and with the **allow-ip-int-bind** flag set, the IP interface is attached to the VPLS service allowing routing to and from the service virtual ports once the IP interface is operational.

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A VPLS service associated with the specified name that does not have the **allow-ip-int-bind** flag set or a non-VPLS service associated with the name is ignored and will not be attached to the IP interface.

If the service name is applied to a VPLS service after the service name is bound to an IP interface and the VPLS service **allow-ip-int-bind** flag is set at the time the name is applied, the VPLS service is automatically resolved to the IP interface if the interface is administratively up or when the interface is placed in the administratively up state.

If the service name is applied to a VPLS service without the **allow-ip-int-bind** flag set, the system will not attempt to resolve the applied service name to an existing IP interface bound to the name. To rectify this condition, the flag must first be set and then the IP interface must enter or reenter the administratively up state.

While the specified service name may be assigned to only one service context in the system, it is possible to bind the same service name to more than one IP interface. If two or more IP interfaces are bound to the same service name, the first IP interface to enter the administratively up state (if currently administratively down) or to reenter the administratively up state (if currently administratively up) when a VPLS service is configured with the name and has the **allow-ip-int-bind** flag set is attached to the VPLS service. Only one IP interface is allowed to attach to a VPLS service context. No error is generated for the remaining non-attached IP interfaces using the service name.

Once an IP interface is attached to a VPLS service, the name associated with the service cannot be removed or changed until the IP interface name binding is removed. Also, the **allow-ip-int-bind** flag cannot be removed until the attached IP interface is unbound from the service name.

Unbinding the service name from the IP interface causes the IP interface to detach from the VPLS service context. The IP interface may then be bound to another service name or a SAP or SDP binding may be created for the interface using the **sap** or **spoke-sdp** commands on the interface.

IP Interface MTU and Fragmentation

A VPLS service is affected by two MTU values; port MTUs and the VPLS service MTU. The MTU on each physical port defines the largest Layer 2 packet (including all DLC headers and CRC) that may be transmitted out a port. The VPLS itself has a service level MTU that defines the largest packet supported by the service. This MTU does not include the local encapsulation overhead for each port (QinQ, Dot1Q, TopQ or SDP service delineation fields and headers) but does include the remainder of the packet. As virtual ports are created in the system, the virtual port cannot become operational unless the configured port MTU minus the virtual port service delineation overhead is greater than or equal to the configured VPLS service MTU. Thus, an operational virtual port is ensured to support the largest packet traversing the VPLS service. The service delineation overhead on each Layer 2 packet is removed before forwarding into a VPLS service. VPLS services do not support fragmentation and must discard any Layer 2 packet larger than the service MTU after the service delineation overhead is removed.

IP interfaces have a configurable up MTU that defines the largest packet that may egress the IP interface without being fragmented. This MTU encompasses the IP portion of the packet and does not include any of the egress DLC header or CRC. This MTU does not affect the size of the largest ingress packet on the IP interface. If the egress IP portion of the packet is larger than the IP interface MTU and the IP header do not fragment flag is not set, the packet is fragmented into smaller packets that will not exceed the configured MTU size. If the do not fragment bit is set, the packet is silently discarded at egress when it exceeds the IP MTU.

When the IP interface is bound to a VPLS service, the IP MTU must be at least 18 bytes less than the VPLS service MTU. This allows for the addition of the minimal Ethernet encapsulation overhead; 6 bytes for the DA, 6 bytes for the SA, 2 bytes for the Etype and 4 bytes for the trailing CRC. Any remaining egress virtual port overhead (Dot1P, Dot1Q, QinQ, TopQ or SDP) required above the minimum is known to be less than the egress ports MTU since the virtual port would not be operational otherwise.

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If the IP interface IP MTU value is too large based on the VPLS service MTU, the IP interface will enter the operationally down state until either the IP MTU is adequately lowered or the VPLS service MTU is sufficiently increased.

The **no** form of this command on the IP interface is used to remove the service name binding from the IP interface. If the service name has been resolved to a VPLS service context and the IP interface has been attached to the VPLS service, the IP interface will also be detached from the VPLS service.

Parameters

service-name

The service-name parameter is required when using the IP interface vpls command and specifies the service name that the system will attempt to resolve to an **allow-ip-int-bind** enabled VPLS service associated with the name. The specified name is expressed as an ASCII string comprised of up to 32 characters. It does not need to already be associated with a service and the system does not check to ensure that multiple IP interfaces are not bound to the same name.

Platforms

All

vpls

Syntax

vpls *service-id*

Context

[Tree] (config>subscr-mgmt>shcv-policy vpls)

Full Context

configure subscriber-mgmt shcv-policy vpls

Description

Commands in this context configure SHCV behavior in VPLS services. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR Layer 2 Services and EVPN Guide: VLL, VPLS, PBB, and EVPN* for VPLS service command syntax and descriptions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

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50.62 vpls-group

vpls-group

Syntax

vpls-group *vpls-group-id* [**create**]

no vpls-group *vpls-group-id*

Context

[Tree] (config>service>vpls vpls-group)

Full Context

configure service vpls vpls-group

Description

This command defines a vpls-group index. Multiple vpls-group commands can be specified to allow the use of different VPLS and SAP templates for different ranges of service ids. A vpls-group can be deleted only in shutdown state. Multiple commands under different vpls-group ids can be issued and can be in progress at the same time.

Default

no vpls-group

Parameters

vpls-group-id

Specifies the ID associated with the VPLS group

Values 1 to 4094

Platforms

All

50.63 vpls-id

vpls-id

Syntax

vpls-id *vpls-id*

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Context

[Tree] (config>service>vpls>bgp-ad vpls-id)

Full Context

configure service vpls bgp-ad vpls-id

Description

This command configures the VPLS ID component that is signaled in one of the extended community attributes (*ext-comm*).

Values and format (6 bytes, other 2 bytes of type-subtype is automatically generated)

Parameters

vpls-id

Specifies a globally unique VPLS ID for BGP auto-discovery in this VPLS service

Values vpls-id: <ip-addr:comm-val>| <as-number:ext-comm-val>

ip-addr: a.b.c.d

comm-val: [0 to 65535]

as-number: [1 to 65535]

ext-comm-val: [0 to 4294967295]

Platforms

All

50.64 vpls-only-sap-parameters

vpls-only-sap-parameters

Syntax

vpls-only-sap-parameters

Context

[Tree] (config>subscr-mgmt>msap-policy vpls-only-sap-parameters)

Full Context

configure subscriber-mgmt msap-policy vpls-only-sap-parameters

Description

Commands in this context configure MSAP VPLS properties.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.65 vpls-sap-template

vpls-sap-template

Syntax

vpls-sap-template *name/id* **create**

[**no**] **vpls-sap-template** *name/id*

Context

[Tree] (config>service>template vpls-sap-template)

Full Context

configure service template vpls-sap-template

Description

This is the command used to create a SAP template to be used in a vpls-template. Only certain existing VPLS SAP attributes can be changed in the vpls-sap-template, not in the instantiated VPLS SAP

The following SAP attributes are set in the instantiated saps (no configuration allowed):

description: "Sap <sap-id> controlled by MVRP service <svc id>" – auto generated

shutdown: no shutdown

Parameters

name/id

Specifies the name in ASCII or the template ID

Values 1 to 2147483647

Platforms

All

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50.66 vpls-template

vpls-template

Syntax

vpls-template *name/id* **create**

[**no**] **vpls-template** *name/id*

Context

[Tree] (config>service>template vpls-template)

Full Context

configure service template vpls-template

Description

This command is used to create a vpls-template to be used to auto-instantiate a range of VPLS services. Only certain existing VPLS attributes specified in the command reference section can be changed in the vpls-template, not in the instantiated VPLS. The following attributes are automatically set in the instantiated VPLSs (no template configuration necessary) and the operator cannot change these values.

vpn-id: none

description: "Service <svc id> auto-generated by control VPLS <svc-id>”

service-name: "Service <svc id>” (Auto-generated)

shutdown: no shutdown

Following existing attributes can be set by the user in the instantiated VPLSs:

[no] sap

All the other VPLS attributes are not supported.

Parameters

name/id

Specifies the name in ASCII or the template ID

Values name: ASCII string

Values ID: [1 to 2147483647]

Platforms

All

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50.67 vpls-template-binding

vpls-template-binding

Syntax

vpls-template-binding *name/id*

no vpls-template-binding

Context

[Tree] (config>service>vpls>vpls-group vpls-template-binding)

Full Context

configure service vpls vpls-group vpls-template-binding

Description

This command configures the binding to a VPLS template to be used to instantiate pre-provisioned data VPLS using as input variables the service IDs generated by the vid-range command.

The **no** form of this command removes the binding and deletes the related VPLS instances. The command will fail if any of the affected VPLS instances have either a provisioned SAP or an active MVRP declaration/registration or if the related vpls-group id is in no shutdown state. Any changes to the vpls-template-binding require the vpls-group to be in shutdown state.

Default

no vpls-template-binding

Parameters

name/id

Specifies the name or the ID of the VPLS template

Values 1 to 1024

Platforms

All

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50.68 vpn-apply-export

vpn-apply-export

Syntax

[**no**] **vpn-apply-export**

Context

[Tree] (config>router>bgp>group vpn-apply-export)

[Tree] (config>router>bgp vpn-apply-export)

[Tree] (config>router>bgp>group>neighbor vpn-apply-export)

Full Context

configure router bgp group vpn-apply-export

configure router bgp vpn-apply-export

configure router bgp group neighbor vpn-apply-export

Description

This command causes the base instance BGP export route policies to be applied to vpn-ipv4/6, mvpn-ipv4/6, l2-vpn, mdt-safi, mcast-vpn-ipv4, and evpn routes.

The **no** form of this command disables the application of the base instance BGP route policies to vpn-ipv4/6, mvpn-ipv4/6, l2-vpn, mdt-safi, mcast-vpn-ipv4, and evpn routes.

Default

no vpn-apply-export

Platforms

All

50.69 vpn-apply-import

vpn-apply-import

Syntax

[**no**] **vpn-apply-import**

Context

[Tree] (config>router>bgp vpn-apply-import)

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[Tree] (config>router>bgp>group>neighbor vpn-apply-import)

[Tree] (config>router>bgp>group vpn-apply-import)

Full Context

configure router bgp vpn-apply-import

configure router bgp group neighbor vpn-apply-import

configure router bgp group vpn-apply-import

Description

This command causes the base instance BGP import route policies to be applied to vpn-ipv4/6, mvpn-ipv4/6, l2-vpn, mdt-safi, mcast-vpn-ipv4, and evpn routes.

The **no** form of this command disables the application of the base instance BGP import route policies to vpn-ipv4/6, mvpn-ipv4/6, l2-vpn, mdt-safi, mcast-vpn-ipv4, and evpn routes.

Default

no vpn-apply-import

Platforms

All

50.70 vpn-domain

vpn-domain

Syntax

vpn-domain [*type* {**0005** | **0105** | **0205** | **8005**}] **id** *id*

no vpn-domain

Context

[Tree] (config>service>vprn>ospf vpn-domain)

Full Context

configure service vprn ospf vpn-domain

Description

This command specifies type of the extended community attribute exchanged using BGP to carry the OSPF VPN domain ID. This applies to VPRN instances of OSPF only. An attempt to modify the value of this object will result in an inconsistent value error when is not a VPRN instance. The parameters are mandatory and can be entered in either order. This command is not applicable in the **config>service>vprn>ospf3** context.

This command is not supported in OSPF3.

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Default

no vpn-domain

Parameters

id

Specifies the OSPF VPN domain in the "xxxx.xxxx.xxxx" format. This is exchanged using BGP in the extended community attribute associated with a prefix. This object applies to VPRN instances of OSPF only.

type

Specifies the type of the extended community attribute exchanged using BGP to carry the OSPF VPN domain ID.

Values 0005, 0105, 0205, 8005

Platforms

All

50.71 vpn-family-policy

vpn-family-policy

Syntax

vpn-family-policy *policy-name*

no vpn-family-policy

Context

[Tree] (config>router>bgp>next-hop-resolution vpn-family-policy)

Full Context

configure router bgp next-hop-resolution vpn-family-policy

Description

This command specifies the VPN family policy that is applied when filtering routes for consideration for next-hop resolution process for EVPN and IP-VPN families.

This policy is supported by the following families:

- VPN-IPv4 and VPN-IPv6
- EVPN (all routes types 1-6, although AD per-ES and AD per-EVI routes are always shown as resolved)
- MCAST-VPN-IPv4 and MCAST-VPN-IPv6

In a VPN family policy:

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- only prefix-lists are used to match the next hop of a resolving route. No other policy qualifiers are supported.
- the route resolving the next hop is accepted or rejected

  In other words, if an imported route's next hop is resolved by route N (N is the preferred entry in tunnel-table for MPLS or the longest prefix match in the route-table for VXLAN), and route N is rejected by vpn-family-policy, then the route next hop is unresolved. This is irrespective of the existence of a route M that could potentially resolve the next hop in the tunnel-table or route-table.

The **no** form of this command removes the VPN family policy.

Default

no vpn-family-policy

Parameters

policy-name

Specifies the route policy name. Allowed values are any string up to 64 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes. Route policies are configured in the **config>router>policy-options** context.

Platforms

All

50.72 vpn-gre-source-ip

vpn-gre-source-ip

Syntax

vpn-gre-source-ip *ip-address*

no vpn-gre-source-ip

Context

[Tree] (config>service>system vpn-gre-source-ip)

Full Context

configure service system vpn-gre-source-ip

Description

This command configures a single system-wide alternate source IPv4 address of the GRE tunnels in all VPRN services using the **auto-bind-tunnel** or an explicit SDP binding (**config**>**service**>**vprn**>**spoke-sdp**) with a tunnel of encapsulation GRE.

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A change to the value of the **vpn-gre-source-ip** parameter can be performed without disabling the service. Once the new value is configured, the system address is not used in services which bind to the GRE tunnel.

The primary IPv4 address of any local network IP interface, loopback or otherwise, may be used.

The address of the following interfaces are not supported, and the configuration is rejected:

- unnumbered network IP interface
- IES interface
- VPRN interface
- CSC VPRN interface

The **vpn-gre-source-ip** parameter value adheres to the following rules:

- This single source address counts towards the maximum of 15 distinct address values per system that are used by all GRE SDPs under the **config**>**service**>**sdp**>**local-end** context and all L2oGRE SDPs under the **config**>**service**>**system**>**gre-eth-bridged**>**tunnel-termination** context.
- The same source address can be used in both **vpn-gre-source-ip** and **config**>**service**>**sdp**>**local-end** contexts.
- The same source address cannot be used in both **vpn-gre-source-ip** and **config**>**service**>**system**>**gre-eth-bridged**>**tunnel-termination** contexts because an address configured for a L2oGRE SDP matches an internally created interface which is not available to other applications.
- The **vpn-gre-source-ip** address, when different from system, need not match the primary address of an interface which has the MPLS-over-GRE termination subnet configured, unless a GRE SDP or tunnel from the far-end router terminates on this address.

The **no** form of the command reverts to the default value.

Default

vpn-gre-source-ip ip-address (System interface primary IPv4 address)

Parameters

ip-address

Specifies the IPv4 address (a.b.c.d).

Platforms

All

50.73 vpn-ipv4

vpn-ipv4

Syntax

vpn-ipv4 send *send-limit* **receive** [**none**]

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vpn-ipv4 send *send-limit*

no vpn-ipv4

Context

[Tree] (config>router>bgp>group>neighbor>add-paths vpn-ipv4)

[Tree] (config>router>bgp>add-paths vpn-ipv4)

[Tree] (config>router>bgp>group>add-paths vpn-ipv4)

Full Context

configure router bgp group neighbor add-paths vpn-ipv4

configure router bgp add-paths vpn-ipv4

configure router bgp group add-paths vpn-ipv4

Description

This command configures the add-paths capability for VPN-IPv4 routes. By default, add-paths is not enabled for VPN-IPv4 routes.

The maximum number of paths per VPN-IPv4 NLRI to send is the configured send-limit, which is a mandatory parameter. The capability to receive multiple paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command the receive capability is enabled by default.

The **no** form of this command disables add-paths support for VPN-IPv4 routes, causing sessions established using add-paths for VPN-IPv4 to go down and come back up without the add-paths capability.

Default

no vpn-ipv4

Parameters

send-limit

Specifies the maximum number of paths per VPN-IPv4 NLRI that are allowed to be advertised to add-paths peers (the actual number of advertised routes may be less depending on the next-hop diversity requirement, other configuration options, route policies, or route advertisement rules). If the value is **multipaths**, then BGP advertises all of the used BGP multipaths for each VPN-IPv4 NLRI if the peer has signaled support for receiving multiple add paths. If the router has not installed any of the routes in its FIB then all BGP add-paths qualify for advertisement.

Values 1 to 16, none, multipaths

receive

Specifies that the router negotiates the add-paths receive capability for VPN-IPv4 routes with its peers.

none

Specifies that the router does not negotiate the add-paths receive capability for VPN-IPv4 routes with its peers.

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Platforms

All

vpn-ipv4

Syntax

vpn-ipv4

Context

[Tree] (config>router>bgp>label-allocation vpn-ipv4)

Full Context

configure router bgp label-allocation vpn-ipv4

Description

Commands in this context configure label allocation for VPN-IPv4 routes used in the context of an inter-AS model B ASBR or next-hop-self route reflector.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vpn-ipv4

Syntax

vpn-ipv4 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** { **same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no vpn-ipv4

Context

[Tree] (config>router>bgp>multi-path vpn-ipv4)

Full Context

configure router bgp multi-path vpn-ipv4

Description

This command configures ECMP multipath parameters that apply only to the VPN-IPv4 unicast address family in the context of an inter-AS model B ASBR or next-hop-self RR. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path.

The **no** form of this command removes VPN-IPv4-specific overrides.

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Default

no vpn-ipv4

Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Keyword that specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Keyword that specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Keyword that instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

50.74 vpn-ipv6

vpn-ipv6

Syntax

vpn-ipv6 send *send-limit* **receive** [**none**]

vpn-ipv6 send *send-limit*

no vpn-ipv6

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Context

[Tree] (config>router>bgp>group>neighbor>add-paths vpn-ipv6)

[Tree] (config>router>bgp>add-paths vpn-ipv6)

[Tree] (config>router>bgp>group>add-paths vpn-ipv6)

Full Context

configure router bgp group neighbor add-paths vpn-ipv6

configure router bgp add-paths vpn-ipv6

configure router bgp group add-paths vpn-ipv6

Description

This command configures the add-paths capability for VPN-IPv6 routes. By default, add-paths is not enabled for VPN-IPv6 routes.

The maximum number of paths per VPN-IPv6 NLRI to send is the configured send-limit, which is a mandatory parameter. The capability to receive multiple paths per prefix from a peer is configurable using the **receive** keyword, which is optional. If the **receive** keyword is not included in the command the receive capability is enabled by default.

The **no** form of this command disables add-paths support for VPN-IPv6 routes, causing sessions established using add-paths for VPN-IPv6 to go down and come back up without the add-paths capability.

Default

no vpn-ipv6

Parameters

send-limit

Specifies the maximum number of paths per VPN-IPv6 NLRI that are allowed to be advertised to add-paths peers (the actual number of advertised routes may be less depending on the next-hop diversity requirement, other configuration options, route policies, or route advertisement rules). If the value is **multipaths**, then BGP advertises all of the used BGP multipaths for each VPN-IPv6 NLRI if the peer has signaled support for receiving multiple add paths. If the router has not installed any of the routes in its FIB then all BGP add-paths qualify for advertisement.

Values 1 to 16, none, multipaths

receive

Specifies that the router negotiates the add-paths receive capability for VPN-IPv6 routes with its peers.

none

Specifies that the router does not negotiate the add-paths receive capability for VPN-IPv6 routes with its peers.

Platforms

All

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vpn-ipv6

Syntax

vpn-ipv6

Context

[Tree] (config>router>bgp>label-allocation vpn-ipv6)

Full Context

configure router bgp label-allocation vpn-ipv6

Description

Commands in this context configure label allocation for VPN-IPv6 routes used in the context of an inter-AS model B ASBR or next-hop-self route reflector.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vpn-ipv6

Syntax

vpn-ipv6 *max-paths* [**ebgp** *ebgp-max-paths*] [**ibgp** *ibgp-max-paths*] [**restrict** { **same-neighbor-as** | **exact-as-path**}] [**unequal-cost**]

no vpn-ipv6

Context

[Tree] (config>router>bgp>multi-path vpn-ipv6)

Full Context

configure router bgp multi-path vpn-ipv6

Description

This command configures ECMP multipath parameters that apply only to the VPN-IPv6 unicast address family in the context of an inter-AS model B ASBR or next-hop-self RR. These settings override the values set by the **maximum-paths** command.

When multipath is enabled, traffic to the destination is load-shared across a set of paths (BGP routes) that the BGP decision process considers equal to the best path.

The **no** form of this command removes VPN-IPv6-specific overrides.

Default

no vpn-ipv6

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Parameters

max-paths

Specifies the maximum number of multipaths per prefix/NLRI if *ebgp-max-paths* or *ibgp-max-paths* does not apply.

Values 1 to 64

ebgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an EBGP learned route.

Values 1 to 64

ibgp-max-paths

Specifies the maximum number of multipaths per prefix or NLRI when the best path is an IBGP learned route.

Values 1 to 64

restrict same-neighbor-as

Keyword that specifies that the non-best path must have the same neighbor AS in its AS path as the best path.

restrict exact-as-path

Keyword that specifies that the non-best path must have the same AS path as the best path.

unequal-cost

Keyword that instructs BGP to ignore differences in the next-hop cost only when determining eligible multipaths.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

50.75 vpn-tag

vpn-tag

Syntax

vpn-tag *vpn-tag*

no vpn-tag

Context

[Tree] (config>service>vprn>ospf vpn-tag)

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Full Context

configure service vprn ospf vpn-tag

Description

This command specifies the route tag for an OSPF VPN on a PE router. This field is set in the tag field of the OSPF external LSAs generated by the PE. This is mainly used to prevent routing loops. This applies to VPRN instances of OSPF only. An attempt to modify the value of this object will result in an inconsistent value error when is not a VPRN instance.

This command is not supported in OSPF3.

Default

vpn-tag 0

Platforms

All

50.76 vport

vport

Syntax

vport *name* [**create**]

no vport *name*

Context

[Tree] (config>port>ethernet>access>egress vport)

Full Context

configure port ethernet access egress vport

Description

This command configures a scheduling node, referred to as virtual port, within the context of an egress Ethernet port. The Vport scheduler operates either like a port scheduler with the difference that multiple Vport objects can be configured on the egress context of an Ethernet port, or it can be an aggregate rate when an egress port-scheduler policy is applied to the port.

The Vport is always configured at the port level even when a port is a member of a LAG.

When a port scheduler policy is applied to a Vport the following command is used:

```
config>port>ethernet>access>egress>vport>port-scheduler-policy
port-scheduler-policy-name
```


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The CLI will not allow the user to apply a port scheduler policy to a Vport if one has been applied to the port. Conversely, the CLI will not allow the user to apply a port scheduler policy to the egress of an Ethernet port if one has been applied to any Vport defined on the access egress context of this port. The **agg-rate**, along with an egress port-scheduler, can be used to ensure that a given Vport does not oversubscribe the port's rate.

SAP and subscriber host queues can be port-parented to a Vport scheduler in a similar way they port-parent to a port scheduler or can be port-parented directly to the egress port-scheduler if the **agg-rate** is used.

When the Vport uses an aggregate rate, the following command is used:

configure>port>ethernet>access>egress>vport>agg-rate-limit

The **no** form of this command removes the Vport name from the configuration.

Parameters

name

Specifies the name of the Vport scheduling node and can be up to 32 ASCII characters. This does not need to be unique within the system but is unique within the port or a LAG.

Platforms

All

vport

Syntax

vport *vport-name*

no vport

Context

[Tree] (config>service>sdp>binding>pw-port>egress>shaper vport)

Full Context

configure service sdp binding pw-port egress shaper vport

Description

This command configures the name of the Vport to be used for the PW port.

This command is valid for PW ports used for enhanced subscriber management (ESM on pseudowire) and pseudowire SAPs on Ethernet ports.

The **no** form of this command removes the configured Vport name.

Default

no vport

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Parameters

vport-name

Specifies a text string, up to 32 characters, representing the name of the Vport.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vport

Syntax

vport *vport*

no vport

Context

[Tree] (config>service>epipe>pw-port>egress>shaper vport)

Full Context

configure service epipe pw-port egress shaper vport

Description

This command configures specifies the virtual port name of the shaper on the egress side for this PW-port entry.

Parameters

vport

Specifies a virtual port applicable to all PW SAPs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

vport

Syntax

vport *vport-name*

no vport

Context

[Tree] (config>service>cpipe>sap>egress vport)

[Tree] (config>service>epipe>sap>egress vport)

[Tree] (config>service>vpls>sap>egress vport)

[Tree] (config>service>vprn>sub-if>grp-if>sap>egress vport)

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[Tree] (config>service>vprn>if>sap>egress vport)

[Tree] (config>service>ies>if>sap>egress vport)

[Tree] (config>service>ipipe>sap>egress vport)

[Tree] (config>service>ies>sub-if>grp-if>sap>egress vport)

Full Context

configure service cpipe sap egress vport

configure service epipe sap egress vport

configure service vpls sap egress vport

configure service vprn subscriber-interface group-interface sap egress vport

configure service vprn interface sap egress vport

configure service ies interface sap egress vport

configure service ipipe sap egress vport

configure service ies subscriber-interface group-interface sap egress vport

Description

This command assigns SAP to a specific virtual port.

Parameters

vport-name

Specifies the name of the virtual port.

Values 1 to 32 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s

- configure service cpipe sap egress vport

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

- configure service ies subscriber-interface group-interface sap egress vport
- configure service ies interface sap egress vport
- configure service vprn interface sap egress vport
- configure service ipipe sap egress vport
- configure service vpls sap egress vport
- configure service epipe sap egress vport
- configure service vprn subscriber-interface group-interface sap egress vport

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50.77 vport-hashing

vport-hashing

Syntax

[**no**] **vport-hashing**

Context

[Tree] (config>subscr-mgmt>sub-prof vport-hashing)

Full Context

configure subscriber-mgmt sub-profile vport-hashing

Description

This command enables LAG Vport ID hashing. When enabled, Vport ID hashing can span multiple forwarding complexes on egress LAG. The default is to perform Vport ID hashing on egress and requires all active LAG members to be on the same forwarding complex.

Note:
LAG hashing parameters that are configured under **config>lag**, for example, **per-link-hash**, take precedence and are incompatible with the **vport-hashing** command.

The **no** form of this command enables the default behavior.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.78 vprn

vprn

Syntax

vprn *service-id* [**name** *name*] [**customer** *customer-id*] [**create**]

no vprn *service-id*

Context

[Tree] (config>service vprn)

Full Context

configure service vprn

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Description

This command creates or edits a Virtual Private Routed Network (VPRN) service instance.

If the *service-id* does not exist, a context for the service is created. If the *service-id* exists, the context for editing the service is entered.

VPRN services allow the creation of customer-facing IP interfaces in the same routing instance used for service network core routing connectivity. VPRN services require that the IP addressing scheme used by the subscriber must be unique between it and other addressing schemes used by the provider and potentially the entire Internet.

IP interfaces defined within the context of an VPRN service ID must have a SAP created as the access point to the subscriber network.

When a service is created, the **customer** keyword and *customer-id* must be specified and associates the service with a customer. The *customer-id* must already exist having been created using the customer command in the service context. When a service is created with a customer association, it is not possible to edit the customer association. The service must be deleted and re-created with a new customer association.

When a service is created, the use of the **customer** *customer-id* is optional to navigate into the service configuration context. If attempting to edit a service with the incorrect *customer-id* results in an error.

Multiple VPRN services are created to separate customer-owned IP interfaces. More than one VPRN service can be created for a single customer ID. More than one IP interface can be created within a single VPRN service ID. All IP interfaces created within an VPRN service ID belongs to the same customer.

The **no** form of this command deletes the VPRN service instance with the specified *service-id*. The service cannot be deleted until all the IP interfaces and all routing protocol configurations defined within the service ID have been shut down and deleted.

Parameters

service-id

Specifies the unique service identification number identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every 7750 SR on which this service is defined.

Values

service-id:	1 to 2147483648
svc-name:	64 characters maximum

customer-id

Specifies an existing customer identification number to be associated with the service. This parameter is required on service creation and optional for service editing or deleting.

Values 1 to 2147483647

name name

This parameter configures an optional VPRN name, up to 64 characters, which adds a name identifier to a given vprn to then use that vprn name in configuration references as well as display and use vprn names in show commands throughout the system. This helps the service provider/administrator to identify and manage vprn within the SR OS platforms.

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All services are required to assign a service ID to initially create a service. However, either the service ID or the service name can be used to identify and reference a given service once it is initially created.

If a name is not specified at creation time, then SR OS assigns a string version of the service-id as the name.

Service names may not begin with an integer (0 to 9).

create

Keyword used to create a service ID. The **create** keyword requirement can be enabled or disabled in the **environment>create** context.

Platforms

All

vprn

Syntax

vprn *service-id* **interface** *ip-int-name* [**direction** {**ingress | egress | both**}]

no vprn *service-id* **interface** *ip-int-name*

no vprn *service-id* **network-interface** *ip-int-name*

no vprn *service-id* **subscriber-interface** *ip-int-name* **group-interface** *ip-int-name*

vprn *service-id* **network-interface** *ip-int-name* [**direction** {**ingress | egress | both**}]

vprn *service-id* **subscriber-interface** *ip-int-name* **group-interface** *ip-int-name* [**direction** {**ingress | egress | both**}]

Context

[Tree] (config>cflowd>collector>exp-filter>if-list>svc vprn)

Full Context

configure cflowd collector export-filter interface-list service vprn

Description

This command configures the VPRN service interfaces flow data sent to this collector.

The **no** form of the command removes the values from the configuration.

Parameters

service-id

Specifies the unique service identification number or string identifying the service in the service domain. This ID must be unique to this service and may not be used for any other service of any type. The *service-id* must be the same number used for every SR OS on which this service is defined.

Values *service-id*: 1 to 2147483647

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svc-name: 64 characters maximum

interface *ip-int-name*

Specifies the name of an IP interface. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be from 1 to 32 alphanumeric characters and must start with a letter. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

network-interface *ip-int-name*

Specifies the name of a network interface. Interface names must be unique within the group of defined IP interfaces for **config router interface** and **config service ies interface** commands. An interface name cannot be in the form of an IP address. Interface names can be from 1 to 32 alphanumeric characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes and must start with a letter.

subscriber-interface *ip-int-name*

Specifies an interface name of a subscriber interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes and must start with a letter.

group-interface *ip-int-name*

Specifies an interface name of a group interface. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes and must start with a letter.

ingress

Keyword to specify that ingress flows are sent to the associated Cflowd Collector.

Default both

egress

Keyword to specify that egress flows are sent to the associated Cflowd Collector.

Default both

both

Keyword to specify that both ingress and egress flows are sent to the associated Cflowd Collector.

Default both

Platforms

All

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vprn

Syntax

vprn *service-id*

no vprn

Context

[Tree] (config>system>security>vprn-aaa-server vprn)

Full Context

configure system security vprn-aaa-server vprn

Description

This command configures TACACS+ or RADIUS servers in a VPRN to be used for AAA by that VPRN and by sessions in VPRNs without a AAA server configured.

The **no** form of this command disables the use of servers in a VPRN.

Default

no vprn

Parameters

service-id

Specifies the VPRN server for AAA to use for sessions in VPRNs without a AAA server.

Values *service-id*: 1 to 2147483648

svc-name: 64 characters maximum

Platforms

All

50.79 vprn-aaa-server

vprn-aaa-server

Syntax

vprn-aaa-server

Context

[Tree] (config>system>security vprn-aaa-server)

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Full Context

configure system security vprn-aaa-server

Description

Commands in this context configure the use of AAA servers in a VPRN.

Platforms

All

50.80 vprn-auto-bind

vprn-auto-bind

Syntax

vprn-auto-bind [**include** | **exclude**]

Context

[Tree] (config>router>mpls>lsp-template vprn-auto-bind)

[Tree] (config>router>mpls>lsp vprn-auto-bind)

Full Context

configure router mpls lsp-template vprn-auto-bind

configure router mpls lsp vprn-auto-bind

Description

This command determines whether the associated names LSP can be used or not as part of the auto-bind feature for VPRN services. By default, a names LSP is available for inclusion to be used for the auto-bind feature.

By configuring the command vprn-auto-bind exclude, the associated LSP will not be used by the auto-bind feature within VPRN services.

The **no** form of this command resets the flag back to the default value.

Default

vprn-auto-bind include

Parameters

include

Allows an associated LSP to be used by auto-bin for vprn services

exclude

Disables the use of the associated LSP to be used with the auto-bind feature for VPRN services.

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Platforms

All

50.81 vprn-local

vprn-local

Syntax

vprn-local [{**none** | **all** | **vc-only**}]

Context

[Tree] (config>router>ttl-propagate vprn-local)

Full Context

configure router ttl-propagate vprn-local

Description

This command configures the TTL propagation for locally generated packets which are forwarded over a MPLS LSPs in all VPRN service contexts.

For vpn-ipv4 and vpn-ipv6 packets forwarded in the context of all VPRN services in the system, including 6VPE packets, the all value of the command enables TTL propagation from the IP header into all labels in the stack:

The user can enable the TTL propagation behavior separately for locally generated packets by CPM (vprn-local) and for user and control packets in transit at the node (vprn-transit).

The vc-only value reverts to the default behavior by which the IP TTL is propagated into the VC label but not to the transport labels in the stack. The user can explicitly set the default behavior by configuring the vc-only value. This command does not have a no version.

The value none allows the user to disable the propagation of the IP TTL to all labels in the stack, including the VC label. This is needed for a transparent operation of UDP traceroute in VPRN inter-AS option B such that the ingress and egress ASBR nodes are not traced.

The user can override the global configuration within each VPRN instance using the following commands:

- config service vprn ttl-propagate local [inherit | none | vc-only | all]
- config service vprn ttl-propagate transit [inherit | none | vc-only | all]

The default behavior for a given VPRN instance is to inherit the global configuration for the same command. The user can explicitly set the default behavior by configuring the inherit value.

When a packet is received in a VPRN context but is looked up in the Global Routing Table (GRT), for example, leaking to GRT is enabled, the behavior of the TTL propagation is governed by the RSVP or LDP shortcut configuration when the matching routing is a LSP shortcut route. It is governed by the BGP label route configuration when the matching route is a RFC 8277 label route or a 6PE route.

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When a packet is received on one VPRN instance and is redirected using Policy Based Routing (PBR) to be forwarded in another VPRN instance, the TTL propagation is governed by the configuration of the outgoing VPRN instance.

Default

vprn-local vc-only

Parameters

none

Specifies that the TTL of the IP packet is not propagated into the VC label or labels in the transport label stack

all

Specifies that the TTL of the IP packet is propagated into the VC label and all labels in the transport label stack.

vc-only

Specifies that the TTL of the IP packet is propagated into the VC label and not into the labels in the transport label stack.

Platforms

All

50.82 vprn-network-exceptions

vprn-network-exceptions

Syntax

vprn-network-exceptions *number seconds*

no vprn-network-exceptions

Context

[Tree] (config>system>security vprn-network-exceptions)

Full Context

configure system security vprn-network-exceptions

Description

This command configures the rate to limit the processing of packets with label TTL expiry received within an LSP shortcut, or within all VPRN instances in the system, and from all network IP interfaces. This includes labeled user and control plane packets, ping and traceroute packets within GRT and VPRN, and ICMP replies. Packets over the configured rate are dropped.

This feature does not rate limit MPLS and service OAM packets (vprn-ping, vprn-trace, lsp-ping, lsp-trace, vccv-ping, and vccv-trace).

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The **no** form of this command disables the rate limiting of the reply to these packets.

Parameters

number

Specifies the number limit of MPLS exception messages.

Values 10 to 10,000

seconds

Specifies the rate limit of MPLS exception messages, in seconds.

Values 1 to 60

Platforms

All

50.83 vprn-next-hop

vprn-next-hop

Syntax

vprn-next-hop *ip-address*

no vprn-next-hop

Context

[Tree] (config>service>system>bgp-evpn>eth-seg vprn-next-hop)

Full Context

configure service system bgp-evpn ethernet-segment vprn-next-hop

Description

This command configuresthe IPv4 or IPv6 address associated with an Ethernet Segment (ES). A virtual ES using this VPRN next-hop association represents a Layer 3 ES as described in *draft-sajassi-bess-evpn-ip-aliasing*. This IP address must be installed in the route table of the VPRN service identified by the EVI so that the Auto-Discovery per-ES or EVI routes for the ES are advertised. Only one VPRN next hop is supported per ES.

The **no** form of this command removes the IPv4 or IPv6 address association.

Default

no vprn-next-hop

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Parameters

ip-address

Specifies the IPv4 or IPv6 address associated with an Ethernet Segment.

Values ipv4-address - a.b.c.d

ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0..FFFF]H

d - [0..255]D

Platforms

All

50.84 vprn-ping

vprn-ping

Syntax

vprn-ping {*service-id* | **service** *service-name*} **source** *ip-address* **destination** *ip-address* [**fc** *fc-name* [**profile** {**in** | **out**}]] [**size** *size*] [**ttl** *vc-label-ttl*] [**count** *send-count*] [**return-control**] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (config>saa>test>type vprn-ping)

[Tree] (oam vprn-ping)

Full Context

configure saa test type vprn-ping

oam vprn-ping

Description

This command performs a VPRN ping and applies only to the 7750 SR and 7950 XRS.

Parameters

service-id

Specifies the VPRN service ID to diagnose or manage.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **configure saa test type vprn-ping service** *service-name* variant can be used in all configuration modes.

Values 1 to 2147483647

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service-name

Specifies the VPRN service name to diagnose or manage, up to 64 characters.

source *ip-address*

Specifies an unused IP address in the same network that is associated with the VPRN.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

destination *ip-address*

Specifies the IP address to be used as the destination for performing a VPRN ping operation.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

fc-name

Specifies the forwarding class of the MPLS echo request encapsulation.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation.

Default out

size

Specifies the OAM request packet size in bytes, expressed as a decimal integer.

Values 1 to 9786

Default 72

vc-label-ttl

Specifies the TTL value in the VC label for the OAM request, expressed as a decimal integer.

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Values 1 to 255

Default 255

send-count

Specifies the number of messages to send. The **count** parameter is used to override the default number of message requests sent. Each message request must either time out or receive a reply before the next message request is sent. The message **interval** value must have expired before the next message request is sent.

Values 1 to 100

Default 1

return-control

Specifies the response to come on the control plane.

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response was not received. Any response received after the request times out is silently discarded.

Values 1 to 100

Default 5

interval

Specifies the interval time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the **interval** is set to 1 second where the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

Platforms

All

Output

Output Example

```
A:PE_1# oam vprn-ping 25 source 10.4.128.1 destination 10.16.128.0
Sequence Node-id                              Reply-Path Size     RTT
-------------------------------------------------------------------------------
```


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```
[Send request Seq. 1.]
1        10.128.0.3:cpm                          In-Band   100      0ms
-------------------------------------------------------------------------------
...
A:PE_1#
-------------------------------------------------------------------------------
A:PE_1#
```

50.85 vprn-trace

vprn-trace

Syntax

vprn-trace {*service-id* | **service** *service-name*} **source** *ip-address* **destination** *ip-address* [**fc** *fc-name* [**profile** {**in** | **out**}]] [**size** *size*] [**min-ttl** *min-vc-label-ttl*] [**max-ttl** *max-vc-label-ttl*] [**probe-count** *send-count*] [**return-control**] [**timeout** *timeout*] [**interval** *interval*]

Context

[Tree] (config>saa>test>type vprn-trace)

[Tree] (oam vprn-trace)

Full Context

configure saa test type vprn-trace

oam vprn-trace

Description

This command is used to perform a VPRN trace.

Parameters

service-id

Specifies the VPRN service ID to diagnose or manage.

This variant of the command is only supported in 'classic' configuration-mode (**configure system management-interface configuration-mode classic**). The **configure saa test type vprn-trace service** *service-name* variant can be used in all configuration modes.

Values 1 to 2147483647

service-name

Specifies the VPRN service name to diagnose or manage, up to 64 characters.

source *ip-address*

Specifies the IP address for the source IP address in dotted decimal notation.

Values ipv4-address: a.b.c.d

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ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

destination *ip-address*

Specifies the IP address to be used as the destination for performing an vprn-trace operation.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

fc-name

Specifies the forwarding class of the MPLS echo request encapsulation.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

profile {in | out}

Specifies the profile state of the MPLS echo request encapsulation.

Default out

size

Specifies the OAM request packet size in bytes.

Values 1 to 9786

Default 1

min-vc-label-ttl

Specifies the minimum TTL value in the VC label for the trace test.

Values 1 to 255

Default 1

max-vc-label-ttl

Specifies the maximum TTL value in the VC label for the trace test.

Values 1 to 255

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Default 4

send-count

Specifies the number of OAM requests sent for a TTL value.

Values 1 to 10

Default 1

return-control

Specifies the OAM reply to a data plane OAM request be sent using the control plane instead of the data plane.

timeout

Specifies the time, in seconds, used to override the default *timeout* value and is the amount of time that the router waits for a message reply after sending the message request. Upon the expiration of the message time out, the requesting router assumes that the message response was not received. Any response received after the request times out is silently discarded.

Values 1 to 60

Default 3

interval

Specifies the time, in seconds, used to override the default request message send interval and defines the minimum amount of time that must expire before the next message request is sent.

If the **interval** is set to 1 second where the *timeout* value is set to 10 seconds, then the maximum time between message requests is 10 seconds and the minimum is 1 second. This depends upon the receipt of a message reply corresponding to the outstanding message request.

Values 1 to 10

Default 1

Platforms

All

Output

Output Example

```
A:PE_1# oam vprn-trace 25 source 10.4.128.1 destination 10.16.128.0
TTL Seq Reply Node-id         Rcvd-on         Reply-Path RTT
-------------------------------------------------------------------------------
[Send request TTL: 1, Seq. 1.]
1   1   1     10.128.0.4      cpm             In-Band    0ms
  Requestor 10.128.0.1 Route: 0.0.0.0/0
    Vpn Label: 131071 Metrics 0 Pref 170 Owner bgpVpn
    Next Hops: [1] ldp tunnel
```


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```
    Route Targets: [1]: target:65100:1
  Responder 10.128.0.4 Route: 10.16.128.0/24
    Vpn Label: 131071 Metrics 0 Pref 170 Owner bgpVpn
    Next Hops: [1] ldp tunnel
    Route Targets: [1]: target:65001:100

[Send request TTL: 2, Seq. 1.]
2   1   1     10.128.0.3      cpm             In-Band    0ms
  Requestor 10.128.0.1 Route: 0.0.0.0/0
    Vpn Label: 131071 Metrics 0 Pref 170 Owner bgpVpn
    Next Hops: [1] ldp tunnel
    Route Targets: [1]: target:65100:1
  Responder 10.128.0.3 Route: 10.16.128.0/24
    Vpn Label: 0 Metrics 0 Pref 0 Owner local
    Next Hops: [1] ifIdx 2 nextHopIp 10.16.128.0

[Send request TTL: 3, Seq. 1.]
[Send request TTL: 4, Seq. 1.]
...
-------------------------------------------------------------------------------
A:PE_1#
```

50.86 vprn-transit

vprn-transit

Syntax

vprn-transit [{**none** | **all** | **vc-only**}]

Context

[Tree] (config>router>ttl-propagate vprn-transit)

Full Context

configure router ttl-propagate vprn-transit

Description

This command configures the TTL propagation for in transit packets which are forwarded over a MPLS LSPs in all VPRN service contexts. For vpn-ipv4 and vpn-ipv6 packets forwarded in the context of all VPRN services in the system, including 6VPE packets, the all value of the command enables TTL propagation from the IP header into all labels in the stack:

The user can enable the TTL propagation behavior separately for locally generated packets by CPM (vprn-local) and for user and control packets in transit at the node (vprn-transit).

The vc-only value reverts to the default behavior by which the IP TTL is propagated into the VC label but not to the transport labels in the stack. The user can explicitly set the default behavior by configuring the vc-only value. This command does not have a no version.

The value none allows the user to disable the propagation of the IP TTL to all labels in the stack, including the VC label. This is needed for a transparent operation of UDP trace-route in VPRN inter-AS option B such that the ingress and egress ASBR nodes are not traced.

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The user can override the global configuration within each VPRN service instance using the following commands:

- config service vprn ttl-propagate local [inherit | none | vc-only | all]
- config service vprn ttl-propagate transit [inherit | none | vc-only | all]

The default behavior for a given VPRN instance is to inherit the global configuration for the same command. The user can explicitly set the default behavior by configuring the inherit value.

When a packet is received in a VPRN context but is looked up in the Global Routing Table (GRT), for example, leaking to GRT is enabled, the behavior of the TTL propagation is governed by the RSVP or LDP shortcut configuration when the matching routing is a LSP shortcut route. It is governed by the BGP label route configuration when the matching route is a RFC 8277 label route or a 6PE route.

When a packet is received on one VPRN instance and is redirected using Policy Based Routing (PBR) to be forwarded in another VPRN instance, the TTL propagation is governed by the configuration of the outgoing VPRN instance

Default

vprn-transit vc-only

Parameters

none

Specifies that the TTL of the IP packet is not propagated into the VC label or labels in the transport label stack

all

Specifies that the TTL of the IP packet is propagated into the VC label and all labels in the transport label stack.

vc-only

Specifies that the TTL of the IP packet is propagated into the VC label and not into the labels in the transport label stack.

Platforms

All

50.87 vrf-export

vrf-export

Syntax

vrf-export *plcy-or-long-expr* [*plcy-or-expr*]

no vrf-export

Context

[Tree] (config>service>vprn>bgp-evpn>vxlan vrf-export)

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[Tree] (config>service>vprn>bgp-evpn>mpls vrf-export)

[Tree] (config>service>vprn>bgp-ipvpn>mpls vrf-export)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 vrf-export)

Full Context

configure service vprn bgp-evpn vxlan vrf-export

configure service vprn bgp-evpn mpls vrf-export

configure service vprn bgp-ipvpn mpls vrf-export

configure service vprn bgp-ipvpn segment-routing-v6 vrf-export

Description

This command configures route policies that control how routes are exported from the local VRF to other VRFs on the same or remote PE routers (using MP-BGP). Route policies are configured in the **configure router policy-options** context.

The **vrf-export** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine final action to accept or reject the route.

Only one of the 15 objects referenced by the **vrf-export** command can be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters while the remaining 14 objects have a maximum length of 64 characters each.

When multiple **vrf-export** commands are issued, the last command entered overrides the previous command.

Aggregate routes are not advertised using MP-BGP protocols to the other MP-BGP peers.

The **no** form of this command removes all route policy names from the **vrf-export** list.

Default

no vrf-export

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters).

plcy-or-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Up to 14 policies may be entered.

Platforms

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan vrf-export

All

- configure service vprn bgp-ipvpn mpls vrf-export

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- configure service vprn bgp-evpn mpls vrf-export

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-ipvpn segment-routing-v6 vrf-export

vrf-export

Syntax

vrf-export {**unicast** | *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]]}

no vrf-export

Context

[Tree] (config>service>vprn>mvpn vrf-export)

Full Context

configure service vprn mvpn vrf-export

Description

This command specifies the export policy to control MVPN routes exported from the local VRF to other VRFs on the same or remote PE routers.

Default

vrf-export unicast

Parameters

unicast

Specifies to use unicast VRF export policy for the MVPN.

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Allowed values are any string up to 255 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

plcy-or-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. Up to 14 policies can be specified in a single statement.

Platforms

All

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vrf-export

Syntax

vrf-export

Context

[Tree] (config>service>vprn vrf-export)

Full Context

configure service vprn vrf-export

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

50.88 vrf-import

vrf-import

Syntax

vrf-import *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]]

no vrf-import

Context

[Tree] (config>service>vprn>bgp-ipvpn>mpls vrf-import)

[Tree] (config>service>vprn>bgp-evpn>mpls vrf-import)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 vrf-import)

[Tree] (config>service>vprn>bgp-evpn>vxlan vrf-import)

Full Context

configure service vprn bgp-ipvpn mpls vrf-import

configure service vprn bgp-evpn mpls vrf-import

configure service vprn bgp-ipvpn segment-routing-v6 vrf-import

configure service vprn bgp-evpn vxlan vrf-import

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Description

This command configures route policies that control how VPN-IP and EVPN-IFL routes exported by other VRFs, on the same or remote PEs, are imported into the local VRF. Route policies are configured in the **configure router policy-options** context.

The **vrf-import** command can reference up to 15 objects, where each object is either a policy logical expression or the name of a single policy. The objects are evaluated in the specified order to determine final action to accept or reject the route

Only one of the 15 objects referenced by the **vrf-import** command is allowed to be a policy logical expression consisting of policy names (enclosed in square brackets) and logical operators (AND, OR, NOT). The first of the 15 objects has a maximum length of 255 characters while the remaining 14 objects have a maximum length of 64 characters each.

When multiple **vrf-import** commands are issued, the last command entered overrides the previous command.

The **no** form of this command removes all route policy names from the import list

Note:
Unless the preference value is changed by the policy, BGP-VPN and EVPN-IFL routes imported with a **vrf-import** policy have the preference value of 170 when imported from remote PE routers, or retain the protocol preference value of the exported route when imported from other VRFs on the same router.

Default

no vrf-import

Parameters

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters).

plcy-or-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters).

Platforms

All

- configure service vprn bgp-ipvpn mpls vrf-import
- configure service vprn bgp-evpn mpls vrf-import

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-ipvpn segment-routing-v6 vrf-import

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan vrf-import

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vrf-import

Syntax

vrf-import {**unicast** | *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*]}

no vrf-import

Context

[Tree] (config>service>vprn>mvpn vrf-import)

Full Context

configure service vprn mvpn vrf-import

Description

This command specifies the import policy to control MVPN routes imported to the local VRF from other VRFs on the same or remote PE routers.

Default

vrf-import unicast

Parameters

unicast

Specifies to use a unicast VRF import policy for the MVPN.

plcy-or-long-expr

Specifies the route policy name (up to 64 characters) or a policy logical expression (up to 255 characters). Allowed values are any string up to 255 characters in length composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes.

plcy-or-expr

Specifies the route policy statement name or a policy logical expression. Allowed values are any string up to 64 characters composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed between double quotes. Up to 14 policies can be specified in a single statement.

Platforms

All

vrf-import

Syntax

vrf-import

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Context

[Tree] (config>service>vprn vrf-import)

Full Context

configure service vprn vrf-import

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

50.89 vrf-target

vrf-target

Syntax

vrf-target {*ext-community* | **export** *ext-community* | **import** *ext-community* | **export** *ext-community* **import** *ext-community*}

no vrf-target

Context

[Tree] (config>service>vprn>bgp-ipvpn>mpls vrf-target)

[Tree] (config>service>vprn>bgp-evpn>mpls vrf-target)

[Tree] (config>service>vprn>bgp-ipvpn>srv6 vrf-target)

[Tree] (config>service>vprn>bgp-evpn>vxlan vrf-target)

Full Context

configure service vprn bgp-ipvpn mpls vrf-target

configure service vprn bgp-evpn mpls vrf-target

configure service vprn bgp-ipvpn segment-routing-v6 vrf-target

configure service vprn bgp-evpn vxlan vrf-target

Description

This command provides a simplified method to configure the route target added to advertised routes or compared against received routes from other VRFs on the same or remote PE routers (using MP-BGP).

BGP-VPN and EVPN-IFL routes imported with a VRF target policy use the BGP preference value of 170 when imported from remote PE routers, or retain the protocol preference value of the exported route when imported from other VRFs in the same router.

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Specified VRF import or VRF export policies override the VRF target policy.

The **no** form of this command removes the VRF target policy.

Default

no vrf-target

Parameters

ext-comm

Specifies an extended BGP community in the *type:x:y* format. The value *x* can be an integer or IP address. The *type* can be the target or origin. *y* can be 16-bit integers.

Values

<ext-community>	: target:{<ip-addr:comm-val> | <2byte-asnumber:ext-comm-val> | <4byte-asnumber:comm-val>}	
	ip-addr:	a.b.c.d
	comm-val:	[0 to 65535]
	2byte-asnumber:	[0 to 65535]
	ext-comm-val:	[0 to 4294967295]
	4byte-asnumber:	[0 to 4294967295]

import *ext-community*

Specifies communities allowed to be received from remote PE neighbors.

export *ext-community*

Specifies communities allowed to be sent to remote PE neighbors.

Platforms

All

- configure service vprn bgp-ipvpn mpls vrf-target
- configure service vprn bgp-evpn mpls vrf-target

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-ipvpn segment-routing-v6 vrf-target

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan vrf-target

vrf-target

Syntax

vrf-target {**unicast** | *ext-community* | **export unicast** | *ext-community* | **import unicast** | *ext-community*}

no vrf-target

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Context

[Tree] (config>service>vprn>mvpn vrf-target)

Full Context

configure service vprn mvpn vrf-target

Description

This command specifies the route target to be added to the advertised routes or compared against the received routes from other VRFs on the same or remote PE routers. vrf-import or vrf-export policies override the vrf-target policy.

The **no** form of this command removes the vrf-target.

Default

no vrf-target

Parameters

unicast

Specifies to use unicast vrf-target ext-community for the multicast VPN.

ext-comm

An extended BGP community in the **type**:**x**:**y** format. The value **x** can be an integer or IP address. The **type** can be the target or origin. **x** and **y** are 16-bit integers.

Values target:{*ip-address*:*comm-val* | *2byte-asnumber:ext-comm-val* | 4byte-asnumber:comm-val}

ip-address:	a.b.c.d
comm-val:	0 to 65535
2byte-asnumber:	1 to 65535
4byte-asnumber	0 to 4294967295

import *ext-community*

Specifies communities allowed to be accepted from remote PE neighbors.

export *ext-community*

Specifies communities allowed to be sent to remote PE neighbors.

Platforms

All

vrf-target

Syntax

vrf-target

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Context

[Tree] (config>service>vprn vrf-target)

Full Context

configure service vprn vrf-target

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

50.90 vrgw

vrgw

Syntax

vrgw

Context

[Tree] (config>subscr-mgmt vrgw)

Full Context

configure subscriber-mgmt vrgw

Description

Commands in this context configure Virtual Residential Gateway parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

vrgw

Syntax

vrgw

Context

[Tree] (config>router vrgw)

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Full Context

configure router vrgw

Description

Commands in this context configure router Virtual Residential Gateway parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

vrgw

Syntax

vrgw

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>ranges>range vrgw)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range vrgw)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range vrgw

Description

Commands in this context configure Virtual Residential Gateway parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

vrgw

Syntax

vrgw

Context

[Tree] (debug>subscr-mgmt vrgw)

Full Context

debug subscriber-mgmt vrgw

Description

This command clears vRGW data.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

50.91 vrrp

vrrp

Syntax

vrrp *virtual-router-id* [**owner**] [**passive**] [**monitor-oper-group** *group-name*]

no vrrp *virtual-router-id*

Context

[Tree] (config>service>ies>if vrrp)

[Tree] (config>service>ies>if>ipv6 vrrp)

Full Context

configure service ies interface vrrp

configure service ies interface ipv6 vrrp

Description

This command configures the router to create or edit a Virtual Router ID (VRID) on the service IP interface. A VRID is internally represented in conjunction with the IP interface name. This allows the VRID to be used on multiple IP interfaces while representing different virtual router instances.

Two VRRP nodes can be defined on an IP interface. The **vrrp** *virtual-router-id* command is used to define the configuration parameters for the VRID.

The **no** form of this command removes the specified VRID from the IP interface. This terminates VRRP participation for the virtual router and deletes all references to the VRID. The VRID does not need to be shutdown to remove the virtual router instance.

Parameters

virtual-router-id

Specifies a virtual router ID or an ID that can be modified on the IP interface.

Values 1 to 255

owner

Keyword used to identify this virtual router instance as owning the virtual router IP addresses. If the **owner** keyword is not specified at the time of *vrid* creation, the **vrrp backup** commands must be specified to define the virtual router IP addresses. The **owner** keyword is not required when entering the *vrid* for editing purposes. When created as **owner**, a *vrid* on an IP interface cannot have the **owner** parameter removed. The *vrid* must be deleted, and then recreated without the **owner** keyword, to remove ownership.

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passive

Keyword used to identify this virtual router instance as **passive**, and therefore, owning the virtual router IP addresses. A **passive** *vrid* does not send or receive VRRP advertisement messages, and is always in either the **master** state (if the interface is operationally up), or the **init** state (if the interface is operationally down). The **passive** keyword is not required when entering the *vrid* for editing purposes. When a *vrid* on an IP interface is created as **passive**, the parameter cannot be removed from the *vrid*. The *vrid* must be deleted, and then recreated without the **passive** keyword, to remove parameter.

group-name

Specifies the name of the **oper-group**, up to 32 characters to establish the associated VRRP instance as a following instance to the specified operational group. As a result of this association, the VRRP instance state follows that of the VRRP instance (the lead instance) associated with the specified operation group.

Platforms

All

vrrp

Syntax

vrrp *virtual-router-id* [**owner**] [**passive**] [**monitor-oper-group** *group-name*]

no vrrp *virtual-router-id*

Context

[Tree] (config>service>vprn>if vrrp)

Full Context

configure service vprn interface vrrp

Description

This command configures the router to create or edit a Virtual Router ID (VRID) on the service IP interface. A VRID is internally represented in conjunction with the IP interface name. This allows the VRID to be used on multiple IP interfaces while representing different virtual router instances.

Two VRRP nodes can be defined on an IP interface. The **vrrp** *virtual-router-id* command is used to define the configuration parameters for the VRID.

The **no** form of this command removes the specified VRID from the IP interface. This terminates VRRP participation for the virtual router and deletes all references to the VRID. The VRID does not need to be shutdown to remove the virtual router instance.

Parameters

virtual-router-id

Specifies a virtual router ID or an ID that can be modified on the IP interface.

Values 1 to 255

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owner

Keyword used to identify this virtual router instance as owning the virtual router IP addresses. If the **owner** keyword is not specified at the time of *vrid* creation, the **vrrp backup** commands must be specified to define the virtual router IP addresses. The **owner** keyword is not required when entering the *vrid* for editing purposes. When created as **owner**, a *vrid* on an IP interface cannot have the **owner** parameter removed. The *vrid* must be deleted, and then recreated without the **owner** keyword, to remove ownership.

passive

Keyword used to identify this virtual router instance as **passive**, and therefore, owning the virtual router IP addresses. A **passive** *vrid* does not send or receive VRRP advertisement messages, and is always in either the **master** state (if the interface is operationally up), or the **init** state (if the interface is operationally down). The **passive** keyword is not required when entering the *vrid* for editing purposes. When a *vrid* on an IP interface is created as **passive**, the parameter cannot be removed from the *vrid*. The *vrid* must be deleted, and then recreated without the **passive** keyword, to remove parameter.

group-name

Specifies the name of the **oper-group**, up to 32 characters to establish the associated VRRP instance as a following instance to the specified operational group. As a result of this association, the VRRP instance state follows that of the VRRP instance (the lead instance) associated with the specified operation group.

Platforms

All

vrrp

Syntax

vrrp *virtual-router-id* [**owner**] [**passive**] [**monitor-oper-group** *group-name*]

no vrrp *virtual-router-id*

Context

[Tree] (config>router>if>ipv6 vrrp)

[Tree] (config>router>if vrrp)

Full Context

configure router interface ipv6 vrrp

configure router interface vrrp

Description

This command creates the context to configure a VRRP virtual router instance. A virtual router is defined by its virtual router identifier (VRID) and a set of IP addresses.

The optional **owner** keyword indicates that the **owner** controls the IP address of the virtual router and is responsible for forwarding packets sent to this IP address. The **owner** assumes the role of the master virtual router.

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All other virtual router instances participating in this message domain must have the same *vrid* configured and cannot be configured as **owner**. Once created, the **owner** keyword is optional when entering the *vrid* for configuration purposes.

A *vrid* is internally associated with the IP interface. This allows the *vrid* to be used on multiple IP interfaces while representing different virtual router instances.

For IPv4, up to four VRRP VRID nodes can be configured on a router interface. Each virtual router instance can manage up to 16 backup IP addresses. For IPv6, only one VRID can be configured on a router interface.

The optional **passive** keyword indicates that a *vrid* can be configured as **passive**, in which case, the VRRP advertisement messages are suppressed on transmission and reception, and all routers configured with the same *vrid* become master. Passive *VRIDs* can exceed the limit of four VRRP VRID nodes on a router interface.

The **no** form of the command removes the specified *vrid* from the IP interface. This terminates VRRP participation and deletes all references to the *vrid* in conjunction with the IP interface. The *vrid* does not need to be shut down to remove the virtual router instance.

Default

no vrrp — No VRRP virtual router instance is associated with the IP interface.

Parameters

virtual-router-id

The virtual router ID for the IP interface expressed as a decimal integer.

Values 1 to 255

owner

Keyword used to identify this virtual router instance as owning the virtual router IP addresses. If the **owner** keyword is not specified at the time of *vrid* creation, the **vrrp backup** commands must be specified to define the virtual router IP addresses. The **owner** keyword is not required when entering the *vrid* for editing purposes. When created as **owner**, a *vrid* on an IP interface cannot have the **owner** parameter removed. The *vrid* must be deleted, and then recreated without the **owner** keyword, to remove ownership.

passive

Keyword used to identify this virtual router instance as **passive**, therefore owning the virtual router IP addresses. A **passive** *vrid* does not send or receive VRRP advertisement messages and is always in either the **master** state (if the interface is operationally up), or the **init** state (if the interface is operationally down). The **passive** keyword is not required when entering the *vrid* for editing purposes. When a *vrid* on an IP interface is created as **passive**, the parameter cannot be removed from the *vrid*. The *vrid* must be deleted, and then recreated without the **passive** keyword, to remove the parameter.

group-name

Specifies the name of the **oper-group**, up to 32 characters to establish the associated VRRP instance as a following instance to the specified operational group. As a result of this association, the VRRP instance state follows that of the VRRP instance (the lead instance) associated with the specified operation group.

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Platforms

All

50.92 vsi-export

vsi-export

Syntax

vsi-export *policy-name* [*policy-name*]

no vsi-export

Context

[Tree] (config>service>vpls>bgp-ad vsi-export)

[Tree] (config>service>vpls>bgp vsi-export)

Full Context

configure service vpls bgp-ad vsi-export

configure service vpls bgp vsi-export

Description

This command specifies the name of the VSI export policies to be used for BGP EVPN, BGP auto discovery, BGP VPLS, BGP VPWS, and BGP multi-homing if these features are configured in this VPLS service.

If multiple policy names are configured, the policies are evaluated in the order they are specified. The first policy that matches is applied.

The policy name list is handled by the SNMP agent as a single entity.

The **no** form of this command removes the policy from the configuration.

Default

no vsi-export

Parameters

policy-name

Specifies up to five policy names, up to 32 characters.

Platforms

All

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vsi-export

Syntax

vsi-export *policy-name* [*policy-name*]

no vsi-export

Context

[Tree] (config>service>epipe>bgp vsi-export)

Full Context

configure service epipe bgp vsi-export

Description

This command specifies the name of the VSI export policies to be used for BGP EVPN, BGP VPWS and BGP multi-homing if these features are configured in this Epipe service.

If multiple policy names are configured, the policies are evaluated in the order they are specified. The first policy that matches is applied.

The policy name list is handled by the SNMP agent as a single entity.

The **no** form of this command removes the policy from the configuration.

Default

no vsi-export

Parameters

policy-name

Specifies up to five policy names, up to 32 characters.

Platforms

All

50.93 vsi-id

vsi-id

Syntax

vsi-id

Context

[Tree] (config>service>vpls>bgp-ad vsi-id)

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Full Context

configure service vpls bgp-ad vsi-id

Description

Commands in this context configure the Virtual Switch Instance Identifier (VSI-ID).

Platforms

All

50.94 vsi-import

vsi-import

Syntax

vsi-import *policy-name* [*policy-name*]

no vsi-import

Context

[Tree] (config>service>vpls>bgp vsi-import)

[Tree] (config>service>vpls>bgp-ad>vsi-id vsi-import)

Full Context

configure service vpls bgp vsi-import

configure service vpls bgp-ad vsi-id vsi-import

Description

This command specifies the name of the VSI import policies to be used for BGP EVPN, BGP auto discovery, BGP VPLS, BGP VPWS, and BGP multi-homing if these features are configured in this VPLS service.

If multiple policy names are configured, the policies are evaluated in the order they are specified. The first policy that matches is applied.

The policy name list is handled by the SNMP agent as a single entity.

The **no** form of this command removes the policy from the configuration.

Default

no vsi-import

Parameters

policy-name

Specifies up to five policy names, up to 32 characters.

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Platforms

All

vsi-import

Syntax

vsi-import *policy-name* [*policy-name*]

no vsi-import

Context

[Tree] (config>service>epipe>bgp vsi-import)

Full Context

configure service epipe bgp vsi-import

Description

This command specifies the name of the VSI import policies to be used for BGP EVPN, BGP VPWS and BGP multi-homing if these features are configured in this Epipe service.

If multiple policy names are configured, the policies are evaluated in the order they are specified. The first policy that matches is applied.

The policy name list is handled by the SNMP agent as a single entity.

The **no** form of this command removes the policy from the configuration.

Default

no vsi-import

Parameters

policy-name

Specifies up to five policy names, up to 32 characters.

Platforms

All

50.95 vxlan

vxlan

Syntax

vxlan vni *vni*

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no vxlan

Context

[Tree] (config>subscr-mgmt>isa-svc-chain>evpn>export vxlan)

Full Context

configure subscriber-mgmt isa-service-chaining evpn export vxlan

Description

This command configures a VXLAN VNI that is sent in EVPN routes advertised to the service chaining.

The **no** form of this command removes the VNI from the configuration.

Parameters

vni

Specifies the VNI of the VXLAN created by the EVPN service.

Values 1 to 16777215

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vxlan

Syntax

[**no**] **vxlan**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>type vxlan)

Full Context

configure subscriber-mgmt wlan-gw tunnel-query type vxlan

Description

This command enables matching on VXLAN tunnels.

The **no** form of this command disables matching on VXLAN tunnels, unless no other tunnel type specifier is configured.

Default

no vxlan

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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vxlan

Syntax

vxlan [**bgp** *bgp*] [**vxlan-instance** *vxlan-instance*]

no vxlan [**bgp** *bgp*]

Context

[Tree] (config>service>epipe>bgp-evpn vxlan)

[Tree] (config>service>vpls>bgp-evpn vxlan)

Full Context

configure service epipe bgp-evpn vxlan

configure service vpls bgp-evpn vxlan

Description

Commands in this context configure the VXLAN parameters when BGP EVPN is used as the control plane. In VPLS services, instance BGP 1 or BGP 2 can be configured, as well as VXLAN instances 1 or 2. Up to two instances of this command can be configured in the same service, as long as the BGP instance and the VXLAN instance are different in both commands. In Epipe services, only BGP instance 1 and VXLAN instance 1 is supported. If the BGP or VXLAN instance are not specified, the instances are by default set to 1.

The **no** version of this command will remove the vxlan instance from the service.

Parameters

bgp

Indicates the BGP instance identifier.

Values 1 to 2

vxlan-instance

Indicates the VXLAN instance identifier.

Values 1 to 2

Platforms

All

vxlan

Syntax

vxlan vni *vni-id* [**create**] [**instance** *instance-id*]

no vxlan [**vni** *vni-id*] [**instance** *instance-id*]

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Context

[Tree] (config>service>epipe vxlan)

Full Context

configure service epipe vxlan

Description

This command enables the use of VXLAN in the Epipe service.

The **no** version of this command will remove the VXLAN instance from the service.

Parameters

vni-id

Specifies the VXLAN network identifier configured in the Epipe service. When EVPN is used in the control plane, the configured VNI is encoded in the MPLS field of the NLRI. The VPLS service is operationally up when the **vxlan vni** *vni-id* is successfully created.

Values 1 to 16777215

Default 1

instance-id

Specifies the VXLAN instance identifier.

Values 1, 2

create

Mandatory keyword that creates a VXLAN instance.

Platforms

All

vxlan

Syntax

vxlan vni *vni-id* [**create**] [**instance** *instance-id*]

no vxlan [**vni** *vni-id*] [**instance** *instance-id*]

Context

[Tree] (config>service>vpls vxlan)

Full Context

configure service vpls vxlan

Description

This command enables the use of VXLAN in the VPLS service.

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The **no** version of this command will remove the VXLAN instance from the service.

Parameters

vni-id

Specifies the VXLAN network identifier configured in the VPLS service. When EVPN is used in the control plane, the configured VNI is encoded in the MPLS field of the NLRI. The VPLS service is operationally up when the **vxlan vni** *vni-id* is successfully created.

Values 1 to 16777215

Default 1

instance-id

Specifies the VXLAN instance identifier.

Values 1, 2

create

Mandatory keyword that creates a VXLAN instance.

Platforms

All

vxlan

Syntax

vxlan

Context

[Tree] (config>service>vprn vxlan)

Full Context

configure service vprn vxlan

Description

Commands in this context configure VXLAN parameters in the VPRN.

Platforms

All

vxlan

Syntax

vxlan

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Context

[Tree] (config>service>system vxlan)

Full Context

configure service system vxlan

Description

Commands in this context configure the vxlan global parameters.

Platforms

All

vxlan

Syntax

[**no**] **vxlan vtep** *vtep* **vni** *vni-id*

Context

[Tree] (debug>service>id>igmp-snooping vxlan)

Full Context

debug service id igmp-snooping vxlan

Description

This command shows IGMP packets for a specific VXLAN binding.

The **no** form of this command disables the debugging for that VXLAN binding.

Parameters

vtep

IP address of the VXLAN Termination Endpoint

vni

VXLAN Network Identifier of the VXLAN binding

Values 1 to 16777215

Platforms

All

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vxlan

Syntax

[**no**] **vxlan vtep** *vtep* **vni** *vni-id*

Context

[Tree] (debug>service>id>mld vxlan)

Full Context

debug service id mld-snooping vxlan

Description

This command shows MLD packets for a specific VXLAN binding.

The **no** form of this command disables the debugging for that VXLAN binding.

Parameters

vtep

IP address of the VXLAN Termination Endpoint

vni

VXLAN Network Identifier of the VXLAN binding

Values 1 to 16777215

Platforms

All

vxlan

Syntax

vxlan [**router** *router-name*]

vxlan service-name *service-name*

no vxlan

Context

[Tree] (config>fwd-path-ext>fpe vxlan)

Full Context

configure fwd-path-ext fpe vxlan

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Description

This command informs the system about the cross-connect type that is required for non-system IPv4 and IPv6 VXLAN termination. Internally, it triggers the automatic creation of two internal IP interfaces in the PXC ports and enables those internal interfaces to process and terminate VXLAN.

If no parameters are used, the VXLAN termination occurs in the base router; however, when the FPE is used for static VXLAN termination (no BGP-EVPN services), non-system IPv4 and IPv6 VXLAN can be terminated in a VPRN service. In this case, the VPRN router instance or service name must be configured with the **vxlan-termination** command.

The **no** form of this command disables the cross-connect type from the configuration.

Default

no vxlan-termination

Parameters

router-name

Specifies the router instance for VXLAN termination.

Values *router-name*: *router-name* or *vprn-svc-id*

router-name	"Base"
vprn-svc-id	1 to 2147483647

Default Base

service-name

Specifies the service name that identifies the VPRN for VXLAN termination, up to 64 characters.

Platforms

All

vxlan

Syntax

vxlan [**bgp** *bgp-instance*] [**vxlan-instance** *vxlan-instance*]

no vxlan [**bgp** *bgp-instance*]

Context

[Tree] (config>service>vprn>bgp-evpn vxlan)

Full Context

configure service vprn bgp-evpn vxlan

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Description

This command configures the BGP and VXLAN instance for the VXLAN in the VPRN service.

The **no** form of this command removes the VXLAN instance from the service.

Default

vxlan bgp 1 vxlan-instance 1

Parameters

bgp-instance

Specifies the BGP instance identifier.

Values 1 to 1

vxlan-instance

Specifies the VXLAN instance identifier.

Values 1 to 1

Platforms

7750 SR-1, 7750 SR-s

50.96 vxlan-ipv4-tep-ecmp

vxlan-ipv4-tep-ecmp

Syntax

[**no**] **vxlan-ipv4-tep-ecmp**

Context

[Tree] (config>service>vpls>allow-ip-int-bind vxlan-ipv4-tep-ecmp)

Full Context

configure service vpls allow-ip-int-bind vxlan-ipv4-tep-ecmp

Description

This command enables and disables ECMP on VXLAN IPv4 destinations for R-VPLS services. When this command is enabled, packets entering a VPRN connected to an R-VPLS that is terminating on a VXLAN IPv4 destination are looked up in the routing table. If the next hop is a VXLAN IPv4 TEP, the packets are distributed based on per-flow load-balancing.

This command can only be used in FP3- (or higher) routers. R-VPLS per-flow load-balancing for VXLAN IPv6 destinations works by default without this command.

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The **no** version of this command reverts the process to the default behavior of per-remote VTEP load-balancing.

Default

no vxlan-ipv4-tep-ecmp

Platforms

All

50.97 vxlan-ping

vxlan-ping

Syntax

vxlan-ping test-id *test-id* **service** *vpls-service-id* **dest-vni** *vxlan-network-id* **outer-ip-destination** *ipv4-address* [**outer-ip-source-udp** *udp-port-number*] [**outer-ip-ttl** *time-to-live*] [**inner-l2** *ieee-address*] [**inner-ip-source** *ipv4-address*] [**inner-ip-destination** *ipv4-address*] [**i-flag-on**] [**end-system** *ieee-address*] [**send-count** *packets*] [**interval** *interval-time*] [**timeout** *timeout-time*] [**padding** *tlv-size* [**reflect-pad**]] [**fc** *fc-name*] [**profile** { **in** | **out**}] [**reply-mode** {**overlay** | **udp**}]

Context

[Tree] (oam vxlan-ping)

Full Context

oam vxlan-ping

Description

Operational command used to validate the VXLAN Tunnel Endpoint (VXLAN) connectivity between peers.

Parameters

test-id

Specifies a value to identify the originator handle of the specific request. Each active test requires a unique test identifier.

Values 1 to 2147483647

vpls-service-id

Specifies the VPLS service used to launch the request and by extension pick up the source VNI information.

Values

service-id: 1 to 2147483647

svc-name: up to 64 characters

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vxlan-network-id

Specifies the target Vxlan network identifier on the terminating VTEP.

Values 1 to 16777215

outer-ip-destination *ipv4-address*

Specifies the IPv4 address of the terminating VTEP.

Values a.b.c.d

udp-port-number

Optional outer source UDP port number.

Values 1 to 65535

Default System-generated UDP port number

time-to-live

Specifies the optional outer time to live.

Values 1 to 255

Default 255

inner-l2 *ieee-address*

Specifies the destination MAC address used in the inner VXLAN header.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Default 00:00:00:00:00:00

inner-ip-source *ipv4-address*

Specifies the inner source IPv4 address.

Values a.b.c.d

Default System IPv4 Address

inner-ip-destination *ipv4-address*

Specifies the inner destination IPv4 address. Must be in the range 127/8.

Values 127.0.0.0 to 127.0.0.8

Default 127.0.0.1

i-flag-on

Sets the VNI Validation bit to 1, indicating that the OAMPDU contains a valid VNI.

Default i-flag set to "0” which prevents the OAMPDU form being forwarded beyond the terminating VTEP.

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end-system *ieee-address*

Optional command to include the sub TLV to validate an end system MAC address in the FDB. Only one MAC address may be included.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Default 00:00:00:00:00:00

packets

Specifies the number of VXLAN ping requests to transmit.

Values 1 to 1024

Default 1

interval-time

Specifies the probe interval, in seconds.

Values 0.1, 1 to 10

Default 1

timeout-time

Specifies the packet time out value, in seconds.

Values 1 to 10

Default 5

tlv-size

Specifies whether to include the Pad TLV and specifies the number of octets that defines the entire size of the pad TLV, including the type (2B), the length field (2B), the padding (variable).

Values 0, 5 to 2000

Default 0

reflect-pad

Instructs the responder to include the pad-tlv in the echo response. This option is not supported when the reply mode is "UDP”.

fc-name

Indicates the forwarding class that is exposed to the QoS policy as input into generating the outer CoS.

Values be, l2, af, l1, h2, ef, h1, nc

Default be

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profile {in | out}

Defines the frame's disposition that is exposed to the QoS policy as input into generating the outer CoS.

Default in

reply-mode {overlay | udp}

Instructs the responder how to route the VXLAN response.

Values **udp**: responds using UDP over the IP network. The default must be changed if the VTEP uses anything other than an IPv4 System Address as the source.

overlay: responds using the VXLAN overlay for the service

Default udp

Platforms

All

50.98 vxlan-port

vxlan-port

Syntax

vxlan-port [**4789** | **8472**]

no vxlan-port

Context

[Tree] (config>router>vrgw>lanext vxlan-port)

Full Context

configure router vrgw lanext vxlan-port

Description

This command specifies the destination UDP port for both ingress and egress VXLAN packets for HLE services.

The **no** form of this command reverts to the default.

Default

vxlan-port 4789

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Parameters

4789 | 8472

Specifies the destination UDP port.

Values 4789, 8472

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

50.99 vxlan-router-mac

vxlan-router-mac

Syntax

vxlan-router-mac *ieee-address*

no vxlan-router-mac

Context

[Tree] (config>service>system>bgp-evpn>ip-prefix-routes>ifl vxlan-router-mac)

Full Context

configure service system bgp-evpn ip-prefix-routes interface-less vxlan-router-mac

Description

This command configures the router MAC address of the VXLAN instance in the VPRN. This MAC address is encoded in the router MAC extended community that is advertised with the IP prefix routes with VXLAN encapsulation. The MAC address is configured at the system level and used by all the VPRN services configured with VXLAN instances.

When unconfigured, the chassis base MAC is used as the inner source MAC in the originated packets for all the EVPN IFL VXLAN instances, as well as in the MAC extended community of the router.

The **no** form of this command removes the router MAC address configuration.

Default

no vxlan-router-mac

Parameters

ieee-address

Specifies the router MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

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Platforms

7750 SR-1, 7750 SR-s

50.100 vxlan-src-vtep

vxlan-src-vtep

Syntax

vxlan-src-vtep {*ip-address* | *ipv6-address*}

no vxlan-src-vtep

Context

[Tree] (config>service>epipe vxlan-src-vtep)

[Tree] (config>service>vpls vxlan-src-vtep)

Full Context

configure service epipe vxlan-src-vtep

configure service vpls vxlan-src-vtep

Description

This command enables the router to use the configured IP address as the tunnel source IP address (source VTEP) when originating VXLAN-encapsulated frames for this service. This IP address is also used to set the BGP NLRI next hop in EVPN route advertisements for the service.

Default

no vxlan-src-vtep

Parameters

ip-address

Specifies the non-system IPv4 address that terminates VXLAN for a service.

ipv6-address

Specifies the IPv6 address that terminates VXLAN for a service.

Platforms

All

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50.101 vxlan-vni

vxlan-vni

Syntax

vxlan-vni [**eq** *vxlan-vni-id* | **range** *start end*]

no vxlan-vni

Context

[Tree] (config>qos>sap-ingress>ipv6-criteria>entry>match vxlan-vni)

[Tree] (config>qos>sap-ingress>ip-criteria>entry>match vxlan-vni)

Full Context

configure qos sap-ingress ipv6-criteria entry match vxlan-vni

configure qos sap-ingress ip-criteria entry match vxlan-vni

Description

This command configures a VXLAN or VXLAN GPE VNI to be used as a SAP QoS policy match criterion. A range of VNIs to be matched can be specified by including the keyword **range** with a *start* and *end* VNI. This command requires the **type** to be set to **vxlan-vni** in the related **ip-criteria** or **ipv6-criteria** context.

See Virtual Network Identifier (VNI) Classification for the list of restrictions for this command.

Default

no vxlan-vni

Parameters

eq *vxlan-vni-id*

Specifies the VXLAN or VXLAN GPE VNI to be matched in the SAP ingress QoS classification. The VNI can be specified in any of the available formats but is always shown in decimal.

Values 1 to 16777215 (Decimal)

0x1 to 0xFFFFFF (Hexadecimal)

[0b1 to 0b111111111111111111111111] (Binary)

range *startend*

Identifies a range of VNIs to be used as matching criteria. The *start* value must be lower than the *end* value. The VNI can be specified in any of the available formats but is always shown in decimal.

Values 1 to 16777215 (Decimal)

0x1 to 0xFFFFFF (Hexadecimal)

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[0b1 to 0b111111111111111111111111] (Binary)

Platforms

All

50.102 vxlan-vtep-range

vxlan-vtep-range

Syntax

vxlan-vtep-range start [*ip-address* | *ipv6-address*] **end** [*ip-address* | *ipv6-address*]

no vxlan-vtep-range

Context

[Tree] (config>router>isa-svc-chain vxlan-vtep-range)

Full Context

configure router isa-service-chaining vxlan-vtep-range

Description

This command specifies the address range to be used as the local VXLAN VTEP on the ISA for service chaining. The system allocates one address for each ISA in the NAT group out of the specified range. The allocated address appears as /32 or /128 routes in the global routing table with the route type **nat**.

The **no** form of this command removes the IP or IPv6 addresses from the configuration.

Parameters

start

Specifies the start address of the VXLAN VTEP range.

end

Specifies the end address of the VXLAN VTEP range.

ip-address

Specifies an IPv4 address start and end range.

Values ipv4-address - a.b.c.d

ipv6-address

Specifies an IPv6 address start and end range

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0..FFFF]H

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d - [0..255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

vxlan-vtep-range

Syntax

vxlan-vtep-range start *ip-address* | *ipv6-address* **end** *ip-address* | *ipv6-address*

no vxlan-vtep-range

Context

[Tree] (config>router>vrgw>lanext vxlan-vtep-range)

Full Context

configure router vrgw lanext vxlan-vtep-range

Description

This command specifies the address range to be used as the local VXLAN VTEP on the ISA for HLE services. The system allocates one address for each ISA in the WLAN GW group out of the specified range. The allocated address appears as /32 or /128 routes in the global routing table with the route type **nat**.

The **no** form of this command removes the values from the configuration.

Parameters

start

Specifies the start of the VXLAN VTEP range.

end

Specifies the end of the VXLAN VTEP range.

ip-address* | *ipv6-address

Specifies the range of VXLAN VTEP addresses.

Values <ip-address| ipv6-address : ipv4-address - a.b.c.d
ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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51 w Commands

51.1 wa-shared-high-wmark

wa-shared-high-wmark

Syntax

wa-shared-high-wmark *percent*

no wa-shared-high-wmark

Context

[Tree] (config>isa>aa-grp>qos>egress>to-sub wa-shared-high-wmark)

[Tree] (config>isa>aa-grp>qos>egress>from-sub wa-shared-high-wmark)

Full Context

configure isa application-assurance-group qos egress to-subscriber wa-shared-high-wmark

configure isa application-assurance-group qos egress from-subscriber wa-shared-high-wmark

Description

This command configures the high watermark for the weighted average utilization of the shared buffer space in the **from-subscriber** buffer pool for each ISA. When a buffer pool is not in the overload state and the wa-shared buffer utilization for an ISA crosses above the high watermark value in the ISA **from-subscriber** buffer pool enters an overload state and an overload notification is raised.

The **no** form of this command reverts to the default.

Default

wa-shared-high-wmark max

Parameters

percent

Specifies the weighted average shared buffer utilization high watermark.

Values 1 to 100, **max** percent (disabled)

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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51.2 wa-shared-low-wmark

wa-shared-low-wmark

Syntax

wa-shared-low-wmark *percent*

no wa-shared-low-wmark

Context

[Tree] (config>isa>aa-grp>qos>egress>from-sub wa-shared-low-wmark)

[Tree] (config>isa>aa-grp>qos>egress>to-sub wa-shared-low-wmark)

Full Context

configure isa application-assurance-group qos egress from-subscriber wa-shared-low-wmark

configure isa application-assurance-group qos egress to-subscriber wa-shared-low-wmark

Description

This command configures the low watermark for the weighted average utilization of the shared buffer space in the **from-subscriber** buffer pool. When a buffer pool is in an overloaded state and the wa-shared buffer utilization for an ISA drops below low watermark value ISA **from-subscriber** buffer pool leaves the overload state and a is sent to indicate the overload state has cleared.

The **no** form of this command reverts to the default.

Default

wa-shared-low-wmark 0

Parameters

percent

Specifies the weighted average shared buffer utilization low watermark.

Values 0 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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51.3 wait

wait

Syntax

wait *seconds*

Context

[Tree] (bof wait)

Full Context

bof wait

Description

This command configures a pause, in seconds, at the start of the boot process which allows system initialization to be interrupted at the console.

When system initialization is interrupted the operator is allowed to manually override the parameters defined in the boot option file (BOF).

Only one **wait** command can be defined in the BOF.

Default

wait 3

Parameters

seconds

Specifies the time to pause at the start of the boot process, in seconds.

Values 1 to10

Platforms

All

51.4 wait-for-up-timer

wait-for-up-timer

Syntax

wait-for-up-timer *seconds*

no wait-for-up-timer

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Context

[Tree] (config>router>mpls>lsp>secondary>bfd wait-for-up-timer)

[Tree] (config>router>mpls>lsp>primary>bfd wait-for-up-timer)

[Tree] (config>router>mpls>lsp-template>bfd wait-for-up-timer)

[Tree] (config>router>mpls>lsp>bfd wait-for-up-timer)

Full Context

configure router mpls lsp secondary bfd wait-for-up-timer

configure router mpls lsp primary bfd wait-for-up-timer

configure router mpls lsp-template bfd wait-for-up-timer

configure router mpls lsp bfd wait-for-up-timer

Description

This command configures the time to wait for a BFD to come up in seconds. This timer is applicable to SR-TE LSPs, including auto-LSPs and PCE-initiated LSPs, as well as RSVP-TE LSPs. In case of SR-TE LSPs, this timer takes effect if BFD does not come up, or BFD goes from up to down. The timer is started when BFD is first enabled on a path or BFD transitions from up to down. When the timer expires if BFD is not yet come up, then the path is torn down by removing it from the TTM and the IOM and the retry timer is started.

In case of RSVP-TE LSPs, the timer controls the following:

- a path undergoing MBB when BFD is up on the original path
- the initial administrative enable of an LSP
- signaling retry of non-standby secondary paths

The **no** form of this command sets the timer to its default value.

Default

no wait-for-up-timer

Parameters

seconds

Specifies the BFD wait for up timer in seconds.

Values 0 to 60

Default 4

Platforms

All

- configure router mpls lsp bfd wait-for-up-timer
- configure router mpls lsp secondary bfd wait-for-up-timer
- configure router mpls lsp primary bfd wait-for-up-timer

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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- configure router mpls lsp-template bfd wait-for-up-timer

wait-for-up-timer

Syntax

wait-for-up-timer *seconds*

no wait-for-up-timer

Context

[Tree] (config>service>ies>interface>spoke-sdp>bfd wait-for-up-timer)

[Tree] (config>service>epipe>spoke-sdp>bfd wait-for-up-timer)

[Tree] (config>service>vprn>interface>spoke-sdp>bfd wait-for-up-timer)

[Tree] (config>service>vpls>spoke-sdp>bfd wait-for-up-timer)

Full Context

configure service ies interface spoke-sdp bfd wait-for-up-timer

configure service epipe spoke-sdp bfd wait-for-up-timer

configure service vprn interface spoke-sdp bfd wait-for-up-timer

configure service vpls spoke-sdp bfd wait-for-up-timer

Description

This command configures the time interval, in seconds, that is used to wait for a BFD session to come up.

This command is triggered when a spoke-SDP is first administratively enabled and a VCCV BFD session transitions from up to down. The command is required to allow time for BFD sessions to come up, and for BFD to settle before selecting the active spoke-SDP to use in a redundant set. In the case where a VCCV BFD session is bouncing, the timer prevents excessive flapping of the operational state of a spoke-SDP.

The **no** form of this command disables the timer.

Default

no wait-for-up-timer

Parameters

seconds

Specifies the wait interval, in seconds, for the BFD up timer.

Values 1 to 60

Platforms

All

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51.5 wait-to-restore

wait-to-restore

Syntax

wait-to-restore *interval*

no wait-to-restore

Context

[Tree] (config>router>mpls>mpls-tp>protection-template wait-to-restore)

Full Context

configure router mpls mpls-tp protection-template wait-to-restore

Description

This command configures the WTR timer. It determines how long to wait until the active path of an MPLS-TP LSP is restored to the working path following the clearing of a defect on the working path. It is applicable to revertive mode, only.

Default

wait-to-restore 300

Parameters

interval

Specifies the WTR timer interval in 1 second increments.

Values 0 to 720 seconds

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

wait-to-restore

Syntax

wait-to-restore *minutes*

no wait-to-restore

Context

[Tree] (config>system>sync-if-timing wait-to-restore)

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Full Context

configure system sync-if-timing wait-to-restore

Description

This command configures the time for the Wait to Restore timer. A previously failed input reference must be valid for the time specified before it is used for either the BITSout or the central clock input reference.

The **no** form of this command disables the timer.

Default

no wait-to-restore

Parameters

minutes

Specifies a value representing the number of minutes for the wait to restore timeout.

Values 1 to 12

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

51.6 wap1x

wap1x

Syntax

wap1x

Context

[Tree] (config>app-assure>group wap1x)

Full Context

configure application-assurance group wap1x

Description

This command configures the Wireless Application Protocol (WAP) 1.X.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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51.7 warm-standby

warm-standby

Syntax

warm-standby

Context

[Tree] (config>redundancy>multi-chassis>peer warm-standby)

Full Context

configure redundancy multi-chassis peer warm-standby

Description

This command enables Oversubscribed Multi-Chassis Redundancy (OMCR) model where subscriber hosts are synchronized between the two chassis only in the control plane and are kept there (as part of the Multi-Chassis Synchronization (MCS) state) until the switchover occurs. Link or nodal failure will trigger the switchover at which point the subscriber hosts are being fully instantiated in the control and the forwarding plane. This approach allows oversubscription of the resources in the central standby (or protecting) node that is backing-up several active nodes. The total number of protected subscribers in the OMCR cluster exceeds the forwarding capacity of the protecting node. This is achievable by not fully occupying the resources for the subscriber hosts until the failure occurs.

The restoration times depend on the amount of the subscriber hosts that are affected by the switchover and it is related to the time needed for the full instantiation of the subscribers in the forwarding plane.

Although this command is configured on a peer level, the warm-standby property is a nodal characteristic. In other words, mixing of N:1 and 1:1 (hot standby) mode in the central standby node is not supported. Consequently all peers on the central standby node must be configured for warm-standby (N:1), or all peers must be configured for hot-standby (1:1) by omitting the warm-standby keyword from the configuration.

The peer of the central backup node is not aware of the redundancy model supported. In in other words, the peer of the central-backup node does not know whether it peers with a warm-standby peer or host-standby-peer.

Platforms

7750 SR

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51.8 warnings

warnings

Syntax

[**no**] **warnings**

Context

[Tree] (debug>dynsvc>scripts>script>event warnings)

[Tree] (debug>dynsvc>scripts>event warnings)

[Tree] (debug>dynsvc>scripts>inst>event warnings)

Full Context

debug dynamic-services scripts script event warnings

debug dynamic-services scripts event warnings

debug dynamic-services scripts instance event warnings

Description

This command enables the generation of a specific dynamic data service script debugging event output: warnings.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

51.9 watchdog-timer

watchdog-timer

Syntax

watchdog-timer *seconds*

no watchdog-timer

Context

[Tree] (config>aaa>diam>node>peer watchdog-timer)

Full Context

configure aaa diameter node peer watchdog-timer

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Description

Watchdog messages are used to verify liveliness of a Diameter peer. A single watchdog message is sent to a peer in case that no traffic is received from it within a configured watchdog-timer. This watchdog request message solicits a watchdog answer message from the peer. If no traffic (watchdog answer or otherwise) is received from the peer in response to watchdog request while the watchdog timer is running, the peer ise put in suspicious state and a peer failover routine is triggered.

The peer closes after it has been in suspicious mode for the duration of one more watchdog-timer interval without receiving any traffic from it.

After the peer is recovered, it takes three successful exchanges of diameter watchdog messages (DWR/DWA) for the peer to become used again in Diameter forwarding. This behavior is described in RFC 3539, §3.4.1, *Authentication, Authorization and Accounting (AAA) Transport Profile*).

This command is not applicable to legacy implementations of Diameter base in the SR OS.

The **no** form of this command removes the watchdog timer value from the configuration.

Default

watchdog-timer 30

Parameters

seconds

Specifies the device watchdog timer, in seconds, used on all connections by this peer.

Values 1 to 1000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

51.10 watermark

watermark

Syntax

watermark

Context

[Tree] (config>isa>video-group watermark)

Full Context

configure isa video-group watermark

Description

Commands in this context configure watermark parameters.

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Platforms

7450 ESS, 7750 SR, 7750 SR-s

51.11 watermarks

watermarks

Syntax

watermarks

Context

[Tree] (config>isa>wlan-gw-group watermarks)

Full Context

configure isa wlan-gw-group watermarks

Description

Commands in this context configure ISA watermark notifications.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

watermarks

Syntax

watermarks high *high-percentage* **low** *low-percentage*

no watermarks

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager watermarks)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager watermarks)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager watermarks

configure service ies subscriber-interface wlan-gw pool-manager watermarks

Description

This command configures the watermarks used to determine if a new prefix should be allocated or an old prefix should be removed. A new prefix is allocated when the total usage level for the ISA reaches the high

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watermark. A prefix is freed if no addresses are currently in use and the usage level without this prefix would be below the low watermark.

The **no** form of this command resets the watermarks to its default values of 95% high and 90% low.

Default

watermarks high 95 low 90

Parameters

high-percentage

Specifies the high watermark.

Values 80 to 99

low-percentage

Specifies the low watermark. The value must be lower than the high percentage value.

Values 50 to 98

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

watermarks

Syntax

watermarks high *percentage-high* **low** *percentage-low*

no watermarks

Context

[Tree] (config>service>vprn>nat>outside>pool watermarks)

[Tree] (config>router>nat>outside>pool watermarks)

Full Context

configure service vprn nat outside pool watermarks

configure router nat outside pool watermarks

Description

This command configures the watermarks for ports or port-block utilization in a NAT pool.

For CGN and L2-aware NAT, the port and port-block watermarks are used to monitor ports or port-block utilization in a NAT pool. High and low thresholds are configured in percentages of total available port-blocks or ports per protocol in a pool.

For LSN44 pools with flexible port allocation, the watermarks represent the port utilization per outside IP address if paired address pooling is enabled. If an arbitrary address pooling is enabled, then the watermarks represent the port utilization per pool.

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For port-block based pools where flexible port allocation is disabled, the watermarks represent port-block occupancy per pool. These watermarks cover combined initial and extended port-blocks in a NAT pool. If the extended port blocks are not enabled in L2-aware NAT, then the L2-aware pool contains only the initial port-blocks.

For the system to generate those events, the NAT event ID is configured as follows:

- 2001 is enabled for L2-aware pools which do not use l2-aware port-block-extensions
- 2003 is enabled for port-blocks based LSN pools
- 2044 is enabled for L2-aware pools which use l2aware port-block-extension
- 2046 is enabled for port based LSN pools for flexible-port-allocation

Event IDs are enabled via log event control configuration.

Default

no watermarks

Parameters

high percentage-high

Specifies the high percentage.

Values 1 to 100

low percentage-low

Specifies the low percentage.

Values 0 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

watermarks

Syntax

watermarks high *percentage* **low** *percentage*

no watermarks

Context

[Tree] (config>isa>wlan-gw-group>nat>session-limits watermarks)

[Tree] (config>isa>nat-group>session-limits watermarks)

[Tree] (config>service>nat watermarks)

Full Context

configure isa wlan-gw-group nat session-limits watermarks

configure isa nat-group session-limits watermarks

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configure service nat watermarks

Description

This command configures the ISA NAT or WLAN-GW group watermarks.

Default

no watermarks

Parameters

high *percentage*

Specifies the high watermark of the number of sessions for each MDA in this NAT ISA or WLAN-GW group.

Values 1 to 100

low *percentage*

Specifies the low watermark of the number of sessions for each MDA in this NAT ISA or WLAN-GW group.

Values 0 to 99

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure isa wlan-gw-group nat session-limits watermarks

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure isa nat-group session-limits watermarks
- configure service nat watermarks

watermarks

Syntax

watermarks high *percentage-high* **low** *percentage-low*

no watermarks

Context

[Tree] (config>service>nat>nat-policy>port-limits watermarks)

[Tree] (config>service>nat>up-nat-policy>port-limits watermarks)

Full Context

configure service nat nat-policy port-limits watermarks

configure service nat up-nat-policy port-limits watermarks

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Description

This command configures the port usage watermarks for the NAT policy.

Default

no watermarks

Parameters

percentage-high

Specifies the high percentage.

Values 1 to 100

percentage-low

Specifies the low percentage.

Values 0 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

watermarks

Syntax

watermarks high *percentage-high* **low** *percentage-low*

no watermarks

Context

[Tree] (config>service>nat>firewall-policy>session-limits watermarks)

[Tree] (config>service>nat>up-nat-policy>session-limits watermarks)

[Tree] (config>service>nat>nat-policy>session-limits watermarks)

Full Context

configure service nat firewall-policy session-limits watermarks

configure service nat up-nat-policy session-limits watermarks

configure service nat nat-policy session-limits watermarks

Description

This command configures the session watermarks for the NAT or residential firewall policy.

Default

no watermarks

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Parameters

percentage-high

Specifies the high percentage.

Values 1 to 100

percentage-low

Specifies the low percentage.

Values 0 to 99

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat firewall-policy session-limits watermarks

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure service nat up-nat-policy session-limits watermarks
- configure service nat nat-policy session-limits watermarks

watermarks

Syntax

watermarks high *high-percentage* **low** *low-percentage*

no watermarks

Context

[Tree] (config>service>nat>up-nat-policy>port-block-extensions watermarks)

Full Context

configure service nat up-nat-policy port-block-extensions watermarks

Description

This command configures the extended port block watermarks used to monitor utilization of the port block space per outside IP in a NAT pool reserved for extended port blocks. Configure extended port blocks in addition to the initial port blocks optionally allocated to each NAT subscriber.

The high and low thresholds are configured in percentages of the total extended port blocks per outside IP in a NAT pool. Both values represent extended port-block utilization or occupancy per outside IP in a NAT pool.

Note: For the system to generate these events, you must enable the NAT event ID 2045 using the configuration in the log event-control.

The **no** form of this command reverts the watermarks to the default value.

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Default

no watermarks

Parameters

high-percentage

Specifies the high threshold value in the percentages of the total extended port-block space per outside IP in a NAT pool .

Values 1 to 100

low-percentage

Specifies the low threshold value in the percentage of the total extended port-block space per outside IP in a NAT pool.

Values 0 to 99

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

51.12 web-service

web-service

Syntax

web-service

Context

[Tree] (config>app-assure>group>url-filter web-service)

Full Context

configure application-assurance group url-filter web-service

Description

Commands in this context configure the URL filter policy using web-service filtering. The operator must configure the web service, host name, DNS server to use, the AA interface VLAN ID, and provision the category profiles.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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51.13 web-service-url-filter

web-service-url-filter

Syntax

web-service-url-filter *size*

Context

[Tree] (config>isa>aa-grp>shared-resources web-service-url-filter)

Full Context

configure isa application-assurance-group shared-resources web-service-url-filter

Description

This command configures the amount of shared memory to be used by the web service URL filter cache.

Default

web-service-url-filter 100

Parameters

size

Specifies the amount of shared memory as a percentage.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

51.14 weekday

weekday

Syntax

weekday {*weekday-number* [..*weekday-number*] | *day-name* [..*day-name*] | **all**}

no weekday

Context

[Tree] (config>system>cron>sched weekday)

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Full Context

configure system cron schedule weekday

Description

This command specifies which days of the week that the schedule will fire on. Multiple days of the week can be specified. When multiple days are configured, each of them will cause the schedule to occur. If a weekday is configured without configuring the month, weekday, day-of-month, and minute, the event will not execute.

Using the **weekday** command as well as the **day-of month** command will cause the script to run twice. For example, consider that today is Monday January 1. If Tuesday January 5 is configured, the script will run on Tuesday (tomorrow) as well as January 5 (Friday).

The **no** form of this command removes the specified weekday from the configuration.

Default

no weekday

Parameters

weekday-number

Specifies a weekday number.

Values 1 to 7 (maximum 7 weekday-numbers)

day-name

Specifies a day by name.

Values sunday, monday, tuesday, wednesday, thursday, friday, saturday (maximum 7 weekday names)

all

Specifies all days of the week.

Platforms

All

51.15 weight

weight

Syntax

weight *initial-weight-percentage weight-change-percentage*

no weight

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Context

[Tree] (config>subscr-mgmt>sla-profile>egress>bonding-selection weight)

Full Context

configure subscriber-mgmt sla-profile egress bonding-selection weight

Description

This command configures the initial (and also the maximum) weight of the preferred connection and the value with which it can change.

The **no** form of this command resets the weight to the default.

Default

weight 100 5

Parameters

initial-weight-percentage

Specifies the initial or maximum weight, as a percentage of the offered weight.

Values 1 to 100

weight-change-percentage

Specifies the weight change, as a percentage.

Values 0 to 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

weight

Syntax

weight *weight*

no weight

Context

[Tree] (conf>router>segment-routing>sr-policies>policy>seg-list weight)

Full Context

configure router segment-routing sr-policies static-policy segment-list weight

Description

This command associates a weight value with a segment list of a statically-defined segment routing policy to achieve weighted ECMP behavior. Weight is an optional parameter.

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When any segment-list in the active policy has a weight greater than 1, traffic matching the policy is load-balanced across the segment lists according to their relative weight values.

The **no** form of this command reverts to the default value.

Default

weight 1

Parameters

weight

Specifies the weight value.

Values 1 to 4294967295

Platforms

All

51.16 weight-down

weight-down

Syntax

[**no**] **weight-down** *lag-ports-down-weight*

Context

[Tree] (config>vrrp>policy>priority-event>lag-port-down weight-down)

Full Context

configure vrrp policy priority-event lag-port-down weight-down

Description

This command creates a context to configure an event set threshold within a lag-port-down priority control event. The weight-down command defines a sub-node within the lag-port-down event and is uniquely identified with the lag-ports-down-weight parameter. Each weight-down node within the same lag-port-down event node must have a unique lag-ports-down-weight value. Each weight-down node has its own priority command that takes effect whenever that node represents the current threshold. A single LAG can use either weight-based (**weight-down**) or port-based (**number-down**) thresholds. The weight-based thresholds are required for correct operation on mixed port-speed LAGs, but can be used for non mixed port-speed LAGs as well. The weights for the **weight-down** node are normalized from the **hash-weight** values of the LAG member ports to fit a 1 to 64 range for 64-link capable LAGs and a 1 to 32 range for other LAGs.

The total number of sub-nodes (uniquely identified by the lag-ports-down-weight parameter) allowed in the system is 2048.

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A **weight-down** node is not required for each possible number of ports that could be down. The active threshold is always the closest lower threshold.

The **no** form of the command deletes the event set threshold. The threshold may be removed at any time. If the removed threshold is the current active threshold, the event set thresholds must be re-evaluated after removal.

Default

no weight-down

Parameters

lag-ports-down-weight

The total weight of LAG ports down to create a set event threshold. This is the active threshold when the weight of down ports in the LAG equals or exceeds *lag-ports-down-weight*, but does not equal or exceed the next highest configured *lag-ports-down-weight*.

Values 1 to 64 (for 64-link capable LAGs)

1 to 32 (for other LAGs)

Platforms

All

51.17 weighted-ecmp

weighted-ecmp

Syntax

[**no**] **weighted-ecmp**

Context

[Tree] (config>service>vpls>bgp-evpn>mpls>auto-bind-tunnel weighted-ecmp)

[Tree] (config>service>vprn>bgp-ipvpn>mpls>auto-bind-tunnel weighted-ecmp)

[Tree] (config>service>epipe>bgp-evpn>mpls>auto-bind-tunnel weighted-ecmp)

[Tree] (config>service>vprn>bgp-evpn>mpls>auto-bind-tunnel weighted-ecmp)

Full Context

configure service vpls bgp-evpn mpls auto-bind-tunnel weighted-ecmp

configure service vprn bgp-ipvpn mpls auto-bind-tunnel weighted-ecmp

configure service epipe bgp-evpn mpls auto-bind-tunnel weighted-ecmp

configure service vprn bgp-evpn mpls auto-bind-tunnel weighted-ecmp

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Description

This command enables weighted ECMP for packets using tunnels that a VPRN, VPLS, or Epipe automatically binds to. When weighted ECMP is enabled, packets are sprayed across LSPs in the ECMP according to the outcome of the hash algorithm and the configured load balancing weight of each LSP.

The **no** form of this command disables weighted ECMP for next hop tunnel selection.

Default

no weighted-ecmp

Platforms

All

weighted-ecmp

Syntax

[**no**] **weighted-ecmp**

Context

[Tree] (configure>service>vprn>bgp-evpn>srv6>evpn-link-bw weighted-ecmp)

[Tree] (configure>service>vprn>bgp-evpn>mpls>evpn>evpn-link-bw weighted-ecmp)

[Tree] (configure>service>vpls>bgp-evpn>ip-route-link-bw weighted-ecmp)

[Tree] (configure>service>vprn>bgp-evpn>vxlan>evpn-link-bw weighted-ecmp)

Full Context

configure service vprn bgp-evpn segment-routing-v6 evpn-link-bandwidth weighted-ecmp

configure service vprn bgp-evpn mpls evpn-link-bandwidth weighted-ecmp

configure service vpls bgp-evpn ip-route-link-bandwidth weighted-ecmp

configure service vprn bgp-evpn vxlan evpn-link-bandwidth weighted-ecmp

Description

This command enables the processing of the EVPN link bandwidth extended community when installing an ECMP set for an EVPN IP prefix route in the VPRN route table.

Flows to an IP prefix received with a weight and a zero ESI value are sprayed according to the weight. If the EVPN IP prefix route received with the weight has a non-zero ESI, the weight is divided into the number of PEs attached to the Ethernet Segment (and rounded up if the result is not an integer).

This command also enables the weighted ECMP functionality for BGP CEs where the weight is configured with the **evpn-link-bandwidth add-to-received-bgp** command.

The **no** form of this command disables EVPN link bandwidth extended community.

Default

no weighted-ecmp

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Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

- configure service vprn bgp-evpn segment-routing-v6 evpn-link-bandwidth weighted-ecmp

All

- configure service vpls bgp-evpn ip-route-link-bandwidth weighted-ecmp
- configure service vprn bgp-evpn mpls evpn-link-bandwidth weighted-ecmp

7750 SR-1, 7750 SR-s

- configure service vprn bgp-evpn vxlan evpn-link-bandwidth weighted-ecmp

weighted-ecmp

Syntax

weighted-ecmp

Context

[Tree] (config>service>vprn weighted-ecmp)

Full Context

configure service vprn weighted-ecmp

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

weighted-ecmp

Syntax

[**no**] **weighted-ecmp**

Context

[Tree] (config>router>ldp weighted-ecmp)

Full Context

configure router ldp weighted-ecmp

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Description

This command enables weighted ECMP on LDP using RSVP LSPs or SR-TE LSPs. LDP labeled packets are sprayed across the RSVP or SR-TE LSP ECMP in proportion to the configured **load-balancing-weight** of LSPs.

The **no** form of this command removes weighted ECMP.

Default

no weighted-ecmp

Platforms

All

weighted-ecmp

Syntax

weighted-ecmp [**strict**]

no weighted-ecmp

Context

[Tree] (config>router weighted-ecmp)

Full Context

configure router weighted-ecmp

Description

This command enables the weighted load-balancing, or weighted ECMP, over MPLS LSP.

When this command is enabled, packets of IGP, BGP, and static route prefixes resolved to a set of ECMP tunnel next-hops are sprayed proportionally to the weights configured for each MPLS LSP in the ECMP set.

Weighted load-balancing over MPLS LSP is supported in the following forwarding contexts:

- IGP prefix resolved to IGP shortcuts in RTM (**igp-shortcut** or **advertise-tunnel-link** enabled in the IGP instance).
- BGP prefix with the BGP next-hop resolved to IGP shortcuts in RTM (**igp-shortcut** or **advertise-tunnel-link** enabled in the IGP instance).
- Static route prefix resolved to an indirect next-hop, which itself is resolved to a set of equal-metric MPLS LSPs in TTM. The user can allow automatic selection or specify the names of the equal-metric MPLS LSPs in TTM to be used in the ECMP set.
- Static route prefix resolved to an indirect next-hop, which is resolved to IGP shortcuts in RTM.
- BGP prefix with a BGP next-hop resolved to a static route, which resolves to a set of tunnel next-hops toward an indirect next-hop in RTM or TTM.
- BGP prefix resolving to another BGP prefix, whose next-hop is resolved to a set of ECMP tunnel next-hops with a static route in RTM or TTM or to IGP shortcuts in RTM.

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IGP computes the normalized weight for each prefix tunnel next-hop. IGP updates the route in RTM with the set of tunnel next-hops and normalized weights. RTM downloads the information to IOM for inclusion in the FIB.

If one or more LSPs in the ECMP set of a prefix do not have a weight configured, the regular ECMP spraying for the prefix will be performed.

The weight assigned to an LSP impacts only the forwarding decision, not the routing decision. In other words, it does not change the selection of the set of ECMP tunnel next-hops of a prefix when more next-hops exist than the value of the router **ecmp** option. Once the set of tunnel next-hops is selected, the LSP weight is used to modulate the amount of packets forwarded over each next-hop. It also does not change the hash routine, but only the spraying of the flows over the tunnel next-hops is modified to reflect the normalized weight of each tunnel next-hop.

The **no** form of this command resumes regular ECMP spraying of packets of IGP, BGP, and static route prefixes over MPLS LSP.

Default

no weighted-ecmp

Parameters

strict

Enables strict enforcement for a load balancing weight to be configured on each interface withing a wECMP interface bundle before the interface is taken into wECMP operation. However, when **strict** enforcement is not enabled, then, when **load-balancing-weight** is not configured on one or more interfaces within the wECMP interface bundle, the wECMP load-balancing falls back to classic ECMP operation and equally share the traffic load across the ECMP interface bundle. A special case is when none of the available paths or next-hops have a load balancing weight associated. Then, the load balancing falls back to classic ECMP.

Strict load balancing is only applied on IS-IS, OSPF, and static route entries.

Platforms

All

weighted-ecmp

Syntax

[**no**] **weighted-ecmp**

Context

[Tree] (config>service>sdp weighted-ecmp)

Full Context

configure service sdp weighted-ecmp

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Description

This command enables weighted ECMP on an SDP. When weighted ECMP is enabled, packets from services using the SDP are sprayed across LSPs in the ECMP set to the SDP far end according to the outcome of the hash algorithm and the configured load-balancing weight of each LSP.

The **no** version of this command disables weighted ECMP for next-hop tunnel selection.

Default

no weighted-ecmp

Platforms

All

weighted-ecmp

Syntax

[**no**] **weighted-ecmp**

Context

[Tree] (config>router>bgp>next-hop-res weighted-ecmp)

Full Context

configure router bgp next-hop-resolution weighted-ecmp

Description

This command enables weighted ECMP for next-hop tunnel selection for 6PE. When weighted ECMP is enabled, the RSVP-TE tunnel used to forward 6PE packets to the ECMP next hop is chosen according to the outcome of the hash on the packet at the normalized load-balancing weight of the tunnel.

The **no** version of this command disables weighted ECMP for next-hop tunnel selection for 6PE.

Default

no weighted-ecmp

Platforms

All

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51.18 wide-metrics-only

wide-metrics-only

Syntax

[**no**] **wide-metrics-only**

Context

[Tree] (config>service>vprn>isis>level wide-metrics-only)

Full Context

configure service vprn isis level wide-metrics-only

Description

This command enables the exclusive use of wide metrics in the LSPs for the level number. Narrow metrics can have values between 1 and 63. IS-IS can generate two TLVs, one for the adjacency and one for the IP prefix. In order to support traffic engineering, wider metrics are required. When wide metrics are used, a second pair of TLVs are added, again, one for the adjacency and one for the IP prefix.

By default, both sets of TLVs are generated. When wide-metrics-only is configured, IS-IS only generates the pair of TLVs with wide metrics for that level.

The **no** form of this command reverts to the default value.

Platforms

All

wide-metrics-only

Syntax

[**no**] **wide-metrics-only**

Context

[Tree] (config>router>isis>level wide-metrics-only)

Full Context

configure router isis level wide-metrics-only

Description

This command enables the exclusive use of wide metrics in the LSPs for the level number. Narrow metrics can have values between 1 and 63. IS-IS can generate two TLVs, one for the adjacency and one for the IP prefix. In order to support traffic engineering, wider metrics are required. When wide metrics are used, a second pair of TLVs are added, again, one for the adjacency and one for the IP prefix.

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By default, both sets of TLVs are generated. When wide-metrics-only is configured, IS-IS only generates the pair of TLVs with wide metrics for that level.

The **no** form of this command reverts to the default value.

Default

no wide-metrics-only

Platforms

All

51.19 width

width

Syntax

width *width*

Context

[Tree] (environment>terminal width)

Full Context

environment terminal width

Description

This command determines display terminal width.

Default

width 80

Parameters

width

Sets the width of the display terminal.

Values 1 to 512

Platforms

All

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width

Syntax

width *width*

Context

[Tree] (config>system>management-interface>cli>md-cli>environment>console width)

Full Context

configure system management-interface cli md-cli environment console width

Description

This command configures the set number of columns displayed on the console.

Default

width 80

Parameters

width

Specifies the number of columns displayed in the console window.

Values 80 to 512

Platforms

All

51.20 wifi-num-attached-ues

wifi-num-attached-ues

Syntax

[**no**] **wifi-num-attached-ues**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include wifi-num-attached-ues)

[Tree] (config>subscr-mgmt>auth-plcy>include wifi-num-attached-ues)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute wifi-num-attached-ues

configure subscriber-mgmt authentication-policy include-radius-attribute wifi-num-attached-ues

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Description

When enabled, this command indicates the number of UEs connected to the tunnel to which the radius message applies to. For session/host accounting this is the tunnel of the associated UE. For queue-instance accounting this attribute will not be included.

The **no** form of this command disables including the RADIUS Alc-Num-Attached-UEs VSA.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

51.21 wifi-rssi

wifi-rssi

Syntax

[**no**] **wifi-rssi**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute wifi-rssi)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute wifi-rssi

Description

This command enables the inclusion of the 802.11 Received Signal Strength Indication attribute.

The **no** form of this command reverts to the default.

Default

no wifi-rssi

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

wifi-rssi

Syntax

[**no**] **wifi-rssi**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes wifi-rssi)

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Full Context

configure aaa isa-radius-policy acct-include-attributes wifi-rssi

Description

This command enables including the Alc-RSSI.

Default

no wifi-rssi

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

51.22 wifi-ssid-vlan

wifi-ssid-vlan

Syntax

[**no**] **wifi-ssid-vlan**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes wifi-ssid-vlan)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes wifi-ssid-vlan)

[Tree] (config>subscr-mgmt>acct-plcy>include wifi-ssid-vlan)

[Tree] (config>subscr-mgmt>auth-plcy>include wifi-ssid-vlan)

Full Context

configure aaa isa-radius-policy acct-include-attributes wifi-ssid-vlan

configure aaa isa-radius-policy auth-include-attributes wifi-ssid-vlan

configure subscriber-mgmt radius-accounting-policy include-radius-attribute wifi-ssid-vlan

configure subscriber-mgmt authentication-policy include-radius-attribute wifi-ssid-vlan

Description

This command enables including the per-SSID VLAN ID in a Alc-Wlan-SSID-VLAN VSA.

The **no** form of this command disables including the per-SSID VLAN ID in Alc-Wlan-SSID-VLAN VSA.

Default

no wifi-ssid-vlan

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, VSR

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- configure aaa isa-radius-policy acct-include-attributes wifi-ssid-vlan
- configure aaa isa-radius-policy auth-include-attributes wifi-ssid-vlan

7750 SR, 7750 SR-e, 7750 SR-s, VSR

- configure subscriber-mgmt authentication-policy include-radius-attribute wifi-ssid-vlan
- configure subscriber-mgmt radius-accounting-policy include-radius-attribute wifi-ssid-vlan

51.23 wildcard-spmsi

wildcard-spmsi

Syntax

wildcard-spmsi

no wildcard-spmsi

Context

[Tree] (config>service>vprn>mvpn>pt>inclusive wildcard-spmsi)

[Tree] (config>service>vpls>provider-tunnel>selective wildcard-spmsi)

Full Context

configure service vprn mvpn provider-tunnel inclusive wildcard-spmsi

configure service vpls provider-tunnel selective wildcard-spmsi

Description

This command enables RFC 6625 (C-*, C-*) S-PMSI functionality for NG-MVPN, EVPN VPLS, or R-VPLS services. When enabled, (C-*, C-*) S-PMSI is used instead of I-PMSI for this MVPN, EVPN VPLS, or R-VPLS service. When used in MVPN services, wildcard S-PMSI uses the I-PMSI LSP template.

The **configure service vprn pim rp auto-rp-discovery** command and the following commands are mutually exclusive:

```
configure service vprn mvpn md-type sender-only
configure service vprn mvpn md-type receiver-only
configure service vprn mvpn provider-tunnel inclusive wildcard-spmsi
configure service vpls provider-tunnel selective wildcard-spmsi
```

The **no** form of this command disables the (C-*, C-*) S-PMSI functionality.

Default

no wildcard-spmsi

Platforms

All

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51.24 window

window

Syntax

window *minutes*

Context

[Tree] (config>card>mda>egress-xpl window)

Full Context

configure card mda egress-xpl window

Description

This command configures the Error Window value used by the fail-on-error feature.

Default

window 60

Parameters

minutes

Specifies the time, in minutes, that the MDA can experience frequent Egress XPL Errors. When **fail-on-error** is enabled, if more than *xpl-errors* Egress XPL errors per minute occur on the MDA for the specified number of consecutive minutes, the MDA will be put in the failed state.

The window value cannot be changed while **fail-on-error** is enabled for this MDA.

Values 1 to 1440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

window

Syntax

window *minutes*

Context

[Tree] (config>card>mda>ingress-xpl window)

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Full Context

configure card mda ingress-xpl window

Description

This command configures the Error Window value used by the **fail-on-error** feature.

Default

window 60

Parameters

minutes

Specifies the time, in minutes, that the MDA can experience frequent Ingress XPL Errors. When **fail-on-error** is enabled, if more than *xpl-errors* Ingress XPL errors per minute occur on the MDA for the specified number of consecutive minutes, the MDA will be put in the *failed* state.

The window value cannot be changed while **fail-on-error** is enabled for this MDA.

Values 1 to 1440

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

window

Syntax

window *deciseconds*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame window)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame window

Description

This command defines the size of the window using a 100ms base *deciseconds*. Errors are accumulated until the end of the window. At the end of the window the actual errors are compared to the thresholds to determine if a threshold has been crossed. There is no mid-window threshold checking. The window represents a unique non-overlapping period of time.

Default

window 10

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Parameters

deciseconds

The number of 100ms increments. Must be specified in increments of 10 (full seconds).

Values 10 to 600

Platforms

All

window

Syntax

window *packets*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-period window)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-period window

Description

This command defines the size of the window based on a packet receive rate. The minimum serviceable rate is the number of minimum size packets that can be received in one second. The window receive count value will be polled at a minimum one second intervals to see if the window size has been reached. Errors are accumulated until the end of the window. At the end of the window the actual errors are compared to the thresholds to determine if a threshold has been crossed. There is no mid-window threshold checking. The window represents a unique non-overlapping period of time.

Parameters

packets

Specifies the number of received packets in one second.

Values 1 to 4294967295

Default 1488095

Platforms

All

window

Syntax

window *deciseconds*

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Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-frame-seconds window)

Full Context

configure port ethernet efm-oam link-monitoring errored-frame-seconds window

Description

This command defines the size of the window using a 100ms base *deciseconds*. Errored seconds are accumulated until the end of the window. At the end of the window, the actual errors are compared to the thresholds to determine if a threshold has been crossed. There is no mid-window threshold checking. The window represents a unique non-overlapping period of time.

Parameters

deciseconds

Specifies the number of 100 ms increments. Must be specified in increments of 10 (full seconds).

Values 100 to 9000

Default 600

Platforms

All

window

Syntax

window *deciseconds*

Context

[Tree] (config>port>ethernet>efm-oam>link-mon>errored-symbols window)

Full Context

configure port ethernet efm-oam link-monitoring errored-symbols window

Description

This command defines the size of the window using a 100ms base *deciseconds*. The time value is converted to a number of symbols for the underlying medium. Errors are accumulated until the end of the window. At the end of the window, the actual errors are compared to the thresholds to determine if a threshold has been crossed. There is no mid-window threshold checking. The window represents a unique non-overlapping period of time.

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Parameters

deciseconds

Specifies the number of 100ms increments in increments of 10 (full seconds).

Values 10 to 600

Default 10

Platforms

All

51.25 window-integrity

window-integrity

Syntax

window-integrity *percentage*

no window-integrity

Context

[Tree] (config>oam-pm>streaming>delay-template window-integrity)

Full Context

configure oam-pm streaming delay-template window-integrity

Description

This command specifies the integrity of the sample window. A percentage value that suggests the measurement has enough samples (integrity) to be considered representative for that sample window. The configured percentage considers the interval of the test PDUs, and the length of the sample window to determine the number of packets required in the sample.

(((window-integrity %) x (sample-window length (s) x pps per test (interval)).

Ensure that the percentage and the combination of sample window and packet per second per test interval produces the desired results.

If the number of samples in the sample window are equal to or greater than the computed number of required samples, then the value has integrity and the suspect flag is set to false for that streamed result.

If the count is less than the computed number of required samples, then the suspect flag is set to true for that streamed result.

Regardless of the integrity, the average values are streamed. It is up to the higher level systems to interrogate the suspect flag and determine if the value that is set should be used, discarded, or reported separately.

The **no** form of this command reverts to the default.

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Default

window-integrity 50

Parameters

percentage

Specifies the window integrity percentage.

Values 1 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

window-integrity

Syntax

window-integrity *percent*

no window-integrity

Context

[Tree] (config>test-oam>link-meas>template>asw window-integrity)

Full Context

configure test-oam link-measurement measurement-template aggregate-sample-window window-integrity

Description

This command determines whether the aggregate sample window is integral based on the number of samples received from the sample window, comparing the number of samples to the percentage configured.

The configured percentage translates to a required sample window count that must be included in the aggregate sample window. The range is from 0 to 100. The number of samples is computed as follows:

(window-integrity (%)) x (((aggregate-sample-window length (s)) / (sample-window length (s)))

For an aggregate sample window that does not reach the integrity, the value is not considered as representative and is used for threshold comparison.

If the number of samples in the aggregate sample window are equal to or greater than the computed number of required samples, the sample window has integrity and the aggregate sample window result is compared to configured sample window thresholds.

If the count is less than the computed number of required samples, the aggregate sample window does not have integrity and the aggregate sample window results are compared to configured sample window thresholds.

If this parameter is not configured, integrity checking is disabled and all results are compared to the configured thresholds.

The **no** form of this command disables integrity checking.

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Default

window-integrity 0

Parameters

percent

Specifies the percentage of successful sent and received request-response pairs.

Zero indicates any amount of integrity is acceptable for report to the routing engine.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

window-integrity

Syntax

window-integrity *percent*

no window-integrity

Context

[Tree] (config>test-oam>link-meas>template>sw window-integrity)

Full Context

configure test-oam link-measurement measurement-template sample-window window-integrity

Description

This command specifies the integrity of the sample window. A percentage value indicates when the sample window has enough samples to be considered representative for that window (integrity). The configured percentage considers the interval of probes and the length of the sample window to determine the number of packets required in the sample:

(window-integrity (%)) x (((sample-window length (s)) / pps per test (interval)))

Ensure that the percentage and the combination of sample window and the packet-per- second per test interval produces the desired results.

If the number of samples in the sample window are equal to or greater than the computed number of required samples, the sample window has integrity and the sample window result is compared to the configured sample window thresholds.

If the count is less than the computed number of required samples, the sample window does not have integrity and the sample window results are not compared to configured sample window thresholds.

If this parameter is not configured, integrity checking is disabled and all results are compared to the configured thresholds.

The **no** form of this command disables integrity checking.

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Default

window-integrity 0

Parameters

percent

Specifies the percentage of successful sent and received request-response pairs.

A value of 0 indicates any amount of integrity acceptable for report to the routing engine.

Values 0 to 100

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

51.26 window-size

window-size

Syntax

window-size *seconds*

no window-size

Context

[Tree] (config>esa>crc-monitor window-size)

Full Context

configure esa crc-monitor window-size

Description

This command configures the sliding window size over which the Ethernet frames are sampled to detect signal failure or signal degrade conditions. Use this command jointly with the **sf-threshold** and **sd-threshold** commands to configure the sliding window size.

Default

no window-size

Parameters

seconds

Specifies the size of the sliding window, in seconds over which the errors are measured. Only increments of 5 seconds are allowed.

Values 10 to 60

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Default 10

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s

window-size

Syntax

window-size *seconds*

no window-size

Context

[Tree] (config>port>ethernet>sym-mon window-size)

Full Context

configure port ethernet symbol-monitor window-size

Description

This command specifies sliding window size over which the symbols are sampled to detect signal failure or signal degraded conditions.

Default

window-size 10

Parameters

seconds

Specifies the size of the sliding window in seconds over which the errors are measured.

Values 5 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

window-size

Syntax

window-size *seconds*

no window-size

Context

[Tree] (config>port>ethernet>crc-monitor window-size)

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Full Context

configure port ethernet crc-monitor window-size

Description

This command specifies sliding window size over which the Ethernet frames are sampled to detect signal fail or signal degrade conditions. The command is used jointly with the sf-threshold and the sd-threshold to configure the sliding window size.

The **no** version of this command reverts to the default value of 10 seconds.

Default

no window-size

Parameters

seconds

The size of the sliding window in seconds over which the errors are measured.

Values 5 to 60

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

51.27 wlan-custom-user-group

wlan-custom-user-group

Syntax

wlan-custom-user-group *name*

no wlan-custom-user-group

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes wlan-custom-user-group)

Full Context

configure aaa isa-radius-policy acct-include-attributes wlan-custom-user-group

Description

This command enables the inclusion of the Alc-Wlan-Custom-User-Group attributes.

The no form of this command disables the inclusion of the Alc-Wlan-Custom-User-Group attributes.

Default

no wlan-custom-user-group

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Parameters

name

Specifies the name of the user group.

Values 1 to 32 characters

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

51.28 wlan-gw

wlan-gw

Syntax

wlan-gw

Context

[Tree] (config>service>vprn wlan-gw)

[Tree] (config>service>ies>sub-if>grp-if wlan-gw)

[Tree] (config>service>vprn>radius-proxy>server wlan-gw)

[Tree] (config>service>vpls wlan-gw)

[Tree] (config>router wlan-gw)

[Tree] (config>router>radius-proxy>server wlan-gw)

[Tree] (config>service>vprn>sub-if>grp-if wlan-gw)

[Tree] (config>subscr-mgmt wlan-gw)

Full Context

configure service vprn wlan-gw

configure service ies subscriber-interface group-interface wlan-gw

configure service vprn radius-proxy server wlan-gw

configure service vpls wlan-gw

configure router wlan-gw

configure router radius-proxy server wlan-gw

configure service vprn subscriber-interface group-interface wlan-gw

configure subscriber-mgmt wlan-gw

Description

Commands in this context configure WLAN GW parameters.

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Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

wlan-gw

Syntax

[**no**] **wlan-gw**

Context

[Tree] (debug wlan-gw)

Full Context

debug wlan-gw

Description

This node contains all the parameters to set up specific call-trace debug sessions for WLAN-GW. The **no** form of this command will stop all configured WLAN-GW traces.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

wlan-gw

Syntax

wlan-gw

Context

[Tree] (config>li>li-source wlan-gw)

Full Context

configure li li-source wlan-gw

Description

This command enables the **wlan-gw** context to configure li-source related parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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wlan-gw

Syntax

[**no**] **wlan-gw**

Context

[Tree] (config>redundancy>multi-chassis>peer>sync>subscriber-mgmt wlan-gw)

Full Context

configure redundancy multi-chassis peer sync subscriber-mgmt wlan-gw

Description

This command configures the router to synchronize the ESM state and tunnel state with the multi-chassis peer for ESM over soft-GRE tunnels.

The **no** form of this command disables the router from synchronizing the ESM state and tunnel state with the multi-chassis peer for ESM over soft-GRE tunnels.

Note: The configuration of this command must match on both nodes. Otherwise, the subscriber management synchronization fails.

Default

no wlan-gw

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

51.29 wlan-gw-group

wlan-gw-group

Syntax

wlan-gw-group *nat-group-id*

no wlan-gw-group

Context

[Tree] (config>router>wlan-gw>xconnect wlan-gw-group)

[Tree] (config>service>vprn>wlan-gw>xconnect wlan-gw-group)

Full Context

configure router wlan-gw xconnect wlan-gw-group

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configure service vprn wlan-gw xconnect wlan-gw-group

Description

This command configures the identifier of the WLAN Gateway ISA group that processes the cross-connect.

The **no** form of this command removes the NAT group IP from the cross-connect configuration.

Parameters

nat-group-id

Specifies the identifier of the ISA group.

Values 1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

wlan-gw-group

Syntax

wlan-gw-group *group-id*

no wlan-gw-group

Context

[Tree] (config>router>vrgw>lanext wlan-gw-group)

Full Context

configure router vrgw lanext wlan-gw-group

Description

This command specifies the WLAN GW group that is used for HLE services.

The **no** form of this command removes the group from the configuration.

Parameters

group-id

Specifies the WLAN GW group ID.

Values 1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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wlan-gw-group

Syntax

wlan-gw-group *wlan-gw-group-id* [**member** *member-id*]

no wlan-gw-group

Context

[Tree] (config>subscr-mgmt>wlan-gw>ue-query wlan-gw-group)

Full Context

configure subscriber-mgmt wlan-gw ue-query wlan-gw-group

Description

This command enables matching on UEs, based on the WLAN-GW group ID and, optionally, the specific ISA member they are installed on.

The **no** form of this command disables matching on the WLAN-GW group.

Default

no wlan-gw-group

Parameters

wlan-gw-group-id

Specifies the WLAN-GW group ID.

Values 1 to 4

member-id

Specifies the ISA member ID within the group.

Values 1 to 255

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

wlan-gw-group

Syntax

wlan-gw-group *group-id* [**create**] [**redundancy** *unit*]

no wlan-gw-group *group-id*

Context

[Tree] (config>isa wlan-gw-group)

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Full Context

configure isa wlan-gw-group

Description

This command creates a WLAN GW group that contains a set of ISAs to be used in WLAN-GW functionality. A WLAN-GW group can also be used where a NAT group is expected. The WLAN-GW group ID shares the same number space with the NAT group.

At most, one WLAN-GW group may be configured.

The optional redundancy parameter determines the provisioning and redundancy mode.

- IOM mode

  A whole IOM is added to the group. The IOM must be fully provisioned with BB ISA modules. In IOM mode, when a single ISA fails, the entire IOM is considered to have failed and all subscribers are recovered on a backup IOM.

- ISA mode

  BB ISA modules are added separately with no restriction put on other MDAs in the IOM. When a single ISA fails, a backup ISA will try to recover as many subscribers as possible but may run out of resources (for example, queues, policers, host entries) during the recovery process. It is recommended to pair ISAs with MDAs and services that do not consume many IOM resources.

The **no** form of this command removes the group.

Parameters

group-id

Specifies WLAN Gateway Integrated Service Adaptor (ISA) Groups.

Values 1 to 4

unit

Specifies the provisioning and redundancy mode.

Values mda or iom

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

wlan-gw-group

Syntax

wlan-gw-group *group-id*

no wlan-gw-group

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw wlan-gw-group)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw wlan-gw-group)

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Full Context

configure service ies subscriber-interface group-interface wlan-gw wlan-gw-group

configure service vprn subscriber-interface group-interface wlan-gw wlan-gw-group

Description

This command specifies the ID of the **wlan-gw-group** that the **wlan-gw** gateway binds to.

The **no** form of this command removes the value from the **wlan-gw** configuration.

Parameters

group-id

Specifies the ISA WLAN-GW group.

Values 1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

wlan-gw-group

Syntax

wlan-gw-group *nat-group-id*

no wlan-gw-group

Context

[Tree] (config>service>vprn>sub-if>wlan-gw>pool-manager wlan-gw-group)

[Tree] (config>service>ies>sub-if>wlan-gw>pool-manager wlan-gw-group)

Full Context

configure service vprn subscriber-interface wlan-gw pool-manager wlan-gw-group

configure service ies subscriber-interface wlan-gw pool-manager wlan-gw-group

Description

This command specifies the ISA WLAN gateway group.

Parameters

nat-group-id

Specifies the identifier of the WLAN gateway group.

Values 1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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wlan-gw-group

Syntax

wlan-gw-group *nat-group-id*

no wlan-gw-group

Context

[Tree] (config>service>vpls>wlan-gw wlan-gw-group)

Full Context

configure service vpls wlan-gw wlan-gw-group

Description

This command configures a WLAN-GW group to be used as an endpoint within the VPLS. This feature is used in conjunction with the **configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range dynamic-service** command for a VPRN service and the **configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range dynamic-service** command for an IES service.

The **no** form of the command removes the WLAN-GW group as the endpoint.

See "Dynamic VPLS service" in the *7450 ESS, 7750 SR, and VSR Triple Play Service Delivery Architecture Guide* for more information about the dynamic VPLS service feature.

Parameters

nat-group-id

Specifies the NAT group ID of the WLAN-GW group to be used as an endpoint.

Values 1 to 4

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

51.30 working-tp-path

working-tp-path

Syntax

[**no**] **working-tp-path**

Context

[Tree] (config>router>mpls>lsp working-tp-path)

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Full Context

configure router mpls lsp working-tp-path

Description

This command creates or edits the working path for an MPLS-TP LSP. At least one working path (but not more than one working path) must be created for an MPLS-TP LSP. If MPLS-TP linear protection is also configured, then this is the path that is used as the default working path for the LSP, and it must be created prior to the protect path. The working-tp-path can only be deleted if no protect-tp-path exists for the LSP.

The following commands are applicable to the working-tp-path: **lsp-num, in-label, out-label, mep, shutdown**.

Default

no working-tp-path

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

51.31 workload-performance

workload-performance

Syntax

workload-performance

Context

[Tree] (cfg>card>vir-sch-adj workload-performance)

Full Context

configure card virtual-scheduler-adjustment workload-performance

Description

Commands in this context configure the CPU workload distribution for tasks on the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

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51.32 wpp

wpp

Syntax

wpp

Context

[Tree] (config>subscr-mgmt>loc-user-db>ipoe>host wpp)

Full Context

configure subscriber-mgmt local-user-db ipoe host wpp

Description

Commands in this context configure WPP parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

wpp

Syntax

wpp

no wpp

Context

[Tree] (config>service>ies>sub-if>grp-if wpp)

[Tree] (config>service>vprn>sub-if>grp-if wpp)

[Tree] (config>aaa wpp)

Full Context

configure service ies subscriber-interface group-interface wpp

configure service vprn subscriber-interface group-interface wpp

configure aaa wpp

Description

Commands in this context configure Wireless Portal Protocol (WPP) parameters.

The **no** form of the command removes configuration under WPP.

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Default

no wpp

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

wpp

Syntax

[**no**] **wpp**

Context

[Tree] (debug>router wpp)

Full Context

debug router wpp

Description

Commands in this context configure WPP debugging parameters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, VSR

51.33 wrap-around

wrap-around

Syntax

[**no**] **wrap-around**

Context

[Tree] (config>filter>log wrap-around)

Full Context

configure filter log wrap-around

Description

This command configures a memory filter log to log until full or to store the most recent log entries (circular buffer).

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Specifying **wrap-around** configures the memory filter log to store the most recent filter log entries (circular buffer). When the log is full, the oldest filter log entries are overwritten with new entries.

The **no** form of the command configures the memory filter log to accept filter log entries until full. When the memory filter log is full, filter logging for the log filter ID ceases.

Default

wrap-around

Platforms

All

51.34 wred-queue

wred-queue

Syntax

wred-queue [**policy** *slope-policy-name*] [**mode** *mode*] [**slope-usage** *slope-usage*]

no wred-queue

Context

[Tree] (config>qos>sap-egress>queue wred-queue)

Full Context

configure qos sap-egress queue wred-queue

Description

This command allows the configuration of WRED per queue with the following options:

- Native hardware WRED

  This uses the hardware per queue WRED capabilities of FP3- and higher-based hardware and is configured with the **native** keyword.

- Pool per queue WRED

  This implements each queue in its own pool and uses the WRED capabilities of the pool to provide WRED per queue. This is configured with the **pool-per-queue** keyword.

Native Hardware WRED

When the **wred-queue mode native** command is configured, the queue uses the WRED capabilities of FP3- and higher-based hardware. In this case, the out-of-profile and exceed-profile traffic map to the low and exceed WRED slopes specified within the slope policy, and the inplus-profile and in-profile traffic uses the MBS drop tail; this requires the **slope-usage** to be configured as **exceed-low**. The instantaneous queue depth is compared against the low and exceed slopes so the time average factor in the slope policy is ignored.

When a policy is not explicitly defined, the default slope policy is used.

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When **native** mode is enabled for a queue, the **pool** and **drop-tail** commands are ignored; traffic mapped to a slope that is shut down will use the MBS drop tail.

This is only supported on FP3 hardware.

The **no** form of this command restores the queue default congestion control behavior to the queue.

Pool-per-queue WRED

When the **wred-queue mode pool-per-queue** command is defined and the queue ID is created, a buffer pool is created specifically for the queue and the queue obtains all buffers from that pool. The size of the pool is the same as the size of the queue. In this manner, the WRED slopes that operate based on the pool's buffer utilization are also reacting to the congestion depth of the queue.

The size of the buffer pool is dictated by the queue's MBS parameter. The size of the reserved CBS portion of the buffer pool is dictated by the queue's CBS parameter. The provisioning characteristics of the **mbs** and **cbs** commands are not changed.

In the case where this is applied with WRED queue support shutdown (**config>card>fp>egress>wred-queue-control>shutdown**), the queue will continue to map to its default pool. If the **no shutdown** command is executed in the **wred-queue-control** context, the queue is automatically moved to its own WRED pool.

Each pool created for a queue using the **wred-queue** command shares buffers with all other **wred-queue** enabled queues on the same forwarding plane. The WRED pool buffer management behavior is defined within the **config>card>fp>egress>wred-queue-control** CLI context.

The WRED slopes within the pool are defined by the slope policy associated with the queue. When a policy is not explicitly defined, the default slope policy is used. The slope policy enables, disables, and defines the relative geometry of the highplus, high, low, and exceed WRED slopes in the pool. The policy also specifies the time average factor used by the pool when calculating the weighted average pool depth.

As packets attempt to enter the egress queue, they are associated with the highplus, high, low, or exceed WRED slope based on the packet's profile. If the packet is inplus-profile, the highplus slope is used. If the packet is in-profile, the high slope is used. If the packet is out-of-profile, the low slope is used. If the packet is exceed-profile, the exceed slope is used. This mapping of packet profile to slope is enabled using the **slope-usage default** parameter. Each WRED slope performs a probability discard based on the current weighted average pool depth.

When **wred-queue** is enabled for a SAP egress queue, the queue **pool** and **drop-tail** commands are ignored; traffic mapped to a slope that is shut down will use the MBS drop tail.

The resource usage for the WRED queue pool-per-queue per forwarding plane can be seen in the **tools dump resource-usage card** [*slot-num*] **fp** [*fp-number*] output under *Dynamic Q2 Wred Pools*.

The **no** form of this command restores the generic buffer pool behavior to the queue. The WRED pool is removed from the system. The queue will be moved to the default buffer pool. The queue then uses the default congestion control behavior.

Default

no wred-queue

Parameters

slope-policy-name

Specifies an existing slope policy that is used to override the default WRED slope policy.

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mode

Specifies whether the WRED per queue is using the native FP3- and higher-based hardware WRED capabilities or pool per queue.

Values **native** — uses the hardware per queue WRED capabilities of the FP3- and higher-based hardware and requires **slope-usage exceed-low**.

pool-per-queue — each queue uses its own pool and the WRED capabilities of the pool to provide WRED per queue. This is supported on both FP2- and higher-based hardware and requires **slope-usage default**.

Default native

slope-usage

Specifies congestion control to be used.

Values **default** — maps the inplus, in, out, and exceed-profile traffic to the highplus, high, low, and exceed WRED slopes, respectively; this is only supported for **pool-per-queue** mode.

exceed-low — maps the out and exceed-profile traffic to the low and exceed WRED slopes with the inplus and in-profile traffic using the MBS drop tail. This is only supported for **native** mode.

Default exceed-low

Platforms

All

wred-queue

Syntax

wred-queue [**policy** *slope-policy-name*] [**mode** {**native** | **pool-per-queue**}] [**slope-usage** {**default** | **exceed-low**}]

no wred-queue

Context

[Tree] (config>qos>qgrps>egr>qgrp>queue wred-queue)

Full Context

configure qos queue-group-templates egress queue-group queue wred-queue

Description

This command allows the configuration of WRED per queue with the following options:

- Native hardware WRED

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This uses the hardware per queue WRED capabilities of FP3- and higher-based hardware and is configured with the **native** keyword.

- Pool per queue WRED

  This implements each queue in its own pool and uses the WRED capabilities of the pool to provide WRED per queue. This is configured with the **pool-per-queue** keyword.

Native Hardware WRED

When the **wred-queue mode native** command is configured, the queue uses the WRED capabilities of FP3- and higher-based hardware. In this case, the out and exceed-profile traffic map to the low and exceed WRED slopes specified within the slope policy, and the inplus and in-profile traffic uses the MBS drop tail; this requires the **slope-usage** to be configured as **exceed-low**. The instantaneous queue depth is compared against the low and exceed slopes so the time average factor in the slope policy is ignored.

When a policy is not explicitly defined, the default slope policy is used.

When **native** mode is enabled for a queue, the drop-tail commands are ignored; traffic mapped to a slope that is shut down will use the MBS drop tail.

Native hardware WRED is supported on FP3- and higher-based hardware and is ignored on FP2 hardware.

The **no** form of this command restores the queue default congestion control behavior to the queue.

Pool-per-queue WRED

When the **wred-queue mode pool-per-queue** command is defined and the queue ID is created, a buffer pool is created specifically for the queue and the queue obtains all buffers from that pool. The size of the pool is the same as the size of the queue. In this manner, the WRED slopes that operate based on the pool's buffer utilization are also reacting to the congestion depth of the queue.

The size of the buffer pool is dictated by the queue's **mbs** parameter. The size of the reserved CBS portion of the buffer pool is dictated by the queue's **cbs** parameter. The provisioning characteristics of the **mbs** and **cbs** commands are not changed.

In the case where this is applied with WRED queue support shut down (**config>card>fp>egress>wred-queue-control>shutdown**), the queue will continue to map to its default pool. If the **no shutdown** command is executed in the **wred-queue-control** context, the queue will be automatically moved to its own WRED pool.

Each pool created for a queue using the **wred-queue** command shares buffers with all other **wred-queue** enabled queues on the same forwarding plane. The WRED pool buffer management behavior is defined within the **config>card>fp>egress>wred-queue-control** CLI context.

The WRED slopes within the pool are defined by the slope policy associated with the queue. When a policy is not explicitly defined, the default slope policy is used. The slope policy enables, disables, and defines the relative geometry of the highplus, high, low, and exceed WRED slopes in the pool. The policy also specifies the time average factor used by the pool when calculating the weighted average pool depth.

As packets attempt to enter the egress queue, they are associated with the highplus, high, low, or exceed WRED slope based on the packet's profile. If the packet is inplus-profile, the highplus slope is used. If the packet is in-profile, the high slope is used. If the packet is out-of-profile, the low slope is used, and if the packet is exceed-profile, the exceed slope is used. This mapping of packet profile to slope is enabled using the **slope-usage default** parameter. Each WRED slope performs a probability discard based on the current weighted average pool depth.

When **wred-queue** is enabled for an egress queue group queue, the queue pool and drop-tail commands are ignored; traffic mapped to a slope that is shut down will use the MBS drop tail.

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The resource usage for the wred-queue pool-per-queue per forwarding plane can be seen in the **tools dump resource-usage card** [*slot-num*] **fp** [*fp-number*] output under *Dynamic Q2 Wred Pools*.

The **no** form of this command restores the generic buffer pool behavior to the queue. The WRED pool is removed from the system. The queue will be moved to the default buffer pool. The queue then uses the default congestion control behavior.

Default

no wred-queue

Parameters

slope-policy-name

Specifies an existing slope policy that is used to override the default WRED slope policy.

mode {native | pool-per-queue}

Specifies whether the WRED per queue is using the native FP3- and higher-based hardware WRED capabilities or pool per queue.

Values **native** - Each queue uses the hardware per queue WRED capabilities of the FP3- and higher-based hardware and requires **slope-usage exceed-low**.

pool-per-queue - Each queue uses its own pool and the WRED capabilities of the pool to provide WRED per queue. This requires **slope-usage default**.

Default native

slope-usage {default | exceed-low}

Specifies the type of congestion control to be used.

Values **default** - Maps the inplus-profile, in-profile, out-of-profile, and exceed-profile traffic to the highplus, high, low, and exceed WRED slopes, respectively; this is only supported for **pool-per-queue** mode.

exceed-low - Maps the out-of-profile and exceed-profile traffic to the low and exceed WRED slopes, with the inplus-profile and in-profile traffic using the MBS drop tail. This option is only supported for **native** mode.

Default exceed-low

Platforms

All

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51.35 wred-queue-control

wred-queue-control

Syntax

wred-queue-control

Context

[Tree] (config>card>fp>egress wred-queue-control)

Full Context

configure card fp egress wred-queue-control

Description

Commands in this context configure the aggregate WRED queue parameters for all WRED queues on an egress forwarding plane.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

51.36 write

write

Syntax

write {*user-name* | *broadcast*} *message*

Context

[Tree] (write)

Full Context

write

Description

This command sends a console message to a specific user or to all users with active console sessions.

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Parameters

user-name

Specifies the name of a user, up to 32 characters, with an active console session to which to send a console message.

Values any valid CLI username

broadcast

Sends the *message-string* to all users logged into the router.

message

Specifies the message string to send. Allowed values are any string, up to 256 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, ?, space), the entire string must be enclosed within double quotes.

Platforms

All

51.37 write-algorithm

write-algorithm

Syntax

write-algorithm {**hash** | **hash2** | **custom** | **cleartext**}

no write-algorithm

Context

[Tree] (config>system>security>management-interface>classic-cli write-algorithm)

Full Context

configure system security management-interface classic-cli write-algorithm

Description

This command specifies how encrypted configuration secrets are output from the system. For example, how encrypted secrets are displayed in the output of the info command, and how they are written to the saved configuration file.

The **no** form of this command reverts to the default value.

Default

write-algorithm hash2

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Parameters

hash

Specifies hash. Use this option to transport a phrase between modules and nodes. In this case the read-algorithm should be **hash** as well.

hash2

Specifies hash2 which is module-specific.

custom

Specifies the custom encryption to management interface.

cleartext

Specifies that the phrase is displayed as cleartext everywhere.

Platforms

All

51.38 wrr-group

wrr-group

Syntax

wrr-group *group-id* **sched-class** *class-id*

wrr-group *group-id* **unattached**

no wrr-group *group-id*

Context

[Tree] (config>qos>hs-attachment-policy wrr-group)

Full Context

configure qos hs-attachment-policy wrr-group

Description

This command defines how the specified group ID is attached to the scheduler. A WRR group may have one of two attachment states:

- directly attached to a scheduler class
- unattached

A WRR group provides a weighted scheduling context for its member queues, collapsing the queues into a single scheduling class.

The following WRR membership restrictions apply:

- Two groups are supported: WRR-group 1 and WRR-group 2.

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- Up to six of the eight queues can become members of WRR groups (the sum of the membership of both groups cannot exceed six queues). All six queues can be placed in a single WRR group or they can be spread between the two groups.
- All queues within a group must have contiguous queue IDs.
- When both groups are configured to have queue members, the queue IDs in group 1 must be lower than the queue IDs in group 2.

The **queue** *queue-id* attachment command is used to define WRR group membership.

The **no** form of the command reverts to the default unattached attachment state for the group ID.

Default

wrr-group group-id unattached

Parameters

group-id

Specifies the WRR group identifier. The *group-id* parameter is required when executing the **wrr-group** attachment command.

Values 1, 2

sched-class

Specifies a direct attachment between the WRR group and one of the six scheduling classes. The **sched-class** and **unattached** keywords are mutually exclusive. One of the keywords must be specified when the **wrr-group** attachment command is executed.

class-id

Specifies the scheduling class associated with this WRR group. The **sched-class** keyword specifies the attachment between the group ID and one of the six scheduling classes. A value of 1 through 6 must accompany the **sched-class** keyword representing the WRR group's attached scheduling class. Only one queue or WRR group can be attached to a given scheduling class. If another queue or a WRR group is currently attached to the specified scheduling class, the **wrr-group** attachment command fails and the current attachment for the *group-id* is unchanged.

Values 1 to 6

unattached

Indicates that the group ID is not attached to any scheduling class or WRR group. Queues that are members of the unattached WRR group do not forward any packets. The **sched-class** and **unattached** keywords are mutually exclusive. One of the keywords must be specified when the **wrr-group** attachment command is executed.

Platforms

7750 SR-7/12/12e

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51.39 wtr-annexb

wtr-annexb

Syntax

wtr-annexb *minutes*

Context

[Tree] (config>port>aps wtr-annexb)

Full Context

configure port aps wtr-annexb

Description

This command waits to restore for Annex B mode operation. The delay after which the newly active section becomes the primary section after a switch-over from the primary section to the secondary section occurs and the switch request clears normally.

Parameters

minutes

Specifies the time, in minutes, to wait to restore for Annex B mode operation.

Values 0 to 60

Default 5

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

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52 x Commands

52.1 x-interfaces

x-interfaces

Syntax

x-interfaces

Context

[Tree] (config>li x-interfaces)

Full Context

configure li x-interfaces

Description

Commands in this context configure LI X1, X2, and X3 interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

52.2 x1

x1

Syntax

x1

Context

[Tree] (config>li>x-interfaces x1)

Full Context

configure li x-interfaces x1

Description

Commands in this context configure the LI X1 interface.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

52.3 x2

x2

Syntax

x2

Context

[Tree] (config>li>x-interfaces x2)

Full Context

configure li x-interfaces x2

Description

Commands in this context configure the LI X2 interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

52.4 x3

x3

Syntax

x3

Context

[Tree] (config>li>x-interfaces x3)

Full Context

configure li x-interfaces x3

Description

Commands in this context configure the LI X3 interface.

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Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

52.5 xc

xc

Syntax

xc [**detail**]

no xc

Context

[Tree] (debug>router>mpls>event xc)

Full Context

debug router mpls event xc

Description

This command debugs cross connect events.

The **no** form of the command disables the debugging.

Parameters

detail

Displays detailed information about cross connect events.

Platforms

All

52.6 xcon

xcon

Syntax

[**no**] **xcon**

Context

[Tree] (config>subscr-mgmt>wlan-gw>tunnel-query>ue-state xcon)

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Full Context

configure subscriber-mgmt wlan-gw tunnel-query ue-state xcon

Description

This command enables matching on tunnels with cross-connect UEs.

The **no** form of this command disables matching on cross-connect UEs, unless UE state matching is disabled altogether.

Default

no xcon

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

52.7 xconnect

xconnect

Syntax

xconnect

Context

[Tree] (config>service>ies>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range xconnect)

[Tree] (config>service>vprn>sub-if>grp-if>wlan-gw>vlan-tag-ranges>range xconnect)

[Tree] (config>router>wlan-gw xconnect)

Full Context

configure service ies subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect

configure service vprn subscriber-interface group-interface wlan-gw vlan-tag-ranges range xconnect

configure router wlan-gw xconnect

Description

Commands in this context configure WLAN-GW cross-connect UE-related parameters.

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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xconnect

Syntax

xconnect

Context

[Tree] (config>card>mda xconnect)

[Tree] (config>card>xiom>mda xconnect)

Full Context

configure card mda xconnect

configure card xiom mda xconnect

Description

This command creates a loopback (cross-connect) in the MAC chip and does not require a faceplate port.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

- configure card mda xconnect

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

- configure card xiom mda xconnect

52.8 xconnect-tunnel-home-address

xconnect-tunnel-home-address

Syntax

[**no**] **xconnect-tunnel-home-address**

Context

[Tree] (config>subscr-mgmt>acct-plcy>include-radius-attribute xconnect-tunnel-home-address)

[Tree] (config>subscr-mgmt>auth-plcy>include xconnect-tunnel-home-address)

Full Context

configure subscriber-mgmt radius-accounting-policy include-radius-attribute xconnect-tunnel-home-address

configure subscriber-mgmt authentication-policy include-radius-attribute xconnect-tunnel-home-address

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Description

This command enables the generation of the Cross Connect Tunnel Home Address RADIUS attribute.

The **no** form of the command reverts to the default value.

Default

no xconnect-tunnel-home-address

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

xconnect-tunnel-home-address

Syntax

[**no**] **xconnect-tunnel-home-address**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes xconnect-tunnel-home-address)

[Tree] (config>aaa>isa-radius-plcy>auth-include-attributes xconnect-tunnel-home-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes xconnect-tunnel-home-address

configure aaa isa-radius-policy auth-include-attributes xconnect-tunnel-home-address

Description

This command enables the cross connect tunnel home address RADIUS attribute.

Default

no xconnect-tunnel-home-address

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

52.9 xconnect-tunnel-local-ipv6-address

xconnect-tunnel-local-ipv6-address

Syntax

[**no**] **xconnect-tunnel-local-ipv6-address**

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Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes xconnect-tunnel-local-ipv6-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes xconnect-tunnel-local-ipv6-address

Description

This command enables the generation of the cross connect tunnel local IPv6 address RADIUS attribute.

Default

no xconnect-tunnel-local-ipv6-address

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

52.10 xconnect-tunnel-remote-ipv6-address

xconnect-tunnel-remote-ipv6-address

Syntax

[**no**] **xconnect-tunnel-remote-ipv6-address**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes xconnect-tunnel-remote-ipv6-address)

Full Context

configure aaa isa-radius-policy acct-include-attributes xconnect-tunnel-remote-ipv6-address

Description

This command enables the generation of the cross connect tunnel remote IPv6 address RADIUS attribute.

Default

no xconnect-tunnel-remote-ipv6-address

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

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52.11 xconnect-tunnel-service

xconnect-tunnel-service

Syntax

[**no**] **xconnect-tunnel-service**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes xconnect-tunnel-service)

Full Context

configure aaa isa-radius-policy acct-include-attributes xconnect-tunnel-service

Description

This command enables the generation of the cross connect tunnel service RADIUS attribute.

Default

no xconnect-tunnel-service

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

52.12 xconnect-tunnel-type

xconnect-tunnel-type

Syntax

[**no**] **xconnect-tunnel-type**

Context

[Tree] (config>aaa>isa-radius-plcy>acct-include-attributes xconnect-tunnel-type)

Full Context

configure aaa isa-radius-policy acct-include-attributes xconnect-tunnel-type

Description

This command enables the generation of the cross connect tunnel type RADIUS attribute.

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Default

no xconnect-tunnel-type

Platforms

7750 SR, 7750 SR-e, 7750 SR-s, VSR

52.13 xgig

xgig

Syntax

xgig {**lan** | **wan**}

Context

[Tree] (config>port>ethernet xgig)

Full Context

configure port ethernet xgig

Description

This command configures a 10 Gb/s interface to be in Local or Wide Area Network (LAN or WAN) mode. When configuring the port to be in WAN mode certain SONET/SDH parameters can be changed to reflect the SONET/SDH requirements for this port.

When the port is configured for LAN mode, all SONET/SDH parameters are pre-determined and not configurable.

Default

xgig lan

Parameters

lan

Sets the port to operate in LAN mode.

wan

Sets the port to operate in WAN mode.

Platforms

All

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52.14 xiom

xiom

Syntax

[**no**] **xiom**

Context

[Tree] (config>card xiom)

Full Context

configure card xiom

Description

This command configures an XIOM in one of the slots of an XCM. An XIOM can be used instead of an XMA and operates as a carrier module to support MDA-s modules.

Parameters

xiom-slot

Specifies the XIOM identifier.

Values x1 or x2

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

52.15 xiom-type

xiom-type

Syntax

xiom-type *xiom-type* [**level** *xiom-level*]

no xiom-type

Context

[Tree] (config>card>xiom xiom-type)

Full Context

configure card xiom xiom-type

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Description

This command adds an XIOM to the device configuration for the slot. The XIOM type can be preprovisioned, which means that the XIOM does not have to be installed in the chassis.

An XIOM must be provisioned before an MDA-s, connector, or port can be configured.

An XIOM can only be provisioned in a slot that is vacant. No other XIOM or XMA can be provisioned (configured) for that particular slot. To reconfigure a slot position, use the **no** form of this command to remove the current information.

An XIOM can only be provisioned in a slot if the XIOM type is allowed in the slot. An error message is generated if an attempt is made to provision an XIOM type that is not allowed.

If an XIOM is inserted that does not match the configured XIOM type for the slot, then a log event and a facility alarm are raised. The alarm is cleared when the correct XIOM type is installed or the configuration is modified.

A log event and a facility alarm are raised if an administratively enabled XIOM is removed from the chassis. The alarm is cleared when the correct XIOM type is installed or the configuration is modified. A log event is issued when a XIOM is removed that is administratively disabled.

XIOMs are controlled by hardware and software licensing. For these cards, the license level must be provisioned in addition to the XIOM type. An XIOM cannot become operational unless the provisioned license level matches the license level of the card installed into the slot. The set of license levels varies by XIOM type.

The provisioned license level controls aspects related to connector provisioning and the consumption of hardware egress queues and egress policers. Changes to the provisioned license level may be blocked if a configuration exists that would not be permitted with the new target license level.

If the license level is not specified, the level is set to the highest license level for that XIOM.

The **no** form of this command removes the XIOM from the configuration.

Parameters

xiom-type

Specifies the type of XIOM to be configured and installed in the slot. Values for this attribute vary by platform and release. The release notes include a listing of all supported xiom-types and their CLI strings. In addition, the command can be queried to check which xiom-types are relevant for the active platform type.

xiom-level

Specifies the license level of the XIOM, up to 32 characters. Possible values vary by XIOM type.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

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53 y Commands

53.1 yang-modules

yang-modules

Syntax

yang-modules

Context

[Tree] (config>system>management-interface yang-modules)

Full Context

configure system management-interface yang-modules

Description

Commands in this context configure YANG module parameters.

The **yang-modules** settings affect the data sent in a NETCONF <hello>, data populated in the RFC 6022 /netconf-state/schemas list, data returned in a <get-schema> request, and data populated in the RFC 8525 /yang-library. See the *7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide*, sections "NETCONF Monitoring" and "YANG Library" for more information.

Platforms

All

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54 z Commands

54.1 zone

zone

Syntax

zone {*std-zone-name* | *non-std-zone-name*} [*hh* [*:mm*]]

no zone

Context

[Tree] (config>system>time zone)

Full Context

configure system time zone

Description

This command sets the time zone and/or time zone offset for the device.

The 7450 ESS, 7750 SR, 7950 XRS, and VSR router OS supports system-defined and user-defined time zones. The system-defined time zones are listed in the Time Zones section.

For user-defined time zones, the zone and the UTC offset must be specified.

The **no** form of the command reverts to the default of Coordinated Universal Time (UTC). If the time zone in use was a user-defined time zone, the time zone will be deleted. If a **dst-zone** command has been configured that references the zone, the summer commands must be deleted before the zone can be reset to UTC.

Default

zone UTC 00

Parameters

std-zone-name

Specifies the standard time zone name. The standard name must be a system-defined zone in the Time Zones section. For zone names in the table that have an implicit summer time setting, for example MDT for Mountain Daylight Saving Time, the remaining **start-date**, **end-date** and **offset** parameters do not need to be provided unless it is necessary to override the system defaults for the time zone.

For system-defined time zones, a different offset cannot be specified. If a new time zone is needed with a different offset, the user must create a new time zone. Note that some system-defined time zones have implicit summer time settings which causes the

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switchover to summer time to occur automatically; configuring the **config>system>time dst-zone** command is not required.

A user-defined time zone name is case-sensitive and can be up to 5 characters in length.

Values A user-defined value can be up to 5 characters or one of the following values: GMT, WET, CET, EET, EEST, MSK, MSD, AST, NST, EST, CST, MST, PST, HST, AKST, AWST, ACST, AEST, NZST, UTC

non-std-zone-name

Specifies the non-standard time zone name. The name can be up to 5 characters.

hh [:mm]

Specifies the hours and minutes offset from UTC time, expressed as integers. Some time zones do not have an offset that is an integral number of hours. In these instances, the *minutes-offset* must be specified. For example, the time zone in Pirlanngimpi, Australia UTC + 9.5 hours.

Values hours: -11 to 12 minutes: 0 to 59

Default hours: 0 minutes: 0

Platforms

All

54.2 zone-channel

zone-channel

Syntax

zone-channel *mcast-address* **source** *ip-address* **adi-channel-name** *channel-name*

no zone-channel *mcast-address* **source** *ip-address*

Context

[Tree] (config>service>vprn>video-interface>channel zone-channel)

[Tree] (config>service>ies>video-interface>channel zone-channel)

Full Context

configure service vprn video-interface channel zone-channel

configure service ies video-interface channel zone-channel

Description

This command configures zone-channel parameters or ad insertion. The channel configuration along with the zone-channel configuration associates a network channel to a zone-channel and builds the store and forward relationship.

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Parameters

mcast-address

Specifies the IP multicast group address for which this entry contains information.

source *ip-address*

Specifies the type of address to be used for a source address.

adi-channel-name *channel-name*

Specifies the name for this zone channel.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

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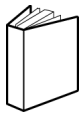

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